



# 2002-ALM-TC/RTD

## DUAL TRIP AMPLIFIER

- Wide Range of Configurable Inputs
- Configurable Trip Action and Failsafe Mode
- Isolated Input Stage
- Setpoints Available on Front Panel
- D.C or A.C. Power Supply Options  
See 4002-ALM for Mains Version



### Description

The 2002-ALM family of trip-amplifiers can accept a wide range of inputs including thermocouple and RTD. The unit can have up to two relay outputs and each can operate as a high or a low trip.

The relay outputs are single pole change-over 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 energised or de-energised in the alarm condition, satisfying fail-safe and non-fail-safe applications. In addition the alarm LED's can be selected to light when the relay is either on or off. All these options may be specified at point of order but are user configurable using internal link selectors. This minimises the number of spare units required.

The input stage is fully isolated as an option and the input type can be user-configured. For the thermocouple and RTD input versions the device type and range are selectable. Again these can also be specified at point of order.

It is also possible to specify a latching function on the relay outputs, making the unit ideal for lock-out applications.

The unit can be powered from a wide range of power supplies, ranging from 12Vdc to 24Vac, please specify with order.

### Inputs

The input types and ranges included below are our standard ones only. Contact Sales for others.

#### 2002-ALM-TC for Thermocouples

Types E,J,K,N,R,S & T non-linearised  
Ranges 0-250, 0-500, 0-1200 $\equiv$ C (Others available)  
Auto cold junction compensation. Open cct t/c can drive either upscale or downscale.

#### 2002-ALM-RTD for Resistance Thermometers

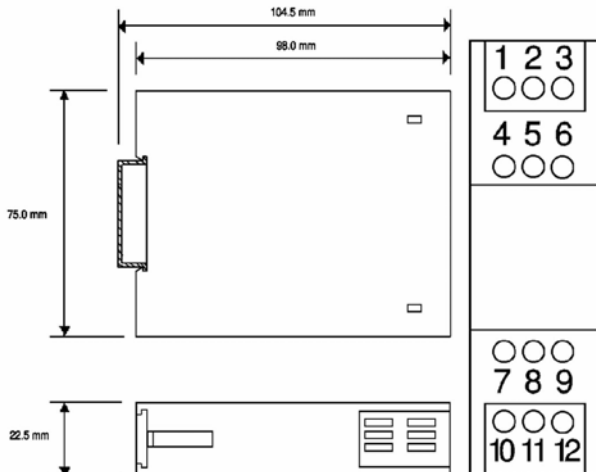
2 or 3 wire PT100 or other, linearised output  
Ranges 0-250, 0-500, -100-100 $\equiv$ C (Others available)

### Outputs

Mains Rated Relays 3A resistive at 240V ac  
Note: If one relay is switching > 115Vac the isolation between the two relay outputs is not safety isolation.

## Performance Characteristics

Parameter	Min	Typ	Max	Comments
Supply Voltage		24Vdc		Options: 12, 24Vdc, or 24Vac
Supply Current			45mA	24V Supply, Both Relays Energised
Input Impedance (T/C)		1M $\Omega$		
Trip Point Accuracy			$\pm 0.25\%$	
Temp Coefficient			$\pm 100\text{ppm}/\text{C}$	
Trip Point Drift			+100ppm/ $\text{C}$	
Time Constant (10-90%)		10ms		
Operating Ambient	0 $\text{C}$		55 $\text{C}$	
Relative Humidity	0%		90%	
Isolation Voltage	1kV			
Surge Voltage	2.5kV for 50 $\mu\text{s}$			Transient of 10kV/ $\mu\text{s}$
Notes	Setpoints are adjusted by 20 turn potentiometers on the front panel. Setpoints can be checked by measuring the 0-1V (0-100%) voltage on the front panel terminals. 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. The process input level is available as 0-1V (0-100%) on terminal 9.			



### Installation Data

<b>Mounting</b>	DIN Rail TS35
<b>Orientation</b>	Any
<b>Connections</b>	Screw Clamp with pressure plate
<b>Conductor size</b>	0.5-4.0mm
<b>Insulation Stripping</b>	12mm
<b>Weight</b>	Approx 120g

### Connection Details

10.	Power Input	-ve		
11.	Power Input	+ve		
7.	T/C -ve	RTD -ve		
8.	T/C +ve	RTD +ve		
9.	Signal O/p (0-1V)	T/C Shield	RTD 3 <sup>rd</sup> Wire	
12.	Setpoint -ve			
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	

### Ordering Information

#### Please supply:

<b>Part Number:</b>	2002- (TC or RTD)
<b>Input Type:</b>	e.g T/C, RTD
<b>Input Range:</b>	e.g 0-500 $\text{C}$
<b>Trip Action 1:</b>	e.g RLY1>SP1<LED1
<b>Trip Action 2:</b>	e.g RLY2<SP2>LED2
<b>Power Supply:</b>	e.g 24Vdc
<b>Isolation:</b>	Input
<b>Further Notes:</b>	