


Tek-Bar 3120B




Quick Start Guide

1. Before You Begin

Before installation check the model, specifications, and installation location for the transmitter. Follow the Operating Instruction Manual for detailed installation and other information.

 Installation of the device should be carried out by technician or qualified specialists. The technician should read and understand these Operating Instructions.

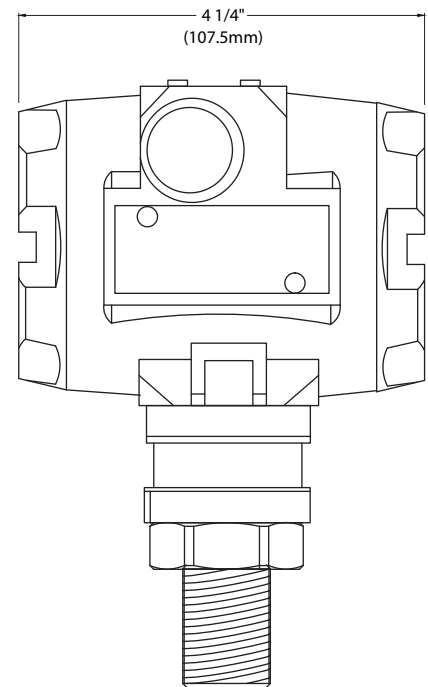
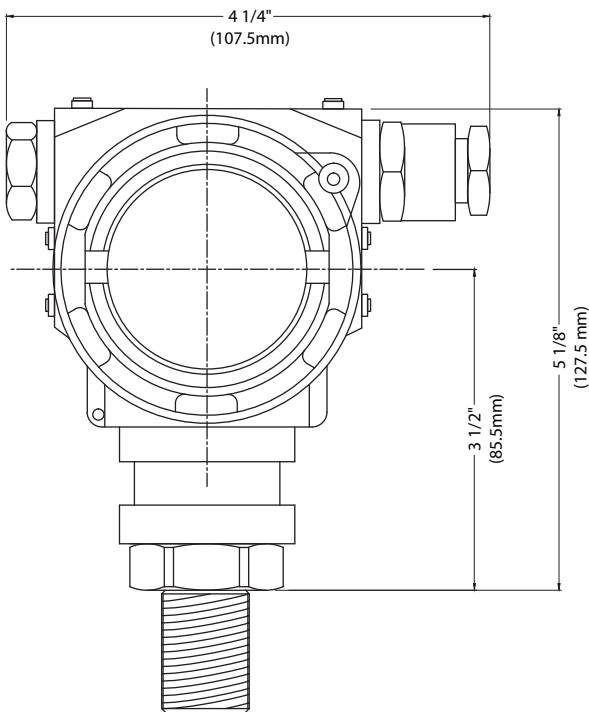
 Do not clean or touch diaphragm seals with hard or pointed object.

2. Unpack

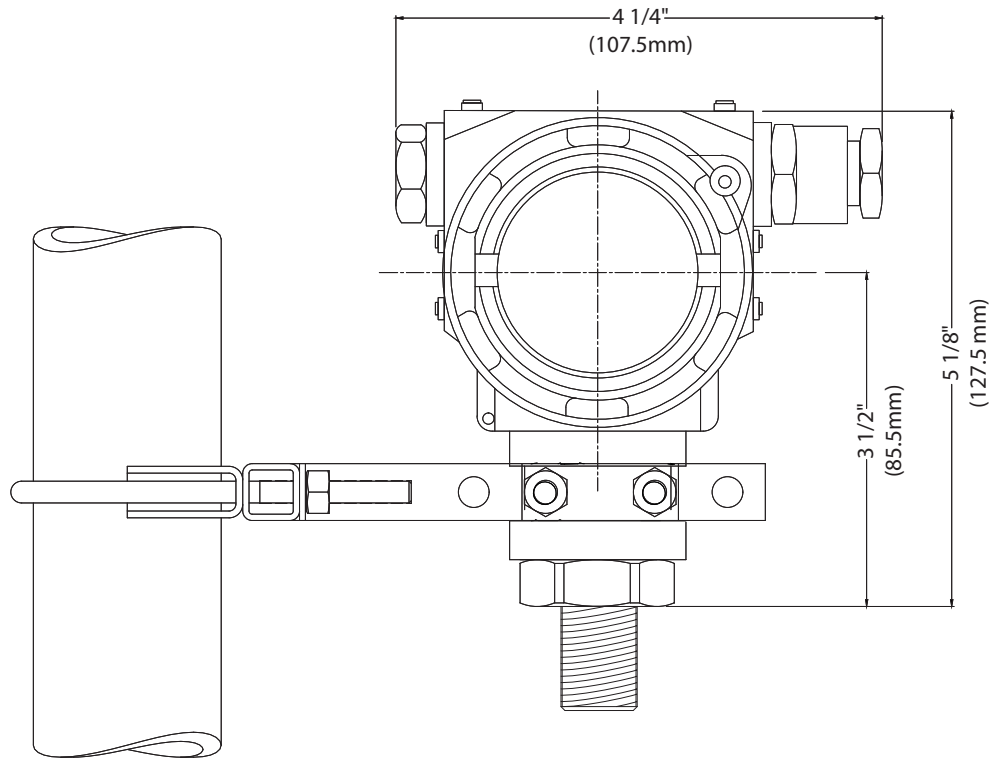
Tek-Bar 3120B Exp Absolute/Gauge Pressure Transmitter

