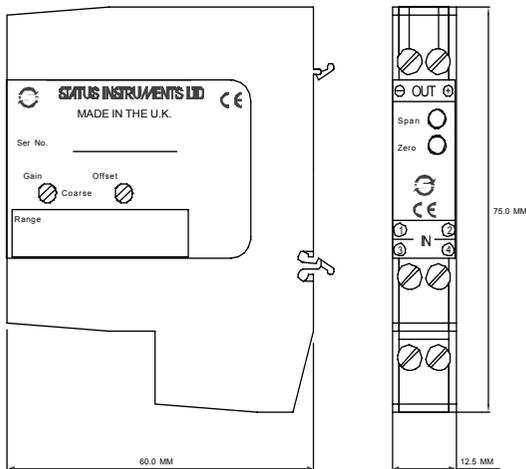


4.0 RANGES, continued

2. Set resistance box to simulate T_l , first rotate coarse offset to obtain a output reading close to 4mA. Use fine zero adjuster to trim reading to $4\text{mA} \pm 0.005\text{mA}$. (If fine trim hits end of travel re-adjust coarse adjuster one step re-adjust fine offset).
3. Set resistance box to simulate T_h , first rotate coarse gain to obtain a output reading close to 20mA. Use fine span adjuster to trim reading to $20\text{mA} \pm 0.005\text{mA}$. (If fine trim hits end of travel re-adjust coarse adjuster one step re-adjust fine span. Note clockwise rotation of the coarse adjuster reduces output current)
4. Set resistance box to T_l , adjust fine offset for $4.00\text{ mA} \pm 0.005\text{mA}$.
5. Set resistance box for T_h , adjust fine span for $20.000\text{ mA} \pm 0.005\text{mA}$.
6. Repeat steps 4, 5 until both points are in calibration.
7. Turn off power and remove wires. Mark transmitter with the new range.

5.0 MECHANICAL



CS1631 DIN Rail Mounted 4 Wire Pt100 Transmitter

Designed, manufactured and supported by :

STATUS INSTRUMENTS LTD

Green Lane
Tewkesbury
Glos. GL20 8DE, UK
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Every effort has been taken to ensure the accuracy of this specification, however we do not accept responsibility for damage, injury, loss or expense resulting from errors and omissions, and we reserve the right of amendment without notice.

Stock code : 52-214-2165-01

Issue : 01

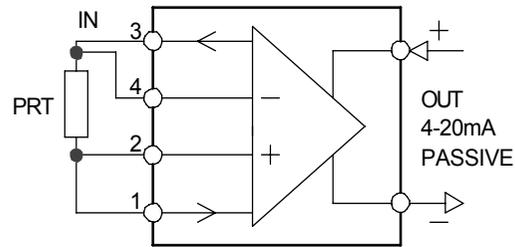
1.0 DESCRIPTION

The device is a temperature transmitter designed to accept a standard platinum resistance sensor (Pt100 2 or 4 wire) to BS EN 60751;1996 and convert the temperature to industrial 4-20mA. It is housed in a purpose designed DIN rail mount enclosure.

The transmitters are available in standard factory calibrated ranges, but the transmitter can be user re-ranged to operate over most of the temperature ranges encountered in industrial and building management applications. Non standard ranges can be supplied to special order. The enclosure provides trim potentiometer access, allowing fine re-calibration adjustments to be made at both ends of the scale.

