

# Digital High-pressure Gauge 4...20 mA LILLY<sub>press</sub> PLUS with Large Graphic Display

Pressure ranges 0 – 1000 bar to 0 – 3000 bar, accuracy  $\leq \pm 0.25$  % FS

**DPG 1500**

## Application

The digital pressure gauge DPG 1500 is suitable for measuring positive overpressures of gaseous and liquid media for pressure ranges from 0 – 1000 bar to 0 – 3000 bar. It also offers a 4...20 mA output for electronic processing of the measured data.

The device has an easy-to-read, 5-digit indication for the operating pressure as well as a bargraph indication for quick changes. Furthermore, the temperature of the measuring cell and the set pressure unit are displayed.

The robust pressure measuring instruments are built into standard stainless steel instrument cases and are suitable both for use as accurate operating pressure gauge and as reference standard for calibrations.

## Construction

- Accuracy  $\leq \pm 0.25$  % FS
- Thin film sensor (electron beam welding)
- Bayonet ring case stainless steel, NCS 100 (4"), rotatable approx. 280°
- Large LC graphic display, digit height 14 mm (0.55")
- Temperature indication
- 4...20 mA current output
- High burst pressures and high overload

## Standard Versions

### Process Connection

Material: stainless steel 1.4404 (1.4542)  
 Connection threads: G $\frac{1}{2}$ B ( $\frac{1}{2}$ " BSP) (DIN EN 837)  $\leq 2500$  bar  
 $\frac{1}{4}$ " HPF  $\frac{3}{16}$ " – 18 UNF 0 – 3000 bar

### Measuring Cell/Sensor

Thin film measuring cell stainless steel 1.4548 (AISI 630/17-4PH)  
 Hermetically welded, electron beam welding

### Case

With bayonet ring polished, stainless steel 304 (1.4301),  
 NCS 100 (4"), rotatable  
 Degree of protection IP65 according to DIN EN 60 529  
 Window aluminum with PE membrane keypad

### Pressure Ranges, Overload Capability and Burst Pressure

See page 2

### Display

LC graphic display: 400 x 240 dot  
 Visible area: 58.8 x 35.3 mm (2.31 x 1.39")  
 Main indication pressure: 5 digits, digit height 14 mm (0.55")  
 Additional indication temperature:  $-20 / +70$  °C ( $-4 / +158$  °F),  
 digit height 3 mm (0.12")  
 Indicating range:  $\pm 99999$   
 Pressure units: bar, psi, kPa/MPa, kp/cm<sup>2</sup>  
 Temperature units: °C, °F

### Features

TARE/ZERO function  
 MIN/MAX memory  
 Measuring rate adjustable  
 Damping adjustable  
 Number of decimal places adjustable  
 Bargraph indication (pressure)

### Supply Voltage U<sub>v</sub>

12...30 V DC / 100 mA

<sup>1)</sup> at +23 °C (73.4 °F), limited temperature range 0 – 50 °C (32 – 122 °F)



### Electrical Connection

M12 circular plug connector, 5-pin, A-coded  
 radial at 9 o'clock (1: +Vcc; 3: GND; 4: signal)

### Output Signal

4...20 mA, 3-wire connection  
 Load impedance  $R_{max} = (U_v - 11.5) / 0.0215$  A  $\Omega$

### Measurement Accuracy

$\leq \pm 0.25$  % FS

### Temperature

Ambient temperature:  $-20$  °C to  $+70$  °C ( $-4$  °F to  $+158$  °F)  
 Medium temperature:  $-40$  °C to  $+85$  °C ( $-40$  °F to  $+185$  °F)  
 Compensated range:  $-20$  °C to  $+70$  °C ( $-4$  °F to  $+158$  °F)

### Temperature Influence

$\leq 0.1$  % FS/10 K

### Reference Temperature

$+25$  °C ( $+77$  °F)

### Long-term Stability

$\leq 0.08$  % FS/a (at reference conditions)

### Sample Rate

Analogue output:  $< 50$  ms (16 bit DAC)  
 Refresh rate display: 3 Hz

### Electromagnetic Compatibility

Interference emission and stability according to DIN EN 61 326

## Options

- Connection threads:  $\frac{1}{2}$ " NPT max. 0 – 1600 bar  
 $\frac{1}{4}$ " NPT max. 0 – 1600 bar  
 M20x1.5 max. 0 – 1600 bar
- High-pressure connection:  $\frac{1}{4}$ " HPF  $\frac{3}{16}$ " – 18 UNF 0 – 1000 bar to  
 (for  $\frac{1}{4}$ " high pressure tube) 0 – 2500 bar
- Front foil neutral or according to customer request
- Increased measurement accuracy 0.1 % FS<sup>1)</sup>

## Ordering Information

Please specify in your order:

**Basic model** DPG 1500  
**Process connection** e.g. G $\frac{1}{2}$ B  
**Pressure range** e.g. 0 – 1600 bar  
**Option** e.g. increased measurement  
 accuracy 0.1 % FS

