

QPress Smart Pressure Transmitter - QOM-SMART 2300 Series

High-accuracy smart pressure transmitter with RS485/HART, wide range options, and IP65 protection.

Certifications

Quality Lab Solutions data sheet R4



Applications

- Hydrology and water resources
- Petrochemical
- Electric power
- Machinery manufacturing
- Hydraulic & pneumatic control

Special Features

- Digital temperature compensation and nonlinear error correction
- RS485 (ASCII/MODBUS RTU) or HART® communication; 4–20 mA analogue
- Gauge, Absolute, Sealed gauge and Positive/Negative pressure types
- Overpressure $\leq 2 \times FS$ (or 110 MPa minimum), IP65 enclosure
- Vibration 20 g (20–5000 Hz), Shock 20 g (11 ms)
- Broad operating envelopes by connection type; multiple process connections
- Intrinsically safe option Ex ia IICT4 Ga; CE/EAC/RoHS/CCS approvals



QOM-SMART 2300

Description

The QOM-SMART 2300 Series is a compact smart transmitter that combines a piezoresistive sensing element with digital temperature compensation and nonlinear correction. It provides a standard 4–20 mA signal with optional RS485 (ASCII or MODBUS RTU) or HART® communication, enabling networking and remote configuration. Pressure types include Gauge, Absolute, Sealed gauge and Positive/Negative. Measurement ranges extend from low mbar levels up to 100 MPa, with an overpressure rating of $\leq 2 \times$ full scale or 110 MPa (minimum value valid). The instrument is IP65-rated and designed for reliable performance across industrial environments.

Specifications

TECHNICAL SPECIFICATIONS	
Pressure range	−1 bar...0 bar to 0.1 bar...1000 bar (codes per tables; G/A/S types)
Pressure reference	Gauge; Absolute; Sealed gauge
Accuracy	±0.5%FS; ±0.25%FS; ±0.1%FS (per range; 0.1% not for HART)
Operating temp.	−30...80 °C ; −20...70 °C ; −20...80 °C
Storage temp.	−40...120 °C ; −20...85 °C
Insulation resistance	≥ 100 MΩ / 500 VDC
Vibration resistance	20 g, 20–5000 Hz
Shock resistance	20 g, 11 ms
Protection	IP65
Wetted Parts	Isolated diaphragm: SS316L/Ta/Ti; Port: SS304/SS316L/Hastelloy C/Ti
Net weight	≤230 g
Size of hexagon	SW27 (process head)
Approvals/Certification	CE; EAC; RoHS; Ex ia IICT4 Ga (option)
Electrical Outputs	4–20 mA (2-wire); RS485 (ASCII); RS485 (MODBUS RTU); HART®
Process connections	M20×1.5 male (face/waterline); G1/4 male/female; G1/2 male; NPT1/4 male/female; NPT1/2 male; G3/8 male; 7/16-20 UNF; flush M20×1.5 or G1/2; DN25 clamp (with/without heat sink)
Anti-Vibration	Anti-vibration construction
Overpressure/Burst Pressure	≤2×FS or 110 MPa (minimum value valid)
Housing Material	Housing: SS304/SS316L/Ti; Cable: PE/PUR
Electrical connections	4-pin connector ; Cable ; 7-pin connector with defined pinouts
Power Supply	10–28 V DC (RS485/4–20 mA); 12–30 V DC (HART); RS485 bus up to 99 devices
Longterm Stability	±0.2%FS/year

Measuring Range (Gauge Pressure)

Range Code	Measuring Range	Overpressure	Accuracy
01	-0.25-0 bar	200%FS	±0.5%FS
02	-0.4-0 bar	250%FS	±0.5%FS
03	-0.6-0 bar	167%FS	±0.5%FS
04	-1-0 bar	150%FS	±0.5%FS
05	-0.03...+0.03 bar	167%FS	±0.5%FS
06	-0.05...+0.2 bar	120%FS	±0.5%FS
07	-0.05...+0.25 bar	100%FS	±0.5%FS
08	-0.15...+0.15 bar	100%FS	±0.5%FS
09	-0.2...+0.2 bar	75.0%FS	±0.5%FS
10	-0.25...+0.25 bar	100%FS	±0.5%FS
11	-0.3...+0.3 bar	83.3%FS	±0.5%FS
12	-0.5...+0.5 bar	100%FS	±0.5%FS
13	-1...+0.6 bar	93.8%FS	±0.5%FS
14	-1...+1 bar	100%FS	±0.5%FS
15	-1...+1.5 bar	120%FS	±0.5%FS
16	-1...+3 bar	125%FS	±0.25%FS
17	-1...+5 bar	167%FS	±0.25%FS
18	-1...+9 bar	200%FS	±0.25%FS
19	-1...+10 bar	227%FS	±0.25%FS
20	-1...+15 bar	188%FS	±0.25%FS
21	-1...+16 bar	176%FS	±0.25%FS

