Industrial Interface *The Signal Conditioning People*

4002-ALM

DUAL TRIP AMPLIFIER

- Wide Range of Configurable Inputs
- Configurable Trip Action and Failsafe Modes
- Optional Isolated Re-Transmission
- Optional Isolated Input Stage and Isolated Transmitter Supply
- Optional LED display or 0-10V Signal of Input and Setpoints,

Description

The 4002-ALM trip-amplifier can accept a wide range of inputs including 4-20mA, thermocouple, RTD and voltage types. The unit can have up to two relay outputs and each can operate as a high or low trip. The unit can also produce an isolated high level output.

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 the 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.

The input stage can be isolated as an option and the inputs can be user-reconfigured for several different ranges if specified at point of order. In addition there is an optional isolated transmitter supply of 24Vdc, suitable for exciting most standard transmitters.

The following applications are also possible:

One output relay is energised when the input reaches the high setpoint and is latched on until the lower setpoint is reached. The reverse operation is also possible. This is ideal for applications such as pumping out.. All the above options are user-configurable but can be specified at point of order. The power supply is 110 / 240 Vac.

Inputs

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

4002-ALM-HL for DC Current and Voltage
0-20mA, 4-20mA, 0-10mA into 15Ω / 30Ω
0-1V, 0-10V, 1-5V into 100kΩ / 1MΩ
Min and Max Full Scale Ranges:

DC Current	0 to 50µA	0 to 10A
DC Voltage	0 to 100mV	0 to 300V

Note: For input voltages greater than 30Vac or 60Vdc an IIR-Divider unit must be specified.

4002-ALM-TC for Thermocouples
Types E,J,K,N,R,S & T non-linearised
Ranges 0-250, 0-500, 0-1200≡C (Others available)
Auto cold junction compensation. Open cct t/c can drive either upscale or downscale.

4002-ALM-RTD for Resistance Thermometers
2 or 3 wire PT100 or other, linearised output
Ranges 0-250, 0-500, -100-100≡C (Others available)

Outputs

Mains Rated Relays
3A resistive at 240V ac
DC Current and Voltage
0-20mA, 4-20mA, 0-10mA into 750Ω
0-1V, 0-10V, 1-5V into a minimum 2kΩ

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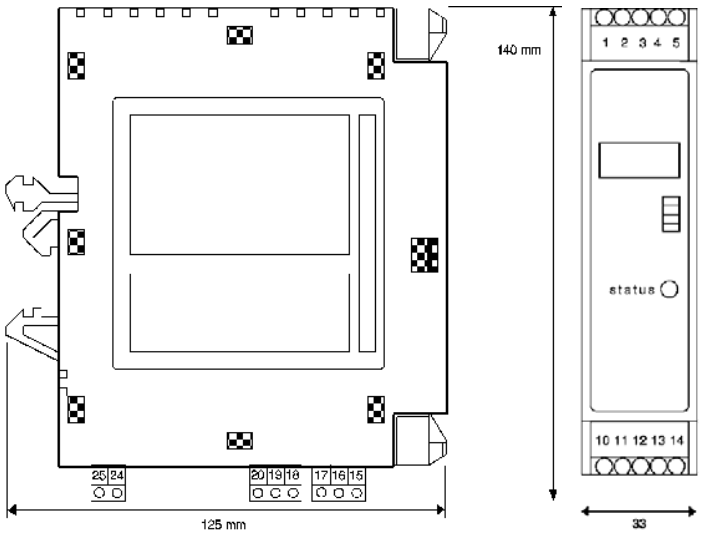
Performance Characteristics

Parameter	Min	Typ	Max	Comments
Supply Voltage	110Vac		240Vac	
Input Impedance (Volt)	100kΩ	1MΩ	10MΩ	Dependent on range (Typ=10V)
Input Impedance(mA)	0.02Ω	15Ω	5kΩ	Dependent on range (Typ=20mA)
Volt drop (mA input)		0.3	0.35	At 20mA input on 0(4) to 20mA Range
Trip Point Accuracy			±0.25%	
Temp Coefficient			±100ppm/≡C	
Trip Point Drift			±100ppm/≡C	
Relay Response Time		10ms		Signal Response 300ms for T/C, 30ms others
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 0-10V (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 front panel or on 3 digit LED Display Figures based on HL version, 20≡C ambient			



Installation Data

Mounting	DIN Rail TS32/35
Orientation	Any
Connections	Screw Clamp with pressure plate
Conductor size	0.5-4.0mm
Insulation Stripping	12mm
Weight	Approx 360g mains version

Connection Details

10.	Input -ve	T/C -ve	RTD -ve
11.	Input +ve	T/C +ve	RTD +ve
12.		T/C Shield	RTD 3rd Wire
1.	Output -ve	15.	Relay 1 N/C
2.	Output +ve	16.	Relay 1 N/O
		17.	Relay 1 Common
24.	Power Input -ve		
25.	Power Input +ve		
		18.	Relay 2 N/C
13.	Trans Supply -ve	19.	Relay 2 N/O
14.	Trans Supply +ve	20.	Relay 2 Common

Ordering Information

Please supply:

Part Number:	4002- (HL or TC or RTD)
Input Type:	e.g mA, Volt, T/C, RTD
Input Range:	e.g 4-20, 0-10, 0-500≡C
Trip Action 1:	e.g RLY1>SP1<LED1
Trip Action 2:	e.g RLY2<SP2>LED2
Power Supply:	e.g 240Vac
Retransmission:	Yes / No (e.g. 4-20mA)
LED Display:	Yes / No
Further Notes:	

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