GE
Measurement & Control

DPI 620 Genii

Advanced Modular Calibrator and HART®/ Foundation Fieldbus Communicator

Combines an advanced multi-function calibrator and HART /Foundation Fieldbus communicator with world-class pressure measurement and generation.

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HART COMMUNICATION PROTOCOL

Fieldbus Foundation

A flexible modular system

The Druck DPI 620 Genii Series - Advanced Modular Calibrator and HART / Fieldbus Communicator comprises four system components to provide the multi-functionality to perform duties formerly requiring a wide range of different instruments. These system components are:

- DPI 620G - Multi-function calibrator, HART/Fieldbus Communicator
- PM 620 - Interchangeable pressure modules
- MC 620G - Pressure module carrier
- PV 62XG - Pressure generating stations

Features

- Multi-function capabilities: electrical, frequency, temperature and pressure
- Complete HART communicator included
- Optional Foundation Fieldbus communicator
- Modular re-rangeable and expandable concept
- Individual components can be used as stand-alone instruments
- Allows significant inventory reductions
- Simplifies training and improves operator safety
- Reduces cost of ownership

DPI 620/G Multifunction Calibrator and Communicator

Measure and source mA, mV, V, ohms, frequency, RTD's and thermocouples.

MC 620/G Pressure Module Carrier. Securely attaches to the DPI 620/G when pressure measurement is required.

PM620 Pressure Module

Re-rangeable dual channel pressure measurement from 25 mbar (10 inH_2O) to 1000 bar (15000 psi)

PM 620

PV 62X/G Pressure Station. The DPI 620/G securely attaches to the pressure stations when pressure generation and measurement is required.

DPI 620/G

Re-rangeable pressure measurement and generation from 25 mbar (10 inH_2O) to 1000 bar (15000 psi)

DPI 620 Genii (P/N DPI620G)

This ultra-compact electrical, frequency and temperature calibrator and HART communicator provides simultaneous measurement and source capabilities for the setup, testing and calibration of most types of process instruments including transmitters, transducers, gauges/ indicators, switches, proximity detectors, counters, RTDs, thermocouples and valve positioners.

What's new in Genii compared to the old DPI 620?

- Smart phone technology touch display and new UI (User Interface) supporting gestures and swipes for a flatter menu structure and greater ease of use.
- Completely new digital platform and modems to support HART and Fieldbus applications.
- New DASHBOARD to quickly launch applications such as CALIBRATOR, HART and SETUP with new applications, including SCOPE for real time signal diagnostics.
- TASK menu allows single touch configuration for common devices such as pressure and temperature transmitters, transducers, switches, and valve positioners. User configured tasks can be added to the library.
- All first generation DPI 620 and the new Genii system components are fully interchangeable; e.g. pressure stations, pressure modules and all accessories.

Standard Dashboard Applications:

Calibrator

- One touch selection of common tasks, e.g. P to I for a pressure transmitter
- Highest accuracy for measuring, sourcing and simulating electrical, frequency, temperature and pressure
- Simulate device inputs and measure outputs simultaneously (up to 6 active channels)
- Calculates errors between inputs/outputs
- Pressure system generates 100 bar/1,500 psi pneumatic and 1000 bar/15,000 psi hydraulic pressures.
- Interchangeable pressure modules from 25 mbar/1 inH_2O to 1,000 bar/15,000 psi

Meter

- Easy to use Multi-meter
- Take measurements, test power supplies, check continuity

Scope

- Real time graphical analysis of pressure and electrical signals
- Advanced diagnostics and fault finding

HART Communicator

- View, change, clone and store device configurations
- Work off-line to create and change configurations
- Transfer device configurations to your PC
- Measure and source analogue variables without secondary calibration equipment
- No power during shutdown? Genii provides 24 V.
- Need a 230 ohm resistor? Just select from the menu.
- It's easy to upgrade Genii with free of charge software and latest DD library.

DPI 620 Genii FF (P/N DPI620G-F)

As DPI620G featured above, with additional Foundation Fieldbus modem and communication application.

