Dual Trippoint Isolator v6   BDTI135

DESCRIPTION

The BDTI135 is a isolating transmitter featuring two independently adjustable trip points with relay contact output. The standard unit will accept DC voltage or current input signals (0.1V up to 2kV, 0.1mA up to 2A). Low level sensor or AC input signals require an optional input conditioning card which is factory fitted. Final calibration is trimmed using the front accessible 'offs' and 'span' 15-turn trim adjustments. The output signal level is indicated by a green LED on the front of the module. Special requirements for input/output response are accommodated by the customised response option. The trip circuits are operated directly from the pre-conditioned input circuit. Both trip points are adjusted by 15-turn potentiometers from the front of the module. Trip status is indicated by red LED. The standard configuration both contacts are referenced to one point (Terminal 5 common). Two independent contact outputs are available on request. Various power supply choices are available ranging from 240Vac down to 8Vdc, all provide power isolation.

General Specifications

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Size:	52 W x 70 H x 110 D (mm).
Housing material:	ABS.
Mounting:	DIN-Rail, gear plate.
Termination:	Screw terminals on front Terminal covers standard.
Weight:	0.320 kg.
Protection class:	IP40.
Power requirements	3W.
Power supply isolation:	2kV rms.
Electromagnetic compatibility:	CE: 73/23/EEC & 89/336/EEC, AS/NZS 4251

Block Diagram

Transmitter Section

Accuracy:	0.1% of span.
Front 'SPAN' adjust:	±20% typical.
Front 'OFFS' adjust:	±20% typical.
Linearity:	0.1% of span above 0.2mA
Response time:	0.5 sec for T90 standard (Faster or slower response on request.)
Temperature effect:	0.02% per °C.
Operating temp range:	0 - 60 C.
Storage temp. range:	-20...+70°C.
Input / output isolation:	2kV rms.
Output loop drive:	10mA into 0 - 1.8kΩ
	20mA into 0 - 900Ω
	50mA into 0 - 360Ω
Output load change effect:	less than 0.2% up to maximum load stated.

Trip Section

Repeatability:	0.1% of range.
Trip point temperature drift	0.01% / °C.
Relay contact:	8A/250Vac resistive, 3.5A/250Vac Inductive.
Contact isolation:	2kV.
Dead band:	0.5 to 30% adjustable.

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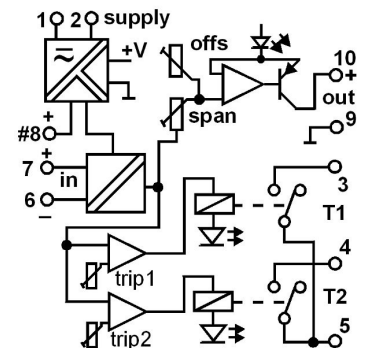
TYPE NO. DESIGNATION

BDTI135 –X XX X X X XX

Power Supply:

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

Input:

# 01 = 4 – 20mA (100Ω).   07 = 0 – 10V (470kΩ).
# 02 = 0 – 20mA (100Ω).   08 = 0 – 10mA (100Ω).
  03 = 10 - 50mA (50Ω).   *) 09 = Other (Specify).
  04 = 0 – 1V (200kΩ).   *) 10 = CARD (See options).
  05 = 0 – 5V (200kΩ).   11 = 4-20mA. (2-wire +24V on pin 8) ⎫ If using
  06 = 1 – 5V (200kΩ).   12 = 4-20mA (externally sourced)   ⎭ Option 20

= Includes 24VDC/22mA auxiliary supply on terminal 8 except for option 20).

Output:

1 = 4 – 20mA (650Ω max).   6 = 0 - 10V (100kΩ min).
2 = 0 – 20mA (650Ω max).   7 = 0 - 1mA (18kΩ max).
3 = 10 - 50mA (360Ω max).   8 = 0 - 10mA (1.8kΩ max).
4 = 0 – 5V (100kΩ min).   *) 9 = Other specify.
5 = 1 – 5V (100kΩ min).

Input/Output Signal Action:

1 = Direct.   2 = Reverse.

Trip Action and Contact Configuration:

1 = Both CH Dir (High) Contacts N/O.
2 = Both CH Dir (High) Contacts N/C.
3 = Both CH Dir (High) CH1 N/O, CH2 N/C.
4 = Both CH Rev (Low) Contacts N/O.
5 = Both CH Rev (Low) Contacts N/C.
6 = Both CH Rev (Low) CH1 N/O, CH2 N/C.
7 = CH1 Dir (High), CH2 Rev (Low) Contacts N/O.
8 = CH1 Dir (High), CH2 Rev (Low) Contacts N/C.
*) 9 = Other specify.

> **Definition**
> **Dir** = Direct acting, relay energised with input above set-point.
> **Rev** = reverse acting, relay energised with input below set-point.
> Contact **N/O**: open - open when relay de-energised.
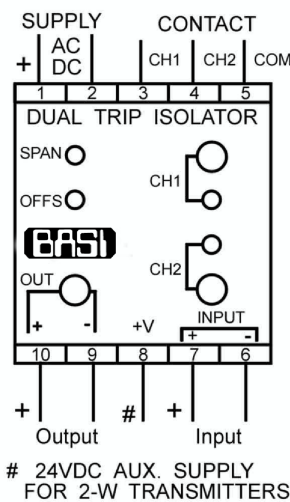> Contact **N/C**: Normally closed - closed when relay de-energised.

Options:

00 = None.   NOTE: - Specify type of sensor and calibration details.
*) 01 = Thermocouple input.
*) 02 = RTD input.
*) 03 = Frequency input. (Sine, Triangle, Square, Pulse). Cal range: 0-10Hz...0 -
        5kHz. Sensitivity: 200mVpp. (70mV rms) min. 22Vpp. max.
*) 04 = Pulse input from NAMUR proximity sensor or passive device, (contact,
        open collector) auxiliary at terminal 8, other data as option 03 above.
*) 05 = AC input (current via shunt).
*) 06 = Bipolar input (mV input <50mV) >100k impedance.
*) 07 = Resistance input (constant current excitation).
*) 08 = Customised response time.
*) 09 = pH/Electrochemical sensor input.
*) 10 = Adder or Subtractor, 2 inputs 4 - 20mA floating.
*) 12 = True rms (any wave form).
   20 = Separated contact output , 2-wire inputs only.
*) 42 = Potentiometer 3W voltage excited.
*) 99 = Other specify.

*) = Price Extra.

Connection Diagram