

REVISION : 04

iPTrans

PRESSURE TRANSMITTER

PRECISE, ROBUST AND TROUBLE-FREE

Why *iPTrans*?

In today's world where industry is moving towards industry 4.0, smart solution is required for high level of automation.

iPTrans pressure transmitter avoid unplanned downtime and improve product quality which in turn reduces project costs and start up time. The *iPTrans* Pressure Transmitters deliver total value across the entire plant life cycle, from construction to operations to maintenance.

As each industry has its own specific demands, whether they are requirements for safety-related devices or harsh, rugged environmental conditions. The *iPTrans* Pressure Transmitters has complete range of portfolio to meet industry applications.

Uncompromising precision

iPTrans pressure transmitters are a complete family of measuring instruments for measuring gauge, differential, and absolute pressure that includes a range of performance values, load capacities, and materials. *iPTrans* pressure transmitters has high measuring accuracy and ruggedness, the modular system features superb operating.



iPTrans

WITH REMOTE SEALS

The *iPTrans*-200 is a Remote Seal that allows the pressure transmitter to make measures in situations where the immediate contact of the transmitter diaphragm with the process fluid it is not allowed. The remote seal is made up by one connection with the diaphragm and one capillary connection with filling fluid. The filling fluid transfers the pressure measured in the process fluid to the transmitter sensor. The capillary connection links the seal diaphragm to the transmitter.

The remote seals available in the *iPTrans* series are : Flanged "T" Type, Threaded, Pancake both models having an optional flush connection, Sanitary, Flanged with Extension and Pancake with Extension.

The *iPTrans* DP type is assembled with gauge and differential pressure transmitters. When used in food applications the connections are sanitary type. Level models are also available

The typical applications of the remote seal on the transmitter are:

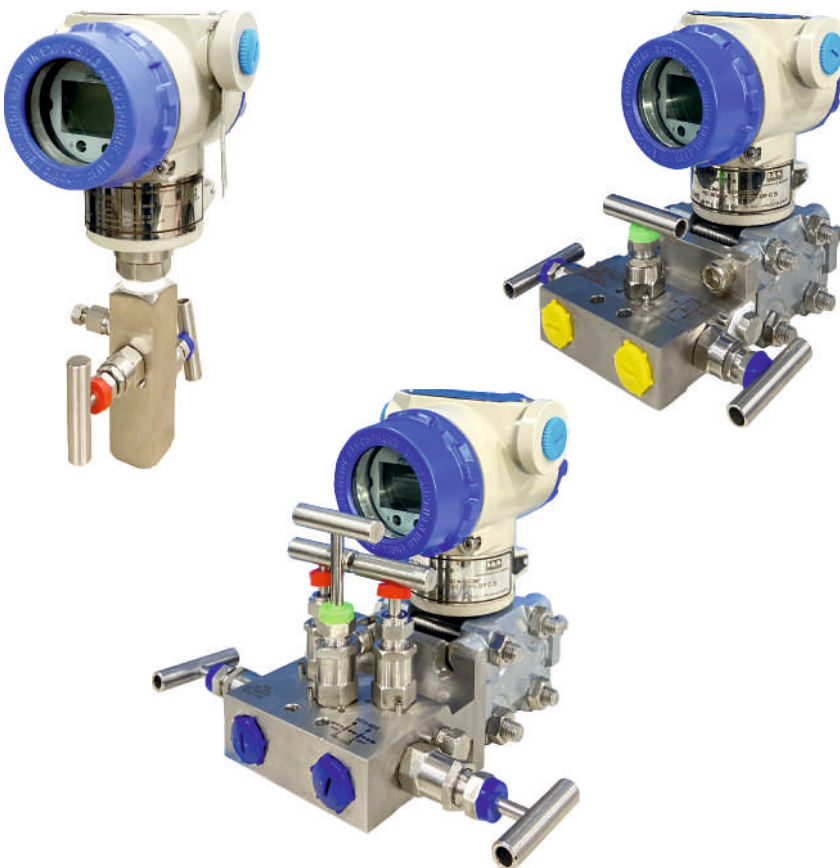
- For corrosive process fluid
- For viscous process fluid or with solids in suspension
- The process fluid may freeze, crystallize or solidify
- Processes that require easy cleaning and others.

