



## RK TECHNOLOGIES

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# Digital Pressure Gauge

Series RK-DPG

RK-DPG-01 | RK-DPG-07 | RK-DPG-02 | RK-DPG-08

◆ PIEZO-RESISTIVE |  $\pm 0.2\%$  FS | 5 UNITS | BATTERY



## PRODUCT OVERVIEW

The RK-DPG series Digital Pressure Gauges are battery-powered, electronic instruments using high-precision piezo-resistive pressure sensors. The sensor output is processed by a low-temperature-drift amplifier and a high-precision A/D converter, which computes and displays the actual pressure value on a large backlit LCD screen.

Designed for direct installation on hydraulic and process pipelines, they are widely used in hydro-power, water supply, petroleum, chemical, mechanical, and hydraulic industries. Available in four pressure ranges from -1 to 1000 bar, all with  $\pm 0.2\%$  full-scale accuracy.

## MODEL RANGE

Model	Pressure Range	Least Count	Accuracy	Suitable For
RK-DPG-01	-1 to 40 bar	0.01 bar	$\pm 0.2\%$ FS	Vacuum + low pressure
RK-DPG-07	0 to 300 bar	0.1 bar	$\pm 0.2\%$ FS	Medium pressure hydraulics
RK-DPG-02	0 to 700 bar	0.1 bar	$\pm 0.2\%$ FS	High pressure hydraulics
RK-DPG-08	0 to 1000 bar	1 bar	$\pm 0.2\%$ FS	Very high pressure systems

Note: All models share the same body design and operating interface. When ordering, please specify: model, pressure range, accuracy, and thread size.



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### KEY FEATURES

Display & Measurement	Power & Operation
<ul style="list-style-type: none"><li>◆ Large backlit LCD — clear reading in all lighting conditions</li><li>◆ 5 selectable engineering units: psi, bar, kPa, MPa, kg/cm<sup>2</sup></li><li>◆ Auto-records maximum (peak) pressure during measurement</li><li>◆ Progress bar: dynamic % of full-scale display</li><li>◆ High-precision piezo-resistive sensor element</li><li>◆ Sampling rate: 4 readings per second</li><li>◆ Long-term stability: ≤ 0.1% per year</li></ul>	<ul style="list-style-type: none"><li>◆ 9 V DC battery — 2,000 hours continuous / 2+ years in power-save mode</li><li>◆ Auto-shutoff: 1–15 minutes (user-configurable); 00 = always on</li><li>◆ Backlight timer: 1–15 minutes (user-configurable)</li><li>◆ Field-adjustable zero correction and error compensation</li><li>◆ Simple 2-button operation (ON/OFF + ZERO)</li><li>◆ Password-protected settings menu (default: 1000)</li><li>◆ Compatible with gases and liquids (stainless steel wetted parts)</li></ul>

### TECHNICAL SPECIFICATIONS

Parameter	Specification
<b>Measurement</b>	
Accuracy	± 0.2% FS (full scale)
Pressure Type	Gauge pressure (relative to atmosphere)
Overload Capacity	200% of full scale
Long-Term Stability	≤ 0.1% per year
Sampling Rate	4 samples per second
Engineering Units	psi, bar, kPa, MPa, kg/cm <sup>2</sup> (user selectable)
<b>Display</b>	
Display Type	Large LCD with backlight
Resolution	0.01 bar (RK-DPG-01)   0.1 bar (RK-DPG-07, -02, -08)
Peak Display	Automatic maximum (peak) pressure memory with display
Bar Graph	Dynamic progress bar showing % of full scale
<b>Electrical &amp; Power</b>	
Battery	9 V DC (standard PP3 / 6LR61)   2,000 hrs continuous   2+ years power-save mode
Auto-Shutoff	1–15 minutes (user-set)   00 = disabled
Backlight	1–15 minutes (user-set)   00 = always off
<b>Mechanical &amp; Connection</b>	



