PRODUCT INFORMATION

EN2-2EX

Intrinsically safe NAMUR amplifier

SICK
Sensor Intelligence.

- Cable fault detection
- 3-way galvanic separation

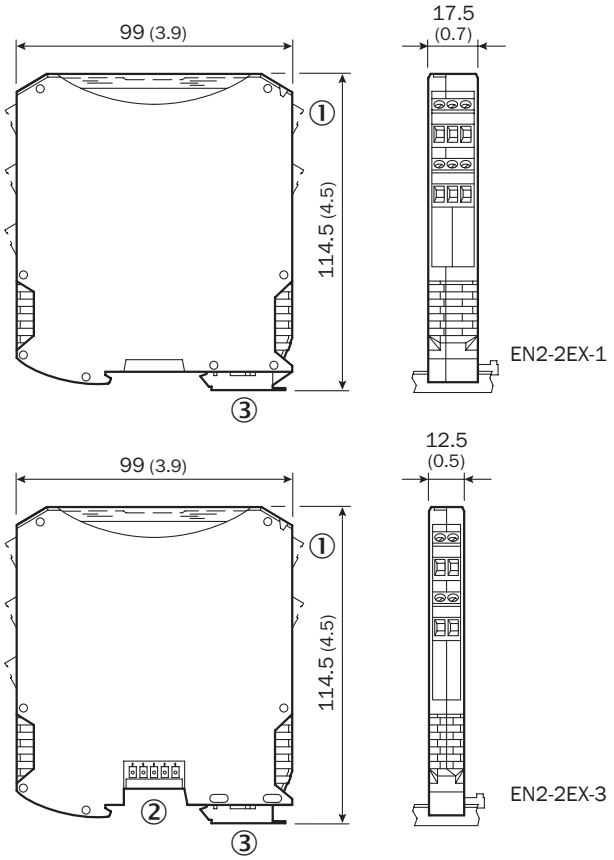
EN2-2EX-1:

- Universal supply voltage 24 ... 230 V AC/DC
- 2 channels with invertible SPDT relay

EN2-2EX-3:

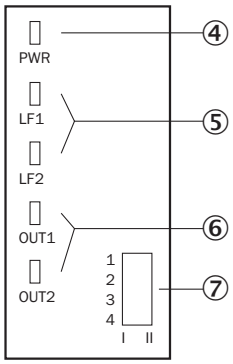
- 2 channels with invertible N/O relay
- Installation permissible in zone 2

Dimensional drawing



All dimensions in mm (inch)

Adjustments

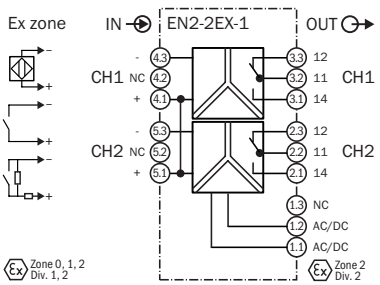


① Screw terminals
② DIN rail mounting
③ Metal lock for DIN rail mounting
④ LED PWR (green), active operating voltage
⑤ LED LF1/LF2 (red), cable fault
⑥ LED OUT1/OUT2 (yellow), relay output
⑦ Switch DIP1 ... DIP4

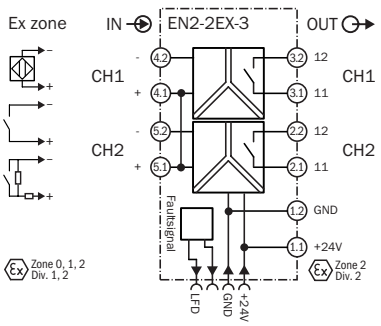
Channel 1	Channel 2		
DIP1	DIP3	I	Normal phase
DIP1	DIP3	II	Reverse phase
DIP2	DIP4	I	Cable fault detection switched off
DIP2	DIP4	II	Cable fault detection switched on

Connection diagram

EN2-2EX-1



EN2-2EX-3



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Subject to change without notice