Technical Specifications

DPI 620 Genii General Specifications	
Display	Size: 110 mm (4.3 in) diagonal; 480 x 800 pixels LCD: Colour display with touch-screen
Languages	English {Default}, Chinese, French, German, Italian, Portuguese, Russian, Spanish, Dutch, Japanese
Operating temperature	-10° to 50°C (14° to 122°F)
Storage temperature	-20° to 70°C (-4° to 158°F)
Ingress Protection	IP54
Humidity	0 to 90% RH Non condensing
Shock / Vibration	BS EN 61010:2001; Def Stan 66-31, 8.4 cat III, 1 m Drop Tested
EMC	Electromagnetic compatibility: BS EN 61326-1:2006
Electrical safety	Electrical – BS EN 61010 : 2001
Pressure safety	Pressure Equipment Directive - Class: Sound Engineering Practice (SEP)
Approved	CE Marked
Size (L: W: H)	DPI 620 Genii only: 183 x114 x 42 mm (7.2 x 4.5 x 1.7 in) + MC 620/G: ≈ 265 x 114 x 64 mm (10.4 x 4.5 x 2.5 in) + PM 620: ≈ 265 x 114 x 93 mm (10.4 x 4.5 x 3.7 in)
Weight	DPI 620 Genii only: ≈ 575 g (1.3 lb) – battery included. MC 620G only: ≈ 640 g (1.4 lb). PM 620 only: ≈ 100 g (0.2 lb).
Power supply	Lithium-Polymer battery (GE Part number : IO620-Battery); Capacity: 5040 mAh (minimum), 5280 mAh (typical); Nominal voltage: 3.7 V. Charge temperature: 0° to 40°C (32° to 104°F) Discharge temperature: -20° to 60°C (-4° to 140°F). ***Note:*** *For best battery performance, keep the temperature less than 60°C (140°F).* Charge/discharge cycles: > 500 > 70% capacity.
Duration	Measure functions (CH1): ≈ 12 hours continuous. Dual Function, mA measure (CH2): ≈ 7 hours (24 V Source at 12 mA)
Connectivity	USB Type A, USB Type Mini B, WiFi IEEE 802.11g, Bluetooth

Electrical Measurement and Source

		NLH&R ±1°C (2°F) for 24 hrs (note 1)		Total Uncertainty 10° to 30°C (50° to 86°F) for 1 year (note 3)		Additional error -10° to 10°C (14° to 50°F) 30° to 50°C (86° to 122°F)		Resolution	Display reading window	
		%Rdg	+ %FS	%Rdg	+ %FS	%Rdg/°C	+ %FS/°C			
Measure mode										
DC Voltage	Thermocouple	Please refer to Thermocouple specification table							CH1	
	TC mode -10 to 100 mV	0.0045	0.008	0.007	0.01	0	0.0005	0.001	CH1	
	± 200 mV	0.0045	0.004	0.01	0.005	0	0.0005	0.001	CH1	CH2
	± 2000 mV	0.004	0.003	0.0095	0.005	0	0.0005	0.01	CH1	CH2
	± 20 V	0.0025	0.002	0.0145	0.002	0	0.0005	0.00001	CH1	CH2
	± 30 V	0.0035	0.0035	0.0145	0.004	0	0.0005	0.0001	CH1	CH2
AC Voltage[1]*	0 to 2000 mVAC	0.125	0.125	0.2	0.15	0.005	0.005	0.1	CH1	
	0 to 20 VAC	0.1255	0.125	0.2	0.15	0.005	0.005	0.001	CH1	
	0 to 300 VAC	1	0.06	1.5	0.1	0.05	0.005	0.01	CH1	
Current	± 20 mA	0.006	0.005	0.012	0.006	0	0.0005	0.0001	CH1	CH2
	± 55 mA	0.005	0.005	0.016	0.005	0	0.0005	0.0001	CH1	CH2
Resistance	RTD	Please refer to RTD specification table							CH1	
(True,	0 to 400 Ω	0.0055	0.001	0.009	0.0012	0	0.0005	0.001	CH1	
4 wire)	0 to 4000 Ω	0.0055	0.001	0.009	0.0012	0	0.0005	0.01	CH1	
Resistance	RTD	Please refer to RTD specification table							CH1	
(4 wire)	0 to 400 Ω	0.012	0.005	0.015	0.006	0	0.001	0.001	CH1	
	0 to 4000 Ω	0.0115	0.0045	0.015	0.006	0	0.001	0.01	CH1	
Frequency	0 to 1000 Hz	0.0003	0.0002	0.003	0.0002			0.0001	CH1	
	1 kHz to 5 kHz**	0.0003	0.0004	0.003	0.0004			0.00001	CH1	
	0 to 999999 CPM	Refer to range table above for equivalent frequency						0.01	CH1	
	0 to 999999 CPH	Refer to range table above for equivalent frequency						0.01	CH1	
	Totalizing counter	Maximum count 9999999						1	CH1	
	Trigger level	Automatic and adjustable 0 to 20 V						0.1		
Pressure	25 mbar to 1000 bar (0.35 psi to 15000 psi)	Please refer to PM 620 pressure range table							P1	P2
	IDOS external module	Please refer to IDOS UPM datasheet. Cable P/N IO620-IDOS-USB+IO620-USB-PC required							IDOS	
	USB port	Please refer to GE Measurement & Control for compatible devices							USB	
Source mode										
DC Voltage	TC mode	Please refer to Thermocouple specification table								
	TC mode -10 to 100 mV	0.009	0.008	0.014	0.01	0	0.0005	0.001	CH1	
	0 to 200 mV	0.0045	0.004	0.01	0.005	0	0.0005	0.1	CH1	
	0 to 2000 mV	0.004	0.003	0.009*	0.005	0	0.0005	0.1	CH1	
	0 to 20 V	0.006	0.0035	0.0145	0.0035	0	0.0005	0.001	CH1	
Current	0 to 24 mA	0.01	0.004	0.015	0.005	0	0.0005	0.001	CH1	CH2
	0 to 24 mA (Internal loop power)	0.01	0.004	0.015	0.005	0	0.0005	0.001		CH2
	24 V loop power		Selectable 24 V +/- 10% or 28V +/-10%							
Resistance	RTD	Please refer to RTD specification table							CH1	
	0 to 400 Ω (0.1mA)	0.024	0.0035	0.03	0.0075	0	0.001	0.01	CH1	
	0 to 400 Ω (0.5mA)	0.004	0.0025	0.008	0.003	0	0.001	0.01	CH1	
	400 to 2000 Ω (0.05mA)	0.048	0.0035	0.06	0.006	0	0.001	0.01	CH1	
	2k to 4 kΩ (0.05mA)	0.048	0.0035	0.06	0.0045	0	0.001	0.01	CH1	
	Maximum input current	0-400 Ω 5 mA, 400-2000 Ω 1mA, 2000-4000 Ω 0.5 mA								
Frequency	0 to 1000 Hz	0.0003	0.00023	0.003	0.00023			0.1	CH1	
	1kHz to 5 kHz**	0.0003	0.000074	0.003	0.000074			0.001	CH1	
	Output waveform	Square, positive swing up to 20V (adjustable), negative swing -120mV (fixed) Sine and Triangular, adjustable amplitude and offset within the limits -2.5 to +20 V								
	Square wave peak output	0 to 20V +/-20mV (6 mA maximum)								
	0 to 99999 CPM	Please refer to range table above for equivalent frequency						1	CH1	
	0 to 99999 CPH	Please refer to range table above for equivalent frequency						1	CH1	
	Totalizing counter	Maximum count 1000000. Rate 1 to 50,000 pulses/sec						1	CH1	