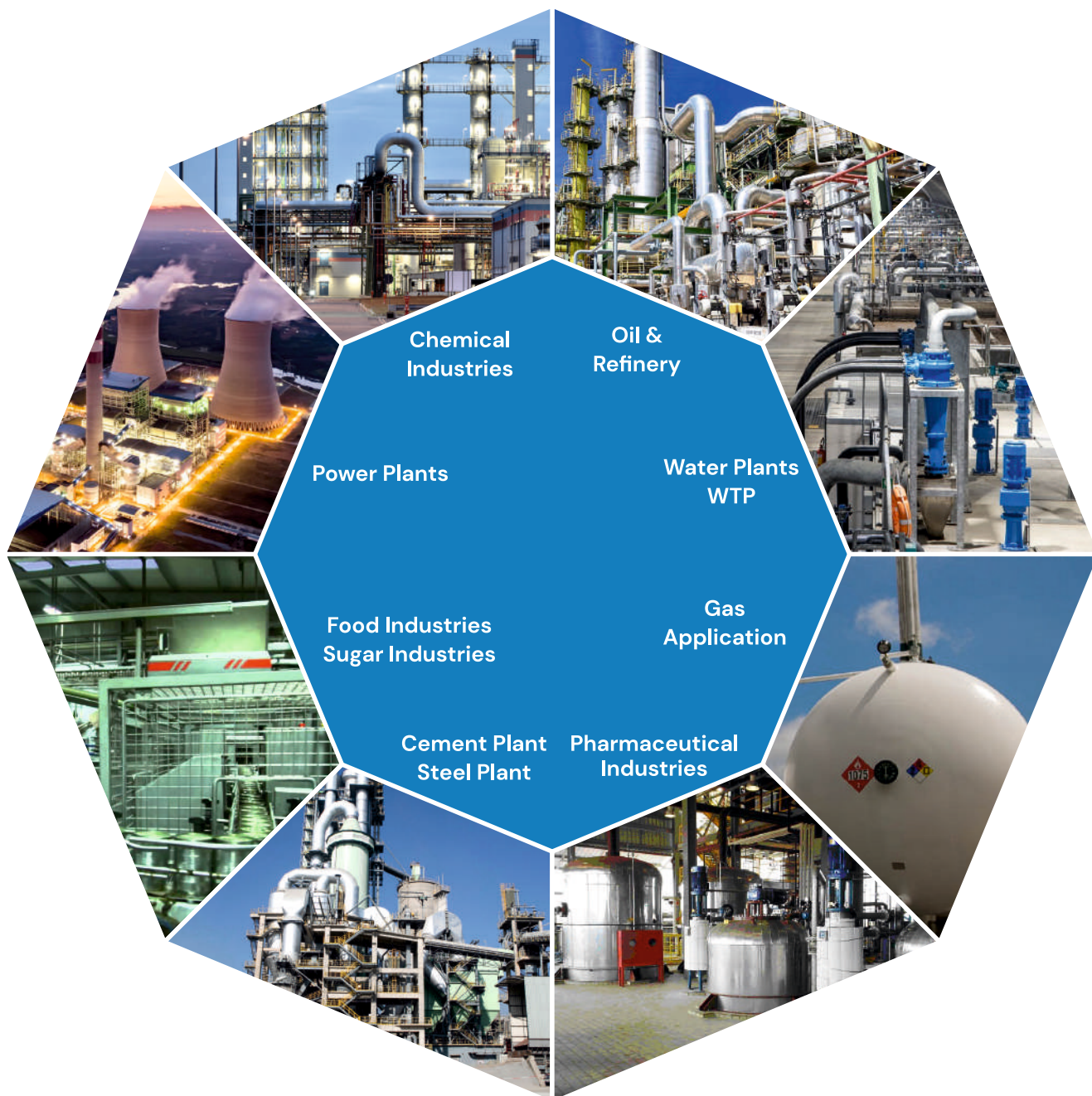


SMARTLINE MANIFOLDS SAFE ASSEMBLIES

SmartLine Accessories combine our market-leading pressure transmitters with quality manifolds in a single, integrated solution.

- Block and Bleed models for in-line pressure transmitters
- Two, three and five-way configurations
- Wide and compact body styles
- Traditional or wafer-style variants
- NACE compliant material options
- Available with factory integration and mounting brackets





TYPE

iPTrans ISDPT-200



Side entry for DPT including oval flanges (Process Connection)

iPTrans ISPT-200



Bottom entry for PT (Process Connection)

Service	Liquid, Oil, Gas or Vapor	Liquid, Oil, Gas or Vapor
Pressure Types	Differential Pressure	Absolute Pressure Gauge Pressure
Max. Turndown Ratio	100:1	100:1
Accuracy	±0.05% of Span* and ±0.1% FS (for remote seals)**	±0.05% of Span* and ±0.1% FS (for remote seals)**
Long-Term Stability	±0.15% FS for 10 Years	±0.15% FS for 10 Years
Static Pressure Effect	±0.05% FS* and ±0.1% FS (for remote seals)**	±0.05% FS* and ±0.1% FS (for remote seals)**
Ambient Temp. Effect	±0.05% of Span	±0.05% of Span
Communication	4...20 mA/HART	4...20 mA/HART
Power Supply	9 to 45 V DC	9 to 45 V DC
Storage Temp. Limit	-25 to +85° C	-25 to +85° C
Ambient Temperature	-20° C ~ +70° C (with LCD)	-20° C ~ +70° C (with LCD)
Operating Temperature with Capillary	Upto 400° C	Upto 400° C
Measured Medium Temperature	-40 to +125° C	-40 to +125° C
Max. Pressure	See Table	1.5 times of FS
Diaphragm Materials	Stainless Steel, Hastelloy, Tantalum, Monel, Gold	Stainless Steel, Hastelloy, Tantalum, Monel, Gold
Response Time	<100 mS* and <1 S (for remote seals)**	<100 mS* and <1 S (for remote seals)**
Protection Class	IP66 / IP68 (Standard)	IP66 / IP68 (Standard)
Certifications/Approvals	ATEX Approved	ATEX Approved
Display	5 Digits programmable & 0-100% Bargraph 360° rotation LCD Display, Process Value, Output in mA	5 Digits programmable & 0-100% Bargraph 360° rotation LCD Display, Process Value, Output in mA
Zero/Span Configuration	Built in LCD with push button type with configurable engg. unit	Built in LCD with push button type with configurable engg. unit
High-Voltage Isolation	YES	YES
Multiple Field Adjustment	Function (Linear/Square Root), Zero	Function (Linear/Square Root), Zero
Functions	Trim, Lower Sensor Trim and Upper Sensor Trim	Trim, Lower Sensor Trim and Upper Sensor Trim
Installation	Easy to install and reliable with unique design	Easy to install and reliable with unique design
Zero & Span Drift	±0.01% at max. span	±0.01% at max. span

