

QPress Pressure Transducer - QLS-ATEX 3400 Series

ATEX-ready, configurable industrial pressure transducer up to 1000 bar

Certifications

Quality Lab Solutions data sheet R4



Applications

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

Special Features

- Intrinsically safe Ex ia IIC T6 Ga; flameproof Ex db IIC T6 Gb; ATEX II 1 G Ex ia IIC T4 Ga
- Ranges: gauge, absolute, sealed gauge, and compound; 0–1 to 0–1000 bar; –1–+35 bar compound options
- Outputs: 4–20 mA; 1–5 V; 0–5 V; 0–10 V; 0.5–4.5 V; 0.5–2.5 V
- Wetted options: 316L; Hastelloy C-276; Titanium; Tantalum diaphragm; FKM/EPDM seals
- Process: G1/4, G1/2, G3/8, M20×1.5, NPT 1/4, NPT 1/2; flush and DN25 clamp
- IP65; vibration 10 g; shock 100 g (11 ms)



QLS-ATEX 3400

Description

The QLS-ATEX 3400 is a piezoresistive pressure transducer for general industrial use. A welded stainless-steel construction with optional tantalum or titanium diaphragm and FKM/EPDM sealing ensures compatibility with a wide range of media. Analogue outputs include 4–20 mA, 1–5 V, 0–5 V, 0–10 V, 0.5–4.5 V and 0.5–2.5 V, with measuring ranges from 0–1 to 0–1000 bar and compound ranges to –1–+35 bar. Approvals and protection options include ATEX intrinsic safety and flameproof variants, CE, RoHS, EAC and CCS, with IP65 ingress protection for robust service in demanding environments.

Specifications

TECHNICAL SPECIFICATIONS	
Pressure range	Gauge: 0–1 to 0–1000 bar; Absolute: 0–1 to 0–1000 bar; Sealed gauge: 0–35 to 0–1000 bar; Compound: –1–0 to –1–+35 bar
Pressure reference	Gauge; Absolute; Sealed gauge; Compound
Accuracy	±0.25 % FS; ±0.5 % FS; ±1 % FS (per range)
Hysteresis & repeatability	Hysteresis ≤ ±0.1 % FS; Repeatability ≤ ±0.1 % FS
Temp. drift	Zero ±0.05 % FS/°C (≤ 100 kPa); Zero ±0.03 % FS/°C (> 100 kPa); Span ±0.05 % FS/°C (≤ 100 kPa); Span ±0.03 % FS/°C (> 100 kPa)
Response time	≤ 1 ms (to 90 % FS)
Service life	≥ 1×10 ⁶ cycles
Ambient temp.	–30 to 80 °C ; –20 to 70 °C ; –20 to 80 °C ; –30 to 60 °C (intrinsically safe); –20 to 60 °C (intrinsically safe); –20 to 60 °C (flameproof)
Medium temp.	–30 to +105 °C
Storage temp.	–40 to 120 °C; –20 to 85 °C
EMC-interference	IEC 61000-6-3
EMC-immunity	IEC 61000-6-2
Insulation resistance	≥ 100 MΩ / 500 VDC
Vibration resistance	10 g (55–2000 Hz)
Shock resistance	100 g, 11 ms
Protection	IP65
Wetted Parts	Diaphragm: 316L/Tantalum/Titanium; Pressure port: 304/316L/Hastelloy C-276/Titanium; O-ring: FKM or EPDM
Net weight	≤ 270 g
Size of hexagon	SW27
Approvals/Certification	UKCA; CE; RoHS; ATEX Ex ia IIC T4 Ga; Ex db IIC T6 Gb
Electrical Outputs	4–20 mA; 1–5 V; 0–5 V; 0–10 V; 0.5–4.5 V; 0.5–2.5 V
Process connections	M20×1.5 male face seal; G1/4 male face seal; G1/2 male face seal; G1/4 female; M20×1.5 male waterline; NPT 1/4 male; NPT 1/4 female; NPT 1/2 male; G3/8 male face seal; 7/16-20 UNF male 90° cone; M20×1.5 or G1/2 flush diaphragm; DN25 clamp; DN25 clamp with heat sink
Anti-Vibration	Anti-vibration construction
Overpressure/Burst Pressure	≤ 2 × FS or 110 MPa (minimum value applies)
Housing Material	304 stainless steel; 316L stainless steel; Titanium
Electrical connections	4-pin connector; Cable; M12×1 4-pin connector
Power Supply	11–28 V DC; 15–28 V DC; 5 V DC; 3.3 V DC

