PERFORMANCE MADE SMARTER



Pulse isolator

9202A

– 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

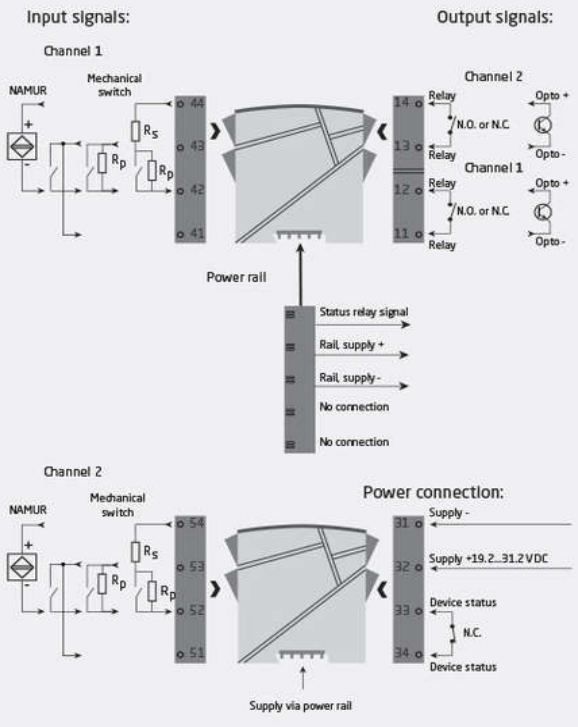
Advanced features
- Configuration and monitoring by way of detachable display front (PR 4500).
- Selection of direct or inverted function for each channel via PR 4500.
- Advanced monitoring of internal communication and stored data.
- Optional redundant supply via power rail and/ or separate supply.
- SIL 2 functionality is optional and must be activated in a menu point.

Application
- 9202A can be mounted in the safe area and in zone 2 / Class 1, Division 2, Group A, B, C, D.
- Pulse isolator for transmission of signals from NAMUR sensors and mechanical switches.
- Monitoring of error events and cable breakage via the individual status relay and/or a collective electronic signal via the power rail.
- The 9202A has been designed, developed and certified for use in SIL 2 applications according to the requirements of IEC 61508.
- Suitable for the use in systems up to Performance Level “d” according to ISO-13849.

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.

Applications



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Order

Type	Version	Unit channels	I.S. / Ex approvals
9202A	Opto : 1 Relay N.O. : 2 Relay N.C. : 3	Single : A Double : B	ATEX, IECEx, FM, INMETRO, CCC, EAC-Ex, UKEX : - UL 913, ATEX, IECEx, FM, INMETRO, CCC, EAC-Ex, UKEX : -U9 KCs, ATEX, IECEx, FM, INMETRO, CCC, EAC-Ex, UKEX : -KCs

Example: 9202A2B

Environmental Conditions

Operating temperature ..... -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 & meas. / overvoltage cat. II

Mechanical specifications

Dimensions (HxWxD) ..... 109 x 23.5 x 104 mm
Dimensions (HxWxD) w/ PR 4500 ..... 109 x 23.5 x 131 mm
Weight approx ..... 170 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
Vibration ..... IEC 60068-2-6
2...13.2 Hz ..... ±1 mm
13.2...100 Hz ..... ±0.7 g

Common specifications

Supply

Supply voltage ..... 19.2...31.2 VDC
Fuse ..... 400 mA SB / 250 VAC
Max. required power ..... ≤ 1.1 W...≤ 1.3 W / ≤ 1.5 W...≤ 1.9 W (1 / 2 ch.)
Max. power dissipation, 1 / 2 ch ..... ≤ 1.2 W / ≤ 1.6...1.8 W

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

Auxiliary supplies

NAMUR supply ..... 8 VDC / 8 mA

Programming ..... PR 4500 communication interfaces
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

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

NPN output

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

Observed authority requirements

EMC ..... 2014/30/EU & UK SI 2016/1091
LVD ..... 2014/35/EU & UK SI 2016/1101
ATEX ..... 2014/34/EU & UK SI 2016/1107
RoHS ..... 2011/65/EU & UK SI 2012/3032
EAC ..... TR-CU 020/2011
EAC Ex ..... TR-CU 012/2011
EAC LVD ..... TR-CU 004/2011

Approvals

ATEX ..... KEMA 07ATEX0146 X
IECEx ..... KEM 06.0039X
UKEX ..... DEKRA 21UKEX0179X
c FM us ..... FM19US0055X / FM19CA0028X
c UL us, UL 61010-1 ..... E314307
c UL us, UL 913 ..... E233311 (only 9202xxx-U9)
CCC 2020322309003424
KCs ..... 21_AV4BO_0181X (only 9202Axx-KCs)
EAC Ex ..... RU C-DK.HA65.B.00355/19
DNV Marine TAA00000JD
ClassNK TA18527M
SIL ..... SIL 2 certified & fully assessed acc. to IEC 61508