D6212

SIL2 2/4-Wire Transmitter Power Supply

Models D6212Q

INSTRUCTION MANUAL

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1. CHARACTERISTICS

General Description:
The quadruple channel Repeater Power Supply D6212Q provides a fully floating DC supply for energizing conventional 2-wire 0/4-20 mA transmitters, and repeats the current to drive a load in applications requiring SIL 2 level (according to IEC 61508:2010) in safety related systems for high risk industries.

Function:
4 channels analog input for 2-wire loop powered transmitters (or separately powered inputs, only for channels 1 and 2), providing isolation between input, output and supply, and current source output signals. The module is fully configurable to achieve any desired input/output combination: any number of outputs can be independently linked to each input. Output function can be configured as: adder, subtractor, low/high selector. An optically coupled open-drain alarm output with user-settable trip point is also provided.
Modbus RTU RS-485 output is available on Bus connector to interface digital device.

Configurability:
Totally software configurable (no jumpers or switches), by PC via USB with PPC5092 adapter and related configurator software or by RS485 Modbus output, in order to choose: input signal range, linear or reverse output signal, alarm trip point, low, high, window or fault repeater alarm mode, hysteresis, delay time.

Mounting on standard DIN-Rail, with or without Power Bus, or on customized Termination Boards.

2. TECHNICAL DATA

Supply:

24 Vdc nom (21.5 to 30 Vdc) reverse polarity protected, ripple within voltage limits ≤ 5 Vpp, 2 A time lag fuse internally protected.
Current consumption @ 24 V: 200 mA max. with 20 mA input/output for 4 channels.
Power dissipation: 2.75 W max. with 24 V supply voltage and 20 mA input/output for 4 channels.

Isolation (Test Voltage):

In/Out 1.5 KV; In/Supply 1.5 KV; Out/Supply 500 V; In/Alarm 1.5 KV; Supply/Alarm 500 V; Out/Alarm 500 V.

Input:

0/4 to 20 mA (2 wire Tx current limited at ≈ 25 mA) and separately powered inputs (only for channels 1 and 2).

Transmitter line voltage:
14.5 V typical at 20 mA with max. 20 mVrms ripple, 14.0 V minimum.

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Integration time: 500 ms.
Resolution / Visualization: 1 µA.

Fault: Out-of-range (burnout) fault detection can be enabled or disabled. Any analog output can be programmed to detect fault condition forcing downscale or highscale.
Alarm can be programmed to detect fault condition. Fault conditions are also signalled via Power Bus or Termination Board and by a red LED on the front panel (one for each channel).

Out-of-range: low and high separated trip point values are fully programmable.

Fault detection: To acquire the cumulative fault signal on the power bus, GM D5202S or D5203S module must be used. For details on their features and differences, see proper documentation - datasheet and instruction manual - for these models.

Output:

0/4 to 20 mA, on max. 300 Ω load source mode, current limited at about 25 mA.
Response time: 100 ms max. (10 to 90 % step change).
Output ripple: ≤ 20 mVrms on 250 Ω.
Modbus Output: for parameter configuration and burnout / fault indication. Modbus RTU protocol up to 57.6 Kbit/s with RS-485 connection on Power Bus connector.

Alarm:

Trip point range: within rated limits of the input sensors.
Output: voltage free SPST photoMOS: 100 mA, 60 Vdc (≤ 1 V voltage drop).

Performance:

Ref. Conditions 24 V supply, 250 Ω loads, 23 ± 1 °C ambient temperature.
Calibration accuracy: ≤ ± 0.05 % of full scale on inputs and outputs.
Linearity error: ≤ ± 0.05 % of full scale on inputs and outputs.
Supply voltage influence: ≤ ± 0.02 % of full scale for a min to max supply change.
Load influence: ≤ ± 0.02 % of full scale for a 0 to 100 % load resistance change.
Temperature influence: ≤ ± 0.01% of input full scale and ≤ ± 0.005 % of output full scale for a 1 °C change.

Compatibility:

CE mark compliant, conforms to Directives: 2014/30/EU EMC, 2014/35/EU LVD, 2011/65/EU RoHS.

Environmental conditions:

Operating: temperature limits -40 to + 70 °C, relative humidity 95 %, up to 55 °C.
Storage: temperature limits -45 to + 80 °C.
Max altitude: 2000 m a.s.l.

Approvals:

SIL 2 conforms to IEC61508:2010 Ed.2.

Mounting:

EN/IEC60715 TH 35 DIN-Rail, with or without Power Bus or on customized Termination Board.
Weight: about 120 g.
Connection: by polarized plug-in disconnect screw terminal blocks to accomodate terminations up to 2.5 mm^2.
Protection class: IP 20.
Dimensions: Width 22.5 mm, Depth 123 mm, Height 120 mm.

