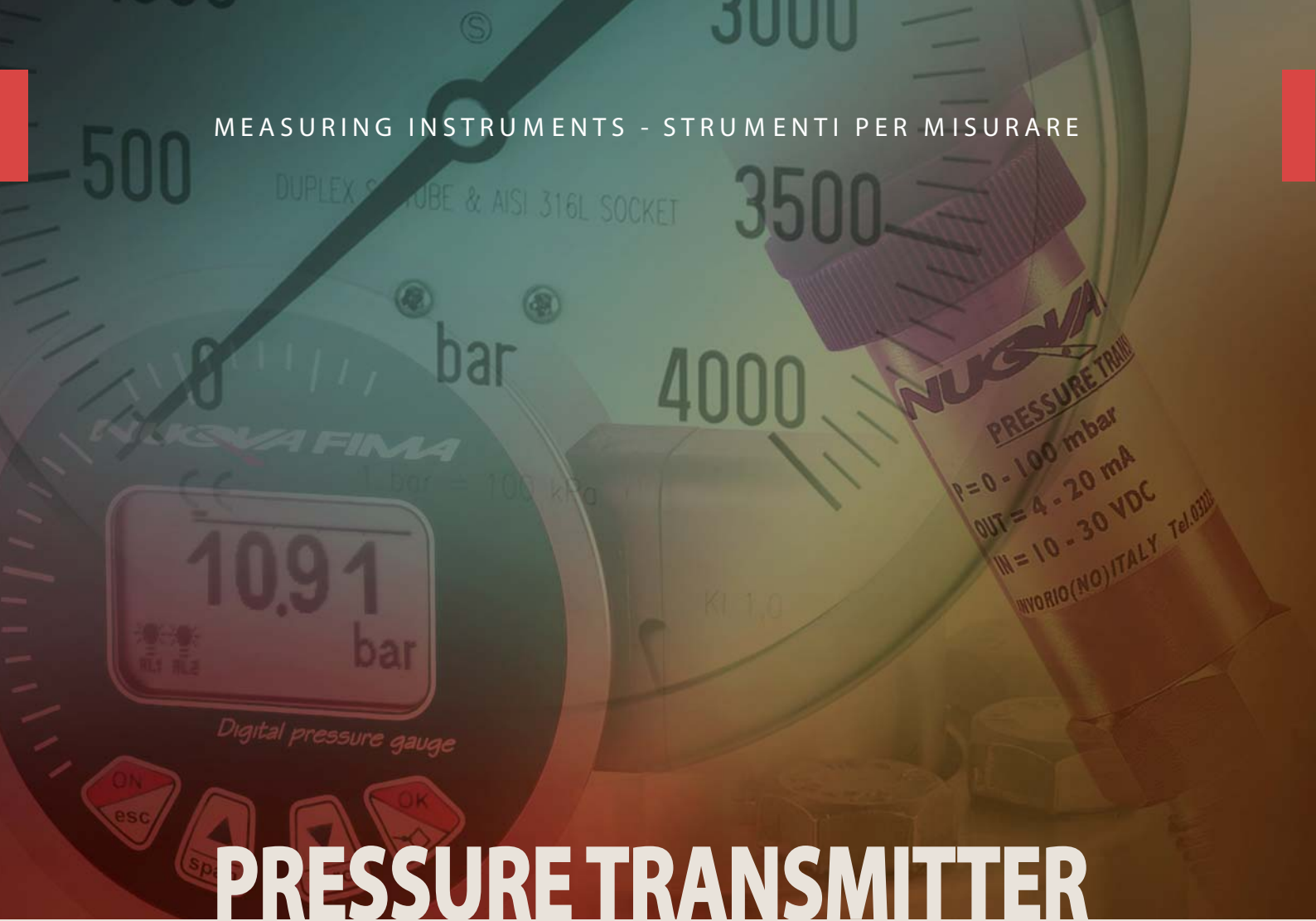


MEASURING INSTRUMENTS - STRUMENTI PER MISURARE



PRESSURE TRANSMITTER

NUOVA FIMA

pressure transmitter with ceramic sensor, accuracy 0,5%



CE Compliance to requirements of directives:
EMC 2004/108/CE - PED 97/23/CE - RoHS 2011/65/CE

The ST1 model is a compact electronic transmitter with ceramic sensor for air, industrial and technical gases, water and oil.

8.ST1

Measuring ranges: 0...1/0...600 bar, relative; -1...0/-1...+24 bar, relative.

Output signals: 4...20 mA, 0...5 Vcc, 0...10 Vcc, 1...5 Vcc, 0,5...4,5 Ratiometric Vcc.

Non-linearity (BFSL): $\leq \pm 0,25$ % of the range, according to IEC 61298-2.

Non-repeatability: $\leq 0,1$ % of the range, according to IEC 61298-2.

Accuracy: $\leq \pm 0,5$ % of the range ⁽¹⁾.

Thermal drift: between 0 and 80°C, 1% of span; 2,5% of span, max ⁽²⁾.

Long term drift: $\leq 0,1$ % of span.

Process fluid temperature: -25...+100 °C.

Ambient temperature: -25...+85 °C.

Stocking temperature: -30...+85 °C.

Response time: <4 ms (measuring); <150 ms (switching on).

Emission and immunity: according to EN 61326,
(group 1 - class B; industrial applications).

Vibration resistance: 20g (10...2000 Hz, according to IEC 60068-2-6).

Shock resistance: 40g (6 ms, according to IEC 60068-2-27).

Sensor: ceramic in Al₂O₃.

Case: in AISI 316L, vented up to 16 bar.

Protection degree: IP 65 according to IEC 60529 ⁽³⁾.

Process connection: in AISI 316L, hole \varnothing 2,5 mm (with restrictor \varnothing 0,7 mm for measuring ranges \geq 60 bar).

Weight: 0,14 kg

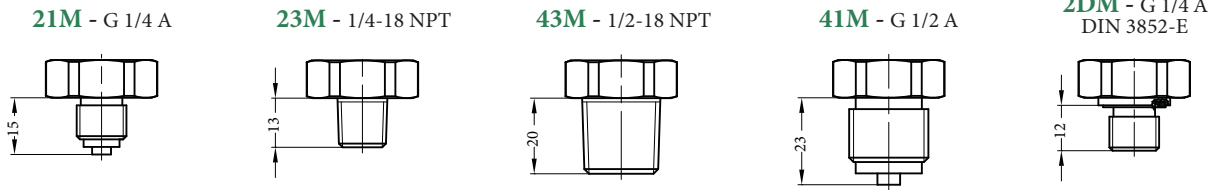
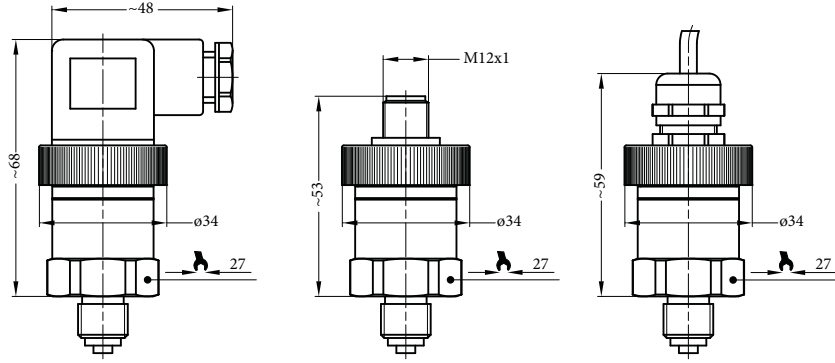
(1) max measuring error according to IEC 61298-2, including non-linearity and hysteresis (limit-point calibration and reference conditions according to IEC 61298-1); accuracy $\leq \pm 0,75$ % of span for measuring ranges 0...1 bar and 0...600 bar.

(2) + 0,5% of span for measuring range 1 bar

(3) with properly assembled electric connection

Ranges bar, relative	Overpressure bar, relative
0...1	5
0...1,6	5
0...2,5	5
0...4	8
0...6	12
0...10	20
0...16	32
0...25	50
0...40	80
0...60	120
0...100	200
0...160	320
0...250	500
0...400	600
0...600	800

Other ranges available on demand. Units of measurement available in psi, MPa, kPa too.



Output signals	4...20 mA 1	0...5 Vdc 4	0...10 Vdc 5	1...5 Vdc 8	0,5...4,5 Vdc ratiometric - R
N. of wires	2	3	3	3	3
Load max (Ohm)	$R_L \leq (U_b - 8)/0,02$	$R_L \geq 5 \text{ K}\Omega$	$R_L \geq 10 \text{ K}\Omega$	$R_L \geq 5 \text{ K}\Omega$	$R_L \geq 4,5 \text{ K}\Omega$
Supply: U_b (Vdc)	8...30	8...30	14...30	8...30	$5 \pm 10\%$
Absorbed current (mA)	< 25	< 10	< 10	< 10	< 10

Other output signals available on request. All output signals are provided of protection against short circuit and polarity inversion. Insulation tension 500 Vdc.

WIRING

N. of wires	DIN 175301-803 A		M12 x 1		Cable exit	
	2	3	2	3	2	3
Supply connection: U_b	1	1	1	1	brown	brown
Negative connection: 0V	2	2	3	3	white	white
Signal: S +	-	3	-	4	-	green
Ground	GND	GND	2	2	grey	grey

OPTIONS

M12 - Connector M12 x 1, 4 poles	EPD - EPDM gasket for sensor
PVC - Cable exit, with 1 mt PVC cable	NBR - NBR gasket for sensor ⁽¹⁾
FPM - FPM gasket for sensor ⁽¹⁾	C01 - Calibration certificate
CRP - CR gasket for sensor	VS3 - Restrictor \varnothing 0,3 mm

(1) Available for process connection DIN 3852-E.

“HOW TO ORDER” SEQUENCE

Section / Model / Range / Process connection / Output signal / Electric connection / Gasket / Options
8 ST1 **21M** **1** --- **FPM** **C01...VS3**
 2DM **4** **M12** **CRP**
 23M **5** **PVC** **EPD**
 41M **8** **NBR**
 43M **R**



pressure transmitter with piezoresistive sensor, accuracy 0,35%



Compliant to directives
EMC 2004/108/CE - PED 97/23/CE - RoHS 2002/95/CE

The ST2 model is a compact electronic transmitter with piezoresistive sensor with excellent linearity, for air, industrial and technical gases, water, oil and process media compatible with AISI 316.

8.ST2

Measuring ranges: 0...0,1/0...1000 bar, relative; -1...0/-1...+24 bar, relative; 0...1/0...25 bar, absolute.

Output signals: 4...20 mA, 0...5 Vcc, 0...10 Vcc, 1...5 Vcc, 0,5...4,5 Ratiometric Vcc.

Non-linearity (BFSL): $\leq \pm 0,175$ % of the range, according to IEC 61298-2.

Non-repeatability: $\leq 0,1$ % of the range, according to IEC 61298-2.

Accuracy: $\leq \pm 0,35$ % of the range ⁽¹⁾.

Thermal drift: between 0 and 80°C, 1% of span; 2,5% of span, max ⁽²⁾.

Long term drift: $\leq 0,1$ % of span.

Process fluid temperature: -25...+100 °C.

Ambient temperature: -25...+85 °C.

Stocking temperature: -30...+85 °C.

Response time: <4 ms (measuring); <150 ms (switching on).

Emission and immunity: according to EN 61326, (group 1 - class B; industrial applications).

Vibration resistance: 20g (10...2000 Hz, according to IEC 60068-2-6).

Shock resistance: 40g (6 ms, according to IEC 60068-2-27).

Sensor: piezoresistive, silicon oil.

Case: in AISI 316L, vented up to 16 bar.

Protection degree: IP 65 according to IEC 60529 ⁽³⁾.

Process connection: in AISI 316L, hole \varnothing 2,5 mm (with restrictor \varnothing 0,7 mm for measuring ranges \geq 60 bar).

Weight: 0,14 kg

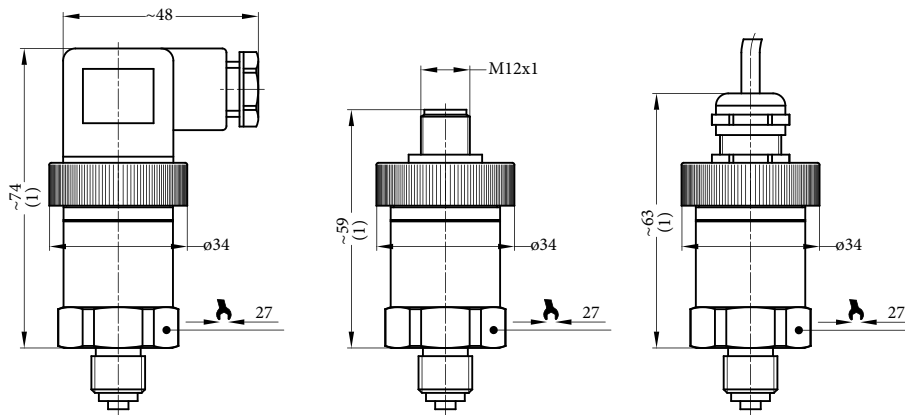
(1) max measuring error according to IEC 61298-2, including non-linearity and hysteresis (limit-point calibration and reference conditions according to IEC 61298-1).

