

# ROOTS® Micro Corrector - MC2

Models ptz + LOG, pt + LOG and t + LOG

**The smallest, lightest gas volume corrector available on the market today!**

This second generation Micro Corrector has the enhancements customers have been asking for. Using the proven MC platform, features were added that make it the easiest corrector to use. Functions were added that enhance data logging and lower operation and maintenance costs, while retaining the great features introduced in the original product.

The ROOTS® Micro Corrector, Model MC2, can function as an instrument drive (ID) or wall mount corrector. As a wall mount model, it can also function as an economical pressure and/or temperature recorder. It's the only low cost corrector rated for Division I hazardous locations.

## Features

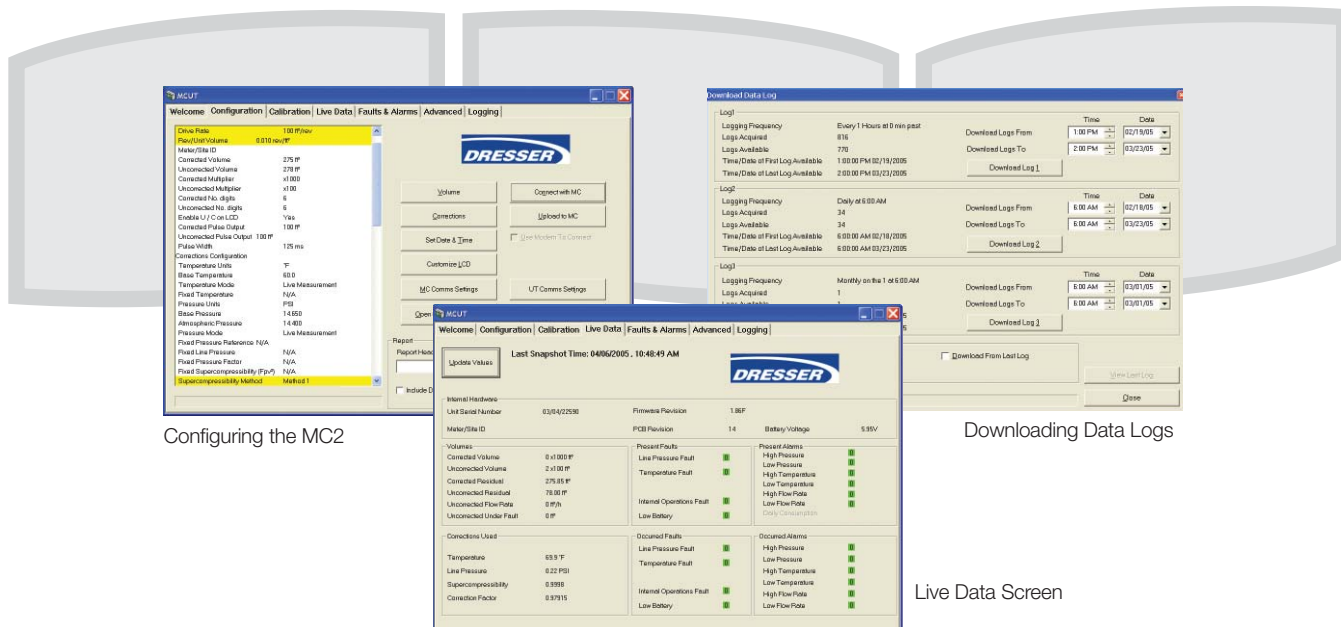
- Automatic Bi-Directional Index Drive Capability is a feature that automatically senses the rotation of the Instrument Drive meter it is mounted on. This patented mechanism is unique to the ROOTS® Micro Corrector. No need to physically change the gearing inside the ID housing! Stock one unit for either clockwise or counterclockwise rotation.
- 1 to 3 Data Logs provide for years of historical information and are configurable in increments from 1 minute to 1 month.
- Audit Log maintains a record of configuration and calibration changes.



ROOTS® Micro Corrector, Model ptz + LOG, ID Mount Version



Other Available Micro Corrector Model - IMCW2



Configuring the MC2

Downloading Data Logs

Live Data Screen

- **Alarm and Fault** activity is displayed in the Data Log and Audit Log reports.
- **E<sup>2</sup>PROM** provides non-volatile storage of recorded data and corrector configuration, regardless of battery condition.
- **MS Excel<sup>®</sup> Formatted Reports** allow easy manipulation and sharing of information.
- **Simple User Terminal Software** allows for easy configuration, calibration and data downloads.
- **Live Data Screen** allows you to query the corrector either serially or via a modem to see the current conditions at the meter site, including a real time display of the corrector's battery pack voltage.

## Available Pressure Transducers

Micro Correctors fitted with pressure transducers are available with either gauge or absolute transducers in the following ranges:

Transducer Range	Gauge	Absolute
30 psi (2bar)	X	X
180 psi (12 bar)	X	X
350 psi (24 bar)	X	
1000 psi (70 bar)	X	X
1500 psi (100 bar)		X

## Temperature Probes

Two different temperature probes are available, either of which can be fitted with a 5 or 10 foot long armored cable. The smaller 2" probe can be installed in the differential tap of the rotary meter or in small diameter pipe. For large diameter piping, an 8-1/4" probe is also available.

