

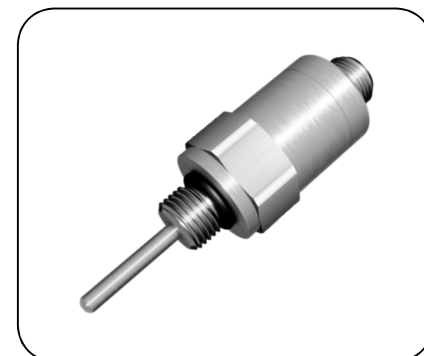
Pressure and Temperature Integrated Transmitter: PSP Series

RS485 Modbus RTU Output Signal



■ Features

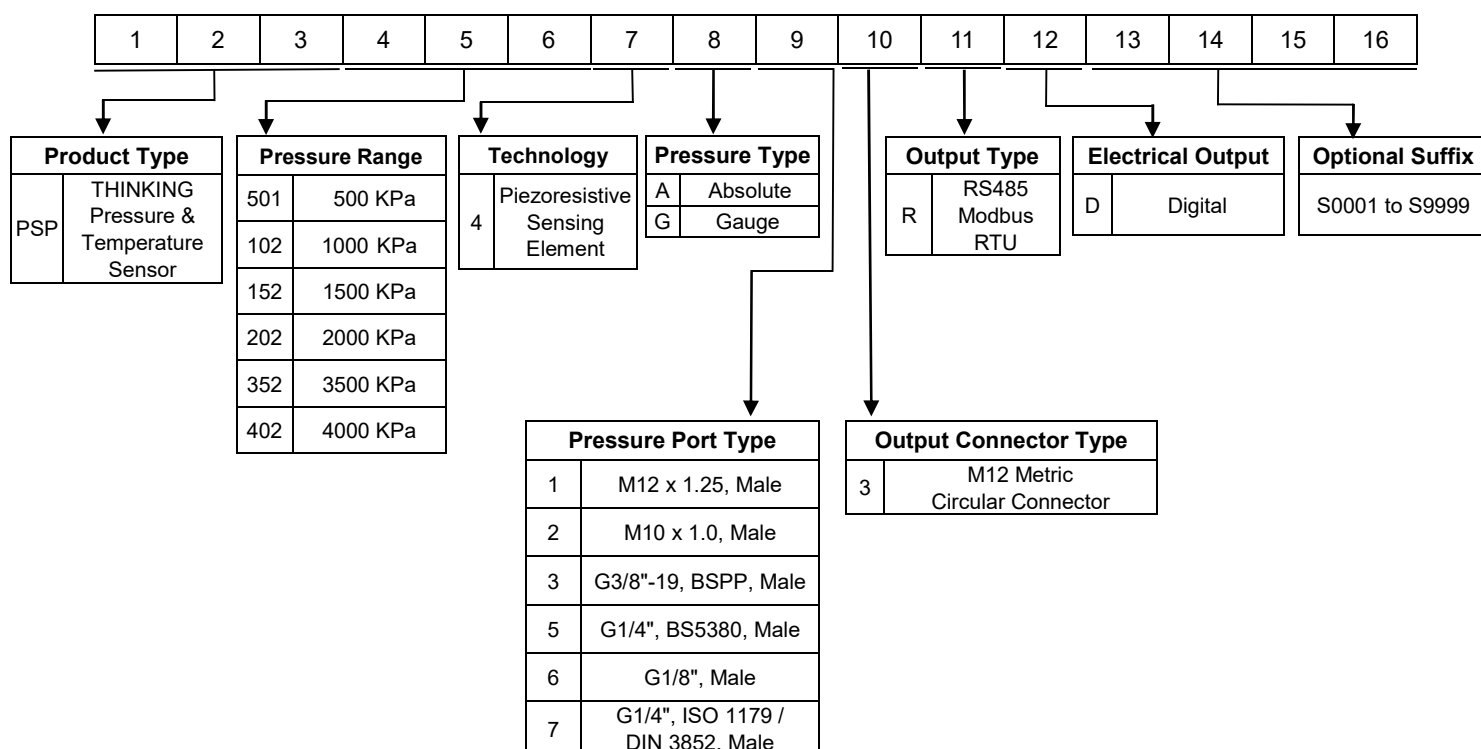
1. 2-in-1 pressure & temperature sensing
2. RS485 Modbus RTU digital output
3. Rugged design for industrial applications
4. Gauge and absolute pressure options available upon request
5. High accuracy in pressure and temperature measurement
6. Custom pressure connection (ISO, NPT, BSP, etc.) and sensor materials