(2) + 0,5% of span for measuring range \leq 0,6 bar

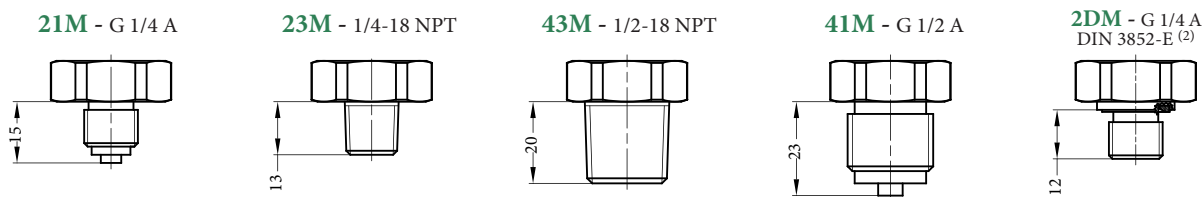
(3) with properly assembled electric connection

Ranges bar, relative	Overpressure bar, relative
0...0,1	0,3
0...0,16	0,5
0...0,25	0,8
0...0,4	1,2
0...0,6	1,8
0...1	2
0...1,6	3,2
0...2,5	5
0...4	8
0...6	12
0...10	20
0...16	32
0...25	50
0...40	80
0...60	120
0...100	200
0...160	320
0...250	380
0...400	600
0...600	900
0...1000	1500

Other ranges available on demand. Units of measurement available in psi, MPa, kPa too.



Dimensions: mm; (1) for pressures ≥ 160 bar add 5 mm



Torque 20...30 Nm; (2) process connection DIN 3852-E for pressures ≤ 600 bar

Output signals	4...20 mA 1	0...5 Vdc 4	0...10 Vdc 5	1...5 Vdc 8	0,5...4,5 Vdc ratiometric - R
N. of wires	2	3	3	3	3
Load max (Ohm)	$R_L \leq (U_b - 8)/0,02$	$R_L \geq 5 \text{ K}\Omega$	$R_L \geq 10 \text{ K}\Omega$	$R_L \geq 5 \text{ K}\Omega$	$R_L \geq 4,5 \text{ K}\Omega$
Supply: +Ub (Vdc)	8...30	8...30	14...30	8...30	5 \pm 10%
Absorbed current (mA)	< 25	< 10	< 10	< 10	< 10

Other output signals available on demand. All output signals are provided of protection against short circuit and polarity inversion. Insulation tension 500 Vdc.

WIRING

N. of wires	DIN 175301-803 A		M12 x 1		Cable exit	
	2	3	2	3	2	3
Supply connection: Ub+	1	1	1	1	brown	brown
Negative connection; 0V-	2	2	3	3	white	white
Output signal: S+	-	3	-	4	-	green
Ground	GND	GND	2	2	grey	grey

OPTIONS

M12 - Connector M12 x 1, 4 poles	NBR - NBR gasket for sensor ⁽¹⁾
PVC - Cable exit, with 1 mt PVC cable	C01 - Calibration certificate
FPM - FPM gasket for sensor ⁽¹⁾	A02 - Accuracy $\leq \pm 0,25\%$ of the range ⁽²⁾
CRP - CR gasket for sensor	VS3 - Restrictor $\varnothing 0,3$ mm for pressure range 60 bar
EPD - EPDM gasket for sensor	

(1) Available for process connection DIN 3852-E.

(2) Non-Linearity (BFSL) $\leq \pm 0,125\%$ of span; for measuring ranges ≤ 60 bar

“HOW TO ORDER” SEQUENCE

Section / Model / Range / Process connection / Output signal / Electric connection / Gasket / Options
8 ST2 **21M** **1** --- **FPM** **C01...VS3**
 2DM **4** **M12** **CRP**
 23M **5** **PVC** **EPD**
 41M **8** **NBR**
 43M **R**

pressure transmitter with piezoresistive sensor, accuracy 0,35%



CE Compliance to requirements of directives:
EMC 2004/108/EC - PED 97/23/EC - RoHS 2011/65/EC

The ST9 model is an electronic transmitter with piezoresistive sensor with excellent linearity, with adjustable zero and span, for air, industrial and technical gases, water, oil and process media compatible with AISI 316. When assembled to diaphragm seals, it measures the pressure of corrosive, highly viscous and hot fluids.

8.S09

Measuring ranges: 0...0,1/0...1000 bar, relative; -1...0/-1...+24 bar, relative; 0...1/0...25 bar, absolute.

Output signal: 4...20 mA.

Non-linearity (BFSL): $\leq \pm 0,175$ % of the range, according to IEC 61298-2.

Non-repeatability: $\leq 0,1$ % of the range, according to IEC 61298-2.

Accuracy: $\leq \pm 0,35$ % of the range ⁽¹⁾.

Zero and span adjustment: ± 10 % span typical.

Thermal drift: between 0 and 80°C, 1% of span; 2,5% of span, max ⁽²⁾.

Long term drift: $\leq 0,2$ % of span.

Process fluid temperature: -25...+100 °C.

Ambient temperature: -25...+85 °C.

Stocking temperature: -30...+85 °C.

Response time: <4 ms (measuring); <150 ms (switching on).

Emission and immunity: according to EN 61326, (group 1 - class B; industrial applications).

Vibration resistance: 20g (10...2000 Hz, according to IEC 60068-2-6).

Shock resistance: 40g (6 ms, according to IEC 60068-2-27).

Sensor: piezoresistive, silicon oil.

Case: in AISI 316L, vented up to 16 bar.

Protection degree: IP 65 according to IEC 60529 ⁽³⁾.

Process connection: in AISI 316L, hole \varnothing 2,5 mm (with restrictor \varnothing 0,7 mm for measuring ranges ≥ 60 bar).

Weight: 0,23kg

(1) max measuring error according to IEC 61298-2, including non-linearity and hysteresis (limit-point calibration and reference conditions according to IEC 61298-1).

(2) + 0,5% of span for measuring range $\leq 0,6$ bar

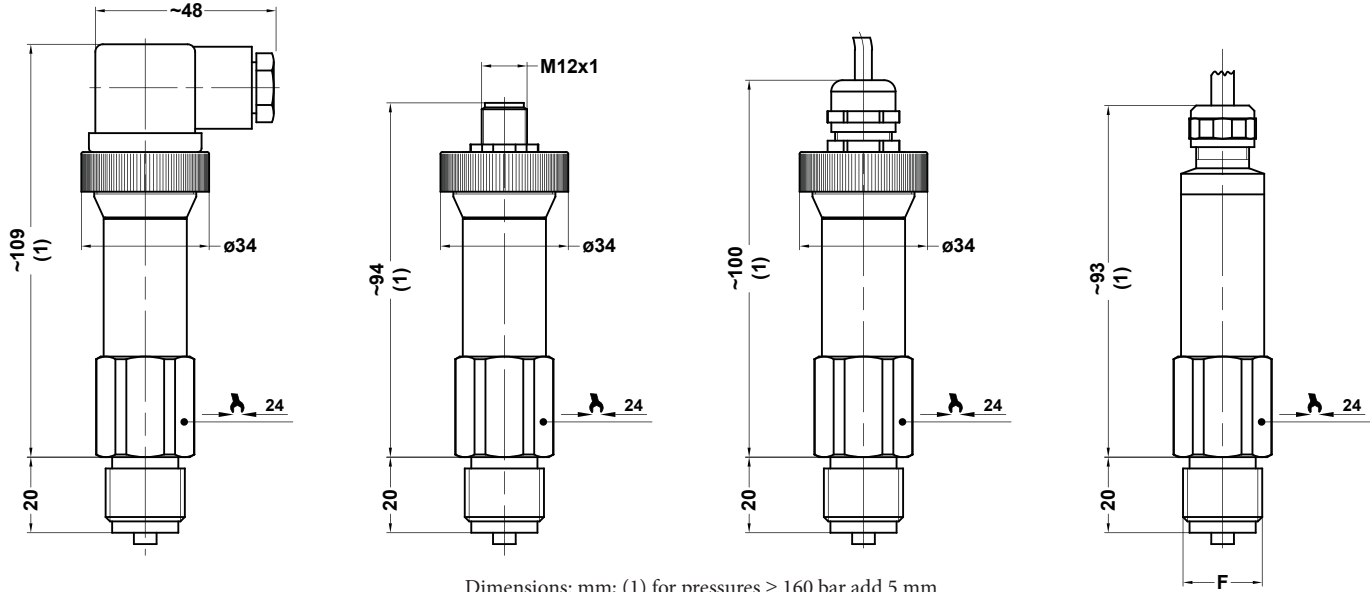
(3) with properly assembled electric connection

Ranges bar, relative	Overpressure bar, relative
0...0,1	0,3
0...0,16	0,5
0...0,25	0,8
0...0,4	1,2
0...0,6	1,8
0...1	2
0...1,6	3,2
0...2,5	5
0...4	8
0...6	12
0...10	20
0...16	32
0...25	50
0...40	80
0...60	120
0...100	200
0...160	320
0...250	380
0...400	600
0...600	900
0...1000	1500

Other ranges available on demand. Units of measurement available in psi, MPa, kPa too.

Output signal	4...20 mA 1
N. wires	2
Load (Ohm)	$R_L \leq (U_b - 10)/0,02$
Supply: +Ub	10...30

Other output signals available on demand. All output signals are provided of protection against short circuit and polarity inversion. Insulation tension 500 Vdc.



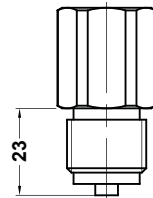
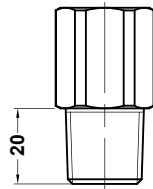
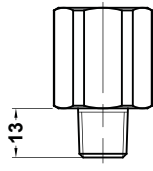
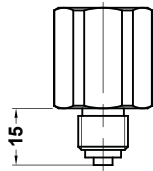
Dimensions: mm; (1) for pressures ≥ 160 bar add 5 mm

21M - G 1/4 A

23M - 1/4-18 NPT

43M - 1/2-18 NPT

41M - G 1/2 A



Torque 20...30 Nm

WIRING

	DIN 175301-803 A	M12 x 1	Cable exit
N. of wires	2	2	2
Supply connection: Ub+	1	1	brown
Negative connection; 0V-	2	3	white
Output signal: S+	-	-	-
Ground	GND	2	grey

OPTIONS

M12 - Connector M12 x 1, 4 poles	EPD - EPDM gasket for sensor
PVC - Cable exit, with 1 mt PVC cable	NBR - NBR gasket for sensor
U68 - Cable exit IP68, with 1 mt polyurethane cable	C01 - Calibration certificate
FPM - VITON gasket for sensor	A02 - Accuracy $\leq \pm 0,25\%$ of the range ⁽¹⁾
CRP - CR gasket for sensor	VS3 - Restrictor $\varnothing 0,3$ mm

(1) Non-Linearity (BFSL) $\leq \pm 0,125\%$ of span; for measuring ranges ≤ 60 bar

“HOW TO ORDER” SEQUENCE

Section / Model / Range / Process connection / Output signal / Electric connection / Gasket / Options
8 S09 41M 1 --- FPM C01...VS3
21M M12 CRP
PVC EPD
U 68 NBR

pressure transmitter with ceramic sensor, accuracy 0,5%



CE Compliance to requirements of directives:
EMC 2004/108/CE - PED 97/23/CE - RoHS 2011/65/CE

The ST18 model is an electronic transmitter with ceramic sensor, with adjustable zero and span, for air, industrial and technical gases, water and oil. When assembled to diaphragm seals, it measures the pressure of corrosive, highly viscous and hot fluids.

8.ST18

Measuring ranges: 0...1/0...600 bar, relative; -1...0/-1...+24 bar, relative; 0...1/0...25 bar, absolute.

Output signals: 4...20 mA, 0...5 Vcc, 0...10 Vcc.

Non-linearity (BFSL): $\leq \pm 0,25$ % of the range, according to IEC 61298-2.

Non-repeatability: $\leq 0,1$ % of the range, according to IEC 61298-2.

Accuracy: $\leq \pm 0,5\%$ of the range ⁽¹⁾.

Thermal drift: between 0 and 80°C, 1% of span; 2,5% of span, max ⁽²⁾.

Long term drift: $\leq 0,1$ % of span.

Zero and span adjustment: ± 10 % span typical.

Process fluid temperature: -25...+100 °C.

Ambient temperature: -25...+85 °C.

Stocking temperature: -30...+85 °C.

Response time: <4 ms (measuring); <150 ms (switching on).

Emission and immunity: according to EN 61326, (group 1 - class B; industrial applications).

Vibration resistance: 20g (10...2000 Hz, according to IEC 60068-2-6).

Shock resistance: 40g (6 ms, according to IEC 60068-2-27).

Sensor: ceramic in Al₂O₃.

Case: in AISI 316L, vented up to 16 bar.

Protection degree: IP 65 according to IEC 60529 ⁽³⁾.

Process connection: in AISI 316L, hole \varnothing 2,5 mm (with restrictor \varnothing 0,7 mm for measuring ranges ≥ 60 bar).

