



[13]

## Schedule

[14]

# EU-TYPE EXAMINATION CERTIFICATE No. DEMKO 18 ATEX 2017X Rev. 0

[15] Description of Product  
The D5212Q module is a galvanic isolator which provides intrinsically safe connections to four field devices (4-20mA transmitters) located in a hazardous area and repeats the transmitter current in the non-hazardous area. 2 channels are also able to accept 4-20 mA current signals from active (powered) transmitter. The D5212Q is intended for installation in non-hazardous or Zone 2 hazardous locations. It consists of a single PCB assembly in a plastic enclosure suitable for DIN rail mounting or mounting on a termination board (not part of this evaluation). Electrical connections are by means of plug-in terminal blocks or via the termination board. The supply voltage can be optionally provided to the D5212Q by means of the optional Power Bus connector. An optically coupled, open-drain alarm output is also provided. The alarm trip point is settable by the user over the entire input signal range.

Nomenclature:

D5212Q-xxx, where '-xxx' is optional and denotes software or configuration options

Performance testing

The optical radiation output of the product with respect to explosion protection, according to Annex II clause 1.3.1 of the Directive 2014/34/EU is covered in this certificate based on Exception 1) to the scope of EN 60079-28:2015.

Temperature range

The ambient temperature range is  $-40\text{ }^{\circ}\text{C} \leq T_{amb} \leq +70\text{ }^{\circ}\text{C}$ .

Electrical data

Power supply: 21.5 to 30 Vdc, 230 mA, 5.2 W

Intrinsically safe specifications:

$U_m$  : 250 Vrms

Terminals		Group IIC	Group IIB or Group III	Group IIA	Group I
13 – 14 (Ch 1) 15 – 16 (Ch 2) 17 – 18 (Ch 3) 19 – 20 (Ch 4)	$U_o$ : 24.1 V $I_o$ : 86 mA $P_o$ : 0.516 W	$C_o$ : 121 nF $L_o$ : 4.85 mH $L_o/R_o$ : 68.9 uH/Ohm	$C_o$ : 917 nF $L_o$ : 19.43 mH $L_o/R_o$ : 275.9 uH/Ohm	$C_o$ : 3307 nF $L_o$ : 38.86 mH $L_o/R_o$ : 551.9 uH/Ohm	$C_o$ : 5197 nF $L_o$ : 63.76 mH $L_o/R_o$ : 905.6 uH/Ohm
21 – 22 (Ch 1) 23 – 24 (Ch 2)	$U_o$ : 1.1 V $I_o$ : 56 mA $P_o$ : 0.016 W	$C_o$ : 99 uF $L_o$ : 11.63 mH $L_o/R_o$ : 2339 uH/Ohm	$C_o$ : 999 uF $L_o$ : 46.54 mH $L_o/R_o$ : 9356.1 uH/Ohm	$C_o$ : 999 uF $L_o$ : 93.09 mH $L_o/R_o$ : 18712.2 uH/Ohm	$C_o$ : 999 uF $L_o$ : 152.73 mH $L_o/R_o$ : 30699.7 uH/Ohm
21 – 22 (Ch 1) 23 – 24 (Ch 2)	$U_i$ : 30 V $I_i$ : 128 mA $C_i$ : 2.1 nF $L_i$ : 0 nH				

Routine tests

Each piece of equipment shall be subjected to the routine tests for transformers in accordance with clause 11.2 of EN 60079-11. A test voltage of 1500 Vrms shall be applied between T400A pins 1,2 and T400B pins 1 – 6 for a minimum of 60 s without breakdown resulting in more than 5 mArms flowing. Alternatively a test voltage of 1800 Vrms for a minimum of 1 s may be used.

[16]

Descriptive Documents

The scheduled drawings are listed in the report no. provided under item no. [ 8 ] on page 1 of this EU-Type Examination Certificate.

[17]

Specific conditions of use:

- For installations in which both the  $C_i$  and  $L_i$  of the Intrinsically Safe apparatus exceeds 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. The reduced capacitance of the external circuit (including the cable) shall not exceed 1uF for Groups I, IIA and IIB and 600 nF for Group IIC.
- Isolation in accordance EN 60079-11 clause 6.3.13 is not provided between separate intrinsically safe circuits. Isolation in accordance with EN 60079-11 clause 6.3.13 is provided between non-intrinsically safe circuits and intrinsically safe circuits.
- For hazardous location, the unit shall be installed in a certified Ex enclosure with a minimum ingress protection of at least IP54 in accordance with EN 60079-15, that must have a door or cover accessible only by the use of a tool.
- The unit shall be installed in an area of not more than Pollution Degree 2 according to EN 60664-1.

[13]

## Schedule

[14]

# EU-TYPE EXAMINATION CERTIFICATE No. DEMKO 18 ATEX 2017X Rev. 0

[18]

### Essential Health and Safety Requirements

The Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9.

### Additional information

The trademark  or  will be used as the company identifier on the marking label.

The manufacturer shall inform the notified body concerning all modifications to the technical documentation as described in Annex III to Directive 2014/34/EU of the European Parliament and the Council of 26 February 2014.

Accredited by DANAK under registration number 7011 to certification of products.