

Trip amplifier

2231



- AC/DC trip amplifier
- 2 adjustable alarm limits
- Galvanically isolated 3.75 kVAC
- Front-programmable
- 3-digit LED display
- 24 VDC or universal supply



Advanced features

- The front-operated push buttons are used for programming the different standard functions.
- A password can prevent access for changing parameters.

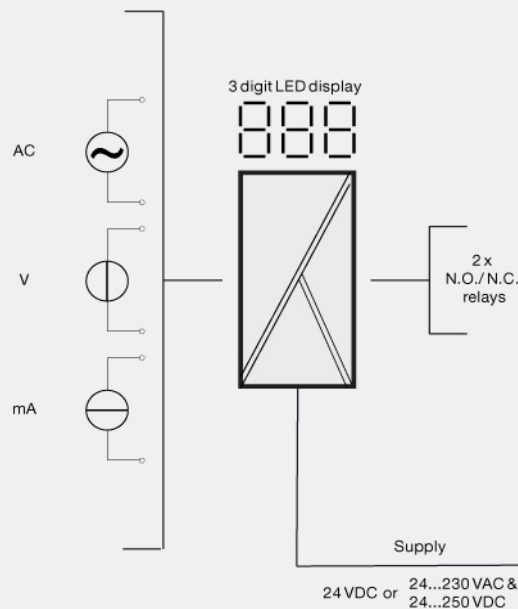
Application

- Alarm detector in connection with measurement of AC/DC current or voltage signals.
- The unit is used where accurate setpoint setting and different alarm functions are required.
- The unit can be used as a single or dual trip amplifier.
- Used in applications where programmable parameters such as hysteresis, setpoint, reset, active relay for increasing or decreasing signal, delay and input signal need to be set.

Technical characteristics

- 3-digit display showing the input signal in %.
- Two LED indicating relay status.
- 3 pushbuttons for programming.
- Standard DC current input signals in the range 0...20 mA.
- DC voltage signals in the range 0...250 VDC.
- AC current signals up to 1 A.
- True RMS measurement of AC voltage signals in the range 0...250 VAC.
- Mounting for a standard 11-pole socket which can be adapted for DIN rail or plate use with PR's 7023 adaptor and 7024 mounting keying.

Applications



Order:

| Type | Supply |
|------|--|
| 2231 | 24 VDC : D 24...230 VAC / : P 24...250 VDC |

Environmental Conditions

| | |
|------------------------------|----------------------|
| Operating temperature..... | -20°C to +60°C |
| Calibration temperature..... | 20...28°C |
| Relative humidity..... | < 95% RH (non-cond.) |
| Protection degree..... | IP50 |

Mechanical specifications

| | |
|---------------------------------------|---|
| Dimensions (HxWxD)..... | 80.5 x 35.5 x 84.5 mm (D is without pins) |
| Weight DC / universally supplied..... | 125 g / 175 g |

Common specifications**Supply**

| | |
|---------------------------------|--|
| Supply voltage..... | 19.2...28.8 VDC |
| Supply voltage, universal..... | 21.6...253 VAC, 50...60 Hz or 19.2...300 VDC |
| Internal power dissipation..... | 1.5 W (2231D) |
| Internal power dissipation..... | 2 W (2231P) |

Isolation voltage

| | |
|--|---------------------|
| Isolation voltage, test / working..... | 3.75 kVAC / 250 VAC |
| PELV/SELV..... | IEC 61140 |

Response time

| | |
|--------------------------------------|--|
| Response time (programmable)..... | 0.25...60 s (DC) |
| Response time (programmable)..... | 0.75...60 s (AC) |
| Updating time..... | 100 ms |
| Accuracy..... | Better than 0.1% of sel. range |
| Signal dynamics, input..... | 16 bit |
| Effect of supply voltage change..... | < ±0.002% of span / %V |
| Temperature coefficient..... | < ±0.01% of span /°C (DC signals) |
| Temperature coefficient..... | < ±0.02% of span /°C (AC signals) |
| Linearity error..... | < 0.1% of span |
| Linearity error..... | < ±0.35% of span 50...1000 Hz (AC sine wave signals) |
| EMC immunity influence..... | < ±0.5% |

Input specifications**Common input specifications**

| | |
|------------------|----------------------------|
| Max. offset..... | 50% of selected max. value |
|------------------|----------------------------|

Current input

| | |
|------------------------------------|-----------|
| Measurement range..... | 0...20 mA |
| Min. measurement range (span)..... | 10 mA |
| Input resistance..... | 50 Ω |

AC current input

| | |
|------------------------------------|------------|
| Measurement range..... | 0...1 ARMS |
| Min. measurement range (span)..... | 0.5 ARMS |
| Input resistance..... | 1 Ω / 2 W |

Voltage input

| | |
|------------------------------------|-------------|
| Measurement range..... | 0...250 VDC |
| Min. measurement range (span)..... | 0.5 VDC |
| Input resistance..... | Nom. 5 MΩ |

AC voltage input

| | |
|------------------------------------|--------------|
| AC voltage input..... | 0...250 VRMS |
| Min. measurement range (span)..... | 0.5 VRMS |
| Input resistance..... | Nom. 5 MΩ |

Output specifications**Relay output**

| | |
|--------------------------|-------------------|
| Hysteresis..... | 0...99.9% of span |
| ON and OFF delay..... | 0.0...99.9 s |
| Max. voltage..... | 250 VRMS |
| Max. current..... | 2 AAC |
| Max. AC power..... | 500 VA |
| Max. load at 24 VDC..... | 1 A |

Common output specifications

| | |
|--------------------------------------|-----------------------------------|
| Updating time..... | 100 ms |
| Relay outputs: Setpoint setting..... | 0...99.9% of span |
| of span..... | = of the presently selected range |

Observed authority requirements

| | |
|----------|----------------|
| EMC..... | 2014/30/EU |
| LVD..... | 2014/35/EU |
| EAC..... | TR-CU 020/2011 |