* for Pressure / Differential / Flow / Level Transmitters

** for Remote Seals Pressure / Differential / Flow / Level Transmitters

TYPE

iPTrans ISDPT-200



iPTrans ISPT-200



Elevation and suppression by 100% of span	Elevation and suppression throughout the span	Elevation and suppression throughout the span
Damping	Adjustable 0 to 32 seconds	Adjustable 0 to 32 seconds
Dead Time	<40 ms	<40 ms
Update Rate	Reading Cycle Acrylic : 3/s	Reading Cycle Acrylic : 3/s
Turn On Time	<100 ms	<100 ms
Power Supply Effect	<0.0005% of URL/1 V	<0.0005% of URL/1 V
Vibration Effect	60 to 2000 Hz : 3 g in all 3 axes	60 to 2000 Hz : 5 g in all 3 axes
Mounting Position Effect	<-4 mbar (-0.06 psi)	<-4 mbar (-0.06 psi)
Failure Alarm	Self diagnostic feature available	Self diagnostic feature available
Self Diagnostic	Loop integrity diagnostic continuously monitors the 4-20 mA output signal	Loop integrity diagnostic continuously monitors the 4-20 mA output signal
Cover Orings	PTFE Seal, EP851	PTFE Seal, EP851
Electrical Connection	3 Pin Screwed, Plug & Socket Connector, Harting Han Connector, 1/2" NPT F	3 Pin Screwed, Plug & Socket Connector, Harting Han Connector, 1/2" NPT F
Vent & Drain	Built in Vent & Drain Plugs	Built in Vent & Drain Plugs
Humidity	0 to 100% RH	0 to 100% RH
Wetted Parts	SS316, SS316L, Hastelloy C276	SS316, SS316L, Hastelloy C276
Output Load Resistance	600 ohm load at 24 V DC supply	600 ohm load at 24 V DC supply
Reverse Polarity	Available	Available
Calibration Certificate	5 Point Calibration	5 Point Calibration
Warranty	1 Year	1 Year

1. Model Number

Code	Description
IS-PT-200	Smart Pressure Transmitter / Remote Seal Pressure Transmitter
IS-DPT-200	Differential Pressure Transmitter / Remote Seal Differential / Flow / Level Transmitter

2. Pressure Type

Code	Description
A	Absolute Pressure Transmitter
G	Gauge Pressure Transmitter
D	Differential Pressure Transmitter

3. Pressure Range

Code	Differential Pressure Transmitter (D)	Gauge Pressure Transmitter (G)	Absolute Pressure Transmitter (A)
S1	-1.5 to 1.5 kPa -6 to 6 inH2O (-15 to 15 mbar)	-1 to 1 Bar G	0 to 1 Bar A
S2	-7.5 to 7.5 kPa -30 to 30 inH2O (-75 to 75 mbar)	-1 to 10 Bar G	0 to 5 Bar A
S3	-37.4 to 37.4 kPa -150.29 to 150.29 inH2O (-374 to 374 mbar)	-1 to 25 Bar G	0 to 10 Bar A
S4	-186 to 186 kPa -747.5 to 747.5 inH2O (-1.86 to 1.86 bar)	-1 to 50 Bar G	0 to 50 Bar A
S5	-690 to 690 kPa -2772 to 2772 inH2O (-6.9 to 6.9 Bar)	-1 to 100 Bar G	0 to 100 Bar A
S6	-2068.43 to 2068.43 kPa -300 to 300 psi (-20.68 to 20.68 Bar)	-1 to 400 Bar G	
S7	-6890 to 6890 kPa 1000 to 1000 psi (-68.9 to 68.9 Bar)	0 to 600 Bar G	
S8	-20680 to 20680 kPa 3000 to 3000 psi (-206.79 to 206.79 Bar)	0 to 1000 Bar G	

4. Static Pressure

Code/Pressure Range	
SP1	150% of FS
SP2	450 kg/cm ²

5. Burst/Over Pressure

Code/Pressure Range	
SP3	200% of FS
SP4	>500 kg/cm ²

6. Transmitter Output

Code	Description
A1	4–20mA with digital based HART protocol
A2	4–20mA without HART protocol

7. Process Connection

Code	Description
C1	1/2 inch NPT (Male)
C2	1/4 inch NPT (Male)
C3	1/2 inch NPT (Female)
C4	1/4 inch NPT (Female)
C5	1/2 inch BSP (Male)
C6	M20 x 1.5 (Male)
C7	3/4 inch NPT (Male)
C8	1/4 inch BSP (Male)
C9	1/4 inch BSP (Female)
C10	3/8 inch NPT (Male)
C11	3/4 inch NPT (Male) – Flushed
C12	1 inch NPT (Male)
C13	3/4 inch BSP (Male)
C14	1/2 inch BSP (Female)
C15	Flanged type – Direct Mount
C16	Remote seal with capillary

8. Isolating Diaphragm

Code	Description
D1	304 L Stainless Steel
D2	316 Stainless Steel
D3	316 L Stainless Steel
D4	Hastelloy C276
D5	Tantalum
D6	Monel
D7	Gold Plated
D8	SS310
D9	Duplex X220S

9. Sensor Fill Fluid

Code	Description
F1	Silicone

10. Housing Material

Code	Description	Conduit Entry Size
H1	Aluminum	1/2 inch NPT
H2	Aluminum	M20 x 1.5
H3	316 Stainless Steel	1/2 inch NPT
H4	316 Stainless Steel	M20 x 1.5
H5	304 Stainless Steel	1/2 inch NPT
H6	304 Stainless Steel	M20 x 1.5

11. Electrical Connection

Code	Description
E1	PVC blind plug on both sides
E2	SS cable gland on one side & other side PVC blind plug
E3	Brass cable gland on one side & other side PVC blind plug
E4	Plug and socket connector on one side & other side PVC blind plug
E5	Harting han connector on one side & other side PVC blind plug
E6	SS blind plug on one side & other side PVC blind plug
E7	SS blind plug on both sides
E8	SS cable gland on both sides
E9	Brass cable gland on both sides
E10	Plug and socket connector on both sides
E11	Harting han connector on both sides
E12	SS cable gland on one side & other side SS blind plug
E13	Brass cable gland on one side & other side SS blind plug
E14	Plug and socket connector on one side & other side SS blind plug
E15	Harting han connector on side & other side SS blind plug
E16	Brass cable gland on one side & other side Brass blind plug

12. Number of Seals

Code	Description
RS1	Remote Seal on single side or High Side
RS2	Remote Seal on both side (Both High & Low)
RS3	Remote Seal on low side

13. Secondary Fill Fluid (Capillary & Seal)

Code	Description
SF1	Silicone Oil DC 200
SF2	Silicone Oil 704
SF3	Fluorinate Oil CTFE

