DIGITAL REMOTE DISPLAYS

PANEL MOUNT DISPLAYS

SCOREBOARD DISPLAYS
DIGITAL REMOTE DISPLAYS
Micro Series

Features:
♦ Six Digits (999999) w/ Selectable Decimal
♦ Choice of digit size, .56", 1", 4" & 5"
♦ RS232 or RS485 Serial Input
♦ Panel-Mount & Wall-Mount Enclosures
♦ World-Wide Power
♦ Output Options:
  Analog 4/20mA or 10Vdc
  Dual Setpoints w/ Relay Outputs
♦ Two-Year Warranty

All models accept serial data to display numeric information sent from a computer of other data generating device.

SCOREBOARD DISPLAYS

Indoor Model: Micro-C
.56" Red or Green LED's

Indoor Model:
Mighty-1C,
1" Red LED's

Indoor Model:
Mighty-4C,
4" Red LED's

Outdoor Model:
MIGHTY-5C,
*Daylight-Bright* LED Digits

ELECTRO-NUMERICS, INC.
Tel: (800) 854-8530 or (951) 699-2437 Fax: (951) 695-7246 for Applications Assistance
Display:

Micro-C DPM Remote Display
- Digits: 6 LED digits, 7 segment, 14.2mm (.56") high digits
- Digit Color: Red or Green
- Enclosure: Black, high-impact plastic, panel mount (DPM)
- Display range: -999,999 to 999,999
- Decimal point: Programmable 9.99999, 99.9999, 999.999, 9999.99, 99999.9 or 999999

Mighty-1C DPM Remote Display
- Digits: 6 LED digits, 7 segment, 25.4mm (1.0") high digits
- Color: Red
- Enclosure: Black aluminum, panel mount (DPM)
- Display range: -999,999 to 999,999
- Decimal point: Programmable 9.99999, 99.9999, 999.999, 9999.99, 99999.9 or 999999

Mighty-4C "Scoreboard" Display
- Digits: 6 LED digits, 7 segment, 101.6mm (4.0") high digits
- Color: Red
- Enclosure: Black, high-impact plastic, panel or wall mount
- Display range: -999,999 to 999,999
- Decimal point: Programmable 9.99999, 99.9999, 999.999, 9999.99, 99999.9 or 999999

Mighty-5C "Scoreboard" Display
- Digits: 6 LED digits, 7 segment, 127mm (5.0") high digits
- Color: Red, super-bright, outdoor readable
- Enclosure: Blue, aluminum NEMA-4X, wall or bracket mount
- Display range: -999,999 to 999,999
- Decimal point: Programmable 9.99999, 99.9999, 999.999, 9999.99, 99999.9 or 999999

General:
- Reading rate: 50 Rdg./sec w/ 50Hz power, 60 Rdg/sec w/ 60Hz power
- Operating power (Micro-C, Mighty-1C & Mighty-4C):
  - High range (MPS1 power supply): 85 to 264Vac, 47-400Hz & 90 to 370Vdc
  - Low range (MPS2 power supply): 8 to 28Vac, 47-400Hz & 9 to 37Vdc
- Operating power (Mighty-5C): 85 to 264Vac, 47-400Hz & 90 to 370Vdc

Excitation power supplies:
- Outputs (+/5%): 5Vdc @ 100mA max., 10Vdc @ 120mA max. or 24Vdc@50mA max.
- Isolation (power ground): Safety-rated to 250Vac, 4.2kVp per high voltage test

Environmental:
- Operating temperature: 0°C to 55°C
- Storage temperature: -40°C to 85°C
- Relative humidity: 95% at 40°C, non-condensing
SPECIFICATIONS (cont.)

Data input:
Data update ........................................................................................................ Continuous or on-command

Connection:
RS232 ........................................................................................................ Full duplex (separate TX and RX lines)
RS485 ........................................................... Full duplex (separate TX and RX lines) or half duplex
Baud rate ............................................................ Selectable 300 to 19,200
Format .................................................... +9999.99<cr>; no parity, 8 data bit word length and 1 stop bit
Data connection ........................................................................ telephone extension cord (RJ11)

With an RS485 digital interface card installed, up to 31 displays may be connected on the same buss and addressed separately

ORDERING GUIDE

One entry required per block. For example, model MCR0JHHRD is a Micro-C remote display with red 0.56” Led display, high range power supply and 0-10 Vdc analog output. Add -SC option if required.

