

DCT190 Series



Introduction

Universal temperature transmitter for resistance thermometers (RTD), thermocouples, resistance and voltage transmitters, for installation in a sensor head Form B

Application areas

- Temperature head transmitter for converting various input signals into a scalable 4 to 20 mA analogue output signal
- Input
 - Resistance thermometer (RTD)
 - Thermocouple (TC)
 - Resistance transmitter (Ω)
 - Voltage transmitter (mV)
- Recommend for Pt100 input signal

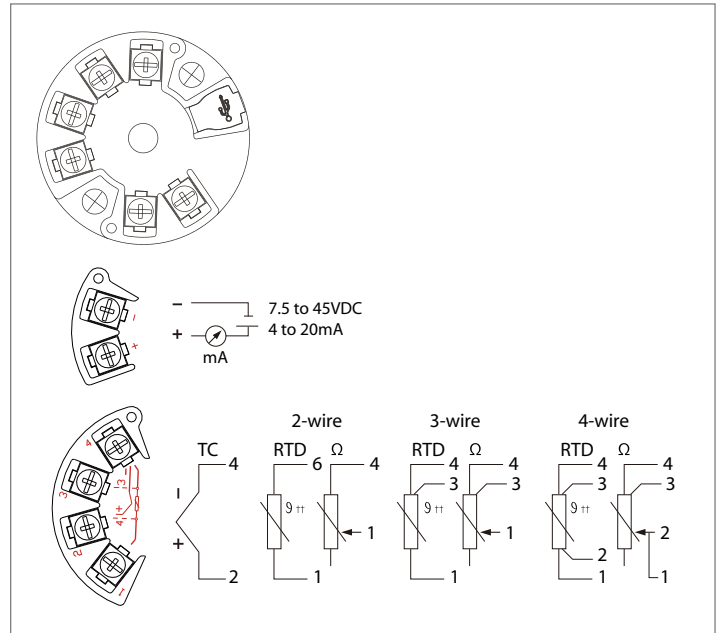
Performance

- 2 wire technology, 4 to 20mA analogue output
- High accuracy in total ambient temperature range
- An internal temperature sensor for active temperature compensation (For T/C)
- Easy programming with USB interface
- Operation: PC programmable or PDA

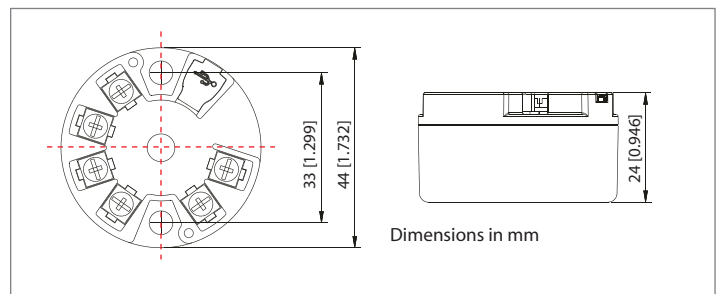
Technical Data

Output signal	4...20mA
Supply Voltage	7.5...45VDC
Load	Max.(V power supply-7.5V)/0.0208A
Signal on alarm	Underranging Linear drop to 3.8mA
	OVERRANGING Linear rise to 20.8mA
	Sensor break; sensor open-circuit
Input current required	≤ 3.6 mA
Current limit	≤ 22 mA
Ambient temperature	-40 to 85°C (-40°F to 185°F)
Storage temperature	-40 to 100°C (-40°F to 212°F)
Ingress protection	Ip00, Ip66 Installed
Moisture condensation	Allowable
Accuracy(Pt100)	≤ 0.2 K or 0.08%
Cold junction	Internal
Measurement Range	Depending on the sensor connection and input signals
Influence of ambient	Negligible
Load influence	Negligible
Power supply influence	Negligible
Resolution	0.3 μ A

Electrical connection



Electrical connection



Technical Data

Basic	Type	Measurement ranges	Min.meas. Ranges	
DCT190-B	Resistance thermometer (RTD) 3-wire	Pt100	-50°C to 200°C	10K
		Pt100	-200°C to 850°C	10K
		Cu500	-50°C to 150°C	10K
		Cu100	-50°C to 150°C	10K
	Resistance Transmitter	Resistance (Ω)	0 to 400 Ω	10 Ω
	Thermo-couples (TC)	B(PtRh30-PtRh6)	0 to 1820°C	500K
		E (NiCr-CuNi)	-270 to 1000°C	50K
		J(Fe-CuNi)	-270 to 1200°C	50K
		K(NiCrSi-NiSi)	-270 to 1372°C	50K
		N(NiCrSi-NiSi)	-270 to 1300°C	50K
		R(PtRh13-Pt)	-50 to 1768°C	500K
		S(PtRh10-Pt)	-50 to 1768°C	500K
		T(Cu-CuNi)	-270 to 400°C	50K
	Voltage transmitters (mV)	Millivolt transmitter(mV)	-10 to 75mV	5mV