Measuring Range (Gauge 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	±0.25%FS

Range Code	Measuring Range	Overpressure	Accuracy
14	0-20 bar	200%FS	±0.25%FS
15	0-25 bar	200%FS	±0.25%FS
16	0-30 bar	200%FS	±0.25%FS
17	0-35 bar	171%FS	±0.25%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	±0.25%FS
14	0-20 bar	200%FS	±0.25%FS
15	0-25 bar	200%FS	±0.25%FS
16	0-30 bar	200%FS	±0.25%FS
17	0-35 bar	171%FS	±0.25%FS
18	0-40 bar	250%FS	±0.25%FS
19	0-50 bar	200%FS	±0.25%FS
20	0-60 bar	167%FS	±0.25%FS
21	0-70 bar	200%FS	±0.25%FS
22	0-80 bar	200%FS	±0.25%FS
23	0-90 bar	200%FS	±0.25%FS
24	0-100 bar	200%FS	±0.25%FS
25	0-160 bar	188%FS	±0.25%FS
26	0-200 bar	150%FS	±0.25%FS
27	0-250 bar	150%FS	±0.25%FS
28	0-300 bar	117%FS	±0.25%FS
29	0-350 bar	150%FS	±0.25%FS
30	0-400 bar	150%FS	±0.25%FS
31	0-500 bar	150%FS	±0.25%FS
32	0-600 bar	150%FS	±0.25%FS
33	0-700 bar	143%FS	±0.25%FS
34	0-800 bar	125%FS	±0.25%FS
35	0-900 bar	111%FS	±0.25%FS
36	0-1000 bar	110%FS	±0.25%FS

Measuring Range (Sealed Pressure)

Range Code	Measuring Range	Overpressure	Accuracy
01	0-35 bar	200%FS	±0.25%FS
02	0-40 bar	250%FS	±0.25%FS

Range Code	Measuring Range	Overpressure	Accuracy
03	0-50 bar	200%FS	±0.25%FS
04	0-60 bar	167%FS	±0.25%FS
05	0-70 bar	143%FS	±0.25%FS
06	0-80 bar	188%FS	±0.25%FS
07	0-90 bar	167%FS	±0.25%FS
08	0-100 bar	150%FS	±0.25%FS
09	0-160 bar	188%FS	±0.25%FS
10	0-200 bar	150%FS	±0.25%FS
11	0-250 bar	180%FS	±0.25%FS
12	0-300 bar	175%FS	±0.25%FS
13	0-350 bar	107%FS	±0.25%FS
14	0-400 bar	150%FS	±0.25%FS
15	0-500 bar	150%FS	±0.25%FS
16	0-600 bar	150%FS	±0.25%FS
17	0-700 bar	143%FS	±0.25%FS
18	0-800 bar	125%FS	±0.25%FS
19	0-900 bar	111%FS	±0.25%FS
20	0-1000 bar	110%FS	±0.25%FS

Measuring Range (Negative Pressure)

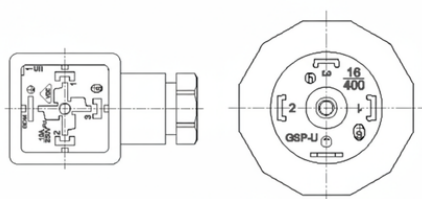
Range Code	Measuring Range	Overpressure	Accuracy
01	-0.25...0 bar	200%FS	±1%FS
02	-0.4...0 bar	250%FS	±1%FS
03	-0.6...0 bar	167%FS	±1%FS
04	-1...0 bar	150%FS	±1%FS
05	-0.03...0.03 bar	167%FS	±1%FS
06	-0.05...0.2 bar	120%FS	±1%FS
07	-0.05...0.25 bar	100%FS	±1%FS
08	-0.15...0.15 bar	100%FS	±1%FS
09	-0.2...0.2 bar	75%FS	±1%FS
10	-0.25...0.25 bar	100%FS	±1%FS
11	-0.3...0.3 bar	83%FS	±1%FS
12	-0.5...0.5 bar	100%FS	±1%FS
13	-1...0.6 bar	94%FS	±1%FS
14	-1...1 bar	100%FS	±1%FS
15	-1...1.5 bar	120%FS	±1%FS
16	-1...3 bar	125%FS	±0.5%FS
17	-1...5 bar	167%FS	±0.5%FS
18	-1...9 bar	200%FS	±0.5%FS
19	-1...10 bar	227%FS	±0.5%FS
20	-1...15 bar	188%FS	±0.5%FS
21	-1...16 bar	176%FS	±0.5%FS
22	-1...20 bar	143%FS	±0.5%FS
23	-1...24 bar	200%FS	±0.5%FS
24	-1...25 bar	192%FS	±0.5%FS
25	-1...30 bar	194%FS	±0.5%FS
26	-1...35 bar	194%FS	±0.5%FS

