



Application

- ✓ Viscous fluids and corrosive medias
- ✓ Hygienic measurements
- ✓ Process automation
- ✓ Food, filling, and packing industries
- ✓ Level measurement

Special Features

- ✓ High accuracy and precision
- ✓ Vacuum protected
- ✓ Polarity protection and anti-jamming circuit
- ✓ Flush diaphragm connection

Description

Viscous fluids or corrosive medias need a special pressure transmitter which has a diaphragm connection just as 3107 InstruMate pressure transmitter. In process industry, there are times when you need to deal with pressure measurement of pastes, adhesives, or medias containing particles which might clog the instrument connection. In such cases InstruMate model 3107 is a great solution.

System fill fluid can be chosen according to FDA standards in case the instrument is going to be used in food industry.

Two special features of polarity protection and anti-jamming circuits are embedded in every InstruMate pressure transmitters.

Default Specification

Permissible pressure and temperature ranges in model 3107 are different as per connection size.

Model 3107 with 1/2 G Gauge pressure ranges (bar)	Permissible over pressure	Permissible medium temperature
0...2.5	200% FS	-40...+120°C
0...4	200% FS	-40...+120°C
0...6	200% FS	-40...+120°C
0...10	200% FS	-40...+120°C
0...16	200% FS	-40...+120°C
0...25	200% FS	-40...+120°C
0...40	200% FS	-40...+120°C
0...60	200% FS	-40...+120°C
0...100	200% FS	-40...+120°C
0...160	200% FS	-40...+120°C
0...250	150% FS	-40...+120°C
0...400	150% FS	-40...+120°C
0...600	150% FS	-40...+120°C

Model 3107 with G 1/2 flush Compound & Vacuum ranges (bar)	Permissible over pressure	Permissible medium temperature
-1...+1.5	200% FS	-40...+120°C
-1...+3	200% FS	-40...+120°C
-1...+5	200% FS	-40...+120°C
-1...+9	200% FS	-40...+120°C
-1...+15	200% FS	-40...+120°C
-1...+24	200% FS	-40...+120°C
-1...0	200% FS	-40...+120°C

Model 3107 with G 1/2 flush Absolute pressure Ranges (bar)	Permissible over pressure	Permissible medium temperature
0...2.5	200% FS	-40...+120°C
0...4	200% FS	-40...+120°C
0...6	200% FS	-40...+120°C
0...10	200% FS	-40...+120°C
0...16	200% FS	-40...+120°C

* Temperature compensation range for model 3107 with 1/2G flush diaphragm connection: -10...+70°C for all above ranges.

Model 3107 with G 1 flush Gauge pressure ranges (mbar)	Permissible over pressure	Permissible medium temperature
0...100	300% FS	-40...+120°C
0...160	300% FS	-40...+120°C
0...250	300% FS	-40...+120°C
0...400	300% FS	-40...+120°C
0...600	300% FS	-40...+120°C
0...1000	200% FS	-40...+120°C
0...1600	200% FS	-40...+120°C

Model 3107 with G 1 flush Compound & Vacuum ranges (bar)	Permissible over pressure	Permissible medium temperature
-1...0.6	300% FS	-40...+120°C
-0.6...0	300% FS	-40...+120°C
-0.4...0	300% FS	-40...+120°C
-0.25...0	300% FS	-40...+120°C
-0.16...0	300% FS	-40...+120°C
-0.1...0	300% FS	-40...+120°C

Model 3107 with G 1 flush Absolute pressure ranges (mbar)	Permissible over pressure	Permissible medium temperature
0...400	300% FS	-40...+120°C
0...600	300% FS	-40...+120°C
0...1000	300% FS	-40...+120°C
0...1600	300% FS	-40...+120°C

*Temperature compensation range for model 3107 with G 1 flush diaphragm connection: 0...60°C for all above ranges

Technical details applicable on Model 3107

Reference Conditions	Ambient Temperature	15...25 °C
	Atmospheric Pressure	900...1050 mbar
	Humidity	45%...75%
	Power Supply	24V DC
Load	Current (2-wire)	
	Voltage (3-wire)	
	Ratiometric (3-wire)	
Ingress protection	Angular Connector Form A	IP65
	Angular Connector Form C	IP65
	Circular Connector M12x1	IP67
	Cable Outlet	IP67
Rated Insulation Voltage	500 V DC	
Polarity Protection	YES	
Anti-Jamming Circuit	YES	

*Other pressure ranges or pressure units available as option.

Permissible Temperature Ranges

Permissible temperature ranges	Model 3107
Storage	-35...+75 °C
Ambient	-20...+75 °C
Temperature Error (within 0...80 °C)	$\leq \pm 0.05 \times (t_2 - t_1) \%$ of the span for ranges less than 350 mbar $\leq \pm 0.04 \times (t_2 - t_1) \%$ of the span for ranges over 350 mbar

* t_1 Reference temperature.

* t_2 Ambient temperature.

Performance

Performance factors

Zero Point and Span Adjustability:	By potentiometers ($\pm 10\%$)
Long-term Stability	Less than 0.2% of span per year
Non-linearity	$\leq \pm 0.2\%$ of span
Non-repeatability	$\leq 0.2\%$ of span for ranges ≤ 0.1 bar
	$\leq \pm 0.15\%$ of span for ranges > 0.16 bar
Accuracy ¹	$\pm 0.5\%$ BFSL

*Strong Electromagnetic sources can increase the instrument measuring error.