Notes:

1. Specification applies, 45 to 65Hz and between 10% and 100% of full scale.
2. Specification applies when calibration temperature is between 10 and 30°C
3. Maximum input current for ohms simulation: 0-400 _ 5 mA, 400-2000 _ 1mA, 2000-4000 _ 0.5 mA

Multiple parameter display capability

The display can be configured to show a maximum of 6 simultaneous reading windows as follows: CH1, CH2, P1, P2, IDOS, HART

"True Ohms" RTD Measure Mode (4-wire)

Type	Temperature coefficient	Temperature range				Total Uncertainty 10° to 30°C (50° to 86°F) for 1 year		
		°C		°F		Rdg	Tos	
		From	To	From	To	%	°C	°F
Pt 50	3.85	-200.00	0.00	-328.00	32.00	0.012	0.05	0.09
		0.00	850.00	32.00	1562.00	0.012	0.05	0.09
Pt 100	3.85	-200.00	0.00	-328.00	32.00	0.012	0.04	0.07
		0.00	850.00	32.00	1562.00	0.012	0.04	0.07
Pt 100	3.92	-200.00	0.00	-328.00	32.00	0.012	0.04	0.07
		0.00	850.00	32.00	1562.00	0.012	0.04	0.07
Pt 200	3.85	-200.00	0.00	-328.00	32.00	0.01	0.03	0.051
		0.00	260.00	32.00	500.00	0.01	0.03	0.051
		260.00	850.00	500.00	1562.00	0.015	0.077	0.14
Pt 500	3.85	-200.00	-60.00	-328.00	-76.00	0.01	0.026	0.044
		-60.00	0.00	-76.00	32.00	0.015	0.05	0.086
		0.00	850.00	32.00	1562.00	0.012	0.05	0.086
Pt 1000	3.85	-200.00	-150.00	-328.00	-238.00	0.009	0.024	0.04
		-150.00	0.00	-238.00	32.00	0.011	0.036	0.061
		0.00	850.00	32.00	1562.00	0.012	0.036	0.061
Cu 10	4.27	-200.00	0.00	-328.00	32.00	0.00	0.14	0.25
		0.00	260.00	32.00	500.00	0.00	0.17	0.3
D 100	6.18	-200.00	0.00	-328.00	32.00	0.01	0.035	0.06
		0.00	640.00	32.00	1184.00	0.012	0.035	0.06
Ni 100	6.72	-60.00	0.00	-76.00	32.00	0.00	0.026	0.047
		0.00	250.00	32.00	482.00	0.00	0.03	0.055
Ni 120	6.72	-80.00	0.00	-112.00	32.00	0.00	0.022	0.04
		0.00	270.00	32.00	518.00	0.00	0.028	0.05
		270.00	320.00	518.00	608.00	0.00	0.057	0.1

