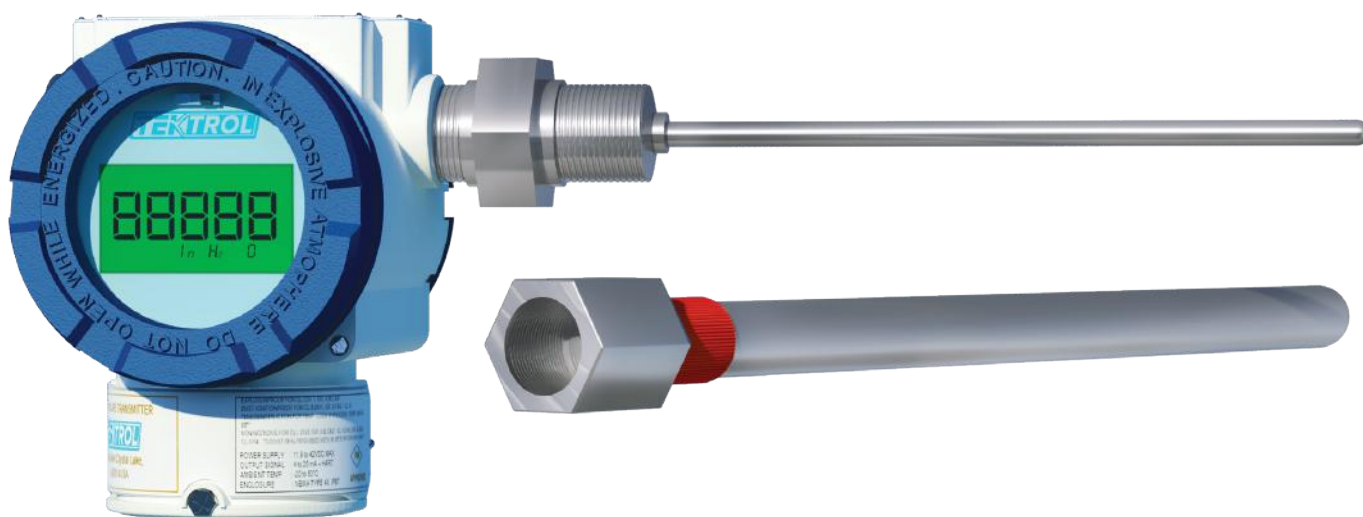




Tek-Temp 2100A



Quick Start Guide

1. Before You Begin

This guide provides basic information to assist you in quickly getting started. Go to our website to download the full the full User Guide for detailed installation and other information.

-  Ensure installation of the Transmitter meets applicable state and national electrical code requirements.
-  The installation of the Transmitter should only be performed by a qualified installer or a factory representative.

