

# MICRO-P MIGHTY-1 Digital Process Indicators

Price List & Ordering Guide (Effective January 1, 2010)

## GENERAL ORDERING INFORMATION:

Specify **Meter Color & Digit Size**, **Meter Power** and a **Signal Conditioner** from the list below. Specify **Analog Output**, **Setpoint Output** and **Digital Interface** if needed. These meters are shipped with a standard configuration and range shown below for each signal conditioner and output option type. All information for making changes is covered in the supplied Owners Manual. For other scalings or configurations, add the **SC** (Special Configuration) option.

Ordering Example: **MR** **0** **H** **R** **2** **MVI2** - **SC**  
**a** **b** **c** **d** **e** **f** **g**

## **a** METER COLOR & DIGIT SIZE \$List

<b>MR</b>	Micro-P with 0.56" Red Led's .....	105
<b>MG</b>	Micro-P with 0.56" Green Led's .....	105
<b>M1R</b>	Mighty-1 with 1" Red Led's .....	295

For extended version features, add "E" to the ..... 40  
 above part numbers i.e. MRE, MGE or M1RE. Does not apply to temperature.

## **b** METER POWER

<b>0</b>	85 to 264Vac .....	50
<b>1</b>	12 to 32Vac & 10 to 48Vdc .....	80

## **c** ANALOG OUTPUT

<b>H</b>	None .....	NC
<b>J</b>	0 to 10Vdc .....	90
<b>K</b>	0 to 20mAdc (4/20mA) .....	90
<b>L</b>	-10 to +10V .....	90

## **d** SETPOINT OUTPUT

<b>H</b>	None .....	NC
<b>R</b>	Two 8A Form C, contact relays .....	80
<b>Q</b>	Four 8A, Form C, contact relays .....	100
<b>C</b>	Two 130mA, Form A, solid state relays .....	55
<b>P</b>	Four 130mA, Form A, solid state relays .....	75

## **e** DIGITAL INTERFACE

<b>H</b>	None .....	NC
<b>2</b>	RS-232 .....	60
<b>2U</b>	RS-232-USB .....	60
<b>4</b>	RS-485 .....	80
<b>4U</b>	RS-485-USB .....	100
<b>5</b>	Modbus .....	90

## **f** SIGNAL CONDITIONERS (Select one)

### DC VOLTAGE

<b>MVI 1</b>	200.00mV = 200.00 .....	65
<b>2</b>	2.0000V = 2.0000 .....	65
<b>3</b>	20.000V = 20.000 .....	65
<b>4</b>	200.00V = 200.00 .....	65
<b>5</b>	600.0V = 600.0 .....	65

### DC CURRENT

<b>MCI 1</b>	2.0000mA = 2.0000 .....	65
<b>2</b>	20.000mA = 20.000 .....	65
<b>3</b>	200.00mA = 200.00 .....	65
<b>4</b>	5.000A = 5.000 .....	65

### AC TRUE RMS VOLTAGE

<b>MTV 1</b>	200.00mV = 200.00 .....	100
<b>2</b>	2.0000V = 2.0000 .....	100
<b>3</b>	20.000V = 20.000 .....	100
<b>4</b>	200.00V = 200.00 .....	100
<b>5</b>	600.0V = 600.0 .....	100

Signal Conditioners cont.

## **AC TRUE RMS CURRENT** \$List

<b>MTI 1</b>	2.0000mA = 2.0000 .....	100
<b>2</b>	20.000mA = 20.000 .....	100
<b>3</b>	200.00mA = 200.00 .....	100
<b>4</b>	5.000A = 5.000 .....	100

Note: Range 4 may be used with an external C.T.

## **RTD TEMPERATURE**

<b>M385C</b>	Pt 100 ohm -202 to 850°C .....	65
<b>M385F</b>	Pt 100 ohm -331 to 1562°F .....	65
<b>M392C</b>	Pt 100 ohm -202 to 850°C, .....	65
<b>M392F</b>	Pt 100 ohm -331 to 1562°F, .....	65
<b>M672C</b>	Ni 120 ohm -100 to 260°C .....	65
<b>M672F</b>	Ni 120 ohm -148 to 500°F .....	65
<b>M427C</b>	Cu 10 ohm -100 to 260°C, .....	65
<b>M427F</b>	Cu 10 ohm -148 to 500°F, .....	65