## Performance

### Resolution

<b>Volume</b>	0.01 ft <sup>3</sup> (0.01 m <sup>3</sup> )
<b>Pressure</b>	0.01 psi (1 mbar)
<b>Temperature</b>	0.1° F (0.1 °C)
<b>Supercompressibility (Fpv<sup>2</sup>)</b>	0.0001
<b>Correction Factor</b>	0.00001
<b>Accuracy over Operating Temperature Range</b>	-40 °F to 140 °F (-40 °C to 60 °C)
<b>Line Pressure</b>	±0.25% reading
<b>Line Temperature</b>	±0.9 °F (0.5 °C)
<b>MC2-PTZ</b>	±0.5% corrected volume
<b>MC2-P</b>	±0.35% corrected volume
<b>MC2-T</b>	±0.25% corrected volume

### Long Term Stability

<b>Pressure</b>	0.1% FS/yr non-cumulative
<b>Temperature</b>	0.3 °F (0.2 °C)/yr non-cumulative

### E<sup>2</sup>PROM Data Log Memory

<b>Time-stamped Entries</b>	up to 32161 (depending on the number of Parameters logged)
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### Battery

<b>Sealed Pack</b>	5-years nominal life
<b>Low Battery Reserve</b>	3-months approximately

## Inputs

Volume	
<b>Instrument Drive</b>	Universal ID CW or CCW rotation, compatible with rotary, turbine and diaphragm meters.
<b>Wall Mount</b>	Form-A switch, mechanical reed or Weigand, compatible with all Dresser low frequency pulsers.
<b>Pressure</b>	Proprietary semiconductor strain gauge
<b>Temperature</b>	ITS-90 Platinum 100Ω RTD $\alpha=0.00385$

LCD Display
18 user selectable parameters

## 3 Fully Programmable Pulse Outputs

Corrected, Uncorrected, and Alarm/Fault	
<b>Loop Voltage</b>	5-15 VDC
<b>Loop Current</b>	10 mA maximum
<b>Pulse Width</b>	62.5, 125, 187, or 312 ms
<b>Switch off Resistance</b>	> 2 Mohms
<b>Switch on Resistance</b>	<10 ohms
<b>Isolation</b>	2,500 VDC

Environment	
<b>Operating Temperature</b>	-40 °F to 140 °F (-40 °C to 60 °C)
<b>Storage Temperature</b>	-58 °F to 176 °F (-50 °C to 80 °C)
<b>Humidity</b>	Up to 95% sustained outdoor exposure

Enclosure	
NEMA 4X (IP66)	

Intrinsic Safety	
<b>Class 1, Division 1, Group D</b>	CSA Approval No. 1224451
<b>Zone 0</b>	EEX ia IIC T4 Tamb = -40° C to 60° C
<b>Class-I, Division-1, Group A, B, C, D</b>	BAS98ATEX 1083

Electromagnetic/Radio Frequency Immunity	
<b>FCC Class B</b>	Meets EMI/RFI immunity at 10 V/m, 0.1 to 1,000 MHz EN50081-1 and EN5088-2

Other	
ISO-9001, CE Mark	

## Ordering

### The MC2 can be ordered as either:

- An instrument drive mount version corrector.
- A wall or pipe mount version corrector.

### For P and PTZ versions:

- Optional piping kits are available for convenient connection of external pressure connections.
- We offer piping kits with various lengths of stainless steel tubing and two different pressure ratings.

### Pressure Piping Kits for Non-DP versions

	Approved for use to 350 psig G	Approved for use to 1480 psig G
Length of SS Tubing	Part Number	Part Number
32"	051416-320	051416-310
84"	051416-420	051416-410
120"	051416-520	051416-510

### For P & T and T versions:

- Temperature probes are available with 5 foot or 10 foot long armored cables, and with 2 inch or 8-1/2 inch insertion lengths.
- Thermowells available in sizes 1/4-NPT x 2, 1-NPT x 2, 1-NPT x 4, and 1-NPT x 6. All dimensions are in inches.

### A variety of pulse output connectors are available:

One metal 6-pin Mil-Spec twist lock connector.

One plastic cable-gland connector.



Circular

Conduit Plug

Cable Gland

The MC2 will be shipped with a factory standard configuration

Please consult your customer service representative for a copy of our customer configuration worksheet.

A Sealed Battery Pack is included and will provide a nominal 5-years of reliable corrector operation.

New users will want to order the User Terminal Software and one or more communication cables to allow for local configuration, calibration, and data log retrieval. The cables are available in 6, 25, and 50 ft. lengths.

### Communication Cables

PC (Serial) to IMC	
Length of Cable	Part Number
6.6'	057135-001
25'	057135-002
50'	057135-003
PC (USB) to IMC	
6.4'	060506-000

## About Dresser® Products

Dresser brand products are highly engineered, technically superior and are designed to help global customers meet and exceed requirements for mission critical energy applications.

## About Dresser, Inc.

Dresser, Inc. is a leader in providing highly engineered infrastructure products for the global energy industry. The company has leading positions in a broad portfolio of products, including valves, actuators, meters, switches, regulators, piping products, natural gas-fueled engines, retail fuel dispensers and associated retail point-of-sale systems, and air and gas handling equipment. Leading brand names within the Dresser portfolio include Dresser Wayne® retail fueling systems, Waukesha® natural gas-fired engines, Masoneilan® control valves, Consolidated® pressure relief valves, and Roots® blowers. It has manufacturing and customer service facilities located strategically worldwide and a sales presence in more than 100 countries.

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