SAFETY INSTRUCTIONS

D5000 series
Intrinsically safe Isolators and Relays
PSD5000 Series Power Supplies

Note: This manual contains only safety instructions. For the complete installation and user manuals, certifications and data sheets, please refer to [www.gmintsril.com](http://www.gmintsril.com).
### SUMMARY

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<td>PSD5201</td>
<td>64</td>
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</tbody>
</table>
SAFETY DESCRIPTION

ATEX: II 3(G) Ex nA [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I


Uo/Voc = 25.9 V, Io/Isc = 92 mA, Po/Po = 594 mW at terminals 7-8, 9-10.

Um = 250 Vrms, -40 °C ≤ Ta ≤ 70 °C.

Approvals:
BVS 10 ATEX E 113 X conforms to EN60079-0, EN60079-11, EN60079-15.
IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

PARAMETERS TABLE

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, li/imax, Pi/Pl) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5011 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Uo / Voc = 25.9 V</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Io / Isc = 92 mA</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Po / Po = 594 mW</td>
<td>≤</td>
</tr>
</tbody>
</table>

| Ch1, Ch2  | 7-8, 9-10                        | Co / Ca = 100 nF | IIC (A, B) |
| Ch1, Ch2  | 7-8, 9-10                        | Co / Ca = 770 nF | IIB (C) |
| Ch1, Ch2  | 7-8, 9-10                        | Co / Ca = 2.63 μF | II (D) |
| Ch1, Ch2  | 7-8, 9-10                        | Co / Ca = 4.02 μF | IIC (E, F, G) |
| Ch1, Ch2  | 7-8, 9-10                        | Lo / La = 4.2 mH | IIC (A, B) |
| Ch1, Ch2  | 7-8, 9-10                        | Lo / La = 16.8 mH | IIB (C) |
| Ch1, Ch2  | 7-8, 9-10                        | Lo / La = 33.7 mH | II (D) |
| Ch1, Ch2  | 7-8, 9-10                        | Lo / La = 55.2 mH | I |
| Ch1, Ch2  | 7-8, 9-10                        | Lo / La = 16.8 mH | IIC (E, F, G) |
| Ch1, Ch2  | 7-8, 9-10                        | Lo/ Ro = 59.9 μH/Ω | IIC (A, B) |
| Ch1, Ch2  | 7-8, 9-10                        | Lo/ Ro = 239.7 μH/Ω | IIB (C) |
| Ch1, Ch2  | 7-8, 9-10                        | Lo/ Ro = 479.4 μH/Ω | II (D) |
| Ch1, Ch2  | 7-8, 9-10                        | Lo/ Ro = 786.6 μH/Ω | I |
| Ch1, Ch2  | 7-8, 9-10                        | Lo/ Ro = 239.7 μH/Ω | IIC (E, F, G) |

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 μF for Groups I, II, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1μH per meter (0.20μH per foot).

WARNING

D5011 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms.

Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground.

D5011 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

Warning: substitution of components may impair Intrinsic Safety and suitability for Zone 2.

Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.
Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5011 series are repeater power supply hart compatible housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022, with or without Power Bus or on customized Termination Board.

D5011 unit can be mounted with any orientation over the entire ambient temperature range. Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

The wiring cables have to be proportionate in base to the current and the length of the cable. Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water. **Electrostatic Hazard**: to avoid electrostatic hazard, the enclosure of D5011 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit. Any unauthorized card modification must be avoided.

According to EN61010, D5011 unit must be connected to SELV or SELV-E supplies.

For the complete instruction manual ISM0124, datasheet and certifications please refer to our website www.gmintsrl.com.

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**D5014**

**SAFETY DESCRIPTION**

**ATEX:** ll 3(1)G Ex nA [ia Ga] IIC T4 Gc, ll (1)D [Ex ia Da] IIC, l (M1) [Ex ia Ma] l

**IECEx:** Ex nA [ia Ga] IIC T4 Gc, [Ex ia Da] IIC, [Ex ia Ma] l, associated apparatus and non-sparking electrical equipment.

Uo/Voc = 25.9 V, Io/Isc = 92 mA, Po/Po = 594 mW at terminals 7-8, 9-10.

Uo/Voc = 1.1 V, Io/Isc = 56 mA, Po/Po = 16 mW at terminals 8-11, 10-12.

Ui/Vmax = 30 V, li/Imax = 128 mA, Ci/Ci = 0 nF, Li/Li = 0 mH, at terminals 8-11, 10-12. Um = 250 Vrms, -40 °C ≤ Ta ≤ 70 °C.

**Approvals:**

BVS 10 ATEX E 113 X conforms to EN60079-0, EN60079-11, EN60079-15.

IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

**PARAMETERS TABLE**

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, li/Imax, Pi/Pi) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5014 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Uo / Voc = 25.9 V</td>
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</tr>
<tr>
<td>Ch1, Ch2</td>
<td>8-11, 10-12</td>
<td>Io / Isc = 92 mA</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Po / Po = 594 mW</td>
<td>≤</td>
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<tr>
<td>Ch1, Ch2</td>
<td>8-11, 10-12</td>
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ISM0156-9
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<td>Ci / Ci device + C cable</td>
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<td>Co / Ca = 100 nF</td>
<td>IIC (A, B)</td>
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<td>Co / Ca = 100 µF</td>
<td>IIB (C)</td>
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<td>Co / Ca = 2.63 µF</td>
<td>II A (D)</td>
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<td>Co / Ca = 4.02 µF</td>
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<td></td>
<td>Co / Ca = 770 nF</td>
<td>IIIC (E, F, G)</td>
<td></td>
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<tr>
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<td>Co / Ca = 100 µF</td>
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<tr>
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<td>Co / Ca = 770 nF</td>
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<td>Ch1, Ch2</td>
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<td>Lo / La = 16.8 mH</td>
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<td>Lo / La = 45.3 mH</td>
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<td>Lo / La = 90.7 mH</td>
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<td>Lo / La = 151.1 mH</td>
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<td>Lo / La = 45.3 mH</td>
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<td>Lo/ Ro = 59.9 µH/Ω</td>
<td>IIC (A, B)</td>
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</tr>
<tr>
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<td>Lo/ Ro = 239.7 µH/Ω</td>
<td>IIB (C)</td>
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<tr>
<td></td>
<td>Lo/ Ro = 479.4 µH/Ω</td>
<td>II A (D)</td>
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<td>Lo/ Ro = 786.6 µH/Ω</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/ Ro = 239.7 µH/Ω</td>
<td>IIIC (E, F, G)</td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>8-11, 10-12</td>
<td></td>
<td></td>
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<td>Lo/ Ro = 2327.2 µH/Ω</td>
<td>IIC (A, B)</td>
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<td>Lo/ Ro = 30545.4 µH/Ω</td>
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<td></td>
<td>Lo/ Ro = 9309 µH/Ω</td>
<td>IIIC (E, F, G)</td>
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</table>

When used with separate powered intrinsically safe devices, check that maximum allowable voltage, current (Ui/Vmax, li/Imax) of the D5014 series Associated Apparatus are not exceeded by the safety parameters (Uo/Voc, Io/Isc) of the Intrinsically Safe device, indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Ui / Vmax = 30 V</th>
<th>Uo / Voc</th>
<th>≥</th>
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</thead>
<tbody>
<tr>
<td>Ch1, Ch2</td>
<td>8-11, 10-12</td>
<td></td>
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</tr>
<tr>
<td>Ch1, Ch2</td>
<td>8-11, 10-12</td>
<td>li / Imax = 128 mA</td>
<td>Io / Isc</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>8-11, 10-12</td>
<td>Ci = 0 µF, Li = 0 mH</td>
<td></td>
</tr>
</tbody>
</table>

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 µF for Groups I, IIA, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1µH per meter (0.20 µH per foot).

**WARNING**

D5014 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms.

Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground. D5014 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

Warning: substitution of components may impair Intrinsic Safety and suitability for Zone 2.

Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.
Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5014 series are repeater power supply hart compatible housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022, with or without Power Bus or on customized Termination Board.

D5014 unit can be mounted with any orientation over the entire ambient temperature range.

Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

The wiring cables have to be proportionate in base to the current and the length of the cable.

Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

**Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5014 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized card modification must be avoided.

According to EN61010, D5014 unit must be connected to SELV or SELV-E supplies.

For the complete instruction manual **ISM0103**, datasheet and certifications please refer to our website [www.gmintsrl.com](http://www.gmintsrl.com).

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**D5020**

**SAFETY DESCRIPTION**

**ATEX:** II 3(1)G Ex nA [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] IIIc, I (M1) [Ex ia Ma] I

**IECEx:** Ex nA [ia Ga] IIC T4 Gc, [Ex ia Da] IIIc, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

Uo/Voc = 25.9 V, Io/Isc = 93 mA, Po/Po = 595 mW at terminals 7-8, 9-10.

Um = 250 Vrms, -40 °C ≤ Ta ≤ 70 °C.

**Approvals:**

BVS 10 ATEX E 113 X conforms to EN60079-0, EN60079-11, EN60079-15.

IECEx BVS 10.0072 X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

**PARAMETERS TABLE**

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, li/Imax, Pi/Pi) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5020 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that additional connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Uo / Voc = 25.9 V</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Io / Isc = 93 mA</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Po / Po = 595 mW</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Co / Ca = 100 nF</td>
<td>≤</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 770 nF</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 2.63 μF</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 4.02 μF</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 770 nF</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>IIC (A, B)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>IIB (C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>IIA (D)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>IIC (E, F, G)</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** For Zone 2 installations check the area to be nonhazardous before servicing.
For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 µF for Groups I, IIA, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1µH per meter (0.20µH per foot).

**WARNING**

D5020 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms.

Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground. D5020 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**WARNING: substitution of components may impair Intrinsic Safety and suitability for Zone 2.**

**Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.**

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5020 series are isolating driver housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022, with or without Power Bus or on customized Termination Board.

D5020 unit can be mounted with any orientation over the entire ambient temperature range. Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

The wiring cables have to be proportionate in base to the current and the length of the cable. Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect fault transistors checking the load rating to be within the maximum rating (100 mA at 35 Vdc (≤ 1.5 V voltage drop)).

The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water. **Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5020 must be cleaned only with a damp or antistatic cloth.**

Any penetration of cleaning liquid must be avoided to prevent damage to the unit. Any unauthorized card modification must be avoided.

According to EN61010, D5020 unit must be connected to SELV or SELV-E supplies.
D5030

SAFETY DESCRIPTION

**ATEX:** II 3(1)G Ex nA nC [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I

**IECEx:** Ex nA nC [ia Ga] IIC T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

Uo/Voc = 10.5 V, Io/Is = 22 mA, Po/Po = 56 mW at terminals 7-8, 9-10.

Um = 250 Vrms, -40 °C ≤ Ta ≤ 70 °C.

**Approvals:**

BVS 10 ATEX E 113 X conforms to EN60079-0, EN60079-11, EN60079-15.

IECEx BVS 10.0072 X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

PARAMETERS TABLE

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (U/Vmax, I/Imax, Pi/Pi) are not exceeded by the safety parameters (Uo/Voc, Io/Is, Po/Po) of the D5030 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Uo / Voc = 10.5 V</td>
<td>≤ U / Vmax</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Io / Is = 22 mA</td>
<td>≤ I / Imax</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Po / Po = 56 mW</td>
<td>≤ Pi / Pi</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo / La = 78.3 mH</td>
<td>≥ Ci / Ci device + C cable</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo / La = 313.4 mH</td>
<td>≥ Li / Li device + L cable</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo / La = 626.9 mH</td>
<td>≥ Li/Ri device and L cable/R cable</td>
</tr>
</tbody>
</table>

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 µF for Groups I, IIA, IIB and 600 nF for Group IIIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1µH per meter (0.20µH per foot).

**WARNING**

D5030 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms.

Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground. D5030 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.
De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.  
**Warning:** substitution of components may impair Intrinsic Safety and suitability for Zone 2.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential. 

Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous. 

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. 
The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5030 series are switch/proximity detector repeater housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022, with or without Power Bus. 

D5030 unit can be mounted with any orientation over the entire ambient temperature range.

Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

The wiring cables have to be proportionate in base to the current and the length of the cable. Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect load relay contacts checking the load rating to be within the contact maximum rating (4 A 250 Vac 1000 VA, 4 A 250 Vdc 120 W resistive load).

**To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.**

The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

**Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5030 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized card modification must be avoided.

According to EN61010, D5030 unit must be connected to SELV or SELV-E supplies.

Relay output contact must be connected to load non exceeding category II overvoltage limits.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

For the complete instruction manual **ISM0106**, datasheet and certifications please refer to our website [www.gmintsrl.com](http://www.gmintsrl.com).

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**D5031**

**SAFETY DESCRIPTION**

**ATEX:** II 3(1)G Ex nA [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] IIIIC, I (M1) [Ex ia Ma] I  
**IECEx:** Ex nA [ia Ga] IIC T4 Gc, [Ex ia Da] IIIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.  
Uo/Voc = 10.5 V, Io/Isc = 22 mA, Po/Po = 56 mW at terminals 7-8, 9-10.  
Um = 250 Vrms, -40 °C ≤ Ta ≤ 70 °C.

**Approvals:**  
BVS 10 ATEX E 113 X conforms to EN60079-0, EN60079-11, EN60079-15.  
IECEx BVS 10.0072 X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

**PARAMETERS TABLE**

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (U/i/Vmax, I/i/Imax, P/i/Pi) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5031 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device
capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Uo / Voc = 10.5 V</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>lo / Isc = 22 mA</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Po / Po = 56 mW</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Co / Ca = 2.4 μF</td>
<td>≥</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 16.8 μF</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 75 μF</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Co / Ca = 66 μF</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 16.8 μF</td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo / La = 78.3 mH</td>
<td>≥</td>
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<tr>
<td></td>
<td></td>
<td>Lo / La = 313.4 mH</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Lo / La = 626.9 mH</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 1,028 mH</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 313.4 mH</td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo/Ro = 635.9 μH/Ω</td>
<td>≥</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 2543.9 μH/Ω</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Lo/Ro = 5087.9 μH/Ω</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Lo/Ro = 8347.4 μH/Ω</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 2543.9 μH/Ω</td>
<td></td>
</tr>
</tbody>
</table>

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 µF for Groups I, IIA, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1μH per meter (0.20μH per foot).

**WARNING**

D5031 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Ums 250 Vrms.

Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground.

D5031 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

Warning: substitution of components may impair Intrinsic Safety and suitability for Zone 2.

Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5031 series are switch/proximity detector repeater housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022, with or without Power Bus or on customized Termination Board.

D5031 unit can be mounted with any orientation over the entire ambient temperature range.

Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

The wiring cables have to be proportionate in base to the current and the length of the cable. Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect output transistors checking the load rating to be within the maximum rating (100 mA at 35 Vdc (≤ 1.5 V voltage drop)).
The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5031 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit. Any unauthorized card modification must be avoided.

According to EN61010, D5031 unit must be connected to SELV or SELV-E supplies.

For the complete instruction manual ISM0107, datasheet and certifications please refer to our website www.gminsrl.com.

### D5032

#### SAFETY DESCRIPTION

**ATEX:** II 3(1)G Ex nA nC [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I

**IECEx:** Ex nA nC [ia Ga] IIC T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

Uo/Voc = 10.5 V, Io/Isce = 22 mA, Po/Po = 56 mW at terminals 7-8, 9-10.

Um = 250 Vrms, -40 °C ≤ Ta ≤ 70 °C.

**Approvals:**

BVS 10 ATEX E 113 X conforms to EN60079-0, EN60079-11, EN60079-15.

IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

#### PARAMETERS TABLE

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, li/Imax, Pi/Pi) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5032 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Uo / Voc = 10.5 V</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Io / Isc = 22 mA</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Po / Po = 56 mW</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Co / Ca = 2.4 μF</td>
<td>≥</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 16.8 μF</td>
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<tr>
<td></td>
<td></td>
<td>Co / Ca = 75 μF</td>
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<td></td>
<td>Co / Ca = 66 μF</td>
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<td></td>
<td></td>
<td>Co / Ca = 16.8 μF</td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo / La = 78.3 mH</td>
<td>≥</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 313.4 mH</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Lo / La = 626.9 mH</td>
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<td>Lo / La = 1,028 H</td>
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<td>Lo / La = 313.4 mH</td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo/ Ro = 635.9 μH/Ω</td>
<td>≥</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/ Ro = 2543.9 μH/Ω</td>
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<td>Lo/ Ro = 8347.4 μH/Ω</td>
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<td></td>
<td></td>
<td>Lo/ Ro = 2543.9 μH/Ω</td>
<td></td>
</tr>
</tbody>
</table>

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 μF for Groups I, IIA, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1μH per meter (0.20μH per foot).
WARNING
D5032 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms.
Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground. D5032 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.
De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

Warning: substitution of components may impair Intrinsic Safety and suitability for Zone 2.

Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

INSTALLATION
D5032 series are switch/proximity detector repeater housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022 or on customized Termination Board.
D5032 unit can be mounted with any orientation over the entire ambient temperature range.
Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

The wiring cables have to be proportionate in base to the current and the length of the cable. Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.
Connect output relay contacts checking the load rating to be within the contact maximum rating (100 mA 50 Vac 5 VA, 100 mA 50 Vdc 5 W resistive load).

To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.
The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.
Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5032 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized card modification must be avoided.

According to EN61010, D5032 unit must be connected to SELV or SELV-E supplies.
Relay output contact must be connected to load non exceeding category II overvoltage limits.

For the complete instruction manual ISM0108, datasheet and certifications please refer to our website www.gmintsrl.com.

D5034

SAFETY DESCRIPTION

ATEX: II 3(T)G Ex nA [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] IIC, I (M1) [Ex ia Ma] I
Uo/Voc = 10.5 V, Io/Isc = 15 mA, Po/Po = 39 mW at terminals 7-8, 9-10.
Um = 250 Vrms, -40 °C ≤ Ta ≤ 70 °C.

