

Solenoid / alarm driver

9203B

- Universal Ex driver for solenoids, acoustic alarms and LEDs
- Extended self-diagnostics
- 1 or 2 channels
- Can be supplied separately or installed on power rail, PR 9400
- SIL 2-certified via Full Assessment



Advanced features

- Universal I.S. driver for the control of solenoids etc. with various I.S. data by way of three built-in I.S. barriers.
- Two hardware versions make it possible to choose either Low (35 mA) or High (60 mA) current output.
- Configuration and monitoring by way of detachable display front (PR 4501).
- Selection of direct or inverted function for each channel via PR 4501 and the possibility of reducing the output current to the hazardous area to suit the application.
- Optional monitoring of the output current to the hazardous area by way of PR 4501.
- Optional redundant supply via power rail and/or separate supply.

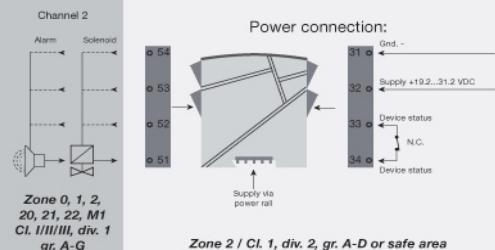
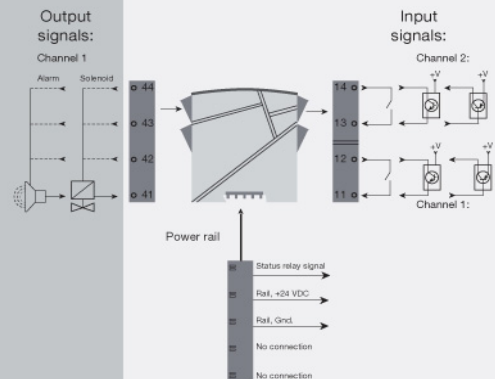
Application

- 9203B can be mounted in the safe area or in zone 2 / div. 2 and receive signals from zone 0, 1, 2 and zone 20, 21, 22 including mining / Class I/II/III, Div. 1, Gr. A-G.
- I.S. driver for the control of ON / OFF solenoids, acoustic alarms and LEDs mounted in the hazardous area.
- The 9203B is controlled by an NPN/PNP signal or a switch signal.
- Monitoring of internal error events via the individual status relay and/or a collective electronic signal via the power rail.
- The 9203B has been designed, developed and certified for use in SIL 2 applications according to the requirements of IEC 61508.

Technical characteristics

- 1 green and 2 yellow/red front LEDs indicate operation status and malfunction.
- 2.6 kVAC galvanic isolation between input, output and supply.

Connection



Environmental Conditions

Specifications range.....	-20°C to +60°C
Storage temperature.....	-20°C to +85°C
Calibration temperature.....	20...28°C
Relative humidity.....	< 95% RH (non-cond.)
Protection degree.....	IP20
Installation in.....	Pollution degree 2 & measurement / overvoltage category II

Mechanical specifications

Dimensions (HxWxD).....	109 x 23.5 x 104 mm
Dimensions (HxWxD) w/ display 4501.....	109 x 23.5 x 116 mm
Weight approx.....	170 g
Weight incl. 4501 / 4511 (approx.).....	185 g / 270 g
DIN rail type.....	DIN EN 60715 - 35 mm
Wire size.....	0.13...2.08 mm ² AWG 26...14 stranded wire
Screw terminal torque.....	0.5 Nm

Common specifications

Supply voltage.....	19.2...31.2 VDC
Fuse.....	1.25 A SB / 250 VAC
Max. power consumption.....	≤ 3.5 W (2 channels)
Isolation voltage, test /working: Input to any.....	2.6 kVAC / 300 VAC reinforced isolation
Output 1 to output 2.....	1.5 kVAC / 150 VAC reinforced isolation
Status relay to supply.....	1.5 kVAC / 150 VAC reinforced isolation
Communications interface.....	Programming front 4501
Communications interface.....	Modbus communication enabler 4511
EMC immunity influence.....	< ±0.5% of span
Extended EMC immunity: NAMUR NE 21, A criterion, burst.....	< ±1% of span

Input specifications

Trig level LOW, NPN+switch.....	≤ 2.0 VDC
Trig level HIGH, NPN+switch.....	≥ 4.0 VDC
Max. external voltage, NPN+switch.....	28 VDC
Input impedance, NPN+switch.....	3.5 kΩ
Trig level LOW, PNP.....	≤ 8.0 VDC
Trig level HIGH, PNP.....	≥ 10.0 VDC
Max. external voltage, PNP.....	28 VDC
Input impedance, PNP.....	3.5 kΩ

Output specifications

Output ripple.....	< 40 mVRMS
Max. voltage, status relay.....	110 VDC / 125 VAC
Max. current, status relay.....	0.3 ADC / 0.5 AAC
Max. AC power, status relay.....	62.5 VA / 32 W

Approvals

EMC.....	EN 61326-1
LVD.....	EN 61010-1
ATEX.....	KEMA 07ATEX0147 X
IECEX.....	KEM 09.0001X
cFMus.....	3035277-C
UL.....	UL 61010-1
GOST R.....	Yes
GOST Ex.....	Yes
DNV Marine.....	Stand. f. Certific. No. 2.4
SIL 2.....	Certified & Fully Assessed acc. to IEC 61508