3. ORDERING INFORMATION

3.1 Ordering codes

D6212Q: 4 channels

3.2 Accessories

Bus Connector JDFT050, Bus Mounting Kit OPT5096.

Programmable USB serial line Kit PPC5092 + SWC5090.

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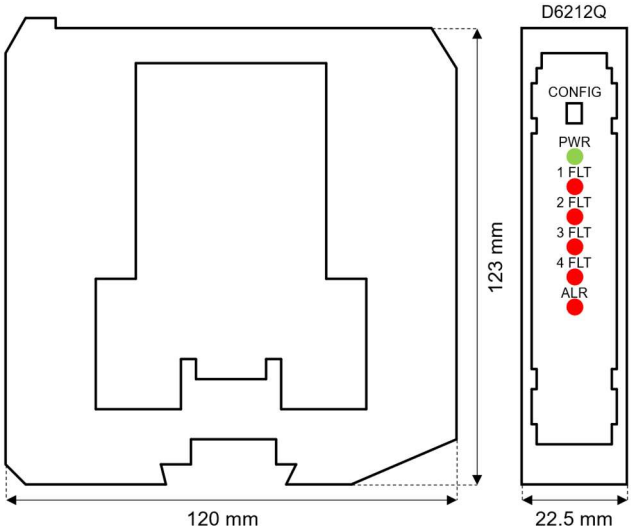
4. OVERALL DIMENSIONS



5. TERMINAL BLOCK CONNECTIONS

5.1 Field Side

13: + Input for 2 Wire Transmitters Ch 1
14: - Input for 2 Wire Transmiters Ch 1
15: + Input for 2 Wire Transmitters Ch 2
16: - Input for 2 Wire Transmitters Ch 2
17: + Input for 2 Wire Transmitters Ch 3
18: - Input for 2 Wire Transmitters Ch 3
19: + Input for 2 Wire Transmitters Ch 4
20: - Input for 2 Wire Transmitters Ch 4
21: + Input for External Powered Transmitters Ch 1
22: - Input for External Powered Transmitters Ch 1
23: + Input for External Powered Transmitters Ch 2
24: - Input for External Powered Transmitters Ch 2

5.2 >System Side

1: + Output Ch 1
2: - Output Ch 1
3: + Output Ch 2
4: - Output Ch 2
5: + Output Ch 3
6: - Output Ch 3
7: + Output Ch 4
8: - Output Ch 4
9: + Power Supply 24 Vdc
10: - Power Supply 24 Vdc
11: Alarm out
12: Alarm out

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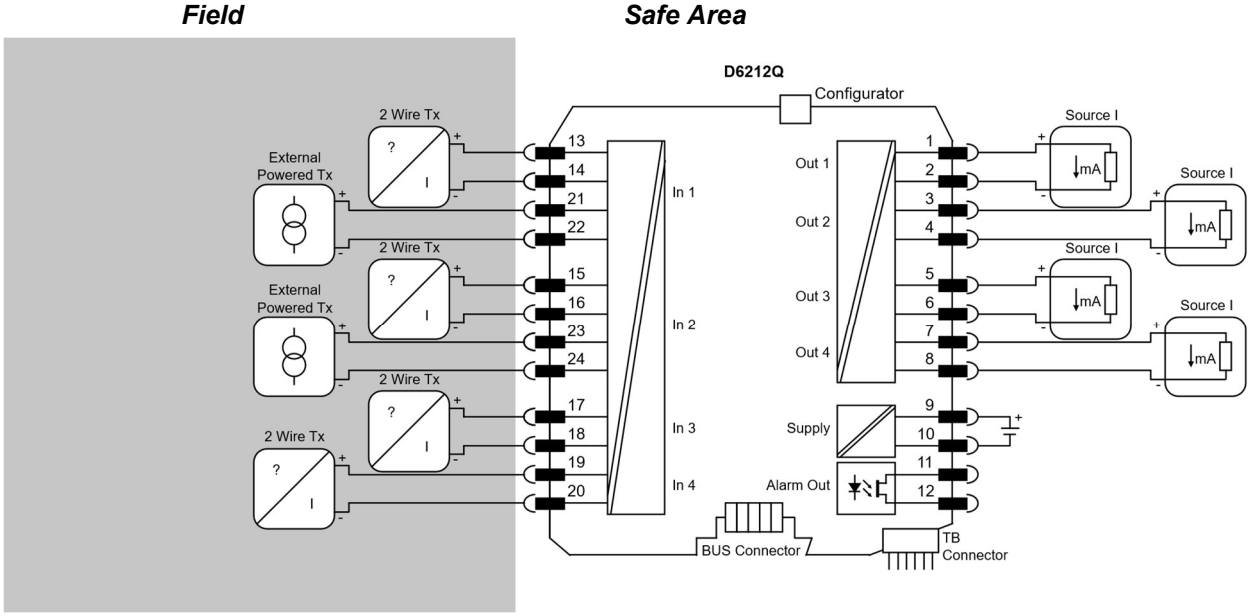
6. FUNCTION DIAGRAM



7. WARNING

D6212 must be installed, operated and maintained only by qualified personnel, in accordance to the relevant national/international installation standards.

