

ECO2

Compact, economical, digital manometer

Features

- Accuracy 0,5 %FS
- Compact design
- Insulated piezoresistive pressure sensor encapsulated in an oil-filled metal housing
- Energy-efficient: battery life of up to 1000 operating hours
- Optional: intrinsically safe version ECO2-Ei available for use in potentially explosive atmospheres

Functions

- Wide range of units of pressure to choose from
- Zero point calibration via buttons
- Automatic shutdown
- Min. / max. display

Typical applications

- Industrial applications
- Servicing
- Monitoring of glass bottle filling



Accuracy

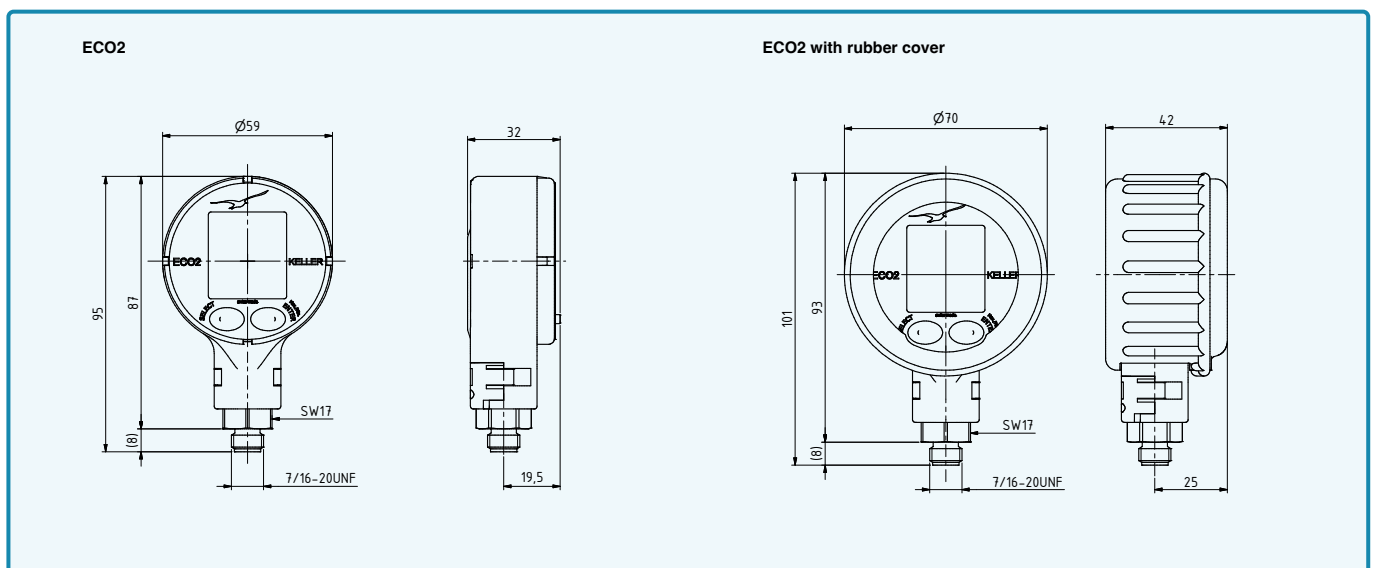
± 0,5 %FS

Total Error Band

± 1.0 %FS

Pressure Ranges

0...31 bar and 0...300 bar



ECO2 – Specifications

Standard pressure ranges

Absolute pressure, PAA	0...31		bar abs.
Absolute pressure, PA		0...300	bar
Overload resistance	60	400	bar
Display resolution (LCD)	0,01	0,1	bar

Key	PAA	Sealed	Zero at 0 bar abs. (vacuum)
	PA	Sealed	Zero at 1 bar abs.

Performance

Pressure

Accuracy @ RT (20...25 °C)	$\leq \pm 0,5$ %FS	Nonlinearity (BFSL), pressure hysteresis, non-repeatability, zero point deviation and amplification deviation
Total error band (0...50 °C)	$\leq \pm 1,0$ %FS	Max. deviation within the specified pressure and temperature range
Long-term stability	$\leq \pm 0,2$ %FS	Per year under reference conditions, yearly recalibration recommended
Pressure range reserve	$\geq \pm 10$ %	Valid measured values outside the pressure range, no overflow/underflow

Temperature ranges

Compensated temperature range	0...50 °C
Media temperature range	-10...60 °C
Ambient temperature range	0...50 °C
Storage temperature range	-20...70 °C