Weight: 0,18 kg

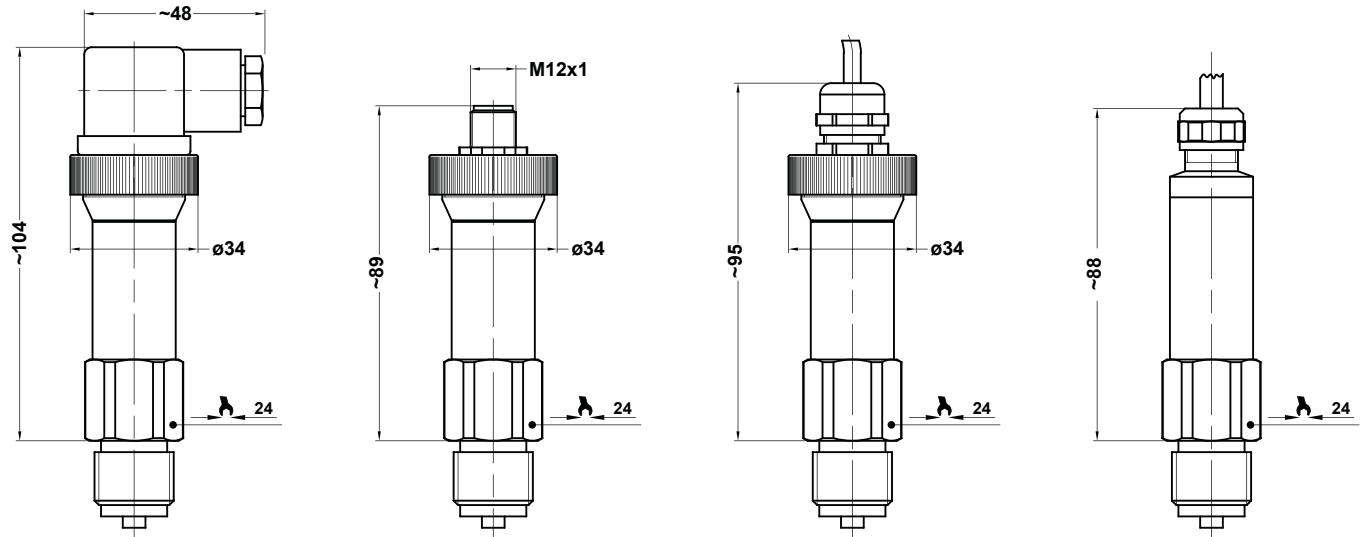
(1) max measuring error according to IEC 61298-2, including non-linearity and hysteresis (limit-point calibration and reference conditions according to IEC 61298-1); accuracy $\leq \pm 0,75\%$ of span for measuring ranges 0...1 bar and 0...600 bar.

(2) + 0,5% of span for measuring range 1 bar

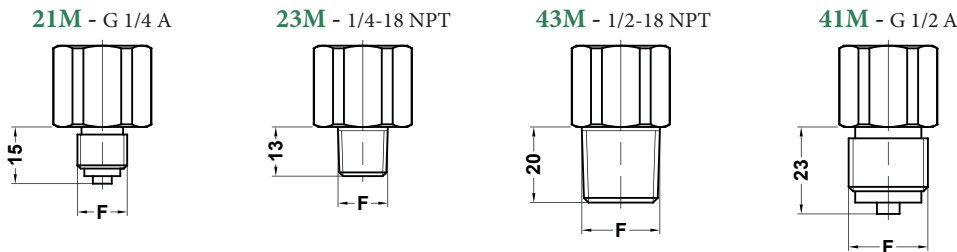
(3) with properly assembled electric connection

Ranges bar, relative	Overpressure bar, relative
0...1	5
0...1,6	5
0...2,5	5
0...4	8
0...6	12
0...10	20
0...16	32
0...25	50
0...40	80
0...60	120
0...100	200
0...160	320
0...250	500
0...400	600
0...600	800

Other ranges available on demand. Units of measurement available in psi, MPa, kPa too.



Torque 20...30 Nm



Output signals	4...20 mA 1	0...5 Vdc 4	0...10 Vdc 5
N. of wires	2	3	3
Load max (Ohm)	$R_L \leq (U_b - 8)/0,02$	$R_L \geq 5 \text{ K}\Omega$	$R_L \geq 10 \text{ K}\Omega$
Supply: +Ub (Vdc)	8...30	8...30	14...30
Absorbed current (mA)	< 25	< 10	< 10

All output signals are provided of protection against short circuit and polarity inversion. Insulation tension 500 Vdc.

WIRING

N. of wires	DIN 175301-803 A		M12 x 1		Cable exit	
	2	3	2	3	2	3
Supply connector: Ub	1	1	1	1	brown	brown
Negative connector: 0V	2	2	3	3	white	white
Signal: S +	-	3	-	4	-	green
Ground	GND	GND	2	2	grey	grey

OPTIONS

M12 - Connector M12 x 1, 4 poles	EPD - EPDM gasket for sensor
PVC - Cable exit, with 1 mt PVC cable	NBR - NBR gasket for sensor
U68 - Cable exit IP68, with 1 mt polyurethane cable	C01 - Calibration certificate
FPM - FPM gasket for sensor	VS3 - Restrictor ϕ 0,3 mm
CRP - CR gasket for sensor	

“HOW TO ORDER” SEQUENCE

Section / Model / Range / Process connection / Output signal / Gasket / Options
8 S18 **41M** **1** **FPM** **C01...VS3**
 43M **4** **CRP**
 21M **5** **EPD**
 23M **NBR**

pressure transmitter flush diaphragm

ST MA

- ✓ - *Wetted parts: st.st.AISI 316L.*
- ✓ - *Process fluid temperature: up to 300°F (+150°C).*
- ✓ - *EMC emission and immunity: as per EN 61326.*
- ✓ - *Wiring: shieldless cable.*
- ✓ - *Case: with ventilation device.*
- ✓ - *Calibration: adjustable.*



CE Compliance to requirements of directives:
EMC 2004/108/CE - PED 97/23/CE - RoHS 2011/65/CE

8.SMA - Standard Model

Ranges: 0...15 / 0...10000 psi, relative (0...1 / 0...600 bar, relative).

Accuracy (% span): ≤ 0,25 typical; ≤ 0,5 max.

Calibration: limit-point as per DIN 16086.

Repeatability: ≤ 0,15 % of span.

Annual drift: ≤ 0,2 % of span.

Process fluid temperature: -4...+212 °F (-20...+100 °C).

Ambient temperature: -13...+185 °F (-25...+85 °C).

Storage temperature: -40...+185 °F (-40...+85 °C)⁽¹⁾.

Output signals: 4...20 mA, 0...5 Vdc, 0...10 Vdc.

Supply and max load: see on page 2.

Zero calibration: ± 10 % span typical.

Span calibration: ± 10 % span typical.

Compensated temperature range: +32...+176 °F; (0...+80 °C).

Diaphragm: AISI 316L st.st.

Process connection: AISI 316L st.st.

Gasket: VITON (cod. **FPM**).

Filling liquid: silicon oil.

Sensor: ceramic.

Case: stainless steel, vented for pressure ranges ≤ 230 psi (≤ 16 bar).

Electric connection: EN 175301-803, exit for cables ø 0.23...0.35" (6...9 mm).

Protection degree: IP 65 as per EN 60529 / IEC 529.

Weight: 0.57 lbs (0,26 kg)

(1) with electrical connector EN175301-803 (Ex DIN 43650)

8.SMA...TA3 - Model with heat dissipator

Process fluid temperature: -4...+302 °F (-20...+150 °C).

Other features: as Standard Model.

Ranges psi, relative (1)	Thermal drift % span / °F (3)	Overpressure psi, relative
0...15 (2)	0.04	36
0...25/0...30 (2)	0.03	72
0...60 (2)	0.02	145
0...100 (2)	0.02	290
0...160	0.02	290
0...300	0.01	580
0...600	0.01	1450
0...1000/0...1500	0.01	2900
0...2000/0...3000	0.01	7250
0...6000	0.01	8700
0...10000	0.01	11600

(1) Other unit of measurement and intermediate ranges are available, as requested by customer.

(2) Ranges available with G 3/4 A connection only.

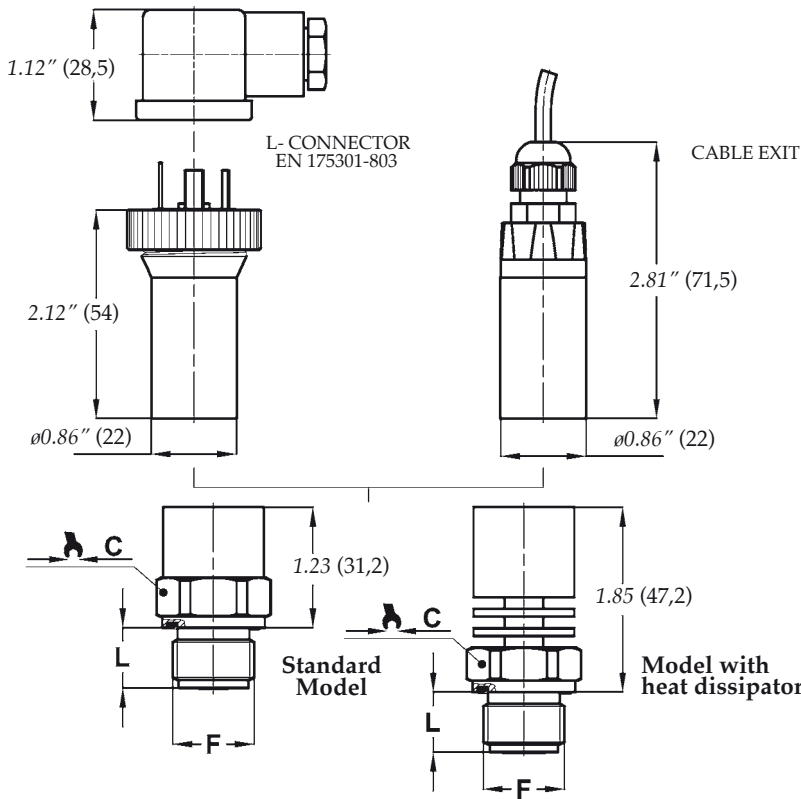
(3) Thermal drift on connection G 3/4 A.

Ranges bar, relative (1)	Thermal drift % span / °C (3)	Overpressure bar, relative
0...1 (2)	0,08	2,5
0...1,6/0...2,5 (2)	0,06	5
0...4 (2)	0,04	10
0...6 (2)	0,03	20
0...10	0,03	20
0...16	0,02	40
0...25/0...40	0,02	100
0...60/0...100	0,02	200
0...160/0...250	0,02	500
0...400	0,02	600
0...600	0,02	800

(1) Other unit of measurement and intermediate ranges are available, as requested by customer.

(2) Ranges available with G 3/4 A connection only.

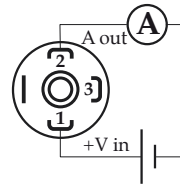
(3) Thermal drift on connection G 3/4 A.



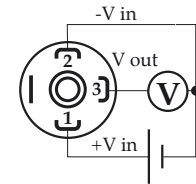
F	L	C
41M G 1/2 A	0.62" (16)	1.06" (27)
51M G 3/4 A	0.64" (16,5)	1.25" (32)

dimensions : inches (mm)

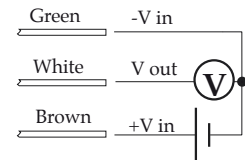
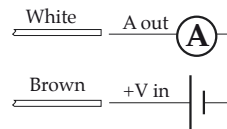
Output signal	4...20 mA 1	0...5 Vdc 4	0...10 Vdc 5
N. of wires	2	3	3
Load (Ohm)	$R_L \leq (V_{in}-8)/0,02$	$R_L \geq 5 K\Omega$	$R_L \geq 10 K\Omega$
Supply: +V _{in}	10...30	8...30	14...30
Ground	(pls. refer to Installation Manual)		



4...20 mA



0...5 Vdc
0...10 Vdc



OPTIONS

C01 - Calibration report

PVC -Cable exit, with PVC cable (1)

(1) Zero calibration not available

"HOW TO ORDER" SEQUENCE

Section / Model / Special versions / Range / Process connection / Output signal / Gasket / Options
 8 SMA --- TA3 41M 51M 1 4 5 FPM C01...PVC

pressure transmitter for food industry and sanitary applications

ST SA

- ✓ - Construction and finishing: as per 74-05 SSI.
- ✓ - Wetted parts: AISI 316L st.st.
- ✓ - EMC emission and immunity: as per EN 61326.
- ✓ - Calibration: adjustable.
- ✓ - Full traceability



74-05
Authorization NO. 1599



CE Compliance to requirements of directives:
EMC 2004/108/EEC - PED 97/23/EC.

8.SSA - Standard Model

Ranges: 0...10/0...600 *psi*, relative (0...0,6/0...40 bar, relative);
-30"...0/-30"...350 *psi*, relative (-1...0/-1...+24 bar, relative);
0...10/0...200 *psi*, absolute (0...0,6/0...16 bar, absolute)

Accuracy (% span): 0,25 typical; ≤ 0,5 max.

Calibration: limit-point as per DIN 16086.

Repeatability: ≤ 0,15 % of span.

Annual drift: ≤ 0,2 % of span.

Process fluid temperature: 14...+212 °F (-10...+100 °C).

Ambient temperature: 14...+185 °F (-10...+85 °C).

Storage temperature: 14...+185 °F (-10...+85 °C)

Output signals: 4...20 mA, 0...5 Vdc⁽¹⁾, 0...10 Vdc⁽¹⁾.

Supply and max load: see on page 2.

Zero calibration: ± 10 % span typical.

Span calibration: ± 10 % span typical.

Compensated temperature range: +32...+176 °F (0...+80 °C).

Process connection: AISI 316L st.st.

Diaphragm: AISI 316L st.st., T.I.G. welded.

Seal fill: oil for food service (FDA).

Sensor: piezoresistive for ranges ≤ 23 *psi* (1,6 bar);
ceramic for ranges > 23 *psi* (1,6 bar).

