PM620, PM620LP & PM620T pressure modules

Features

- Fully interchangeable with no need for set-up or calibration
- Simple screw fit - hand tight no tools required
- Safe and hazardous area versions available

The PM620 series is the latest development in digital output sensor technology incorporating a number of key innovations to allow pressure re-ranging of compatible equipment. A simple screw fit makes both the pressure and electrical connections without the need for tools, sealing tape, cables or plugs and digital characterization allows interchangeability without set-up or calibration.

The PM620LP has a true differential measurement via a fitted barbed low pressure (LP) connector and is supplied with 1 x barbed high pressure (HP) connector to fit a PV624 test port, 1 x equalizing valve and 1M (3.3 ft) length of silicon twin tubing.

The PM620T in addition incorporates our unique range of TERPS resonant silicon pressure sensor technology. Providing up to four times greater stability and higher accuracy.

PM620

- Ranges from 70 mbar to 1,000 bar (1 to 15,000 psi)
- Total uncertainty from 0.025% FS

PM620LP

- Ranges from 2.5 mbar diff to 25 mbar diff (1 to 10 inH_2O diff)
- Total uncertainty from 0.05% Span

PM620T

- Ranges from 300 mbar to 100 bar abs (5 psi abs to 1500 psi abs)
- Total uncertainty from 0.0125% FS

PM620/T

PM620LP

MC620G module carrier

Features

- 2 independent pressure channels
- Simple to re-range
- Pressure protection
- Safe and hazardous area versions available

The MC620 module carrier attaches to the head of the DPI620 to provide two independent pressure measurement channels. These can be fitted with any PM620/PM620T pressure module from 2.5 mbar to 1,000 bar (1 inH_2O to 15,000 psi). A simple screw fit means no tools are required and ensures both a high integrity pressure seal and a reliable digital interface. Even the pressure adapters are interchangeable and only require a finger tight fit.

The carrier is designed for pressure safety and will automatically seal if a module is not fitted or if the user attempts to remove it.

MC620G specification	
Maximum pressure	400 bar (5,800 psi) pneumatic 1,000 bar (15,000 psi) hydraulic
Pressure media	Compatible with stainless steel and nitrile seals
Pressure safety	Pressure equipment directive class SEP
Size and weight	80 mm x 100 mm x 110 mm, 640 g

MC620-IS specification (where different to MC620G)	
Size and weight	78 mm x 100 mm x 110 mm, 820 g

PM620 specification	
Maximum intermittent pressure	2 x FS
Maximum working pressure	110% FS
Sealing	IP 65 (protected against dust and jets of water)
Operating temperature	-10 to 50°C (14 to 122°F)
Storage temperature	-20 to 70°C (-4 to 158°F)
Humidity	0 to 90% RH non condensing
Shock and vibration	BS EN 61010-1; MIL-PRF-28800F for Class II equipment, 1 m Drop Tested
EMC	BS EN 61326-1
Electrical safety	BS EN 61010-1
Pressure safety	Pressure equipment directive class SEP
Approval	CE marked
Size and weight	L. 56 mm, Dia. 44 mm, 106 g maximum

PM620-IS Pressure module specification (where different from PM620)	
Approval	CE and UKCA Marked ATEX & IECEx intrinsically safe: Ex II 1G Ex ia IIC T4 Ga (-10°C ≤ Ta ≤ +50°C) ETL intrinsically safe (US and Canada): Class I, Zone 1, AEx/Ex ia IIC T4 (-10°C ≤ Ta ≤ +50°C)

Gauge ranges (referenced to atmosphere)

		Media	NLH&R 20°C ± 2°C (68°F ± 4°F) 24 hr	NLH&R 0° to 50°C (32° to 122°F) 24 hr	Total uncertainty 0° to 50°C (32° to 122°F) for 1 year
			Gauge	Gauge	Gauge
bar	**psi**		**%FS**	**%FS**	**%FS**
±0.07	±1	1	0.025	0.030	0.047
±0.1	±1.45	1	0.020	0.027	0.045
±0.2	±3	1	0.020	0.027	0.045
±0.35	±5	2	0.020	0.025	0.044
±0.7	±10	2	0.015	0.020	0.041
±1	-14.5 to 15	2	0.015	0.020	0.041
-1 to 2	-14.5 to 30	2	0.015	0.020	0.025
-1 to 3.5	-14.5 to 50	2	0.010	0.020	0.025
-1 to 7	-14.5 to 100	2	0.010	0.020	0.025
-1 to 10	-14.5 to 150	2	0.005	0.020	0.025
-1 to 20	-14.5 to 300	2	0.005	0.020	0.025
0 to 35	0 to 500	2	0.005	0.020	0.025
0 to 70	0 to 1,000	2	0.005	0.020	0.025
0 to 100	0 to 1,500	2	0.005	0.020	0.025
0 to 135	0 to 2,000	2	0.005	0.020	0.025
0 to 200	0 to 3,000	2	0.005	0.020	0.025

NLH&R non-linearity, hysteresis and repeatability

❶ Compatible with non-corrosive gas/fluid

❷ Compatible with stainless steel

*The reading can be referenced to ambient air pressure via a software feature of the DPI620 Genii, allowing the same module to be switched between absolute and sealed gauge measurement.