Range Code	Measuring Range	Overpressure	Accuracy
22	-1...+20 bar	143%FS	±0.25%FS
23	-1...+24 bar	200%FS	±0.25%FS
24	-1...+25 bar	192%FS	±0.25%FS
25	-1...+30 bar	194%FS	±0.25%FS
26	-1...+35 bar	194%FS	±0.25%FS
27	0-1 bar	200%FS	±0.1%FS
28	0-1.6 bar	188%FS	±0.1%FS
29	0-2 bar	200%FS	±0.1%FS
30	0-2.5 bar	200%FS	±0.1%FS
31	0-3 bar	200%FS	±0.1%FS
32	0-4 bar	250%FS	±0.1%FS
33	0-5 bar	200%FS	±0.1%FS
34	0-6 bar	167%FS	±0.1%FS
35	0-7 bar	200%FS	±0.1%FS
36	0-8 bar	200%FS	±0.1%FS
37	0-9 bar	200%FS	±0.1%FS
38	0-10 bar	200%FS	±0.1%FS
39	0-16 bar	188%FS	±0.1%FS
40	0-20 bar	200%FS	±0.1%FS
41	0-25 bar	200%FS	±0.1%FS
42	0-30 bar	200%FS	±0.1%FS
43	0-35 bar	171%FS	±0.1%FS

Measuring Range (Absolute Pressure)

Range Code	Measuring Range	Overpressure	Accuracy
01	0-1 bar	200%FS	±0.5%FS
02	0-1.6 bar	188%FS	±0.25%FS
03	0-2 bar	200%FS	±0.25%FS
04	0-2.5 bar	200%FS	±0.25%FS
05	0-3 bar	200%FS	±0.25%FS
06	0-4 bar	250%FS	±0.25%FS
07	0-5 bar	200%FS	±0.25%FS
08	0-6 bar	167%FS	±0.25%FS
09	0-7 bar	200%FS	±0.25%FS
10	0-8 bar	200%FS	±0.25%FS
11	0-9 bar	200%FS	±0.25%FS
12	0-10 bar	200%FS	±0.25%FS
13	0-16 bar	188%FS	±0.1%FS
14	0-20 bar	200%FS	±0.1%FS
15	0-25 bar	200%FS	±0.1%FS
16	0-30 bar	200%FS	±0.1%FS
17	0-35 bar	171%FS	±0.1%FS
18	0-40 bar	250%FS	±0.1%FS
19	0-50 bar	200%FS	±0.1%FS
20	0-60 bar	167%FS	±0.1%FS
21	0-70 bar	200%FS	±0.1%FS
22	0-80 bar	200%FS	±0.1%FS
23	0-90 bar	200%FS	±0.1%FS
24	0-100 bar	200%FS	±0.1%FS

Measuring Range (Sealed Pressure)

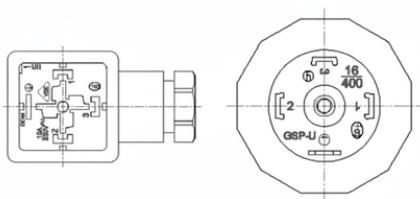
Range Code	Measuring Range	Overpressure	Accuracy
01	0-35 bar	200%FS	±0.1%FS
02	0-40 bar	250%FS	±0.1%FS
03	0-50 bar	200%FS	±0.1%FS
04	0-60 bar	167%FS	±0.1%FS
05	0-70 bar	143%FS	±0.1%FS
06	0-80 bar	188%FS	±0.1%FS
07	0-90 bar	167%FS	±0.1%FS
08	0-100 bar	150%FS	±0.1%FS
09	0-160 bar	188%FS	±0.1%FS
10	0-200 bar	150%FS	±0.1%FS
11	0-250 bar	180%FS	±0.1%FS
12	0-300 bar	175%FS	±0.1%FS
13	0-350 bar	107%FS	±0.1%FS
14	0-400 bar	150%FS	±0.1%FS
15	0-500 bar	150%FS	±0.1%FS
16	0-600 bar	150%FS	±0.1%FS
17	0-700 bar	143%FS	±0.1%FS
18	0-800 bar	125%FS	±0.1%FS
19	0-900 bar	111%FS	±0.1%FS
20	0-1000 bar	110%FS	±0.1%FS