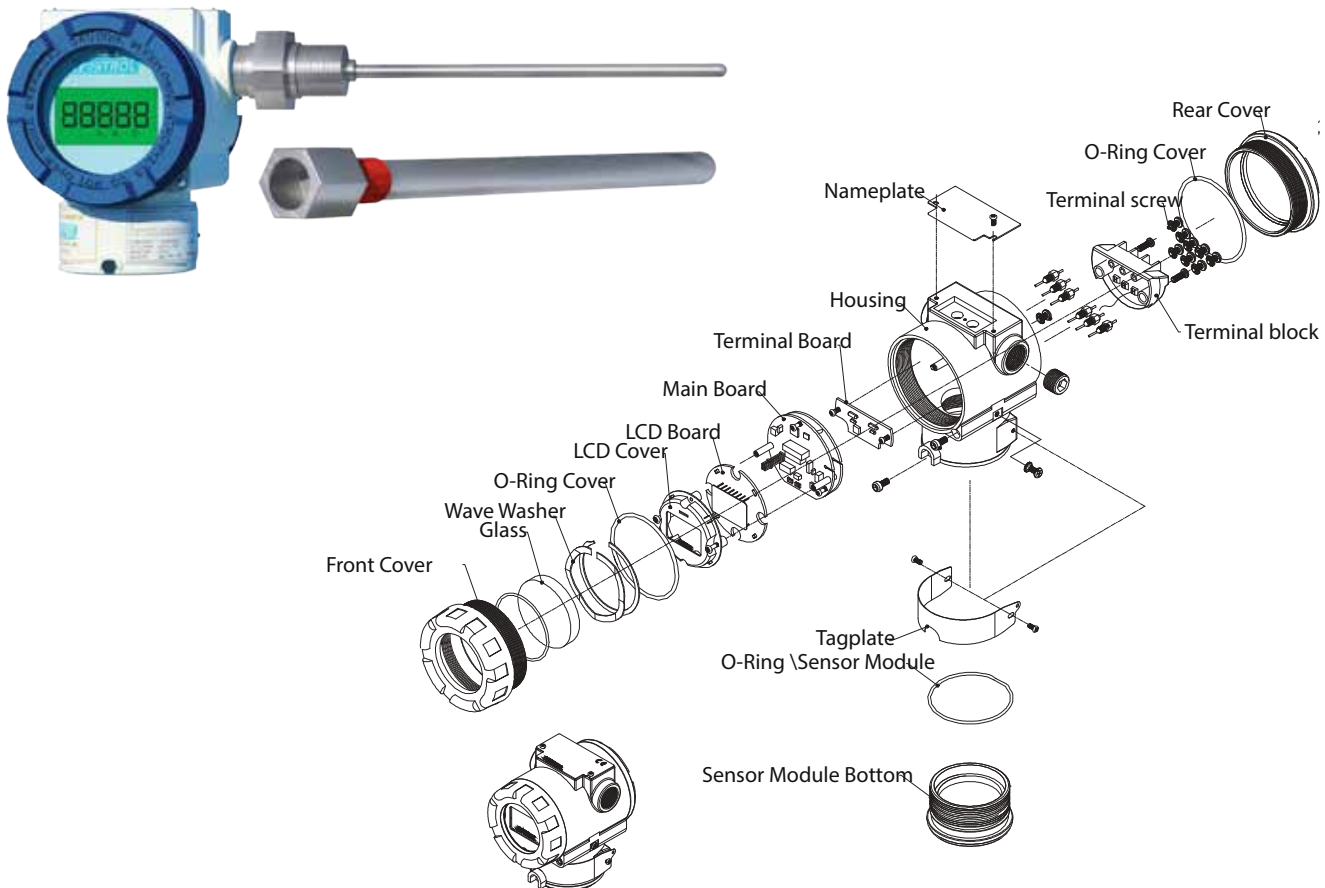
2. Unpack

One Tek-Therm 2100 SMART Temperature Transmitter.

NOTE: When moving the transmitter to the installation site, keep it in its original packaging. Then, unpack the transmitter there to avoid damage on the way.

NOTE: Before installation check the model, specifications, and installation location for the transmitter. Install using proper engineering practice.

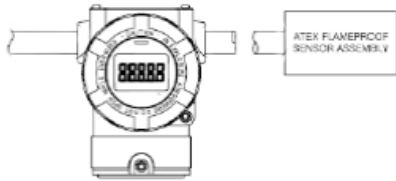
3. Hardware



4. Mounting

- Remote mounting sensor
- Direct mounting sensor

2100 Transmitter has different mounting methods.

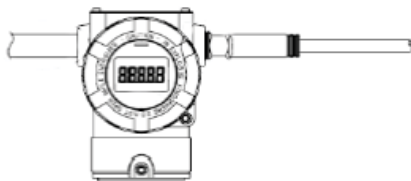


It is possible to install temperature sensor both side of housing and bottom of housing considering the installation condition.



Install per local installation codes. Qualified cable entry or stopping box required.

(For Using ATEX explosion proof certificate, Must be use ATEX approved cable entry)



Threads must be assembled with loctite thread sealant and have a minimum of five full threads engagement and 8mm axial length engagement.

5. LCD Screen Rotation

Unscrewing the two screws on either side of the LCD screen allows for the screen to be rotated 90° clock-wise or counter clockwise.