Standard RTD Measure Mode (4-wire)

Type	Temperature coefficient	Temperature range				Total Uncertainty 10° to 30°C (50° to 86°F) for 1 year		
		°C		°F		Rdg	Tos	
		From	To	From	To	%	°C	°F
Pt 50	3.85	-200.00	0.00	-328.00	32.00	0.021	0.16	0.28
		0.00	850.00	32.00	1562.00	0.024	0.16	0.28
Pt 100	3.85	-200.00	0.00	-328.00	32.00	0.017	0.1	0.175
		0.00	850.00	32.00	1562.00	0.0215	0.1	0.174
Pt 100	3.92	-200.00	0.00	-328.00	32.00	0.017	0.1	0.175
		0.00	850.00	32.00	1562.00	0.0215	0.1	0.174
Pt 200	3.85	-200.00	0.00	-328.00	32.00	0.017	0.069	0.12
		0.00	260.00	32.00	500.00	0.018	0.069	0.12
		260.00	850.00	500.00	1562.00	0.033	0.33	0.6
Pt 500	3.85	-200.00	-60.00	-328.00	-76.00	0.0165	0.051	0.09
		-60.00	0.00	-76.00	32.00	0.017	0.16	0.29
		0.00	850.00	32.00	1562.00	0.024	0.16	0.28
Pt 1000	3.85	-200.00	-150.00	-328.00	-238.00	0.016	0.044	0.074
		-150.00	0.00	-238.00	32.00	0.018	0.1	0.175
		0.00	850.00	32.00	1562.00	0.0215	0.1	0.174
Cu 10	4.27	-200.00	0.00	-328.00	32.00	0.035	0.66	1.18
		0.00	260.00	32.00	500.00	0.01	0.66	1.18
D 100	6.18	-200.00	0.00	-328.00	32.00	0.019	0.1	0.174
		0.00	640.00	32.00	1184.00	0.02	0.1	0.174
Ni 100	6.72	-60.00	0.00	-76.00	32.00	0.00	0.071	0.13
		0.00	250.00	32.00	482.00	0.002	0.071	0.13
Ni 120	6.72	-80.00	0.00	-112.00	32.00	0.00	0.06	0.11
		0.00	270.00	32.00	518.00	0.00	0.06	0.11
		270.00	320.00	518.00	608.00	0.00	0.2	0.36

RTD Simulate Mode (0.1mA min, 0-400Ω; 0.05mA min, 400-4000Ω)

