![Sensata Technologies logo]

# | SC-2002ALM-HL
## DUAL TRIP AMPLIFIER



The SC-2002ALM-HL trip amplifier can accept a wide range of user configurable inputs including 4-20mA, 0-20mA, 0-5V and 0-10V. The unit can have up to two relay outputs and each can operate as a high or a low trip; alternatively latching operation using both trip points can be configured.

The relay outputs are single pole changeover relays with mains voltage rating. Each trip can be configured so that the alarm condition can be above or below setpoint. The relays can be energized or de-energized in the alarm condition, satisfying fail-safe and non-fail-safe applications. In addition the alarm LEDs can be selected to light when the relay is either on or off. All these options are user-configurable using internal DIP switches. This minimizes the number of spare units required.

The input stage is fully isolated and the high level input current or voltage and range may be configured. Separate products are available for thermocouple and RTD inputs.

## Features

- Wide Range of User Configurable Inputs
- 2 Setpoints with Configurable Trip Action & Fail-safe mode
- Isolated Input Stage
- Setpoints Available as 0-10V, (0-100%) on terminals 9 & 12
- D.C or A.C. Power Supply Options, See SC-4002-ALM for Main Version

## Inputs

### SC-2002ALM-HL Standard Ranges

0-20mA, 4-20mA, 0-10mA into 12Ω/15Ω/24Ω
0-5V, 0-10V into 1MΩ

Min and Max Full Scale Ranges available to order:

| DC Current | 0 - 1mA | 0 - 5A |
|---|---|---|
| DC Voltage | 0 - 100mV | 0 - 300V |

Note: For input voltages greater than 60Vdc a Divider unit must be specified.

## Outputs

Mains Rated Relays - 3A resistive at 240V ac

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## SPECIFICATIONS

### Technical

| Parameter | Min | Typ | Max | Comments |
|-----------|-----|-----|-----|----------|
| Supply Voltage (V) | | 24V | | |
| Supply Current (mA) | | | 45 | 24Vdc supply, both relays energized |
| Volt Drop (mA input) | | 0.3 | 0.35 | At 20mA input |
| Input Impedance (Volt) | 100kΩ | 1MΩ | 10MΩ | Dependent on range (Typ=10V) |
| Input Impedance (mA) | 0.02Ω | 15Ω | 5kΩ | Dependent on range (Typ=4-20mA) |
| Trip Point Accuracy | | | 0.25% | |
| Trip Point Drift | | | ±100ppm/°C | |
| Temp Coefficient | | | ±100ppm/°C | |
| Hysteresis | | 1% span | | |
| Time Constant (10-90%) | | 10ms | | |
| Operating Ambient | 0°C | | 55°C | |
| Relative Humidity | 0% | | 90% | |
| Isolation Voltage* | 1kV | | | |
| Surge Voltage | 2.5kV for 50µS | | Transient of 10kV/µS | |

*Notes: Setpoints are adjusted by 20 turn potentiometers on the front panel. Setpoints can be checked by measuring the 0-10V (0-100%) voltage on terminals 9 &12 H/H,H/L, L/H, LL, fail-safe, non-fail safe and LED options are user selectable using internal links. Hysteresis is set at 1.0% but other values are possible, please specify if required.
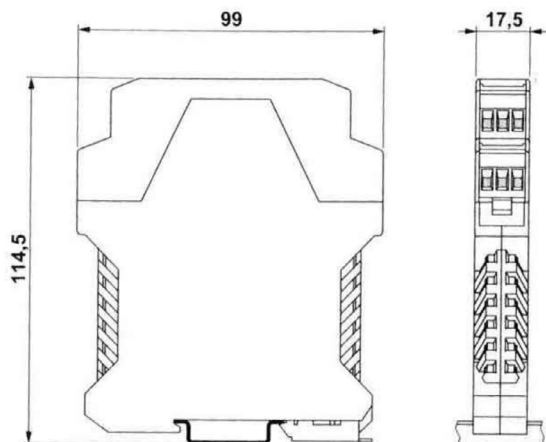
### Installation Data

| | |
|---|---|
| Mounting | DIN Rail TS35 |
| Orientation | Any |
| Connections | Screw Clamp with pressure plate |
| Conductor Size | 0.5-4.0mm |
| Insulation Stripping | 12mm |
| Weight | Approx 120g |

### Connection Details

| | |
|---|---|
| 10. Power Input -ve | |
| 11. Power Input +ve | |
| 7. Process Input -ve and Setpoint common | |
| 8. Process input +ve | |
| 9. Setpoint 1 (0-10V = 0-100%) | |
| 12. Setpoint 2 (0-10V = 0-100%) | |
| 1. Relay 1 Common | 4. Relay 2 Common |
| 2. Relay 1 N/C | 5. Relay 2 N/C |
| 3 . Relay 1 N/O | 6. Relay 2 N/O |

## DIMENSIONS

All dimensions are in millimeters.

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## ORDERING OPTIONS

Please supply
**Part Number** SC-2002ALM-HL

**Made in the UK**

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