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.

8. OPERATION

The quadruple channel Repeater Power Supply D6212Q provides a fully floating DC supply for energizing conventional 2-wire 0/4-20 mA transmitters, and repeats the currentto drive a load in applications requiring SIL 2 (according to IEC 61508:2010) in safety related systems for high risk industries.

4 channels analog input for 2-wire loop powered transmitters (or separately powered inputs, only for channels 1 and 2), providing isolation between input, output and supply, and current source output signals. The module is fully configurable to achieve any desired input/output combination: any number of outputs can be independently linked to each input. Output function can be configured as: adder, subtractor, low/high selector. An optically coupled open-drain alarm output with user-settable trip point is also provided.
Modbus RTU RS-485 output is available on Bus connector to interface digital device.

Presence of supply power is displayed by a “POWER ON” green signaling LED; fault for each channel and alarm conditions are signaled by related red front panel LED.

9. INSTALLATION

D6212 is a quadruple repeater power supply housed in a plastic enclosure suitable for installation on EN/IEC60715 TH 35 DIN-Rail, with or without Power Bus or on customized

Termination Board. D6212Q unit can be mounted with any orientation over the entire ambient temperature range.

Electrical connections 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. Connect only one individual conductor per each clamping point, use conductors up to 2.5 mm² (13 AWG) and a torque value of 0.5-0.6 Nm. Use only cables that are suitable for a temperature of at least 85°C. The wiring cables have to be proportionate in base to the current and the length of the cable.

On the section “Function Diagram” and enclosure side a block diagram identifies all connections.

Identify the function and location of each connection terminal using the wiring diagram on the corresponding section, as an example:

Connect 24 Vdc power supply positive at terminal “9” and negative at terminal “10”.

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Connect positive output of analog channel 1 (mA source mode) at terminal “1” and negative output (common to all channels) at “2” (channel 1).

For other channels connect terminals “3” and “4” for channel 2, terminals “5” and “6” for channel 3, “7” and “8” for channel 4.

Connect alarm output at terminals “11” and “12”.

In case of a 2 wire input transmitter, connect the wires at terminal “13” for positive and “14” for negative (channel 1), or “15” for positive and “16” for negative (channel 2), or “17” for positive and “18” for negative (channel 3), or “19” for positive and “20” for negative (channel 4). Note that positive terminals of all channels are in common.

For separately powered transmitters, connect input signal at terminal “21” for positive and “22” for negative (channel 1), or “23” for positive and “24” for negative (channel 2). Note that negative terminals of all channels are in common.

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 protection (or similar to NEMA Standard 250 type 1). The equipment shall only be used in an area of at least pollution degree 2, as defined in IEC 60664-1.

The end user is responsible to ensure that the operating temperature of the module is not exceeded in the end use application

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.

Any penetration of cleaning liquid must be avoided to prevent damage to the unit. Any unauthorized card modification must be avoided.
D6212Q unit must be connected to SELV or PELV supplies.

All circuits connected to D6212Q unit must comply with the overvoltage category II (or better) according to EN/IEC60664-1.

10. START-UP

Before powering the unit check that all wires are properly connected, particularly supply conductors and their polarity, input and output wires.

Check conductors for exposed wires that could touch each other causing dangerous unwanted shorts.

Turn on power, the “power on” green led must be lit, for 2 wire transmitter connection the supply voltage on each channel must be ≥ 14 V, output signal should be corresponding to the input from the transmitter, alarm LED should reflect the input variable condition with respect to trip points setting.
If possible change the transmitter output and check the corresponding output.

11. SWC5090 CONFIGURATION & MONITORING SOFTWARE

11.1 Configuration Parameters

The SWC5090 is able to continuously scan the module and display the real-time values on screen. Note that while the module is being monitored, configuration screens are disabled.

The display shows all the monitored parameters:

- Input: represents the value read from field.
- Output: represents the theoretical output value.
- Alarm status: is represented by a led, which is red when activated.
- Faults: is represented by a led, which is red when activated
- Graph: shows only the variable chosen from the monitored values box.