Electrical data

Battery	3 V, type CR2430	Only CR2430 from Renata permitted for hazardous applications (ECO2-Ei)
Battery life	Up to 1000 hours	When used continuously
CE conformity as per 2014/30/EU (EMC)	EN 61000-6-1 to -6-4 EN 61326-1 / EN 61326-2-3	

ECO2 – Specifications

Display

Dimensions	Width x height: 27,8 mm x 30,0 mm (see Dimensions and options)
Number of digits on LC display	2 rows with 4 1/2 digits each
Measuring rate	2 measurements per second
Configurable units of pressure	bar, mbar, hPa, kPa, MPa, PSI, kp/cm ²

Mechanical data

Materials in contact with media

Pressure connection	Stainless steel AISI 316L
Pressure transducer separating diaphragm	Stainless steel AISI 316L
Pressure transducer seal (internal)	None
Swivel insert	Nickel-plated brass
Swivel O-ring	NBR
Adapter	Galvanised steel
Adapter seal (external)	NBR

Other materials

Display housing	Polyamide
Pressure transducer oil filling	Silicone oil

Further details


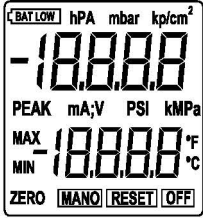
Pressure connection	7/16 - 20 UNF with G1/4 adapter	See Dimensions and options for other optional adapters
Diameter x height x depth	59 mm x 95 mm x 32 mm	Without rubber cover
	70 mm x 101 mm x 42 mm	With rubber cover
Weight	approx. 125 g	Without rubber cover and adapter
Protection	IP65	

Explosion protection ECO2-Ei

Intrinsically safe version ECO2-Ei in accordance with 2014/34/EU (ATEX) and IECEx	LCIE 01 ATEX 6001 X IECEx LCIE 18.0035 X Zone 0: Ex II 1G Ex ia IIC T5 Ga	Permitted max. ambient temperature range -10...80 °C
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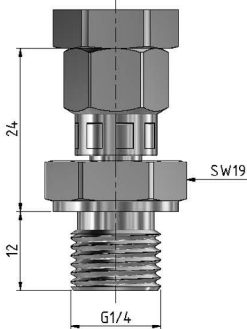
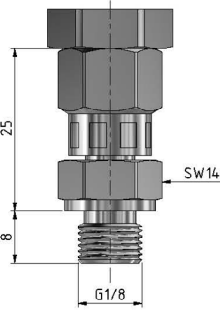
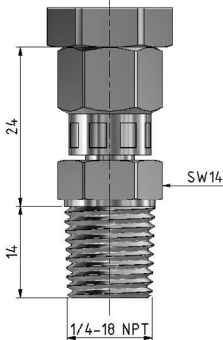
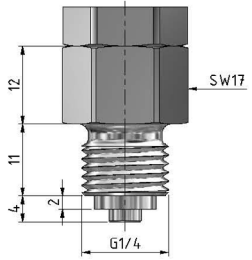
ECO2 – Dimensions and options

LC display

Front cover	Content	Dimensions
		Width × height: 27,8 mm × 30,0 mm Digit height: top: 8 mm × 3 mm bottom: 7 mm × 3 mm

Available pressure connections

A swivel adapter with a G1/4 connection on the process side is supplied as standard with every ECO2. The swivel adapter is a cylinder with O-rings on each side. This allows the device to be optimally positioned. The following adapters are also available:

Principle Swivel adapter	G1/4 swivel adapter (standard)	G1/8 swivel adapter	1/4-18NPT swivel adapter	G1/4 EN 83 adapter, without swivel, alignment not possible
				





The process of fitting the adapter with the swivel seal insert is described in the operating instructions.

Other customer-specific options





- Customer-specific front covers
- Other oil filling types for pressure transducers: e.g. special oils for oxygen applications

ECO2 – Scope of delivery and accessories

Scope of delivery

Renata CR2430 battery	G1/4 swivel adapter	Operating instructions D/E/F	Copper seal for G 1/4 «mano» with centering pin
			

Accessories

Rubber cover	Calibration certificate with 5 measuring points	Calibration certificate with 11 measuring points	Carry case
			
For additional protection in harsh environments	Deviation at room temperature. Issued by KELLER.	Deviation at room temperature with hysteresis. Issued by KELLER.	With belt loop

Order information

Standard versions		Intrinsically safe versions	
Technical description	Product number	Technical description	Product number
ECO2 / 31 bar	303060.0001	ECO2-Ei / 31 bar	303060.2001
ECO2 / 300 bar	303060.0002	ECO2-Ei / 300 bar	303060.2002