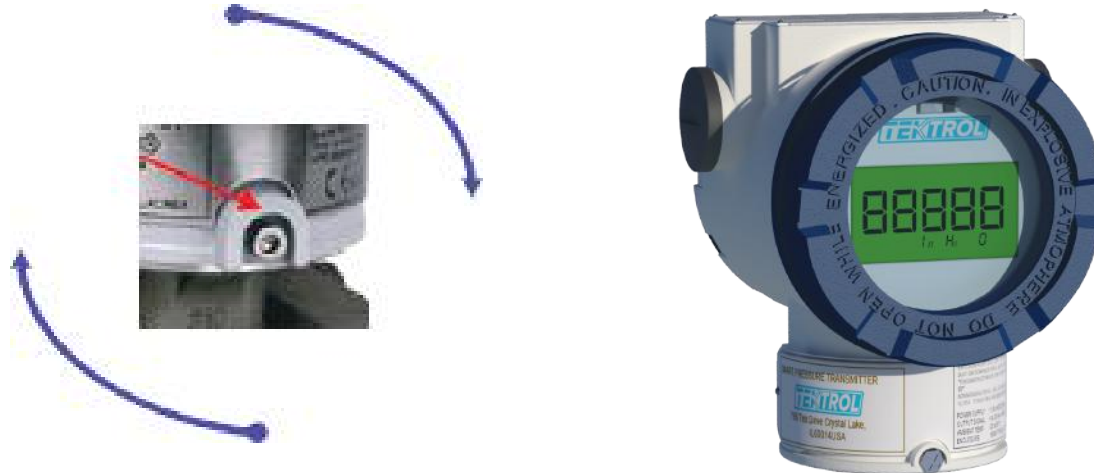


Quick Start Guide

6. Housing Rotation

Unscrewing the housing rotation screws in the front and back of the transmitter allow the housing to be rotated 90° counter clockwise.

360° rotations possible, however please take care that the sensor cable (inside neck) is not pinched or damaged during re-orientation.



7. Lock Front/Rear Covers

Allen Screw provided on each side of Front and Rear Cover allows for locking the covers for tamper proofing.



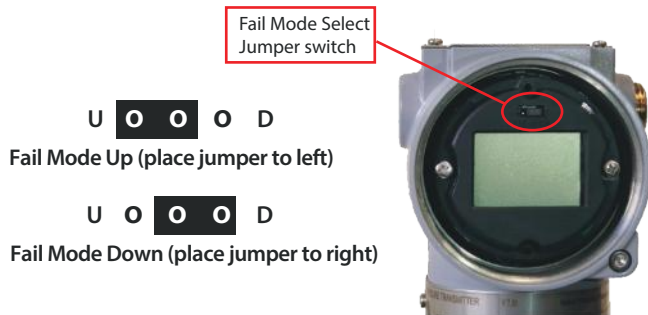
8. Fail Mode

Tek-Therm 2100 Smart Pressure Transmitters automatically perform real time self-diagnostic routines and display any error codes on the local LCD (M1 option if ordered) that can be used for troubleshooting. In addition to this, the self-diagnostic routines are also designed to drive transmitter current output outside of the normal saturation values in case a fault mode is detected. The transmitter will drive its current 4-20mA output low (down) or high (up) based on the position of the failure mode alarm jumper (or DIP switch) configured in line with NAMUR requirements.

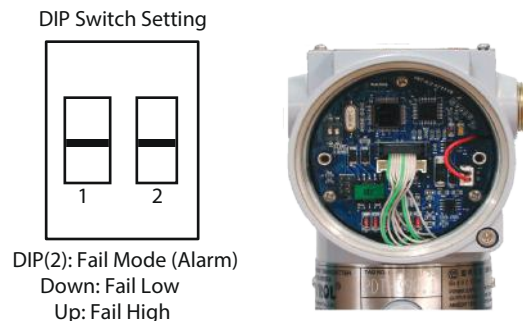
Level	4-20mA Saturation	4-20mA Alarm
Low/Down	3.9 mA	≤3.75 mA
High/Up	20.8 mA	≥21.75 mA

Selected Fail Mode	Jumper status on LCD and Switch(2) on CPU Module		DIP Switch(2) setting on CPU Module
	CPU Module	LCD Module	CPU Module
Fail Down	Down	D	Down
Fail Up	Down	U	Up
	Up	U or D	

