

Digital Pressure Gauge

DPG Loop Powered



Features:

- Dual Channel (4-20mA) Loop powered
- Upto 600 Bar
- USB Interface
- Data Logging
- Built-in temperature compensated pressure sensor

Description:

The DPGL series is a loop powered digital pressure gauge displays gauge or absolute pressure and displays the pressure in Bar, PSI or the user's own units on a 6-digit LCD display.

User-customizable display modes allows advanced message outputs on one or two lines that can be triggered by events that the unit senses. Additionally, pressure bands may be set to allow the display of messages to technicians or operators with the need to know detailed process pressures and what they mean. A change-over relay can be used together with the messaging and alerts to provide switching at user-set points. In addition to this, on board data-logging is also available to record process details of up to 3600 points that are time-stamped using the on-board real-time clock.

Specification:

- Range: 0 - 600 Bar
- Overpressure: 1.5x full scale
- Measurement type: Gauge / Absolute
- Accuracy: $\pm 0.5\%$ F.S. BFS@25C
- Temperature compensation: Automatic
- Total error: 1%
- Working Temperature: -10C - 80C
- Power: 4-20mA
- Output: 15% - 85% (I²C protocol)
- Stability: $\pm 0.2\%$ F.S. /year
- Process fitting: G1/4"
- User changeable pressure units via software
- Stainless Steel Pressure Sensor Housing, ABS enclosure and Clear Polycarbonate display cover.

Applications:

- For use with gas or liquid.
- General Industrial including, Plant, Machine, Heating and Water applications
- Use the relay to control alarms and other process actions.

General Note
TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

TT Electronics | Roxspur Measurement & Control Ltd 2 Downgate
Drive, Sheffield, S4 8BT, England | Ph: +44(0)114 244 2521
www.roxspur.com | sales@roxspur.com

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Features

INPUT PARAMETERS

Range	600 Bar
Over pressure	1.5 times FS
Accuracy	+/- 0.5% within compensated range
Operating temperature	-10 C - 80C
Storage temperature	-40C - 125C
Long term stability	+/- 0.2% FS/ YR

OUTPUTS

Dual channel two wire (4 to 20) mA outputs: channel 1 powers the instrument; channel 2 (use optional) is isolated from channel 1 and may be used as a repeater or to send another process variable. Both channels can be sourced to either temperature, pressure in various units, or a custom process value, rescaled in any unit using a 22-step linearisation tool (for tank level or similar).

DATA LOGGING FUNCTION

The DPGL series also provides a powerful data logging function. The log points can be set up to 3600 for the points; each point is time and date-stamped together with pressure/process value, temperature and loop power condition on Channel 1. The DPGL series can continue to record time-stamp data for over 4 hours on the loss of the loop supply and resume on repower.

CALIBRATION and USER-LINEARISATION

A 5-point calibration can be applied to the pressure sensor using the USBSpeedLink software. As well as a straight-line profile, up to 22 points (X,Y interpolation) of user-linearisation are available for creating custom curves and corrections.

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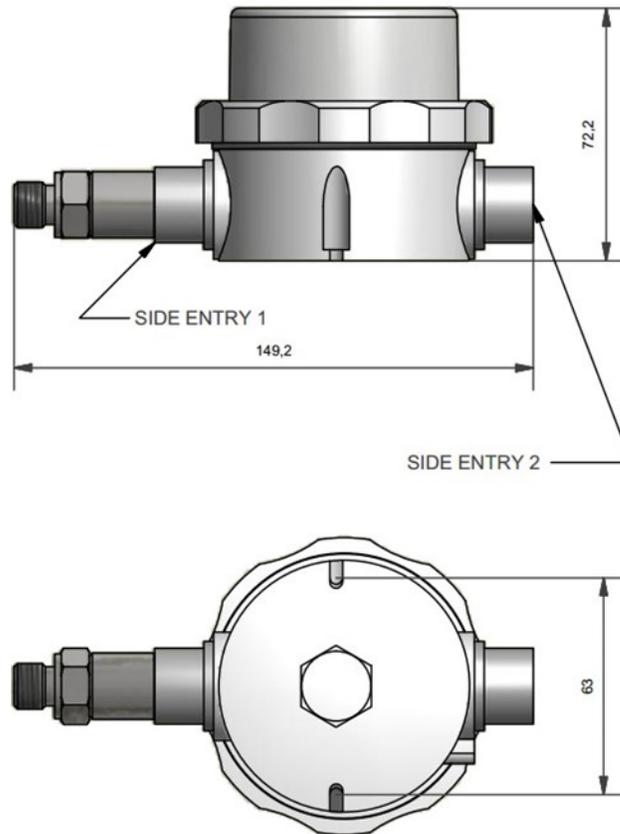
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Specifications



