



# MODEL 706-S Two-Wire Pressure Transmitter

## Operation and Instruction Manual

### DESCRIPTION

SWITZER Model 706-S Pressure Transmitters are low cost and compact sized model for OEM customers for higher volumes, demanding commercial and heavy industrial applications. This is suitable for both liquid and gas measurements and even for aggressive media like contaminated water, steam and corrosive fluids. The pressure cavity in the transmitter with SS sensor is machined from a solid piece of 17-4 PH stainless steel.

### PRINCIPLE OF OPERATION

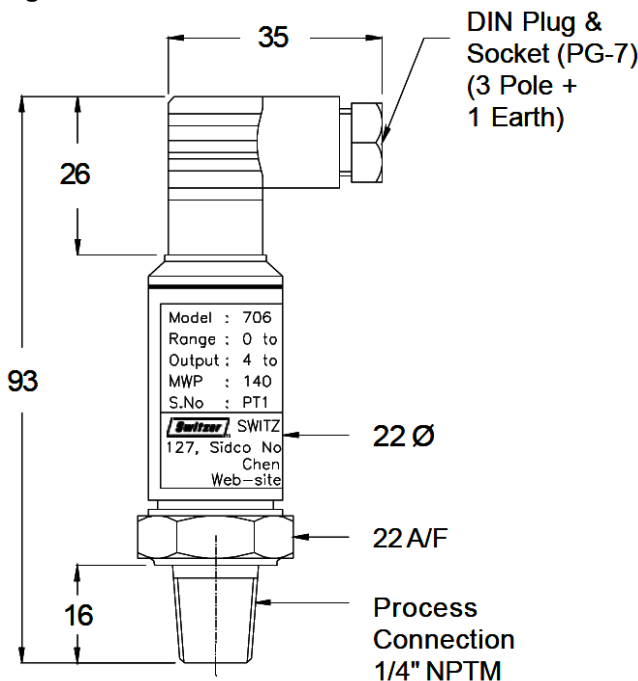
The primary pressure sensing element for the detection is a stainless steel diaphragm on which piezo-resistive elements are configured in a bridge form. When the diaphragm is subjected to a pressure, the stress produces a strain on the deposited bridge to give an electrical output when excited. The sensor is temperature compensated to ensure minimal drift with ambient and process temperature changes.

The sensor output signal is suitably conditioned to generate the 4-20mA output current proportional to pressure. The minimum voltage compliance is 9VDC.

### INSTALLATION INSTRUCTIONS

K-704 Pressure Transmitter can be installed directly on to the pressure line. The process pressure connection is 1/4" BSP(M) or NPT(M). Use a 22mm A/F wrench at the hexagon flat surface above the 1/4" process connection to fix the transmitter on a pressure line.

Fig-1 Overall Dimensions



### ELECTRICAL WIRING

The electrical connection to the instrument is provided through a 4-way plug and socket connector mounted on top of the instrument. The connector uses a PG-7 type of cable gland. Use appropriate wire OD to ensure proper sealing to satisfy weatherproof criteria. The recommended cable size is 2.5 to 6.5mm for proper clamping.

The connector is of 2 basic parts as described below.

#### 1. Bottom base:

This is the male connector fixed on the top of enclosure to which the internal electronics are wired.

#### 2. Top plug:

This is the female connector which plugs onto the base. The external wire is connected onto this plug. This plug is fixed and held with the base with a screw to avoid easy removal.

#### Wiring Method:

- Unscrew the top plug screw, remove it fully and pull out the plug from its base.
- The plug is of 2 sections – (a) female socket with screw terminals; (b) top cover with cable entry
- Insert a screw driver tip into the corner slot on the bottom side of the socket and pull out the socket from plug cover to access the screw terminals.
- Unscrew the cable gland nut and pull out the metal ring and grommet.
- Insert the wire through cable gland nut, metal ring and grommet in this sequence. Ensure grommet is inserted in correct direction for proper weather proof seal.
- Strip the insulation of wires appropriately.
- Unscrew the terminal screws on the side of each terminal clamp and insert the wires into the clamp.
- Tighten the screws firmly to hold the wires.
- Insert socket back into the plug cover.
- The female socket will snap fit on the plug cover through its centre pin.
- Insert the plug on base and tighten the plug screw.
- Ensure gasket is in place to seal with the base when fixing and tightening the plug.

### SPECIFICATIONS

- Enclosure Protection: Weatherproof to IP 65
- Sensor: Piezo-resistive element 17-4 PH SS
- Range & MWP: Refer to catalog
- Accuracy:  $\pm 0.25\%$  of full scale
- Output: 4–20 mA, 2-wire current
- Power Supply: 9 to 30V DC
- Output Load: 750 Ohms at 24V DC power supply
- Electrical Connection: 4 way DIN 43650-C connector
- Process Connection: 1/4" NPTM/BSPM
- Weight: 90 gms
- Mounting: Direct online
- Process Temperature: (-)40 to (+)125°C
- Compensated Temperature: (-)20 to (+)85°C
- Ambient Temperature: 0 to 70°C



## Switzer Instrument Limited

Regd. Off: 29 (Old# 14), Thanikachalam Road, P.B.No.1423, Chennai 600 017

Internet web-site  
[www.switzerinstrument.com](http://www.switzerinstrument.com)

#### Sales – Head Office

17 (Old# 9), South Boag Road, Chennai 600017

Ph : 044-24340999 / 24343956 / 24344321

Fax : 044-24347887

e-mail : [sales@switzerinstrument.com](mailto:sales@switzerinstrument.com)

#### Works

127 SIDCO North Phase, Ambattur Industrial Estate, Chennai 600050

Ph : 044-26242255 / 26243355

Fax : 044-26248849

e-mail : [works@switzerinstrument.com](mailto:works@switzerinstrument.com)