3. Dimensional Drawings

Drawing and dimension with display



4. Mounting



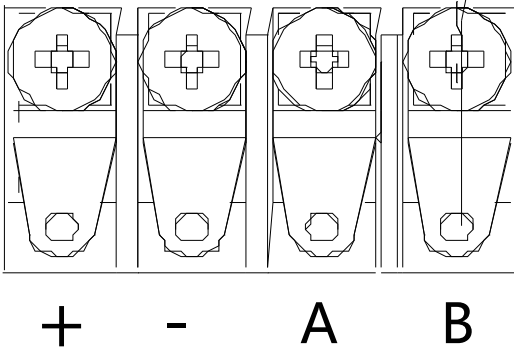
5. Display

The local display enables you to read all important parameters directly at the measuring point and configure the device using the function matrix. It has 5-digit LCD display.



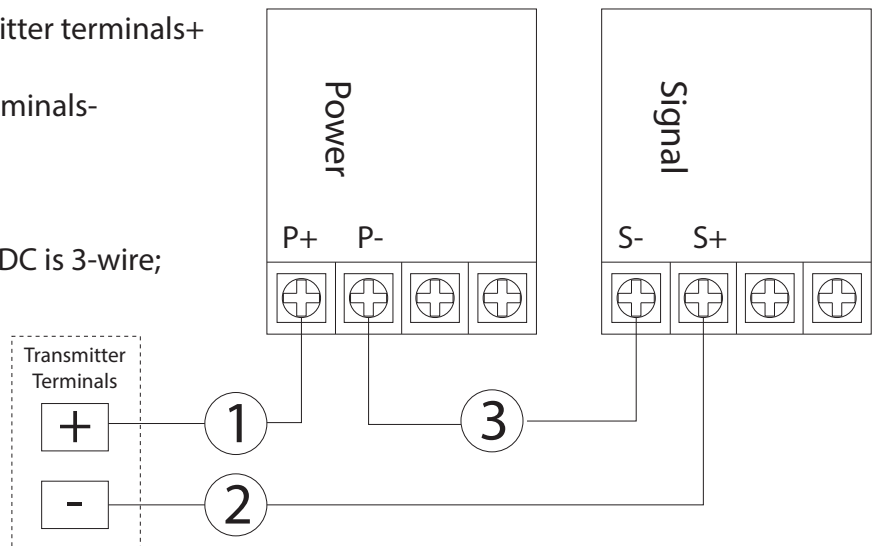
Quick Start Guide

6. Power Supply Wirings



Label	Two Wires	Three Wires	Four Wires
+	Power +	Power +	Power +
-	Signal -	Power -	Power -
A		Signal +	Signal +
B			Signal -

- ① Power supply+ is connected with transmitter terminals+
- ② Signal+ is connected with transmitter terminals-
- ③ Signal- is connected with power supply-
- ④ 4-20mA can be wired as 2 or 3-wire; 1-5VDC is 3-wire; Modbus is 4-wire.



7. Grounding

- Shielded twisted pair signal cable is used to avoid ground loops.
- Shielded signal cable is used for single-grounding, insulated floating at the side of pressure transmitter, and grounding at the control cabinet.
- Internal ground terminals are used for direct grounding.

8. Configurations

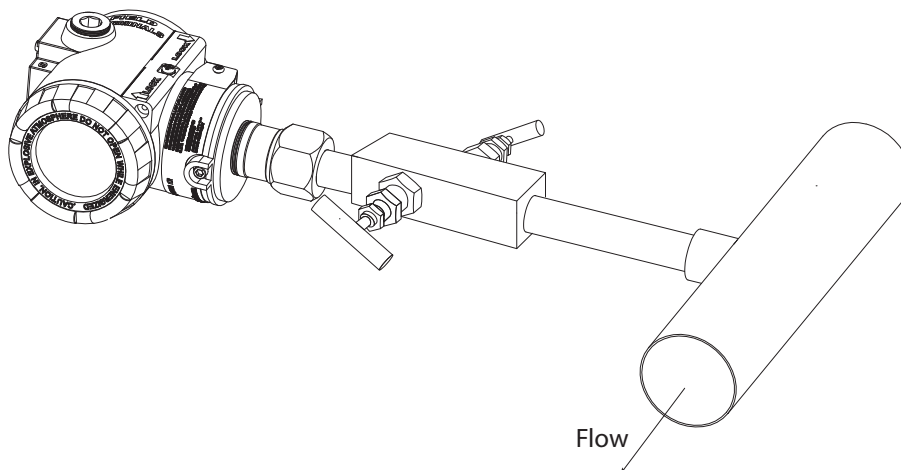
The top nameplate is located in the upper part of the transmitter. Slide the name plate until the Zero/Span button is visible and fully accessible.



