Dual Channel Process Alarm v4 PA102

DESCRIPTION

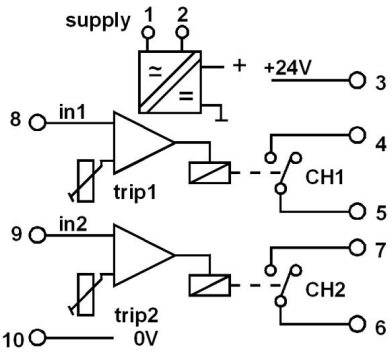
The PA102 is a dual electronic alarm relay suitable for application with all standard electronic process signals. Both channels can be used independently (two different loops) or in parallel (high/low alarm for example) of the same loop. Trip points are adjusted by 15-turn precision trimmers (TRIP) accessible from front, giving a high resolution for the set point. The relay status is displayed by LED on front. Reverse (REV) or direct (DIR) action is selectable via a mode switch located on front:

DIR: relay energised with input above trip.
REV: relay energised with input below trip.

Relay contacts are wired normally open, but can be changed to normally closed internally for fail safe operation. To allow for 2x change-over contact output (output 5) only one input is configurable. The mode select switch is also very useful for system check as operating the switch simulates alarm condition. Dead band each channel is continuously adjustable from 0.5 to 10% of range via 15-turn trimmer on front (DB).

A 0.5 second filter for fluctuating process signals is standard with all units, but can be decreased or eliminated where fast response is important. By inserting a solder link on power board, channel 1 can be latched to channel 2 and vice versa (latch option). This is particularly useful for "dead band" level control etc. Another optional feature is a 24Vdc (30mA) supply via terminal 3 to supply loop powered transmitters ("2-wire transmitter").

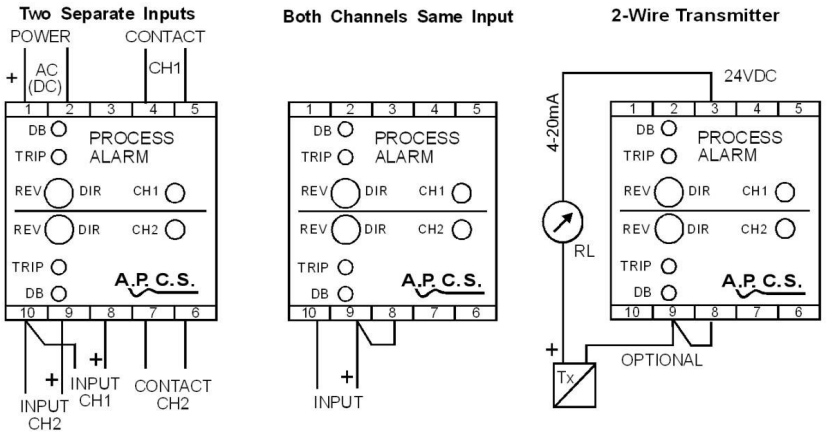
Block Diagram



General Specifications

Size:	52 W x 70 H x 110 D (mm).
Housing material:	ABS.
Mounting:	DIN-Rail, gear plate.
Termination:	Screw terminals on front.
Protection class:	IP40.
Weight:	0.350 kg.
Repeatability:	< 0.5% of input span.
Temperature effect:	0.01% per °C.
Operating temp. range:	0 - 60°C.
Storage temp. range:	-20...+70°C.
Power requirements:	3W.
Relay contacts:	5A at 24Vdc or 240Vac resistive
Electromagnetic compatibility:	Complies with AS/NZS 4251.1 (EN 50081.1)

Standard Connections



For input / output combinations refer to TYPE NO. DESIGNATION overleaf.

A.P.C.S.

PA102 - X X X X X X

TYPE NO. DESIGNATION

Power Supply:

1 = 90-280Vac 50/60Hz (65-280Vdc).
*) 3 = 16-48Vac 50/60Hz (10-60Vdc)
*) 4 = 8 - 60Vdc.
*) 9 = Other specify.

Input 1:

1 = 0 - 5Vdc, 200kΩ (1 – 5V).
2 = 0 - 20mA, 100Ω (4 – 20mA).
3 = 0 - 10Vdc, 470kΩ.
4 = 0 - 50mA, 50Ω.
5 = 0 - 1Vdc
6 = 0 – 2Vdc
*) 7 = 0-200mV
*) 8 = 0-500mV
*) A = 2-Wire Resistance.

Output:

1 = N/O (open when relay de-energised) both channels.
2 = N/C (closed when relay de-energised) both channels.
3 = CH1 N/O, CH2 N/C.
4 = CH1 N/C, CH2 N/O.
5 = Change over both channels (only with both channels same input).
*) 9 = Other specify.

Input 2:

0 = Same calibration as input 1
1 = 0 - 5Vdc, 200kΩ (1 – 5V).
2 = 0 - 20mA, 100Ω (4 – 20mA).
3 = 0 - 10Vdc, 470kΩ.
4 = 0 - 50mA, 50Ω.
5 = 0 – 2Vdc
*) 6 = 0-200mV
*) 7 = 0-500mV
*) 8 = 0-1V

Latch Option:

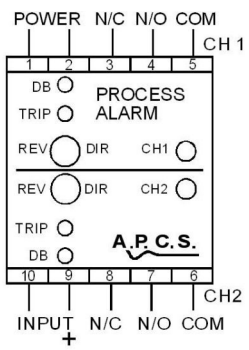
0 = No latch.
1 = Channel 1 latches to channel 2.
2 = Channel 2 latches to channel 1.
3 = Both channels latched to each other.
*) 4 = CH1 & CH2 latch with external resets.

Other Options:

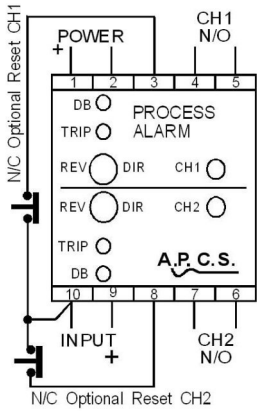
0 = None.
3 = DB 50% max - 25% min (1 Input 50 - 94%).
*) 6 = Relay contact 16A / 250Vac resistive.
*) 7 = 24Vdc @30mA auxiliary supply out.
*) 8 = CH2 window alarm around CH1 trip point.
*) 9 = Other specify.

Optional Connections

Output 5: Change Over on Both Channels



Latch Option 4: CH1 & CH2 Latch With External Resets



Notes for Latch Option 4
If one reset push button is not fitted then the affected channel will have a standard non-latching operation.

*) = Price Extra.