Approvals:
BVS 10 ATEX E 113 X conforms to EN60079-0, EN60079-11, EN60079-15.
IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-11, IEC60079-15.
PARAMETERS TABLE

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Uo/Voc, Io/Isc, Po/Po) are not exceeded by the safety parameters (Ui/Vmax, li/Imax, Pi/Pi) of the D5034 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Uo / Voc = 10.5 V</td>
<td>≤ Ui / Vmax</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Io / Isc = 15 mA</td>
<td>≤ li / Imax</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Po / Po = 39 mW</td>
<td>≤ Pi / Pi</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Co / Ca = 2.4 µF</td>
<td>≥ Ci / Ci device + C cable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 16.8 µF</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 75 µF</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 66 µF</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 16.8 µF</td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo / La = 163 mH</td>
<td>≥ Li / Li device + L cable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 652 mH</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 1.3 H</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 2.14 H</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 652 mH</td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Lo/Ro = 918.2 µH/Ω</td>
<td>≥ Li/Ri device and L cable/R cable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 3672.9 µH/Ω</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 7345.8 µH/Ω</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 12051.8 µH/Ω</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 3672.9 µH/Ω</td>
<td></td>
</tr>
</tbody>
</table>

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 µF for Groups I, IIA, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1µH per meter (0.20µH per foot).

WARNING

D5034 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms.

Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground. D5034 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

Warning: substitution of components may impair Intrinsic Safety and suitability for Zone 2.

Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

INSTALLATION

D5034 series are switch/proximity interface housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022, with or without Power Bus or on customized Termination Board.

D5034 unit can be mounted with any orientation over the entire ambient temperature range.

Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

The wiring cables have to be proportionate in base to the current and the length of the cable.

Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant
national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation. Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5034 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit. Any unauthorized card modification must be avoided. According to EN61010, D5034 unit must be connected to SELV or SELV-E supplies.

For the complete instruction manual ISM0113, datasheet and certifications please refer to our website www.gmintsrl.com.

### D5036

#### SAFETY DESCRIPTION

**ATEX:** II 3(1)G Ex nA nC [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I  
**IECEx:** Ex nA nC [ia Ga] IIC T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

Uo/Voc = 10.5 V, Io/Isc = 22 mA, Po/Po = 56 mW at terminals 7-8, 9-10.  
Um = 250 Vrms, -40 °C ≤ Ta ≤ 70 °C.

**Approvals:**  
BVS 10 ATEX E 113 X conforms to EN60079-0, EN60079-11, EN60079-15.  
IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

#### PARAMETERS TABLE

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, li/Imax, Pi/Pi) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5036 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Uo / Voc = 10.5 V</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Io / Isc = 22 mA</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Po / Po = 56 mW</td>
<td>≤</td>
</tr>
</tbody>
</table>

Ch1, Ch2  | 7-8, 9-10                        | Co / Ca = 2.4 μF | IIC (A, B) |
| Ch1, Ch2  | 7-8, 9-10                        | Co / Ca = 16.8 μF | IIIB (C)    |
| Ch1, Ch2  | 7-8, 9-10                        | Co / Ca = 75 μF  | IIA (D)     |
| Ch1, Ch2  | 7-8, 9-10                        | Co / Ca = 66 μF  | I            |
| Ch1, Ch2  | 7-8, 9-10                        | Co / Ca = 16.8 μF | IIC (E, F, G) |

Ch1, Ch2  | 7-8, 9-10                        | Lo / La = 78.3 mH | IIC (A, B) |
| Ch1, Ch2  | 7-8, 9-10                        | Lo / La = 313.4 mH | IIIB (C)    |
| Ch1, Ch2  | 7-8, 9-10                        | Lo / La = 626.9 mH | IIA (D)     |
| Ch1, Ch2  | 7-8, 9-10                        | Lo / La = 1.026 H | I            |
| Ch1, Ch2  | 7-8, 9-10                        | Lo / La = 313.4 mH | IIC (E, F, G) |

Ch1, Ch2  | 7-8, 9-10                        | Lo / Ro = 635 μH/Ω | IIC (A, B) |
| Ch1, Ch2  | 7-8, 9-10                        | Lo / Ro = 2543 μH/Ω | IIIB (C)    |
| Ch1, Ch2  | 7-8, 9-10                        | Lo / Ro = 5087 μH/Ω | IIA (D)     |
| Ch1, Ch2  | 7-8, 9-10                        | Lo / Ro = 8347 μH/Ω | I            |
| Ch1, Ch2  | 7-8, 9-10                        | Lo / Ro = 2543 μH/Ω | IIC (E, F, G) |

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C
cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 μF for Groups I, IIA, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1μH per meter (0.20μH per foot).

WARNING

D5036 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms. Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground. D5036 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones. De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

WARNING: substitution of components may impair Intrinsic Safety and suitability for Zone 2.

Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential. Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

INSTALLATION

D5036 series are switch/proximity detector repeater housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022, with or without Power Bus. D5036 unit can be mounted with any orientation over the entire ambient temperature range. Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

The wiring cables have to be proportionate in base to the current and the length of the cable. Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect output relay contacts checking the load rating to be within the contact maximum rating (4 A 250 Vac 1000 VA, 4 A 250 Vdc 120 W resistive load). To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.

The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation. Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5036 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit. Any unauthorized card modification must be avoided. According to EN61010, D5036 unit must be connected to SELV or SELV-E supplies.

Relay output contact must be connected to load non exceeding category II overvoltage limits.

Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

For the complete instruction manual ISM0269, datasheet and certifications please refer to our website www.gmintsrl.com.
IECEx: Ex nA [ia Ga] IIC T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment. Uo/Voc = 10.5 V, Io/Isc = 22 mA, Po/Po = 56 mW at terminals 7-8, 9-10. Um = 250 Vrms, -40 °C ≤ Ta ≤ 70 °C.

Approvals:
BVS 10 ATEX E 113 X conforms to EN60079-0, EN60079-11, EN60079-15.
IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

PARAMETERS TABLE
In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, li/Imax, Pi/Pi) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5037 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Uo / Voc = 10.5 V</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Io / Isc = 22 mA</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>7-8, 9-10</td>
<td>Po / Po = 56 mW</td>
<td>≤</td>
</tr>
</tbody>
</table>

Ch1, Ch2  7-8, 9-10
- Co / Ca = 2.4 µF
- Co / Ca = 16.8 µF
- Co / Ca = 75 µF
- Co / Ca = 66 µF
- Co / Ca = 16.8 µF
- IIC (A, B)
- IIB (C)
- IIA (D)

Ch1, Ch2  7-8, 9-10
- Lo / La = 78.3 mH
- Lo / La = 313.4 mH
- Lo / La = 626.9 mH
- Lo / La = 1.0286 H
- Lo / La = 313.4 mH
- IIC (A, B)
- IIB (C)
- IIA (D)

Ch1, Ch2  7-8, 9-10
- Lo/Ro = 635 µH/Ω
- Lo/Ro = 2543 µH/Ω
- Lo/Ro = 5087 µH/Ω
- Lo/Ro = 8347 µH/Ω
- Lo/Ro = 2543 µH/Ω
- IIC (A, B)
- IIB (C)
- IIA (D)

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 µF for Groups I, IIA, IIB and 600 nF for Group IIIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1µH per meter (0.20µH per foot).

WARNING
D5037 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms.
Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground. D5037 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.
De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.
Warning: substitution of components may impair Intrinsic Safety and suitability for Zone 2.
Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.
Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.
The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.
INSTALLATION

D5037 series are switch/proximity detector repeater housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022, with or without Power Bus or on customized Termination Board. D5037 unit can be mounted with any orientation over the entire ambient temperature range. Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing). The wiring cables have to be proportionate in base to the current and the length of the cable. Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection. Connect output transistors checking the load rating to be within the maximum rating (100 mA at 35 Vdc (≤ 1.5 V voltage drop)). The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation. Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water. Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5037 must be cleaned only with a damp or antistatic cloth. Any penetration of cleaning liquid must be avoided to prevent damage to the unit. Any unauthorized card modification must be avoided. According to EN61010, D5037 unit must be connected to SELV or SELV-E supplies.

For the complete instruction manual ISM0270, datasheet and certifications please refer to our website www.gmintsrl.com.

D5040

SAFETY DESCRIPTION

ATEX: II 3(1)G Ex nA [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I


Uo/Voc = 25.2 V, Io/Isc = 146 mA, Po/Po = 916 mW at terminals 7-8, 10-11 Out A.
Uo/Voc = 25.2 V, Io/Isc = 108 mA, Po/Po = 676 mW at terminals 7-9, 10-12 Out B.
Uo/Voc = 25.2 V, Io/Isc = 292 mA, Po/Po = 1831 mW at terminals 7//10-8//11 Out A+A.
Uo/Voc = 25.2 V, Io/Isc = 1352 mW at terminals 7//10-9//12 Out B+B.
Uo/Voc = 25.2 V, Io/Isc = 254 mA, Po/Po = 1592 mW at terminals 7//10-8//12, 7//10-9//11 Out A+B.
Um = 250 Vrms, -40 °C ≤ Ta ≤ 70 °C.

Approvals:
BVS 14 ATEX E 159 X conforms to EN60079-0, EN60079-11, EN60079-15.
IECEx BVS 14.0111X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

PARAMETERS TABLE

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, li/Imax, Pi/Pl) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5040 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
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</table>
### INSTALLATION

D5040 series are digital output driver housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022 or on customized Termination Board.

D5040 unit can be mounted with any orientation over the entire ambient temperature range.

Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

The wiring cables have to be proportionate in base to the current and the length of the cable.

Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

### WARNING

D5040 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIB, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms.

Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground.

D5040 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning**: substitution of components may impair Intrinsic Safety and suitability for Zone 2.

**Explosion Hazard**: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 μF for Groups I, IIA, IIB. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1μH per meter (0.20μH per foot).

### TABLE: Termina | Associated Apparatus Parameters | must be | Haz. Area/Haz. Locations Device Parameters
--- | --- | --- | ---
Ch1, Ch2 | 7-8, 10-11 | Lo/\(R_o\) = 38.8 μH/Ω | IIC (A, B) | Li/Ri device
Ch1, Ch2 | 7-9, 10-12 | Lo/\(R_o\) = 52.6 μH/Ω | IIC (A, B) | ≥ Li/Ri device
Ch1//2 | 7//10-8//11 | Lo/\(R_o\) = 77.6 μH/Ω | IIC (C) | ≥ Li/Ri device
Ch1//2 | 7//10-9//12 | Lo/\(R_o\) = 105.2 μH/Ω | IIB (C) | ≥ Li/Ri device
Ch1//2 | 7//10-8//12, 7//10-9//11 | Lo/\(R_o\) = 89.3 μH/Ω | IIB (C) | ≥ Li/Ri device

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 μF for Groups I, IIA, IIB. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1μH per meter (0.20μH per foot).
protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water. **Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5040 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit. Any unauthorized card modification must be avoided.

*For the complete instruction manual ISM0187, datasheet and certifications please refer to our website www.gmintsr.com.*

**D5048**

### SAFETY DESCRIPTION

**ATEX:** II 3(1)G Ex nA [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] IIIc, I (M1) [Ex ia Ma] I  
**IECEx:** Ex nA [ia Ga] IIC T4 Gc, [Ex ia Da] IIIc, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

Uo/Voc = 24.8 V, Io/Isc = 147 mA, Po/Po = 907 mW at terminals 7-10 Out A.  
Uo/Voc = 24.8 V, Io/Isc = 108 mA, Po/Po = 667 mW at terminals 8-10 Out B.  
Uo/Voc = 24.8 V, Io/Isc = 93 mA, Po/Po = 571 mW at terminals 9-10 Out C.  
Um = 250 Vrms, -40 °C ≤ Ta ≤ 70 °C.

**Approvals:**  
BVS 10 ATEX E 113 X conforms to EN60079-0, EN60079-11, EN60079-15.  
IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

### PARAMETERS TABLE

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, li/Imax, Pi/Pi) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5048 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

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<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
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<th>Haz. Area/Haz. Locations Device Parameters</th>
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<td>Ch1 9-10</td>
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<td>Pi / Pi</td>
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<td>IIB (C)</td>
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<td>IIA (D)</td>
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<td>Ch1</td>
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</tbody>
</table>

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 µF for Groups I, IIA, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1μH per meter (0.20μH per foot).

**WARNING**

D5048 is isolated Intrinsically Safe Associated Apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms.

Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground.

D5048 must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair Intrinsic Safety and suitability for Zone 2.

Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.

The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5048 is a digital output driver housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022, with or without Power Bus or on customized Termination Board.

D5048S unit can be mounted with any orientation over the entire ambient temperature range.

Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks.
which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

The wiring cables have to be proportionate in base to the current and the length of the cable. Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

**NOTE: Use only one output at a time (Out A or Out B or Out C).**

Connect fault transistors checking the load rating to be within the maximum rating (100 mA at 35 Vdc \(\leq 1.5 \text{ V voltage drop}\)).

The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water. **Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5048 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit. Any unauthorized card modification must be avoided.

For the complete instruction manual ISM0119, datasheet and certifications please refer to our website www.gmintsrl.com.

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**D5049**

**SAFETY DESCRIPTION**

**ATEX:** II 3(1)G Ex nA [ia Ga] IIIC T4 Gc, II (1)D [Ex ia Da] IIIIC, I (M1) [Ex ia Ma] I

**IECEx:** Ex nA [ia Ga] IIIC T4 Gc, [Ex ia Da] IIIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

\[\begin{align*}
\text{Uo/Voc} &= 24.8 \text{ V}, \text{ Io/Isc} = 147 \text{ mA}, \text{ Po/Po} = 907 \text{ mW} \text{ at terminals 7-10 Out A.} \\
\text{Uo/Voc} &= 24.8 \text{ V}, \text{ Io/Isc} = 108 \text{ mA}, \text{ Po/Po} = 667 \text{ mW} \text{ at terminals 8-10 Out B.} \\
\text{Uo/Voc} &= 24.8 \text{ V}, \text{ Io/Isc} = 93 \text{ mA}, \text{ Po/Po} = 571 \text{ mW} \text{ at terminals 9-10 Out C.} \\
\text{Um} &= 250 \text{ Vrms}, -40 °C \leq \text{Ta} \leq 70 °C.
\end{align*}\]

**Approvals:**

BVS 10 ATEX E 113 X conforms to EN60079-0, EN60079-11, EN60079-15.

IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

**PARAMETERS TABLE**

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, li/Imax, Pi/Pi) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5049 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1 7-10</td>
<td>Uo / Voc = 24.8 V</td>
<td>(\leq)</td>
<td>Ui / Vmax</td>
</tr>
<tr>
<td>Ch1 8-10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch1 9-10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch1 7-10</td>
<td>Io / Isc = 147 mA</td>
<td>(\leq)</td>
<td>li / Imax</td>
</tr>
<tr>
<td>Ch1 8-10</td>
<td>Io / Isc = 108 mA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch1 9-10</td>
<td>Io / Isc = 93 mA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch1 7-10</td>
<td>Po / Po = 907 mW</td>
<td>(\leq)</td>
<td>Pi / Pi</td>
</tr>
<tr>
<td>Ch1 8-10</td>
<td>Po / Po = 667 mW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch1 9-10</td>
<td>Po / Po = 571 mW</td>
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</table>
### Terminals

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ch1</strong></td>
<td></td>
<td></td>
<td><strong>Ci / Ci device + C cable</strong></td>
</tr>
<tr>
<td><strong>Ch1</strong></td>
<td></td>
<td></td>
<td><strong>Li / Li device + L cable</strong></td>
</tr>
<tr>
<td><strong>Ch1</strong></td>
<td></td>
<td></td>
<td><strong>Li/Ri device and L cable/R cable</strong></td>
</tr>
</tbody>
</table>

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 µF for Groups I, IIA, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1 µH per meter (0.20 µH per foot).

**WARNING**

D5049 is isolated Intrinsically Safe Associated Apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms.

Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground. D5049 must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres -
Part 14: Electrical installations in hazardous areas (other than mines), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair Intrinsic Safety and suitability for Zone 2.

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5049 is a digital output driver housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022, with or without Power Bus or on customized Termination Board.

D5049S unit can be mounted with any orientation over the entire ambient temperature range.

Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

The wiring cables have to be proportionate in base to the current and the length of the cable.

Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

**NOTE:** Use only one output at a time (Out A or Out B or Out C).

Connect fault transistors checking the load rating to be within the maximum rating (100 mA at 35 Vdc (≤ 1.5 V voltage drop)).

The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

**Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5049 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized card modification must be avoided.

According to EN61010, D5049S unit must be connected to SELV or SELV-E supplies.

For the complete instruction manual ISM0120, datasheet and certifications please refer to our website www.gmintsrl.com.

**D5062**

**SAFETY DESCRIPTION**

**ATEX:** II 3(T)G Ex nA [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I

**IECEx:** Ex nA [ia Ga] IIC T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment. Uo/Voc = 27 V, Io/Isc = 90 mA, Po/Po = 576 mW at terminals 7-8, 8-9 (when used with 2 wire constant current supply mode).

Uo/Voc = 25.9 V, Io/Isc = 90 mA, Po/Po = 576 mW at terminals 7-10, 9-10 (when used with 3 wires transducer).

Uo/Voc = 27 V, Io/Isc = 90 mA, Po/Po = 576 mW at terminals 7-8, 8-9 (when used with 2 wires AC sensor).

Uo/Voc = 27 V, Io/Isc = 90 mA, Po/Po = 576 mW at terminals 7-8, 8-9 (when used with 2 wires AC sensor).

Um = 250 Vrms, -40 °C ≤ T₀ ≤ 70 °C.

**Approvals:**

BVS 14 ATEX E 073 X conforms to EN60079-0, EN60079-11, EN60079-15.

