

Absolute Differential Alarm v2 ADA174

The Absolute Differential Alarm ADA174 determines the difference in magnitude of two inputs. The alarm relay will operate based on the difference in the two signals. The ADA174 will accept all common process inputs plus a large range of sensors and ac measurements using input-conditioning cards. RMS responding current measurement when used with HALL CT input provides total isolation and true waveform transfer. Each



Type No. ADA174 – X X X X X

Power Supply: _____

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

Input 1: _____
See CH1 and CH2 input codes

Input 2: _____
See CH1 and CH2 input codes

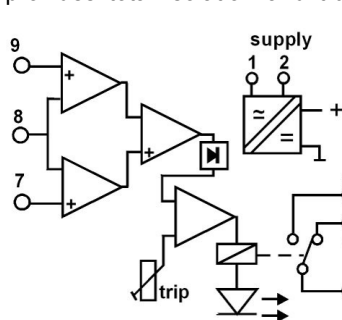
Relay Action: _____
1 = Direct
2 = Reverse

Options: _____
0 = none

CH1 and CH2 Input Codes

Specify calibration details for all inputs.

- 1 = 0 - 20mA, 4 - 20mA (100Ω)
- 2 = dc Current < 1A specify
- # 3 = dc Current ext HALL CT.
Specify type and calibration ('HCT016' 50A, 'HCT017' 100A, 'HCT018' 400A, HCT019' 800 to 6000A).
- 4 = 0 - 10Vdc (500k Ω).
- 5 = dc Voltage 100mV to ±2kV span.
- *) 6 = ac Current <10A (internal CT).
- *)# 7 = ac Current ext CT. Specify type and calibration of external CT. SCT007(50A), SCT012(100A), SCT008(200A), SCT009(600A).
- *)# 8 = ac RMS Current ext HALL CT.
Specify type and calibration ('HCT016' 50A, 'HCT017' 100A, 'HCT018' 400A, HCT019' 800 to 6000A).
- *) 9 = ac Voltage true RMS 100mV to 30Vac span.
- *) A = ac Voltage 20V to 500Vac span isolated.
- *) B = Thermocouple
- *) C = RTD
- *) D = Frequency input. (Sine, Triangle, Square, Pulse).
Cal range: 0-10Hz 0 - 5kHz. Sensitivity: 200mVpp. (70mVrms.) min. 22Vpp. max.
- *) E = Frequency (NAMUR, contact).
- *) F = Frequency (NPN Prox 15V).
- *) G = Frequency (PNP Prox 15V).
- *) H = Resistance input (constant current excitation).
- *) J = Potentiometer 3W voltage excited >1k ohm.
- *) Z = Other specify



input can be configured to measure different process variables that must be kept within a specific range of each other. The trip-point and dead-band are adjusted using front mounted 15-turn trim potentiometers. The status of the output change-over relay is indicated by a red LED. Various power supply

choices are available ranging from 240Vac down to 8Vdc.

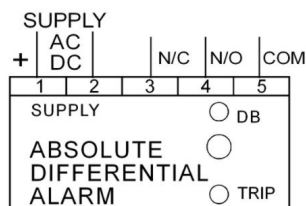
General Specifications

- Size: 52 W x 70 H x 110 D (mm).
- Housing material: ABS.
- Mounting: DIN-Rail, gear plate.
- Termination: Screw terminals with terminal covers.
- Weight: 0.300 kg.
- Protection class: IP40.
- Operating temperature: -10...+60°C.
- Storage temperature: -20...+70°C.
- Repeatability: 0.1% of range.
- Temperature drift of trippoint: 0.01% / °C.
- Relay contact: Change-over
8A/250Vac resistive
3.5A/250Vac inductive.
- Contact isolation: 2kV.
- Auxiliary DC supply: Varies on input choice
+25V / +15V / +-15V, 25mA max.
- Dead band: 0.5% to 30%
- Power requirements: 3W.
- EMC: AS/NZS 4251.1 (EN 50081.1)

Power And Output

Power supply for all models is on terminals 1 and 2. The polarity marking only applies to dc supplies.

The change over relay contact is the same connection for all models.



*) = Price Extra, # = CT Ordered separately.