Type	Temperature coefficient	Temperature range				Total Uncertainty 10° to 30°C (50° to 86°F) for 1 year		
		°C		°F		Rdg	Tos	
		From	To	From	To	%	°C	°F
Pt 50	3.85	-200.00	0.00	-328.00	32.00	0.043	0.24	0.42
		0.00	850.00	32.00	1562.00	0.043	0.24	0.42
Pt 100	3.85	-200.00	0.00	-328.00	32.00	0.04	0.16	0.28
		0.00	850.00	32.00	1562.00	0.04	0.16	0.28
Pt 100	3.92	-200.00	0.00	-328.00	32.00	0.04	0.16	0.28
		0.00	850.00	32.00	1562.00	0.04	0.16	0.28
Pt 200	3.85	-200.00	0.00	-328.00	32.00	0.0345	0.12	0.21
		0.00	260.00	32.00	500.00	0.0345	0.12	0.21
		260.00	850.00	500.00	1562.00	0.087	0.28	0.48
Pt 500	3.85	-200.00	-60.00	-328.00	-76.00	0.033	0.095	0.16
		-60.00	0.00	-76.00	32.00	0.078	0.23	0.39
		0.00	850.00	32.00	1562.00	0.078	0.23	0.39
Pt 1000	3.85	-200.00	-150.00	-328.00	-238.00	0.032	0.085	0.15
		-150.00	0.00	-238.00	32.00	0.0675	0.19	0.32
		0.00	260.00	32.00	500.00	0.0675	0.19	0.32
		260.00	850.00	500.00	1562.00	0.082	0.17	0.28
Cu 10	4.27	-200.00	0.00	-328.00	32.00	0.00	0.85	1.53
		0.00	260.00	32.00	500.00	0.00	0.92	1.66
D 100	6.18	-200.00	0.00	-328.00	32.00	0.038	0.16	0.28
		0.00	640.00	32.00	1184.00	0.038	0.16	0.28
Ni 100	6.72	-60.00	0.00	-76.00	32.00	0.00	0.12	0.22
		0.00	250.00	32.00	482.00	0.00	0.12	0.22
Ni 120	6.72	-80.00	0.00	-112.00	32.00	0.00	0.11	0.2
		0.00	270.00	32.00	518.00	0.00	0.11	0.2
		270.00	320.00	518.00	608.00	0.00	0.25	0.45

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Note:

These figures relate to DPI 620 Genii uncertainties only.

For RTD Measure and Source functions the uncertainty is given by:-

Urtd = T(°C) x %Rdg + Tos (°C)

or

Urtd = T(°F) x%Rdg + Tos (°F)

where T( ) is the measurement expressed in °C or °F.

Measurement resolution:

0.01 °C/F. Simulation resolution 0.1 °C/F

Excitation current:

Measure mode 0 to 400Ω 2.5mA, 400Ω to 4000Ω 0.5mA;

Simulate mode 0 to 400 Ω 5mA max, 0.4 to 2kΩ 1mA max and 2 to 4kΩ 0.5mA max.

Simulate mode pulsed excitation current minimum duration 10 ms

Specifications relate to DPI 620 Genii uncertainties only.

Measurement resolution 0.01 °C/F. Simulation resolution 0.1 °C/F

Cold Junction (CJ) Error (maximum)

Range: 10 to 30°C (50 to 86°F) = 0.2°C (0.4°F)

Add 0.01°C (0.02°F) CJ Error/° ambient temperature change for ranges: -10 to 10°C, 30 to 50°C (14 to 50°F, 86 to 122°F)

Thermocouple Measurement and Simulation

Type	Standard	Temperature range (range shows correct resolution)				Total Uncertainty 10° to 30°C (50° to 86°F) for 1 year	
		°C		°F		°C	°F
		From	To	From	To		
B	IEC 584	250.00	500.00	482.00	932.00	4.00	7.20
		500.00	700.00	932.00	1292.00	2.00	3.60
		700.00	1200.00	1292.00	2192.00	1.50	2.70
		1200.00	1820.00	2192.00	3308.00	1.00	1.80
E	IEC 584	-270.00	-200.00	-454.00	-328.00	2.00	3.60
		-200.00	-120.00	-328.00	-184.00	0.50	0.90
		-120.00	1000.00	-184.00	1832.00	0.25	0.45
J	IEC 584	-210.00	-140.00	-346.00	-220.00	0.50	0.90
		-140.00	1200.00	-220.00	2192.00	0.30	0.54
K	IEC 584	-270.00	-220.00	-454.00	-364.00	4.00	7.20
		-220.00	-160.00	-364.00	-256.00	1.00	1.80
		-160.00	-60.00	-256.00	-76.00	0.50	0.90
		-60.00	800.00	-76.00	1472.00	0.30	0.54
		800.00	1370.00	1472.00	2498.00	0.50	0.90
L	DIN 43710	-200.00	-100.00	-328.00	-148.00	0.40	0.72
		-100.00	900.00	-148.00	1652.00	0.25	0.45
N	IEC 584	-270.00	-200.00	-454.00	-328.00	7.00	12.60
		-200.00	-40.00	-328.00	-40.00	1.00	1.80
		-40.00	1300.00	-40.00	2372.00	0.40	0.72
R	IEC 584	-50.00	360.00	-58.00	680.00	3.00	5.40
		360.00	1760.00	680.00	3200.00	1.00	1.80
S	IEC 584	-50.00	70.00	-58.00	158.00	3.00	5.40
		70.00	320.00	158.00	608.00	1.50	2.70
		320.00	660.00	608.00	1220.00	1.10	1.98
		660.00	1740.00	1220.00	3164.00	1.00	1.80
T	IEC 584	-270.00	-230.00	-454.00	-382.00	3.00	5.40
		-230.00	-50.00	-382.00	-58.00	1.00	1.80
		-50.00	400.00	-58.00	752.00	0.30	0.54
U	DIN 43710	-200.00	-50.00	-328.00	-58.00	0.60	1.08
		-50.00	600.00	-58.00	1112.00	0.30	0.54
C		0.00	1600.00	32.00	2912.00	0.80	1.44
		1600.00	2000.00	2912.00	3632.00	1.00	1.80
		2000.00	2300.00	3632.00	4172.00	1.40	2.52
D		0.00	100.00	32.00	212.00	1.10	1.98
		100.00	270.00	212.00	518.00	0.80	1.44
		270.00	1200.00	518.00	2192.00	0.60	1.08
		1200.00	1800.00	2192.00	3272.00	0.80	1.44