IECEx BVS 14.0044X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

**PARAMETERS TABLE**

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, li/Imax, Pi/Pi) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5062 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device
capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
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</thead>
<tbody>
<tr>
<td>Ch1 7/9-10</td>
<td>Uo / Voc = 25.9 V</td>
<td>≤</td>
<td>Ui / Vmax</td>
</tr>
<tr>
<td>Ch1 7/9-8</td>
<td>Uo / Voc = 27 V</td>
<td>≥</td>
<td>Po / Po = 576 mW</td>
</tr>
<tr>
<td>Ch1 7/9-10</td>
<td>Io / Isc = 90 mA</td>
<td>≤</td>
<td>Li / Imax</td>
</tr>
<tr>
<td>Ch1 7/9-8</td>
<td>Po / Po = 576 mW</td>
<td>≤</td>
<td>Ci / Ci device + C cable</td>
</tr>
<tr>
<td>Ch1 7/9-10</td>
<td>Co / Ca = 100 nF</td>
<td>≥</td>
<td>Li / Li device + L cable</td>
</tr>
<tr>
<td>Ch1 7/9-8</td>
<td>Co / Ca = 770 nF</td>
<td>≥</td>
<td>Li/Ri device and L cable/R cable</td>
</tr>
<tr>
<td>Ch1 7/9-8</td>
<td>Lo / La = 4.4 mH</td>
<td>≥</td>
<td>Li/Ri device and L cable/R cable</td>
</tr>
<tr>
<td>Ch1 7/9-8</td>
<td>Lo / La = 35.8 mH</td>
<td>≥</td>
<td>Li/Ri device and L cable/R cable</td>
</tr>
<tr>
<td>Ch1 7/9-8</td>
<td>Lo / La = 17.9 mH</td>
<td>≥</td>
<td>Li/Ri device and L cable/R cable</td>
</tr>
<tr>
<td>Ch1 7/9-8</td>
<td>Lo / La = 17.9 mH</td>
<td>≥</td>
<td>Li/Ri device and L cable/R cable</td>
</tr>
<tr>
<td>Ch1 7/9-8</td>
<td>Lo / La = 17.9 mH</td>
<td>≥</td>
<td>Li/Ri device and L cable/R cable</td>
</tr>
<tr>
<td>Ch1 7/9-8</td>
<td>Lo / La = 17.9 mH</td>
<td>≥</td>
<td>Li/Ri device and L cable/R cable</td>
</tr>
<tr>
<td>Ch1 7/9-8</td>
<td>Lo / La = 17.9 mH</td>
<td>≥</td>
<td>Li/Ri device and L cable/R cable</td>
</tr>
<tr>
<td>Ch1 7/9-10</td>
<td>Lo / Ro = 61.7 μH/Ω</td>
<td>≥</td>
<td>Li/Ri device and L cable/R cable</td>
</tr>
<tr>
<td>Ch1 7/9-8</td>
<td>Lo / Ro = 61.7 μH/Ω</td>
<td>≥</td>
<td>Li/Ri device and L cable/R cable</td>
</tr>
<tr>
<td>Ch1 7/9-8</td>
<td>Lo / Ro = 61.7 μH/Ω</td>
<td>≥</td>
<td>Li/Ri device and L cable/R cable</td>
</tr>
<tr>
<td>Ch1 7/9-8</td>
<td>Lo / Ro = 61.7 μH/Ω</td>
<td>≥</td>
<td>Li/Ri device and L cable/R cable</td>
</tr>
</tbody>
</table>

When used with separate powered intrinsically safe devices, check that maximum allowable voltage, current (Ui/Vmax, li/Imax) of the D5062 series Associated Apparatus are not exceeded by the safety parameters (Uo/Voc, Io/Isc) of the Intrinsically Safe device, indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1 7/9-8</td>
<td>Ui / Vmax = 30 V</td>
<td>≥</td>
<td>Uo / Voc</td>
</tr>
<tr>
<td>Ch1 7/9-8</td>
<td>Ci = 0 μF, Li = 0 mH</td>
<td>≥</td>
<td></td>
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</tbody>
</table>

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded

(50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 μF for Groups I, IIA, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1μH per meter (0.20μH per foot).

**WARNING**

D5062 is isolated Intrinsically Safe Associated Apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of
Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground. D5062 must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

Warning: substitution of components may impair Intrinsic Safety and suitability for Zone 2.

Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

INSTALLATION

D5062 is a vibration transducer interface housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022, with or without Power Bus or on customized Termination Board. D5062S unit can be mounted with any orientation over the entire ambient temperature range. Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

The wiring cables have to be proportionate in base to the current and the length of the cable. Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water. Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5062 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit. Any unauthorized card modification must be avoided.

According to EN61010, D5062S unit must be connected to SELV or SELV-E supplies.

For the complete instruction manual ISM0184, datasheet and certifications please refer to our website www.gmintsrl.com.

D5072

SAFETY DESCRIPTION

**ATEX:** II 3(1)G Ex nA [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] IIIIC, I (M1) [Ex ia Ma] I

**IECEx:** Ex nA [ia Ga] IIC T4 Gc, [Ex ia Da] IIIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

Uo/Voc = 7.2 V, Io/Isc = 23 mA, Po/Po = 40 mW at terminals 7-8-9-10 (only for D5072S).

Uo/Voc = 7.2 V, Io/Isc = 16 mA, Po/Po = 27 mW at terminals 7-8-9, 10-11-12 (only for D5072D).

Ui/Vmax = 12.8 V, li/Imax = 28.7 mA, Ci/Ci = 0 nF, Li/Li = 0 mH, at terminals 7-8-9, 10-11-12 (only for D5072D).

Um = 250 Vrms, -40 °C ≤ Ta ≤ 70 °C.

**Approvals:**

BVS 12 ATEX E 053 X conforms to EN60079-0, EN60079-11, EN60079-15.


PARAMETERS TABLE

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, li/Imax, Pi/Pi) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5072 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device
capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>D5072S Ch1: 7-8-9-10</td>
<td>Uo / Voc = 7.2 V</td>
<td>≤</td>
<td>Ui / Vmax</td>
</tr>
<tr>
<td>D5072D Ch1, Ch2: 7-8-9, 10-11-12</td>
<td>lo / Isc = 23 mA</td>
<td>≤</td>
<td>li / Imax</td>
</tr>
<tr>
<td>D5072S Ch1: 7-8-9-10</td>
<td>Po / Po = 40 mW</td>
<td>≤</td>
<td>Pi / Pi</td>
</tr>
<tr>
<td>D5072D Ch1, Ch2: 7-8-9, 10-11-12</td>
<td>Po / Po = 27 mW</td>
<td>≥</td>
<td>Ci / Ci device + C cable</td>
</tr>
</tbody>
</table>

When used with separate powered intrinsically safe devices, check that maximum allowable voltage, current (Ui/Vmax, li/Imax) of the D5072 series Associated Apparatus are not exceeded by the safety parameters (Uo/Voc, Io/Isc) of the Intrinsically Safe device, indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Ui / Vmax = 12.8 V</th>
<th>≥</th>
<th>Uo / Voc</th>
</tr>
</thead>
<tbody>
<tr>
<td>D5072S Ch1: 7-8-9-10</td>
<td>li / Imax = 28.7 mA</td>
<td>≥</td>
<td>Io / Isc</td>
</tr>
</tbody>
</table>

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 µF for Groups I, IIA, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1µH per meter (0.20µH per foot).

WARNING
D5072 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified...
operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms.

Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground.

D5072 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

Warning: substitution of components may impair Intrinsic Safety and suitability for Zone 2.

Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.

The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

INSTALLATION

D5072 series are temperature signal converter housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022, with or without Power Bus or on customized Termination Board.

D5072 unit can be mounted with any orientation over the entire ambient temperature range.

Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

The wiring cables have to be proportionate in base to the current and the length of the cable.

Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect alarm transistors checking the load rating to be within the maximum rating (100 mA at 60 Vdc (≤ 1 V voltage drop)).

The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5072 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized card modification must be avoided.

According to EN61010, D5072 unit must be connected to SELV or SELV-E supplies.

For the complete instruction manual ISM0156, datasheet and certifications please refer to our website www.gmintsrl.com.

D5072-087

SAFETY DESCRIPTION

ATEX: Ⅱ 3(1)G Ex nA [ia Ga] IIC T4 Gc, Ⅱ (1)D [Ex ia Da] IIIIC, Ⅰ (M1) [Ex ia Ma] Ⅰ


Uo/Voc = 7.2 V, Io/Isc = 23 mA, Po/Po = 40 mW at terminals 7-8-9-10.

Ui/Vmax = 12.8 V, Ii/Imax = 28.7 mA, Ci/Ci = 0 nF, Li/Li = 0 mH, at terminals 7-8-9-10.

Um = 250 Vrms, -40 °C ≤ Ta ≤ 70 °C.

Approvals:

BVS 12 ATEX E 053 X conforms to EN60079-0, EN60079-11, EN60079-15.


PARAMETERS TABLE

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, li/Imax, Pi/Pi) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5072-087 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device
capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1</td>
<td>7-8-9-10</td>
<td>Uo / Voc = 7.2 V</td>
<td>≤  Ui / Vmax</td>
</tr>
<tr>
<td>Ch1</td>
<td>7-8-9-10</td>
<td>io / Isc = 23 mA</td>
<td>≤  li / Imax</td>
</tr>
<tr>
<td>Ch1</td>
<td>7-8-9-10</td>
<td>Po / Po = 40 mW</td>
<td>≤  Pi / Pi</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 13.5 μF</td>
<td>≥  Ci / Ci device + C cable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 240 μF</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 1000 μF</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 1000 μF</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 120 μF</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 67 mH</td>
<td>≥  Li / Li device + L cable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 268 mH</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 537 mH</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 882 mH</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = 268 mH</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 875 μH/Ω</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 3500 μH/Ω</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 7000 μH/Ω</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 11480 μH/Ω</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo/Ro = 3500 μH/Ω</td>
<td></td>
</tr>
</tbody>
</table>

When used with separate powered intrinsically safe devices, check that maximum allowable voltage, current (Ui/Vmax, li/Imax) of the D5072-087 series Associated Apparatus are not exceeded by the safety parameters (Uo/Voc, Io/Isc) of the Intrinsically Safe device, indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1</td>
<td>7-8-9-10</td>
<td>Ui / Vmax = 12.8 V</td>
<td>≥  Uo / Voc</td>
</tr>
<tr>
<td>Ch1</td>
<td>7-8-9-10</td>
<td>li / Isc = 28.7 mA</td>
<td>≥  Io / Isc</td>
</tr>
<tr>
<td>Ch1</td>
<td>7-8-9-10</td>
<td>Ci = 0 μF, Li = 0 mH</td>
<td></td>
</tr>
</tbody>
</table>

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 μF for Groups I, IIA, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1μH per meter (0.20μH per foot).

**WARNING**

D5072-087 is isolated Intrinsically Safe Associated Apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms.

Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground. D5072-087 must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous. **Warning: substitution of components may impair Intrinsic Safety and suitability for Zone 2.**

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous. Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5072-087 is a resistance isolating repeater housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022, with or without Power Bus. D5072S-087 unit can be mounted with any orientation over the entire ambient temperature range. Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).
The wiring cables have to be proportionate in base to the current and the length of the cable. Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5072-087 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.
Any unauthorized card modification must be avoided.
According to EN61010, D5072S-087 unit must be connected to SELV or SELV-E supplies.

For the complete instruction manual ISM0178, datasheet and certifications please refer to our website www.gmintsrl.com.

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**D5090**

**SAFETY DESCRIPTION**

**ATEX:** II 3G Ex nA nC IIC T4 Gc

**IECEx:** Ex nA nC IIC T4 Gc, non-sparking electrical equipment.

**Approvals:**

BVS 10 ATEX E 114 X conforms to EN60079-0, EN60079-15.

IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-15.

**WARNING**

D5090 is electrical apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +70 °C.

D5090 must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

Warning: substitution of components may impair suitability for Zone 2.

Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.

The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative.
Any unauthorized modification must be avoided.

**INSTALLATION**

D5090 is a relay output module housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022 or on customized Termination Board.

D5090S unit can be mounted with any orientation over the entire ambient temperature range.

Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

The wiring cables have to be proportionate in base to the current and the length of the cable. Installation and wiring must be in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect load relay contacts checking the load rating to be within the contact maximum rating (5 A 250 Vac 1250 VA, 5 A 250 Vdc 140 W resistive load).

To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.
The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

**Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5090 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized card modification must be avoided.

Relay output contact must be connected to load non exceeding category II overvoltage limits.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

For the complete instruction manual [ISM0109](#), datasheet and certifications please refer to our website [www.gmintsrl.com](http://www.gmintsrl.com).

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**D5090-086**

**SAFETY DESCRIPTION**

**ATEX:** II 3G Ex nA nC IIC T4 Gc  
**IECEx:** Ex nA nC IIC T4 Gc, non-sparking electrical equipment.

**Approvals:**  
BVS 10 ATEX E 114 X conforms to EN60079-0, EN60079-15.  
IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-15.

**WARNING**

D5090-086 is electrical apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +70 °C.

D5090-086 must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair suitability for Zone 2.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.

The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5090-086 is a relay output module housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022 or on customized Termination Board.

D5090S-086 unit can be mounted with any orientation over the entire ambient temperature range.

Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

The wiring cables have to be proportionate in base to the current and the length of the cable.

Installation and wiring must be in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect load relay contacts checking the load rating to be within the contact maximum rating (5 A 250 Vac 1250 VA, 5 A 250 Vdc 140 W resistive load).

**To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.**

The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific...
Installation.
Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5090-086 must be cleaned only with a damp or antistatic cloth.
Any penetration of cleaning liquid must be avoided to prevent damage to the unit.
Any unauthorized card modification must be avoided.
Relay output contact must be connected to load non exceeding category II overvoltage limits.

Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

For the complete instruction manual ISM0267, datasheet and certifications please refer to our website www.gmintsrl.com.

D5091

SAFETY DESCRIPTION

ATEX: II 3G Ex nA nC IIC T4 Gc
IECEx: Ex nA nC IIC T4 Gc, non-sparking electrical equipment.

Approvals:
BVS 10 ATEX E 114 X conforms to EN60079-0, EN60079-15.
IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-15.

WARNING

D5091 is electrical apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +70 °C.
D5091 must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules.
De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

Warning: substitution of components may impair suitability for Zone 2.
Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.
Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.
The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

INSTALLATION

D5091 is a relay output module housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022 or on customized Termination Board.
D5091S unit can be mounted with any orientation over the entire ambient temperature range.
Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).
The wiring cables have to be proportionate in base to the current and the length of the cable.
Installation and wiring must be in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.
Connect load relay contacts checking the load rating to be within the contact maximum rating (5 A 250 Vac 1250 VA, 5 A 250 Vdc 140 W resistive load).
To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.
The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.
Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.
Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5091 must be cleaned only with a damp or antistatic cloth. Any penetration of cleaning liquid must be avoided to prevent damage to the unit. Any unauthorized card modification must be avoided.

Relay output contact must be connected to load non exceeding category II overvoltage limits. **Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

For the complete instruction manual ISM0110, datasheet and certifications please refer to our website www.gmintsrl.com.

### D5093

#### SAFETY DESCRIPTION

**ATEX:** II 3G Ex nA IIC T4 Gc  
**IECEEx:** Ex nA IIC T4 Gc, non-sparking electrical equipment.  
**Approvals:**  
BVS 10 ATEX E 114 X conforms to EN60079-0, EN60079-15.  
IECEEx BVS 10.0072X conforms to IEC60079-0, IEC60079-15.

**WARNING**

D5093 series are electrical apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +70 °C.

D5093 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules. De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair suitability for Zone 2.  
**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

#### INSTALLATION

D5093 series are 24 to 220 vac/vdc switch repeater housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022 or on customized Termination Board.

D5093 unit can be mounted with any orientation over the entire ambient temperature range.

Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage *(for Zone 2 installations check the area to be nonhazardous before servicing)*.

The wiring cables have to be proportionate in base to the current and the length of the cable. Installation and wiring must be in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect output transistors checking the load rating to be within the maximum rating (50 mA at 35 Vdc (≤ 1 Vdc voltage drop)).

The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water. **Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5093 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit. Any unauthorized card modification must be avoided.
**SAFETY DESCRIPTION**

**ATEX**: II 3G Ex nA nC IIC T4 Gc  
**IECEx**: Ex nA nC IIC T4 Gc, non-sparking electrical equipment.

**Approvals**:
- BVS 10 ATEX E 114 X conforms to EN60079-0, EN60079-15.  
- IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

**WARNING**

D5094 is electrical apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC,  
Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits  
Tamb -40 to +70 °C.

D5094 must be installed, operated and maintained only by qualified personnel, in accordance to the relevant  
national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres -  
Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in  
Hazardous Area or unless area is known to be nonhazardous.

**WARNING**

D5094 is electrical apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC,  
Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits  
Tamb -40 to +70 °C.

D5094 must be installed, operated and maintained only by qualified personnel, in accordance to the relevant  
national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres -  
Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in  
Hazardous Area or unless area is known to be nonhazardous.

**INSTALLATION**

D5094 is a relay output module housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to  
EN50022 or on customized Termination Board.

D5094S unit can be mounted with any orientation over the entire ambient temperature range.

Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks  
which can be plugged in/out into a powered unit without suffering or causing any damage.  
*For Zone 2 installations check the area to be nonhazardous before servicing.*

The wiring cables have to be proportionate in base to the current and the length of the cable.  

Installation and wiring must be in accordance to the relevant national/international installation standards (e.g.  
EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas  
(other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional  
connection.

Connect load relay contacts checking the load rating to be within the contact maximum rating (5 A 200 Vac 1250 VA, 5 A  
250 Vdc 140 W resistive load).

To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to  
the relay breaking capacity diagram from installation instructions.

The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA  
Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of  
protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific  
installation.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and  
casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.  
*Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5094 must be cleaned only with a damp or  
antistatic cloth.*

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.  

Any unauthorized card modification must be avoided.

Relay output contact must be connected to load non exceeding category II overvoltage limits.  
**WARNING**

D5094 is electrical apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC,  
Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits  
Tamb -40 to +70 °C.

D5094 must be installed, operated and maintained only by qualified personnel, in accordance to the relevant  
national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres -  
Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in  
Hazardous Area or unless area is known to be nonhazardous.

**WARNING**

D5094 is electrical apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC,  
Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits  
Tamb -40 to +70 °C.

D5094 must be installed, operated and maintained only by qualified personnel, in accordance to the relevant  
national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres -  
Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in  
Hazardous Area or unless area is known to be nonhazardous.

**WARNING**

D5094 is electrical apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC,  
Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits  
Tamb -40 to +70 °C.