9. Installation of Transmitter

Liquid Flow Measurement

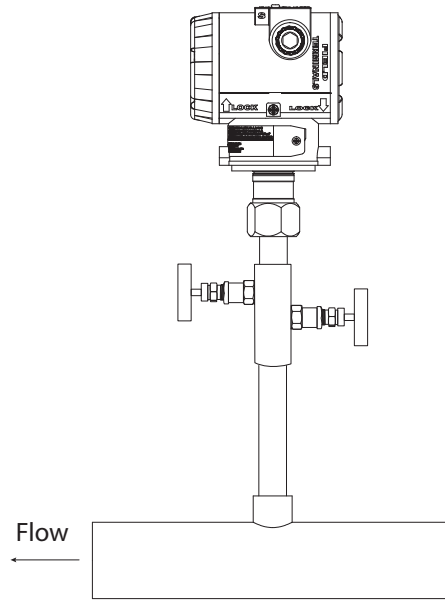
- Place the taps to the side of the line to prevent sediment deposits on the transmitters process isolators
- Mount the transmitter beside or below the taps so gases can vent into the process line
- Mount drain/vent the valve upward to allow gases to vent



Quick Start Guide

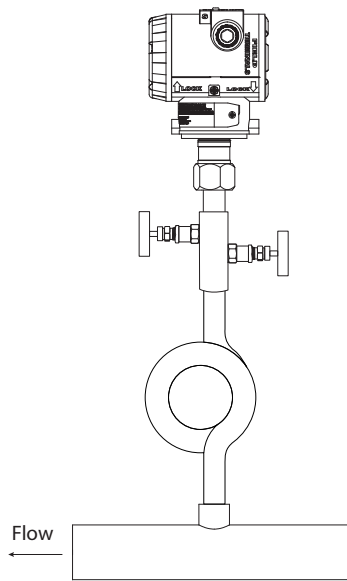
Gas Flow Measurement

- Place taps in the top or side of the line
- Mount the transmitter beside or above the taps so liquid will drain into the process line



Steam Flow Measurement

- Place taps to the side of the line
- Mount the transmitter below the taps to ensure that the impulse piping will stay filled with condensate
- In steam service above 250°F (121°C), fill impulse lines with water to prevent the steam from contacting the transmitter directly and to ensure accurate measurement at start-up

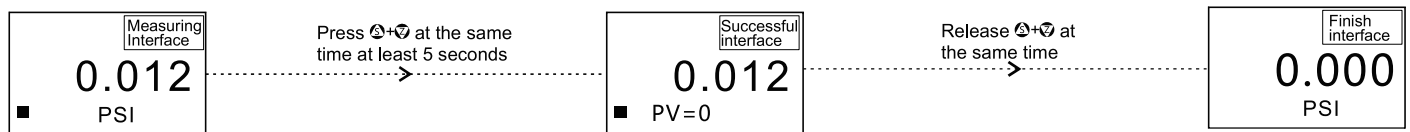


Note: For steam or other elevated temperature services, it is important that temperatures at the process connection do not exceed the transmitters process temperature limits.

10. Analog button programming menu

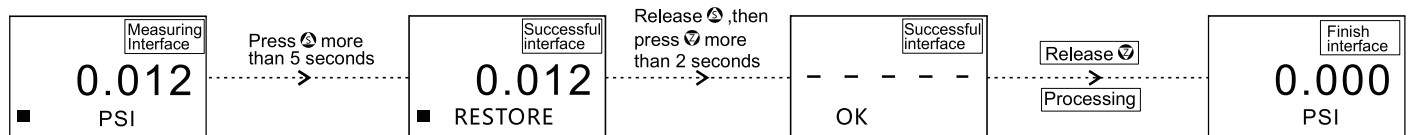
Keys operation

Set PV=0

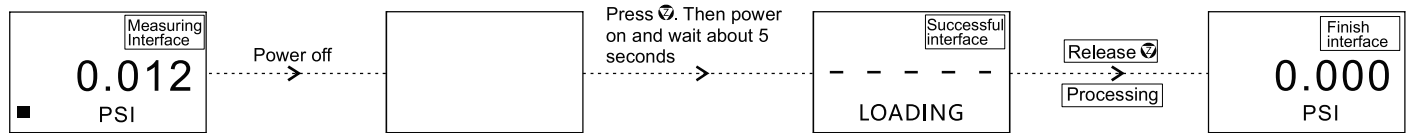


Factory reset

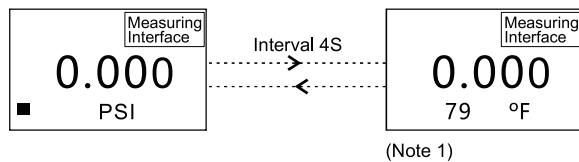
Method 1:



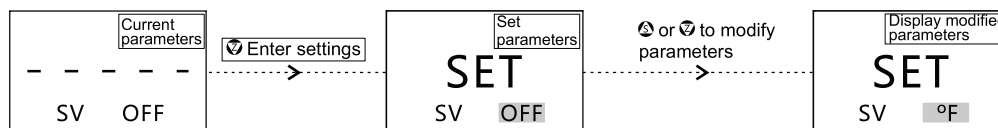
Method 2:



Sensor temperature display(SV: temperature & PV: pressure)dynamic switching, default temperature unit °F:



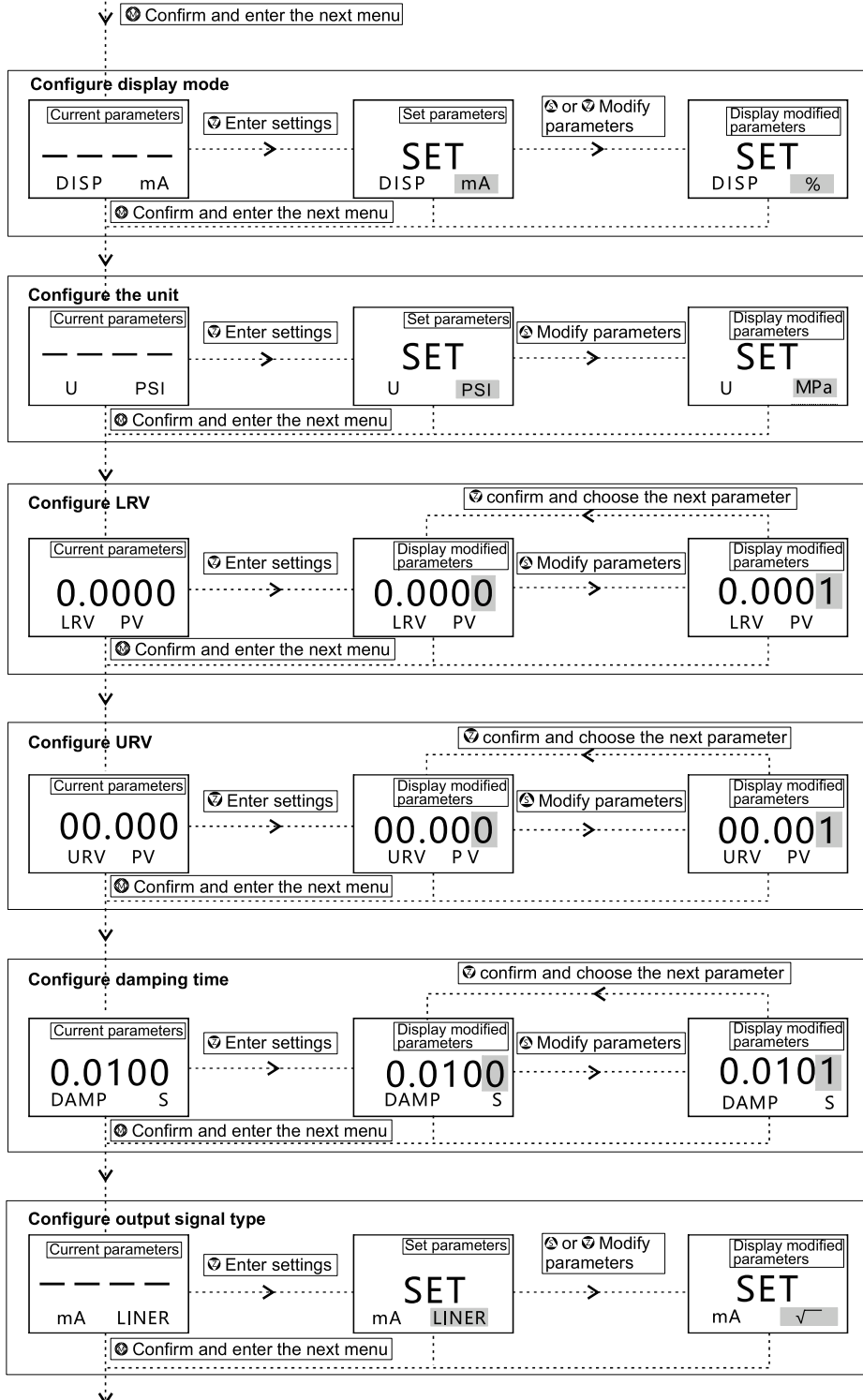
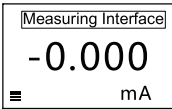
SV display mode:



Quick Start Guide

Detailed operating instructions

Measuring Interface



Parameters table

Display mode

%	Percentage
PV	Process variable
mA	Current

Square root display mode

%	<input type="checkbox"/>	%
PV	<input type="checkbox"/>	kPa
mA	<input type="checkbox"/>	mA

Units (↺, ↻)

kPa
MPa
bar
psi
mmHg
mmH2O
mH2O
inH2O
ftH2O
inHg
mHg
TORR
mbar
g/cm2
kg/cm2
Pa
ATM
osi
mm
m

