



## Pulse isolator

### 9202B

- Interface for NAMUR sensors and switches
- Extended self-diagnostics and detection of cable fault
- 1 or 2 channels
- Can be supplied separately or installed on power rail, PR type 9400
- SIL 2-certified via Full Assessment



#### Advanced features

- Configuration and monitoring by way of detachable display front (PR 4501).
- Selection of direct or inverted function for each channel via PR 4501.
- Advanced monitoring of internal communication and stored data.
- Optional redundant supply via power rail and/ or separate supply.
- SIL 2 functionality is optional and must be activated in a menu point.

#### Application

- 9202B can be mounted in the safe area or in zone 2 / Cl. 1 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.
- Pulse isolator for transmission of signals to the safe area from NAMUR sensors and mechanical switches installed in the hazardous area.
- Monitoring of error events and cable breakage via the individual status relay and/or a collective electronic signal via the power rail.
- The 9202B has been designed, developed and certified for use in SIL 2 applications according to the requirements of IEC 61508.

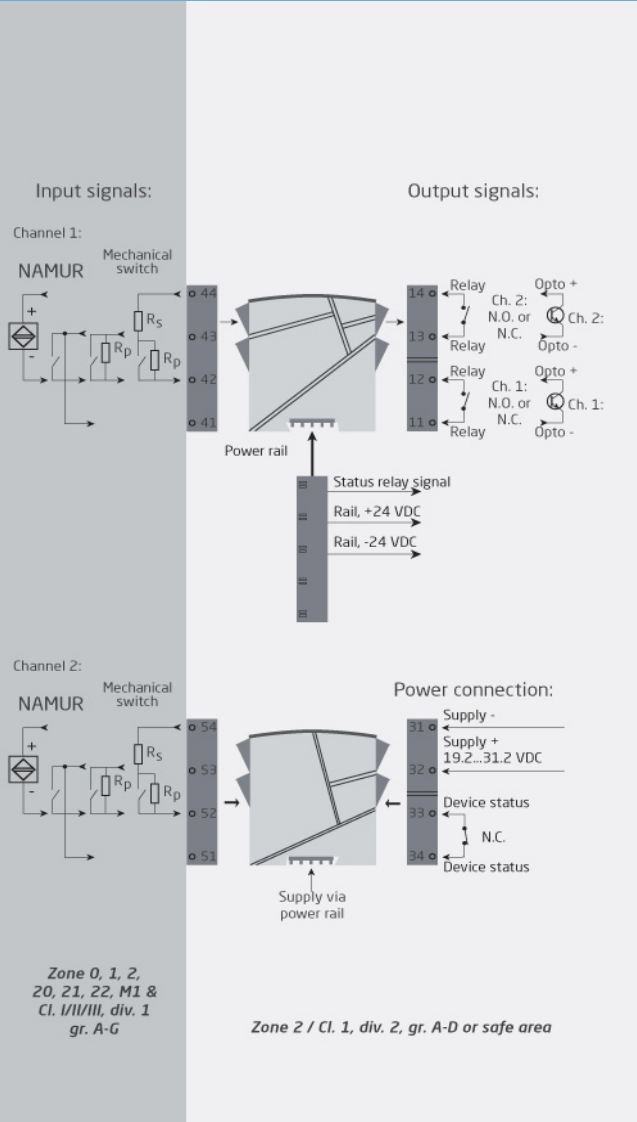
#### Technical characteristics

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

#### Mounting

- The devices can be mounted vertically or horizontally without distance between neighbouring units.

#### Connections



**Order:**

Type	Switch	Channels
9202B	Opto : 1	Single : A
	Relay N.O. : 2	Double : B
	Relay N.C. : 3	

**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 cat. II

**Mechanical specifications**

Dimensions (HxWxD).....	109 x 23.5 x 104 mm
Dimensions (HxWxD) w/ 4501 / 4511.....	109 x 23.5 x 116 / 131 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 <sup>2</sup> AWG 26...14 stranded wire
Screw terminal torque.....	0.5 Nm
Vibration.....	IEC 60068-2-6 : 2007
Vibration: 2...13.2 Hz.....	±1 mm
Vibration: 13.2...100 Hz.....	±0.7 g

**Common specifications****Supply**

Supply voltage.....	19.2...31.2 VDC
---------------------	-----------------

**Isolation voltage**

Test /working: Input to any.....	2.6 kVAC / 300 VAC reinforced isolation
Analog output to supply.....	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

**Auxiliary supplies**

NAMUR supply.....	8 VDC / 8 mA
Fuse.....	400 mA SB / 250 VAC
Max. required power.....	≤ 3 W (2 channels)
Programming.....	Communication enabler 4511 / Programming front 4501
Response time for cable fault.....	< 200 ms

**Input specifications**

Sensor types.....	NAMUR according to EN 60947-5-6 / mechanical contact
Frequency range.....	0...5 kHz
Min. pulse length.....	> 0.1 ms
Input resistance.....	Nom. 1 kΩ
Trig level, signal.....	< 1.2 mA, > 2.1 mA
Trig level, cable fault.....	< 0.1 mA, > 6.5 mA

Whilst every effort has been made to ensure the accuracy of this specification, we cannot accept responsibility for damage, injury, loss or expense from errors or omissions. In the interest of technical improvement, this specification may be altered without notice.

**Output specifications****Relay output**

Max. switching frequency.....	20 Hz
Max. voltage.....	250 VAC / 30 VDC
Max. current.....	2 AAC / 2 ADC
Max. AC power.....	500 VA / 60 W

**Status relay**

Max. voltage.....	110 VDC / 125 VAC
Max. current.....	0.3 ADC / 0.5 AAC
Max. AC power.....	62.5 VA / 32 W

**NPN outputs**

Max. switching frequency.....	5 kHz
Min. pulse length.....	> 0.1 ms
Max. load, current / voltage.....	80 mA / 30 VDC
Voltage drop at 80 mA.....	< 2.5 VDC

**Observed authority requirements**

EMC.....	2014/30/EU
LVD.....	2014/35/EU

**Approvals**

ATEX 2014/34/EU.....	KEMA 07ATEX0146 X
IECEx.....	KEM 06.0039X
FM.....	3034430-C
INMETRO.....	NCC 12.1307 X
UL.....	UL 61010-1
EAC.....	TR-CU 020/2011
EAC Ex TR-CU 012/2011.....	RU C-DK.GB08.V.00410
CCOE.....	P337349/5
DNV-GL Marine.....	Stand. f. Certific. No. 2.4
SIL.....	SIL 2 certified & fully assessed acc. to IEC 61508

For pricing or any further information, please contact Omni Instruments Ltd.



Measurement and data acquisition solutions

**Contact Details:**

Tel: +44 845 9000 601  
 Fax: +44 845 9000 602  
 Local Tel: 01382 443000  
 Email: info@omni.uk.com

**Mailing Address:**

Suite E, East Kingsway Business Centre,  
 Mid Craigie Trading Estate, Mid Craigie Road,  
 Dundee, DD4 7RH, UK