D5094 must be installed, operated and maintained only by qualified personnel, in accordance to the relevant  
national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres -  
Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in  
Hazardous Area or unless area is known to be nonhazardous.
D5095

SAFETY DESCRIPTION

**ATEX:** II 3G Ex nA nC IIC T4 Gc

**IECEx:** Ex nA nC IIC T4 Gc, non-sparking electrical equipment.

**Approvals:**
BVS 10 ATEX E 114 X conforms to EN60079-0, EN60079-15.
IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

**WARNING**

D5095 is electrical apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +70 °C.

D5095 must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules. De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair suitability for Zone 2.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.
The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5095 is a relay output module housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022 or on customized Termination Board.

D5095S unit can be mounted with any orientation over the entire ambient temperature range.

Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

The wiring cables have to be proportionate in base to the current and the length of the cable.

Installation and wiring must be in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect load relay contacts checking the load rating to be within the contact maximum rating (5 A 250 Vac 1250 VA, 5 A 250 Vdc 140 W resistive load).

To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.

The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5095 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized card modification must be avoided.

Relay output contact must be connected to load non exceeding category II overvoltage limits.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

For the complete instruction manual ISM0300, datasheet and certifications please refer to our website www.gmintsrl.com.
D5096

SAFETY DESCRIPTION

**ATEX:** II 3G Ex nA nC IIC T4 Gc

**IECEx:** Ex nA nC IIC T4 Gc, non-sparking electrical equipment.

**Approvals:**

BVS 10 ATEX E 114 X conforms to EN60079-0, EN60079-15.

IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

**WARNING**

D5096 is electrical apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +70 °C.

D5096 must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair suitability for Zone 2.

Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.

The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5096 is a relay output module housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022, with or without Power Bus or on customized Termination Board. D5096S unit can be mounted with any orientation over the entire ambient temperature range.

Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

The wiring cables have to be proportionate in base to the current and the length of the cable. Installation and wiring must be in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect load relay contacts checking the load rating to be within the contact maximum rating (5 A 250 Vac 1250 VA, 5 A 250 Vdc 140 W resistive load).

**To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.**

Connect fault transistors checking the load rating to be within the maximum rating (100 mA at 35 V (≤ 1.0 V voltage drop)). The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

**Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5096 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized card modification must be avoided.

Relay output contact must be connected to load non exceeding category II overvoltage limits.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

*For the complete instruction manual ISM0301, datasheet and certifications please refer to our website www.gmintsrl.com.*
SAFETY DESCRIPTION

**ATEX:** II 3G Ex nA nC IIC T4 Gc

**IECEx:** Ex nA nC IIC T4 Gc, non-sparking electrical equipment.

**Approvals:**
BVS 10 ATEX E 114 X conforms to EN60079-0, EN60079-15.
IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

**WARNING**

D5097 is electrical apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +70 °C.

D5097 must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

Warning: substitution of components may impair suitability for Zone 2.

Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.

The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative.
Any unauthorized modification must be avoided.

**INSTALLATION**

D5097 is a relay output module housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022, with or without Power Bus or on customized Termination Board.

D5097S unit can be mounted with any orientation over the entire ambient temperature range.
Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

The wiring cables have to be proportionate in base to the current and the length of the cable.
Installation and wiring must be in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect load relay contacts checking the load rating to be within the contact maximum rating (5 A 250 Vac 1250 VA, 5 A 250 Vdc 140 W resistive load).

To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.

Connect fault transistors checking the load rating to be within the maximum rating (100 mA at 35 V (≤ 1.0 V voltage drop)).

The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5097 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.
Any unauthorized card modification must be avoided.
Relay output contact must be connected to load non exceeding category II overvoltage limits.
Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

For the complete instruction manual ISM0302, datasheet and certifications please refer to our website www.gmintsrl.com.
D5098

SAFETY DESCRIPTION

**ATEX:** II 3G Ex nA nC IIC T4 Gc

**IECEx:** Ex nA nC IIC T4 Gc, non-sparking electrical equipment.

**Approvals:**
IMQ 17 ATEX 009 X conforms to EN60079-0, EN60079-15.
IECEx IMQ 17.0006X conforms to IEC60079-0, IEC60079-15.

**WARNING**

D5098 series are electrical apparatus installed in standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +70 °C.

D5098 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair suitability for Zone 2.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5098 series are relay output module housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022 or on customized Termination Board.

D5098 unit can be mounted with any orientation over the entire ambient temperature range.

Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

The wiring cables have to be proportionate in base to the current and the length of the cable.

Installation and wiring must be in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect load relay contacts checking the load rating to be within the contact maximum rating (5 A 250 Vac 1250 VA, 5 A 250 Vdc 140 W resistive load).

**To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.**

The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

**Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5098 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized card modification must be avoided.

Relay output contact must be connected to load non exceeding category II overvoltage limits.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

For the complete instruction manual ISM0305, datasheet and certifications please refer to our website www.gmintsrl.com.
**SAFETY DESCRIPTION**

**ATEX:** II 3G Ex nA nC IIC T4 Gc  
**IECEx:** Ex nA nC IIC T4 Gc, non-sparking electrical equipment.

**Approvals:**  
BVS 14 ATEX E 031 X conforms to EN60079-0, EN60079-15.  
IECEx BVS 14.0025X conforms to IEC60079-0, IEC60079-15.

**WARNING**

D5202 is electrical apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +70 °C.

D5202 must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair suitability for Zone 2.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.

The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5202 is a power distribution and diagnostic module housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022, with or without Power Bus.

D5202S unit can be mounted with any orientation over the entire ambient temperature range.

Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

The wiring cables have to be proportionate in base to the current and the length of the cable.

Installation and wiring must be in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect fault relay contacts checking the load rating to be within the contact maximum rating (4 A 250 Vac 1000 VA, 4 A 250 Vdc 120 W resistive load).

**To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.**

The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

**Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5202 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized card modification must be avoided.

According to EN61010, D5202S unit must be connected to SELV or SELV-E supplies.

Relay output contact must be connected to load non exceeding category II overvoltage limits.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

For the complete instruction manual ISM0177, datasheet and certifications please refer to our website www.gmintsrl.com.
SAFETY DESCRIPTION

**ATEX:** II 3(1)G Ex nA [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] IIC, I (M1) [Ex ia Ma] I

**IECEEx:** Ex nA [ia Ga] IIC T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

\[
\begin{align*}
U_o/V_{oc} & = 11.2 \text{ V}, \quad I_o/I_{sc} = 12 \text{ mA}, \quad P_o/P_{o} = 34 \text{ mW at terminals 21-13, 21-14, 22-15, 22-16, 23-17, 23-18, 24-19, 24-20.} \\
U_m & = 250 \text{ Vrms}, \quad -40 \degree \text{C} \leq T_a \leq 70 \degree \text{C}.
\end{align*}
\]

**Approvals:**

BVS 12 ATEX E 122 X conforms to EN60079-0, EN60079-11, EN60079-15, EN60079-26, EN50303.


**PARAMETERS TABLE**

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power \((U_i/V_{max}, I_i/I_{max}, P_i/P_{max})\) are not exceeded by the safety parameters \((U_o/V_{oc}, I_o/I_{sc}, P_o/P_{o})\) of the D5231 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits \((C_o/C_{a}, L_o/L_{a}, L_o/R_o)\) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2, Ch3, Ch4, Ch5, Ch6, Ch7, Ch8</td>
<td>Uo/Voc = 11.2 V</td>
<td>≤</td>
<td>Ui/Vmax</td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3, Ch4, Ch5, Ch6, Ch7, Ch8</td>
<td>lo/Iscc = 12 mA</td>
<td>≤</td>
<td>li/I_{max}</td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3, Ch4, Ch5, Ch6, Ch7, Ch8</td>
<td>Po/Po = 34 mW</td>
<td>≤</td>
<td>Pi/Pi</td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3, Ch4, Ch5, Ch6, Ch7, Ch8</td>
<td>Co/Ca = 1.83 (\mu)F IIC (A, B)</td>
<td>(\geq)</td>
<td>Ci/Ci device + C cable</td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3, Ch4, Ch5, Ch6, Ch7, Ch8</td>
<td>Co/Ca = 12.6 (\mu)F IIB (C)</td>
<td>(\geq)</td>
<td>Li/Li device + L cable</td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3, Ch4, Ch5, Ch6, Ch7, Ch8</td>
<td>Lo/La = 246 mH IIC (A, B)</td>
<td>(\geq)</td>
<td>Li/Ri device and L cable/R cable</td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3, Ch4, Ch5, Ch6, Ch7, Ch8</td>
<td>Lo/La = 987 mH IIB (C)</td>
<td>(\geq)</td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3, Ch4, Ch5, Ch6, Ch7, Ch8</td>
<td>Lo/La = 1.9 H IIA (D)</td>
<td>(\geq)</td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3, Ch4, Ch5, Ch6, Ch7, Ch8</td>
<td>Lo/La = 3.2 H I</td>
<td>(\geq)</td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3, Ch4, Ch5, Ch6, Ch7, Ch8</td>
<td>Lo/La = 987 mH IIC (E, F, G)</td>
<td>(\geq)</td>
<td></td>
</tr>
</tbody>
</table>

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 \(\mu\)F for Groups I, IIA, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1\(\mu\)H per meter (0.20\(\mu\)H per foot).

**WARNING**

D5231 is isolated Intrinsically Safe Associated Apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits T_{amb} -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms. Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground.
D5231 must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair Intrinsic Safety and suitability for Zone 2.

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

### INSTALLATION

D5231 is a switch/proximity detector repeater housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022, with or without Power Bus or on customized Termination Board. D5231E unit can be mounted with any orientation over the entire ambient temperature range. Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

The wiring cables have to be proportionate in base to the current and the length of the cable. Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect output transistors checking the load rating to be within the maximum rating (100 mA at 35 V ($\leq$ 1.0 V voltage drop)).

The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

**Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5231 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit. Any unauthorized card modification must be avoided.

According to EN61010, D5231E unit must be connected to SELV or SELV-E supplies.

For the complete instruction manual **ISM0172**, datasheet and certifications please refer to our website [www.gmintsrl.com](http://www.gmintsrl.com).

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### SAFETY DESCRIPTION

**ATEX:** II 3(1)G Ex nA [ia Ga] IIIC T4 Gc, II (1)D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I

**IECEx:** Ex nA [ia Ga] IIIC T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

- $U_{o/Voc} = 25.2$ V, $I_{o/Isc} = 146$ mA, $P_{o/Po} = 916$ mW at terminals 13-14, 17-18, 21-22 Out A.
- $U_{o/Voc} = 25.2$ V, $I_{o/Isc} = 108$ mA, $P_{o/Po} = 676$ mW at terminals 13-15, 17-19, 21-23 Out B.
- $U_{o/Voc} = 25.2$ V, $I_{o/Isc} = 93$ mA, $P_{o/Po} = 580$ mW at terminals 13-16, 17-20, 21-24 Out C.
- $U_{o/Voc} = 25.2$ V, $I_{o/Isc} = 1160$ mW at terminals 13-17-18/20, 13-21-24 Out C+C.
- $U_{o/Voc} = 25.2$ V, $I_{o/Isc} = 1352$ mW at terminals 13-17-15-19, 13-21-19/23 Out B+B.
- $U_{o/Voc} = 25.2$ V, $I_{o/Isc} = 1496$ mW at terminals 13-17-14-18/24, 13-21-14/24, 17-13-18-16, 17/21-18/24, 21/13-22/12, 16/17-22/20 Out A+C.
- $U_{o/Voc} = 25.2$ V, $I_{o/Isc} = 1740$ mW at terminals 13/17-21-16/20, 24 Out C+C+C.
- $U_{o/Voc} = 25.2$ V, $I_{o/Isc} = 2028$ mW at terminals 13/17-15/19/23 Out B+B+B.
- $U_{o/Voc} = 25.2$ V, $I_{o/Isc} = 2183$ mW at terminals 13/17-14/19/23, 17/13-18-15/23, 21/13-17-22/15/19 Out A+B+C.
- $U_{o/Voc} = 25.2$ V, $I_{o/Isc} = 277$ mA, $P_{o/Po} = 1740$ mW at terminals 13/17/21-16/20/24 Out C+C+C.
- $U_{o/Voc} = 25.2$ V, $I_{o/Isc} = 323$ mA, $P_{o/Po} = 2028$ mW at terminals 13/17-21-15/19/23 Out B+B+B.
- $U_{o/Voc} = 25.2$ V, $I_{o/Isc} = 361$ mA, $P_{o/Po} = 2183$ mW at terminals 13/17-21-14/19/23, 17/13-12-18/15/23, 21/13-17-22/15/19 Out A+B+B.
- $U_{o/Voc} = 25.2$ V, $I_{o/Isc} = 384$ mA, $P_{o/Po} = 2138$ mW at terminals 13/17-21-14/18/24, 13/21-17-14/22/20, 17/21/13-18/22/16 Out A+A+C.
- $U_{o/Voc} = 25.2$ V, $I_{o/Isc} = 437$ mA, $P_{o/Po} = 2138$ mW at terminals 13/17-21-14/18/22 Out A+A+A.

$U_m = 250$ Vrms, $-40 °C \leq T_a \leq 70 °C$.

**Approvals:**

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### D5240

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In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Uᵢ/V_max, Iᵢ/I_max, Pᵢ/P_i) are not exceeded by the safety parameters (Uₒ/Vₒc, Iₒ/I_sc, Pₒ/P_o) of the D5240 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Cₒ/Cₐ, Lₒ/Lₐ, Lₒ/Rₒ) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2, Ch3</td>
<td>13-14, 17-18, 21-22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3</td>
<td>13-15, 17-19, 21-23</td>
<td></td>
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</tr>
<tr>
<td>Ch1, Ch2, Ch3</td>
<td>13-16, 17-20, 21-24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch₁/₂, Ch₂/₃, Ch₁/₁/₃</td>
<td>13/₁₁-₁₆/₂₀, 13/₁₁-₁₆/₂₄, 17/₁₁-₁₆/₂₄</td>
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</tr>
<tr>
<td>Ch₁/₂, Ch₂/₃, Ch₁/₁/₃</td>
<td>13/₁₇-₁₅/₁₉, 13/₁₁-₁₅/₂₃, 17/₁₁-₁₉/₂₃</td>
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<tr>
<td>Ch₁/₂, Ch₂/₃, Ch₁/₁/₃</td>
<td>13/₁₇-₁₄/₂₀, 13/₁₁-₁₄/₂₄, 17/₁₁-₁₃/₁₆, 17/₁₁-₁₈/₂₄, 21/₁₃-₁₂/₁₆, 21/₁₇-₁₂/₂₀</td>
<td>Uₒ / Vₒc = 25.2 V ≤</td>
<td>Uᵢ / V_max</td>
</tr>
<tr>
<td>Ch₁/₂/₃</td>
<td>13/₁₁-₁₇/₂₁, 16/₂₀/₂₄</td>
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<tr>
<td>Ch₁/₂/₃</td>
<td>13/₁₁-₁₇/₂₁, 1₅/₁₉/₂₃</td>
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<tr>
<td>Ch₁/₂/₃</td>
<td>1₃/₁₁-₁₇/₂₁, 1₄/₁₉/₂₃, 1₇/₁₃/₁₂, 1₈/₁₅/₂₃, 2₁/₁₃/₁₇, 2₂/₁₅/₁₉</td>
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<tr>
<td>Ch₁/₂/₃</td>
<td>1₃/₁₁-₁₇/₂₁, 1₄/₁₈/₂₄, 1₃/₂₁/₁₇, 1₄/₂₂/₂₀, 1₇/₂₁/₁₃, 1₈/₂₂/₁₆</td>
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<td>Ch₁/₂/₃</td>
<td>1₃/₁₁-₁₇/₂₁, 1₄/₁₈/₂₂</td>
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BVS 14 ATEX E 159 X conforms to EN60079-0, EN60079-11, EN60079-15.
IECEx BVS 14.0111X conforms to IEC60079-0, IEC60079-11, IEC60079-15.
<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations</th>
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<tbody>
<tr>
<td>Ch1, Ch2, Ch3</td>
<td>13-14, 17-18, 21-22</td>
<td>Io / Isc = 146 mA</td>
<td>Li / Imax</td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3</td>
<td>13-15, 17-19, 21-23</td>
<td>Io / Isc = 108 mA</td>
<td>Li / Imax</td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3</td>
<td>13-16, 17-20, 21-24</td>
<td>Io / Isc = 93 mA</td>
<td>Li / Imax</td>
</tr>
<tr>
<td>Ch1//2, Ch2//3, Ch1//3</td>
<td>13//17-16//20, 13//21-16//24, 17//21-20//24</td>
<td>Io / Isc = 185 mA</td>
<td>Li / Imax</td>
</tr>
<tr>
<td>Ch1//2, Ch2//3, Ch1//3</td>
<td>13//17-15//19, 13//21-15//23, 17//21-19//23</td>
<td>Io / Isc = 216 mA</td>
<td>Li / Imax</td>
</tr>
<tr>
<td>Ch1//2//3</td>
<td>13//17//21, 16//20//24</td>
<td>Io / Isc = 277 mA</td>
<td>Li / Imax</td>
</tr>
<tr>
<td>Ch1//2//3</td>
<td>13//17//21, 15//19//23</td>
<td>Io / Isc = 323 mA</td>
<td>Li / Imax</td>
</tr>
<tr>
<td>Ch1//2//3</td>
<td>13//17//21, 14//19//23, 17//13//21, 18//15//23, 21//13//17, 22//15//19</td>
<td>Io / Isc = 361 mA</td>
<td>Li / Imax</td>
</tr>
<tr>
<td>Ch1//2//3</td>
<td>13//17//21, 14//18//24, 13//21//17, 14//22//20, 17//21//13, 18//22//16</td>
<td>Io / Isc = 384 mA</td>
<td>Li / Imax</td>
</tr>
<tr>
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<td>13//17//21, 14//18//22</td>
<td>Io / Isc = 437 mA</td>
<td>Li / Imax</td>
</tr>
<tr>
<td>Terminals</td>
<td>Associated Apparatus Parameters</td>
<td>must be</td>
<td>Haz. Area/Haz. Locations Device Parameters</td>
</tr>
<tr>
<td>-----------</td>
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<td>------------------------------------------</td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3</td>
<td>13-14, 17-18, 21-22</td>
<td>Po / Po = 916 mW</td>
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<tr>
<td>Ch1, Ch2, Ch3</td>
<td>13-15, 17-19, 21-23</td>
<td>Po / Po = 676 mW</td>
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<td>Ch1, Ch2, Ch3</td>
<td>13-16, 17-20, 21-24</td>
<td>Po / Po = 580 mW</td>
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<td>Ch1//2, Ch2//3, Ch1//3</td>
<td>13//17-16//20, 13//21-16//24, 17//21-20//24</td>
<td>Po / Po = 1160 mW</td>
<td>≤ Pi / Pi</td>
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<td>Ch1//2//3</td>
<td>13//17//21, 16//20//24</td>
<td>Po / Po = 1740 mW</td>
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<tr>
<td>Ch1//2//3</td>
<td>13//17//21, 15//19//23</td>
<td>Po / Po = 2028 mW</td>
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</tr>
<tr>
<td>Terminals</td>
<td>Associated Apparatus Parameters</td>
<td>must be</td>
<td>Haz. Area/Haz. Locations</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>---------------------------------</td>
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<tr>
<td>Ch1, Ch2, Ch3</td>
<td>13-14, 17-18, 21-22</td>
<td>Co / Ca = 96 nF</td>
<td>IIIC (A, B)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 809 nF</td>
<td>IIB (C)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 2.8 μF</td>
<td>IIA (D)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 4.78 μF</td>
<td>I</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = 809 nF</td>
<td>IIIC (E, F, G)</td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3</td>
<td>13-15, 17-19, 21-23</td>
<td>Co / Ca = 809 nF</td>
<td>IIIC (E, F, G)</td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3</td>
<td>13-16, 17-20, 21-24</td>
<td>Co / Ca = 798 nF</td>
<td>IIIC (E, F, G)</td>
</tr>
<tr>
<td>Ch1//2//3, Ch2//3, Ch1//3</td>
<td>13//17-16//20, 13//21-16//24, 17//21-20//24</td>
<td>Co / Ca = 798 nF</td>
<td>IIIC (E, F, G)</td>
</tr>
<tr>
<td>Ch1//2//3</td>
<td>13/17//21, 16/20//24</td>
<td>Co / Ca = 787 nF</td>
<td>IIIC (E, F, G)</td>
</tr>
<tr>
<td>Ch1//2//3</td>
<td>13//17//21, 15//19//23</td>
<td>Co / Ca = 787 nF</td>
<td>IIIC (E, F, G)</td>
</tr>
<tr>
<td>Ch1//2//3</td>
<td>13/17//21, 14/19//23, 17/13//21, 18/15//23, 21/13//17, 22/15//19</td>
<td>Co / Ca = 2.8 μF</td>
<td>IIID (A)</td>
</tr>
<tr>
<td>Ch1//2//3</td>
<td>13/17//21, 14/18//24, 13/21//17, 14/22//20, 17/21//13, 18/22//16</td>
<td>Co / Ca = 4.76 μF</td>
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</tr>
<tr>
<td>Ch1//2//3</td>
<td>13/17//21, 14/18//22</td>
<td>Co / Ca = 2.8 μF</td>
<td>IIID (A)</td>
</tr>
<tr>
<td>Ch1//2//3</td>
<td></td>
<td>Co / Ca = 4.76 μF</td>
<td>I</td>
</tr>
</tbody>
</table>