Lower range value

-19999-99999

Upper range value

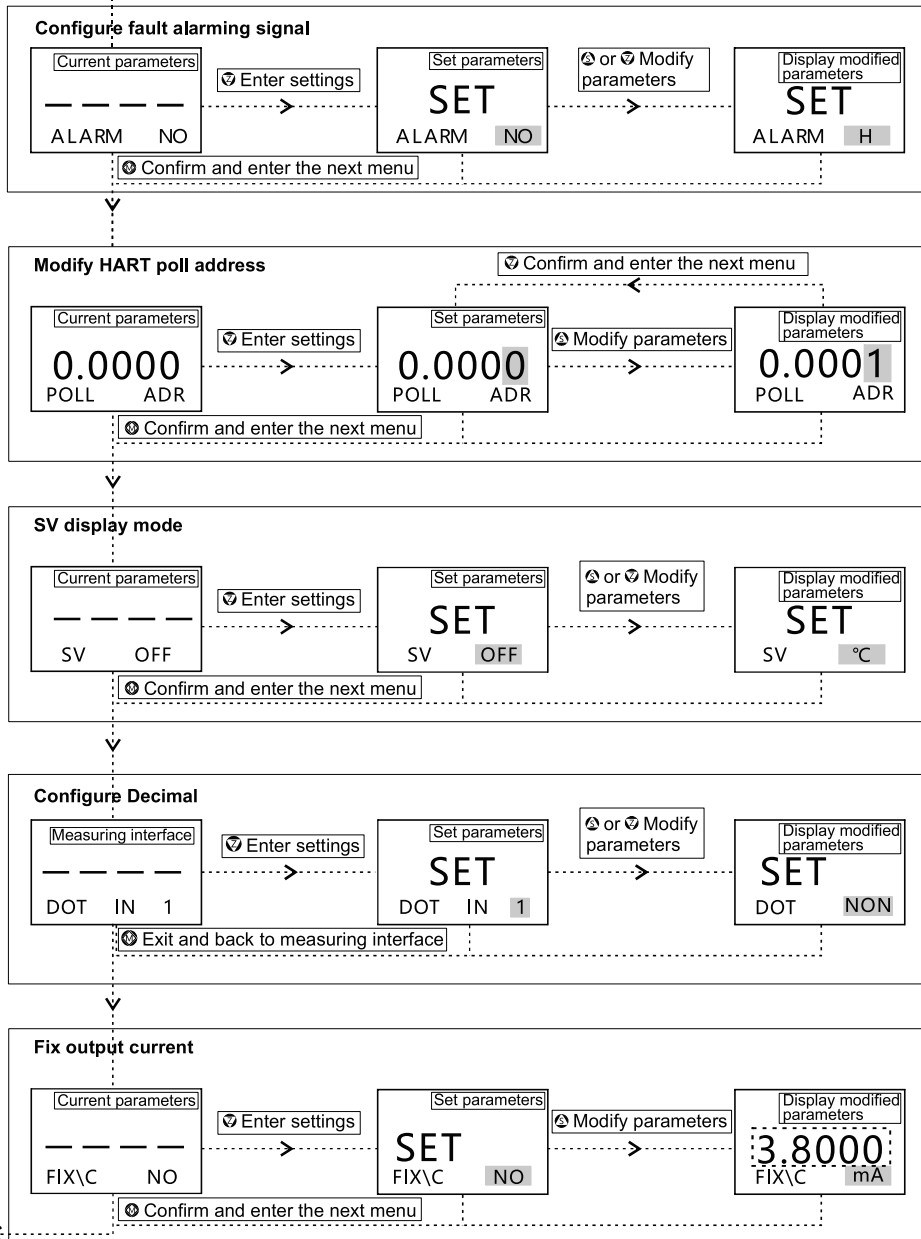
-19999-99999

Damping time

0-100S

Output signal type

<input type="checkbox"/>	Square root
<input type="checkbox"/>	Linearity



Fault alarm signal

No	Saturation output to 20.8mA or 3.8mA
H	20.8mA
L	3.8mA

Optional address 0-15

0: Broadcast address

1-15: Non-broadcast address

(fixed analog output to 4mA)

Display mode

OFF	None
°C	Celsius
°F	Fahrenheit
K	Kelvin

Dot options

NON	No decimals
1	Max one decimals
2	Max two decimals
3	Max three decimals

Loop current output

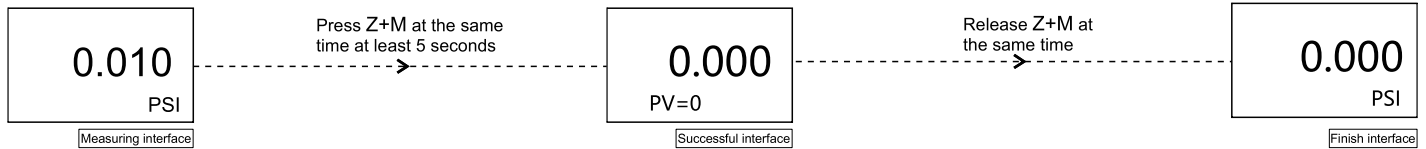
NO	Not fixed
3.8000	Fixed to 3.8mA
4.0000	Fixed to 4mA
8.0000	Fixed to 8mA
12.000	Fixed to 12mA
16.000	Fixed to 16mA
20.000	Fixed to 20mA
20.800	Fixed to 20.8mA