## **THERMOCOUPLE TEMPERATURE**

<b>MJC</b>	-210 to 760°C .....	65
<b>MJF</b>	-347 to 1400°F .....	65
<b>MKC</b>	-244 to 1372°C .....	65
<b>MKF</b>	-408 to 1501°F .....	65
<b>MNC</b>	-245 to 1300°C .....	65
<b>MNF</b>	-410 to 2370°F .....	65
<b>MTC</b>	-257 to 400°C .....	65
<b>MTF</b>	-430 to 752°F .....	65
<b>MEC</b>	-270 to 1000°C .....	65
<b>MEF</b>	-450 to 1830°F .....	65
<b>MRC</b>	-45 to 1768°C .....	65
<b>MRF</b>	-49 to 3213°F .....	65
<b>MSC</b>	-46 to 1768°C .....	65
<b>MSF</b>	-51 to 3214°F .....	65

## **RESISTANCE (OHMS)**

<b>MR1</b>	0-20 ohm .....	65
<b>MR2</b>	0-200 ohm .....	65
<b>MR3</b>	0-2 kohm .....	65
<b>MR4</b>	0-20 kohm .....	65
<b>MR5</b>	0-200 kohm .....	65

## **PROCESS**

<b>E</b>	4/20mA = 20,000 .....	65
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## **STRAIN GAUGE, POTENTIOMETER**

<b>SG</b>	0/200mV = 20,000 .....	65
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## **LOAD CELL, MICROVOLT METER**

<b>LC</b>	0/20mV = 20,000 .....	120
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## **g** SPECIAL CONFIGURATION

**SC** Special Configuration ..... 25

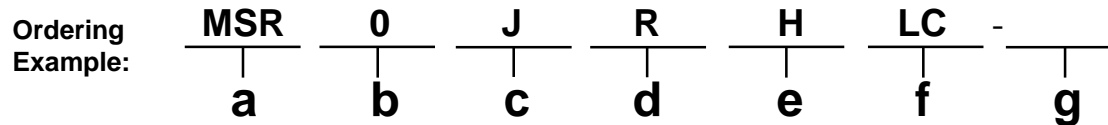
Specify the min. signal input and displayed reading, max. signal input and displayed reading, decimal point and 5, 10 or 24V excitation output. **This option is included at no charge for PROCESS, STRAIN GAUGE, and LOAD CELL.**

# MICRO-S MIGHTY-1S Digital Scale and Weight Indicators

Price List & Ordering Guide (Effective January 1, 2010)

## GENERAL ORDERING INFORMATION:

Specify **Meter Color & Digit Size**, **Meter Power** and a **Signal Conditioner** from the list below. Specify **Analog Output**, **Setpoint Output** and **Digital Interface** if needed. These meters are shipped with a standard configuration and range shown below for each signal conditioner and output option type. All information for making changes is covered in the supplied Owners Manual. For other scalings or configurations, add the **SC** (Special Configuration) option.



### **a** METER COLOR & DIGIT SIZE \$List

<b>MSR</b>	Micro-S with 0.56" Red Led's .....	140
<b>MSG</b>	Micro-S with 0.56" Green Led's .....	140
<b>M1SR</b>	Mighty-1S with 1" Red Led's .....	325

For extended version features, add "E" to the above ..... 40  
part numbers i.e. MSRE, MSGE, M1SRE or M4SRE.

### **b** METER POWER

<b>0</b>	85 to 264Vac .....	50
<b>1</b>	12 to 32Vac & 10 to 48Vdc .....	80

### **c** ANALOG OUTPUT

<b>H</b>	None .....	NC
<b>J</b>	0 to 10Vdc .....	90
<b>K</b>	0 to 20mAdc (4/20mA) .....	90
<b>L</b>	-10 to +10V .....	90

### **d** SETPOINT OUTPUT

<b>H</b>	None .....	NC
<b>R</b>	Two 8A Form C, contact relays .....	80
<b>Q</b>	Four 8A, Form C, contact relays .....	100
<b>C</b>	Two 130mA, Form A, solid state relays .....	55
<b>P</b>	Four 130mA, Form A, solid state relays .....	75

### **e** DIGITAL INTERFACE

<b>H</b>	None .....	NC
<b>2</b>	RS-232 .....	60
<b>2U</b>	RS-232-USB .....	60
<b>4</b>	RS-485 .....	80
<b>4U</b>	RS-485-USB .....	100

### **f** SIGNAL CONDITIONERS (Select one)

#### **DC VOLTAGE**

<b>MVI 1</b>	200.00mV = 200.00 .....	65
<b>2</b>	2.0000V = 2.0000 .....	65
<b>3</b>	20.000V = 20.000 .....	65
<b>4</b>	200.00V = 200.00 .....	65
<b>5</b>	600.0V = 600.0 .....	65

#### **DC CURRENT**

<b>MCI 1</b>	2.0000mA = 2.0000 .....	65
<b>2</b>	20.000mA = 20.000 .....	65
<b>3</b>	200.00mA = 200.00 .....	65
<b>4</b>	5.000A = 5.000 .....	65

Signal Conditioners cont.