Ci / Ci device + C cable
<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2, Ch3</td>
<td>( Lo / La = 1.67 \text{ mH} )</td>
<td>IIC (A, B)</td>
<td>IIA (D)</td>
</tr>
<tr>
<td></td>
<td>( Lo / La = 6.7 \text{ mH} )</td>
<td>IIB (C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>( Lo / La = 13.4 \text{ mH} )</td>
<td>IIA (D)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>( Lo / La = 22 \text{ mH} )</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td></td>
<td>( Lo / La = 6.7 \text{ mH} )</td>
<td>IIIC (E, F, G)</td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3</td>
<td>( Lo / La = 3 \text{ mH} )</td>
<td>IIC (A, B)</td>
<td>IIA (D)</td>
</tr>
<tr>
<td></td>
<td>( Lo / La = 12.3 \text{ mH} )</td>
<td>IIB (C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>( Lo / La = 24.6 \text{ mH} )</td>
<td>IIA (D)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>( Lo / La = 40.37 \text{ mH} )</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td></td>
<td>( Lo / La = 12.3 \text{ mH} )</td>
<td>IIIC (E, F, G)</td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3</td>
<td>( Lo / La = 3.07 \text{ mH} )</td>
<td>IIC (A, B)</td>
<td>IIA (D)</td>
</tr>
<tr>
<td></td>
<td>( Lo / La = 12.3 \text{ mH} )</td>
<td>IIB (C)</td>
<td></td>
</tr>
<tr>
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<td>( Lo / La = 24.6 \text{ mH} )</td>
<td>IIA (D)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>( Lo / La = 40.37 \text{ mH} )</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td></td>
<td>( Lo / La = 12.3 \text{ mH} )</td>
<td>IIIC (E, F, G)</td>
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</tr>
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<td>Ch1//2, Ch2//3, Ch1//3</td>
<td>( Lo / La = 4.1 \text{ mH} )</td>
<td>IIB (C)</td>
<td>IIIA (D)</td>
</tr>
<tr>
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<td>( Lo / La = 8.3 \text{ mH} )</td>
<td>IIA (D)</td>
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</tr>
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<td>( Lo / La = 13.72 \text{ mH} )</td>
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<td></td>
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<tr>
<td></td>
<td>( Lo / La = 4.1 \text{ mH} )</td>
<td>IIIC (E, F, G)</td>
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<td>Ch1//2, Ch2//3, Ch1//3</td>
<td>( Lo / La = 3 \text{ mH} )</td>
<td>IIB (C)</td>
<td>IIIA (D)</td>
</tr>
<tr>
<td></td>
<td>( Lo / La = 6.1 \text{ mH} )</td>
<td>IIA (D)</td>
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<td>( Lo / La = 10.09 \text{ mH} )</td>
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<tr>
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<td>( Lo / La = 3 \text{ mH} )</td>
<td>IIIC (E, F, G)</td>
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<td>Ch1//2, Ch2//3, Ch1//3</td>
<td>( Lo / La = 2.5 \text{ mH} )</td>
<td>IIB (C)</td>
<td>IIIA (D)</td>
</tr>
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<td>( Lo / La = 5 \text{ mH} )</td>
<td>IIA (D)</td>
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</tr>
<tr>
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<td>( Lo / La = 8.25 \text{ mH} )</td>
<td>I</td>
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<td>( Lo / La = 2.5 \text{ mH} )</td>
<td>IIIC (E, F, G)</td>
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<td>Ch1//2//3</td>
<td>( Lo / La = 1.85 \text{ mH} )</td>
<td>IIB (C)</td>
<td>IIIA (D)</td>
</tr>
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<td>( Lo / La = 3.71 \text{ mH} )</td>
<td>IIA (D)</td>
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<tr>
<td></td>
<td>( Lo / La = 6.09 \text{ mH} )</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td></td>
<td>( Lo / La = 1.85 \text{ mH} )</td>
<td>IIIC (E, F, G)</td>
<td></td>
</tr>
<tr>
<td>Ch1//2//3</td>
<td>( Lo / La = 1.36 \text{ mH} )</td>
<td>IIB (C)</td>
<td>IIIA (D)</td>
</tr>
<tr>
<td></td>
<td>( Lo / La = 2.73 \text{ mH} )</td>
<td>IIA (D)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>( Lo / La = 4.48 \text{ mH} )</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td></td>
<td>( Lo / La = 1.36 \text{ mH} )</td>
<td>IIIC (E, F, G)</td>
<td></td>
</tr>
<tr>
<td>Ch1//2//3</td>
<td>( Lo / La = 2.1 \text{ mH} )</td>
<td>IIA (D)</td>
<td>I</td>
</tr>
<tr>
<td></td>
<td>( Lo / La = 3.58 \text{ mH} )</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td>Ch1//2//3</td>
<td>( Lo / La = 1.9 \text{ mH} )</td>
<td>IIA (D)</td>
<td>I</td>
</tr>
<tr>
<td></td>
<td>( Lo / La = 3.17 \text{ mH} )</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td>Ch1//2//3</td>
<td>( Lo / La = 1.49 \text{ mH} )</td>
<td>IIA (D)</td>
<td>I</td>
</tr>
<tr>
<td></td>
<td>( Lo / La = 2.44 \text{ mH} )</td>
<td>I</td>
<td></td>
</tr>
</tbody>
</table>
### Terminals

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations</th>
<th>Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2, Ch3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13-14, 17-18, 21-22</td>
<td>Lo/Ro = 38.8 μH/Ω</td>
<td>IIC (A, B)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 155.3 μH/Ω</td>
<td>IIB (C)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 310.7 μH/Ω</td>
<td>IIA (D)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 509.8 μH/Ω</td>
<td>I</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 155.3 μH/Ω</td>
<td>IIIC (E, F, G)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13-15, 17-19, 21-23</td>
<td>Lo/Ro = 52.6 μH/Ω</td>
<td>IIC (A, B)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 210.4 μH/Ω</td>
<td>IIB (C)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 420 μH/Ω</td>
<td>IIA (D)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 690.3 μH/Ω</td>
<td>I</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 210.4 μH/Ω</td>
<td>IIIC (E, F, G)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch1, Ch2, Ch3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13-16, 17-20, 21-24</td>
<td>Lo/Ro = 61.3 μH/Ω</td>
<td>IIC (A, B)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 245.3 μH/Ω</td>
<td>IIB (C)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 490.6 μH/Ω</td>
<td>IIA (D)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 804.9 μH/Ω</td>
<td>I</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 245.3 μH/Ω</td>
<td>IIIC (E, F, G)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch1//2, Ch2//3, Ch1//3</td>
<td>13//17-16//20, 13//21-16//24, 17//21-20//24</td>
<td>Lo/Ro = 122.6 μH/Ω</td>
<td>IIB (C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 245.3 μH/Ω</td>
<td>IIA (D)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 402.4 μH/Ω</td>
<td>I</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 122.6 μH/Ω</td>
<td>IIIC (E, F, G)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch1//2, Ch2//3, Ch1//3</td>
<td>13//17-15//19, 13//21-15//23, 17//21-19//23</td>
<td>Lo/Ro = 105.2 μH/Ω</td>
<td>IIB (C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 210.4 μH/Ω</td>
<td>IIA (D)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 345.1 μH/Ω</td>
<td>I</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 105.2 μH/Ω</td>
<td>IIIC (E, F, G)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch1//2, Ch2//3, Ch1//3</td>
<td>13//17-14//20, 13//21-14//24, 17//21-18//24, 21//13-22//16, 21//17-12//20</td>
<td>Lo/Ro = 95.1 μH/Ω</td>
<td>IIB (C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 190.2 μH/Ω</td>
<td>IIA (D)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 312.1 μH/Ω</td>
<td>I</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 95.1 μH/Ω</td>
<td>IIIC (E, F, G)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch1//2/3</td>
<td>13//17//21, 16//20//24</td>
<td>Lo/Ro = 81.7 μH/Ω</td>
<td>IIB (C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 163.5 μH/Ω</td>
<td>IIA (D)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 268.3 μH/Ω</td>
<td>I</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 81.7 μH/Ω</td>
<td>IIIC (E, F, G)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch1//2/3</td>
<td>13//17//21, 15//19//23</td>
<td>Lo/Ro = 70.1 μH/Ω</td>
<td>IIB (C)</td>
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</tr>
<tr>
<td></td>
<td>Lo/Ro = 140.2 μH/Ω</td>
<td>IIA (D)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 230.1 μH/Ω</td>
<td>I</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 70.1 μH/Ω</td>
<td>IIIC (E, F, G)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch1//2/3</td>
<td>13//17//21, 14//19//23, 17//13//21, 18//15//23, 21//13//17, 22//15//19</td>
<td>Lo/Ro = 125.4 μH/Ω</td>
<td>IIA (D)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 205.8 μH/Ω</td>
<td>I</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 62.7 μH/Ω</td>
<td>IIIC (E, F, G)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch1//2/3</td>
<td>13//17//21, 14//18//24, 13//21//17, 14//22//20, 17//21//13, 18//22//16</td>
<td>Lo/Ro = 118 μH/Ω</td>
<td>IIA (D)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 193.6 μH/Ω</td>
<td>I</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 59 μH/Ω</td>
<td>IIIC (E, F, G)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ch1//2/3</td>
<td>13//17//21, 14//18//22</td>
<td>Lo/Ro = 103.5 μH/Ω</td>
<td>IIA (D)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 169.9 μH/Ω</td>
<td>I</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 µF for Groups I, IIA. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1μH per meter (0.20μH per foot).
WARNING

D5240 is isolated Intrinsically Safe Associated Apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIA, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms.

Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground.

D5240 must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

Warning: substitution of components may impair Intrinsic Safety and suitability for Zone 2.

Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.

The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

INSTALLATION

D5240 is a digital output driver housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022, with or without Power Bus or on customized Termination Board.

D5240T unit can be mounted with any orientation over the entire ambient temperature range.

Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

The wiring cables have to be proportionate in base to the current and the length of the cable.

Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5240 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized card modification must be avoided.

According to EN61010, DS240T unit must be connected to SELV or SELV-E supplies.

For the complete instruction manual ISM0209, datasheet and certifications please refer to our website www.gmintsrl.com.

D5244

SAFETY DESCRIPTION


IECEx: Ex nA nC [ia Ga] IIC T4 Gc, [Ex ia Da] IIIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

Uo/Voc = 0 mV, Io/Ios = 0 μA, Po/Po = 0 μW at terminals 13-14-15/16, 17-18-19/20.

Ui/Vmax = 40 V, li/Imax = 2 A, Ci/Ci = 0 nF, Li/Li = 0 mH, at terminals 13-14-15/16, 17-18-19/20.

Um = 250 Vrms, -40 °C ≤ Ta ≤ 70 °C.

Approvals:

BVS 16 ATEX E 109 X conforms to EN60079-0, EN60079-11, EN60079-15.

IECEx BVS 16.0071X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

PARAMETERS TABLE

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations...
and gas group encountered and that its maximum allowable voltage, current, power \( (U_i/V_{\text{max}}, I_i/I_{\text{max}}, P_i/P_{\text{i}}) \) are not exceeded by the safety parameters \( (U_o/V_{\text{oc}}, I_o/I_{\text{sc}}, P_o/P_{\text{o}}) \) of the D5244 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits \( (C_o/C_a, L_o/L_a, L_o/R_o) \) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2</td>
<td>13-14-15/16, 17-18-19/20</td>
<td>Uo / Voc = 0 V</td>
<td>( \leq ) U_i / V_{\text{max}}</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>13-14-15/16, 17-18-19/20</td>
<td>I_o / I_{\text{sc}} = 0 mA</td>
<td>( \leq ) I_i / I_{\text{max}}</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>13-14-15/16, 17-18-19/20</td>
<td>P_o / P_{\text{o}} = 0 mW</td>
<td>( \leq ) P_i / P_{\text{i}}</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = - IIC (A, B)</td>
<td>( \geq ) C_i / C_{\text{device}} + C_{\text{cable}}</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = - IIB (C)</td>
<td>( \geq ) C_i / C_{\text{device}} + C_{\text{cable}}</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = - IIA (D)</td>
<td>( \geq ) C_i / C_{\text{device}} + C_{\text{cable}}</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = - I</td>
<td>( \geq ) C_i / C_{\text{device}} + C_{\text{cable}}</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co / Ca = - IIIC (E, F, G)</td>
<td>( \geq ) C_i / C_{\text{device}} + C_{\text{cable}}</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = - IIC (A, B)</td>
<td>( \geq ) L_i / L_{\text{device}} + L_{\text{cable}}</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = - IIB (C)</td>
<td>( \geq ) L_i / L_{\text{device}} + L_{\text{cable}}</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = - IIA (D)</td>
<td>( \geq ) L_i / L_{\text{device}} + L_{\text{cable}}</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = - I</td>
<td>( \geq ) L_i / L_{\text{device}} + L_{\text{cable}}</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / La = - IIIC (E, F, G)</td>
<td>( \geq ) L_i / L_{\text{device}} + L_{\text{cable}}</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / Ro = - IIC (A, B)</td>
<td>( \geq ) L_i / R_{\text{i device}} and L cable/R cable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / Ro = - IIB (C)</td>
<td>( \geq ) L_i / R_{\text{i device}} and L cable/R cable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / Ro = - IIA (D)</td>
<td>( \geq ) L_i / R_{\text{i device}} and L cable/R cable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / Ro = - I</td>
<td>( \geq ) L_i / R_{\text{i device}} and L cable/R cable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lo / Ro = - IIIC (E, F, G)</td>
<td>( \geq ) L_i / R_{\text{i device}} and L cable/R cable</td>
</tr>
</tbody>
</table>

When used with separate powered intrinsically safe devices, check that maximum allowable voltage, current \( (U_i/V_{\text{max}}, I_i/I_{\text{max}}) \) of the D5244 series Associated Apparatus are not exceeded by the safety parameters \( (U_o/V_{\text{oc}}, I_o/I_{\text{sc}}) \) of the Intrinsically Safe device, indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1, Ch2</td>
<td>13-14-15/16, 17-18-19/20</td>
<td>Uo / Voc = 40 V</td>
<td>( \geq ) U_o / V_{\text{oc}}</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>13-14-15/16, 17-18-19/20</td>
<td>I_o / I_{\text{sc}} = 2 A</td>
<td>( \geq ) I_o / I_{\text{sc}}</td>
</tr>
<tr>
<td>Ch1, Ch2</td>
<td>13-14-15/16, 17-18-19/20</td>
<td>C_i = 0 ( \mu )F, L_i = 0 mH</td>
<td></td>
</tr>
</tbody>
</table>

For installations in which both the \( C_i \) and \( L_i \) of the Intrinsically Safe apparatus exceed 1\% of the \( C_o \) and \( L_o \) parameters of the Associated Apparatus (excluding the cable), then 50\% of \( C_o \) and \( L_o \) parameters are applicable and shall not be exceeded (50\% of the \( C_o \) and \( L_o \) become the limits which must include the cable such that \( C_i \) + cable \( \leq \) 50\% of \( C_o \) and \( L_i \) + cable \( \leq \) 50\% of \( L_o \)). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 \( \mu \)F for Groups I, IIA, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1\( \mu \)H per meter (0.20\( \mu \)H per foot).