Quick Start Guide

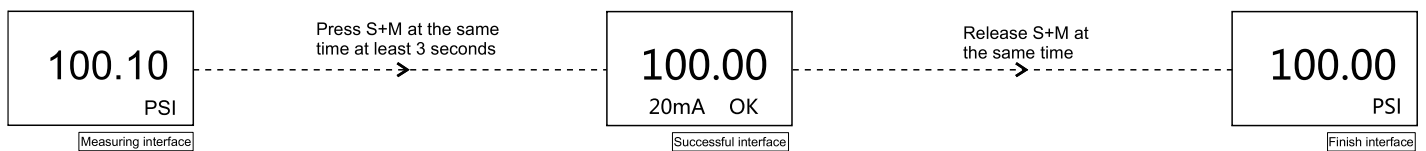
11. Modbus Programming Menu

Keys operation

Set PV=0

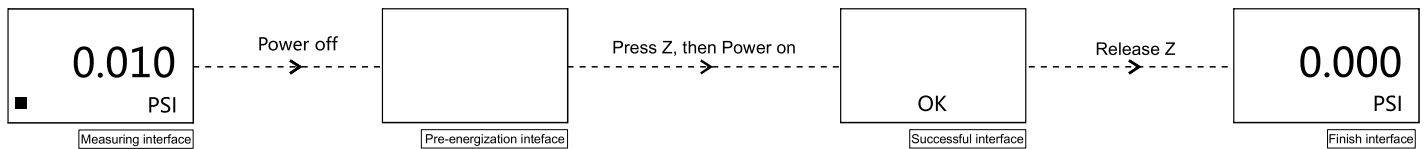


Full range adjustment

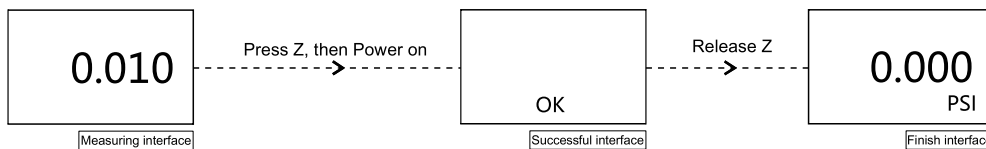


Factory reset

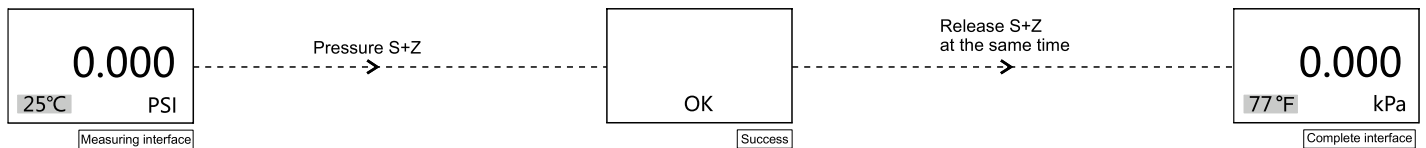
Method 1:



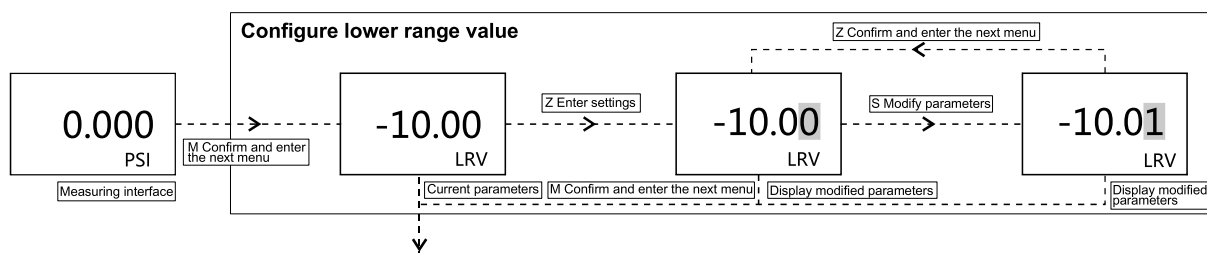
Method 2:

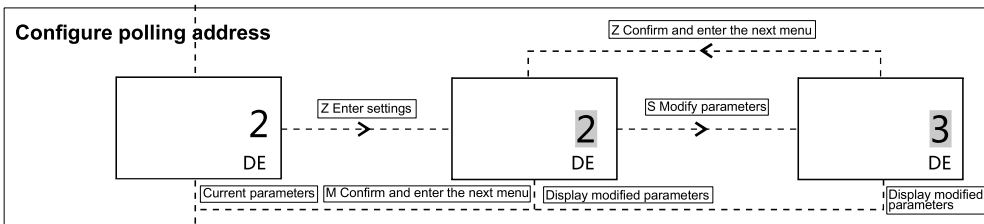
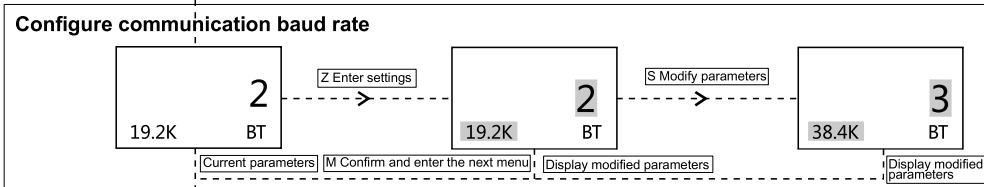
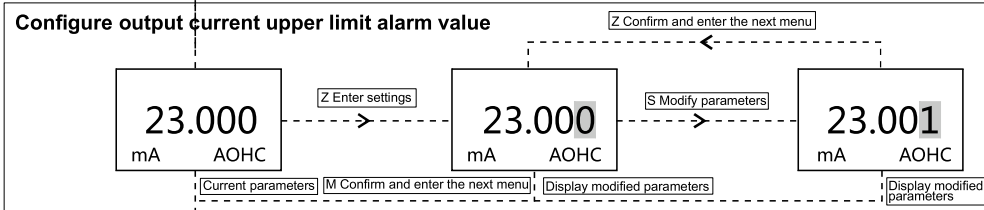
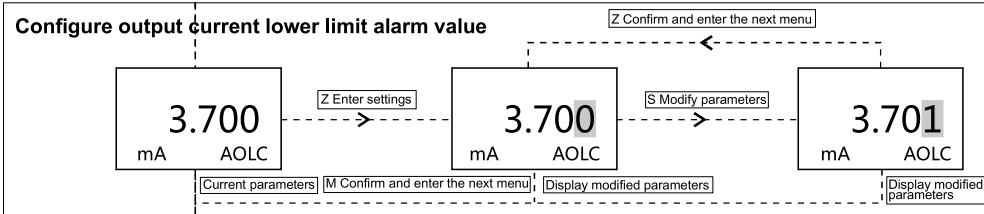
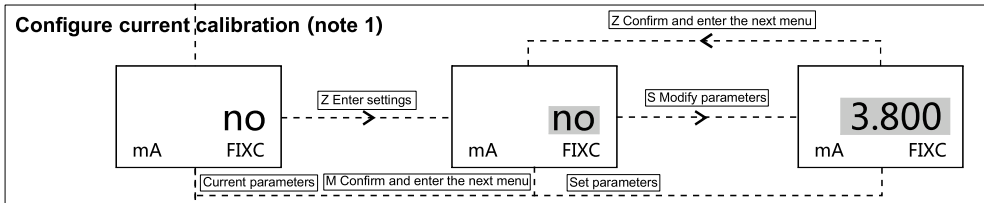
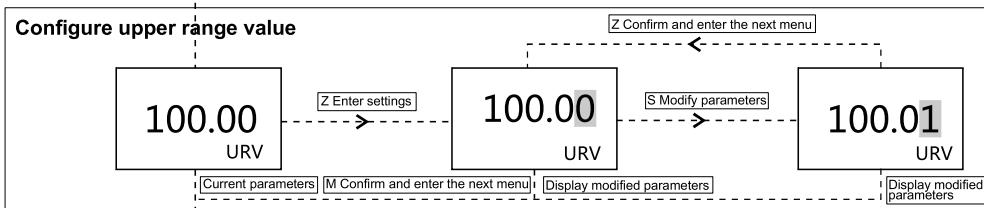


