

EX
INTRINSICALLY SAFE RELAY/POWER SUPPLY



Flow
Pressure
Level
Temperature
measurement
monitoring
control

S1



- FM/CSA Approved
- Single and Dual Channel Versions
- Accepts NAMUR and Dry Contact Inputs
- SPDT Relay Output Rated 4 amps @ 250 VAC



Order from: **C A Briggs Company**
622 Mary Street; Suite 101; Warminster, PA 18974
Phone: 267-673-8117 - 800-352-6265; Fax: 267-673-8118
Sales@cabriggs.com - www.cabriggs.com

Model:
EX

Our line of intrinsically safe relay/power supplies is the ideal choice for communicating with switching devices in explosion hazardous areas. The EX series of devices meets FM Standard No. 3610 and all European Standards, making it usable on two continents.

The EX-3001 and EX-3002 are related products; The EX-3002 being two EX-3001's in a single package. Either unit may be used as a switching amplifier for NAMUR inductive and capacitive proximity sensors; as well as reed or micro-switches in hazardous areas.



Applications

- As a switching amplifier for small, NAMUR, inductive and capacitive proximity sensors.
- As an interface between nonhazardous areas and reed switches or micro-switches located in hazardous areas.

Function

Output relay changes state from de-energized to energized, or vice versa, depending upon the jumper selectable operating mode.

Device is actuated by:

- NPN-type proximity sensor or transistor
- Dry Contact closure
- Variable resistor
- Current (S) transition from less than 1.2 mA to greater than 2.1 mA

Specifications

Supply Voltage: 120 VAC, +5/-15 %
45-60 Hz

Power Consumption:
3.5 VA (approx.)

Maximum Relay (SPDT) Output

AC Rating: 250 VAC
4 A
500 VA (cos Ø = 0.7)

DC Rating: 110 VDC/0.2 A
60 VDC/0.6 A
24 VDC/4.0 A

Switching Frequency:
10 Hz Max.

Response Time (Approximate)

Energize: 10 ms
De-Energize: 20 ms

Approvals

- FM (USA)
- CSA (Canada)
- All European Approvals

EX-3001/3002

Control Circuit

Intrinsically safe as per FM Standard No. 3610, CSA, and all European Standards.

Open Circuit Voltage: 8 VDC (approx.)
Short Circuit Current: 8 mA (approx.)

The maximum allowable inductance and capacitance which may be connected to the control circuit are not to exceed the values in the chart below. These figures include field device and cable.

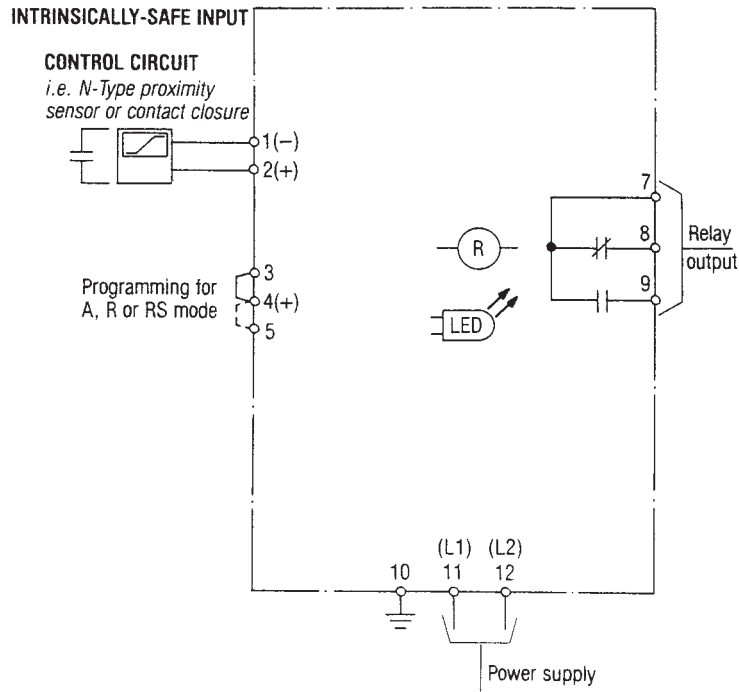
Model Number	NEC Groups	Inductance mH	Capacitance µF
EX-3001	A and B	34	0.6
	C	130	2.5
EX-3002	D	300	7.5

Ordering Information	
Model Number	Relays
EX-3001	1 SPDT
EX-3002	2 SPDT

Subject to change without prior notice.