Output Signals

Code	Output	Power Supply	Load
I4	4-20 mA (2-wire)	10-28 VDC (12-30 VDC for HART)	≤(U-10)/0.02 Ω
R4	RS485 ASCII (4-wire)	10-28 VDC	Supports up to 99 devices.
R8	RS485 MODBUS_RTU (4-wire)	10-28 VDC	Supports up to 99 devices.
H1	HART (2-wire)	12-30 VDC	≤(U-10)/0.02 Ω

Electrical Connections

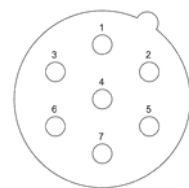
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E2	4-pin connector, 2-wire current	Pin 1: Supply +; Pin 2: (+OUT)/(-V)
E1	Cable outlet , 2-wire current	Red: Supply +; Black: (+OUT)/(-V); Blue: Ground (Ex type)
E3	7-pin connector, 2-wire current	Pin 1: Supply +; Pin 2: (+OUT)/(-V); Pin 7: Ground (Ex type)
E1R	Cable outlet, RS485 4-wire	Red: +V; Black: -V; Yellow/Green: RS485A; White: RS485B
E3R	7-pin connector, RS485 4-wire	Pin 1: +V; Pin 2: -V; Pin 4: RS485A; Pin 5: RS485B



E2 – DIN 43650



E1/E1R – Cable outlet



E3/E3R - 7 Pin connector

Power Supply

Code	Supply
PS10-28	10-28 VDC
PS12-30	12-30 VDC

Construction Materials

Code	Diaphragm	Pressure Port	Housing
M22	SS316L	SS304	SS304
M23	SS316L	SS316L	SS304
M24	SS316L	SS316L	SS316L
M25	Tantalum Ta1	SS316L	SS304
M35	Tantalum Ta1	Hastelloy C	SS304
M40	Titanium TA1	Titanium TC4	Titanium TC4

Cable Material

Code	Description
CB1	PE (standard)
CB2	PUR

Cable Length

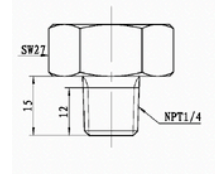
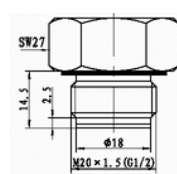
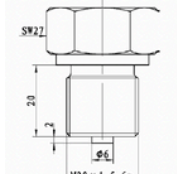
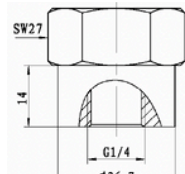
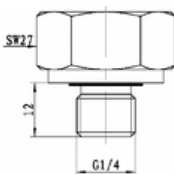
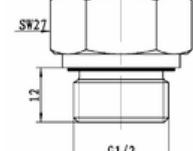
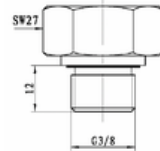
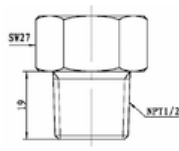
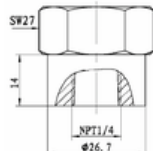
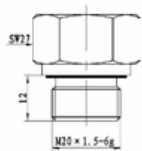
Code	Length
CL01	1 m
CL15	1.5 m
CL02	2 m
CL03	3 m
CL04	4 m
CL05	5 m
CL06	6 m
CL07	7 m
CL08	8 m
CL09	9 m
CL10	10 m