INPUT:

Out of range:

- Low threshold: input value below which the fault is triggered
- High threshold: input value above which the fault is triggered

Tag:

- 16 alphanumerical characters

OUTPUT:

Type:

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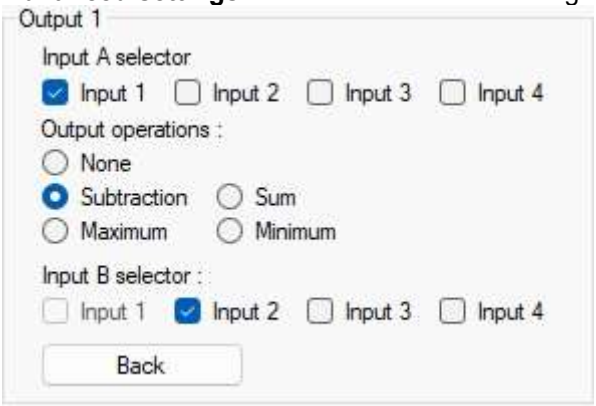
- 0-20 mA Source
- 4-20 mA Source
- Custom Source (all output parameters are fully customizable)

Downscale: analog output downscale in normal working condition (range 0 to 24 mA)
Upscale: analog output upscale in normal working condition (range 0 to 24 mA)
Under range: analog output value in under range condition (range 0 to 24 mA)
Over range: analog output value in over range condition (range 0 to 24 mA)
Fault output value: analog output value in case of fault condition (range 0 to 24 mA)
Fault in case of: analog output is forced to “Fault Output Value” when input is out of configured range
Advanced settings: When the advanced settings button is clicked, the following settings box is shown.



Input A selector:

- Input 1: output represent Input1
- Input 2: output represent Input2
- Input 3: output represent Input3
- Input 4: output represent Input4

Output operations:

- None: output operations are disabled.
- Subtraction: analog output represents the subtraction of the two selected input channels.
- Sum: analog output represents the sum of the two selected input channels.
- Maximum: analog output represents the higher of the two selected input ch.
- Minimum: analog output represents the lower of the two selected input channels.

Input B selector: (it is shown when the output operations selected is not None)

- Input 1: represents the second operand used for the output operation.
- Input 2: represents the second operand used for the output operation.
- Input 3: represents the second operand used for the output operation.
- Input 4: represents the second operand used for the output operation.

ALARM:

Type:

- None: alarm is disabled
- Low: alarm is triggered when input descends below “Low Set”
- High: alarm is triggered when input ascends above “High Set”
- Window: alarm is triggered below “Low Set” and above “High Set”

Alarm lock:

alarm is inhibited until source ascends above or descends below the configuration parameters, and then, it behaves as standard configuration.

Input A selector:

- **Input 1:** alarm is triggered on Input1
- **Input 2:** alarm is triggered on Input2

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- **Input 3:** alarm is triggered on Input3
- **Input 4:** alarm is triggered on Input4

Output operations:

- **None:** output operations are disabled.
- **Subtraction:** analog output represents the subtraction of the two selected input ch.
- **Sum:** analog output represents the sum of the two selected input channels.
- **Maximum:** analog output represents the higher of the two selected input channels
- **Minimum:** analog output represents the lower of the two selected input channels

Input B selector: (it is shown when the output operations selected is not None)

- **Input 1:** represents the second operand used for the output operation
- **Input 2:** represents the second operand used for the output operation
- **Input 3:** represents the second operand used for the output operation
- **Input 4:** represents the second operand used for the output operation

NO contact position in alarm:

- **Open:** alarm output is closed under regular working conditions, and it opens in case of alarm
- **Closed:** alarm output is open under regular working conditions, and it closes in case of alarm

Low Set:

input value below which the alarm is triggered (in Low, Window)

Low Hysteresis:

hysteresis on the low set value

High Set:

Input value above which the alarm is triggered

High Hysteresis:

hysteresis on the high set value

On Delay:

time for which the input has to be in alarm condition before the alarm output is triggered, configurable from 0 to 1000 seconds in steps of 100 ms

Off Delay:

time for which the input has to be in normal condition before the alarm output is deactivated, configurable from 0 to 1000 seconds in steps of 100 ms.

