PolyGard®2

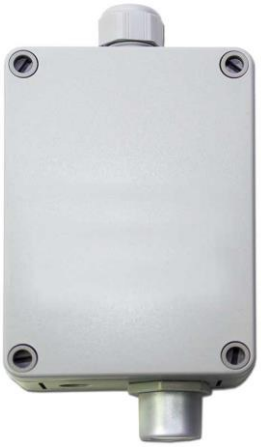
Sensor Board SB2

Sensor board with RS 485 interface for integration of the Sensor Cartridges SC2.

Up to three different Sensor Cartridges of the SC2 series can be connected to the Sensor Board via local bus. The SB2 provides the power supply of the SC2(s) and makes the measured data available for digital communication. Communication with the DGC06 controller takes place via the RS 485 fieldbus interface with DGC06 protocol. Other communication protocols for direct connection to superordinate BMS are available as well.

The SC is connected to the local bus via a plug connection enabling simple SC exchange instead of an on-site calibration. The internal X-Change routine recognizes the exchanging process and the exchanged SC and starts the measurement mode automatically. An LED indicates the correct procedure of the exchange operation.

As an alternative, the on-site calibration via the DGC06 Service Tool can be performed with the integrated, comfortable calibration routine.


Sensor board with 1x SC2 in housing

APPLICATION

The PolyGard®2 Sensor Board SB2 is used for integration of the SC2 Sensor Cartridge(s).

FEATURES

- Digital measurement value processing incl. temperature compensation
- Internal functional control with integrated Hardware Watchdog
- Data / measured values in µC Sensor Cartridge, therefore simple exchange of SC uncalibrated <> calibrated
- Up to three different Sensor Cartridges
- Sensor Cartridge can be mounted remotely with Remote Board (RB2), therefore adaptation to necessary mounting heights possible
- Software according to SIL2 compliant development process
- Modular technology (plug-in and replaceable)
- Easy maintenance and calibration by exchange of the sensor cartridge or by comfortable on-site calibration
- Serial RS 485 interface with protocol for DGC06. Modbus as option.
- 4 – 20 mA analog output (option)
- LCD display (option)
- Reverse polarity protected, overload and short-circuit proof
- IP 65 version (housing type A in delivery state)
- Conformity to
    - EN 50271,
    - EN 61010-1;
    - ANSI/UL 61010 1;
    - CAN/CSA-C22.2 No. 61010-1

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Sensor Board SB2

SPECIFICATIONS

Electrical	
Power supply	16 – 29 V DC, reverse-polarity protected
Power consumption (24 V DC)	10 mA (0.24 VA)
Output for local bus	5 V DC, 250 mA max. Overload, short-circuit and reverse-polarity protected
General	
Temperature range	-35 °C to +50 °C (-31 °F to 122 °F)
Humidity range	15 - 90 % RH not-condensing
Storage temperature	5 °C to 30 °C (41 °F to 86 °F)
Storage time	6 months
Serial interface	
Local bus	1-wire / 19200 Baud
Field bus	RS 485 / 19200 Baud
Tool bus	2-wire / 19200 Baud
Physical	
Wire connection: Field bus	Screw-type terminal min. 0.25 mm^2, max. 2.5 mm^2 (24 to 10 AWG)
Local bus for SC	3-pin connector
Cable lengths local bus for Remote Sensor Board	Max. 5 m (16.4 ft.)
Directives	EMC directives 2014/30/EU CE Conformity to: EN 50271 EN 61010-1:2010 ANSI/UL 61010-1 CAN/CSA-C22.2 No. 61010-1
Warranty	1 year on sensor (not if poisoned or overloaded) 2 years on device
Options	
LCD display	
LCD	Two lines, 16 characters each, background highlighted in two colours
Operation	Menu driven via six push-buttons
Power consumption	5 V, 60 mA, 0.3 VA
Analog output signal	Proportional, overload and short-circuit proof, load ≤ 500 Ohm 4 - 20 mA = measuring range 3.0 <4 mA = underrange > 20 - 21.2 mA = overrange 2.0 mA = fault

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Sensor Board SB2

ORDERING INFORMATION

SENSOR BOARD SB2

SB2 -**X** **X** **0** **X** **X** **0** **0** **X** **0**

WARNING DEVICES[1]
0 **Without built-on warning device**

DISPLAY[1]
0 **Without display**
2 With display/keypad

ANALOG INPUT[1]
0 **No analog input**

DIGITAL INPUT[1]
0 **No digital input**

OUTPUT SIGNAL – ANALOG / BUS
2 **RS 485 with DGC 06 protocol**
3 Analog output & RS 485 with DGC 06 protocol, not in connection with remote board
4 RS 485 with Modbus protocol
5 Analog output & RS 485 with Modbus protocol, not in connection with remote board
8 MSR_D_Bus

VISUAL/ AUDIBLE WARNING DEVICES[1]
0 **Without visual / acoustic indicator**
1* Buzzer
3 Buzzer & status-LED red

ALARM RELAYS[1]
0 **No alarm relay**

POWER SUPPLY
1* 12 V DC[1]
2 **24 V DC**
7* 90 – 240 V AC / 24 V DC, 15 VA[1]
8* UPS 90 – 240 V AC /12 V DC, 15 VA, 0.8 Ah[1]
9* UPS 90 – 240 V AC /24 V DC, 15 VA, 0.8 Ah[1]

HOUSING
0 Without housing
A **Housing type A 90 x 130 x 57**
C Housing type C 130 x 130 x 75
K* Housing type K ATEX Ø 95 x 82
5 Housing type 5 stainless steel (113 x 135 x 45 mm)[2]

[1] Not in stainless steel housing
[2] Only for integration of one sensor cartridge

*** only on request**

Standard version: SB2-A-2-0-0-2-0-0-0-0

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REMOTE BOARD RB2

RB2- **X** **1XXXXXXX**

VERSION REMOTE BOARD

1XXXXXXX **Remote Board for remote connection of one SC2 at the SB2, only if AO of SB2 isn't used**

HOUSING

0 Without housing

A **Housing type A 90 x 130 x 57**

ELECTRICAL CONNECTION