Fail Mode Selection Jumper Switch on LCD Module



For Blind units using DIP switch on MCU board



Fail Mode and EEPROM Write Selection Switch on CPU Board





	
EEPROM Writing [Down of Left]	Alarm Down (4mA) [Down of Right]
	
EEPROM Protect [Up of Left]	Alarm Down (20mA) [Up of Right]

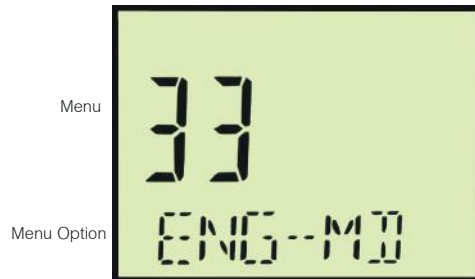
Fig. Fail Mode and EEPROM-Write Selection Jumper Switch

EEPROM write mode allows the user to edit the values which are stored in the EEPROM, while the EEPROM Protect mode restricts the user from accessing the data.

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9. Display

The 5-digit LCD screen shows:

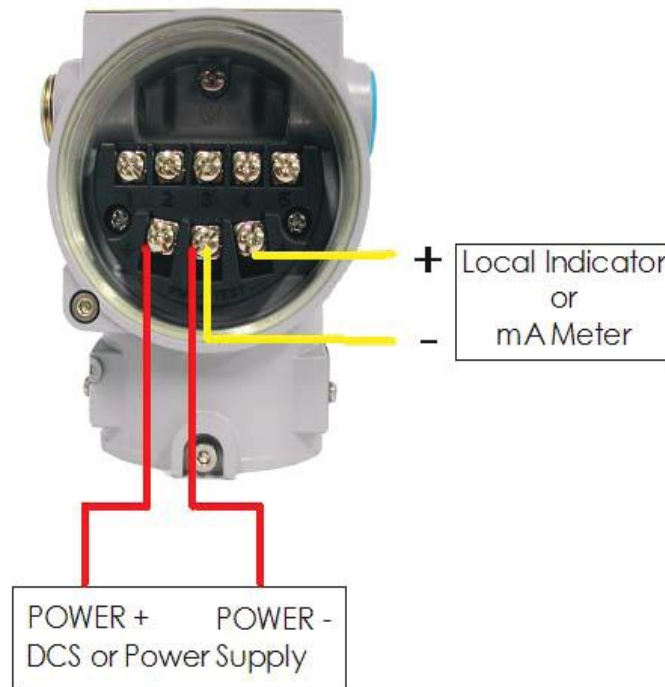


- Up to 5 digits of measured value
- Error code
- Units (Normal and Engineering)
- Menu and Menu Option
- Indication of being in Normal or Engineering mode
- Indication of performing a Loop Test
- Indication of being in Multi-Drop mode

10. Power Supply

Connect the power supply in the terminal indicated "+PWR" (left terminal) and "-" power supply in the central terminal. Do NOT connect "+" power supply in "+" terminal of the point indicated "TEST". It will be damage to test diode used to connecting TEST terminal. There are ground terminal provided on the inside and outside of the terminal box. Either one of these terminals may be used for grounding the transmitters.

Power Supply: Voltage Range: 12 to 45 Vdc
Voltage Rating: 24 Vdc \pm 30%



Tek-Therm 2100 Temperature Transmitter can input sensors such as RTD, Thermocouple(TC) and Resistance. In case RTD, 2Wire/3Wire and 4Wire Sensor connection is applicable. Also, 2Wire TC (B, E, J, K, N, R, S, T) Sensor input is applicable. Below pictures are present sensor connections using RTD & TC. Ex) In case RTD 3Wire, common line connects to terminal No. 1, 2.

