

ER420	Flowrate/Totalizer with 4-20 mA Output Signal ER420-AC – 115-230V AC Powered ER420-DC – 24V AC/DC Powered ER420-LP – Loop Powered	<h1>Technical Brief</h1>
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FEATURES

- Displays: Instantaneous flow rate, total and accumulated total.
- Scalable 4-20 mA analog output proportional to flow rate.
- Scalable pulse output.
- Available in Loop Powered, AC or DC powered versions.

INTRODUCTION

The Badger Meter ER420 series digital indicator is especially designed for computing and displaying total and flow rate in fluid flow applications. The units are suitable to handle any volumetric flow meter with a pulse output.

IMPORTANT FEATURES

- The analog output with 10 bits resolution has programmable set points proportional to the flow rate for both 4 mA and 20 mA output.
- A scaled pulse mirroring the count on the display is generated for use by external instruments. The maximum frequency is 20 Hz while the pulse width can be adjusted to suit both electromechanical and electronic counters.

OPERATIONAL

It is full menu-driven with understandable texts, and it will continue counting during programming.

TECHNICAL SPECIFICATIONS

- High intensity reflective display
- Large LCD display 1.6" x 3.5" (40 x 90 mm)
- Seven .67" (17 mm) digits
- Eleven .32" (8 mm) digits
- Automatic contrast adjustment for temperature variations included.

Control panel

Three micro-switch keys with UV-resistant polyester keypad.

Mounting

- For remote units, optional meter mount Nema 6P adapter available
- Available in wall mount for remote applications
- Available in meter mount versions for Badger Meter Recordall® Disc/Turbo Series meters and Industrial Turbo meters
- Available for the Industrial Oval Gear (IOG) meter

Operating temperature

-20° F to +178° F (-30° C to +80° C)

Enclosure

Glass reinforced polyamide with polycarbonate window, EPDM gasket, UV stabilized, NEMA 6 (IP67).



Model ER-420

Configuration

Configuration is done at SETUP-level. Each function is displayed in understandable texts. All settings are programmable; there are no mechanical DIP-switches.

Password

SETUP-level can be protected with a password.

Data protection

EEPROM backup of all settings. Backup accumulated total every 10 minutes. Data retention at least 10 years.



Meter Mount



Optional Nema 6P Adapter for Remote ER420

TECHNICAL SPECIFICATIONS (continued)

Pulse input

Coil/sine wave (sensitivity selectable), NPN/PNP, open collector, reed switch pulse, NAMUR. Input frequency: Minimum 0 Hz, maximum 10 kHz. Low-pass filter for pulse bounce elimination selectable. Flow meter supply voltage: 3.2 V DC. Remark: For NAMUR and some signal pick-ups external power to flow meter is required.

Analog output

- Type ER420-AC or DC:
- Passive isolated 4-20 mA scalable, 10-bit resolution (loop power supply needed 24V DC type)
 - load = 1k Ω max.
- Type ER420-LP:
- Passive 4-20 mA scalable, output loop powered

Transistor output

- Type ER420-LP:
- Passive non-isolated transistor
 - Max. load = 50V DC @ 300 mA
 - Max. freq. = 60 Hz, programmable pulse width
 - 7 msec to 2 seconds, programmed for 1 pulse per accumulated total
- Type ER420-AC or DC:
- Isolated mechanical relay dry SPST contact
 - Contact Rating = 230V AC @ .5A
 - Max. freq. = 5 Hz, 1 pulse per accumulated total

Pulse output

Scalable proportional to accumulated total: Pulse per X-quantity; maximum output frequency 20 Hz.

External power supply

- Type ER420-AC:
- 115-23V AC +/- 10%
 - Power Consumption = 15W max.
- Type ER420-DC:
- 24V AC or 24V DC +/- 10%
 - Power Consumption = 15W max.
- Type ER420-LP:
- 4-20 mA output loop powered
 - 8-30V DC, Power Consumption = 15W max.

OPERATOR FUNCTIONS

General

The operator has three functions available:

- TOTAL and flow rate are displayed.
- TOTAL can be reset by pressing **CLEAR** key twice.
- After pressing **SELECT**, accumulated TOTAL will be displayed (cannot be reset).

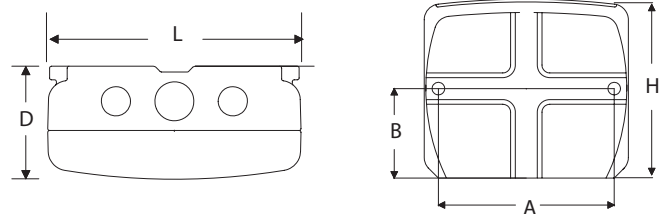
Rate/Total

- 7 digits. K-factor: 7 positions 0.000010 – 9,999,999.
- Available total units: L, m³, GAL, USGAL, KG, lb, bbl, no unit.
- Number of decimals: Max. three. TOTAL is resettable.
- Available rate units: mL, L, m³, GAL, KG, TON, lb, bl, cl, RND, ft³, scf, Nm³, NI, igal - NO UNITS.

Accumulated total

- 5 or 7 digits. Settings independent of TOTAL.
- K-factor: 7 positions 0.000010 – 9,999,999. Available units: ml, l, m³, gallons, kg, ton, lb, bl, no unit.
- Available time units: Second, minute, hour, day.
- Number of decimals: Max. one.

Dimensions



Top View

Rear View

- L = 5.1" (130 mm)
- H = 4.5" (114 mm)
- D = 2.3" (58 mm)
- A = 4.4" (112 mm)
- B = 2.3" (57 mm)

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