Case: stainless steel, vented for pressure ranges ≤ 230 *psi*
(≤ 16 bar).

Electric connection: EN 175301-803⁽²⁾, exit for cables ø 0.23...0.35"
(6...9 mm).

Protection degree: IP 65 as per EN 60529 / IEC 529.

(1) Available with ceramic sensor only

(2) Ex DIN 43650

8.SSA.TA3 - Model with heat dissipator

Process fluid temperature: 14...+302 °F (-10...+150 °C).

Other features: as Standard Model.

Ranges <i>psi</i> , relative (1)	Overpressure <i>psi</i> , relative	Thermal drift % span / °F (2)
0...10	36	0.03
0...15	45	0.03
0...25	72	0.02
0...30	72	0.02
0...60	145	0.01
0...100/0...160	290	0.01
0...200	580	0.01
0...300	580	0.01
0...600	1450	0.01

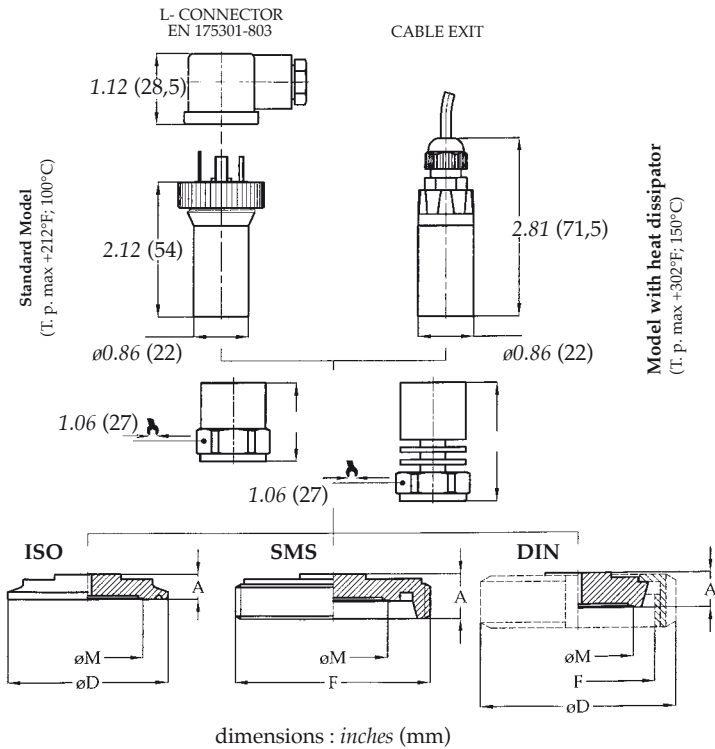
(1) Other unit of measurement, intermediate ranges, vacuum and compound ranges are available, as requested by customer.

(2) Thermal drift on connection DIN 11851 DN40F.

Ranges bar, relative (1)	Overpressure bar, relative	Thermal drift % span / °C (2)
0...0,6	2,5	0,05
0...1	3	0,05
0...1,6	5	0,04
0...2,5	5	0,04
0...4	10	0,02
0...6/0...10	20	0,02
0...16	40	0,02
0...25/0...40	100	0,02

(1) Other unit of measurement, intermediate ranges, vacuum and compound ranges are available, as requested by customer.

(2) Thermal drift on connection DIN 11851 DN40F.



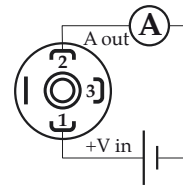
Standards	DN	A	øD	øM	F
QHF DIN 11851 F (1) (3)	25	0.62 (16)	2.48 (63)	0.95 (23,5)	Rd 52 x 1/6
SHF DIN 11851 F (1) (3)	40	0.62 (16)	3.07 (78)	1.73 (44)	Rd 65 x 1/6
THF DIN 11851 F (1) (3)	50	0.66 (17)	3.62 (92)	2.24 (57)	Rd 78 x 1/6
BIM SMS M (4)	2"	0.74 (19)		1.73 (44)	Rd 70 x 1/6
AT0 ISO 2852 (clamp) (2)	1" 1/2	0.39 (10)	1.98 (50,5)	1.33 (34)	
BT0 ISO 2852 (clamp) (2)	2"	0.39 (10)	2.51 (64)	1.73 (44)	
DT0 ISO 2852 (clamp) (2)	2" 1/2	0.39 (10)	3.05 (77,5)	2.24 (57)	

dimensions : inches (mm)

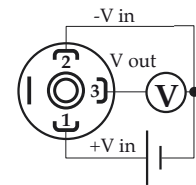
- (1) Execution without roller available on request: pls. contact our Technical Department.
- (2) Execution with clamp, gasket and connection to be welded available on request: pls. contact our Technical Department.
- (3) To be installed with special adapter SKS
- (4) Not available with 3A marking

Pn (bar)	H	Hd
≤ 1,6	1.42" (36,2)	2.05" (52,2)
> 1,6	1.23" (31,2)	1.86" (47,2)

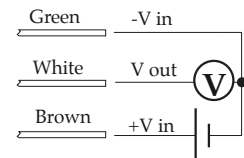
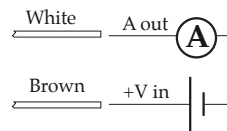
Output signal	4...20 mA 1	0...5 Vdc 4	0...10 Vdc 5
N. of wires	2	3	3
Load (Ohm)	$R_L \leq (V_{in}-8)/0,02$	$R_L \geq 5 \text{ K}\Omega$	$R_L \geq 10 \text{ K}\Omega$
Supply: +Vin	10...30	8...30	14...30
Ground	(pls. refer to Installation Manual)		



4...20 mA



0...5 Vdc
0...10 Vdc



OPTIONS

Model	Standard	With heat dissipator
C01 - Calibration report	♦	♦
PVC - Cable exit, with PVC cable (1)	♦	♦

(1) Zero calibration not available

"HOW TO ORDER" SEQUENCE

Section / Model / Special Version / Range / Process connection / Output signal / Options

8 SSA --- QHF...THF 1 C01
TA3 BIM 4 PVC
AT0...DT0 5

✓ - EMC immunity: as per EN 61326.



CE Compliance to requirements of directives:
EMC 2004/108/EC - PED 97/23/EC.

8.SLV - Standard Model

Ranges: 0...40 INWC / 0...400 psi, relative
(0...0.1/0...25 bar, relative).

Accuracy (% span): ≤ 0.25 typical; ≤ 0.5 max.

Calibration: limit-point as per DIN 16086.

Repeatability: ≤ 0,15 % of span.

Thermal drift:

≤ 0.044 % span / °F (≤ 0,08 % span / °C) for pressure ranges
< 100 INWC (0,25 bar);

≤ 0.028 % span / °F (≤ 0,05 % span / °C) for pressure ranges
100 INWC...≤ 15 PSI (0.25...<1 bar);

≤ 0.011 % span / °F (≤ 0,02 % span / °C) for pressure ranges
> 15 PSI (≥ 1 bar).

Annual drift: ≤ 0,2 % of span.

Working temperature: +14...+140 °F (-10...+60 °C)

Storage temperature: +14...+140 °F (-10...+60 °C)

Output signals: 4...20 mA, 0...5 Vdc⁽¹⁾, 0...10 Vdc⁽¹⁾.

Supply and max load: see on page 2.

Compensated temperature range: +14...+140 °F (-10...+60 °C).

Case: stainless steel.

Sensor: piezoresistive cell for pressure ranges < 15 psi (1 bar);
ceramic cell for pressure ranges ≥ 15 psi (1 bar).

Filling fluid for piezoresistive sensor: silicon oil.

Gasket: VITON (cod. **FPM**).

Electric connection: poliurethane cable, compensated (cod. **I**).

Protection: submersible.

Weight:

for pressure ranges < 15 PSI (1 bar) = 0.57 lbs (0,26 kg);

for pressure ranges ≥ 15 PSI (1 bar) = 0.44 lbs (0,20 kg).

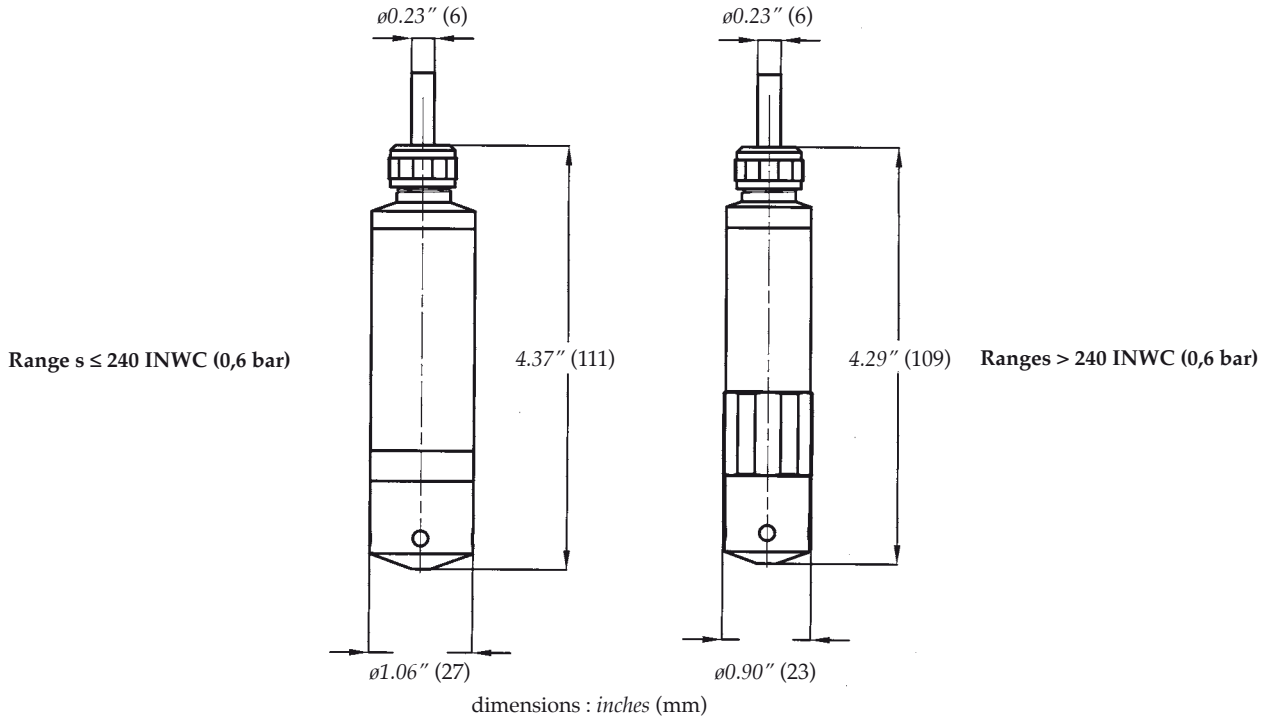
(1) Available with ceramic sensor only

Ranges relative (1)
0...40/0...≤ 240 INWC
0...10 psi
0...15/0...30 psi
0...60 psi
0...100/0...160 psi
0...200 psi
0...300 psi

(1) Other unit of measurement, intermediate ranges, vacuum and compound ranges are available, as requested by customer.

Ranges bar, relative (1)
0...0,1/0...≤ 0,6
0...> 0,6/0...< 1
0...1/0...2,5
0...4
0...6/0...10
0...16
0...25

(1) Other unit of measurement, intermediate ranges, vacuum and compound ranges are available, as requested by customer.

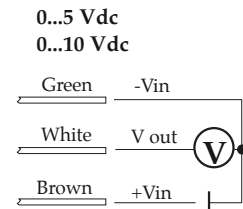
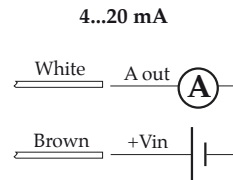


RANGES ≤ 240 INWC (0,6 bar)

Output signal	4...20 mA 1	0...5 Vdc 4	0...10 Vdc 5
N. wires	2	3	3
Load (Ohm)	$R_L \leq (V_{in}-8)/0,02$	$R_L \geq 5 K\Omega$	$R_L \geq 10 K\Omega$
Supply: +Vin	10...30	8...30	14...30
Massa	(pls. refer to Installation Manual)		

RANGES > 240 INWC (0,6 bar)

Output signal	4...20 mA 1	0...5 Vdc 4	0...10 Vdc 5
N. wires	2	3	3
Load (Ohm)	$R_L \leq (V_{in}-10)/0,02$	$R_L \geq 5 K\Omega$	$R_L \geq 10 K\Omega$
Supply: +Vin	10...30	8...30	14...30
Massa	(pls. refer to Installation Manual)		



"HOW TO ORDER" SEQUENCE

Section / Model / Range / Output signal / Cable type / Cable length / Gasket
 8 SLV 1 I FPM

pressure transmitter with local readout DS 4" (100mm)

MT 18

- ✓ - *Double elastic element: Bourdon tube and electronic sensor.*
- ✓ - *Vibrations and pulsations proof.*
- ✓ - *EMC immunity: as per EN 61326.*
- ✓ - *Wiring: shieldless cable.*
- ✓ - *Calibration: adjustable.*



CE Compliance to requirements of directives:
EMC 2004/108/CE - PED 97/23/CE - RoHS 2011/65/CE

Ranges: from 0...15 to 0...20000 psi
(from 0...1 to 0...1600 bar or equivalent units).

Accuracy (% FSV):
local readout, $\leq 0,5$;
transmitter, $\leq 0,25$ typical; $\leq 0,5$ max.