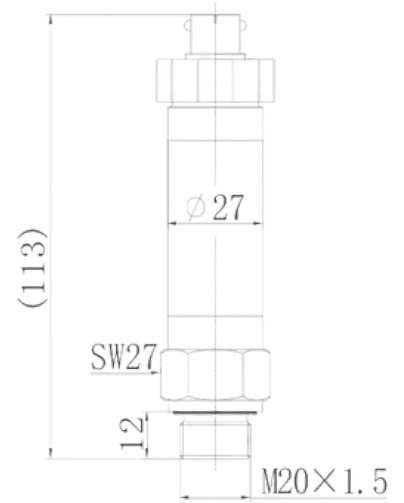
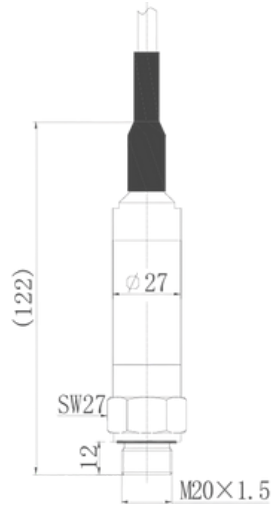
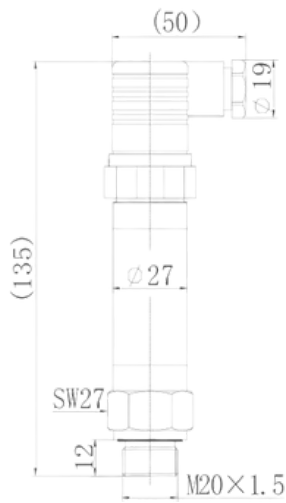
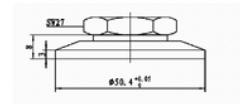
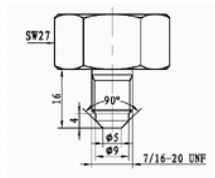
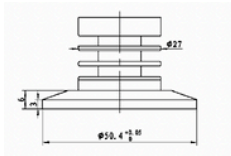
Accuracy options

Code	Accuracy
AC10	±0.1%FS
AC25	±0.25%FS
AC50	±0.5%FS

Process Connections/Drawings

Code	Thread / Port
P01	M20x1.5 Male, face seal (C1)
P02	G1/4 Male, face seal (C2)
P03	G1/2 Male, face seal (C3)
P04	G1/4 Female, waterline seal (C4)
P05	M20x1.5 Male, waterline seal (C5)
P06	NPT1/4 Male (C6)
P08	NPT1/4 Female (C8)
P10	NPT1/2 Male (C10)
P16	G3/8 Male, waterline seal (C16)
P26	7/16-20 UNF Male, 90 deg cone seal (C26)
PC1	Flush diaphragm M20x1.5 Male (PC1)
PC3	Flush diaphragm G1/2 Male (PC3)
PD1	DN25 Clamp (PD1)
PD1S	DN25 Clamp with heat sink (PD1s)





E2 – DIN 43650

E1/E1R – Cable outlet

E3/E3R - 7 Pin connector

Process Connection Seal

Code	Seal type
S00	None
S01	NBR
S02	FKM (standard)
S03	EPDM
S04	Copper

Sensor Seal

Code	Seal type
00	FKM
01	EPDM
02	Weld
03	Integral Sintering

Accessory

Code	Description
D6	D6 digital indicator
D7	D7 digital indicator
Jb5	Yb junction box (5-core)
MS02	MS200 (5-core)
PD14	PD140
YeD6	Ye (D6)
YeD7	Ye (D7)
NYE	Ye (no indicator)
PP	Polymer plug
DG01	Damping gasket

Certification

Code	Description
CE	CE (EMC/PED)
EA	EAC
RO	RoHS
IS	Intrinsically safe Ex ia IIC T4 Ga

Order Guide

Segment	Your Code	Options
Product family	QOM-SMART 2300	QOM-SMART 2300
Pressure Reference	GP/AP/SP/NP	Gauge / Absolute / Sealed
Range	01...NN	See Measuring range
Accuracy	AC10/AC25/AC50	See Accuracy options
Output	I4/R4/R8/H1	4-20 mA (2-wire)/RS485 ASCII / RS485 MODBUS_RTU / HART
Power Supply	PS10-28/PS12-30	See Power Supply
Construction Materials	M22/M23/M24/M25/M35/M40	See Construction Materials
Process Connection	P01...	See Process Connections & Drawings
Connection Seal	S00...S04	See Connection Seal
Electrical Connection	E1/E2/E3/E1R/E3R	See Electrical Connections
Cable Material	CB1/CB2	PE / PUR
Cable Length	CL01/CL15/CL02...CL10	See Cable Length
Certification	CE/EA/RO/CS/IS	See Certification
Accessories	—	See Accessory

Ordering Example *Sealed gauge 0-20 bar (Range 12), $\pm 0.1\%$ FS, MODBUS RS485, 10-28 VDC, SS316L diaphragm/port/housing, G1/4 male face-seal, FKM seal, 4-pin connector, CE.*

Family	Ref	Range	Accuracy	Output	Power Supply	Construction Materials	Process Connection	Process Connection Sealing	Electrical Connection	Cable Material (E1 only)	Cable Length (E1 only)	Certification	Accessories
QOM-SMART 2300	SP	12	AC10	R8	PS10	M24	P02	S02	E2	-	-	CE	-

Notes

Ensure media compatibility with wetted parts. Torque depends on gasket, mating material and lubrication.