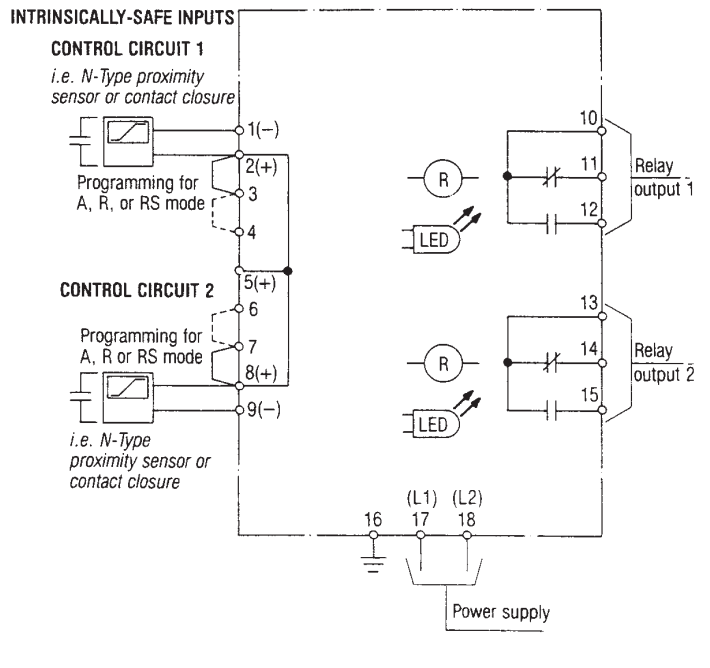
Wiring Diagrams

EX-3001



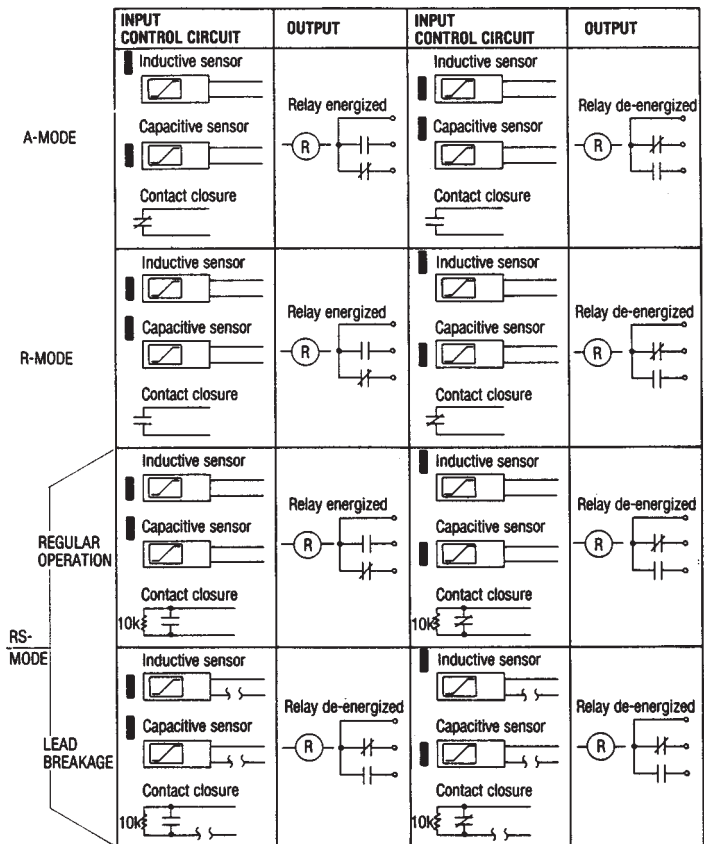
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EX-3002



EX Series Function Diagram

A, R and RS mode (comparison between N-type inductive sensor, N-type capacitive sensor and contact closure).



Lead breakage monitoring when using a contact closure is only possible if a 10kOhm resistor is connected in parallel with the contact at the contact point.

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