2.0 SPECIFICATION @ 20°C

INPUT	TYPE	Pt100 2 or 4 wire BS EN60751;1996
	ACCURACY	Ranges between 0 to 200°C (4 Wire) (±0.11°C ±0.1% of reading) Ranges between -100 to + 500°C (±0.2°C ±0.2% of reading)
	BURN OUT RANGE SELECT	Up scale Coarse Settings, by side entry 16 position rotary screw adjustment switches. Fine setting by front access pots.
	RANGES	(4 mA Reading) (for 4-20mA Range) Full accuracy -100 to +220°C 25 to 500°C Reduced accuracy -180 to +220°C 25 to 600°C
	Excitation	1mA nominal
OUTPUT	TYPE	Passive 2 wire current output
	RANGE	4 to 20 mA (30 mA max)
	PROTECTION VOLTAGE	Reverse connection plus over voltage 10 - 30 V DC
	THERMAL STABILITY RIPPLE	Typical 100ppm/°C overall Less than 40uA/V (Measured at 1V ripple 50 Hz)
	RESPONSE LOAD	100 mS to reach 70% of final value 700Ω @ 24V
GENERAL	AMBIENT CONNECTION	0 - 50°C; 10-95% RH non condensing Captive clamp screws
	CABLE SIZE	4 mm sq solid / 2.5mm sq stranded
	CASE MATERIAL	Grey Polyamide
	FLAMMABILITY	To UL94-VO VDE 0304 Part 3,level IIIA
	PROTECTION	IP20
	DIMENSIONS	60 x 75 x 12.5 mm
	MOUNTING	Snap on top hat (DIN EN 50022-35)
	WEIGHT	45 grams
	COMPLIANT WITH	EN50081-1, EN50082-1
	TESTED TO	IEC 801-2 Susceptibility to electrostatic discharge IEC 801-3 Radiated susceptibility IEC 801-4 Susceptibility to conducted interference EN 55022 Radiated emissions



3.0 INSTALLATION

3.1 MECHANICAL

This transmitter must be housed within a suitable enclosure that will provide protection from the external environment, ensuring that the stated temperature and humidity operating ranges are not exceeded. It is good practice to mount the transmitter away from sources of electrical noise, such as switchgear and transformers. The transmitter enclosure is designed to snap fit onto a standard "TOP HAT" DIN rail. To remove from rail, apply pressure at the bottom face at the back upwards towards the rail to release the spring clip and tip away from the top. The transmitter may be mounted in any orientation and stacked side by side along the rail.

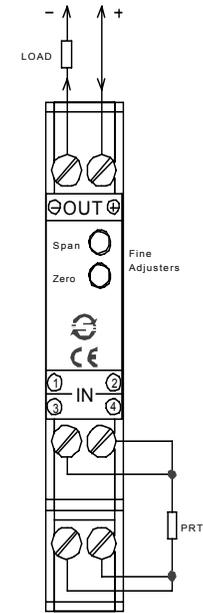
3.2 ELECTRICAL

Connections to the transmitter are made via screw terminals, with wire protection plates provided on each terminal. To maintain CE compliance twisted pair (screened) cables must be used for the signal connections earthed at one end only. The sensor is connected with four wires. Incorrect sensor connection or sensor wire break will result in the output current saturating up scale. It is good practice to ensure all 4-20mA signal loops are grounded at one point.

Care must be taken when designing a 4-20mA circuit to ensure that the total burden of the loop, (that is the total voltage requirement of all the equipment connected in the loop at 20mA) does not exceed the power supply voltage.

To operate correctly the transmitter requires a minimum of 10 volts across its output terminals. The transmitter is protected against reverse connection and over voltage. Figure 1 shows a typical 4-20mA circuit, the load resistor represents equipment such as indicators, loggers, PLC etc.

Figure 1.



4.0 RANGES

The transmitter is normally supplied factory ranged but if required the transmitter range can be changed by means of sixteen step coarse, and multi turn fine, offset and span adjusters on the side.

Standard ranges:	-30 to +35 °C
	-25 to +75 °C
	0 to 50 °C
	0 to 100 °C
	0 to 200 °C
	0 to 400 °C

Before you start you will need the following equipment :-

- Precision resistors or resistance decade box to simulate Pt100
- DC milliammeter (digital) ; accuracy 0.05% on 0 to 20 mA range
- Power Supply; 24V DC 30mA Min
- Trim tool and Pt100 resistance tables.

Decide on the range you require and ensure the transmitter is capable of this range. If a range has not been specified at time of order, the transmitter will leave the factory set as 0 to 100 °C.

1. Connect Resistance box to input terminals. Connect + Signal Terminal to + power supply terminal. Connect mA meter in series with the return wire from the - Signal terminal to - terminal on power supply. Turn on. Allow a few minutes before calibration for the transmitter to stabilise after handling.

Let T_I = Temperature at 4mA output
 Th = Temperature at 20 mA output