■ Recommended Applications

1. Liquid cooling systems for coolant or refrigerant monitoring
2. Industrial facilities including machine rooms and machinery manufacturing
3. Environmental monitoring and process control in energy and water treatment

■ Part Number Code



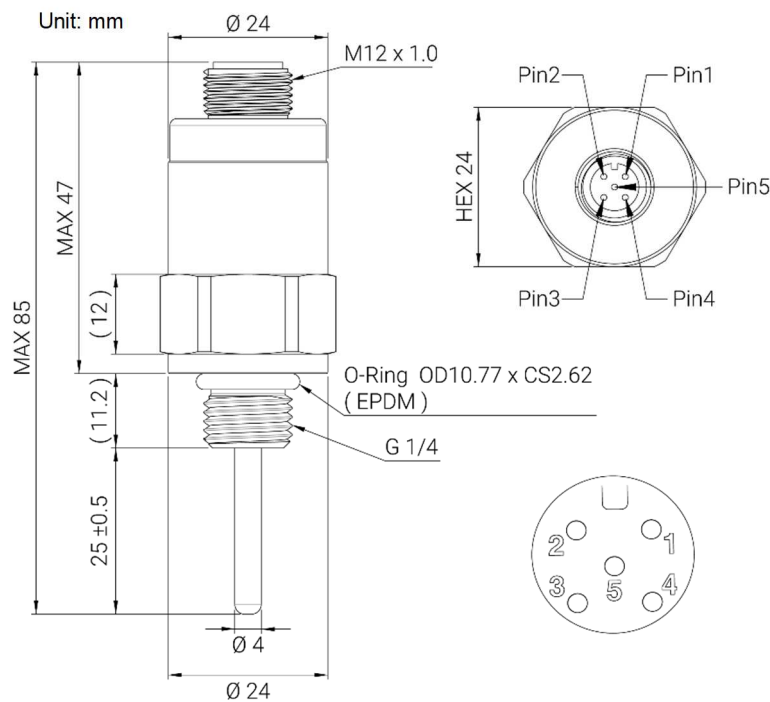
Pressure and Temperature Integrated Transmitter: PSP Series

RS485 Modbus RTU Output Signal



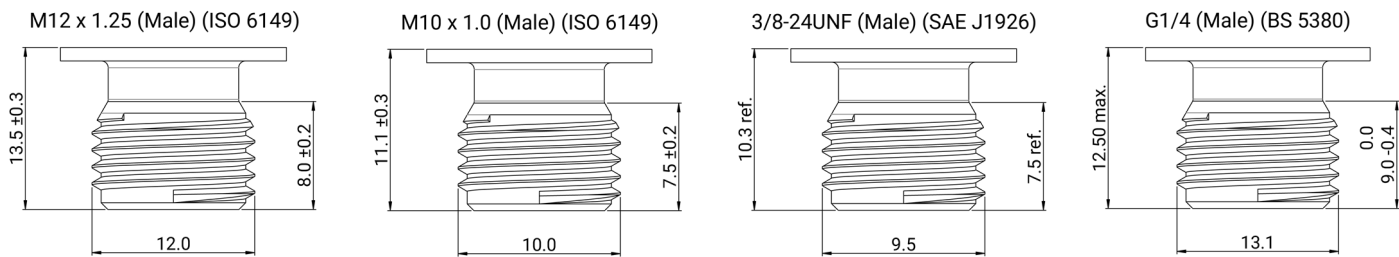
Structure and Dimensions

- Pressure and Temperature Integrated Transmitter
- Pin Assignment



Pin #	Assignment
Pin 1	Vsupply (+)
Pin 2	RS485A
Pin 3	Vsupply (-)
Pin 4	RS485B
Pin 5	N.C.