PM 620 Pressure Modules

Features

- Fully interchangeable with no need for set-up or calibration
- Simple screw fit - hand tight no tools required
- Ranges from 25 mbar to 1000 bar (10 inH_2O to 15000 psi)
- Accuracy from 0.005% FS

The PM 620 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 characterisation allows interchangeability without set-up or calibration.

MC 620/G Module Carrier

Features

- 2 independent pressure channels
- Simple to re-range
- Pressure protection

The MC 620/G module carrier attaches the head of the DPI 620/G to provide two independent pressure measurement channels. These can be fitted with any PM 620 pressure module from 25 mbar to 1000 bar (10 inH_2O to 15000 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.

MC 620/G Specification	
Maximum pressure	400 bar (5800 psi) pneumatic 1000 bar (15000 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

PM 620 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 61010:2001; Def stan 66-31, 8.4 cat III), 1 m Drop Tested
EMC	BS EN 61326-1:2006
Electrical safety	BS EN 61010:2001
Pressure safety	Pressure equipment directive class SEP
Approval	CE marked
Size and weight	L. 56 mm, Dia. 44 mm, 106 g maximum

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
±0.025	±10 inH_2O	1	0.090	0.090	0.100
±0.07	±1	1	0.025	0.030	0.047
±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 1000	2	0.005	0.020	0.025
0 to 100	0 to 1500	2	0.005	0.020	0.025
0 to 135	0 to 2000	2	0.005	0.020	0.025
0 to 200	0 to 3000	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 DPI 620 Genii, allowing the same module to be switched between absolute and sealed gauge measurement

DPI 620 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 0.35	0 to 5	2	0.030		0.050		0.080	
0 to 1.2	0 to 35 inHg	2	0.020		0.036		0.070	
0 to 2	0 to 30	2	0.015		0.036		0.052	
0 to 3.5	0 to 50	2	0.015		0.036		0.050	
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 1000	2	0.015	0.005	0.030	0.020	0.047	0.025
0 to 100	0 to 1500	2	0.015	0.005	0.030	0.020	0.046	0.025
0 to 135	0 to 2000	2	0.015	0.005	0.030	0.020	0.046	0.025
0 to 200	0 to 3000	2	0.015	0.005	0.030	0.020	0.046	0.025
0 to 350	0 to 5000	2	0.015	0.005	0.033	0.020	0.049	0.025
0 to 700	0 to 10000	2	0.015	0.005	0.033	0.020	0.049	0.025
0 to 1000	0 to 15000	2	0.015	0.005	0.033	0.020	0.049	0.025

The PV 621/G, 622/G and 623/G Pressure Stations

Features

- A uniquely capable, re-rangeable and self contained pressure test system
- Advanced pressure generation
  - 95% vacuum to 20 bar (300 psi) pneumatic
  - 95% vacuum to 100 bar (1500 psi) pneumatic
  - 0 to 1000 bar (15000 psi) hydraulic
- Stand alone replacements for hand pumps
- Bench top use as comparators

There are three pressure generation stations: the PV 621/G, a pneumatic pressure generator for pressures 95% vacuum to 20 bar (300 psi); the PV 622/G, a pneumatic pressure generator for pressures 95% vacuum to 100 bar (1500 psi); and the PV 623/G, a hydraulic pressure generator for pressures up to 1000 bar (15000 psi). Each pressure station is designed for stand-alone operation as a pressure generator and can replace conventional hand pumps to provide greater efficiency and ease of use. They can also be used on the workbench as comparators.