Output Signals

Code	Output	Power Supply	Load
I4	4–20 mA (2-wire)	11–28 VDC	$\leq (U-11)/0.02 \Omega$
V1	1–5 V (3-wire)	11–28 VDC	$\geq 10 \text{ k}\Omega$
V5	0–5 V (3-wire)	11–28 VDC	$\geq 10 \text{ k}\Omega$
VX	0–10 V (3-wire)	15–28 VDC	$\geq 10 \text{ k}\Omega$
VR	0.5–4.5 V ratiometric (3-wire)	5 ± 0.1 VDC	$\geq 10 \text{ k}\Omega$
VN	0.5–2.5 V non-ratiometric (3-wire)	5 ± 0.1 or 3.3 ± 0.1 VDC	$\geq 10 \text{ k}\Omega$

Electrical Connections

Code	Description	Pinout
E1	Cable outlet	Red: +V ; Black: OUT
E2	M12x1 4-pin connector	Pin 1: +V ; Pin 3: OUT
E5	4-pin connector	Pin 1: +V ; Pin 2: OUT
E1-M20	Cable with M20x1.5 fixed thread	Red: +V ; Black: OUT
E1-NPT12	Cable with NPT1/2 fixed thread – flameproof only	Red: +V ; Black: OUT
E1-G12	Cable with G1/2 fixed thread	Red: +V ; Black: OUT
E2-S	M12x1 4-pin + 2 m PVC straight cable	Pin 1: +V ; Pin 3: OUT
E2-A	M12x1 4-pin + 2 m PVC angled cable	Pin 1: +V ; Pin 3: OUT
E5C	4-pin connector with 1.5 m PVC cable	Pin 1: +V ; Pin 2: OUT



E5 – DIN 43650



E1 – Cable outlet



E2 – M12

Power Supply

Code	Supply
V5	11–28 VDC
V6	5 ± 0.1 VDC
V7	3.3 ± 0.1 VDC
V13	15–28 VDC

Construction Materials

Code	Diaphragm	Pressure Port	Housing
22	316L	SS304	SS304
23	316L	316L	SS304
24	316L	316L	316L
25	Tantalum Ta1	316L	SS304
35	Tantalum Ta1	Hastelloy C-276	SS304
40	Titanium TA1	Titanium TC4	Titanium TC4

Cable Material

Code	Description
N	None
P1	PE (standard)
P2	PUR

Cable Length

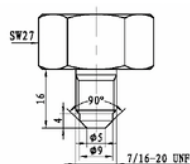
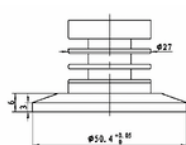
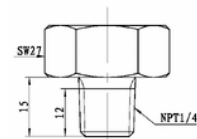
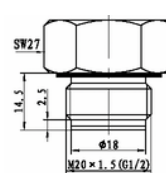
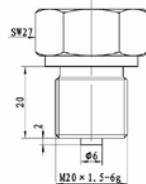
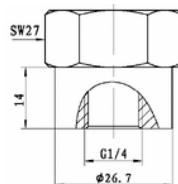
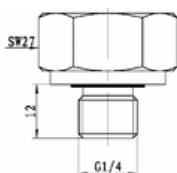
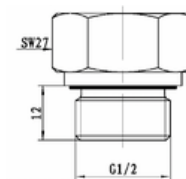
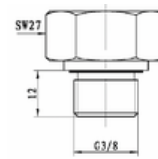
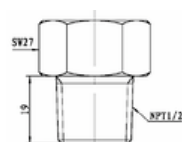
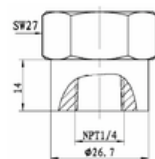
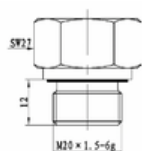
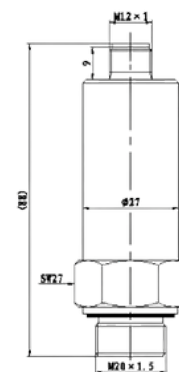
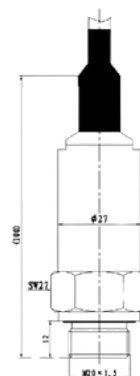
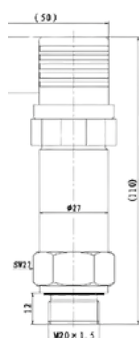
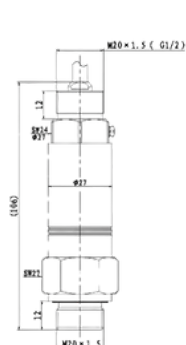
Code	Length
N	None
L001	1 m
L1D5	1.5 m
L002	2 m
L003	3 m
L004	4 m
L005	5 m
L006	6 m
L007	7 m
L008	8 m
L009	9 m
L010	10 m