Temperature sensor unit switching:



Detailed operating instructions





Lower range value

-19999-99999

Upper range value

-19999-99999

Calibration current

no (none)
3.800mA
4.000mA
8.000mA
12.000mA
16.000mA
20.000mA
23.000mA

Lower range alarm value

3.500-3.800mA

Upper range alarm value

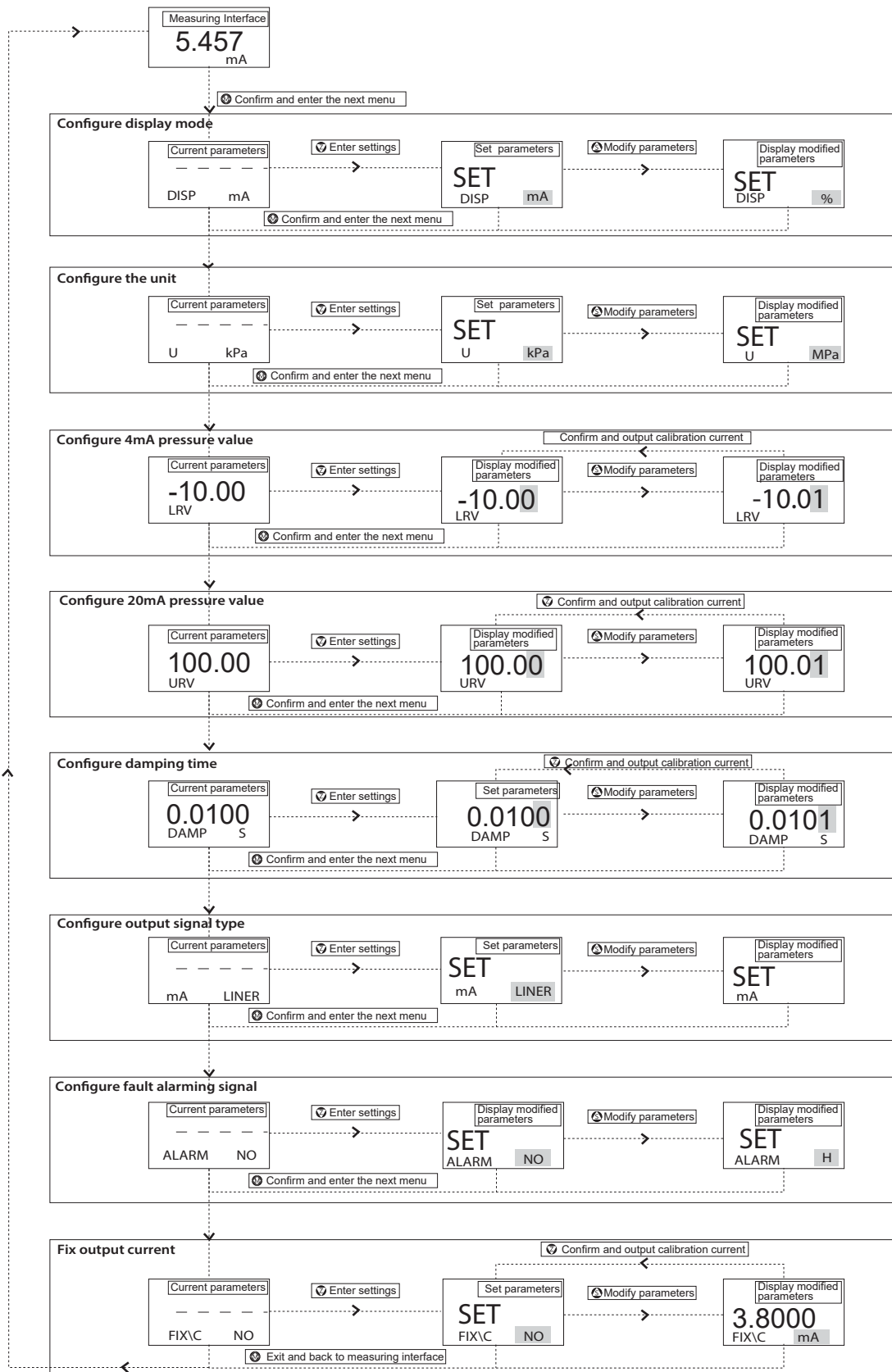
20.800-24.000mA

Communication baud rate

0	4.8K
1	9.6K
2	19.2K
3	38.4K
4	57.6K
5	115.2K

Quick Start Guide

12. Menu Tree



Parameters table

Display mode

%	Percentage
PV	Process variable
mA	Current

Units