14. Flange Size

Code	Description
FS1	1 inch
FS2	1.5 inch
FS3	2 inch
FS4	3 inch
FS5	4 inch
FS6	6 inch
FS7	3/4 inch

15. Flange/Adaptor MOC

Code	Description
M1	304 L Stainless Steel
M2	316 Stainless Steel
M3	316 L Stainless Steel
M4	Hastelloy C276
M5	Tantalum
M6	Monel
M7	Gold Plated

16. Flange Extension Length

Code	Description
EL1	None
EL2	50.8 MM
EL3	76.2 MM
EL4	101.6 MM
EL6	152.4 MM
EL7	205 MM
EL8	254 MM
EL9	304.8 MM
EL10	350 MM

17. Flange Pressure Rating

Code	Description
FA15	ANSI Class 150
FA30	ANSI Class 300
FA60	ANSI Class 600
FA80	DIN DN80-PN40
FA100	DIN DN100-PN40

18. Seal Type

Code	Description
ST1	Flush Flange Seal
ST2	SORF
ST3	Flange Seal with Extended Diaphragm
ST4	Pancake Seal

19. Capillary Length (SS Armor)

Code	Length on High Side
CH1	1 – 2 m
CH2	3 – 5 m
CH3	6 – 7 m
CH4	8 – 10 m
CH5	11 – 15 m
CH6	16 – 20 m



Code	Length on Low Side
CL1	1 – 2 m
CL2	3 – 5 m
CL3	6 – 7 m
CL4	8 – 10 m
CL5	11 – 15 m
CL6	16 – 20 m

20. Capillary Seal Option

Code	Description
SO1	SS 304 Armored
SO2	SS 316 Armored
SO3	SS 304 Armored with PVC Coating
SO4	SS 316 Armored with PVC Coating

21. Mounting Bracket

Code	Description
MB1	Carbon Steel
MB2	316 Stainless Steel
MB3	Stainless Steel
MB4	Direct Mount

22. Manifold Valves

Code	Description
MF24	2 way manifolds SS 304 - 1/2 inch NPT F
MF34	3 way manifolds SS 304 - 1/2 inch NPT F
MF54	5 way manifolds SS 304 - 1/2 inch NPT F
MF26	2 way manifolds SS 316 - 1/2 inch NPT F
MF36	3 way manifolds SS 316 - 1/2 inch NPT F
MF56	5 way manifolds SS 316 - 1/2 inch NPT F
MF86	None

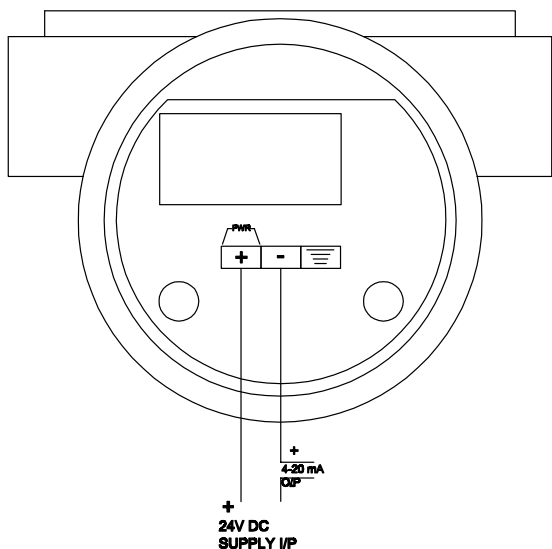
23. Product Certification

Code	Description
PC1	ATEX with one year warranty
PC2	Standard with one year warranty
PC3	SIL2 with one year warranty
PC4	IEC/IECEx Certificate
PC5	ATEX/SIL2 with three year warranty

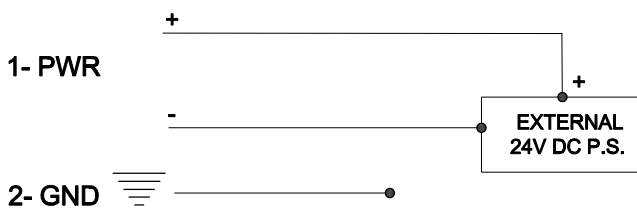


(a) Standard Electrical Connection

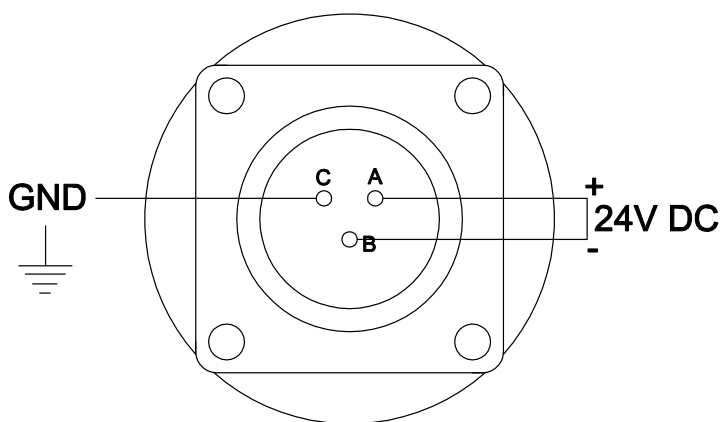
FIELD TERMINATION VIEW :-



LOOP DIAGRAM :-

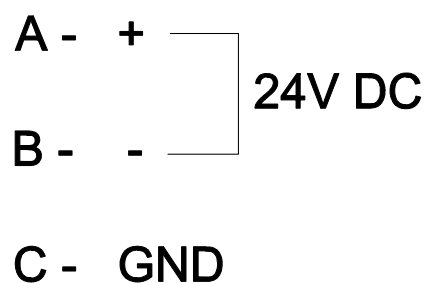


(b) Plug & Socket Type (3 Pin)