Technical data	EN2-2EX -1	EN2-2EX -3
Supply voltage V_s	24 ... 230 V AC/DC[1]	19.2 ... 30 V DC
Power loss	< 1.3 W	< 1 W
Inputs	2	2
Open circuit voltage	8 V DC ± 10 %	8 V DC ± 10 %
EC-type examination certificate	IBExU 11 ATEX 1034	IBEX U10 ATEX 1022
Certification	Ex II (1)G [Ex ia Ga] IIC	Ex II (1)G [Ex ia Ga] IIC
	Ex II (1)D [Ex ia Da] IIIC	Ex II (1)D [Ex ia Da] IIIC
	Ex II 3 (1)G Ex nA nC [ia Ga] IIC T4 Gc X	Ex II 3 G Ex nA nC IIC T4 Gc X
Max. output voltage = U_0	9.6 V	9.6 V
Max. output current = I_0	10.3 mA	10 mA
Max. output Power P_0	25 mW	25 mW
Max. internal inductance L_i	Negligible	Negligible
Max. internal capacity C_i	Negligible	11 nF
Switching inputs	I < 1.2 mA (blocking)	I < 1.2 mA (blocking)
	I < 2.1 mA (conducting)	I < 2.1 mA (conducting)
Current consumption $I_{max.}$	80 mA	8 mA
Switch outputs[2]	2 alternating relays (1 per channel)	2 N/O relays (1 per channel)
Switching voltage $U_{max.}$	250 V AC (2 A, 60 Hz)	250 V AC (2 A)
	120 V DC (0.2 A)	120 V DC (0.2 A)
	30 V DC (2 A)	30 V DC (2 A)
Switching capacity $P_{max.}$	500 VA	500 VA
Switching behavior	Invertible via DIP switch	Invertible via DIP switch
Switching frequency	20 Hz (without load)	20 Hz (without load)
Service life	Mechanical 10^7 switching operations	Mechanical 10^7 switching operations
Enclosure rating	IP 20	IP 20
Ambient temperature	Operation: –20 °C ... +60 °C	Operation: –20 °C ... +60 °C
	Storage: –40 °C ... +80 °C	Storage: –40 °C ... +80 °C
Housing material	Plastic	Plastic

[1] – 20 % ... + 10 %, 50 ... 60 Hz.

[2] With inductive or capacitive load, use suitable arc suppression.

Gas group	IIC				IIB			
EN2-2EX-1								
Maximum outer inductance L_0	100 mH	10 mH	1 mH		100 mH	10 mH	1 mH	
Maximum outer capacity C_0	0.5 µF	0.75 µF	1.2 µF		2.7 µF	3.9 µF	6.3 µF	
EN2-2EX-3								
Maximum outer inductance L_0	100 mH	5 mH	1 mH	10 µH	100 mH	5 mH	1 mH	10 µH
Maximum outer capacity C_0	510 nF	840 µF	1.2 µF	3.6 µF	2.7 µF	4.4 µF	6.3 µF	26 µF

Ordering information

Model name	Part no.
EN2-2EX-1	6041096
EN2-2EX-3	6041095

switching function table

Sensor at input		Input circuit	DIP switch				Output	LED	LED LF	Permissible for safety-related applications
			Channel 1		Channel 2		Relay contact	OUT		
Switch	NAMUR	Status	1	2	3	4	normally open	yellow	red	
open	blocking	OK	I	I	I	I	open			No
closed	conducting	OK	I	I	I	I	closed	X		No
open	blocking	OK	II	I	II	I	closed	X		No
closed	conducting	OK	II	I	II	I	open			No
	blocking	OK	I	II	I	II	open			Yes
	conducting	OK	I	II	I	II	closed	X		Yes
	any	wire break	I	II	I	II	open		X	Yes
	any	short circuit	I	II	I	II	open		X	Yes
	blocking	OK	II	II	II	II	closed	X		Yes
	conducting	OK	II	II	II	II	open			Yes
	any	wire break	II	II	II	II	open		X	Yes
	any	short circuit	II	II	II	II	open		X	Yes

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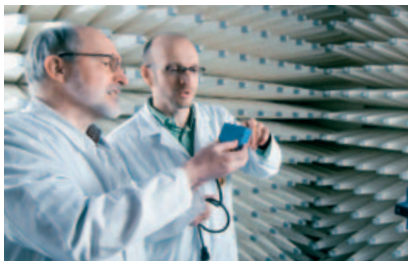
SICK at a glance



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