Working pressure:
100% of FSV for static pressure;
90% of FSV for pulsating pressure.

Over pressure limit: 30% of FSV.

Process fluid temperature: -13...+212 °F (-25...+100 °C);
14...+149 °F (-10...+65°C) when filled.

Output signals: for pressure ranges ≤ 8700 psi (600 bar) :
4...20 mA, 0...5 Vdc, 0...10 Vdc;

for pressure ranges > 8700 psi (600 bar) : 4...20 mA.

Calibration: limit-point as per DIN 16086.

Zero calibration: ± 10 % span typical.

Span calibration: ± 10 % span typical.

Compensated temperature range: 14...+176 °F; (-10...+80 °C).

Thermal drift: ≤ 0.011 % span / °F.

Annual drift: $\leq 0,2$ % of span.

Supply and max load: see on page 2.

Response time (10...90%): < 3 ms.

8.M28.1 - Standard Model

Safety designation: S1 as per EN 837-2.

Electric connection: junction box as per VDE with exit for cables
 $\varnothing 0.27$ "... 0.51 " ($\varnothing 7$...13 mm).

Protection degree: IP 55 as per EN 60529/IEC 529.

Socket material: AISI 316L st.st.

Bourdon tube: AISI 316L st.st. seamless tube.

Case: stainless steel.

Ring: stainless steel, bayonet lock.

Window: tempered glass.

Movement: stainless steel with internal limit stops for minimum
and maximum pressure.

Dial: aluminium, white with black markings.

Pointer: adjustable, aluminium, black.

Ambient temperature: -13...+149 °F (-25...+65 °C).

Special versions:

high overpressure: 200% of FSV for pressure ranges ≤ 3000 psi
(250 bar), accuracy of local readout $\leq 1,0$ % of FSV.

8.M28.3 - Filled Model

Filling liquid: dielectric oil.

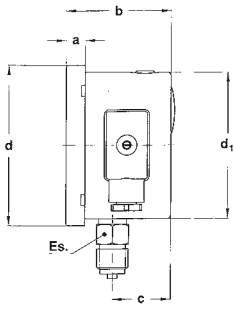
Protection degree: IP 67 as per
EN 60529/IEC 529.

Ambient temperature: 14...+149 °F (-10...+65 °C).

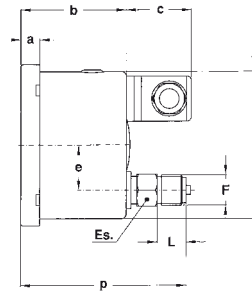
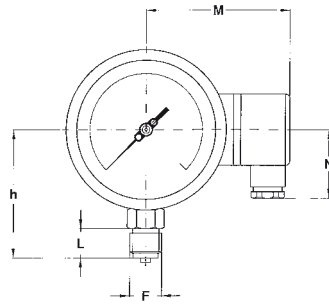
pressure transmitter with local readout
DS 4" (100mm)

MT 18

IN ORDER TO IMPROVE THEIR PRODUCTION, MESSRS. NUOVA FIMA RESERVE THE RIGHT TO THEMSELVES TO MAKE ALL THE MODIFICATIONS THAT THEY DEEM INDISPENSABLE AT ANY TIME. UPDATED DATA SHEETS ARE AVAILABLE ON SITE: www.nuovafima.com



A - LOWER CONNECTION



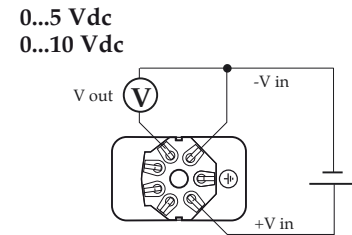
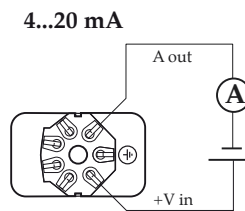
D - BACK CONNECTION

Mounting	F	a	b	c	d	d ₁	e	h	p	ES	L	N	M	Weight (1)
Lower	41M - G 1/2 A	0.51"	2.85"	1.57"	4.35"	3.97"		3.48"	4.47"	0.86"	0.78"	1.35"	3.55"	1.67 lbs
	43M - 1/2-14 NPT	(13)	(72,3)	(40,1)	(110,6)	(101)		(88,5)	(113,7)	(22)	(20)	(34,5)	(90,4)	(0,76 kg)
Back	41M - G 1/2 A	0.51"	2.85"	1.33"	4.35"	3.97"	1.22"	3.28"	4.20"	0.86"	0.51"			1.69 lbs
	43M - 1/2-14 NPT	(13)	(72,3)	(34)	(110,6)	(101)	(31)	(83,5)	(106,7)	(22)	(13)			(0,77 kg)

dimensions : inches (mm)

(1) add 0.85 lbs (0,339 kg), when filled

Output signal	4...20 mA	0...5 Vdc	0...10 Vdc
N. wires	2	3	3
Load (Ohm)	$R_L \leq (V_{in}-10)/0,02$	$R_L \geq 5 K\Omega$	$R_L \geq 10 K\Omega$
Supply: +Vin	10...30	8...30	14...30
Ground	(pls. refer to Installation Manual)		



OPTIONS

CRP - CR gasket, for pressure ranges ≤ 1500 psi (100 bar); process fluid temperature: -40...+176 °F (-40...+85°C)
EPD - EPDM gasket, for pressure ranges ≤ 1500 psi (100 bar); process fluid temperature: -40...+212 °F (-40...+100°C)
NBR - NBR gasket; process fluid temperature: -13...+176 °F (-25...+85°C)
FPM - VITON gasket; for pressure ranges ≤ 8500 psi (600 bar); process fluid temperature: -4...+212 °F (-20...+100°C)
C01 - Calibration certificate
L22 - Maximum pointer IP 65 on plexiglas window (2)

(1) Zero calibration not available.

(2) Accuracy refers to the area free from the maximum pointer action.

"HOW TO ORDER" SEQUENCE

Section / Model / Case / Mounting / Diameter / Range / Process connection / Output signal / Gasket / Options
8 M28 1 A E 41M 1 CRP C01, L22
3 D 43M 4 EPD
5 NBR
FPM

pressure transmitter with local readout, for homogenizer DS 4" (100mm)

MT OM

- ✓ - Construction and finishing: as per 74-05 SSI.
- ✓ - Sterilization temperature: +302°F (+150°C) max.
- ✓ - Double elastic element: Bourdon tube and electronic sensor.
- ✓ - Vibrations and pulsations proof.
- ✓ - EMC immunity: as per EN 61326.
- ✓ - Calibration: adjustable.
- ✓ - Full traceability



CE Compliance to requirements of directives:
EMC 2004/108/EC - PED 97/23/EC.



74-05

Authorization NO. 1599

Ranges: from 0...1500 to 0...20000 psi, relative
(from 0...100 to 0...1600 bar or equivalent units).
Accuracy (% VFS): local readout, ≤ 1.0 (≤ 1.6 for pressure
ranges > 8700 psi - 600 bar); transmitter, ≤ 0.5 .
Working pressure: 75% max of FSV.
Over pressure: not suitable.
Ambient temperature: 14...+149 °F (-10...+65 °C).
Process fluid temperature: 14...+248 °F (-10...+120 °C).

Output signals: for pressure ranges ≤ 8700 psi (600 bar) :
4...20 mA, 0...5 Vdc, 0...10 Vdc;
for pressure ranges > 8700 psi (600 bar) : 4...20 mA.
Sensor calibration : limit-point as per DIN 16086.
Zero calibration: ± 10 % span typical.
Span calibration: ± 10 % span typical.
Compensated temperature range: 14...+176 °F; (-10...+80 °C).
Thermal drift: ≤ 0.011 % span / °F ($\leq 0,02$ % span / °C).
Annual drift: $\leq 0,2$ % of span.
Supply and max load: see on page 2.

8.MOM.1 - Standard Model

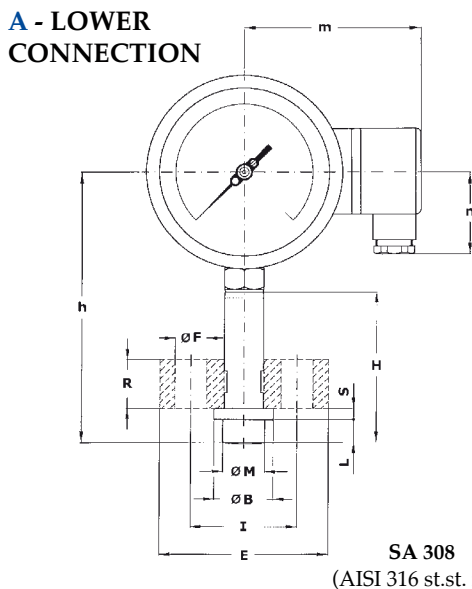
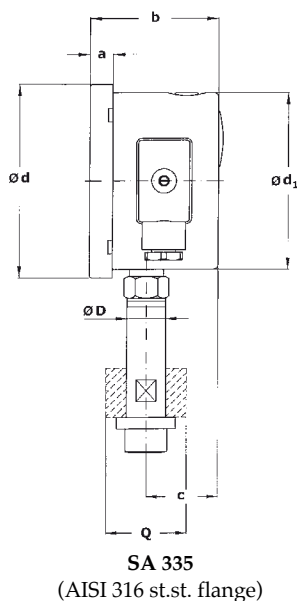
Designation code: S1 as per EN 837-2.
Electric connection: junction box as per VDE with exit
for cables $\varnothing 0.27...0.51$ " (7...13mm).
Sensor: ceramic thick film or stainless steel thin film.
Protection degree: IP 55 as per EN 60529/IEC 529.
Diaphragm: AISI 316L st.st.
Diaphragm seal: AISI 316L st.st.
Bourdon tube: AISI 316L st.st. seamless tube.
Ring: stainless steel, bayonet lock.
Window: tempered glass.
Movement: stainless steel.
Dial: aluminium, white with black markings.
Pointer: adjustable, aluminium, black.

8.MOM.3 - Filled Model

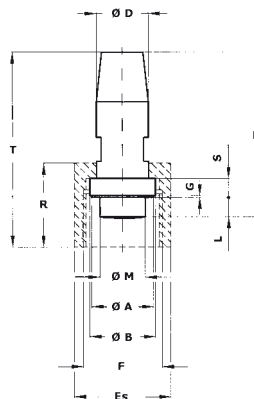
Filling liquid: dielectric oil.
Protection degree: IP 67 as per EN 60529/IEC 529.
Other features: as standard model.

**pressure transmitter with local readout,
for homogenizer, DS 4" (100mm)**

MT OM



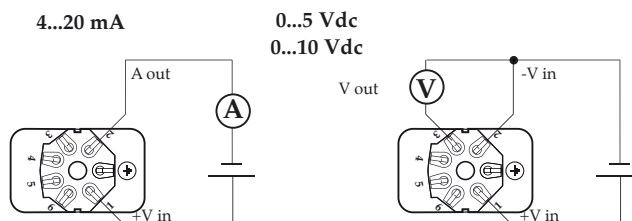
a	b	c	d	d ₁	h	m	n
0.51" (13)	2.84" (72,3)	1.59" (40,6)	4.35" (110,6)	3.97" (101)	6.08" (154,5)	3.66" (93,1)	1.85" (47)



Drawing	Ø D	Ø M	Ø A	Ø B	H	S	G	L	Es	E	Ø F	I	R	Q	T	Weight
335 SA 335	0.86" (22)	0.95" (23,5)		1.30" (33,3)	3.38" (86)	0.33" (8,5)		0.51" (13)		3.74" (95)	0.70" (18)	2.36" (60)	1.10" (28)	1.77" (45)		4.01 lbs (1,82 kg)
308 SA 308	1.06" (27)	0.95" (23,5)	1.25" (32)	1.33" (34)	3.38" (86)	0.39" (10)	0.04" (1)	0.39" (10)	1.96" (50)				1.73" (44)		1.77" (45)	3.37 lbs (1,53 kg)
167 SA 167	1.22" (31)	0.95" (23,5)	1.33" (34)	1.47" (37,5)	3.38" (86)	0.43" (11)	0.04" (1)	0.39" (10)								2.84 lbs (1,29 kg)
422 SA 422	1.22" (31)	1.02" (26)	1.33" (34)	1.47" (37,5)	3.38" (86)	0.43" (11)	0.04" (1)	0.39" (10)								2.86 lbs (1,30 kg)

dimensions : inches (mm)

Output signals	4...20 mA 1	0...5 Vdc 4	0...10 Vdc 5
Nr. of wires	2	3	3
Load (Ohm)	$R_L \leq (V_{in}-10)/0,02$	$R_L \geq 5 K\Omega$	$R_L \geq 10 K\Omega$
Supply: +Vin	10...30	8...30	14...30
Ground	(pls. refer to Installation Manual)		



OPTIONS

C01 - Calibration report
S38 - Process connection dwg. SA 308, without nut
S35 - Process connection dwg. SA 335, without flange
T31 - Plexiglas window

"HOW TO ORDER" SEQUENCE

Section / Model / Case / Mounting / Diameter / Range / Process connection / Output signal / Options
8 MOM 1 A E 335 1 C01
3 308 4 S38
167 5 S35
422 T31

intrinsically safe pressure transmitter, ATEX version

SX 09

- ✓ - Zones : 0, 1, 2, 20, 21, 22
- ✓ - EMC emission and immunity: as per EN 61326.
- ✓ - Case: with ventilation device.
- ✓ - Calibration: adjustable.