Accuracy options

Code	Accuracy
A1	$\pm 0.25\% \text{FS}$
A2	$\pm 0.5\% \text{FS}$
A3	$\pm 1\% \text{FS}$

Process Connections/Drawings

Code	Thread / Port
P1	M20×1.5 male, face seal
P2	G1/4 male, face seal
P3	G1/2 male, face seal
P4	G1/4 female, waterline seal
P5	M20×1.5 male, waterline seal
P6	NPT1/4 male
P7	NPT1/4 female
P8	NPT1/2 male
P9	G3/8 male, face seal
P10	7/16–20 UNF male, 90° cone
P11	Flush diaphragm M20×1.5 male
P12	Flush diaphragm G1/2 male
P13	Hygienic DN25 clamp
P14	Hygienic DN25 clamp with heat sink



Process Connection Seal

Code	Seal type
Z0	None
Z1	NBR
Z2	FKM
Z3	EPDM
Z4	Copper

Sensor Seal

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

Accessory

Code	Description
N	No accessory
ML1	4-digit LED indicator (I4, non-Ex/non-ship-use, E5 only)
ML2	4-digit LCD indicator (I4, non-Ex/non-ship-use, E5 only)
YB	Yb junction box (3-core)
Y3	MS200 (3-core) Polymer plug (default)
Y14	PD140
Y6	Indicator cover for ML1
Y7	Indicator cover for ML2
Y	Cover (no indicator)
MS	Polymer plug (except YB/Y3/Y14)
D	Damping gasket

Certification

Code	Description
N	None
IS	Intrinsically safe Ex ia IIC T6 Ga
SU	Ship-use Ex ia IIC T6 Ga、 Ex d IIC T6 Gb
AX	ATEX Ex ia IIC T4 Ga
EXD	Flameproof Ex db IIC T6 Gb

Order Guide

Segment	Your Code	Options
Product family	QLS-ATEX 3400 Series	QLS-ATEX 3400 Series
Pressure Reference	GP / AP / SP / NP	Select Pressure reference
Range	01....36	Range as per Pressure reference see measuring range tables
Accuracy	A1 / A2 / A3	See Accuracy options
Output	I4 / V1 / V5 / VX / VR / VN	See Output Signals
Power Supply	V5 / V6 / V7 / V13	See Power Supply
Construction Materials	22 / 23 / 24 / 25 / 35 / 40	See Construction Materials
Sensor Sealing	00 / 01 / 02 / 03	See Connection Sealing
Process Connection	P1 ... P14	See Process Connections & Drawings
Process Connection Sealing	Z0 / Z1 / Z2 / Z3 / Z4	See Connection Seal
Electrical Connection	E1 / E2 / E5 (+variants)	See Electrical Connections
Cable Material (E1 only)	N / P1 / P2	See Cable Material
Cable Length (E1 only)	N / L001 / L1D5 / ... / L010	See Cable Length
Certification	N / IS / SU / AX / EXD	See Certification
Accessories	N / M6 / M7 / YB / Y3 / Y14 / Y6 / Y7 / Y / MS / D	See Accessory

Ordering Example 0–25 bar absolute, $\pm 0.25\%FS$, 4–20 mA, 11–28 VDC, 316L/316L/316L, FKM O-ring, G1/2 male face seal, FKM process seal, 4-pin connector, no cable, ATEX Ex ia IIC T4 Ga, LED indicator

Family	Ref	Range	Accuracy	Output	Power Supply	Construction Materials	Sensor Sealing	Process Connection	Process Connection Sealing	Electrical Connection	Cable Material (E1 only)	Cable Length (E1 only)	Certification	Accessories
QLS-ATEX 3400	AP	25	A1	I4	V5	24	00	P3	Z2	E5	N	N	AX	M6

Notes

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

