

FEATURES:

- Operating power derived from 4-20mA current loop
- Square root extract option available (ST-54SR)
- 2.5 volt max voltage drop on standard unit; 5 volt with square root option
- Large .6 inch tall 4.5 digit LCD readout
- Selectable decimal points and polarity sign indicator
- 2 ranges of ZERO & SPAN adjustment allow calibration in engineering units
- 3½ active digits plus a selectable "DUMMY 0" least significant digit provide 4½ digits of display
- Panel Mount, Explosion Proof, NEMA 4X or PCB packaging is available



ST-54XP Shown

CAL PROCEDURES:

1. Determine the desired reading at ZERO and SPAN.
2. Input 4mA; adjust the ZERO control until the desired reading is displayed.
3. Input 20mA; adjust the SPAN control until the desired reading is displayed.
4. Recheck ZERO and midpoint.

WITH SQUARE ROOT OPTION (ST-54SR):

1. Move the two Linear/Square Root jumpers to the Square Root position. *Note:* The ST-54SR solves the equation,
$$\% \text{ F.S. Reading } (10) = \sqrt{\% \text{ F.S. INPUT}}$$
2. Input .1% F.S. (4.16mA).
3. Adjust the SQ.ROOT ZERO control, on SQ.ROOT PCB, for the desired 10%F.S. reading (front ZERO is inactive).
4. Input 100% F.S. (20.00mA)
5. Adjust the SPAN control for the desired 100% F.S. reading
6. Recheck ZERO and midpoint.

DESCRIPTION:

The ST-54 / ST-54SR Loop Powered Indicators are designed to display 4-20mA variables in their correct engineering units. Each have 3½ active digits plus a "dummy 0" least significant digit which may be DIP switch selected to provide full scale readouts as high as 19990. The 4 decimal points between the digits may also be selected via the front DIP switch. Non-interacting ZERO & SPAN potentiometers, with 2 switch selectable adjustment ranges, allow precise display in any desired engineering unit value.

ST-54's are wired into the current loop with a "plug in" 2 position terminal strip. The plug side of the terminal strip contains a 6.8 volt zener diode which allows the ST-54 to be removed without interrupting the loop. Voltage consumption from the loop is 2.5 volts for the ST-54, or, 5.0 volts for the ST-54SR which is equipped with jumpers to allow either linear or square root readings.

Panel Mount, Explosion Proof, NEMA 4X or PCB packaging is available.

DIP SWITCH SETTINGS:

1. (-) polarity sign on/off
2. Decimal Point 1 on/off
3. Decimal Point 2 on/off
4. Decimal Point 3 on/off
5. Decimal Point 4 on/off
6. "DUMMY 0" LSD on/off
7. ON=Spans >200 counts
Off= Spans > 900 counts
8. ON=50% of span zero adjust
OFF=25% of span zero adjust

Example:

4mA= -80.0 & 20mA= 800.0

-80.0 to +800.0 readings require the "DUMMY 0", 880 counts, & 11% of span zero adjust.

Switch settings needed are:

1. ON, 2. OFF, 3. OFF, 4. OFF
5. ON, 6. ON, 7. OFF, 8. OFF

SPECIFICATIONS

SIGNAL INPUT:

4-20mA

VOLTAGE DROP:

2.5 VDC max at 20mA, or, 5 VDC for ST-54XX-SR

DISPLAY:

.60 inch high, 4.5 digit L.C.D.

PROTECTION:

250mA forward, .5amp reverse

ACCURACY:

±.1% of full scale ± one count

TEMPERATURE RANGE:

-10 - 60 degrees C

TEMPERATURE DRIFT:

ZERO: ± 1 count per degree C

SPAN: ± .01% of full scale

HOUSINGS:

ST-54PC; printed circuit assembly without housing

ST-54PM; general purpose panel mount

ST-54N4; NEMA 4X wall mount

ST-54XP; NEMA 7 explosion proof

Class 1, Groups B,C,D Class 2, Groups E,F,G

Also meets NEMA4 with included 'O' ring

ORDERING INFORMATION:

Specify housing by addition of 2 letter suffix shown above

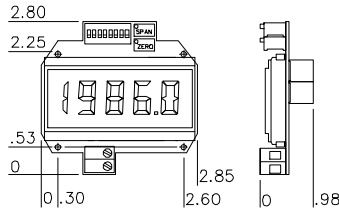
Add the square root option with suffix -SR. For example:

ST-54PM-SR describes the panel mount enclosure

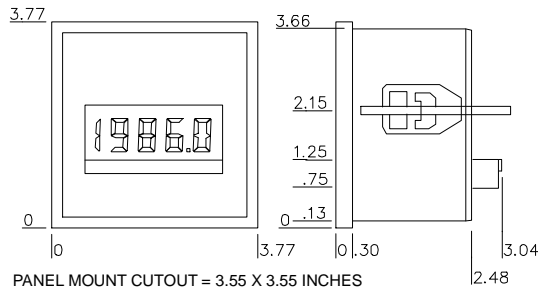
including the square root extraction option.

ALL DIMENSIONS IN INCHES

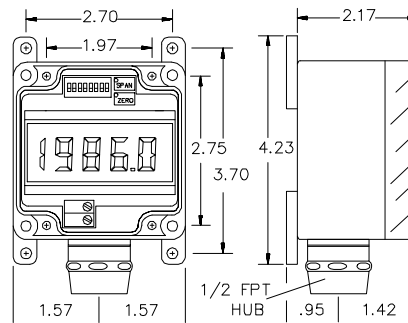
PRINTED CIRCUIT MODULE ST-54PC



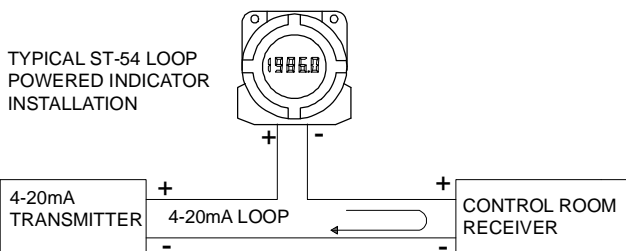
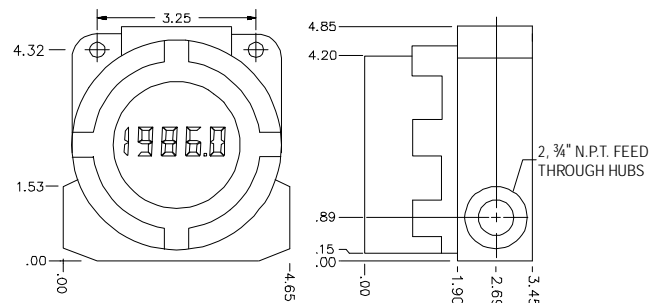
GENERAL PURPOSE PANEL MOUNT ST-54PM



NEMA 4X WALL MOUNT ST-54N4



NEMA 7 (EXPLOSION PROOF) ST-54XP



Model ST-54 process loop indicators may be added to existing 4-20mA installations without the addition of any new wiring. Since the meter is powered by the loop, simply install it in series with either of the 2 loop wires.