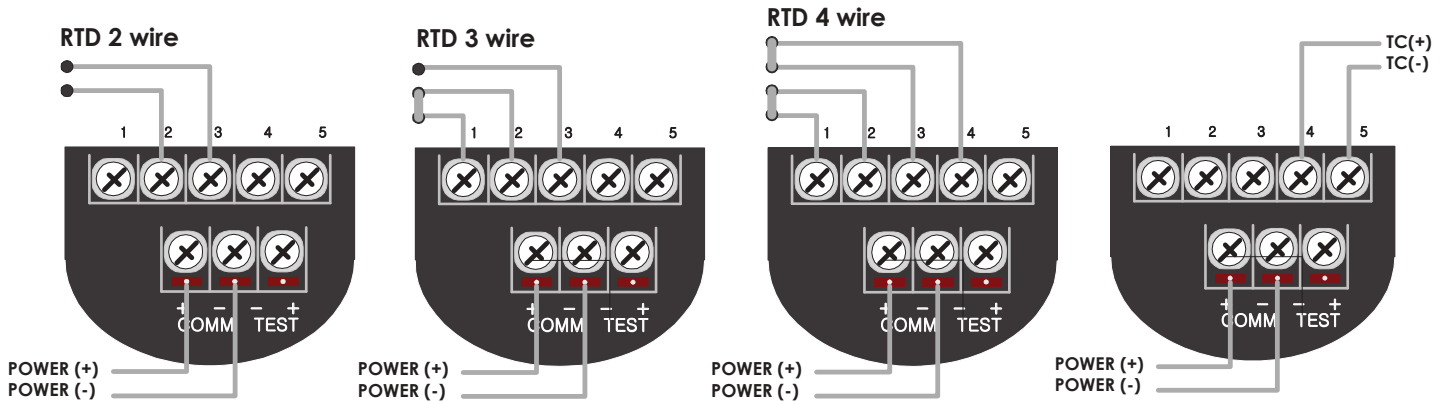
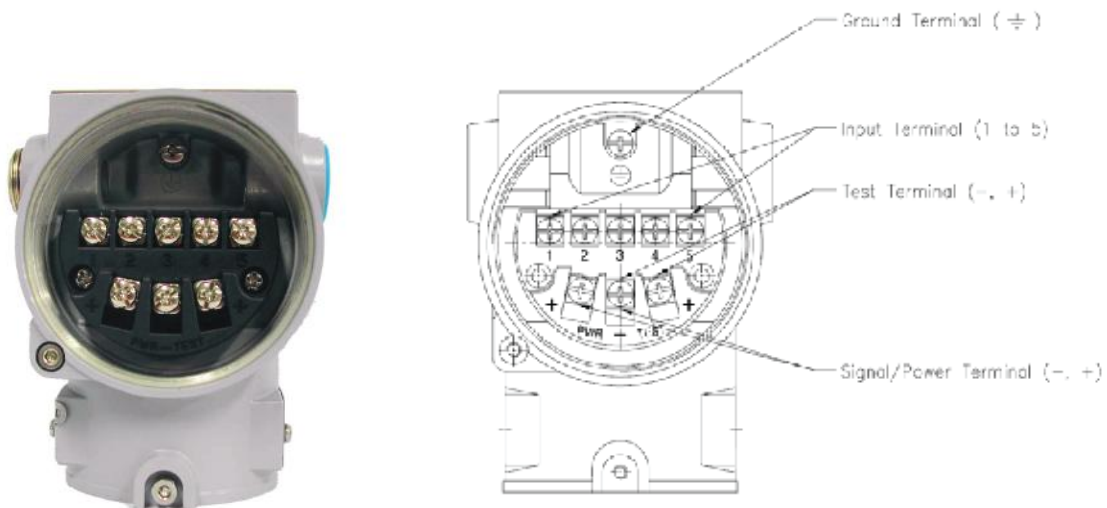


Fig. ATT2100 Temperature Transmitter Sensor Connections

11. Grounding

Please provide proper grounding (earth ground) at designated points (external or internal).



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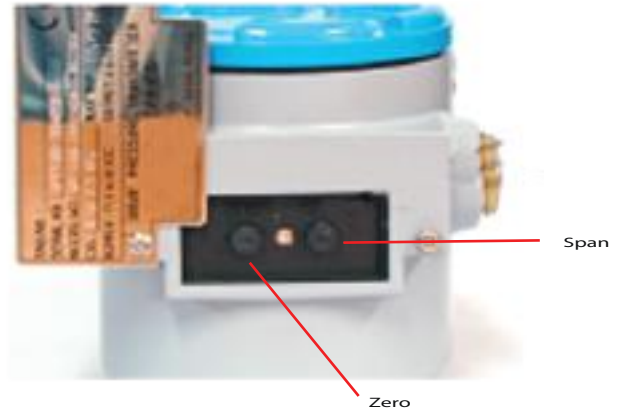
12. Calibration

Fully Functioning push buttons

To access the magnetic push buttons, loosen one of the screws holding down the nameplate on the top of the transmitter. Turn the nameplate out of the way; underneath are two push buttons labelled Zero and Span. These magnetic push buttons are fully functioning (see menu tree at the last page).

