



## Relay Trips



## 260A Series Failsafe Limit Alarms

The 260A accepts a 4 to 20mA input signal and provides a dry contact relay output if the input exceeds a user-defined setpoint limit. Power is received from the input loop.

These alarm relays are ideal for local failsafe alarming with existing process transmitters. They are easily installed on a process loop because they do not require an additional power supply and feature a very low voltage burden. A long list of features allows the 260A to adapt to most applications.

### Input

4 to 20mA DC

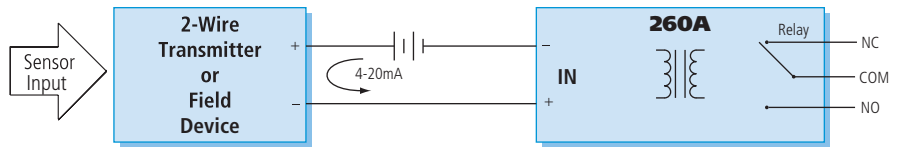
### Output

2A SPDT dry contact relay

### Power Requirement

4.5V DC (loop-powered)

## 260A Loop-Powered Limit Alarm



### Special Features

- Excellent accuracy and stability ensure reliable measurements in harsh industrial environments.
- RFI and EMI resistance minimize the effects of environmental noise.
- Loop-power design and low 4.5V DC voltage drop enable easy installation.
- Hi/low failsafe option trips alarms above or below setpoint.
- Automatic or manual reset option permits latching alarms.
- Adjustable setpoint (4 to 24mA) handles more applications.
- LED gives visual indication of alarm status.
- Six deadband levels (DIP switch select) offer further flexibility.
- 50mS response time delivers fast alarm notification.
- Compact, 1-inch wide housing uses less space for easier installation.

### Performance

#### Reference test conditions

Input: 4 to 20mA; Setpoint at 20mA (1.0VDC); Failsafe High Alarm; Deadband 0.5%; Ambient 77°F (25°C).

#### Input

##### Input

4 to 20mA input. Power to operate the loop-alarm is derived from the input signal loop. Input current should be limited to 50mA or less to prevent damage to the alarm. Alarm input is reverse polarity protected.

##### Input Impedance

225 ohms at 20mA (input voltage drop: 4.5V DC) typical.

##### Setpoint adjust

The alarm setpoint is adjustable from 0 to 125% of input current span, readable as 0V DC (0mA) to 1.2V DC (24mA) at terminals. Resolution is 0.1% of span, continuous, on 22-turn potentiometer. The setpoint voltage represents the true trip-point to within ±0.5% of span. By monitoring the input current and adjusting the setpoint pot, the setpoint may be set to within 0.1%.

##### Deadband adjust (hysteresis)

Field selectable deadband: 0.5, 1, 2, 4, 8 and 16 percent of span, set via an internal DIP switch.

*Continued on the next page.*



## ■ Performance

Continued from the previous page.

### ■ Output/Relays

#### Output

Single-Pole, Double Throw (SPDT), Form C, dry contact relay. Isolated contacts rated at 2A (3A max.), 28V DC or 120V AC resistive.

#### Relay

Contact material: Fine silver.

Breakdown: 500V AC across contact gaps.

Life: 1 Million operations at 1 amp, 28V DC.

Operation: failsafe, coil normally energized, de-energizes on alarm.

#### Alarm LED

The LED will be ON if the setpoint is exceeded (relay not energized).

#### Alarm action

Failsafe high or low alarm. Can be field configured to trip on increasing signal (Failsafe HI Alarm), or decreasing signal (Failsafe LOW Alarm), via an internal DIP switch (S2). Set S2 to C2 position for High Alarm, or the C1 position for Low Alarm. Relay is normally energized and becomes de-energized on alarm or signal failure.

#### Alarm latch

Automatic Reset (Non-Latching or Latching). Latch action enabled via internal DIP switch. In the Non-Latching mode, the alarm will reset to its non-alarm state as soon as the signal is outside of the selected deadband. In the Latched mode, the alarm will reset when the local Reset button is pushed. Latch action can be locked out by pushing down and turning the Reset button 1/4-turn to lock it in its depressed state, or via the on-board DIP switch.

#### Accuracy

Repeatable within  $\pm 0.1\%$  of input span for constant conditions (25°C).

#### Response time

The relay contacts switch from closed to open within 50mS for a step input change from 10% of span on one side of the alarm point, to 5% of span on the other side of the alarm point, for high or low alarms.

Minimum time between events: 100mSec.

## ■ Ordering Information

Select one option from each column. Example: 260A-20MA-SN-DIN-NCR-C

To order factory calibration, append "-C" to end of model number. Specify ranges on order.

Base	Input	Output	Mounting	Approval
260A	-20MA	-SN	-DIN -N4 -ST -N12 -SM -IH -IHW	-NCR

See Ordering Notes for model number descriptions.

### ■ Environmental

#### Ambient temperature range

-13 to 167°F (-25 to 75°C).

#### Ambient temperature effect

Less than  $\pm 0.01\%$  of output span per °F ( $\pm 0.018\%$  per °C) over the ambient temperature range for reference test conditions.

#### Isolation

The output contacts are isolated from the input/power circuits for common-mode voltages up to 250V AC, or 354V DC off ground, on a continuous basis (will withstand 1500V AC dielectric strength test for one minute without breakdown). This complies with test requirements outlined in ANSI C39.5-1974 for the voltage rating specified.

#### Noise rejection

Normal mode: 10dB at 60 Hz, typical.

#### RFI resistance

Unit will not trip, under influence of RFI, when input is  $\pm 0.5\%$  of input span from setpoint voltage, with RFI field strengths of up to 10V/meter at frequencies of 27, 151 and 467 MHz.

#### EMI resistance

Unit will not trip when input is  $\pm 0.25\%$  of input span from setpoint voltage with switching solenoids or commutator motors.

#### Surge withstand capability (SWC)

Input/Output terminations rated per ANS/IEEE C37.90-1978. Unit is tested to a standardized test waveform that is representative of surges (high frequency transient electrical interference), observed in actual installations.

### ■ Physical

#### Construction

Circuit board: Military grade FR-4 epoxy glass circuit board

Terminals: Compression type, 14 AWG max.

DIP switch contacts: Gold flash over Nickel contacts.

Printed circuit board coating: Fungus resistant acrylic conformal coat.

Mounting position: Position insensitive.

## ■ Ordering Notes

### Input Option

-20MA: 4 to 20mA

### Output Option

-SN: SPDT dry contact relay

### Mounting options

#### Mountings

-DIN: DIN rail G or T mount

-ST: SNAPTRACK mount

-SM: Surface-mount

#### External housings

-N4: NEMA 4, water-tight, holds two

-N12: NEMA 12, oil-tight, holds two

-IH: Rugged pipe mount housing, water-tight

-IHW: Same as -IH above with window

### Approval Options

-NCR: No certification required

## Ordering Notes

† Units are shipped separately from any optional enclosures (i.e. units are not installed in any external housing).

†† Units shipped installed in external enclosure.

## Accessories

### Power supplies

See Power Supplies on Page 199.

### DIN RAIL 3.0

### DIN RAIL 16.7

DIN rail strip, Type T, 3 inches (75mm) or 16.7 inches (425mm)

### 20RM-16-DIN

19" rack-mount kit with DIN rail. Holds sixteen 260A alarms.