Certificate :
CESI 06 ATEX 003 X

8.X09 - Standard Model

Instrument classification:

- category 1 ⁽¹⁾, atmosphere type GD, ignition protection Ex ia IIC as per EN 60079-0, EN 60079-11, EN 60079-26 and Ex ia D 20 as per EN 61241-0, EN 61241-11: **II 1 GD Ex ia IIC Ex iaD 20 (cod. 1GD)**;

- category 1/2, atmosphere type GD, ignition protection Ex ia IIC as per EN 60079-0, EN 60079-11, EN 60079-26 and Ex ia D 20 as per EN 61241-0, EN 61241-11: **II 1/2 GD Ex ia IIC Ex iaD 20 (cod. 2GD)**.

Temperature classes ⁽²⁾,

- T6 (T85°C)Ta ≤ 60 °C (cod. **T6B**);
- T5 (T100°C)Ta ≤ 80 °C (cod. **T5B**);
- T4 (T135°C)Ta ≤ 100 °C (cod. **T4B**).

Ranges: 0...40 IN WC / 0...6000 psi, relative (0...0,1/0...400 bar, relative); -30...0 IN HG, -30IN HG...350psi, relative (-1...0/-1...+24 bar, relative).

Accuracy (% span): ≤ 0,5 max for span ≤ 240 IN WC (600 mbar); ≤ 0,25 max for span > 240 IN WC (600 mbar).

Calibration: limit-point as per DIN 16086.

Repeatability: ≤ 0,15 % of span.

Thermal drift:

≤ 0.044 % span / °F (≤ 0,08 % span / °C) for span < 100 INWC (0,25 bar);

≤ 0.028 % span / °F (≤ 0,05 % span / °C) for span 100...≤ 240 INWC (0,25...≤0,6 bar);

≤ 0.017 % span / °F (≤ 0,03 % span / °C) for span > 240 INWC (0,6 bar);

Annual drift: ≤ 0,2 % of span.

Storage temperature: -13...+212 °F (-25...+100 °C).

Output signal: 4...20 mA.

Response time (10...90%): < 3 ms.

Zero and span calibration: ± 10 % span typical.

Compensated temperature range: +32...+176 °F (0...+80 °C).

Sensor: piezoresistive.

Filling fluid: silicon oil.

Case: stainless steel, vented for pressure ranges ≤ 230 psi (≤ 16 bar).

Wetted parts: AISI316L st.st., NBR gasket.

Electric connections: junction boxes and cable exit are available, see on page 2.

Protection: IP 65 and IP 68 ⁽¹⁾ as per EN 60529 (relative to electrical connection type).

Weight: 0.55 lbs (0,25 kg)

(1) available with IP 68 metallic cable gland only;

(2) "Tp" : fluid process temperature ≤ "Ta" : ambient temperature; "Tp" & "Ta" ≥ -20 °C.

Ranges relative (1)	Overpressure psi, relative
0...40/0...240 IN WC	29
0...15 psi	43
0...25 psi	72
0...30 psi	145
0...60 psi	290
0...100 psi	290
0...160 psi	435
0...300 psi	725
0...600 psi	1740
0...1000 psi	2610
0...1500 psi	2900
0...2500 psi	4640
0...3500 psi	7250
0...6000 psi	11600

(1) Other unit of measurement and intermediate ranges are available, as requested by customer.

Ranges bar, relative (1)	Overpressure bar, relative
0...0,1/0...0,6	2
0...1	3
0...1,6	5
0...2,5	10
0...4/0...6	20
0...10	30
0...16	50
0...25	90
0...40	120
0...60	180
0...100	200
0...160	320
0...250	500
0...400	800

(1) Other unit of measurement and intermediate ranges are available, as requested by customer.

intrinsically safe pressure transmitter, ATEX version

SX 18



- ✓ - Zones : 0, 1, 2, 20, 21, 22
- ✓ - EMC emission and immunity: as per EN 61326.
- ✓ - Case: with ventilation device.
- ✓ - Calibration: adjustable.



**Certificate :
CESI 06 ATEX 003 X**

8.X18 - Standard Model

Instrument classification:

- category 1 ⁽¹⁾, atmosphere type GD, ignition protection Ex ia IIC as per EN 60079-0, EN 60079-11, EN 60079-26 and Ex ia D 20 as per EN 61241-0, EN 61241-11: **II 1 GD Ex ia IIC Ex iaD 20 (cod. 1GD)**;
- category 1/2, atmosphere type GD, ignition protection Ex ia IIC as per EN 60079-0, EN 60079-11, EN 60079-26 and Ex ia D 20 as per EN 61241-0, EN 61241-11: **II 1/2 GD Ex ia IIC Ex iaD 20 (cod. 2GD)**.

Temperature classes ⁽²⁾,

-T6 (T85°C)Ta ≤ 60 °C (cod. **T6B**);
-T5 (T100°C)Ta ≤ 80 °C (cod. **T5B**);
-T4 (T135°C)Ta ≤ 100 °C (cod. **T4B**).

Ranges: 0...15/0...10000 psi, relative (0...1/0...600 bar, relative);
-30"...0/-30"...350 psi, relative (-1...0/-1...+24 bar, relative);
0...15/0...200 psi, absolute (0...1/0...16 bar, absolute).

Accuracy (% span): ≤ 0,25 typical; ≤ 0,5 max.

Calibration: limit-point as per DIN 16086.

Repeatability: ≤ 0,15 % of span.

Thermal drift: ≤ 0,011 % span / °F (≤ 0,02 % span / °C).

Storage temperature: -13...+212 °F (-25...+100 °C)

Output signal: 4...20 mA (cod. **1**).

Response time (10...90%): < 3 ms.

Zero and span calibration: ± 10 % span typical.

Compensated temperature range: +32...+176 °F (0...+80 °C).

Process connection: AISI 316L st.st .

Sensor: ceramic.

Case: stainless steel, vented for pressure ranges ≤ 230 psi (≤ 16 bar).

Electric connections: junction boxes and cable exit are available, see on page 2.

Protection: IP 65 and IP 68 ⁽¹⁾ as per EN 60529 / IEC529 (relative to electrical connection type).

Weight: 0.44 lbs (0,20 kg)

(1) available with IP 68 metallic cable gland only;

(2) "Tp" : fluid process temperature ≤ "Ta" : ambient temperature;
"Tp" & "Ta" ≥ -20 °C.

Ranges psi, relative (1)	Overpressure psi, relat	Burst pressure psi, relative
0...15/0...30	72	100
0...60	145	175
0...100/0...160	290	360
0...300	580	725
0...600	1450	1740
0...1000/0...1500	2900	3625
0...2000/0...3000	7250	8700
0...5000/0...6000	8700	11600
0...10000	11600	13050

(1) Other unit of measurement, intermediate ranges, vacuum and compound ranges are available, as requested by customer.

Ranges bar, relative (1)	Overpressure bar, relative	Burst pressure bar, relative
0...1/0...2,5	5	7
0...4	10	12
0...6/0...10	20	25
0...16	40	50
0...25/0...40	100	120
0...60/0...100	200	250
0...160/0...250	500	600
0...400	600	800
0...600	800	900

(1) Other unit of measurement, intermediate ranges, vacuum and compound ranges are available, as requested by customer.

Compliance to requirements of directives:

ATEX 94/9/EC - EMC 2004/108/EC - PED 97/23/EC - RoHS 2011/65/EC

intrinsically safe pressure transmitter, ATEX version

SX 18

R85 - 07/11

IN ORDER TO IMPROVE THEIR PRODUCTION, MESSRS. NUOVA FIMA RESERVE THE RIGHT TO THEMSELVES TO MAKE ALL THE MODIFICATIONS THAT THEY DEEM INDISPENSABLE AT ANY TIME. UPDATED DATA-SHEETS ARE AVAILABLE ON SITE: www.nuovafima.com

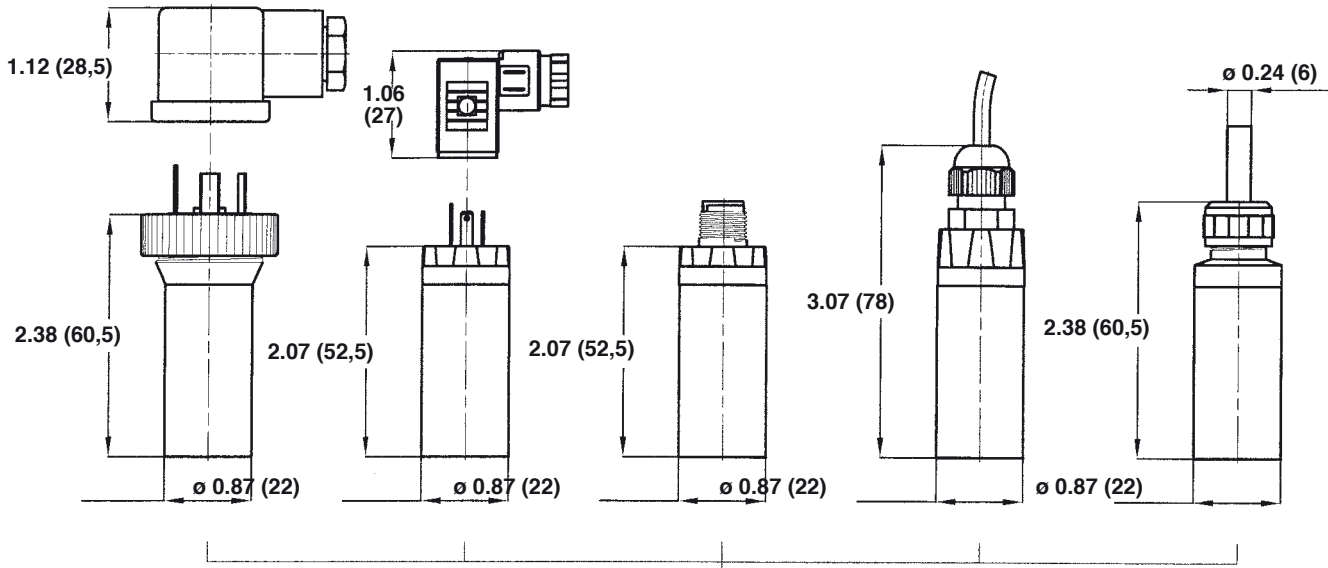
EN 175301-803 (Ex DIN 43650)
IP 65 (standard)

EN 175301-803 Form C
(Ex DIN 43650)
IP 65

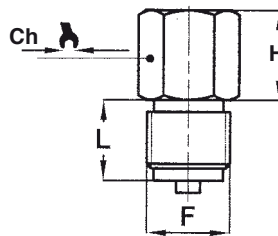
M 12 x 1
IP 65

Cable exit
IP 65

Cable exit
IP 68



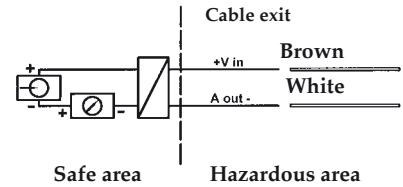
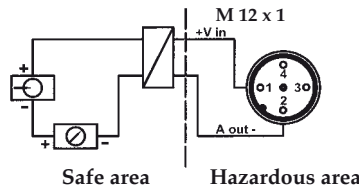
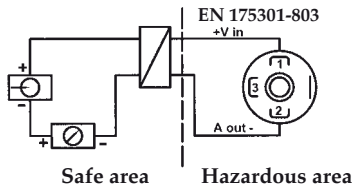
Electrical features	
N. of wires	2
Load (Ohm)	$R_L \leq (V_{in}-10) / 0,02$
Supply: +V _{in}	10...30
Max current (I _i)	≤ 100 mA
Max power (P _i)	1,0 W
Capacitance (C _i)	19 nF
Inductivity (L _i)	0 mH



Pn (bar)	H	Ch
1...4	1.06" (27)	0.87" (22)
6...400	0.89" (22,5)	0.87" (22)
> 400	0.89" (22,5)	0.94" (24)

F	L
41M - G 1/2 A	0.78" (20)
43M - 1/2-14 NPT	(20)
21M - G 1/4 A	0.51" (13)
23M - 1/4-18 NPT	(13)

dimensions : inches (mm)



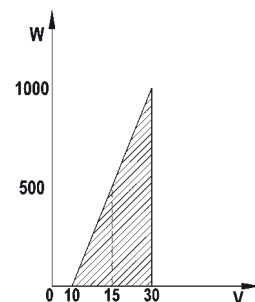
OPTIONS

Classification	II 1GD	II 1/2GD
--- - Junction box IP 65, as per EN 175301-803 Form A		T6...T4 (2)
SCC - Junction box IP 65, as per EN 175301-803 Form C (1)		T6...T4 (2)
M12 - Junction box IP 65, M12 x 1 (1)		T6...T5
PVC - Cable exit IP 65, with PVC cable (1)		T6...T5
U68 - Cable exit IP 68, with vented polyurethane cable (1)	T6	T6
CRP - CR gasket	T6...T5	T6...T5
EPD - EPDM gasket	T6...T4	T6...T4
NBR - NBR gasket	T6...T5	T6...T5
FPM - VITON gasket	T6...T4	T6...T4

(1) Zero calibration not available

(2) silicone is the only available gasket for T4 class

LOAD RESISTANCE



"HOW TO ORDER" SEQUENCE

Section / Model / Range / Process connection / Output signal / Classification / Temperature / Gasket / Options
8 X18 41M 1 1GD T6B CRP --- ... U68
43M 2GD T5B EPD
21M T4B NBR
23M FPM

flush diaphragm pressure transmitter, intrinsically safe ATEX version

SX MA

- ✓ - Zones : mining, 0, 1, 2, 20, 21, 22
- ✓ - Wetted parts: st.st.AISI 316L.
- ✓ - EMC emission and immunity: as per EN 61326.
- ✓ - Case: with ventilation device.
- ✓ - Calibration: adjustable.



