ITT Series

Industrial Programmable Temperature Sensor

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Cynergy3 Ltd

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1.   INTRODUCTION

1.1 Safety Information

This manual contains information that must be observed in the interest of your own safety and to avoid damage to assets. Please read this manual before installing and commissioning the device and keep the manual in an accessible location for all users.

1.2   Hardware Features

The ITT range of Temperature sensors has been designed to measure the Temperature of the medium connected and transmit the value as a 4-20mA signal.

The transmitter is powered from 12-35Vdc as a 2-wire 4-20mA loop system. Care must be taken to wire the supply in the correct polarity.

2.   UNPACKING

The instrument should be carefully inspected for signs of damage which may have occurred in transit. In the unlikely case that damage has been sustained, DO NOT use the instrument, but please retain all packaging for our inspection and contact your supplier immediately.

3.   PRODUCT IDENTIFICATION LABEL

The unit delivered should be carefully inspected to ensure it is suitable for the application required. Detailed information on the product is included in the identification label and the user manual.

Please ensure in particular, that the temperature range and sensors type of the ITT is suitable for the intended application and that the ITT unit will not be subjected to temperatures greater than those specified in this manual.

## 4. SETTING UP THE ITT WIRELESS TEMPERATURE TRANSMITTER

The ITT temperature sensor is shipped in a default configuration which allows the unit to output a 4-20mA signal straight out of the box. The default temperature ranges are as follows:

Temperature Sensor Type	Default Range:- 4-20mA represents
PT100 3 Wire	0-200 °C
K Type Thermocouple	0-1000 °C
J Type Thermocouple	0-600 °C

To change the scaling of the 4-20mA output the unit can be re-configured using the ICAB-1 USB programming cable and the Transmitter Configuration software package.
A screen shot of the configuration software is shown below. The Sensor type and range is selected using the Configuration box and then click on the Upload button to program the transmitter with the correct settings. Click on Clear and Download to check the configuration has been stored correctly. Use the PV Monitoring and Ambient Temperature settings to check the temperature being measured is as expected.

The ITT Temperature sensor is now ready to be installed.
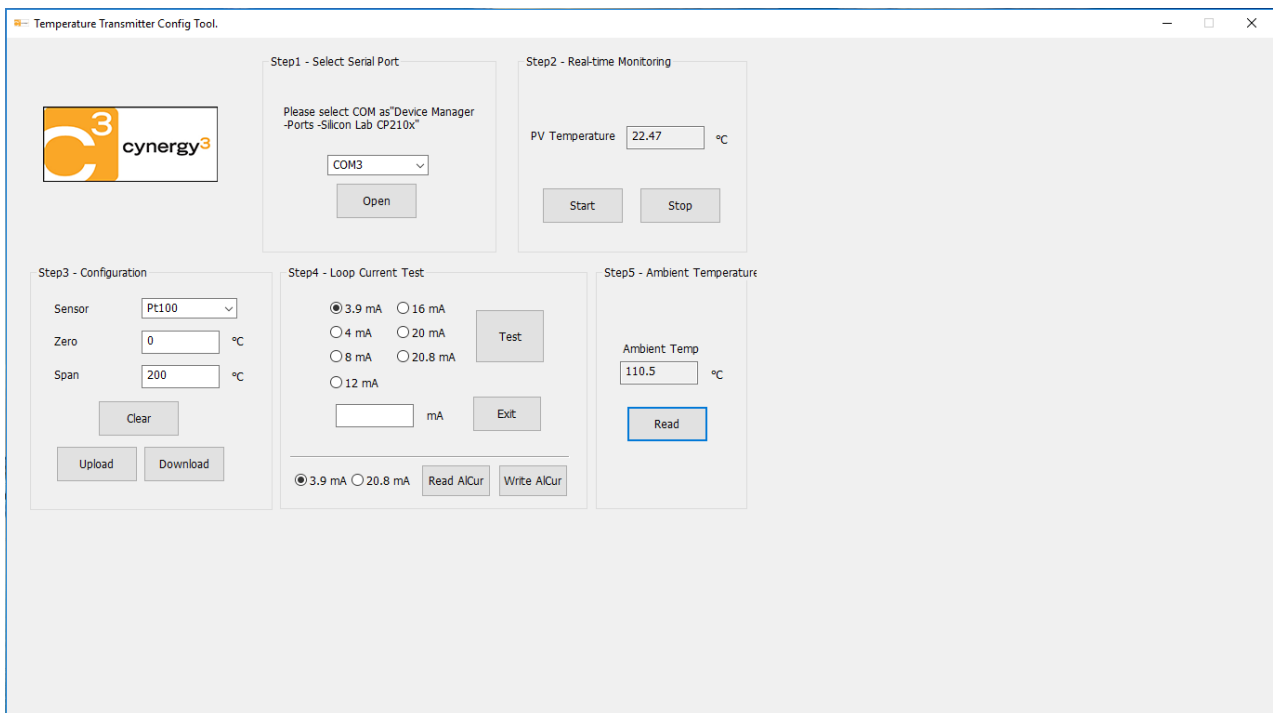
5.   TROUBLE-SHOOTING GUIDE