Pressure Port Type



Pressure and Temperature Integrated Transmitter: PSP Series



RS485 Modbus RTU Output Signal

■ Electrical Characteristics

Pressure	Specifications
Pressure Range	0 - 1000 KPa G/A (Up to 4000 KPa upon request)
Output	RS485 Modbus RTU
Accuracy	±0.5% F.S. @ 25°C
Response Time	15 ms
Proof Pressure	2X (Max. Operating Pressure)
Burst Pressure	3X (Max. Operating Pressure)
Temperature	Specifications
Output	RS485 Modbus RTU
Accuracy	±0.3°C (Measuring range upon request)
Electrical data	Specifications
Excitation (V _{exc})	24 VDC
Operating Current	70 mA max
Electrical Connection	M12 Metric Circular Connector
Short Circuit Protection	Yes
Reverse Polarity Protection (Note 1)	Yes
High Voltage Protection	36V max

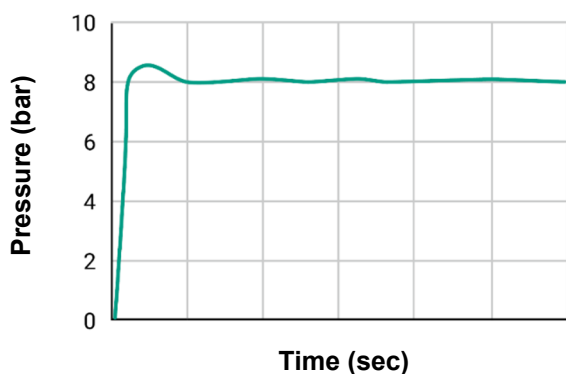
* Unless otherwise specified, all parameters are measured at 25°C, 60%RH.

* Note 1: Overvoltage and reverse polarity protect by internal supply voltage limiter.

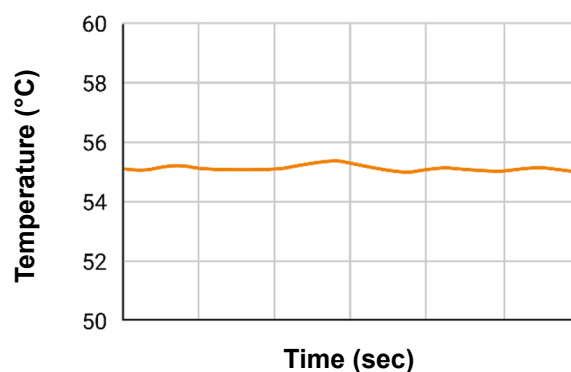
■ Operating Environment

- Operating Temperature Range: -20°C ~ +125°C
- Storage Temperature Range: -20°C ~ +125°C
- Proof Pressure: 2X (Max. Operating Pressure)
- Burst Pressure: 3X (Max. Operating Pressure)
- Ingress Protection Rating: IP67

Real-time Pressure Monitoring



Real-time Temperature Monitoring



Pressure and Temperature Integrated Transmitter: PSP Series



RS485 Modbus RTU Output Signal

■ RS485 Modbus RTU Protocol

● Register Map (Data Format: Little-Endian)

Description	Item Code	Attribute	Register Address	Function Explanation
Pressure	Single precision FP	All: Read only	30000	Pressure value
Temperature	Single precision FP	All: Read only	30002	Temperature value
RS485 Address	Unsigned short integer	All: Read / write	40024	1~247
RS485 Baud Rate	Unsigned short integer	All: Read / write	40025	1~n. Refer to the baud rate definition
RS485 Parity	Unsigned short integer	All: Read / write	40026	0: None, 1:Odd, 2: Even
Pressure Unit	Unsigned short integer	All: Read / write	40027	Refer to the pressure unit definition
Temperature Unit	Unsigned short integer	All: Read / write	40028	Refer to the temperature unit definition

● RS485 Baud Rate Definition

1	2	3	4	5	6	7
300	1200	2400	4800	9600	14400	19200

● Pressure Unit Definition

1	2	3	4	5	6	7	8
MPa	kPa	hPa	Pa	bar	mbar	Kg/cm ²	psi
9	10	11	12	13	14	15	-
mmHg	inHg	mmH ₂ O	inH ₂ O	Torr	mTorr	atm	-

● Temperature Unit Definition

1	2	3
C	F	K

■ Mounting Torque

Suggested installation torque: 15 ± 1 N*m for G1/4; for other sizes, depending on demand.