II 1 GD Ex ia IIC Ex iaD 20
II 1/2 GD Ex ia IIC Ex iaD 20



Certificato :
CESI 06 ATEX 003 X

8.XMA - Standard Model

Instrument classification:

- category 1 (1), atmosphere type GD, ignition protection Ex ia IIC as per EN 60079-0, EN 60079-11, EN 60079-26 and Ex ia D 20 as per EN 61241-0, EN 61241-11: **II 1 GD Ex ia IIC Ex iaD 20 (cod. 1GD)**;

- category 1/2, atmosphere type GD, ignition protection Ex ia IIC as per EN 60079-0, EN 60079-11, EN 60079-26 and Ex ia D 20 as per EN 61241-0, EN 61241-11: **II 1/2 GD Ex ia IIC Ex iaD 20 (cod. 2GD)**.

Temperature classes (2),

-T6 (T85°C)Ta ≤ 60 °C (cod. **T6B**);

-T5 (T100°C)Ta ≤ 80 °C (cod. **T5B**);

-T4 (T135°C)Ta ≤ 100 °C (cod. **T4B**).

Ranges: 0...15 / 0...10000 psi, relative (0...1/0...600 bar, relative).

Accuracy (% span): ≤ 0,25 typical; ≤ 0,5 max.

Calibration: limit-point as per DIN 16086.

Repeatability: ≤ 0,15 % of span.

Annual drift: ≤ 0,2 % of span.

Storage temperature: -13...+212 °F (-25...+100 °C)

Output signal: 4...20 mA.

Zero and span calibration: ± 10 % span typical.

Compensated temperature range: +32...+176 °F; (0...+80 °C).

Diaphragm and process connection: AISI 316L st.st.

Gasket: VITON (Cod. **FPM**).

Filling liquid: silicon oil.

Sensor: ceramic.

Case: stainless steel, vented for pressure ranges ≤ 230 psi (≤ 16 bar).

Electric connections: junction boxes and cable exit are available, see on page 2.

Protection: IP 65 and IP 68 (1) as per EN 60529 (relative to electrical connection type).

Weight: 0.61 lbs (0,28 kg).

(1) available with IP 68 metallic cable gland only;

(2) "Tp" : fluid process temperature ≤ "Ta" : ambient temperature; "Tp" & "Ta" ≥ -20 °C.

Ranges psi, relative (1)	Thermal drift % span / °F (3)	Overpressure psi, relative
0...15 (2)	0.04	36
0...25/0...30 (2)	0.03	72
0...60 (2)	0.02	145
0...100 (2)	0.02	290
0...160	0.02	290
0...300	0.01	580
0...600	0.01	1450
0...1000/0...1500	0.01	2900
0...2000/0...3000	0.01	7250
0...6000	0.01	8700
0...10000	0.01	11600

(1) Other unit of measurement and intermediate ranges are available, as requested by customer.

(2) Ranges available with G 3/4 A connection only.

(3) Thermal drift on connection G 3/4 A.

Ranges bar, relative (1)	Thermal drift % span / °C (3)	Overpressure bar, relative
0...1 (2)	0,08	2,5
0...1,6/0...2,5 (2)	0,06	5
0...4 (2)	0,04	10
0...6 (2)	0,03	20
0...10	0,03	20
0...16	0,02	40
0...25/0...40	0,02	100
0...60/0...100	0,02	200
0...160/0...250	0,02	500
0...400	0,02	600
0...600	0,02	800

(1) Other unit of measurement and intermediate ranges are available, as requested by customer.

(2) Ranges available with G 3/4 A connection only.

(3) Thermal drift on connection G 3/4 A.

intrinsically safe pressure transmitter, for food industry and sanitary applications, ATEX version

SX SA



74-05
Authorization NO. 1599

- ✓ - Construction and finishing: as per 74-05 SSI
- ✓ - Zones : 0, 1, 2, 20, 21, 22
- ✓ - Wetted parts: AISI 316L st.st.
- ✓ - EMC emission and immunity: as per EN 61326
- ✓ - Calibration: adjustable
- ✓ - Full traceability



II 1 GD Ex ia IIC Ex iaD 20
II 1/2 GD Ex ia IIC Ex iaD 20

Certificate :
CESI 06 ATEX 003 X

8.XSA - Standard Model

Instrument classification:

- category 1 (1), atmosphere type GD, ignition protection Ex ia IIC as per EN 60079-0, EN 60079-11, EN 60079-26 and Ex ia D 20 as per EN 61241-0, EN 61241-11: II 1 GD Ex ia IIC Ex iaD 20 (cod. 1GD);

- category 1/2, atmosphere type GD, ignition protection Ex ia IIC as per EN 60079-0, EN 60079-11, EN 60079-26 and Ex ia D 20 as per EN 61241-0, EN 61241-11: II 1/2 GD Ex ia IIC Ex iaD 20 (cod. 2GD).

Temperature classes (2),

- T6 (T85°C)Ta ≤ 60 °C (cod. T6B);
- T5 (T100°C)Ta ≤ 80 °C (cod. T5B);
- T4 (T135°C)Ta ≤ 100 °C (cod. T4B).

Ranges: 0...10/0...600 psi, relative (0...0,6/0...40 bar, relative);
-30"...0/-30"...350 psi, relative (-1...0/-1...+24 bar, relative).

Accuracy (% span): ≤ 0,25 typical; ≤ 0,5 max.

Calibration: limit-point as per DIN 16086.

Repeatability: ≤ 0,15 % of span.

Thermal drift: ≤ 0,011 % span / °F (≤ 0,02 % span / °C).

Storage temperature: +14...+212 °F (-10...+100 °C)

Output signal: 4...20 mA.

Zero and span calibration: ± 10 % span typical.

Compensated temperature range: +32...+176 °F (0...+80 °C).

Seal fill: oil for food service (FDA).

Sensor: ceramic or piezoresistive.

Case: stainless steel, vented for pressure ranges ≤ 230 psi (≤ 16 bar).

Electric connections: junction boxes and cable exit are available, see option table below.

Protection: IP 65 and IP 68 (1) as per EN 60529 (relative to electrical connection type).

(1) available with IP 68 metallic cable gland only;

(2) "Tp" : fluid process temperature ≤ "Ta" : ambient temperature; "Tp" & "Ta" ≥ -10 °C.

Ranges psi, relative (1)	Overpressure psi, relative	Thermal drift % span / °F (2)
0...10	36	0.03
0...15	45	0.03
0...25	72	0.02
0...30	72	0.02
0...60	145	0.01
0...100/0...160	290	0.01
0...200	580	0.01
0...300	580	0.01
0...600	1450	0.01

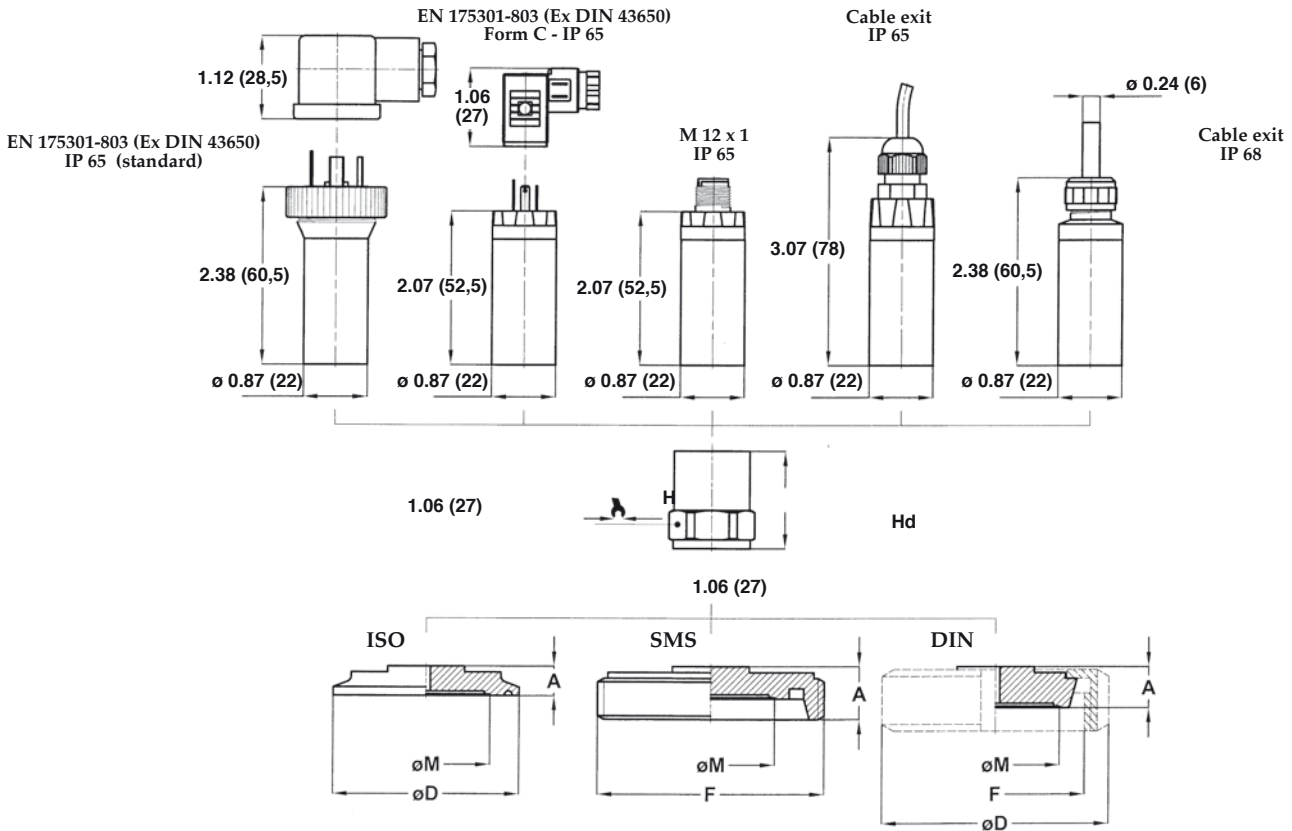
(1) Other unit of measurement, intermediate ranges, vacuum and compound ranges are available, as requested by customer.

(2) Thermal drift on connection DIN 11851 DN40F.

Ranges bar, relative (1)	Overpressure bar, relative	Thermal drift % span / °C (2)
0...0,6	2,5	0,05
0...1	3	0,05
0...1,6	5	0,04
0...2,5	5	0,04
0...4	10	0,02
0...6/0...10	20	0,02
0...16	40	0,02
0...25/0...40	100	0,02

(1) Other unit of measurement, intermediate ranges, vacuum and compound ranges are available, as requested by customer.

(2) Thermal drift on connection DIN 11851 DN40F.



Pn (bar)	H	Hd
≤ 1,6	1.42" (36,2)	2.05" (52,2)
> 1,6	1.23" (31,2)	1.86" (47,2)

Standards	DN	A	øD	øM	F
BIM SMS M (4)	2"	0.74 (19)		1.73 (44)	Rd 70 x 1/6
AT0 ISO 2852 (clamp) (2)	1" 1/2	0.39 (10)	1.98 (50,5)	1.33 (34)	
BT0 ISO 2852 (clamp) (2)	2"	0.39 (10)	2.51 (64)	1.73 (44)	
DT0 ISO 2852 (clamp) (2)	2" 1/2	0.39 (10)	3.05 (77,5)	2.24 (57)	

Standards	DN	A	øD	øM	F
QHF DIN 11851 F (1) (3)	25	0.62 (16)	2.48 (63)	0.95 (23,5)	Rd 52 x 1/6
SHF DIN 11851 F (1) (3)	40	0.62 (16)	3.07 (78)	1.73 (44)	Rd 65 x 1/6
THF DIN 11851 F (1) (3)	50	0.66 (17)	3.62 (92)	2.24 (57)	Rd 78 x 1/6

dimensions : inches (mm)

(1) Execution without roller available on request: pls. contact our Technical Department.

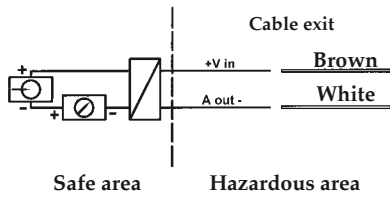
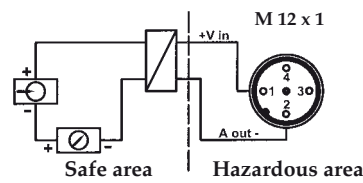
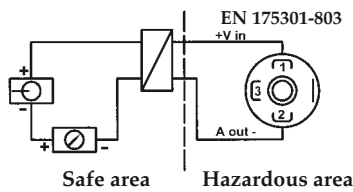
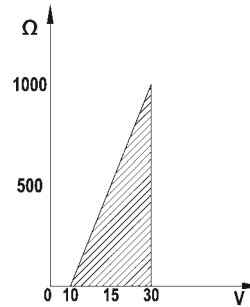
(2) Execution with clamp, gasket and connection to be welded available on request: pls. contact our Technical Department.