Input Connections

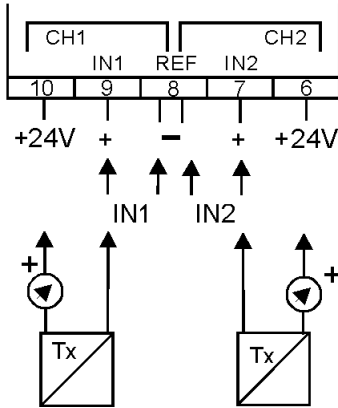
Connections for each option are shown for both channels using the same option. Options can be mixed.

Inputs in this group are **not** isolated from each other.

1 = 0-20mA, 4- 20mA

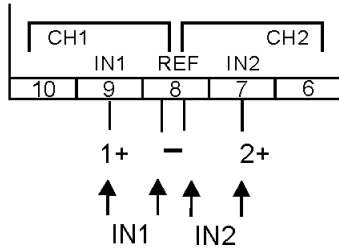
The 4-20mA signal powered by external equipment.

A +24V auxiliary on pins 10 and 6 powers the input transmitters



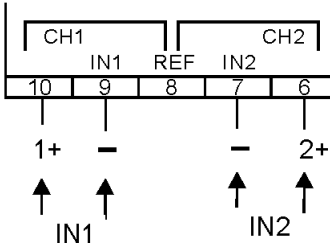
Inputs in this group are **not** isolated from each other at the terminals, however ac current is isolated via the external CT.

- 2 = dc Current < 1A
- 4 = 0 - 10Vdc.
- 5 = dc Voltage specify.
- 7 = ac Current ext CT.
- 9 = ac Voltage true RMS 100mV to 30Vac span.
- B = Thermocouple
- D = Frequency input. (Sine, Triangle, Square, Pulse).
- H = Resistance input (constant current).



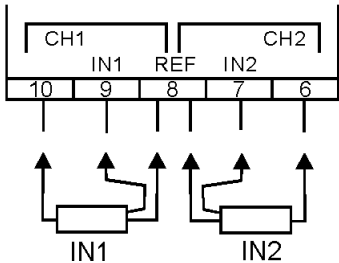
Inputs in this group are **isolated** from each other via an internal CT's or VT's.

6 = ac Current <10A.
A = ac Voltage 20V to 500Vac span.



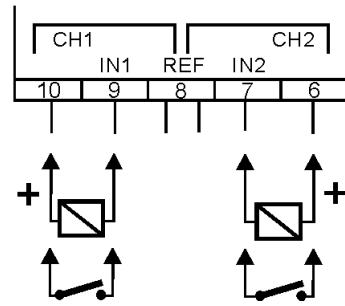
Inputs in this group are **not** isolated from each other.

C = RTD



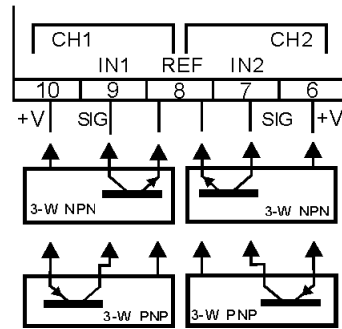
Inputs in this group are **not** isolated from each other.

E = Frequency (NAMUR, contact).



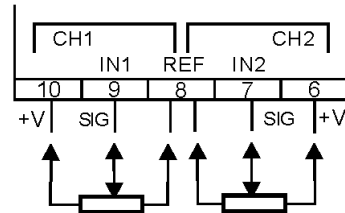
Inputs in this group are **not** isolated from each other.

F = Frequency (NPN Prox 15V).
G = Frequency (PNP Prox 15V).



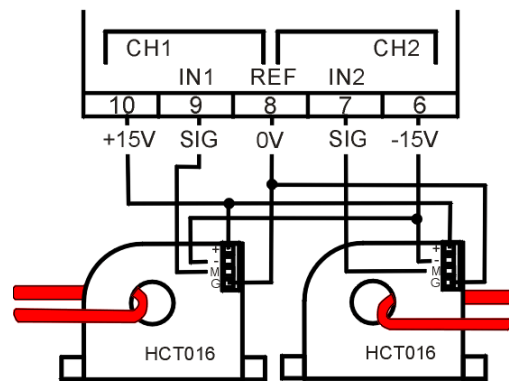
Inputs in this group are **not** isolated from each other.

J = Potentiometer 3W voltage excited.



3 = dc Current ext HALL CT.
8 = ac RMS Current ext HALL CT.

Measured currents are isolated via the external CT's.



The diagram shown is for HCT016, other types have similar connections.