FAULT:

alarm is triggered when input is out of configured range

In case of fault:

- **Ignore:** alarm is not affected
- **Lock status:** remains in the same status as it was before fault occurred
- **Alarm active:** alarm is triggered
- **Alarm inactive:** alarm is deactivated

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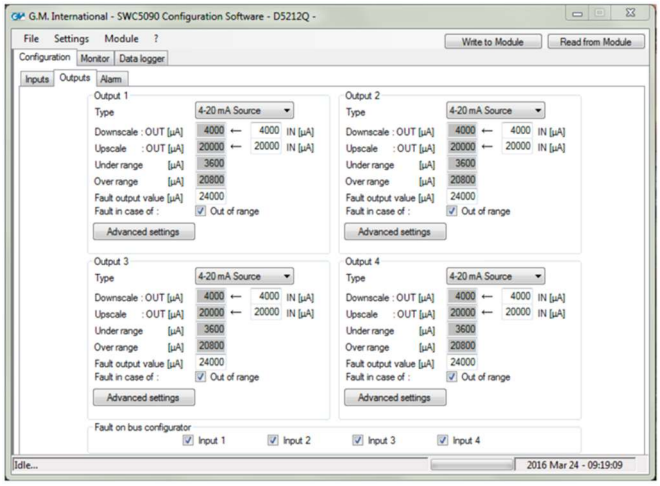
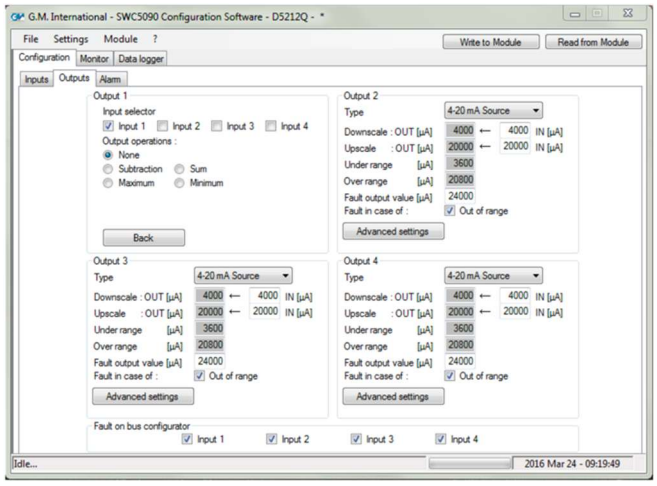
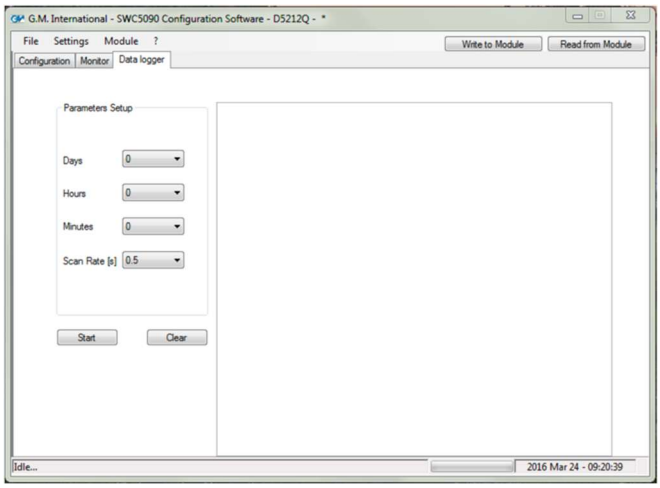
11.2 Screenshots