Problem encountered	Possible Causes
The 4-20A signal does not represent the temperature range desired	Check and change the configuration using the Transmitter Configuration software and ICAB-1 cable.
The 4-20mA has gone higher than 20mA	The Sensor has detected a Temperature sensor burn-out condition, check the sensor wiring and if correct change the sensor element
The 4-20mA has gone lower than 4.00mA	The Sensor has detected a Temperature sensor burn-out condition, check the sensor wiring and if correct change the sensor element.

6.   SYSTEM PART NUMBERS

Part Number	Max Temperature Range	Probe Type
ITTP100A	-200 - +850 PT100	100mm ¼" BSP
ITTP150A	-200 - +850 PT100	150mm ¼" BSP
ITTP200A	-200 - +850 PT100	200mm ¼" BSP
ITTP250A	-200 - +850 PT100	250mm ¼" BSP
ITTP300A	-200 - +850 PT100	300mm ¼" BSP
ITTP400A	-200 - +850 PT100	400mm ¼" BSP
ITTJ200A	0- 1200 J Type t/c	200mm ¼" BSP
ITTJ300A	0- 1200 J Type t/c	300mm ¼" BSP
ITTJ400A	0- 1200 J Type t/c	400mm ¼" BSP
ITTK150A	0- 1350 K Type t/c	150mm ¼" BSP
ITTK200A	0- 1350 K Type t/c	200mm ¼" BSP
ITTK300A	0- 1350 K Type t/c	300mm ¼" BSP
ITTK400A	0- 1350 K Type t/c	400mm ¼" BSP
ITTUP100A	-200 - +850 PT100	100mm ¼" NPT
ITTUP150A	-200 - +850 PT100	150mm ¼" NPT
ITTUP200A	-200 - +850 PT100	200mm ¼" NPT
ITTUP250A	-200 - +850 PT100	250mm ¼" NPT
ITTUP300A	-200 - +850 PT100	300mm ¼" NPT
ITTUP400A	-200 - +850 PT100	400mm ¼" NPT
ITTUJ200A	0- 1200 J Type t/c	200mm ¼" NPT
ITTUJ300A	0- 1200 J Type t/c	300mm ¼" NPT
ITTUJ400A	0- 1200 J Type t/c	400mm ¼" NPT
ITTUK150A	0- 1350 K Type t/c	150mm ¼" NPT
ITTUK200A	0- 1350 K Type t/c	200mm ¼" NPT
ITTUK300A	0- 1350 K Type t/c	300mm ¼" NPT
ITTUK400A	0- 1350 K Type t/c	400mm ¼" NPT

7.   SPECIFICATIONS

System Performance	
Accuracy (non-linearity & hysteresis)	RTD 0.1% FSD T/C 0.2% Overall
Setting Errors	Zero & Full Scale,<±0.5°C
Temperature Drift	<±25 ppm /°C FS
Media Temperature	-200 to +1350 °C (depending on sensor type)
Ambient Temperature	-20 to +50 °C
Storage Temperature	-20 to +120 °C
Temperature Probe	Stainless Steel
O Ring Seals	Viton
Probe type	Mineral Insulated
Enclosure Material	Aluminium
Weight	350g (150mm long probe)
Power Requirements	12-35Vdc 2-wire 4-20mA loop system
Dimensions	132-432mm x 122 x 82mm (L x W x D) (length depends on sensor ordered)
Mounting	Any Orientation