**WARNING**

D5244 series are isolated Intrinsically Safe Associated Apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply \( U_{\text{m}} \) of 250 Vrms. Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground. D5244 series must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair Intrinsic Safety and suitability for Zone 2.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.
Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

### INSTALLATION

D5244 series are digital relay output loop powered housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022 or on customized Termination Board.

D5244 unit can be mounted with any orientation over the entire ambient temperature range.

Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

The wiring cables have to be proportionate in base to the current and the length of the cable. Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect load relay contacts checking the load rating to be within the contact maximum rating (40 Vdc, 2 A for use in Intrinsically Safe applications, 2 A 250 Vac 500 VA, 2 A 250 Vdc 80 W, resistive load, for non Intrinsically Safe applications).

To prevent relay contacts from damages, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.

The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

**Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5244 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized card modification must be avoided.

Relay output contact must be connected to load non exceeding category II overvoltage limits.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

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For the complete instruction manual **ISM271**, datasheet and certifications please refer to our website [www.gmintsrl.com](http://www.gmintsrl.com).

### D5254

#### SAFETY DESCRIPTION

**ATEX:** II 3(1)G Ex nA nC [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] IIIIC, I (M1) [Ex ia Ma] I

**IECEx:** Ex nA nC [ia Ga] IIC T4 Gc, [Ex ia Da] IIIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

- **Uo/Voc** = 26 V, Io/Isc = 91 mA, Po/Po = 588 mW at terminals 13-14.
- **Uo/Voc** = 1.1 V, Io/Isc = 56 mA, Po/Po = 16 mW at terminals 14-16.
- **Uo/Voc** = 1.1 V, Io/Isc = 12 μA, Po/Po = 4 μW at terminals 15-16.
- **Ui/Vmax** = 30 V, li/Imax = 128 mA, Ci/Ci = 2.1 nF, Li/Li = 0 mH, at terminals 14-16.
- **Ui/Vmax** = 30 V, Ci/Ci = 2.1 nF, Li/Li = 0 mH, at terminals 15-16.
- **Um = 250 Vrms, -40 °C ≤ Ta ≤ 70 °C.**

**Approvals:**

- BVS 16 ATEX E 066 X conforms to EN60079-0, EN60079-11, EN60079-15.
- IECEx BVS 16.0043X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

#### PARAMETERS TABLE

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, li/Imax, Pi/PI) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5254 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Ci/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:
<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1 13-14</td>
<td>Ch1 14-16</td>
<td>Uo / Voc = 26 V</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1 14-16</td>
<td>Ch1 15-16</td>
<td>Uo / Voc = 1.1 V</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1 13-14</td>
<td>Ch1 14-16</td>
<td>Io / Isc = 91 mA</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1 14-16</td>
<td>Ch1 15-16</td>
<td>Io / Isc = 56 mA</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1 13-14</td>
<td>Ch1 14-16</td>
<td>Io / Isc = 12 μA</td>
<td></td>
</tr>
<tr>
<td>Ch1 14-16</td>
<td>Ch1 15-16</td>
<td>Po / Po = 588 mW</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1 13-14</td>
<td>Ch1 14-16</td>
<td>Po / Po = 16 mW</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1 15-16</td>
<td>Po / Po = 4 μW</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

When used with separate powered intrinsically safe devices, check that maximum allowable voltage, current (Ui/Vmax, Ii/Imax) of the D5254 series Associated Apparatus are not exceeded by the safety parameters (Uo/Voc, Io/Isc) of the Intrinsically Safe device, indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1 13-14</td>
<td>Ch1 14-16</td>
<td>Ui / Vmax = 30 V</td>
<td>≥</td>
</tr>
<tr>
<td>Ch1 14-16</td>
<td>Ch1 15-16</td>
<td>li / Imax = 128 mA</td>
<td>≥</td>
</tr>
<tr>
<td>Ch1 14-16</td>
<td>Ch1 15-16</td>
<td>Ci = 2.1 μF, Li = 0 mH</td>
<td></td>
</tr>
</tbody>
</table>

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 µF for Groups I, IIA, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1μH per meter (0.20μH per foot).

**WARNING**

D5254 is isolated Intrinsically Safe Associated Apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating...
temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms.

Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground. D5254 must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair Intrinsic Safety and suitability for Zone 2.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.
The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5254 is a repeater power supply / analog signal converter and trip amplifiers housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022, with or without Power Bus or on customized Termination Board. D5254S unit can be mounted with any orientation over the entire ambient temperature range. Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

The wiring cables have to be proportionate in base to the current and the length of the cable. Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect alarm relay contacts checking the load rating to be within the contact maximum rating (4 A 250 Vac 1000 VA, 4 A 250 Vdc 120 W resistive load).

**To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.**

The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation. Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

**Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5254 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit. Any unauthorized card modification must be avoided.

According to EN61010, D5254S unit must be connected to SELV or SELV-E supplies. Relay output contact must be connected to load non exceeding category II overvoltage limits.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

For the complete instruction manual **ISM0293**, datasheet and certifications please refer to our website www.gmintsrl.com.

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**D5263**

**SAFETY DESCRIPTION**

**ATEX:** II 3(1)G Ex nA [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] IIIIC, I (M1) [Ex ia Ma] I

**IECEx:** Ex nA [ia Ga] IIC T4 Gc, [Ex ia Da] IIIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

Uo/Voc = 7.2 V, Io/Isc = 177 mA, Po/Po = 471 mW at terminals 13-14-15-16-17-18.

Um = 250 Vrms, -40 °C ≤ Ta ≤ 70 °C.

**Approvals:**

TUV 15 ATEX 170897 X conforms to EN60079-0, EN60079-11, EN60079-15.

IECEX TUN 16.0005X conforms to IEC60079-0, IEC60079-11, IEC60079-15.
PARAMETERS TABLE

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, li/Imax, Pi/Pi) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5263 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1 13-14-15-16-17-18</td>
<td>Uo / Voc = 7.2 V</td>
<td>≤</td>
<td>Ui / Vmax</td>
</tr>
<tr>
<td>Ch1 13-14-15-16-17-18</td>
<td>Io / Isc = 177 mA</td>
<td>≤</td>
<td>li / Imax</td>
</tr>
<tr>
<td>Ch1 13-14-15-16-17-18</td>
<td>Po / Po = 471 mW</td>
<td>≤</td>
<td>Pi / Pi</td>
</tr>
<tr>
<td>Ch1 13-14-15-16-17-18</td>
<td>Co / Ca = 300 nF</td>
<td>≥</td>
<td>Ci / Ci device + C cable</td>
</tr>
<tr>
<td>Ch1 13-14-15-16-17-18</td>
<td>Co / Ca = 1.5 µF</td>
<td>≥</td>
<td>Li / Li device + L cable</td>
</tr>
<tr>
<td>Ch1 13-14-15-16-17-18</td>
<td>Lo / La = 6.5 mH</td>
<td>≥</td>
<td>Li/Ri device and L cable/R cable</td>
</tr>
</tbody>
</table>

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 µF for Groups I, IIA, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1µH per meter (0.20µH per foot).

WARNING

D5263 is isolated Intrinsically Safe Associated Apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms.

Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground.

D5263 must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

Warning: substitution of components may impair Intrinsic Safety and suitability for Zone 2.

Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.

The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

INSTALLATION

D5263 is a load cell/strain gauge bridge isolating repeater housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022, with or without Power Bus.

D5263S unit can be mounted with any orientation over the entire ambient temperature range.

Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

The wiring cables have to be proportionate in base to the current and the length of the cable.

Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant
national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5263 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized card modification must be avoided.

According to EN61010, D5263S unit must be connected to SELV or SELV-E supplies.

For the complete instruction manual ISM0227, datasheet and certifications please refer to our website www.gmintsrl.com.

D5264

SAFETY DESCRIPTION

**ATEX:** II 3(1)G Ex nA [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I

**IECEx:** Ex nA [ia Ga] IIC T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

Uo/Voc = 7.2 V, Io/Isc = 177 mA, Po/Po = 471 mW at terminals 13-14-15-16-17-18.

Um = 250 Vrms, -40 °C ≤ Ta ≤ 70 °C.

**Approvals:**

TUV 15 ATEX 170897 X conforms to EN60079-0, EN60079-11, EN60079-15.

IECEX TUN 16.0005X conforms to IEC60079-0, IEC60079-11, IEC60079-15.

**PARAMETERS TABLE**

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, li/Imax, Pi/Pi) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5264 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1</td>
<td>13-14-15-16-17-18</td>
<td>Uo / Voc = 7.2 V</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1</td>
<td>13-14-15-16-17-18</td>
<td>Io / Isc = 177 mA</td>
<td>≤</td>
</tr>
<tr>
<td>Ch1</td>
<td>13-14-15-16-17-18</td>
<td>Po / Po = 471 mW</td>
<td>≤</td>
</tr>
</tbody>
</table>

Ch1 13-14-15-16-17-18

| Co / Ca = 300 nF | IIC (A, B) |
| Co / Ca = 1.5 µF | IIB (C) |
| Co / Ca = 2.2 µF | IIA (D) |
| Co / Ca = 2.8 µF | I |
| Co / Ca = 1.5 µF | IIIC (E, F, G) |

≥

Ci / Ci device + C cable

Ch1 13-14-15-16-17-18

| Lo / La = 500 µH | IIC (A, B) |
| Lo / La = 6.5 mH | IIB (C) |
| Lo / La = 9.5 mH | IIA (D) |
| Lo / La = 13 mH | I |
| Lo / La = 6.5 mH | IIIC (E, F, G) |

≥

Li / Li device + L cable

Ch1 13-14-15-16-17-18

| Lo/Ro = - | IIC (A, B) |
| Lo/Ro = - | IIB (C) |
| Lo/Ro = - | IIA (D) |
| Lo/Ro = - | IIIC (E, F, G) |

≥

Li/Ri device and L cable/R cable

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable)
shall not be greater than 1 µF for Groups I, IIA, IIB and 600 nF for Group IIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1µH per meter (0.20µH per foot).

**WARNING**

D5264 is isolated Intrinsically Safe Associated Apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms.

Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground. D5264 must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**WARNING: substitution of components may impair Intrinsic Safety and suitability for Zone 2.**

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.

The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5264 is a load cell/strain gauge bridge isolating converter housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022, with or without Power Bus or on customized Termination Board.

D5264S unit can be mounted with any orientation over the entire ambient temperature range. Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

The wiring cables have to be proportionate in base to the current and the length of the cable. Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect alarm transistors checking the load rating to be within the maximum rating (100 mA at 60 V (≤ 1.0 V voltage drop)).

The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water. **Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5264 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

According to EN61010, D5264S unit must be connected to SELV or SELV-E supplies.

For the complete instruction manual ISM0228, datasheet and certifications please refer to our website [www.gmintsrl.com](http://www.gmintsrl.com).

**D5273 SAFETY DESCRIPTION**

**ATEX:** II 3(1)G Ex nA nC [ia Ga] IIC T4 Gc, II (1)D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I
**IECEx:** Ex nA nC [ia Ga] IIC T4 Gc, [Ex ia Da] IIIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

\[
\begin{align*}
U0/Voc & = 7.2 \text{ V}, \quad Io/Isc = 23 \text{ mA}, \quad Po/Po = 40 \text{ mW} \text{ at terminals 13-14-15-16}. \\
Ui/Vmax & = 12.8 \text{ V}, \quad Ii/Imax = 28.7 \text{ mA}, \quad Ci/Ci = 0 \text{ nF}, \quad Li/Li = 0 \text{ mH} \text{ at terminals 13-14-15-16}. \\
Um & = 250 \text{ Vrms}, \quad -40 \ ^\circ \text{C} \leq Ta \leq 70 \ ^\circ \text{C}.
\end{align*}
\]

**Approvals:**

BVS 12 ATEX E 053 X conforms to EN60079-0, EN60079-11, EN60079-15.

PARAMETERS TABLE

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, li/Imax, Pi/Pi) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the D5273 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1 13-14-15-16</td>
<td>Uo / Voc = 7.2 V</td>
<td>≤</td>
<td>Ui / Vmax</td>
</tr>
<tr>
<td>Ch1 13-14-15-16</td>
<td>Io / Isc = 23 mA</td>
<td>≤</td>
<td>li / Imax</td>
</tr>
<tr>
<td>Ch1 13-14-15-16</td>
<td>Po / Po = 40 mW</td>
<td>≤</td>
<td>Pi / Pi</td>
</tr>
</tbody>
</table>

| Ch1 13-14-15-16 | Co / Ca = 13.5 µF | IIC (A, B) |
| Ch1 13-14-15-16 | Co / Ca = 240 µF | IIB (C) |
| Ch1 13-14-15-16 | Co / Ca = 1000 µF | IIA (D) |
| Ch1 13-14-15-16 | Co / Ca = 1000 µF | I |
| Ch1 13-14-15-16 | Co / Ca = 240 µF | IIIC (E, F, G) |

| Ch1 13-14-15-16 | Lo / La = 67.2 mH | IIC (A, B) |
| Ch1 13-14-15-16 | Lo / La = 268 mH | IIB (C) |
| Ch1 13-14-15-16 | Lo / La = 537 mH | IIA (D) |
| Ch1 13-14-15-16 | Lo / La = 882 mH | I |
| Ch1 13-14-15-16 | Lo / La = 268 mH | IIIC (E, F, G) |

| Ch1 13-14-15-16 | Lo/Ro = 875 µH/Ω | IIC (A, B) |
| Ch1 13-14-15-16 | Lo/Ro = 3500 µH/Ω | IIB (C) |
| Ch1 13-14-15-16 | Lo/Ro = 7000 µH/Ω | IIA (D) |
| Ch1 13-14-15-16 | Lo/Ro = 11480 µH/Ω | I |
| Ch1 13-14-15-16 | Lo/Ro = 3500 µH/Ω | IIIC (E, F, G) |

When used with separate powered intrinsically safe devices, check that maximum allowable voltage, current (Ui/Vmax, li/Imax) of the D5273 series Associated Apparatus are not exceeded by the safety parameters (Uo/Voc, Io/Isc) of the Intrinsically Safe device, indicated in the table below:

| Ch1 13-14-15-16 | Ui / Vmax = 12.8 V | ≥ | Uo / Voc |
| Ch1 13-14-15-16 | Li / Imax = 28.7 mA | ≥ | Io / Isc |
| Ch1 13-14-15-16 | Ci = 0 µF, Li = 0 mH |

For installations in which both the Ci and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Ci device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 µF for Groups I, IIA, IIB and 600 nF for Group IIIC. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1µH per meter (0.20µH per foot).

WARNING

D5273 is isolated Intrinsically Safe Associated Apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms.

Not to be connected to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground. D5273 must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

Warning: substitution of components may impair Intrinsic Safety and suitability for Zone 2.

Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.
INSTALLATION

D5273 is a temperature signal converter housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022, with or without Power Bus.
D5273S unit can be mounted with any orientation over the entire ambient temperature range.
Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).
The wiring cables have to be proportionate in base to the current and the length of the cable.
Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.
Connect alarm relay contacts checking the load rating to be within the contact maximum rating (4 A 250 Vac 1000 VA, 4 A 250 Vdc 120 W resistive load).

To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.
The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.
Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.
Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5273 must be cleaned only with a damp or antistatic cloth.
Any penetration of cleaning liquid must be avoided to prevent damage to the unit.
Any unauthorized card modification must be avoided.
According to EN61010, D5273S unit must be connected to SELV or SELV-E supplies.
Relay output contact must be connected to load non exceeding category II overvoltage limits.

For the complete instruction manual ISM0209, datasheet and certifications please refer to our website www.gmintsrl.com.

D5290

SAFETY DESCRIPTION

ATEX: II 3G Ex nA nC IIC T4 Gc
IECEx: Ex nA nC IIC T4 Gc, non-sparking electrical equipment.
Approvals:
BVS 10 ATEX E 114 X conforms to EN60079-0, EN60079-15.
IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-15.

WARNING

D5290 is electrical apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +60 °C.
D5290 must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules.
De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.
Warning: substitution of components may impair suitability for Zone 2.
Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.
Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.
Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.
The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

INSTALLATION

D5290 is a relay output module housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022 or on customized Termination Board.
D5290S unit can be mounted with any orientation over the entire ambient temperature range. Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

The wiring cables have to be proportionate in base to the current and the length of the cable. Installation and wiring must be in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect load relay contacts checking the load rating to be within the contact maximum rating (10 A 250 Vac 2500 VA, 10 A 250 Vdc 300 W resistive load).

To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.

The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 230 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5290 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized card modification must be avoided.

Relay output contact must be connected to load non exceeding category II overvoltage limits.

Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

For the complete instruction manual ISM0111, datasheet and certifications please refer to our website www.gmintsrl.com.

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**D5290-078**

### SAFETY DESCRIPTION

**ATEX:** II 3G Ex nA nC IIC T4 Gc  
**IECEx:** Ex nA nC IIC T4 Gc, non-sparking electrical equipment.

**Approvals:**  
BVS 10 ATEX E 114 X conforms to EN60079-0, EN60079-15.  
IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-15.

### WARNING

D5290-078 is electrical apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +60 °C.

D5290-078 must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair suitability for Zone 2.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

### INSTALLATION

D5290-078 is a relay output module housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022 or on customized Termination Board.

D5290S-078 unit can be mounted with any orientation over the entire ambient temperature range.

Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks.
which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

The wiring cables have to be proportionate in base to the current and the length of the cable.

Installation and wiring must be in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect load relay contacts checking the load rating to be within the contact maximum rating (5 A 250 Vac 1250 VA, 5 A 250 Vdc 175 W resistive load).

To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.

The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5290-078 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized card modification must be avoided.

Relay output contact must be connected to load non exceeding category II overvoltage limits.

Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

For the complete instruction manual ISM0152, datasheet and certifications please refer to our website www.gmintsrl.com.

D5291

SAFETY DESCRIPTION

**ATEX:** II 3G Ex nA nC IIC T4 Gc

**IECEx:** Ex nA nC IIC T4 Gc, non-sparking electrical equipment.

**Approvals:**

BVS 10 ATEX E 114 X conforms to EN60079-0, EN60079-15.

IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-15.

**WARNING**

D5291 is electrical apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +60 °C.

D5291 must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

Warning: substitution of components may impair suitability for Zone 2.

Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury.

The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative.

Any unauthorized modification must be avoided.

**INSTALLATION**

D5291 is a relay output module housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022 or on customized Termination Board.

D5291S unit can be mounted with any orientation over the entire ambient temperature range.

Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).
The wiring cables have to be proportionate in base to the current and the length of the cable.
Installation and wiring must be in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect load relay contacts checking the load rating to be within the contact maximum rating (10 A 250 Vac 2500 VA, 10 A 250 Vdc 300 W resistive load).

To prevent relay contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.

The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

**Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of D5293 must be cleaned only with a damp or antistatic cloth. Any penetration of cleaning liquid must be avoided to prevent damage to the unit. Any unauthorized card modification must be avoided.

Relay output contact must be connected to load non exceeding category II overvoltage limits.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

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**D5293**

**SAFETY DESCRIPTION**

*ATEX:* II 3G Ex nA nC IIC T4 Gc  
*IECEx:* Ex nA nC IIC T4 Gc, non-sparking electrical equipment.

*Approvals:*  
BVS 10 ATEX E 114 X conforms to EN60079-0, EN60079-15.  
IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-15.

**WARNING**

D5293 is electrical apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +60 °C.

D5293 must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair suitability for Zone 2.

**Warning:** de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5293 is a relay output module housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022, with or without Power Bus or on customized Termination Board.

D5293S unit can be mounted with any orientation over the entire ambient temperature range.

Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

The wiring cables have to be proportionate in base to the current and the length of the cable. Installation and wiring must be in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas...
(other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect load relay contacts checking the load rating to be within the contact maximum rating (5 A 250 Vac 1250 VA, 5 A 250 Vdc 140 W resistive load). Connect fault relay contacts checking the load rating to be within the contact maximum rating (500 mA 30 Vac 15 VA, 500 mA 50 Vdc 25 W resistive load - 3 A 250 Vac 750 VA, 3 A 125 Vdc 120 W resistive load).

To prevent relays contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.

The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5293 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized card modification must be avoided.

According to EN61010, D5293S unit must be connected to SELV or SELV-E supplies.

Relay output contact must be connected to load non exceeding category II overvoltage limits.

Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

For the complete instruction manual ISM0122, datasheet and certifications please refer to our website www.gmintsrl.com.

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D5294

SAFETY DESCRIPTION

**ATEX:** II 3G Ex nA nC IIC T4 Gc

**IECEx:** Ex nA nC IIC T4 Gc, non-sparking electrical equipment.

**Approvals:**

BVS 10 ATEX E 114 X conforms to EN60079-0, EN60079-15.
IECEx BVS 10.0072X conforms to IEC60079-0, IEC60079-15.

**WARNING**

D5294 is electrical apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIC, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +60 °C.

D5294 must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair suitability for Zone 2.

Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

Explosion Hazard: to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

D5294 is a relay output module housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022, with or without Power Bus or on customized Termination Board.

D5294S unit can be mounted with any orientation over the entire ambient temperature range. Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

The wiring cables have to be proportionate in base to the current and the length of the cable. Installation and wiring must be in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas...
Connect load relay contacts checking the load rating to be within the contact maximum rating (5 A 250 Vac 1250 VA, 5 A 250 Vdc 140 W resistive load). Connect fault relay contacts checking the load rating to be within the contact maximum rating (500 mA 30 Vac 15 VA, 500 mA 50 Vdc 25 W resistive load - 3 A 250 Vac 750 VA, 3 A 125 Vdc 120 W resistive load).

To prevent relays contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.

The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5294 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized card modification must be avoided.

According to EN61010, D5294S unit must be connected to SELV or SELV-E supplies.

Relay output contact must be connected to load non exceeding category II overvoltage limits.

Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

For the complete instruction manual ISM0123, datasheet and certifications please refer to our website www.gmintsrl.com.
(other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

Connect load relay contacts checking the load rating to be within the contact maximum rating (5 A 250 Vac 1250 VA, 5 A 250 Vdc 140 W resistive load). Connect fault relay contacts checking the load rating to be within the contact maximum rating (500 mA 30 Vac 15 VA, 500 mA 50 Vdc 25 W resistive load - 3 A 250 Vac 750 VA, 3 A 125 Vdc 120 W resistive load).

To prevent relays contacts from damaging, connect an external protection (fuse or similar), chosen according to the relay breaking capacity diagram from installation instructions.

The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

Electrostatic Hazard: to avoid electrostatic hazard, the enclosure of D5295 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized card modification must be avoided.

According to EN61010, D5295S unit must be connected to SELV or SELV-E supplies.

Relay output contact must be connected to load non exceeding category II overvoltage limits.

Warning: de-energize main power source (turn off power supply voltage) and disconnect plug-in terminal blocks before opening the enclosure to avoid electrical shock when connected to live hazardous potential.

For the complete instruction manual ISM0222, datasheet and certifications please refer to our website www.gmintsrl.com.

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**PARAMETERS TABLE**

In the system safety analysis, always check the Hazardous Area/Hazardous Locations devices to conform with the related system documentation, if the device is Intrinsically Safe check its suitability for the Hazardous Area/Hazardous Locations and gas group encountered and that its maximum allowable voltage, current, power (Ui/Vmax, li/Imax, Pi/Pi) are not exceeded by the safety parameters (Uo/Voc, Io/Isc, Po/Po) of the PSD5201 series Associated Apparatus connected to it. Also consider the maximum operating temperature of the field device, check that added connecting cable and field device capacitance and inductance do not exceed the limits (Co/Ca, Lo/La, Lo/Ro) given in the Associated Apparatus parameters for the effective gas group. See parameters indicated in the table below:

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1 13/15-14/16</td>
<td>Uo / Voc = 21.5 V</td>
<td>≤</td>
<td>Ui / Vmax</td>
</tr>
<tr>
<td>Ch1 13/15-14/16</td>
<td>Io / Isc = 604 mA</td>
<td>≤</td>
<td>li / Imax</td>
</tr>
<tr>
<td>Ch1 13/15-14/16</td>
<td>Po / Po = 3243 mW</td>
<td>≤</td>
<td>Pi / Pi</td>
</tr>
<tr>
<td>Ch1 13/15-14/16</td>
<td>Co / Ca = 1.2 μF</td>
<td>≥</td>
<td>Ci / Ci device + C cable</td>
</tr>
<tr>
<td>Ch1 13/15-14/16</td>
<td>Co / Ca = 4.5 μF</td>
<td>≥</td>
<td>Li / Li device + L cable</td>
</tr>
<tr>
<td>Ch1 13/15-14/16</td>
<td>Co / Ca = 6.5 μF</td>
<td>≥</td>
<td>Li / Li device + L cable</td>
</tr>
<tr>
<td>Ch1 13/15-14/16</td>
<td>Co / Ca = 1.2 μF</td>
<td>≥</td>
<td>Li / Li device + L cable</td>
</tr>
<tr>
<td>Ch1 13/15-14/16</td>
<td>Lo / La = 390 μH</td>
<td>≥</td>
<td>Li / Li device + L cable</td>
</tr>
<tr>
<td>Ch1 13/15-14/16</td>
<td>Lo / La = 780 μH</td>
<td>≥</td>
<td>Li / Li device + L cable</td>
</tr>
<tr>
<td>Ch1 13/15-14/16</td>
<td>Lo / La = 1.28 mH</td>
<td>≥</td>
<td>Li / Li device + L cable</td>
</tr>
<tr>
<td>Ch1 13/15-14/16</td>
<td>Lo / La = 390 μH</td>
<td>≥</td>
<td>Li / Li device + L cable</td>
</tr>
</tbody>
</table>

---

**PSD5201**

**SAFETY DESCRIPTION**

**ATEX:** II 3(1)G Ex nA [ia Ga] IIB T4 Gc, II (1)D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I

**IECEx:** Ex nA [ia Ga] IIB T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I, associated apparatus and non-sparking electrical equipment.

Uo/Voc = 21.5 V, Io/Isc = 604 mA, Po/Po = 3243 mW at terminals 13/15-14/16.

Um = 250 Vrms, -40 °C ≤ Ta ≤ 70 °C.

**Approvals:**

BVS 14 ATEX E 023 X conforms to EN60079-0, EN60079-11, EN60079-15.

IECEx BVS 14.0019X conforms to IEC60079-0, IEC60079-11, IEC60079-15.
<table>
<thead>
<tr>
<th>Terminals</th>
<th>Associated Apparatus Parameters</th>
<th>must be</th>
<th>Haz. Area/Haz. Locations Device Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch1</td>
<td>Lo/Ro = 43.8 μH/Ω</td>
<td>IIB (C)</td>
<td>Li/Ri device and L cable/R cable</td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 87.7 μH/Ω</td>
<td>IIA (D)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 143.9 μH/Ω</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lo/Ro = 43.8 μH/Ω</td>
<td>IIIC (E, F, G)</td>
<td></td>
</tr>
</tbody>
</table>

For installations in which both the Cl and Li of the Intrinsically Safe apparatus exceed 1% of the Co and Lo parameters of the Associated Apparatus (excluding the cable), then 50% of Co and Lo parameters are applicable and shall not be exceeded (50% of the Co and Lo become the limits which must include the cable such that Cl device + C cable ≤ 50% of Co and Li device + L cable ≤ 50% of Lo). The reduced capacitance of the external circuit (including cable) shall not be greater than 1 μF for Groups I, IIA, IIB. If the cable parameters are unknown, the following value may be used: Capacitance 200pF per meter (60pF per foot), Inductance 1 μH per meter (0.20 μH per foot).

**WARNING**

PSD5201 is isolated Intrinsically Safe Associated Apparatus installed into standard EN50022 T35 DIN-Rail located in Safe Area or Zone 2, Group IIB, Temperature T4 Hazardous Area (according to EN/IEC60079-15) within the specified operating temperature limits Tamb -40 to +70 °C, and connected to equipment with a maximum limit for AC power supply Um of 250 Vrms.

Not to be controlled to control equipment that uses or generates more than 250 Vrms or Vdc with respect to earth ground.

PSD5201 must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), following the established installation rules, particular care shall be given to segregation and clear identification of I.S. conductors from non I.S. ones.

De-energize power source (turn off power supply voltage) before plug or unplug the terminal blocks when installed in Hazardous Area or unless area is known to be nonhazardous.

**Warning:** substitution of components may impair Intrinsic Safety and suitability for Zone 2.

**Explosion Hazard:** to prevent ignition of flammable or combustible atmospheres, disconnect power before servicing or unless area is known to be nonhazardous.

Failure to properly installation or use of the equipment may risk to damage the unit or severe personal injury. The unit cannot be repaired by the end user and must be returned to the manufacturer or his authorized representative. Any unauthorized modification must be avoided.

**INSTALLATION**

PSD5201 is a power supply for hazardous area equipment housed in a plastic enclosure suitable for installation on T35 DIN-Rail according to EN50022.

PSD5201 unit can be mounted with any orientation over the entire ambient temperature range.

Electrical connection of conductors up to 2.5 mm² are accommodated by polarized plug-in removable screw terminal blocks which can be plugged in/out into a powered unit without suffering or causing any damage (for Zone 2 installations check the area to be nonhazardous before servicing).

The wiring cables have to be proportionate in base to the current and the length of the cable.

Intrinsically Safe conductors must be identified and segregated from non I.S. and wired in accordance to the relevant national/international installation standards (e.g. EN/IEC60079-14 Electrical apparatus for explosive gas atmospheres - Part 14: Electrical installations in hazardous areas (other than mines)), make sure that conductors are well isolated from each other and do not produce any unintentional connection.

The enclosure provides, according to EN60529, an IP20 minimum degree of mechanical protection (or similar to NEMA Standard 250 type 1) for indoor installation, outdoor installation requires an additional enclosure with higher degree of protection (i.e. IP54 to IP65 or NEMA type 12-13) consistent with the effective operating environment of the specific installation.

Units must be protected against dirt, dust, extreme mechanical (e.g. vibration, impact and shock) and thermal stress, and casual contacts. If enclosure needs to be cleaned use only a cloth lightly moistened by a mixture of detergent in water.

**Electrostatic Hazard:** to avoid electrostatic hazard, the enclosure of PSD5201 must be cleaned only with a damp or antistatic cloth.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit.

Any unauthorized card modification must be avoided.

According to EN61010, PSD5201 unit must be connected to SELV or SELV-E supplies.

For the complete instruction manual ISM0186, datasheet and certifications please refer to our website www.gmintsrl.com.
EU Declaration of Conformity

G.M. International S.r.l.
declares that the below listed Models:

D5011, D5011 xxx; D5014, D5014 xxx; D5020, D5020 xxx; D5031, D5031 xxx;
D5034, D5034 xxx; D5037, D5037-xxx; D5048, D5048 xxx; D5049, D5049 xxx

(1)

D5030, D5030 xxx; D5032, D5032 xxx; D5036, D5036-xxx

(2)

are in accordance with the following European Directives:

- Equipment intended for use in potentially explosive atmospheres (ATEX) 2014/34/EU
- Electromagnetic Compatibility (EMC) 2014/30/EU
- Low Voltage Directive (LVD) 2014/35/EU
- Restriction of the use of certain hazardous substances (RoHS) 2011/65/EU

have been designed and manufactured according to the following standards:

<table>
<thead>
<tr>
<th>Standard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN 60079-0:2012+A1:2013</td>
<td>Explosive atmospheres - Part 0: Equipment - General requirements</td>
</tr>
<tr>
<td>EN 60079-11:2012</td>
<td>Explosive atmospheres - Part 11: Equipment protection by intrinsic safety &quot;i&quot;</td>
</tr>
<tr>
<td>EN 60079-15:2010</td>
<td>Explosive atmospheres - Part 15: equipment protection by type of protection &quot;n&quot;</td>
</tr>
<tr>
<td>EN 61000-6-2:2005+AC:2005</td>
<td>Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments</td>
</tr>
<tr>
<td>EN 61326-1-1:2013</td>
<td>Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements</td>
</tr>
<tr>
<td>EN 61326-3-1:2008</td>
<td>Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) - General industrial applications</td>
</tr>
<tr>
<td>EN 61810-1:2010</td>
<td>Electrical equipment for measurement, control, and laboratory use - EMC requirements - Part 1: General requirements</td>
</tr>
</tbody>
</table>

are covered by:

- BV3 10 ATEX E 113 X - CC-Type Examination Certificate
- Prosafe 15 ATEX 1925444Q - Production Quality Assessment

are suitable for installation/connection to equipment in atmospheres with Gas and are marked:

II 3(t)G Ex nA [ia Ga] IIC T4 Gx for models listed in (1)
II 3(t)G Ex nA nC [ia Ga] IIC T1 for models listed in (2)
II 1[G] [Ex ia Fa] IIIIC

(1) M1 [Ex ia Ma] I

are suitable for connection to equipment in atmospheres with Dust and are marked:

are suitable for connection to equipment in Mines and are marked:

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G.M. International S.r.l.
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Glionsente Landrini
Managing Director
EU Declaration of Conformity

G.M. International S.r.l.
declares that here below listed Models:

D5090, D5090-086; D5091; D5094; D5095; D5096; D5097;
D5290, D5290 078; D5291; D5293; D5294; D5295

are in accordance with the following European Directives:

- Equipment intended for use in potentially explosive atmospheres (ATEX) 2014/34/EU
- Electromagnetic Compatibility (EMC) 2014/30/EU
- Low Voltage Directive (LVD) 2014/35/EU
- Restriction of the use of certain hazardous substances (RoHS) 2011/65/EU

have been designed and manufactured according to the following standards:

EN 60079-0:2012+A1:2013 Explosive atmospheres - Part 0: Equipment - General requirements
EN 60079-15:2010 Explosive atmospheres - Part 15: Equipment protection by type of protection “n”
EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use - EMC requirements Part 1: General requirements
EN 61326-3-1:2008 Electrical equipment for measurement, control and laboratory use - EMC requirements Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) - General industrial applications
EN 61010-1:2010 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements

are covered by:

BVS 10 ATEX E 114 X Type Examination Certificate
Pre-safe 15 ATEX 1975440 Production Quality Assessment

are suitable for connection to equipment in atmospheres with Gas and are marked:

II 3G Ex nA nC IIC T4 Gc for models listed in (1)
II 3G Ex nA IIC T4 Gc for models listed in (2)

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EU Declaration of Conformity

G.M. International S.r.l.
declares that here below listed Models:

D5072, D5072-xxx (1)
D5273, D5273-xxx (2)

are in accordance with the following European Directives:

- Equipment intended for use in potentially explosive atmospheres (ATEX) 2014/34/EU
- Electromagnetic Compatibility (EMC) 2014/30/EU
- Low Voltage Directive (LVD) 2014/35/EU
- Restriction of the use of certain hazardous substances (RoHS) 2011/65/EU

have been designed and manufactured according to the following standards:

EN 60079-0:2012+A11:2013 Explosive atmospheres - Part 0: Equipment - General requirements
EN 60079-1:2012 Explosive atmospheres - Part 11: equipment protection by intrinsic safety "i"
EN 60079-15:2010 Explosive atmospheres - Part 15: Equipment protection by type of protection “n”
EN 60079-26:2007 Electrical apparatus for explosive gas atmospheres - Part 26: Equipment with equipment protection level (EPL) C0
EN 50303:2000 Group I, Category M1 equipment intended to remain functional in atmospheres endangered by firedamp and/or coal dust
EN 61000-6-4:2007+A1:2011 Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard 1 industrial environments
EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use - EMC requirements Part 1: General requirements
EN 61326-3:2008 Electrical equipment for measurement, control and laboratory use - EMC requirements Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety); General industrial applications
EN 61010-1:2010 Safety requirements for electrical equipment for measurement, control, and laboratory use. Part 1: General requirements

are covered by:

- BV S 12 ATEX E 053 X EC-Type Examination Certificate
- Presafe 15 ATEX 19254A4Q Production Quality Assessment

are suitable for installation/connection to equipment in atmospheres with Gas and are marked: II 3(T)G Ex nA [ie Ga] IIC T4 Gis for models listed in (1)
Il 3(T)G Ex nA nC [ie Ga] IIC T4 for models listed in (2)

are suitable for connection to equipment in atmospheres with Dust and are marked: II (1) D [Ex ia Dae] IIIC

are suitable for connection to equipment in Mines and are marked:

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Managing Director

ISM0156-9
EU Declaration of Conformity

G.M. International S.r.l.
declares that here below listed Models:

DS231, DS231 xxx

are in accordance with the following European Directives:

- Equipment intended for use in potentially explosive atmospheres (ATEX) 2014/34/EU
- Electromagnetic Compatibility (EMC) 2014/30/EU
- Low Voltage Directive (LVD) 2014/35/EU
- Restriction of the use of certain hazardous substances (RoHS) 2011/65/EU

have been designed and manufactured according to the following standards:

- EN 60079-0:2012+A11:2013 Explosive atmospheres - Part 0: Equipment - General requirements
- EN 60079-11:2012 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
- EN 60079-15:2010 Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
- EN 60079-25:2007 Electrical apparatus for explosive gas atmospheres - Part 25: Equipment with equipment protection level (EPL) Ga
- EN 50303:2000 Group I, Category I equipment intended to remain functional in atmospheres endangered by firedamp and/or coal dust
- EN 61000-6-2:2005+AC:2005 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
- EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use - EMC requirements Part 1: General requirements
- EN 61326-3-1:2008 Electrical equipment for measurement, control and laboratory use - EMC requirements Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) - General industrial applications
- EN 61010-1:2010 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements

are covered by:

- DVS 12 ATEX EC 122-X EC-Type Examination Certificate
- Presafe 15 ATEX 192544Q Production Quality Assessment

are suitable for installation/connection to equipment in atmospheres with Gas and are marked: II 3(I)G Ex nA [ia Ga] IIC T4 Ga

are suitable for connection to equipment in atmospheres with Dust and are marked: II (1)D [Ex ia Da] IIC

are suitable for connection to equipment in Mines and are marked: I (M1) [Ex ia Ma] I

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EU Declaration of Conformity

G.M. International S.r.l.
declares that here below listed Models:

D5202, D5202-xxx

are in accordance with the following European Directives:

Equipment Intended for use in potentially explosive atmospheres (ATEX) 2014/34/EU
Electromagnetic Compatibility (EMC) 2014/30/EU
Low Voltage Directive (LVD) 2014/35/EU
Restriction of the use of certain hazardous substances (RoHS) 2011/65/EU

have been designed and manufactured according to the following standards:

EN 60079-0:2012 Explosive atmospheres - Part 0: Equipment - General requirements
EN 60079-15:2010 Explosive atmospheres - Part 15: Equipment protection by type of protection “n”
EN 61000-6-2:2005+A2:2005 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use - EMC requirements Part 1: General requirements
EN 61326-2-1:2008 Electrical equipment for measurement, control and laboratory use - EMC requirements Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) - General industrial applications
EN 61010 1:2010 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements

are covered by:

RVS 14 ATFX F 0311X Type Examination Certificate
Presafe 15 ATEX 192544G Production Quality Assessment

are suitable for installation/connection to equipment in atmospheres with Gas and are marked: II 3G Ex nA nC IIC T4 Ge.

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Giacomo Landrini
Managing Director

G.M. International s.r.l.
Phone: +39 039 232 5038 | Fax: +39 039 232 5107 | info@gminsrli.com | www.gminsrl.com

ISM0156-9
EU Declaration of Conformity

G.M. International S.r.l.
declares that here below listed Models:

PSD5201, PSD5201-XXX

are in accordance with the following European Directives:

- Equipment intended for use in potentially explosive atmospheres (ATEX) 2014/34/EU
- Electromagnetic Compatibility (EMC) 2014/30/EU
- Low Voltage Directive (LVD) 2014/35/EU
- Restriction of the use of certain hazardous substances (RoHS) 2011/65/EU

have been designed and manufactured according to the following standards:

- EN 60079-0:2012 Explosive atmospheres - Part 0: Equipment - General requirements
- EN 60079-11:2012 Explosive atmospheres - Part 11: Equipment protection by Intrinsic safety “i”
- EN 60079-15:2010 Explosive atmospheres - Part 15: Equipment protection by type of protection “n”
- EN 61000-6-2:2005+AC:2005 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
- EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use - EMC requirements Part 1: General requirements
- EN 61326-3-1:2008 Electrical equipment for measurement, control and laboratory use - EMC requirements Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) - General industrial applications
- EN 61010 1:2010 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements

are covered by:

- RVS 14 ATFX F 023 X EC-Type Examination Certificate
- Presafe 15 ATEX 192544Q Production Quality Assessment

are suitable for installation/connection to equipment in atmospheres with Gas and are marked: II 3[1]G Ex nA [lb Ga] IIB T4 G

are suitable for connection to equipment in atmospheres with Dust and are marked: II (1)D [Ex ia Da] IIIC

are suitable for connection to equipment in Mines and are marked: II M[1] [Ex ia Ma] I

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Gisente Lamperti
Managing Director
EU Declaration of Conformity

G.M. International S.r.l.
declares that here below listed Models:

D5062, D5062-xxx

are in accordance with the following European Directives:

- Equipment intended for use in potentially explosive atmospheres (ATEX) 2014/34/EU
- Electromagnetic Compatibility (EMC) 2014/30/EU
- Low Voltage Directive (LVD) 2014/35/EU
- Restriction of the use of certain hazardous substances (RoHS) 2011/65/EU

have been designed and manufactured according to the following standards:

- EN 60079-0:2012+A11:2013 Explosive atmospheres - Part 0: Equipment - General requirements
- EN 60079-11:2017 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
- EN 60079-15-1:2010 Explosive atmospheres - Part 15-1: Equipment protection by type of protection "n"
- EN 61000-6-2:2005+AC:2005 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
- EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use - EMC requirements
- EN 61326-3-1:2008 Electrical equipment for measurement, control and laboratory use - EMC requirements
- EN 61010-1:2010 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements

are covered by:

- DVS 14 ATEX E 073 X EC-Type Examination Certificate
- Presta 15 ATEX 62544Q Production Quality Assessment

are suitable for installation/connection to equipment in atmospheres with Gas and are marked: II 3(1)G Ex nA [ia Ga] IIIC T4 Ga

are suitable for connection to equipment in atmospheres with Dust and are marked: II 1(D) Ex ia Da IIB T4

are suitable for connection to equipment in Mines and are marked: I (M1) [Ex ia Ma] I

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Gisberto Landrini
Managing Director

G.M. International s.r.l.
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EU Declaration of Conformity

G.M. International S.r.l.
declares that here below listed Models:

D5040, D5040-xxx, D5240, D5240-xxx

are in accordance with the following European Directives.

Equipment Intended for use in potentially explosive atmospheres (ATEX) 2014/34/EU
Electromagnetic Compatibility (EMC) 2014/30/EU
Low Voltage Directive (LVD) 2014/35/EU
Restriction of the use of certain hazardous substances (RoHS) 2011/65/EU

have been designed and manufactured according to the following standards:

EN 60079-0:2012+A11:2013 Explosive atmospheres - Part 0: Equipment - General requirements
EN 60079-11:2012 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
EN 60079-15:2010 Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
EN 61000-6-4:2007+A1:2011 Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard 1 industrial environments
EN 61000-6-2:2005+AC.2:005 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for Industrial environments
EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use - EMC requirements Part 1: General requirements
EN 61326-3-1:2008 Electrical equipment for measurement, control and laboratory use - EMC requirements Part 3: Immunity requirements for safety-related systems and equipment intended to perform safety-related functions (functional safety) - General Industrial applications
EN R1010-1:2010 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements

are covered by:

BVS 14 ATEXIE EEx IIC T4 Gc EU-Type Examination Certificate
Presafe 15 ATEX 192544Q Production Quality Assessment

are suitable for installation/connection to equipment in atmospheres with Gas and are marked: II 3(T)G Ex nA [le Ga] IIC T4 Gc
are suitable for connection to equipment in atmospheres with Dust and are marked: II (1)D [Ex ia Da] IIIC
are suitable for connection to equipment in Mines and are marked: I (M1) [Ex ia Ma] I

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EU Declaration of Conformity

G.M. International S.r.l.
declares that here below listed Models:

DS5263, DS5263-xxx, DS5264, DS5264-xxx

are in accordance with the following European Directives.

- Equipment Intended for use in potentially explosive atmospheres (ATEX) 2014/34/EU
- Electromagnetic Compatibility (EMC) 2014/30/EU
- Low Voltage Directive (LVD) 2014/35/EU
- Restriction of the use of certain hazardous substances (RoHS) 2011/65/EU

have been designed and manufactured according to the following standards.

EN 60079-11:2012 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
EN 60079-15:2010 Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
EN 61000-6-2:2005+AC:2005 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
EN 61326-1:2010 Electrical equipment for measurement, control and laboratory use - EMC requirements Part 1: General requirements
EN 61326 3 1:2008 Electrical equipment for measurement, control and laboratory use - EMC requirements Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) - General industrial applications
EN 61010-1:2010 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements

are covered by:

- TUV 15 ATEX 170897 X EC-Type Examination Certificate
- Presafe 15 ATEX 192544Q Production Quality Assessment

are suitable for installation/connection to equipment in atmospheres with Gas and are marked: II 3T(G) Ex nA [ib Ga] IIC T4 G

are suitable for connection to equipment in atmospheres with Dust and are marked: II 1T(U) Ex d IIA T4 G

are suitable for connection to equipment in Mines and are marked: I (M1) [Ex ia Ma] I

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G./M. International S.r.l.
Managing Director

G.M. International S.r.l.
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G.M. International S.r.l.

EU Declaration of Conformity

G.M. International S.r.l.
declares that here below listed Models:

D5254, D5254-xxx

are in accordance with the following European Directives:

Equipment intended for use in potentially explosive atmospheres (ATEX) 2014/34/EU
Electromagnetic Compatibility (EMC) 2014/30/EU
Low Voltage Directive (LVD) 2014/35/EU
Restriction of the use of certain hazardous substances (RoHS) 2011/65/EU

have been designed and manufactured according to the following standards.

EN 60079-0:2012 EN 60079-11:2012 EN 60079-15:2010 Explosive atmospheres - Part 0: equipment - General requirements
EN 61000-6-4:2007+Am:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
EN 61325-1:2010 Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
EN 61000-6-2:2005+AC:2005 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
EN 61326-1:2008 Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard industrial environments
EN 61326 3 1:2008 Electrical equipment for measurement, control and laboratory use - EMC requirements Part 3-1: General requirements
EN 60101-1:2010 Electrical equipment for measurement, control and laboratory use - EMC requirements Part 1: General requirements

are covered by:

BVS 16 ATEX E 066 X EC-Type Examination Certificate
Presafe 15 ATEX 192544Q Production Quality Assessment

are suitable for installation/connection to equipment in atmospheres with Gas and are marked: II 3(T)G Ex nA nC [ia Ga] IIIC T-
are suitable for connection to equipment in atmospheres with Dust and are marked: II (T)U [Ex ia Da] IIIC
are suitable for connection to equipment in Mines and are marked: I (M1) [Fr ia Ma] I

This Declaration does not amend, supersede or, in any way, exclude the compliance to any applicable International and/or National Regulatory Requirement

G.M. International S.r.l.
Phone: +39 039 232 5038 | Fax: +39 039 232 5107 | info@gminitsrl.com | www.gminitsrl.com

G.M. International S.r.l.

Managing Director

G.M. International S.r.l.
Phone: +39 039 232 5038 | Fax: +39 039 232 5107 | info@gminitsrl.com | www.gminitsrl.com

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EU Declaration of Conformity

G.M. International S.r.l.
declares that here below listed Models:

D5244, D5244-xxx

are in accordance with the following European Directives:

- Equipment intended for use in potentially explosive atmospheres (ATEX) 2014/34/EU
- Electromagnetic Compatibility (EMC) 2014/30/EU
- Low Voltage Directive (LVD) 2014/35/EU
- Restriction of the use of certain hazardous substances (RoHS) 2011/65/EU

have been designed and manufactured according to the following standards:

- EN 60079-0:2012+A1:2013 Explosive atmospheres - Part 0: Equipment - General requirements
- EN 60079-11:2012 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
- EN 60079-15:2010 Explosive atmospheres - Part 15: Equipment protection by type of protection "a"n"
- EN 61000-6-2:2005 Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
- EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements
- EN 61326-3:2008 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 3-3: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) - General industrial applications
- EN 61010-1:2010 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements

are covered by:

- DVS 16 ATEX E 109 X EU-Type Examination Certificate
- Presafe 15 ATEX 1925440 Production Quality Assessment

are suitable for installation/connection to equipment in atmospheres with Gas and are marked: II 3(T)G Ex na nC [ia Ga] IIC T6
are suitable for connection to equipment in atmospheres with Dust and are marked: II (I)D [Ex ia Da] III C
are suitable for connection to equipment in Mines and are marked: I (M1) [Ex ia Ma] I

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Ghisento Landrini
Managing Director

G.M. International s.r.l.
Phone: +39 039 232 5030 Fax: +39 039 232 5107 info@gmintarl.com www.gmintarl.com

ISM0156-9
EU Declaration of Conformity

G.M. International S.r.l.
declares that the below listed Models:

**DG098**

are in accordance with the following European Directives:

- Equipment intended for use in potentially explosive atmospheres (ATEX) 2014/34/EU
- Electromagnetic Compatibility (EMC) 2014/30/EU
- Low Voltage Directive (LVD) 2014/35/EU
- Restriction of the use of certain hazardous substances (RoHS) 2011/65/EU

have been designed and manufactured according to the following standards:

- EN 60079-0:2012+A11:2013 Explosive atmospheres - Part 0: Equipment - General requirements
- EN 60079-15:2010 Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
- EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use - EMC requirements Part 1: General requirements
- EN 61326 3-1:2008 Electrical equipment for measurement, control and laboratory use - EMC requirements Part 3-1: Immunity requirements for safety-related systems and for equipment intended to perform safety-related functions (functional safety) - General industrial applications
- EN 61010-1:2010 Safety requirements for electrical equipment for measurement, control, and laboratory use Part 1: General requirements

are covered by:

- IMG 17 ATEX 009 X Type Examination Certificate
- Presafe 15 ATEX 192544Q Product Quality Assurance

are suitable for connection to equipment in atmospheres with CO and are marked:

II 3G Ex nA nC IIC T4 Ga

This Declaration does not amend, supersede or, in any way, exclude the compliance to any applicable International and/or National Regulatory Requirement

Gisente Landrini
Managing Director

G.M. International s.r.l.
Phone: +39 039 232 5038 | Fax: +39 039 232 5107 | info@gmintsrl.com | www.gmintsrl.com

ISMO156-9
Warranty

Subject to the conditions set out below, G.M. International warrants that the Instruments supplied will be free from material defects and will correspond to G.M. International's published specifications at the time of the shipment from the factory.

The above warranty is given by G.M. International subject to the following conditions:

1. G.M. International shall be under no liability in respect of any defect in the Instruments arising from any drawing, design or specification supplied by its client;

2. G.M. International shall be under no liability in respect of any defect in the Instruments arising from fair wear and tear, willful damage, negligence, abnormal working conditions, failure to follow the G.M. International's Instructions (whether verbal or in writing), misuse or alteration or repair of the Instruments without G.M. International's prior written approval;

3. G.M. International shall be under no liability under the above warranty (or any other warranty, condition or guarantee) if the price for the Instruments has not been paid by the due date for payment in accordance with the agreed terms;

4. The above warranty does not extend to parts, materials or equipment not manufactured by G.M. International, in respect of which the Client shall only be entitled to the benefit of any such warranty or guarantee as is given by the manufacturer to G.M. International;

5. G.M. International shall be under no liability in respect of any repair made by unauthorized personnel because it may completely invalidate the Safety Characteristics of the instruments.

All terms, conditions and warranties (whether implied or made expressly) by G.M. International (other than those express warranties set out in the current edition of the G.M. International's specification) relating to the quality and/or fitness for purpose of the Instruments or any of the Instruments are excluded.

The Client shall satisfy itself that the Instruments are suitable for any product or application for which they are to be used before they are so used.

Any claim by the Client which is based on any defect in quality or condition of the Instruments or their failure to correspond with specification shall (whether or not delivery is refused by the Client) be notified to G.M. International within 30 days from the date of delivery or (where the defect or failure was not apparent on reasonable inspection) within a reasonable time after discovery of the defect of failure. If delivery is not refused, and the Client does not notify G.M. International accordingly, the Client shall not be entitled to reject the Instruments and G.M. International shall have no liability for such defect or failure and the Client shall be bound to pay the price as if the Instruments had been delivered in accordance with the order.

Where any claim in respect of any of the Instruments which is based on any defect in the quality or condition of the Instruments or their failure to meet specification is notified to G.M. International within 5 years from date of delivery and in accordance with these conditions, G.M. International shall be entitled to replace the Instruments (or the part (in question) free of charge or at G.M. International's sole discretion, refund to the Client the price of the Instruments (or a proportionate part of the price) but G.M. International shall have no further liability to the Client. Replacement, or repair, is at no charge if the instrument is sent back to G.M. International's factory, cost for transport prepaid. All repairs carry a 1 year repair warranty, which begins the day the repaired item is shipped back to the customer. The product will continue to be covered by original warranty or by the 1 year repair warranty, whichever is longer.

The quantity of the Instruments stated on G.M. International's advice note or other notification of dispatch shall be final unless the Client has given notice of any discrepancy in quantity within 10 days after receipt of the goods and has thereafter given to G.M. International a reasonable opportunity to re-count the Instruments prior to their having been used sold or processed.

Except in respect of death or personal injury caused by G.M. International's negligence, G.M. International shall not be liable to the Client by reason of any representation or any implied warranty, condition or other term, or under the express terms of the contract for the consequential loss or damage (whether for loss of profit or otherwise), costs expenses or other claims for consequential compensation whatsoever (and whether caused by the negligence of G.M. International, its employees or agents or otherwise) which arise out of or in connection with the supply of the Instruments or their use or resale by G.M. International.

If requested, an estimate of repair charges will be supplied which are not covered under the terms of this certificate.
Note: This manual contains only safety instructions. For the complete installation and user manuals, certifications and data sheets, please refer to www.gmintsrl.com.