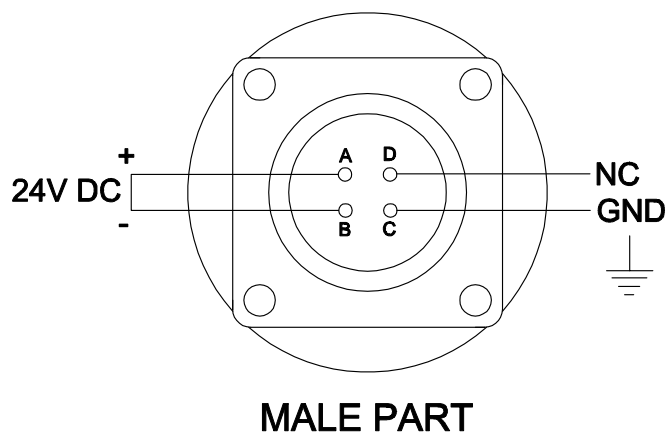


MALE PART

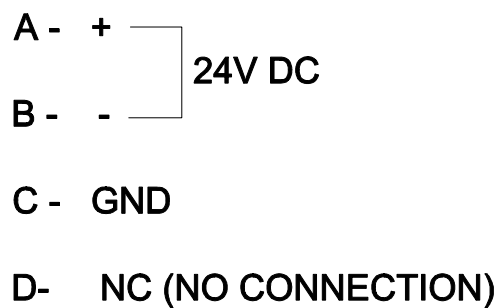
LOOP DIAGRAM:-



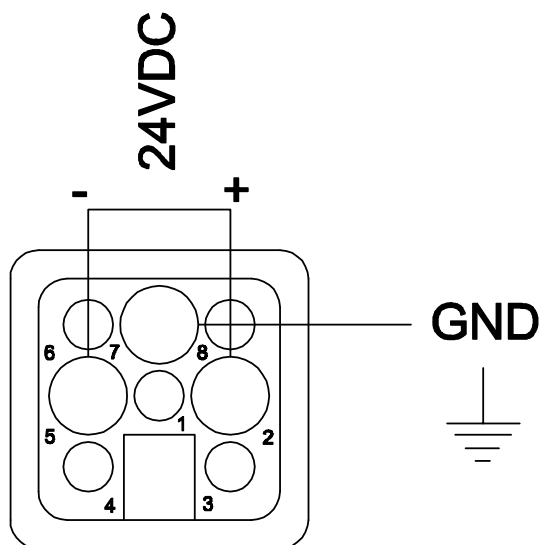
(c) Plug & Socket Type (4 Pin)