(3) To be installed with special adapter SKS

(4) Not available with 3A marking

Electrical features	
N. of wires	2
Load (Ohm)	$R_L \leq (V_{in}-10)/0,02$
Supply: +V _{in}	10...30
Max current (I _i)	≤ 100 mA
Max power (P _i)	1,0 W
Capacitance (C _i)	19 nF
Inductivity (L _i)	0 mH

LOAD RESISTANCE



OPTIONS

Classification	II 1GD	II 1/2GD
--- - Junction box IP 65, as per EN 175301-803 Form A		T6...T4 (2)
SCC - Junction box IP 65, as per EN 175301-803 Form C (1)		T6...T4 (2)
M12 - Junction box IP 65, M12 x 1 (1)		T6...T5
PVC - Cable exit IP 65, with PVC cable (1)		T6...T5
U68 - Cable exit IP 68, with vented polyurethane cable (1)	T6	T6

- (1) Zero calibration not available
- (2) silicon gasket when T4 temp. class is choose

“HOW TO ORDER” SEQUENCE

Section / Model / Range / Process connection / Output signal / Classification / Temperature / Options
 8 XSA BIM...DT0 QHE...THF 1 1GD 2GD T6B T5B T4B --- ... U68

intrinsically safe level transmitter, ATEX version

SX LV



- ✓ - Zones : 0, 1, 2
- ✓ - EMC immunity: as per EN 61326.



Certificate :
CESI 06 ATEX 003 X

8.XLV - Standard Model

Instrument classification:

- category 1, atmosphere type G, ignition protection Ex ia IIC as per EN 60079-0, EN 60079-11, EN 60079-26: II 1 G Ex ia IIC (cod. **1GD**).

Temperature classes (1),

-T6 (T85°C)Ta ≤ 60 °C (cod. **T6B**).

Ranges: 0...40 INWC / 0...400 psi, relative (0...0.1 / 0...25 bar, relative).

Accuracy (% span): ≤ 0.25 typical; ≤ 0.5 max.

Calibration: limit-point as per DIN 16086.

Repeatability: ≤ 0,15 % of span.

Thermal drift:

≤ 0.044 % span / °F (≤ 0,08 % span / °C) for pressure ranges < 100 INWC (0,25 bar);

≤ 0.028 % span / °F (≤ 0,05 % span / °C) for pressure ranges 100...< 15 PSI (0.25... < 1 bar);

≤ 0.011 % span / °F (≤ 0,02 % span / °C) for pressure ranges ≥ 15 PSI (≥ 1 bar).

Annual drift: ≤ 0,2 % of span.

Storage temperature: +14...+140 °F (-10...+60 °C),

Output signal: 4...20 mA (Cod. **1**).

Compensated temperature range: +32...+140 °F; (0...+60 °C).

Case: stainless steel.

Sensor:

piezoresistive cell for pressure ranges < 15 PSI (1 bar);

ceramic cell for pressure ranges ≥ 15 PSI (1 bar).

Filling fluid of piezoresistive cell: silicone oil.

Sensor gasket: VITON (Cod. **FPM**).

Electric connection: poliurethane cable, compensated.

Protection: submersible.

Weight:

for pressure ranges < 15 PSI (1 bar) = 0.61 lbs (0,28 kg);

for pressure ranges ≥ 15 PSI (0,6 bar) = 0.48 lbs (0,22 kg).

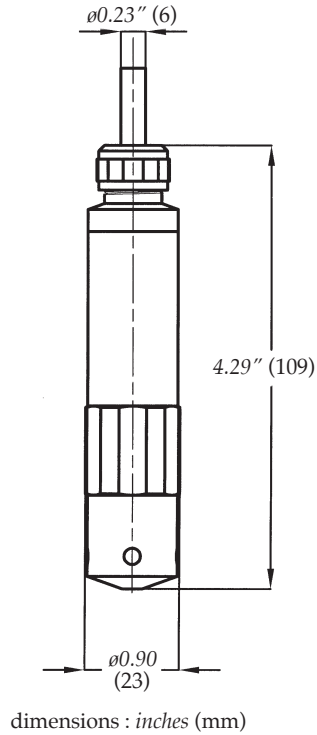
(1) "Tp" : fluid process temperature ≤ "Ta" : ambient temperature;
"Tp" & "Ta" ≥ -10 °C.

Ranges relative (1)
0...40/0...≤ 240 INWC
0...10 psi
0...15/0...30 psi
0...60 psi
0...100/0...160 psi
0...200 psi
0...300 psi

(1) Other unit of measurement and intermediate ranges, are available, as requested by customer.

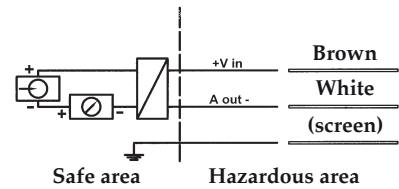
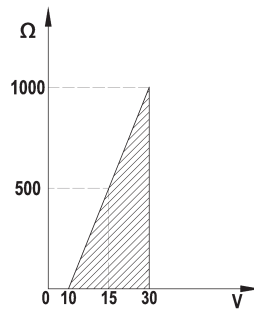
Ranges bar, relative (1)
0...0,1/0...≤ 0,6
0...> 0,6/0...< 1
0...1/0...2,5
0...4
0...6/0...10
0...16
0...25

(1) Other unit of measurement and intermediate ranges, are available, as requested by customer.



Electrical features	
N. of wires	2
Load (Ohm)	$R_L \leq (V_{in}-10)/0,02$
Supply: +Vin	10...30
Max current (Ii)	≤ 100 mA
Max power (Pi)	1,0 W
Capacitance (Ci)	19 nF
Inductivity (Li)	0 mH

Load Resistance



“HOW TO ORDER” SEQUENCE

Section / Model / Range / Output signal / Classification / Temperature / Cable type / Gasket
8 XLV 1 1GD T6B I FPM

multifunction digital pressure instrument: gauge, transmitter, switch

SDM 18

- ✓ - rangeability 1:5
- ✓ - 0,1% accuracy
- ✓ - 5 digit with analog bar graph
- ✓ - 2 alarms
- ✓ - Peak values measurement
- ✓ - Ambient temperature measurement



CE Compliance to requirements of directives:
EMC 04/108/CEE - PED 97/23/CE - RoHS 2011/65/CE

8.D18 - Standard Model

Display output: 5 digit x 0.47" (12 mm) height, with analog bar graph.

Display type: graphic with resolution 128 x 64 dots, backlighted.

Output signal: 4...20 mA (cod. A), with separated supply (3 wires).

Rangeability (on signal output):

1:5 for pressure ranges ≤ 6000 psi (400bar);

1:2 for pressure ranges > 6000 psi (400bar).

Accuracy (% FSV):

for rangeability 1:1 =

$\leq 0,1$ for pressure ranges ≤ 6000 psi (400bar);

$\leq 0,25$ for pressure ranges > 6000 psi (400bar);

for rangeability $\neq 1:1$,

standard accuracy x (nominal range / calibrated range).

Alarm contacts: nr.2, PNP or NPN.

Calibration: limit-point as per DIN 16086.

Process fluid temperature: $-4...+176$ °F ($-20...+80$ °C).

Compensated temperature range: $+32...+176$ °F; ($0...+80$ °C).

Ambient temperature: $-4...+158$ °F ($-20...+70$ °C).

Supply and max load: see on page 2.

Additional displayed informations: alarms state, minimum or maximum peak value, minimum or maximum ambient temperature, current value of signal output, system alarms.

Safety designation: S1 as per EN 837-2.

Keyboard: polyester.

Sensor: piezoresistive for pressure ranges ≤ 6000 psi (400bar);
st.st. thin film for pressure ranges > 6000 psi (400bar).

Electric connection: junction box as per VDE with exit for cables
 $\varnothing 0.27...0.51$ " ($\varnothing 7...13$ mm).

Response time: 0,1 s.

Adsorbed current: ≤ 100 mA + alarms current.

Protection degree: IP 65 as per EN 60529 / IEC 529.

Socket material: AISI 316L st.st.

Case: stainless steel, vented for pressure ranges ≤ 1450 psi (100bar).

Ring: stainless steel, crimped.

Weight: 0,52 kg.

Nominal Ranges in Hg...psi, relative (bar, relative)	Minimum Range psi, relative (bar, relative)	Overpressure psi, relative (bar, relative)
-3...6 (-0,1...0,4)	1.45 (0,1)	11.6 (0,8)
-12...23 (-0,4...1,6)	5.8 (0,4)	46.4 (3,2)
-30...85 (-1...6)	20.3 (1,4)	174 (12)
-30...230 (-1...16)	49.3 (3,4)	464 (32)
-30...580 (-1...40)	119 (8,2)	1160 (80)
-30...1450 (-1...100)	293 (20,2)	2900 (200)
-30...3600 (-1...250)	728 (50,2)	5400 (375)
-30...5800 (-1...400)	1163 (80,2)	8700 (600)
0...14500 (0...1000)	7250 (500)	15950 (1100)
0...23000 (0...1600)	11600 (800)	24650 (1700)

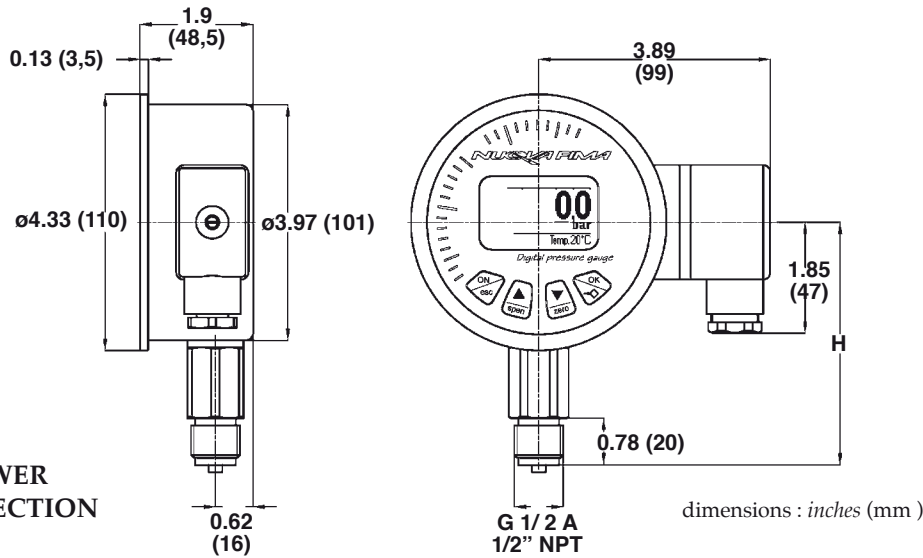
PROGRAMMABLE OPTIONS

Password protection
Engineering units: 24 availables (1)
Rangeability, zero offset
Risolution and displayed value damping
Analogic output damping
Alarm contact type: NPN or PNP
Histeresys, window and delay of alarm contacts
Backlight time

(1) bar; mbar; at; kPa; MPa; PSI; kg / cm²; mmHg; inHg; mH₂O; cmH₂O;
mmH₂O; mm; m; feet; inch; l; kg; t; m³; gal; lb; %; mA

multifunction digital pressure instrument: gauge, transmitter, switch

SDM 18



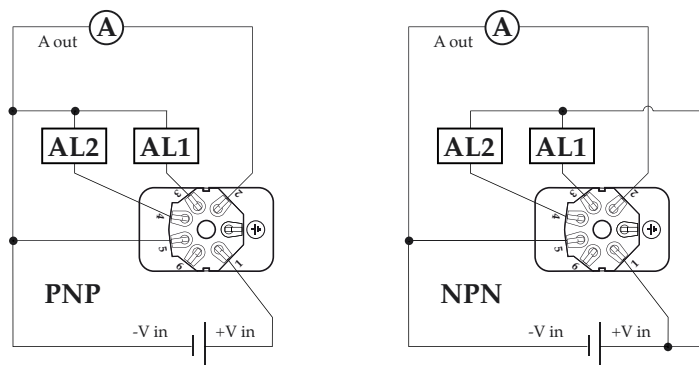
Pn (bar)	H
≤ 100	4.13" (105)
> 100	4.29" (109)

A - LOWER CONNECTION

Output signal	4...20 mA
N. wires	3
Load (Ohm)	$R_L \leq (V_{in}-1)/0,02$
Supply: +V _{in}	11...30
Ground	(pls. refer to Installation Manual)

Alarms	2
Tipo, programmabile	PNP, NPN
Max output current: I _{out} (1)	100 mA
Min. load (Ohm)	$R_{Lm} \geq (V_{in}-1)/I_{out}$
Supply: +V _{in}	11...30

(1) max value current 0,6 A available on request, NPN or PNP type for both alarms



OPTIONS

CRP - CR gasket, for pressure ranges ≤ 1500 psi (100 bar); process fluid temperature: -40...+176 °F (-40...+85°C)
EPD - EPDM gasket, for pressure ranges ≤ 1500 psi (100 bar); process fluid temperature: +5...+212 °F (-40...+100°C)
FPM - VITON gasket, for pressure ranges ≤ 6000 psi (400 bar); process fluid temperature: -40...+212 °F (-15...+100°C)
NBR - NBR gasket; process fluid temperature: -13...+176 °F (-25...+85°C)
NP2 - Nr. 2 NPN alarms with 0,6A output current
PN2 - Nr. 2 PNP alarms with 0,6A output current

"HOW TO ORDER" SEQUENCE

Section / Model / Case / Mounting / Diameter / Range / Process connection / Output signal / Gasket / Options
8 D18 1 A E - DN100 41M - G 1/2 A A CRP NP2
43M - 1/2" NPT EPD PN2
FPM
NBR



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