

PERFECT SOLUTIONS FOR **GAS ALARM** SYSTEMS



Technical Datasheet



Sensor Board Bxxx

DESCRIPTION

Sensor board with RS-485 interface for integration of the sensor cartridges series

Up to three different Sensor Cartridges can be connected to the Sensor Board via local bus. The B_{xxx} provides the power supply of the Sensors and makes the measured data available for digital communication.

Communication protocols for direct connection to superordinate BMS are available as well.

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

FEATURES

- Digital measurement value processing incl. temperature compensation
- Internal functional control with integrated Hardware Watchdog
- Data / measured values stored in μ C Sensor Cartridge, therefore simple exchange of SC2 uncalibrated <-> calibrated
- Up to three different Sensor Cartridges
- Software according to SIL 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
- Reverse polarity protected, overload and short-circuit proof
- IP65 version (housing type A in delivery state)
- Serial RS-485 interface with protocol for DGC-06 or Modbus
- Sensor Cartridge can be mounted remotely with Remote Board (RB2), therefore adaptation to necessary mounting heights possible (option)
- Warning module consisting of buzzer and status LED red (option)
- Display (option)
- Conformity to:
 - EN 50271
- ANSI/UL 61010 1 & CAN/CSA-C22.2 No. 61010-1 (optional)

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
Overvoltage category	I
SERIAL INTERFACE	
Local bus	1-wire / 19200 Baud
Field bus	RS-485 / 19200 Baud
Tool bus	2-wire / 19200 Baud
AMBIENT CONDITIONS	
Temperature range	-35 °C to +60 °C (-31 °F to 140 °F)
Humidity range	15–90 % RH not-condensing
Pollution degree	2 (installation only indoors), not suitable for wet environment
Permissible height above sea level	1500 m (ca. 5000 ft.)
Storage temperature	5 °C to 40 °C (41 °F to 104 °F)
Storage time	6 months
PHYSICAL	
Housing	Type A
Material	Polycarbonate
Burning behaviour	UL 94 V2
Housing colour	RAL 7032 (light grey)
Dimensions W x B x D	94 x 130 x 57 mm (3.7 x 5.1 x 2.2 in.)
Weight	0.3 kg (0.7 lb)
Protection class (delivery status)*	NEMA 4X (IP 65)
Installation	Wall mounting
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 Board	Max. 5 m (16.4 ft.)
Knockout for integration of SC	3x M25 for M25 housing
REGULATIONS	
Directives	EMC directives 2014/30/EU CE EN 61010-1:2010 Conformity to: EN 50271 Option: 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	
DISPLAY	
LCD	2 lines, 16 characters each, background highlighted in 2 colours
Operation	Menu driven via 6 pushbuttons
Power consumption	5 V, 60 mA, 0.3 VA
WAO STATUS-LED/BUZZER	
Colour / mode	Red (fault)
Acoustic pressure	> 85 dB (A) (0.1 m distance)
Frequency	2300 Hz ± 300 Hz
Protection class	IP65

* If there are changes to the housing it has to be re-evaluated.

All specifications were collected under optimal test conditions.
We confirm compliance with the minimum requirements of the applicable standard.

ELECTRICAL CONNECTION

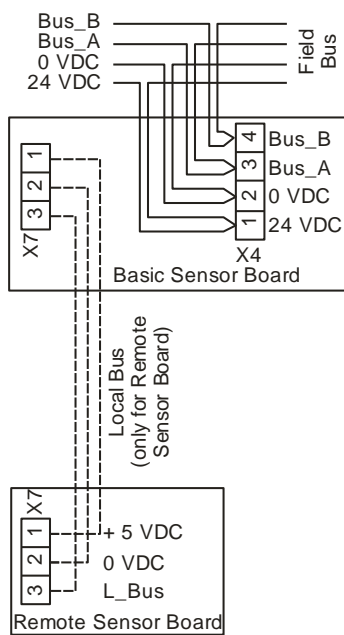


Fig. 1: Electrical connection of field bus and optional local bus

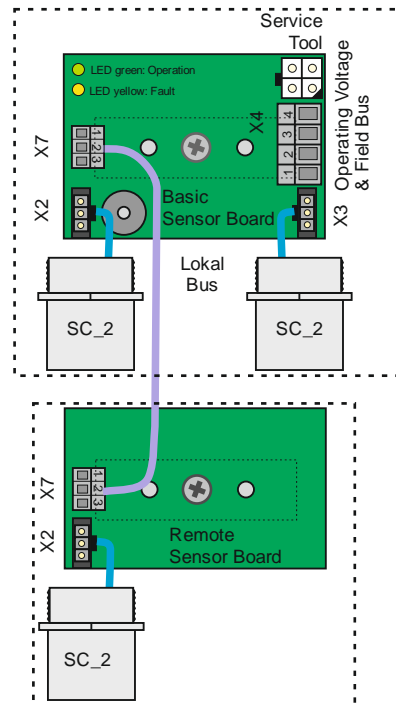


Fig. 2: Basic Sensor Board with Sensor Cartridge and with option Remote Sensor Board

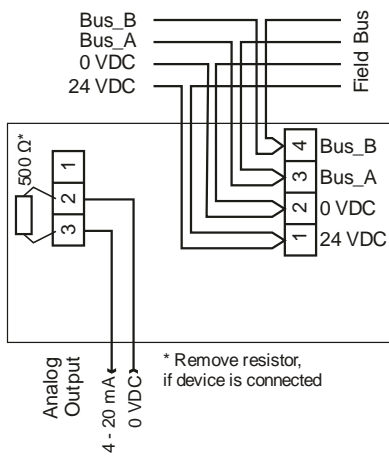


Fig. 3: Electrical connection with option analog output