Combining any of the pressure stations with a PM 620 pressure module and the DPI 620/G calibrator creates a uniquely capable, self-contained pressure calibrator.

PV 621/G, 622/G and 623/G Specification	
Maximum pressure	PV 621/G 20 bar (300 psi) pneumatic PV 622/G 100 bar (1500 psi) pneumatic PV 623/G 1000 bar (15000 psi) hydraulic
Pressure media	PV 621/G and PV 622/G non-corrosive gases, PV 623/G de-mineralized water or mineral oil (ISO viscosity grade < 22)
Operating temperature	-10° to 50°C (14° to 122°F) For water +4 to +50°C (39 to 122°F)
Storage temperature	-20 to 70°C (-4 to 158°F) (must be empty of water)
Shock and vibration	BS EN 61010:2001; Def stan 66-31, 8.4 cat III, 1 m drop tested
Pressure safety	Pressure equipment directive class SEP
Size and weight	450 mm x 280 mm x 235 mm, PV 621/G 2.65 kg, PV 622/G 3.30 kg, PV 623/G 3.75 kg

PV 622G

Ordering Information

All DPI 620/DPI620G series products are compatible with each other. For the intrinsically safe DPI620IS and compatible accessories, please refer to the DPI620IS datasheet.

Please order the following model numbers and part numbers as separate line items.

Model DPI 620G
Genii advanced modular calibrator and HART communicator
Model DPI 620G FF
Genii advanced modular calibrator and HART/Fieldbus communicator

The DPI 620/G are supplied with a rechargeable lithium polymer battery P/N IO620-BATTERY, universal mains adaptor/charger P/N IO620-PSU, IO620-AC 300 VAC true rms measurement probe, test leads, calibration certificate, and quick reference guide.

Model MC620G
Genii pressure module carrier
Supplied with G 1/8 female and 1/8 NPT female adaptors (2 of each).

Model PM 620 "pressure range" and "type"
Pressure module. Supplied with calibration certificate.
e.g., PM 620 20 bar (300 psi) gauge

Model PV621G
Pneumatic pressure station 20 bar (300 psi)
Model PV622G
Pneumatic pressure station 100 bar (1500 psi)
Model PV623G
Pressure station 1000 bar (15000 psi)

The PV 621/G, 622/G and 623/G are supplied with G1/8 female and 1/8 NPT female adaptors, carry strap, and quick reference guide. In addition, the PV 623/G includes a plastic bottle for hydraulic fluid.

DPI 620/G Accessories

Replacement AC voltage measurement probe (P/N IO620-AC)

Attaches to the DPI 620/G 30 V sockets to provide 300 VAC true rms measurement. P/N IO620-AC is supplied as standard with all new DPI 620/G.

Carrying case (P/N IO620-CASE-1)

A protective carrying case with belt loop, shoulder strap and large pocket for test leads and accessories.

System carrying case (P/N IO620-CASE-2)

A protective carrying case for system components including the DPI 620/G, MC 620/G, PM 620 modules, test leads, hose and adaptors.

Spare/replacement lithium polymer rechargeable battery (P/N IO620-BATTERY)

Spare/replacement battery for the DPI 620/G. P/N IO620-BATTERY is supplied as standard with all new DPI 620/G.

Battery charging station (P/N IO620-CHARGER)

This external battery charging station allows a spare battery to be charged independently of the DPI 620/G for minimum instrument down time. Power is provided by the standard mains adaptor (P/N I0620-PSU). A complete charge cycle takes approximately 6.5 hours. Simultaneously, the DPI 620/G can be connected via a USB cable to provide a top-up charge (full charge in 13 hours).

Spare/replacement mains adaptor (P/N IO620-PSU)

A spare/replacement universal mains adaptor for use with DPI 620/G and P/N IO620-CHARGER. Input voltage 100 to 240 VAC 50/60 Hz. Mains socket adaptors are provided. P/N IO620-PSU is supplied as standard with all new DPI 620/G.

USB cable (P/N IO620-USB-PC)

Connects the DPI 620/G to a PC.

IDOS to USB converter (P/N IO620-IDOS-USB)

Allows connection of an IDOS universal pressure module to the DPI 620/G. P/N IO620-USB-PC is also required to connect the converter to the DPI 620/G USB port.

USB to RS 232 cable (P/N IO620-USB-RS232)

Connects the DPI 620/G to an RS 232 interface.