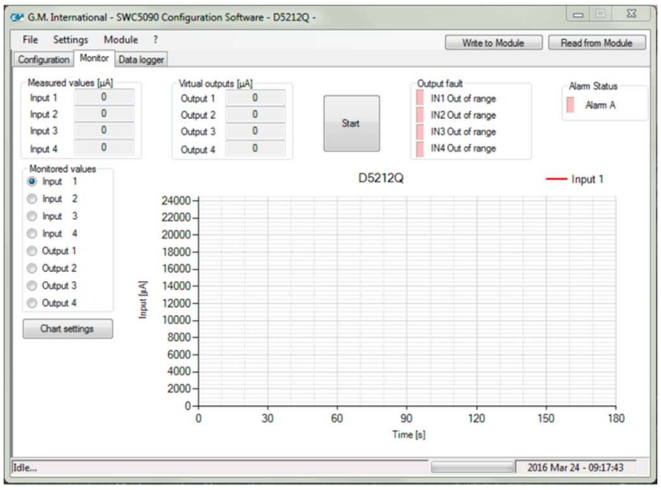
Output Configuration



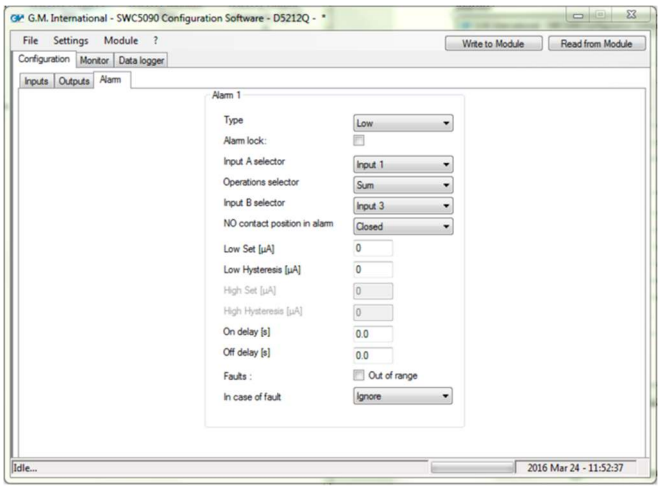
Output Advanced



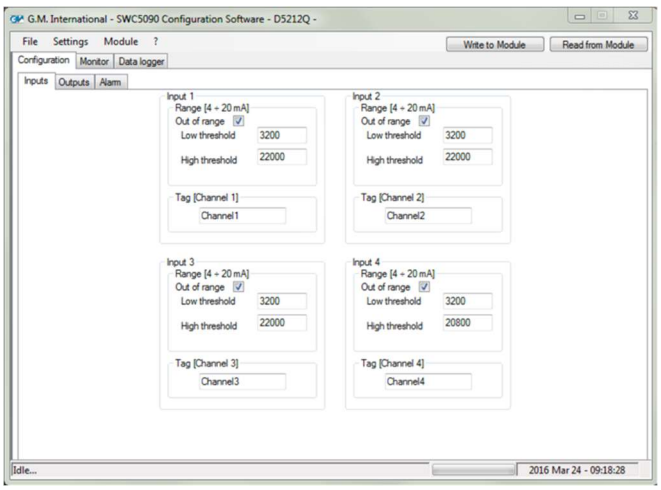
Data logger



Configuration Monitor



Alarm Configuration



Input Configuration

12. MODBUS PARAMETERS

12.1 Supported Modbus parameters

The unit can communicate via Modbus RTU RS-485 protocol. Below is a list of all available registers.

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Each Modbus parameter is described by one 16-bit word.

- 'Addr.' is the address of the parameter.
- 'Description' explains the function of the parameter.
- 'Rights' identifies the operation that can be executed by the user:
  RO (Read Only);
  WO (Write Only);
  RW (Read and Write).
- 'Type' indicates the kind of the variable:
  SINT8 / UINT8: signed / unsigned 8 bits integer;
  SINT16 / UINT16: signed / unsigned 16 bits integer;
  SINT32 / UINT32: signed / unsigned 32 bits integer;
  FLOAT: floating point single precision real;
  DOUBLE: floating point double precision real;
  the suffix '[n]' indicates an array of n elements of the corresponding type.

IDENTIFICATION DATA

Addr.	Description	Rights	Type
0	G.M. Factory Code	RO	UINT16
1	Instrument Code	RO	UINT16
2	Option Code	RO	UINT16
3	Hardware Release	RO	UINT16
4	Software Release	RO	UINT16
5 to 15	Reserved	RO	UINT16

COMMUNICATION DATA

Addr.	Description	Rights	Type
16	Modbus Address	RW	UINT16
17	Modbus Baudrate (*1)	RW	UINT16
18	Modbus Format (*2)	RW	UINT16

INPUT (FIELD) DATA

Addr.	Description	Rights	Type
64	Input1 measured value [100 nA]	RO	UINT32
66	Input2 measured value [100 nA]	RO	UINT32
68	Input3 measured value [100 nA]	RO	UINT32
70	Input4 measured value [100 nA]	RO	UINT32
72	Input1 fault (0: No fault, 1: Input out of range)	RO	UINT16
73	Input2 fault (0: No fault, 1: Input out of range)	RO	UINT16
74	Input3 fault (0: No fault, 1: Input out of range)	RO	UINT16
75	Input4 fault (0: No fault, 1: Input out of range)	RO	UINT16

INPUT (FIELD) CONFIGURATION

Addr.	Description	Rights	Type
102	Input1 Downscale [100 nA]	RW	UINT32
104	Input1 Upscale [100 nA]	RW	UINT32
106	Input1 Fault Switch (0: Ignore input fault, 1: Report input out of range)	RW	UINT16
107	Input1 Low Range Fault [100 nA]	RW	UINT32
109	Input1 High Range Fault [100 nA]	RW	UINT32