All available menus in transmitter are divided into 4 primary sections

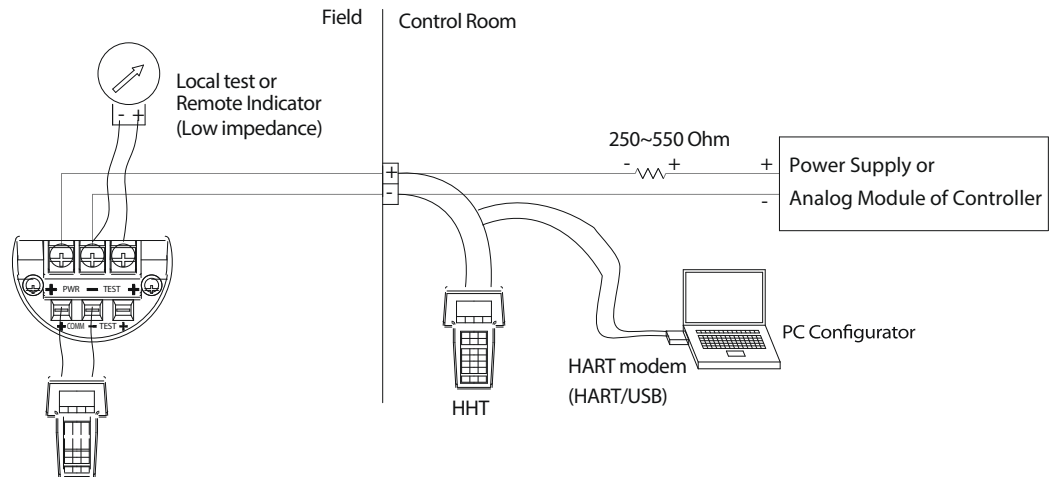
- 1 (TRIM) - for trims, loop test etc.
- 2 (SETUP) - for user configuration (units, range settings, output, damping etc.)
- 3 (LCD) - for display resolution, multi-parameter display, engineering mode
- 4 (Device) - for reset, password lock, Hart Device ID, etc.



Connection Diagram of Signal, Power and HTT for Standard Model Transmitters

- HHT (HART Communicator) or PC Configurator may be connected at any terminal point in the signal loop

- HART Communication requires a loop resistance between 250 and 550 Ohm at 24 Vdc



- Power Supply: Voltage Range: 12 to 45 Vdc
Voltage Rating: 24 Vdc \pm 30%

Rearranging and applying external PV

- Press Zero (5 sec)
- When display shows “-ZR-” re-lease the button
- Apply PV corresponding to de-sired LRV (4mA) setting
- Press Zero again. Display will show -Z or -ZE if error occurs.
- To adjust SPAN press SPAN button (5 sec)
- When display shows “-SP-” re-lease the button
- Apply PV corresponding to desired URV (20mA) setting

