

ROOTS® CEX Series 3 Counter with Electronic Transmitter



Features

- Provides a non-compensated, high frequency pulse output
- Mounts on all Series B meter bodies
- Available factory installed or as a field installable conversion kit
- Ensures maximum reliability by using Solid State construction to eliminate mechanical switches
- Minimizes maintenance
- Available in three interface styles: MS-style circular connector, 1/2 inch FNPT conduit port, or cable gland with 4' pigtail.

Application and Operation

The ROOTS® CEX counter with electronic transmitter is a single channel, transistor output device that provides a non-compensated, high frequency pulse output (four pulses per impeller shaft revolution) for applications requiring gas flow rate and totalization information.

A two wire output from the CEX is used to provide uncorrected flow rate or totalization data to accessory instruments such as the ROOTS™ DM-2 totalizer/ratemeter, or other totalizer device. For flow rate data corrected for pressure and/or temperature, the CEX can be used with the ROOTS™ EC-2 flow computer and associated transducers. Loop power for the CEX is supplied by the totalizer instrument. An optional cable for connecting to the circular connector is available.

Specifications

Applicable Sizes:	8C through 56M magnetically coupled Series B ROOTS® meters
Loop Voltage:	3 - 30 VDC (Typ.)
Supply Current:	10 mA (max.)
Pulse width:	2 milli-seconds (Typ.)
Duty Cycle:	Flow rate dependent
Rise/Fall Time:	20 μs (Typ.)
Interface Styles:	MS-Style Circular connector (with mating connector), 1/2" FNPT conduit port, or cable gland with 4' pigtail.

Hazardous Locations:

Designed to meet intrinsically safe ratings for Class I, Division I, Groups A, B, C & D when used with approved barriers.
FM Approvals Pending.

Ordering Information

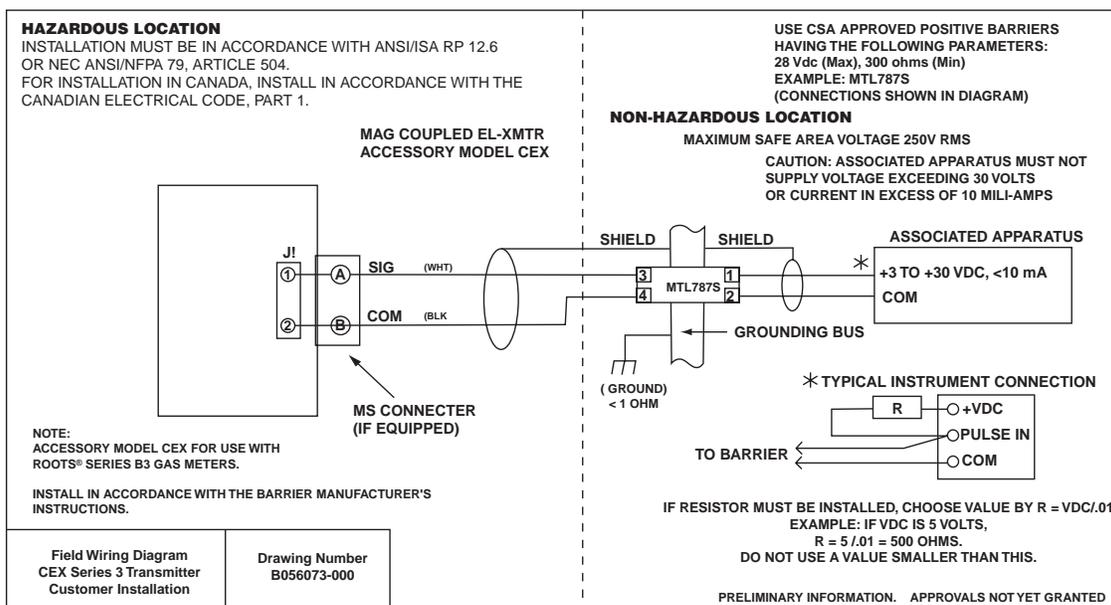
When ordering a Series B3 CTR (counter) meter, a 'transmitter ready' option can be specified for future installation of the electronic transmitter (conversion kit #399*). Existing Series B meters can be easily converted to the CEX option using the complete accessory unit Assembly #400, which includes a non-compensated counter and the transmitter electronics for a specific meter size.

With Meter Specify:	Meter Model with CEX <i>example: 3M175 CEX</i>
As Complete Accessory Unit Specify:	Repair Assembly #400 <i>Counter w/ Electronic Xmtr (CEX) & meter model</i>
As Conversion Kit* Specify:	Repair Assembly #399 <i>CTR to CEX</i>

* Conversion Kit #399 may be used only on Series 3 Counters. Series B2 (TQM) Meters require a complete Accessory Unit Assembly #400.

Meter Type	Freq. (Hz)	Volume per Pulse		Pulses per Volume*		Flow Rate (ACFH)
		(CF)	(m ³)	(CF)	(m ³)	
8C175	120	.00185175	.00005243572	540	19071	800
11C175	146.67	.0020825	.000058969832	480	16958	1,100
15C175	166.67	.0025000	.000070792116	400	14126	1,500
2M175	111.13	.00500	.00014158423	200	7063	2,000
3M175	133.33	.006250	.0001769802	160	5650	3,000
5M175	150	.0092600	.00026221399	108	3814	5,000
7M175	124.46	.015625	.0004424507	64	2260	7,000
11M175	122.2	.02500	.00070792116	40	1413	11,000
16M175	120	.0370375	.001048785	27	953	16,000
23M175	69	.0925925	.002621927	11	381	23,000
38M175	76	.13889	.00393292679	7	254	38,000
56M175	89.6	.17361	.0049160877	6	203	56,000
1M300	55.55	.0050000	.00014158	200	7063	1,000
3M300	133.33	.0062500	.00017698	160	5650	3,000
1M740	75	.0037037	.000104888	270	9534	1,000
3M740	166.67	.0050000	.00014158	200	7063	3,000
1M1480	75	.0037037	.000104888	270	9534	1,000
3M1480	166.67	.0050000	.00014158	200	7063	3,000
5M1480	100	.013889	.0003932927	72	2542	5,000
7M1480	124.46	.015625	.0004424507	64	2260	7,000

*Pulses per volume rounded to nearest whole number. For calculation purposes, use Volume per Pulse.



Reference Data:

Installation Instruction Sheet: IR-CEX

Drawings w/CEX:	8/11/15C B3	2/3/5M B3	7/11/16M B3	23/38/56M B3	1M/3M 300 B3	1M/3M 740/1480
	D054699-000	D054670-000	D054671-000	D054751-000	D056121-000	D054758-000

Field Wiring Diagram for Intrinsically Safe Installations: B056073-000 (above)



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