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Addr.	Description	Rights	Type
111	Input2 Downscale [100 nA]	RW	UINT32
113	Input2 Upscale [100 nA]	RW	UINT32
115	Input2 Fault Switch (0: Ignore input fault, 1: Report input out of range)	RW	UINT16
116	Input2 Low Range Fault [100 nA]	RW	UINT32
118	Input2 High Range Fault [100 nA]	RW	UINT32
120	Input3 Downscale [100 nA]	RW	UINT32
122	Input3 Upscale [100 nA]	RW	UINT32
124	Input3 Fault Switch (0: Ignore input fault, 1: Report input out of range)	RW	UINT16
125	Input3 Low Range Fault [100 nA]	RW	UINT32
127	Input3 High Range Fault [100 nA]	RW	UINT32
129	Input4 Downscale [100 nA]	RW	UINT32
131	Input4 Upscale [100 nA]	RW	UINT32
133	Input4 Fault Switch (0: Ignore input fault, 1: Report input out of range)	RW	UINT16
134	Input4 Low Range Fault [100 nA]	RW	UINT32
136	Input4 High Range Fault [100 nA]	RW	UINT32

OUTPUT CONFIGURATION

Addr.	Description	Rights	Type
160	Output1 Downscale [100 nA]	RW	UINT32
162	Output1 Upscale [100 nA]	RW	UINT32
164	Output1 Under Range [100 nA]	RW	UINT32
166	Output1 Over Range [100 nA]	RW	UINT32
168	Output1 Fault Current [100 nA]	RW	UINT32
170	Output1 Fault Mask (0: Ignore input fault, 1: Report input out of range)	RW	UINT16
172	Output1 InputA Selector (0: Input1, 1: Input2, 2: Input3, 3: Input4)	RW	UINT16
173	Output1 InputB Selector (0: Input1, 1: Input2, 2: Input3, 3: Input4)	RW	UINT16
174	Output1 Operation (0: None, 1: Sum, 2: Subtraction, 3: Maximum, 4: Minimum)	RW	UINT16
175	Output2 Downscale [100 nA]	RW	UINT32
177	Output2 Upscale [100 nA]	RW	UINT32
179	Output2 Under Range [100 nA]	RW	UINT32
181	Output2 Over Range [100 nA]	RW	UINT32
183	Output2 Fault Current [100 nA]	RW	UINT32
185	Output2 Fault Mask (0: Ignore input fault, 1: Report input out of range)	RW	UINT16
187	Output2 InputA Selector (0: Input1, 1: Input2, 2: Input3, 3: Input4)	RW	UINT16
188	Output2 InputB Selector (0: Input1, 1: Input2, 2: Input3, 3: Input4)	RW	UINT16

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Addr.	Description	Rights	Type
189	Output2 Operation (0: None, 1: Sum, 2: Subtraction, 3: Maximum, 4: Minimum)	RW	UINT16
190	Output3 Downscale [100 nA]	RW	UINT32
192	Output3 Upscale [100 nA]	RW	UINT32
194	Output3 Under Range [100 nA]	RW	UINT32
196	Output3 Over Range [100 nA]	RW	UINT32
198	Output3 Fault Current [100 nA]	RW	UINT32
200	Output3 Fault Mask (0: Ignore input fault, 1: Report input out of range)	RW	UINT16
202	Output3 InputA Selector (0: Input1, 1: Input2, 2: Input3, 3: Input4)	RW	UINT16
203	Output3 InputB Selector (0: Input1, 1: Input2, 2: Input3, 3: Input4)	RW	UINT16
204	Output3 Operation (0: None, 1: Sum, 2: Subtraction, 3: Maximum, 4: Minimum)	RW	UINT16
205	Output4 Downscale [100 nA]	RW	UINT32
207	Output4 Upscale [100 nA]	RW	UINT32
209	Output4 Under Range [100 nA]	RW	UINT32
211	Output4 Over Range [100 nA]	RW	UINT32
213	Output4 Fault Current [100 nA]	RW	UINT32
215	Output4 Fault Mask (0: Ignore input fault, 1: Report input out of range)	RW	UINT16
217	Output4 InputA Selector (0: Input1, 1: Input2, 2: Input3, 3: Input4)	RW	UINT16
218	Output4 InputB Selector (0: Input1, 1: Input2, 2: Input3, 3: Input4)	RW	UINT16
219	Output4 Operation (0: None, 1: Sum, 2: Subtraction, 3: Maximum, 4: Minimum)	RW	UINT16

FAULT CONFIGURATION

Addr.	Description	Rights	Type
220	Fault Bus Configuration (0: Input1, 1: Input2, 2: Input3, 3: Input4)	RW	UINT16

ALARM CONTROL

Addr.	Description	Rights	Type
240	Alarm Configuration (0: None, 1: Low, 2: High, 3: Window, 4: Fault repeater)	RW	UINT16
242	Alarm Startup Lock (0: Inactive,1: Active)	RW	UINT16
243	Alarm Fault Configuration (0: Ignore, 1: Lock status, 2: Alarm active, 3: Alarm inactive)	RW	UINT16
244	Alarm Fault Mask (0: Ignore input fault, 1: Report input out of range)	RW	UINT16
245	Contact Position in Case of Alarm (0: Open,1: Closed)	RW	UINT16
246	Delay to Alarm Issue [Expressed in tenths of seconds]	RW	UINT16