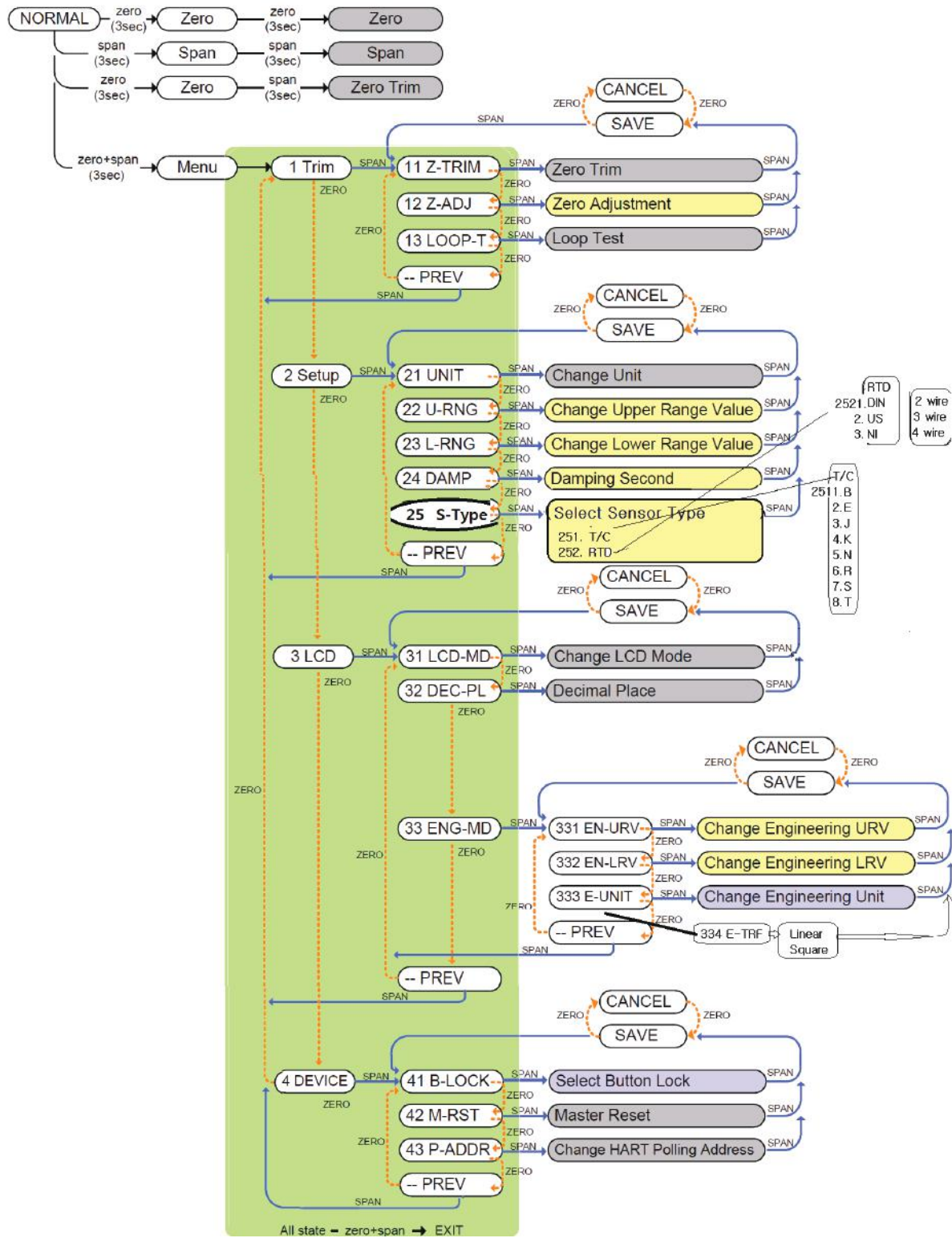
13. LCD Screen Display Error Codes

Message	Description
ADRE	ADC Initial Error
Zero	Zero Button Pressed
Span	span Button Pressed
SPAN	Initial message when activating Span push button
ber1	Button Input Sequence Error
Zter	Zero offset value over
ZT-ERR	Setting Limit (10%) Error when Zero Trim
-tr-	Trim Done
sper	Setting Limit Error When Button Input
-Ze-	Zero Button Function Done
-sp-	Span Button Function Done
-SP-	SpanURL configuration with external PV initiated
-Z0-	Zero Trim or Zero Adjustment Done
F-RS	Flash Configuration Data Reset
F-FL	Flash Reset Failure
-FR-	Flash Reset Done
A-RS	Analog EEPROM Initializing Start
A-CP	Analog EEPROM Copy
A-FL	Analog EEPROM Copy Failure
-AC-	Analog EEPROM Copy Done
s-fl	Flash Reset Done
A-RST	Analog EEPROM Initializing Start
A-STOR	Analog EEPROM Whole Write
A-FAIL	Analog EEPROM Whole Write Failure
-AC-	Analog EEPROM Whole Write Done
S-FL	Sensor Fail
Anbf	Anlog EEPROM fail or Temprature Sensor fail
EOSC	Oscillator Fault
FAVE	Flash Access Violation
NMIE	NMI Interrupt
S-1	Oscillator Fault This message is present for failures of the sensors such as short circuit, breaking down of wire, abnormal wiring, and back to normal condition when the failures are removed.