**\$List**

#### **PROCESS**

<b>E</b>	4/20mA = 20,000 .....	65
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#### **STRAIN GAUGE, POTENTIOMETER**

<b>SG</b>	0/200mV = 20,000 .....	65
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#### **LOAD CELL, MICROVOLT METER**

<b>LC</b>	0/20mV = 20,000 .....	120
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### **g** SPECIAL CONFIGURATION

<b>SC</b>	Special Configuration .....	25
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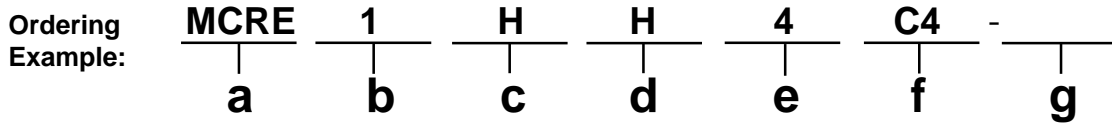
Specify the min. signal input and displayed reading, max. signal input and displayed reading, decimal point and 5, 10 or 24V excitation output. **This option is included at no charge for PROCESS, STRAIN GAUGE, and LOAD CELL.**

# MICRO-C MIGHTY-1C Digital Counters & Timers

Price List & Ordering Guide (Effective January 1, 2010)

## GENERAL ORDERING INFORMATION:

Specify **Meter Color & Digit Size**, **Meter Power** and a **Signal Conditioner** from the list below. Specify **Analog Output**, **Setpoint Output** and **Digital Interface** if needed. These meters are shipped with a standard configuration and range shown below for each signal conditioner and output option type. All information for making changes is covered in the supplied Owners Manual. For other scalings or configurations, add the **SC** (Special Configuration) option.



## a METER COLOR & DIGIT SIZE \$List

<b>MCR</b>	Micro-C Standard with 0.56" Red LED's .....	115
<b>MCG</b>	Micro-C Standard with 0.56" Green LED's .....	115
<b>M1CR</b>	Mighty-1C Standard with 1" Red LED's .....	305

For extended version features, add "E" to the above ..... 40 part numbers i.e. MCRE, MCGE, M1CRE or M4CRE. Price includes configuration and scaling to your requirements.

## b METER POWER

<b>0</b>	85 to 264Vac .....	50
<b>1</b>	12 to 32Vac & 10 to 48Vdc .....	80

## c ANALOG OUTPUT

<b>H</b>	None .....	N/C
<b>J</b>	0 to 10Vdc .....	90
<b>K</b>	0 to 20mAdc (4/20mA) .....	90
<b>L</b>	-10 to +10V .....	90

## d SETPOINT OUTPUT

<b>H</b>	None .....	N/C
<b>R</b>	Two 8A Form C, contact relays .....	80
<b>Q</b>	Four 8A, Form C, contact relays .....	100
<b>C</b>	Two 130mA, Form A, solid state relays .....	55
<b>P</b>	Four 130mA, Form A, solid state relays .....	75

## e DIGITAL INTERFACE

<b>H</b>	None .....	N/C
<b>2</b>	RS-232 .....	60
<b>2U</b>	RS-232-USB .....	60
<b>4</b>	RS-485 .....	80
<b>4U</b>	RS-485-USB .....	100
<b>5</b>	Modbus (Not available on Mighty-5S) .....	90

## f SIGNAL CONDITIONERS (Select one)

### REMOTE DISPLAY

<b>RD</b>	No signal conditioner required .....	N/C
	(Requires a basic counter, a Digital Interface card and no Signal Conditioner).	

### PROCESS RATE & TOTAL

<b>A 1</b>	"A only" 4/20 mA = 20,000 .....	65
<b>2</b>	"A only" 0 to 1 mA = 10,000 .....	65
<b>3</b>	"A only" 10 V = 10.000 .....	65

Specify one of the following input configurations:

**Basic counter** (MCR, MCG or M1CR):

Rate, rate & total simultaneously (analog totalizer), square root of rate (for differential pressure or target type flow meters).