(↕, ↓, ↑)

kPa
MPa
bar
psi
mmHg
mmH ₂ O
mH ₂ O
inH ₂ O
inHg
mHg
TORR
mbar
g/cm ²
kg/cm ²
Pa
ATM
mm
m

Lower range value

-19999-99999

Upper range value

-19999-99999

Damping time

0 to 100S

Output signal type

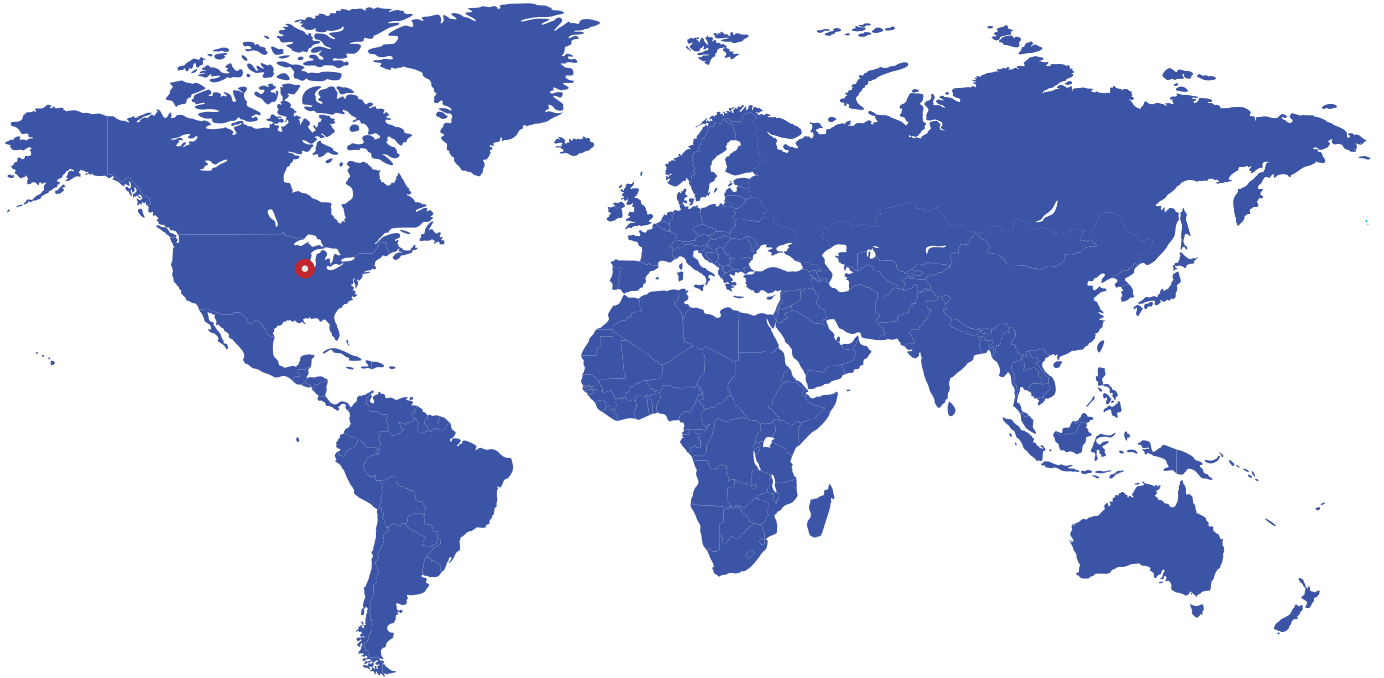
√	Square root
LINER	Linearity

Fault alarm signal

NO	None
H	20.8 mA
L	3.8 mA


Output current

NO (none)
3.8000 mA
4.0000 mA
8.0000 mA
12.0000 mA
16.0000 mA
20.0000 mA
20.8000 mA



Tek-Trol LLC

796 Tek Drive Crystal Lake,
IL 60014, USA

 +1 847-857-6076

 tektrol@tek-trol.com

 www.tek-trol.com