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Addr.	Description	Rights	Type
247	Delay to Alarm Removal [Expressed in tenths of seconds]	RW	UINT16
248	Alarm Low Threshold [100 nA]	RW	UINT32
250	Alarm Low Threshold Hysteresis [100 nA]	RW	UINT32
252	Alarm High Threshold [100 nA]	RW	UINT32
254	Alarm High Threshold Hysteresis [100 nA]	RW	UINT32
256	Alarm InputA Selector (0: Input1, 1: Input2, 2: Input3, 3: Input4)	RW	UINT16
257	Alarm InputB Selector (0: Input1, 1: Input2, 2: Input3, 3: Input4)	RW	UINT16
258	Alarm Operation Selector(0: None, 1: Sum, 2: Subtraction,3: Maximum, 4: Minimum)	RW	UINT16

COMMAND

Addr.	Description	Rights	Type
464	EEPROM Write (*3)	WO	UINT16

OUTPUT DATA

Addr.	Description	Rights	Type
548	Output 1 virtual value [100 nA]	RO	UINT32
553	Output 2 virtual value [100 nA]	RO	UINT32
558	Output 3 virtual value [100 nA]	RO	UINT32
563	Output 4 virtual value [100 nA]	RO	UINT32

ALARM DATA

Addr.	Description	Rights	Type
567	Alarm status (0: Inactive,1: Active)	RO	UINT16

TAGS

Addr.	Description	Rights	Type
600	Ch. 1 chars 0, 1	RW	UINT8[2]
601	Ch. 1 chars 2, 3	RW	UINT8[2]
602	Ch. 1 chars 4, 5	RW	UINT8[2]
603	Ch. 1 chars 6, 7	RW	UINT8[2]
604	Ch. 1 chars 8, 9	RW	UINT8[2]
605	Ch. 1 chars 10, 11	RW	UINT8[2]
606	Ch. 1 chars 12, 13	RW	UINT8[2]
607	Ch. 1 chars 14, 15	RW	UINT8[2]
608	Ch. 2 chars 0, 1	RW	UINT8[2]
609	Ch. 2 chars 2, 3	RW	UINT8[2]
610	Ch. 2 chars 4, 5	RW	UINT8[2]
611	Ch. 2 chars 6, 7	RW	UINT8[2]
612	Ch. 2 chars 8, 9	RW	UINT8[2]
613	Ch. 2 chars 10, 11	RW	UINT8[2]
614	Ch. 2 chars 12, 13	RW	UINT8[2]
615	Ch. 2 chars 14, 15	RW	UINT8[2]

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Addr.	Description	Rights	Type
616	Ch. 3 chars 0, 1	RW	UINT8[2]
617	Ch. 3 chars 2, 3	RW	UINT8[2]
618	Ch. 3 chars 4, 5	RW	UINT8[2]
619	Ch. 3 chars 6, 7	RW	UINT8[2]
620	Ch. 3 chars 8, 9	RW	UINT8[2]
621	Ch. 3 chars 10, 11	RW	UINT8[2]
622	Ch. 3 chars 12, 13	RW	UINT8[2]
623	Ch. 3 chars 14, 15	RW	UINT8[2]
624	Ch. 4 chars 0, 1	RW	UINT8[2]
625	Ch. 4 chars 2, 3	RW	UINT8[2]
626	Ch. 4 chars 4, 5	RW	UINT8[2]
627	Ch. 4 chars 6, 7	RW	UINT8[2]
628	Ch. 4 chars 8, 9	RW	UINT8[2]
629	Ch. 4 chars 10, 11	RW	UINT8[2]
630	Ch. 4 chars 12, 13	RW	UINT8[2]
631	Ch. 4 chars 14, 15	RW	UINT8[2]

12.2 Modbus parameters details

***1 Modbus Baudrate**

Bit pos.	Value	Description
0..2	0	baud rate = 4800 bit/s
	1	baud rate = 9600 bit/s
	2	baud rate = 19200 bit/s
	3	baud rate = 38400 bit/s
	4	baud rate = 57600 bit/s

***2 Modbus Format**

Bit pos.	Value	Description
0..1	0	8 data bit, no parity, 1 stop bit
	1	8 data bit, even parity, 1 stop bit
	2	8 data bit, odd parity, 1 stop bit
2..2	0	termination resistance off
	1	termination resistance on
3..3	0	32-bit endianness little
	1	32-bit endianness big

***3 EEPROM Write**

Bit pos.	Value	Description
0..3	1	Save Input/Output Configuration
	2	Save Modbus configuration
	8	Save Tags

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