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<b>Process Connection Thread</b>	G½", NPT¼", M20×1.5 (specify at order) or custom
<b>Wetted Parts Material</b>	316L Stainless Steel
<b>Media Compatibility</b>	Gases and liquids compatible with stainless steel
<b>Environmental</b>	
<b>Operating Temperature</b>	-10°C to +60°C
<b>Relative Humidity</b>	≤ 80% RH (non-condensing)

## BUTTON OPERATION GUIDE

Button	Action	Function
<b>ON/OFF</b>	Short press	Power ON / Power OFF
<b>ON/OFF</b>	Long press	Cycle through engineering units (psi → bar → kPa → MPa → kg/cm <sup>2</sup> )
<b>ZERO</b>	Short press	Clear / reset peak (maximum) pressure memory
<b>ZERO</b>	Long press	Zero / tare the current reading (only when pressure = 0)

Menu Code	Menu Name	Description
<b>locd</b>	Password	Password entry — default 1000
<b>offt</b>	Auto-Shutoff Time	01–15 minutes   00 = never auto-shut off
<b>bclt</b>	Backlight Time	01–15 minutes   00 = backlight always off
<b>end-</b>	Exit Menu	0 = exit without saving   1 = exit and save settings

## TYPICAL APPLICATIONS

Hydraulics	Process Industry	Utilities & Water	Calibration & Testing
<ul style="list-style-type: none"> <li>◆ Hydraulic press testing</li> <li>◆ Machine tool hydraulics</li> <li>◆ Industrial valve testing</li> </ul>	<ul style="list-style-type: none"> <li>◆ Petroleum pipelines</li> <li>◆ Chemical process lines</li> <li>◆ Mechanical systems</li> </ul>	<ul style="list-style-type: none"> <li>◆ Water supply networks</li> <li>◆ Hydro-power stations</li> <li>◆ Boiler pressure check</li> </ul>	<ul style="list-style-type: none"> <li>◆ Pressure gauge calibration</li> <li>◆ Safety relief valve test</li> <li>◆ Lab reference standard</li> </ul>



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## INSTALLATION NOTES

- ▶ **Direct Installation:** Thread the gauge directly into the process connection using the specified thread (G $\frac{1}{2}$ " , NPT $\frac{1}{4}$ " or M20 $\times$ 1.5). Ensure proper sealing with PTFE tape or bonded seal washer.
- ▶ **Vibration & Shock Protection:** In critical applications with severe vibration or shock, connect the gauge via a soft flexible hose to reduce mechanical stress on the sensor.
- ▶ **Zero Correction:** Perform zero correction (long press ZERO) only when the gauge is vented to atmosphere (zero pressure). This eliminates any offset error in field conditions.
- ▶ **Overload:** Do not exceed 200% of rated full-scale pressure. Sustained overloading will damage the sensor element.

## ORDERING INFORMATION

Model	Range	LC	Accuracy	Standard Thread (specify at order)
RK-DPG-01	-1 to 40 bar	0.01 bar	$\pm 0.2\%$ FS	G $\frac{1}{2}$ " / NPT $\frac{1}{4}$ " / M20 $\times$ 1.5
RK-DPG-07	0 to 300 bar	0.1 bar	$\pm 0.2\%$ FS	G $\frac{1}{2}$ " / NPT $\frac{1}{4}$ " / M20 $\times$ 1.5
RK-DPG-02	0 to 700 bar	0.1 bar	$\pm 0.2\%$ FS	G $\frac{1}{2}$ " / NPT $\frac{1}{4}$ " / M20 $\times$ 1.5
RK-DPG-08	0 to 1000 bar	0.1 bar	$\pm 0.2\%$ FS	G $\frac{1}{2}$ " / NPT $\frac{1}{4}$ " / M20 $\times$ 1.5

### Contact RK Technologies for Pricing, Demo & Calibration Support

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