



Badger Meter

Pulse Transmitters

Models MS-E1 and MS-ER1

DESCRIPTION

The model MS-E1 is a pulse transmitter designed to be used with Badger Meter Turbo flow meters and RCDL Disc meters. The pulse transmitter provides a scaled electrical pulse signal (switch closure type) for each discrete unit of liquid volume metered. The signal is used to operate instruments and controls.

Because of the simplicity of this transmitter, maintenance procedures are minimized. Furthermore, the enclosure provides watertight protection and is designed to explosion-proof specifications.

The model MS-ER1 adds a six-digit, non-reset totalizing register which provides flow totalization in addition to the pulse output. The mechanical register will totalize under no-power conditions.

OPERATION

Motion of the flow meter measuring element is transferred to the transmitter by means of an output spindle. The spindle provides mechanical movement to a gear train designed to rotate a four-pole permanent magnet. As the magnet turns, the magnetic field causes a glass-enclosed reed switch to open and close, generating a pulse output.

By selecting different calculated gear train and driver-to-driven change gear ratios, a wide variety of pulse output rates are available.

On the MS-ER1 model, the gear train drive spindle in the transmitter is geared to the input spindle of the register to totalize flow. This versatile transmitter/register is available with a wide choice of pulse rates for measuring in gallons, liters or pounds.

APPLICATIONS

The pulse output of the MS-E1 and MS-ER1 pulse transmitters is used with electromechanical or electronic counters and batch controllers that do not provide scaling capabilities.

Typical applications include liquid feeding, blending and batch control.

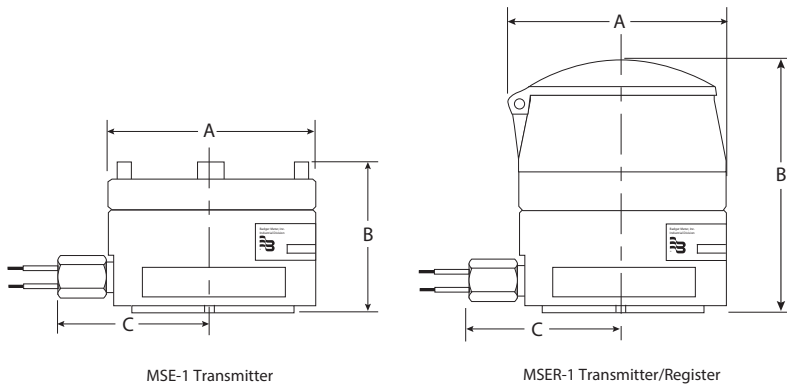


*MS-E1 Pulse Transmitter (Front)
MS-ER1 Transmitter / Register (Back)*

FEATURES

- Operates with direct AC or DC supply
- Glass sealed reed switch, single-pole, single-throw
- Easy recalibration with change gears
- Rugged anodized aluminum enclosure
- Explosion-proof design meets NEC codes (MS-E1)
- NEMA 4 environment protection (watertight)
- Six-digit, non-reset totalizer (MS-ER1)

DIMENSIONS

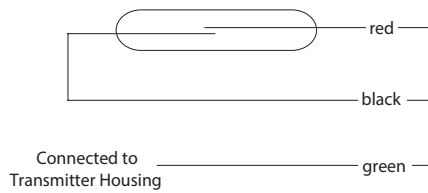


Model	Dimension A	Dimension B	Dimension C
MSE-1 Transmitter	4.31 in. (109 mm)	3.03 in. (77 mm)	3.91 in. (99 mm)
	With conduit fitting: 6.07 in. (154 mm)		
MSER-1 Transmitter/Register	4.31 in. (109 mm)	5.66 in. (144 mm)	3.91 in. (99 mm)

SPECIFICATIONS

Transmitter MS-E1	Switch Rating	120 Volts max., 0.5 Amp max.
	Reed Switch	Single-pole, single-throw
	Explosion-proof Enclosure	Meets N.E.C. codes
	Operating Temperature	To 250° F (121° C)
Register (MS-ER1)	Register	Straight reading, six-digit, non-reset totalizer
	Operating Temperature	To 250° F (121° C)

TRANSMITTER WIRING DIAGRAM



Switch Rating
120 Volts max.
0.5 Amp max.

TEST CIRCLE CHART

258 HW		
Meter	Unit of Measure	Test Circle
IND RCDL DISC M25B	GALLONS	10
IND RCDL DISC M25P	GALLONS	10
IND RCDL DISC M35B	GALLONS	10
IND RCDL DISC M40P	GALLONS	10
IND RCDL DISC M70B	GALLONS	10
IND RCDL DISC M70B	GALLONS	100
IND RCDL DISC M120B	GALLONS	100
IND RCDL DISC M170B	GALLONS	100
IND RCDL DISC M25B	CUBIC FEET	1
IND RCDL DISC M25P	CUBIC FEET	1
IND RCDL DISC M35B	CUBIC FEET	1
IND RCDL DISC M70B	CUBIC FEET	1
IND RCDL DISC M70B	CUBIC FEET	10
IND RCDL DISC M120B	CUBIC FEET	10
IND RCDL DISC M170B	CUBIC FEET	10
IND RCDL DISC M25B	POUNDS	100
IND RCDL DISC M25P	POUNDS	100
IND RCDL DISC M35B	POUNDS	100
IND RCDL DISC M40P	POUNDS	100
IND RCDL DISC M70B	POUNDS	100
IND RCDL DISC M120B	POUNDS	1000
IND RCDL DISC M25B	LITERS	10
IND RCDL DISC M25P	LITERS	10
IND RCDL DISC M40P	LITERS	10
IND RCDL DISC M70B	LITERS	10
IND RCDL DISC M70B	LITERS	100
IND RCDL DISC M120B	LITERS	100
IND RCDL DISC M170B	LITERS	100
IND TURBO	GALLONS	100
IND TURBO	GALLONS	1000
IND TURBO	CUBIC FEET	10
IND TURBO	CUBIC FEET	100
IND TURBO	BARRELS	1
IND TURBO	POUNDS	1000
IND TURBO	POUNDS	10000
IND TURBO	M3	1
IND TURBO	M3	10
IND OSCILLATING PISTON	GALLONS	10
IND OSCILLATING PISTON	POUNDS	100
IND OSCILLATING PISTON	LITERS	10

Control. Manage. Optimize.

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