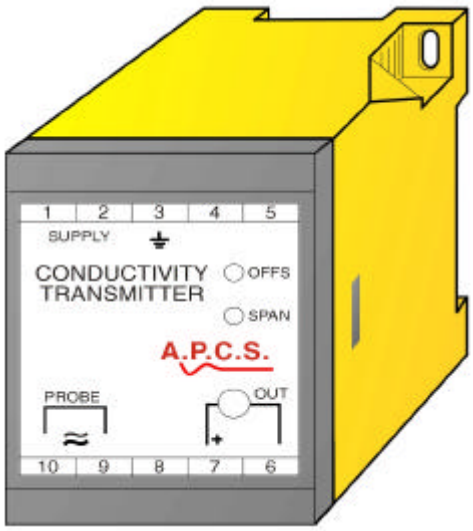
CONDUCTIVITY TRANSMITTER (v4) CDT128

DESCRIPTION

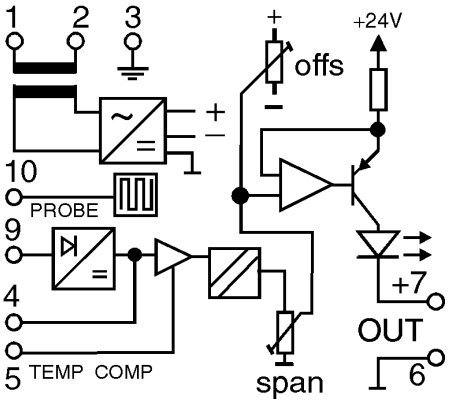
The CONDUCTIVITY TRANSMITTER CDT128 is a low cost 4-wire transmitter designed for any type of conductivity input and process signal output. The CDT128 suits a wide range of conductivity measurement applications using suitable probes. Temperature compensation is also available as an option using probes with a built-in NTC thermistor or any other suitable compensation element. Excitation to the probe is via a low level AC voltage with short circuit protection to maximise the life of the probe. Final calibration is trimmed using the front accessible 'offs' and 'span' 15-turn trim adjustments. The output process signal is indicated by the front L.E.D., giving a clear indication of module function, presence of signal, and output loop continuity (current outputs only). The Conductivity Transmitter has input/output isolation avoiding grounding problems with interfacing equipment due to the conductivity of the fluid forming a connection to ground potential. RF and power transient protection is standard as it is with all A.P.C.S. modules. Various power supply choices are available varying from 240Vac down to 8Vdc, all provide power isolation.



General Specifications

Size:	52 W x 70 H x 110 D (mm).
Mounting:	DIN-Rail, gear plate.
Termination:	Screw terminals on front.
Protection class:	IP40 (IP65 Enclosure opt.)
Weight:	0.300 kg.
Housing material:	Polycarbonate.
Accuracy:	0.2% of span.
Front 'OFFS' adjust:	±20% typical
Front 'SPAN' adjust:	±20% typical
Temperature effect:	0.01% per °C.
Operating temp. range:	-10...+60°C.
Storage temp. range:	-20...+70°C.
Input range:	1mS/cm up to 1000mS/cm.
Probe excitation:	800Hz bipolar square wave.
Output load effect:	less than 0.2% up to max. load.
Output loop drive:	10mA into 0 - 2000 Ω.
	20mA into 0 - 900 Ω.
	50mA into 0 - 360 Ω.
Input/output isolation:	>2kV r.m.s.
Power requirements:	ac supply 4W, dc supply 3W.
Power supply Isolation:	2kV r.m.s.
Electromagnetic compatibility:	Complies with AS/NZS 4251.1 (EN 50081.1)

Block Diagram



Suitable conductivity probes with temperature compensation.

APCS: PR128-1, k=1.35, temperature compensation = 10k NTC.
AIC: P-K1TBTH
Any other probes can be used provided the thermistor characteristic is available.
If temperature compensation is not required use standard probes.

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

TYPE NO. DESIGNATION

CDT128 - X XX X X X

Power Supply:

1 = 240V, 50/60Hz ±10%.
2 = 120V, 50/60Hz ±10%.
3 = 24V, 50/60Hz ±10%.
*) 5 = 12Vdc (use '6').
*) 6 = 8 - 60Vdc Isolated.
*) 7 = 48Vdc (use '6').
*) 8 = 60 - 240Vdc Isolated.
*) 9 = Other (Specify).

Input:

Standard Probe K-factor
#A - use 0.01
#B - use 0.1
#C - use 1.0
#D - use 10.0

01 = 1µS/cm #A
02 = 2µS/cm #B
03 = 5µS/cm #B
04 = 10µS/cm #B

05 = 50µS/cm #C
06 = 100µS/cm #C
07 = 200µS/cm #C
08 = 500µS/cm #C
09 = 1000µS/cm #C
10 = 2mS/cm #C
11 = 5mS/cm #C
12 = 10mS/cm #C
13 = 20mS/cm #C
14 = 50mS/cm #C
15 = 100mS/cm #C

16 = 200mS/cm #D
17 = 500mS/cm #D
18 = 1000mS/cm #D
21 = 2000mS/cm (k = 1.35).
22 = 5000mS/cm (k = 1.35).

*) 50 = 2M ohm (current excitation)
*) 99 = Other (Specify).

Output:

1 = 0 - 5V (50k Ω min).
2 = 0 - 10V (100k Ω min).
3 = 0 - 20mA (900 Ω max).
4 = 4 - 20mA (900 Ω max).
5 = 0 - 50mA (360 Ω max).
6 = 10 - 50mA (360 Ω max).
7 = 0 - 10mA (1.8k Ω max).
8 = 1 - 5V (50k Ω min).
*) 9 = Other (Specify).

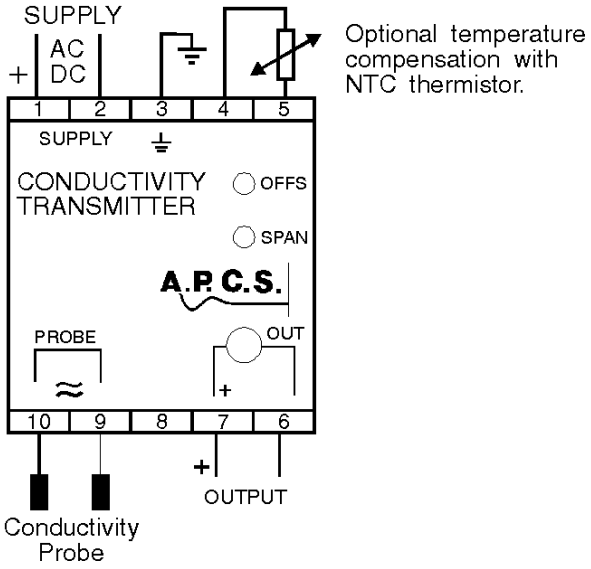
Action:

1 = Direct.
2 = Reverse.

Options:

0 = None.
*) 1 = Temp. compensation (10k NTC).
*) 2 = Output ramp.

Connection Diagram



*) Price Extra.