DPI620 Genii pressure resolution: adjustable 4 to 7 digits. Uncertainty confidence level 95% (K=2)

Absolute ranges (referenced to vacuum)

		Media	NLH&R 20°C ± 2°C (68°F ± 4°F) 24 hr	NLH&R 20°C ± 2°C (68°F ± 4°F) 24 hr	NLH&R 0° to 50°C (32° to 122°F) 24 hr	NLH&R 0° to 50°C (32° to 122°F) 24 hr	Total uncertainty 0° to 50°C (32° to 122°F) for 1 year	
			Absolute	*Sealed gauge	Absolute	*Sealed gauge	Absolute	*Sealed gauge
bar	**psi**		**%FS**	**%FS**	**%FS**	**%FS**	**%FS**	**%FS**
0 to 7	0 to 100	2	0.015		0.036		0.050	
0 to 10	0 to 150	2	0.015	0.005	0.030	0.020	0.047	0.025
0 to 20	0 to 300	2	0.015	0.005	0.030	0.020	0.047	0.025
0 to 35	0 to 500	2	0.015	0.005	0.030	0.020	0.047	0.025
0 to 70	0 to 1,000	2	0.015	0.005	0.030	0.020	0.047	0.025
0 to 100	0 to 1,500	2	0.015	0.005	0.030	0.020	0.046	0.025
0 to 135	0 to 2,000	2	0.015	0.005	0.030	0.020	0.046	0.025
0 to 200	0 to 3,000	2	0.015	0.005	0.030	0.020	0.046	0.025
0 to 350	0 to 5,000	2	0.015	0.005	0.033	0.020	0.049	0.025
0 to 700	0 to 10,000	2	0.015	0.005	0.033	0.020	0.049	0.025
0 to 1000	0 to 15,000	2	0.015	0.005	0.033	0.020	0.049	0.025

PM620LP specification	
Maximum intermittent pressure	2 x FS
Maximum working pressure	110% FS
Maximum static pressure	250 mbarg (3.6 psig)
Sealing	IP 65 (protected against dust and jets ofwater)
Operating temperature	**** 10 to 30°C (50 to 86°F)
Storage temperature	-20 to 70°C (-4 to 158°F)
Humidity	0 to 90% RH non condensing
Shock and vibration	BS EN 61010-1; MIL-PRF-28800F for Class II equipment, 1 m Drop Tested
EMC	BS EN 61326-1
Electrical safety	BS EN 61010-1
Pressure safety	Pressure equipment directive class SEP
Approval	CE marked
Size and weight (exc barb connector)	L. 56 mm, Dia. 44 mm, 106 g maximum

Differential ranges (high pressure referenced to low pressure)					
		Media	NLH&R 20°C (68°F) 24 hr	NLH&R **** 10 to 30°C (50 to 86°F) 24 hr	Total uncertainty **** 10 to 30°C (50 to 86°F) for 1 year
			Differential	Differential	Differential
mbar	**inH_2O**		**% span**	**% span**	**% span**
±2.5	±1	1	0.050	0.074	0.080
±12.5	±5	1	0.050	0.063	0.070
±25	±10	1	0.045	0.045	0.050

Note: PM620LP not available with hazardous area approval.

NLH&R non-linearity, hysteresis and repeatability

❶ Compatible with non-corrosive gas/fluid

*Zero required after HP/LP equalization & if the ambient temperature changes>2°C (36°F).

****Operating temperature for PM620LP 2.5 mbar (1 inH_2O) range is 20 to 30°C (68 to 86°F)

DPI620 Genii pressure resolution: adjustable 4 to 7digits. Uncertainty confidence level 95% (K=2)

PM620T specification			
Maximum working pressure	110% FS	Approval	CE and UKCA Marked
Sealing	IP 65 (protected against dust and jets of water)	Size and weight	L. 56 mm, Dia. 44 mm, 106 g maximum
Operating temperature	-10 to 50°C (14 to 122°F)	RoHS	Compliant
Storage temperature	-20 to 70°C (-4 to 158°F)	Orientation stability	<0.2 mbar/g
Humidity	0 to 90% RH non condensing	Media compatibility	Media to be compatible with stainless steel
Shock and vibration	BS EN 61010-1; MIL-PRF-28800F for Class II equipment, 1 m drop tested	Resolution	Selectable - 4 to 7 digits
EMC	BS EN 61326-1	Uncertainty confidence level	95% (k=2)
Electrical safety	BS EN 61010-1		
Pressure safety	Pressure equipment directive class SEP		

PM620T Uncertainty			
Pressure range (absolute)	NLHR @ 25°C (% FS)	NLHR @ -10°C to 50°C (% FS)	Total uncertainty @ -10°C to 50°C (% FS)
1.2 bar	0.006%	0.013%	0.020%
2 bar	0.004%	0.008%	0.0125%
7 bar	0.004%	0.008%	0.0125%
20 bar	0.004%	0.008%	0.0125%
35 bar	0.004%	0.008%	0.0125%
70 bar	0.004%	0.008%	0.0125%
100 bar	0.004%	0.008%	0.0125%

Hazardous area approvals	
Approval	Baseefa 16ATEX0012X IECEx BAS 10.0004X Ex II 1 G Ex ib IIC T4 Gb (-10 ≤ Ta ≤ +50°C)
EN60079-0	Electrical apparatus for potentially explosive atmospheres - general requirements.
EN60079-11	Electrical apparatus for potentially explosive atmospheres - intrinsic safety 'i'.

Notes

1. The reading can be referenced to ambient air pressure via a software feature of the DPI620 Genii, allowing the same module to be switched between absolute and sealed gauge measurement.
2. NLH&R Non-linearity, hysteresis and repeatability to reference standard.
3. Total uncertainty includes reference standard uncertainty, NLHR over specified range and 1 year drift.

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