(Process Rate & Total Signal Conditioners, cont.)

**Extended counter** (MCRE, MCGE or M1CRE)

Above plus linearized inputs using up to 180 points, batch control with rate, total and # of batches or grand total of all batches, time measurements based on rate.

**DUAL CHANNEL (Pulse or AC Inputs)**

<b>\$List</b>	
<b>C</b> Counter, scalable to 999,999 .....	65

Specify one of the following input configurations:

**Basic counter** (MCR, MCG or M1CR):

Frequency (2 channels simultaneously), rate (2 channels simultaneously), total (up or down, 2 channels simultaneously), period (2 channels simultaneously), stopwatch, time interval, square root of rate.

**Extended counter** (MCRE, MCGE or M1CRE):

Rate and total simultaneously, linearized inputs (up to 180 points), arithmetic functions (A\*B, A/B, A+B, A-B, A/B-1), phase angle, duty cycle, up/down counting, batch control.

**QUADRATURE INPUT**

<b>Q</b> Quadrature, scalable to 999,999 .....	95
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Specify one of the following input configurations:

**Basic counter** (MCR, MCG or M1CR):

Position or length from encoders. Accepts differential or single-ended inputs: 1x, 2x or 4x, plus zero index.

**Extended counter** (MCRE, MCGE or M1CRE)

Bidirectional rate (rate & position or length are not simultaneous).

## g SPECIAL CONFIGURATION (Not required)

**SC** Special Configuration: .....

N/C  
Add this option only when scalings or configurations other than those shown (default settings) are required.

# **MICRO SERIES**

## **Digital Indicators**

Price List & Ordering Guide (Effective January 1, 2010)

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### **ACCESSORIES**

**HW04** Environmental Cover Kit..... 35  
Provides extra protection from weather. Kit includes polycarbonate cover, gasket and screws.

### **CONDITIONS OF SALE:**

- FREIGHT:** F.O.B Temecula, California. Insurance and handling (1% of shipment product cost with \$1.00 minimum and \$7.00 maximum) is added to all freight charges.
- PACKAGING:** All shipments made in cartons acceptable for domestic and export carriers.
- TERMS:** Net 30 days from invoice date with credit approval, Visa, Mastercard, American Express or COD. 1 1/2% service charge on balances beyond 30 days. Returns must be authorized and are subject to a restocking fee and maximum of 90 days from invoice date.
- PRICES:** Prices, product listings and manufacturing details are subject to change without notice. Prices shown are for single delivery orders of \$35.00 minimum.
- DELIVERY:** All models are stocked at the factory in modular form.

### **LIMITED PRODUCT WARRANTY:**

Electro-Numerics Incorporated warrants these products to be free of defects in material and workmanship for two years from date of shipment to original customer. This warranty on materials and workmanship may be considered as unconditional provided that, in the opinion of Electro-Numerics, the equipment has not been mechanically, environmentally or electrically abused and has been installed, maintained and operated within the limits of rated or normal usage.

Defective products must be sent, transportation charges prepaid with notice of the defect, to our plant in Temecula CA.

This warranty is limited, at the option of Electro-Numerics, to repair, replacement, or an appropriate credit adjustment not to exceed the original equipment sales price. All warranty freight charges are F.O.B., our plant, Temecula, CA. Electro-Numerics assumes no liability in connection with the sales of its products beyond that stated above and is not responsible for any incidental or consequential loss or damage which might result from a failure of any Electro-Numerics' product.

### **SERVICE:**

Products being returned for service should be sent, freight prepaid, to Electro-Numerics, Inc., 42213 Sarah Way, Temecula, CA, U.S.A. to the attention of the Repair Department with a full description of the problem or reason for return. All items sent in for service are subject to a minimum evaluation charge of \$65.00 in the event that the product is found to be out-of-warranty or, if under warranty, not in need of additional service. Out-of-Warranty service and repair charges will be quoted on a case-by-case basis. All repaired products will be shipped to you F.O.B., Temecula, CA.

## **ELECTRO-NUMERICS, INC.**

For Product Assistance, Call  
**800-854-8530 (U.S.A.)**

Web Site: [www.ElectroNumerics.com](http://www.ElectroNumerics.com)  
Email: [sales@ElectroNumerics.com](mailto:sales@ElectroNumerics.com)



### **ELECTRO-NUMERICS, INC.**

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