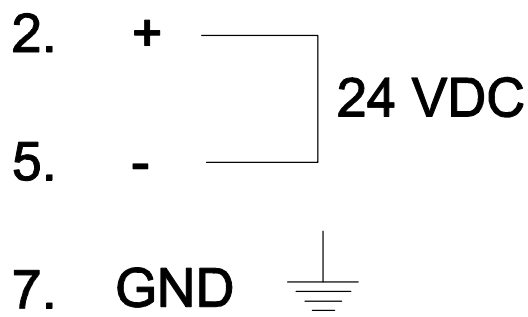
LOOP DIAGRAM:-



(d) Harting Han Connector



LOOP DIAGRAM:-

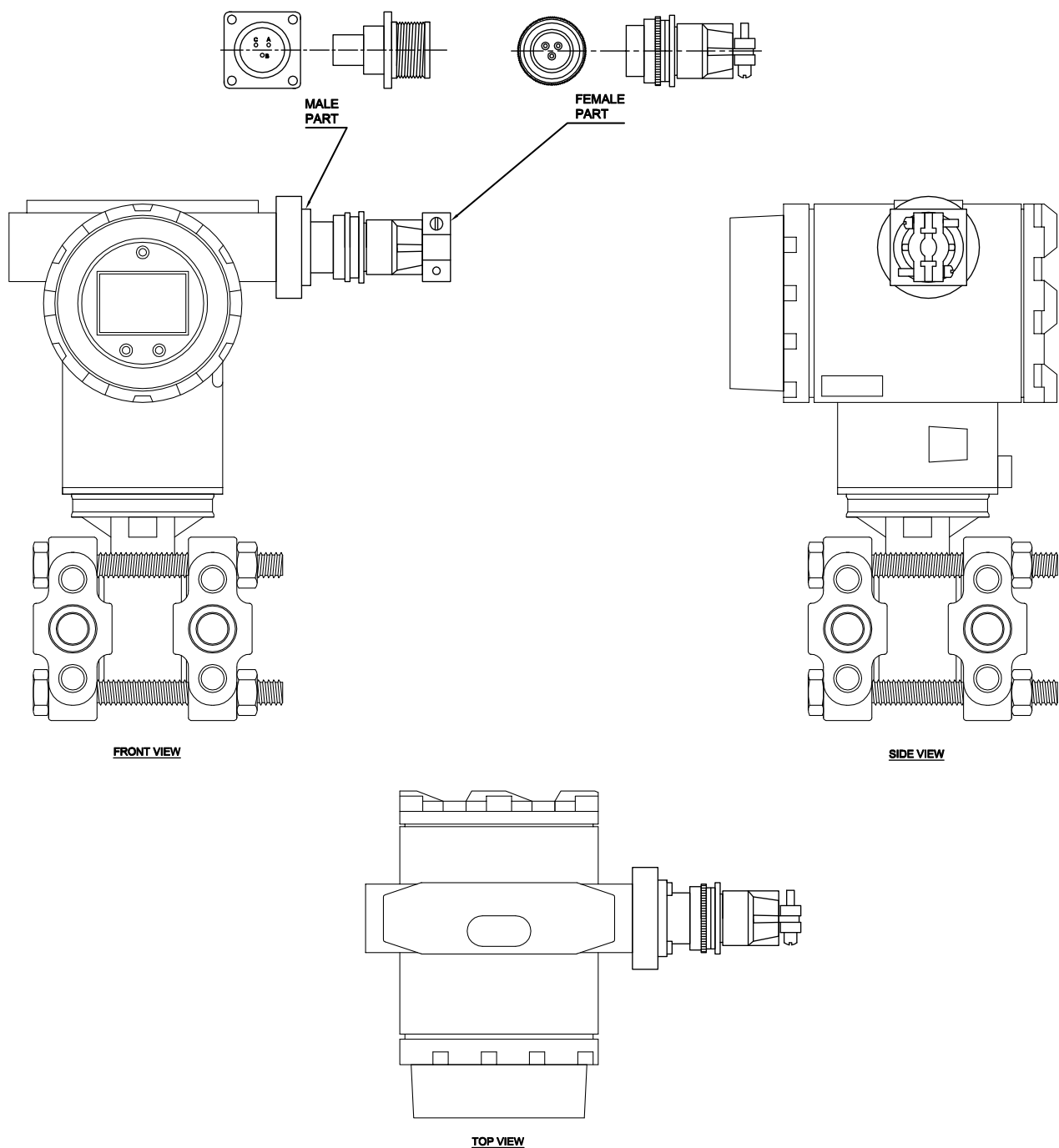


ELECTRICAL / PROCESS CONNECTION

PLUG & SOCKET / DRAIN & VENT PLUG

iPTrans

ISDPT-200

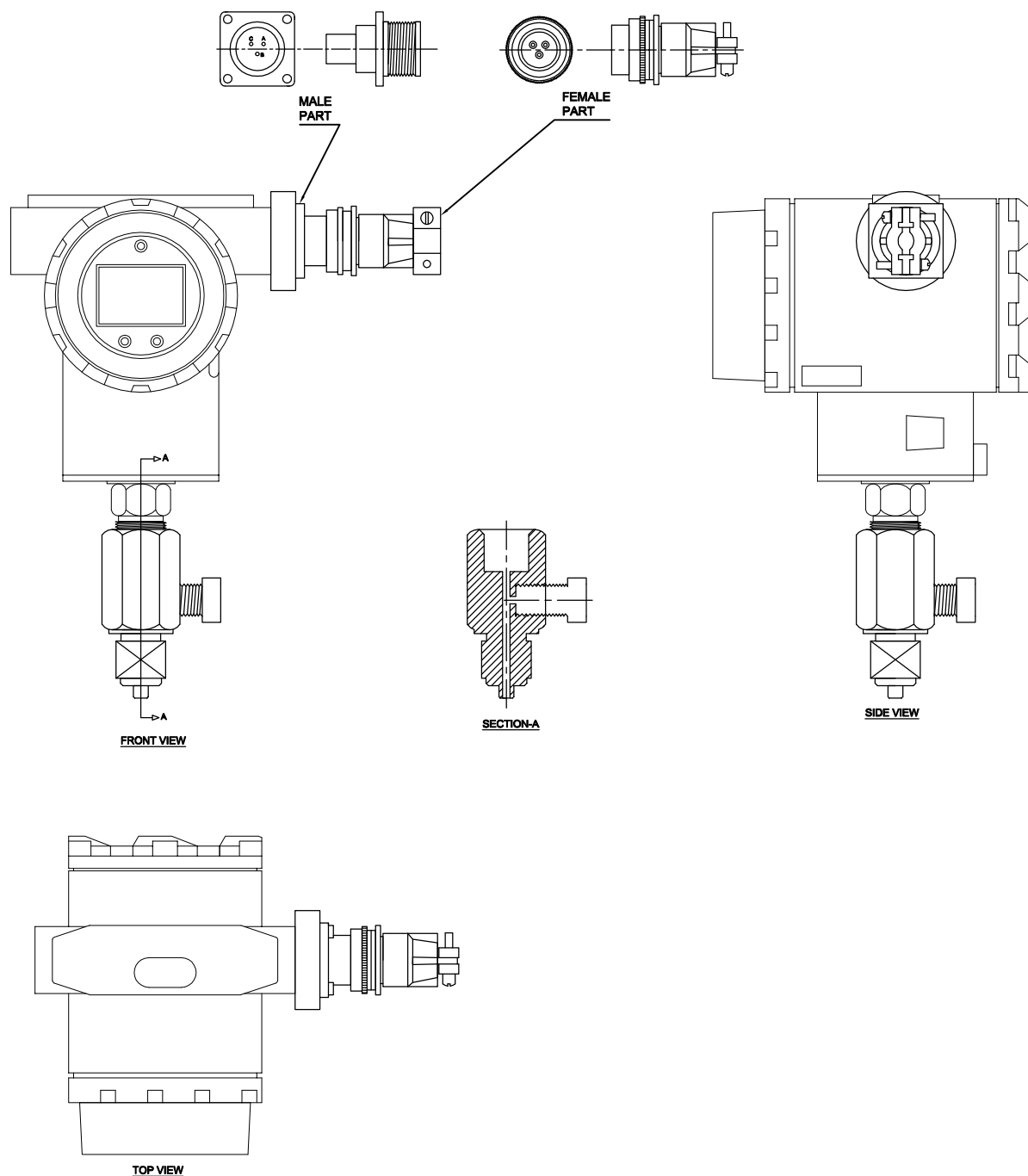


ELECTRICAL / PROCESS CONNECTION

PLUG & SOCKET / DRAIN & VENT PLUG

iPTrans

ISPT-200



iPTrans ISDPT-200

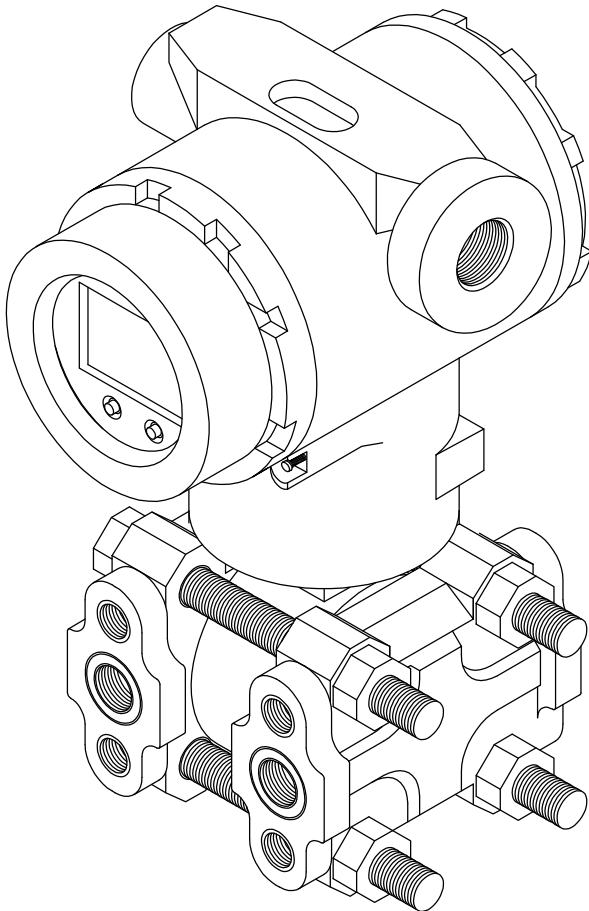


FIG.- ISOMETRIC VIEW