Quick Start Guide

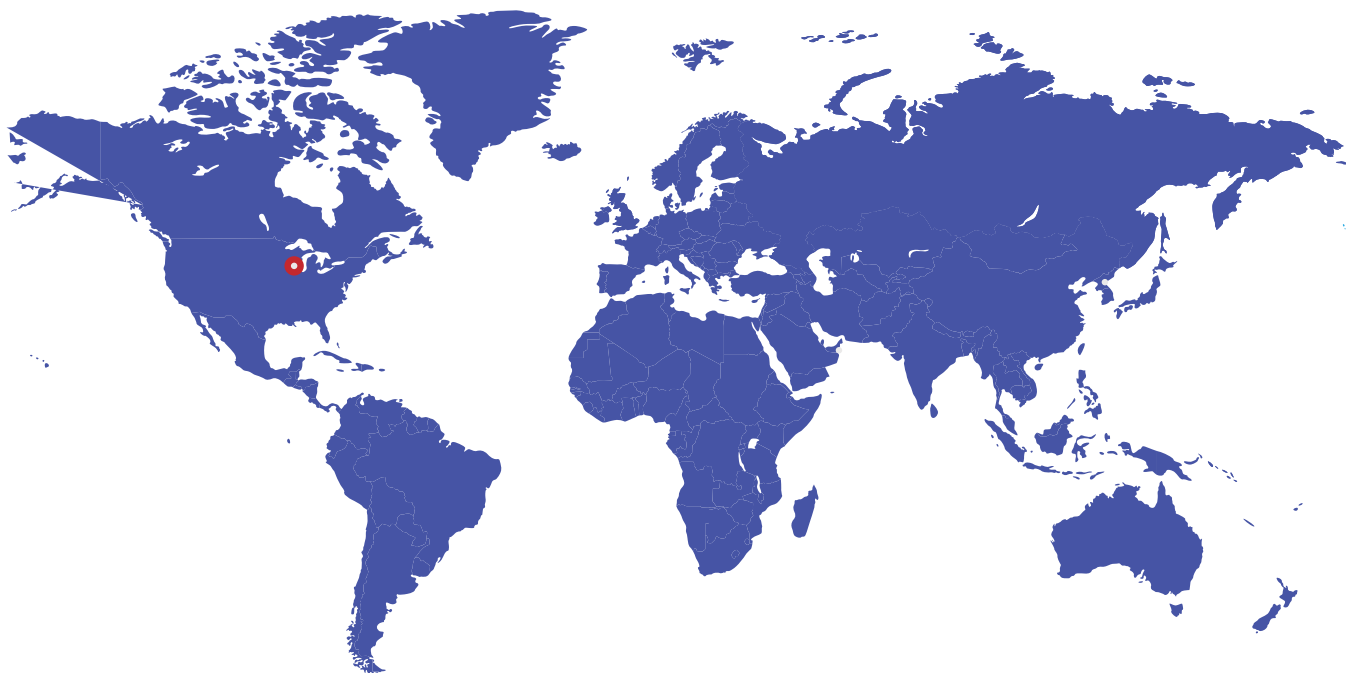
S-2	Shown when there is an occurrence in inner failure of transmitter operation, and back to normal condition when the failures are removed.
S-3	Shown when inner parameter's data error, back to normal condition when the failures are removed.
Sr-1	Shown when set abnormal sensor type, and back to normal condition when the failures are removed.

14. Menu Tree





Technology Solutions



796 Tek Drive
Crystal Lake, IL 60014
USA

Tel: +1 847 857 6076

Fax: +1 847 655 6147

Email: tektrol@tek-trol.com

www.tek-trol.com

Tek-Temp 2100A