PV 621/G, 622/G, 623/G and MC 620/G Accessories

Dirt moisture trap

Prevents contamination of the PV 621/G and 622/G pneumatic systems and cross contamination from one device under test to another. The IDT connects directly to the PV 621/G and 622/G pressure port and replicates the quick fit connection for compatibility with the hose and adaptor kits
P/N IO620-IDT621: Maximum working pressure 20 bar (300 psi)
P/N IO620-IDT622: Maximum working pressure 100 bar (1500 psi)

Pressure relief valve

When fitted to a PV 62X/G pressure station protects the PM 620 pressure module and the device under test from overpressure.

Relief Valve Table

Part number	For use with	Factory setting		Adjustable range	
		bar	psi	bar	psi
IO620-PRV-P1	PV 621G PV 622G	1	15	0.2 to 1	3 to 15
IO620-PRV-P2	PV 621G PV 622G	5	100	3 to 7	45 to 100
IO620-PRV-P3	PV 621G PV 622G	30	435	16 to 32	230 to 460
IO620-PRV-P4	PV 622G	60	870	30 to 60	435 to 870
IO620-PRV-P5	PV 622G	100	1500	60 to 100	870 to 1500
IO620-PRV-P6	PV 621G PV 622G	3	45	1.1 to 3	16 to 45
IO620-PRV-P7	PV 621G PV 622G	12	170	6.1 to 12	90 to 170
IO620-PRV-P8	PV 621G PV 622G	18	260	12.1 to 18	175 to 260
IO620-PRV-H1	PV 623G	50	725	10 to 50	145 to 725
IO620-PRV-H2	PV 623G	200	3000	50 to 200	725 to 2900
IO620-PRV-H3	PV 623G	400	6000	200 to 400	2900 to 5800
IO620-PRV-H4	PV 623G	700	10000	300 to 700	4350 to 10000
IO620-PRV-H5	PV 623G	1000	15000	600 to 1000	8700 to 15000

Pressure station carrying case (P/N IO620-CASE-3)

A protective carrying case with shoulder strap and large pocket for accessories. Also accommodates the assembled system including the DPI 620/G and PM 620.

Modular system transit case (P/N IO620-CASE-4)

A rigid transit case with wheels and an extendable handle. Accommodates two PV 62X/G pressure stations, DPI 620/G, MC 620/G and PM 620 modules, with ample storage space for accessories. Size: 736 mm x 554 mm x 267 mm. Weight: 8,5 kg empty

Pneumatic hose kit

A high pressure pneumatic hose rated to 400 bar (5800 psi). Tool less quick fit to the PV 621/G, PV 622/G and MC 620/G pressure ports. Terminated with a quick fit connector compatible with the test point adaptors supplied with the PV 62X/G, MC 620/G and the adaptor sets.
P/N IO620-HOSE-P1: 1 metre pneumatic hose kit
P/N IO620-HOSE-P2: 2 metre pneumatic hose kit

Hydraulic hose kit

A high pressure hydraulic hose rated to 1000 bar (15000 psi). Tool less quick fit to the PV 623/G and MC 620/G pressure ports. Terminated with a quick fit connector compatible with the test point adaptors supplied with the PV 62X/G, MC 620/G and the adaptor sets.
P/N IO620-HOSE-H1: 1 metre hydraulic hose kit
P/N IO620-HOSE-H2: 2 metre hydraulic hose kit

Pressure adaptor set

A set of test point adaptors to connect the tool less quick fit PV 62X/G, MC 620/G and the extension hoses to the device under test.
P/N IO620-BSP: G1/8 male and G¼ male, G¼ female, G3/8 female and G½ female
P/N IO620-NPT: 1/8" male and ¼"male, ¼" female, 3/8" female, and ½" female
P/N IO620-MET: 14 mm and 20 mm female

Comparator adaptor (P/N IO620-COMP)

Allows the PV 62X/G pressure station to be used as a comparator. The adaptor connects to the stations pressure port and provides two outlet ports for making gauge comparisons. Compatible with the test point adaptors supplied with the PV 62X/G and the adaptor sets.

Blanking plug (P/N IO620-BLANK)

Allows the PV 621/G and 622/G to be used as pressure generators independently of the DPI 620/G and PM 620 by blanking the PV 62X/G pressure module port. Not required for the PV 623/G as the port is self-sealing.

DPI 104 Gauge adaptor (P/N IO620-104 ADAPT)

Allows a DPI 104 digital pressure gauge to be connected to the PV 62X/G pressure module port in place of DPI 620/G and PM 620 to provide a simple low cost pressure calibrator.

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