1. Including non-linearity, hysteresis, zero offset and end value deviations

Sealing Gasket

Sealing	Material	Maximum medium temperature	Maximum pressure limitation
Standard	NBR	+125 °C	Up to 600 bar
Option	EPDM	+125 °C	Up to 200 bar

* Standard sealing is included in the delivery.

Pin Assignments

Angular Connector DIN 175301-803 A				Angular Connector DIN 175301-803 C			
		2-wire	3-wire			2-wire	3-wire
	UB	1	1		UB	1	1
	0V	2	2		0V	2	2
	S+	-	3		S+	-	3
Circular Connector M12x1 (4-pin)				Cable Outlet, unshielded			
		2-wire	3-wire			2-wire	3-wire
	UB	1	1		UB	red	red
	0V	3	3		0V	black	black
	S+	-	4		S+	-	green

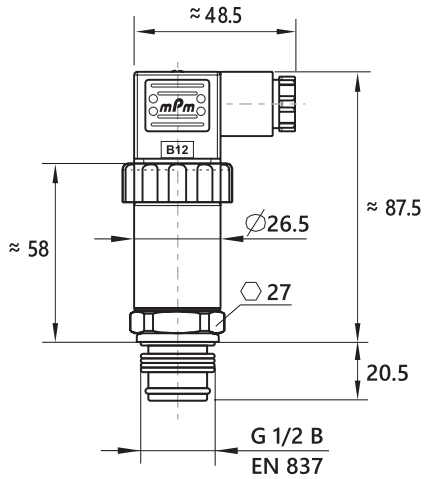
- * UB Positive power Supply terminal
- * 0V Negative power Supply terminal
- * S+ Analogue output

Output Signal

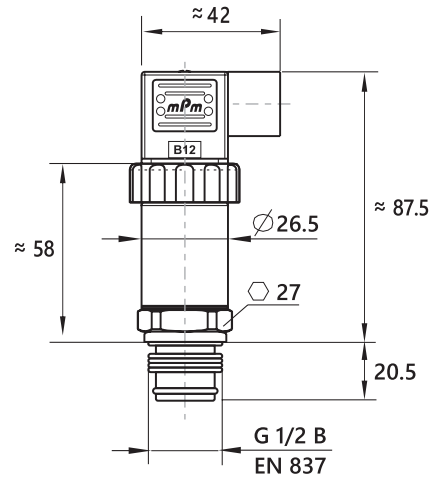
Standard	4...20 mA	Current (2 wire)
Option	0...10 V	Voltage (3 wire)
Option	0...5 V	Voltage (3 wire)

Dimensions (in mm)

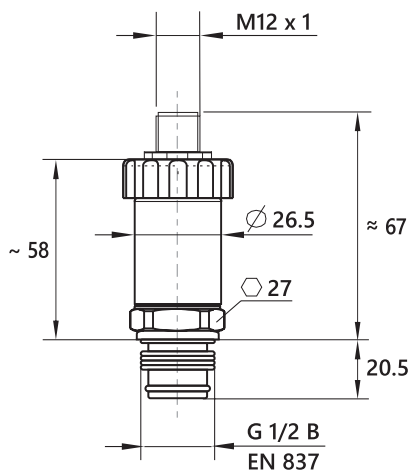
■ **Angular Connector form A**



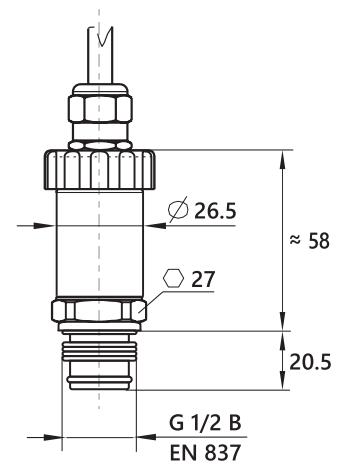
■ **Angular Connector form C**



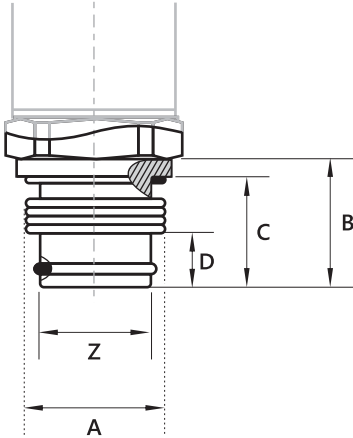
■ **Circular Connector M12x1**



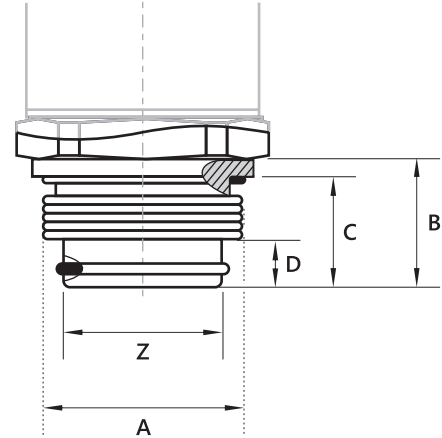
■ **Cable Outlet**



Process Connection



A	B	C	D	Z
G 1/2	23	20.5	10	18



A	B	C	D	Z
G 1	23.2	20.5	7.5	30

* Process connection is SS316L by default. Other materials available as option.

Welding Socket

You can order your 3107 pressure transmitter with a welding socket as option. Please mention it while placing order.



How To Order

Product Group Name	Model	Output Signal	Process connection	Electrical Connection	Range	Options
Example: Pressure Transmitter	3107	4...20 mA	G 1/2	Angular Form A	0...25 bar	-

Or simply order by item number on the basis of your previous purchases.

InstruMate®

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