**Example:** DPG 1500, G $\frac{1}{2}$ B, 0 – 1600 bar

Measuring Ranges/Overload Capability in bar/psi					
Measuring range		Overload		Burst pressure	
bar	psi	bar	psi	bar	psi
0 – 1 000	0 – 15 000	1 500	20 000	5 000	72 000
0 – 1 600	0 – 20 000	2 400	30 000	6 000	85 000
0 – 2 000	0 – 30 000	3 000	40 000	4 000	55 000
0 – 2 500	–	3 700	–	5 000	–
0 – 3 000	0 – 40 000	4 000	55 000	6 000	85 000

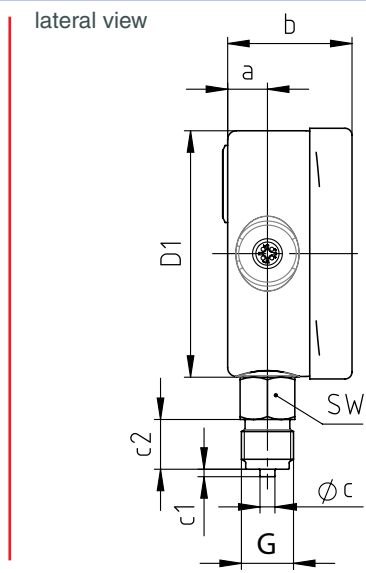
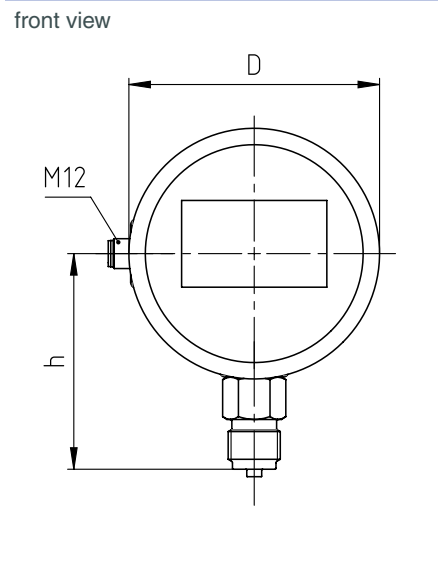
**Electrical Connection**



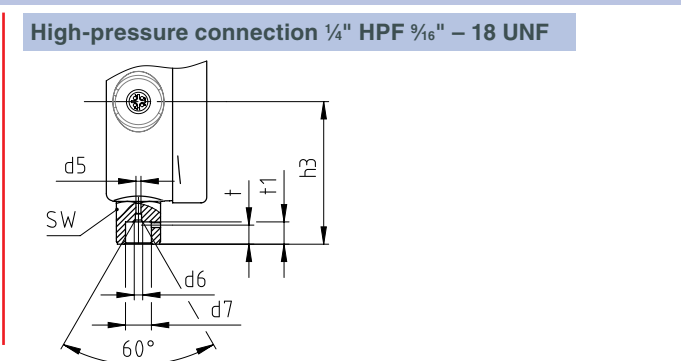
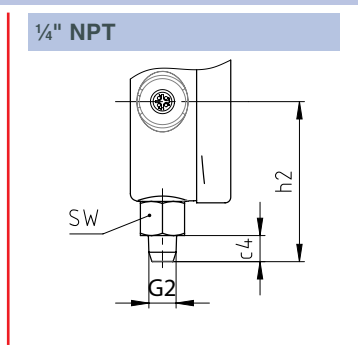
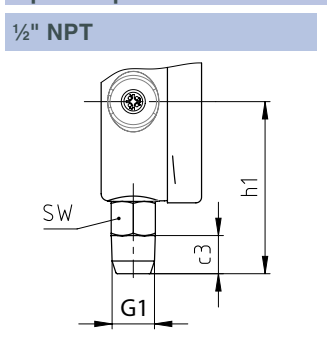
Pin assignment	Description
1	+U <sub>v</sub> : 12...30 V DC
2	free
3	GND
4	I <sub>OUT</sub> : 4...20 mA
5	free

**Process Connection**

Standard: G ½ B / optional: M20x1.5



**Optional process connections**



**Dimensional Data (mm/inch) and Weight (kg/lb)**

NCS	a	b	c	c1	c2	c3	c4	D	D1	d5	d6	d7	G	G1	G2
100 4"	16 0.63	50 1.97	6 0.24	5 0.2	20 0.79	19 0.75	13 0.51	101 3.98	99 3.9	3 0.12	4 0.16	¼" HPF ¼" – 18 UNF	G ½ B (½" BSP) M20x1.5	½" NPT	¼" NPT

h <sup>±1</sup>	h1 <sup>±1</sup>	h2 <sup>±1</sup>	h3 <sup>±1</sup>	t	t1	SW	approx. weight
87 3.43	84 3.31	80 3.15	71 2.8	9.5 0.37	11 0.43	22 0.87	0.46 1.01

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