DISPLAY

Type/options/function

Description

Display height

7.9 mm non-backlit

Display information options

Pressure value, Process value, °C or °F plus “Loss of power”, “USB”, icons, 8 segment log volume/signal indicators

High intensity LED

Warning options

MECHANICAL

Enclosure (case)

ABS, grey base, blue clamp ring,

Display cover

Polycarbonate, clear

Case entry

1 x M20 female thread, blanking plug supplied

Front bezel diameter

65 mm

Weight (approximate)

240 g

Material in contact with media O-ring

Stainless steel 316L

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Specifications

GENERAL

Function	Description
Power supply Ch1, Ch2	(10 to 30) Vdc SELV
Output response time	Typicaly.500 ms Maximum 1000 ms
Power loss back-up	Will retain time stamp for logging for > 4 hr
Warning LED	Out of range inputs
Clock accuracy	±2 seconds per month typically

CONNECTIONS

Sensor to process	¼ inch BSP male
Output	Two-part screw connectors
USB connection	USB mini B port

OUTPUTS

Type/options/function	Description
Output type	(4 to 20) mA control loop
Accuracy	(mA output /2000) or 5 uA, whichever is the greater
Loop Voltage effect	0.2 uA /V
Thermal drift	1 uA / °C
Maximum output	20.5 mA
Minimum output	3.9 mA
Maximum output load	[(Vsupply-10)/20] K Ohms (Example: 700 Ohms @ 24 V)
Channel isolation	500 Vdc, 48 Vdc working

Note: Ch1 can be used as a single output but for Ch2 to operate correctly Ch1 must also be powered

ENVIRONMENTAL

Function	Description
Ambient housing temperature	Operating/storage (-30 - 70) °C
Ambient sensor temperature	Operating (-10 - 80) °C
Ambient humidity	Operating/storage (10 - 90) %RH non-condensing
Protection	IP67, cable entry must be sealed to IP67
USB configuration ambient	(10 - 30) °C

APPROVALS

EMC	BS EN 61326
Ingress protection	BS EN 60529
RoHS	Directive 2011/65/EU

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Specifications

USB USER-CONFIGURATION OPTIONS (software USBSpeedLink)

Type/options/function	Description	Notes
Sensor configuration USB Only	User-calibration	Up to 5 points
Display configuration	Decimal place Temperature units Pressure units Process units (any)	None to 5, 1 DP for temperature °C or °F Bar default, multiple selections and option to create custom unit (any) With 22-point linearisation
Pre-set sensor to setpoint	Pressure and temperature	Locks input value to setpoint For diagnostics
Pressure unit User-linearisation	Default bar	User-selectable from pre-set list 22 co-ordinate pairs for tank linearisation
Other device options	Any unit Synchronise clock Write Tag, Contact Location settings	To PC time setting 24 characters each Latitude and longitude
Logger With USB only	Clear, start new log	
Channel 1 and 2	mA output options: Pressure, Process value, Temperature Range Error signal	Low (4mA) High (20mA) (3.8 or 21.5) mA
Live data	Read values Auto read (USB only)	Pressure, process value, temperature (Ch1, Ch2) mA output values Time, date (USB only)

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USB INTERFACE REQUIREMENTS

Configuration hardware	PC with Windows 7 or later with USB port A to mini B cable (not included)
Configuration software	USBSpeedLink, USB LogLink, Contact Us.
Logging software	

USB LOGGER USER INTERFACE (software USBLogLink)

Type/options/function	Description	Notes
Logger	Start, set log parameters	Rate, (delay) start, number of points, rolling or fixed log, synchronise clock
	Read log parameters	Maximum 3600 points
	Read live data	Input values, output values
	View log data/graph log data	Save data/Recall data

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ORDER CODE

Series	Case material (leave blank for ABS)	Pressure range (upto 100 Bar)
DPGL (loop powered)	/SS 316 option	-XXX (i.e. 010, 10 Bar)
DPGB (battery powered)	/SS 316 option	-XXX (i.e. 010, 10 Bar)

Example: Loop powered, ABS body, 30 Bar Sensor
DPGL-030

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