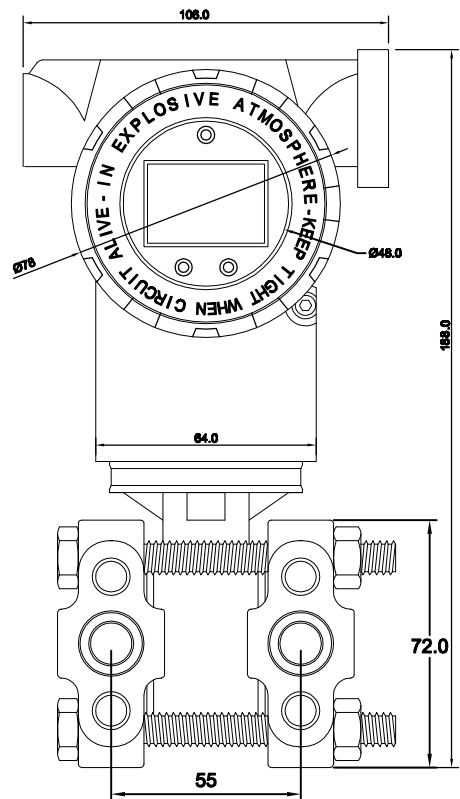


FIG.- FRONT VIEW

ALL DIMENSIONS ARE IN MM

iPTrans ISPT-200

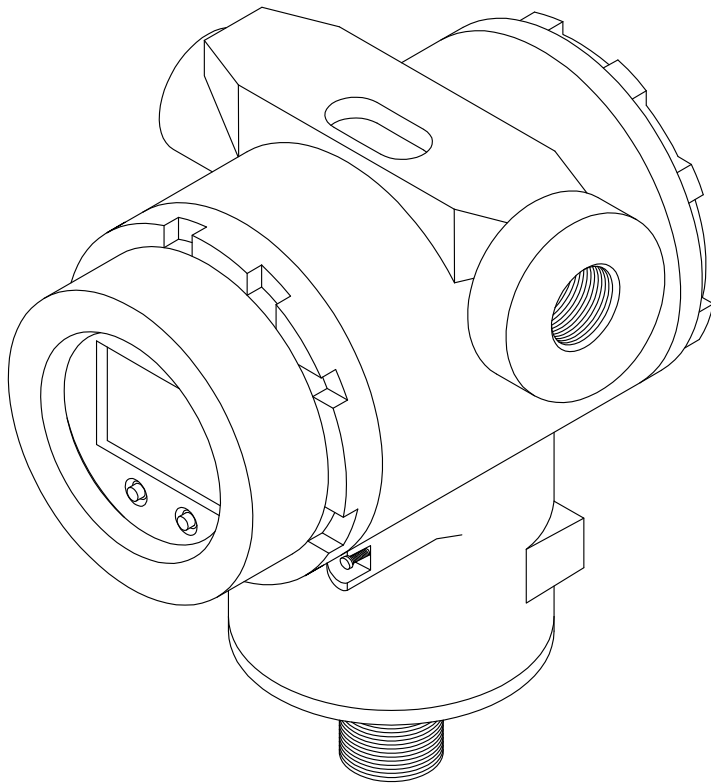


FIG.- ISOMETRIC VIEW

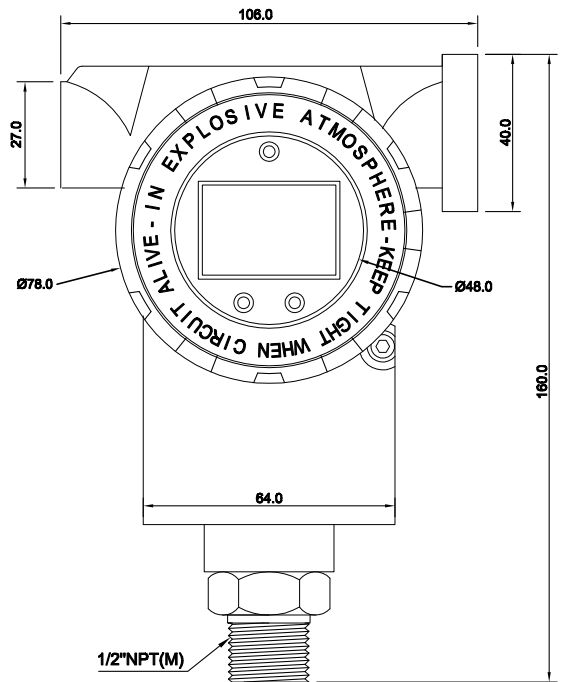
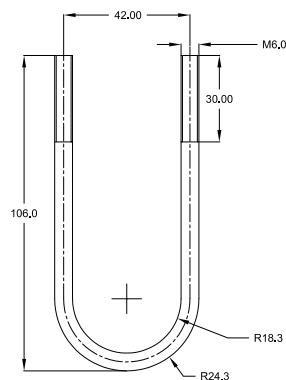
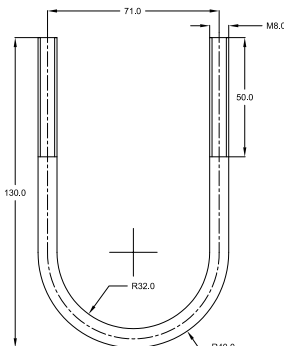
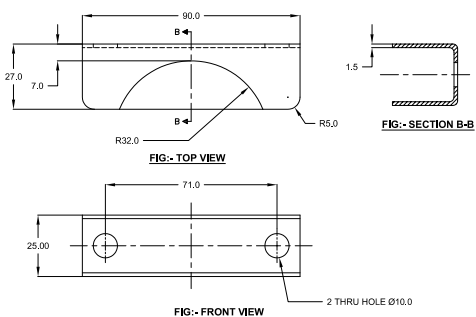
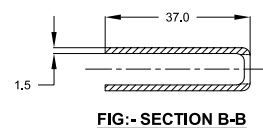
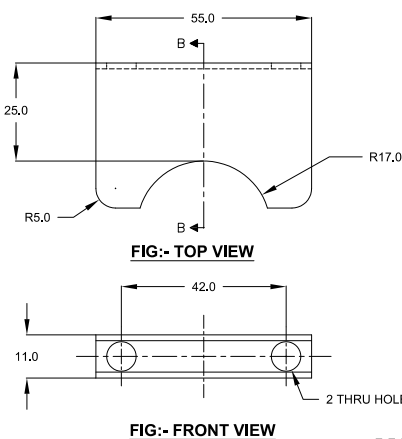
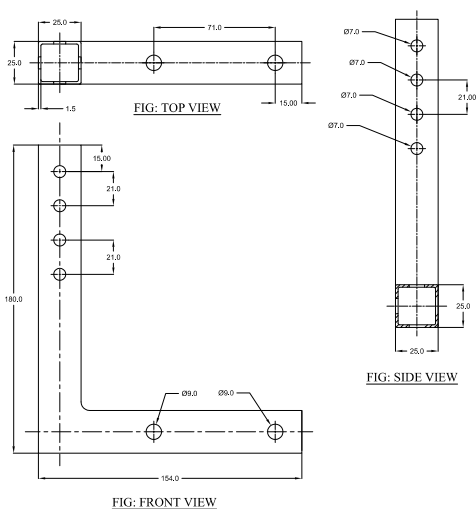
