

Conductivity Transmitter v5 CDT128

DESCRIPTION

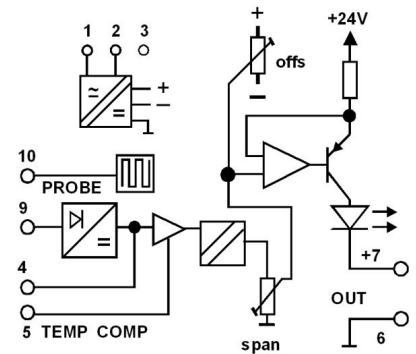
The CDT128 is a 4-wire transmitter designed for any type of conductivity input and process signal output. The CDT128 suits a wide range of conductivity measurement applications using suitable probes. Temperature compensation is also available as an option using probes with a built-in NTC thermistor or 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 LED, 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 APCS 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.
Weight:	0.300 kg.
Housing material:	ABS.
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:	1µS/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 – 2000Ω 20mA into 0 – 900Ω 50mA into 0 - 360Ω .
Input/output isolation:	>2kV rms.
Power requirements:	3W.
Power supply Isolation:	2kV rms.
Electromagnetic compatibility:	Complies with AS/NZS 4251.1 (EN 50081.1)

Block Diagram



Suitable conductivity probes with temperature compensation.

APCS: PR128-1, k=1.0, temperature compensation = 10k NTC.

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 = 90-280Vac 50/60Hz (65-280Vdc).
- *) 3 = 16-48Vac 50/60Hz (10-60Vdc)
- *) 6 = 8 - 60Vdc.
- *) 9 = Other (Specify).

Input:

- | | | |
|-----------------------|-------------------------|----------------------------|
| 01 = 1 μ S/cm #A | 05 = 50 μ S/cm #C | 16 = 200mS/cm #D |
| 02 = 2 μ S/cm #B | 06 = 100 μ S/cm #C | 17 = 500mS/cm #D |
| 03 = 5 μ S/cm #B | 07 = 200 μ S/cm #C | 18 = 1000mS/cm #D |
| 04 = 10 μ S/cm #B | 08 = 500 μ S/cm #C | 21 = 2000mS/cm (k = 1.35). |
| | 09 = 1000 μ S/cm #C | 22 = 5000mS/cm (k = 1.35). |
| | | 10 = 2mS/cm #C |
| | | 11 = 5mS/cm #C |
| | | 12 = 10mS/cm #C |
| | | 13 = 20mS/cm #C |
| | | 14 = 50mS/cm #C |
| | | 15 = 100mS/cm #C |

Standard K-factor

- #A - use 0.01
- #B - use 0.1
- #C - use 1.0
- #D - use 10.0

- *) 50 = 2M ohm (current excitation)
- *) 51 = SPL0991 Sugar Moisture Level, specify cal: (33n-0.1uS 10-30Mohm default)
- *) 99 = Other (Specify).

Output:

- 4 = Link selectable specify range from table below (4 – 20mA is default setting).
- *) 5 = 0 – 50mA (360 Ω max).
- *) 6 = 10 – 50mA (360 Ω max).
- *) 9 = Other specify.

Action:

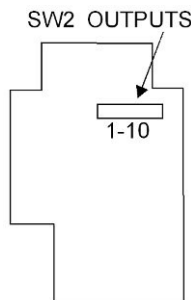
- 1 = Direct.
- 2 = Reverse.

Options:

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

Output Range selection

- 1) Disconnect power to unit.
- 2) Remove terminal covers.
- 3) Un-clip housing lid and withdraw unit from housing.
- 4) Set the coding plugs as required.
- 5) Reassemble unit and connect power.
- 6) Adjust SPAN and OFFS pots to recalibrate.
- 7) Change the label information to the new input/output values.

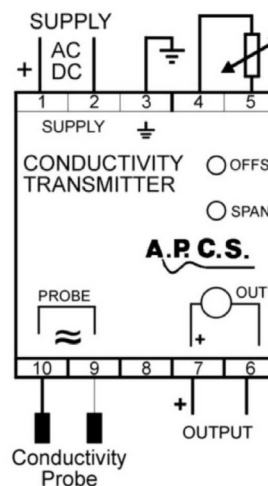


Output Selection – SW2

Factory default us 4-20mA

Output	1	2	3	4	5	6	7	8	9	10
4-20mA	X	X								
0-20mA					X					
0-10mA			X							
0-1mA				X						
0-1V					X				X	
0-2V					X					X
0-5V					X			X		
1-5V	X	X						X		
0-10V					X		X			

Connection



Optional temperature compensation with NTC thermistor.

*) = Price Extra. In the interest of development and improvement, .APCS reserve the right to amend, without notice, details contained in this publication. APCS will accept no legal liability for any errors, omissions or amendments.