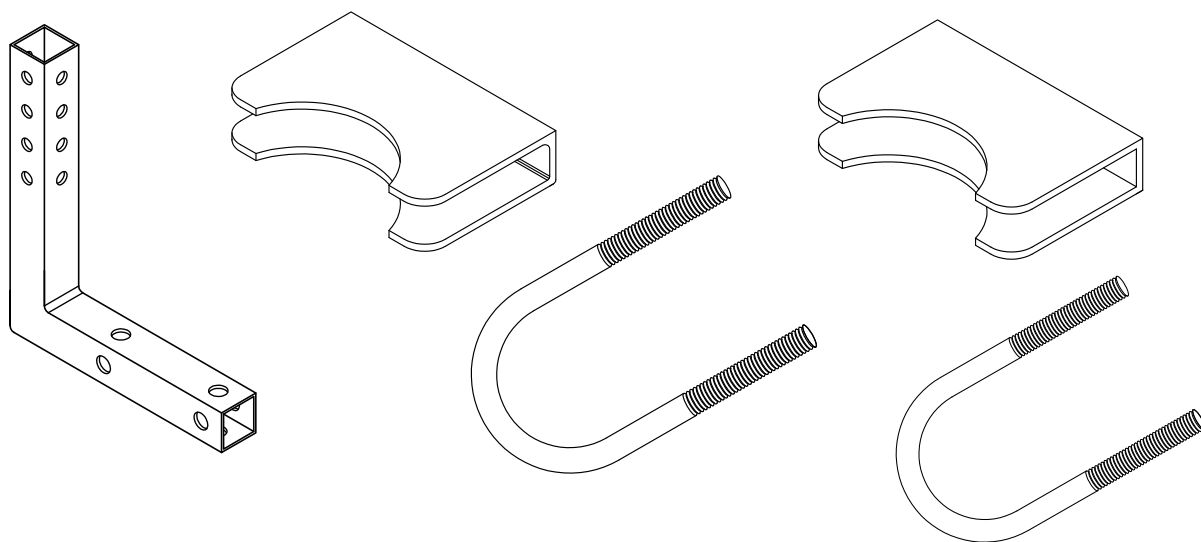


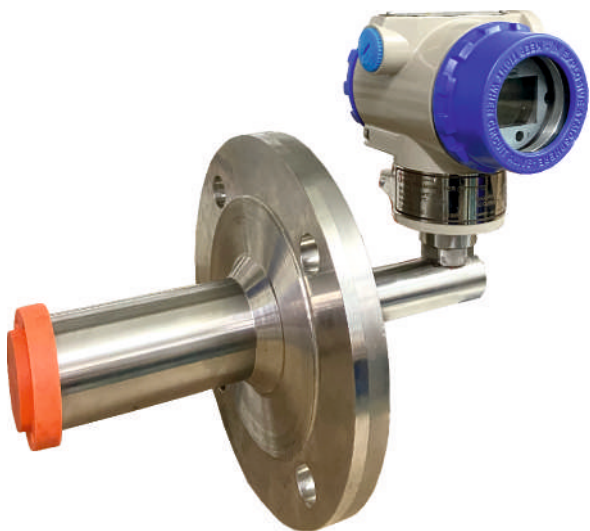
FIG.- FRONT VIEW

ALL DIMENSIONS ARE IN MM

MOUNTING BRACKET DIMENSIONS

iPTrans ISPT-200





Instruments & Systems
Valve Automation & Control Technology

INSTRUMENTS & SYSTEMS

30 I & S Building

Mohabbewala, Industrial Area

Dehradun (Uttarakhand) - 248002

Email :

sales@instruments-systems.com

info@instruments-systems.com

Web:

www.instruments-systems.in

FOLLOW US ON :