Display Color & Digit Size
MCR .................... MICRO-C, Basic Counter, Red 0.56” Led’s
MCG ................... MICRO-C, Basic Counter, Green 0.56” Led’s
M1CR ................. MIGHTY-1C, Basic Counter, Red 1” Led’s
M4CR ................. MIGHTY-4C, Basic Counter, Red 4” Led’s

Mighty-5C (Red, 5” outdoor Leds):
M5CP .................... Plastic Case (indoor use)
M5CW ................. Wall Mount, NEMA-4X case
M5CB .................... Bracket Mount, NEMA-4X case

Display Power (except Mighty-5C)
0 .............................................. 85 to 264 Vac, 90 to 370 Vdc
1 .............................................. 8 to 28 Vac, 9 to 37 Vdc
Mighty-5C requires no entry, “0” is standard.

Analog Output (optional)
H .......................................................... None
J ...................................................... 0 to 10 Vdc
K ...................................................... 0 to 20 (4/20) mA dc

Setpoint Output (optional)
H .......................................................... None
R ...................................................... Dual 10 A relay output
C ...................................................... Open collector output

Digital Interface (required, select one)
H .......................................................... None
2 ...................................................... RS-232
4 ...................................................... RS-485

Signal Conditioner (none required, select RD)
Remote Display
RD ...................................................... Requires RS232 or RS485 Digital Interface and no signal conditioner

Special Configuraion
SC Specify when scalings or configurations other than those defaults shown above are required.
DIGITAL SCOREBOARD DISPLAYS
6" & 9" LED or "Flip" Digit Models

Features:
♦ Large 6" or 9" tall digits
♦ Choice of traditional "Flip" Digits or daylight-bright LED digits.
♦ Readable to 360 Feet (9" Digits)
♦ 4 (9999), 5 (99999) or 6 (999999) Digits
♦ Serial 20mA or RS232 Input
♦ Compatible with many weighmeters
♦ Microprocessor electronics
♦ Sealed surface mount case
♦ Conduit box connections
♦ 18 Month Warranty

Serial data Digital Remote "SCOREBOARD" Displays for general purpose applications or for use with weighmeters. These displays are ideal for viewing numeric information from a long distance and the sealed surface-mount case provides protection in dirty or damp environments. These displays are passive (2-wire) input and will accept ASCII data from computers, weighmeters and other RS232 or 20mA serial data sources. Flip digit models are provided with 115Vac power standard and 230Vac or 12Vdc power as options. LED models operate from worldwide power of 90 to 264 volts AC or DC.
**Display:**

**Flip Digit Models**
- Digit Type: seven-segment electromagnetic "flip" digits (non-lighted)
- Digit Height: 6" (152mm) or 9" (229mm) high digits
- Digit Color: Saturn yellow, reflective
- Digit Quantity: 4 (9,999), 5 (99,999) or 6 (999,999) digits
- Decimal point or colon(s): Decimal decal(s) applied as required

**Daylight Readable LED Models**
- Digit Type: 7-segment LED (5 or 10 LEDs per segment), 90° viewing angle. Readable in bright sunlight
- Digit Height: 6" (152mm) or 9" (229mm) high digits
- Digit Color: Red/orange
- Display range: -999 to 9999, -9999 to 99999 or -99999 to 999999
- Decimal point or colon(s): Specify with order, 9.99999, 99.9999, 999.999, 9999.99, or 99999.9

**General:**
- Enclosure: Extruded aluminum, black. Sealed with conduit box for power & data connections
- Operating power:
  - Flip digit models:
    - Standard: 115Vac+/−15%, 50/60Hz
    - Optional: 230Vac+/−15%, 50/60Hz or 12Vdc+/−10%
  - LED digit models:
    - Standard: 85 to 264Vac, 47-400Hz & 90 to 370Vdc

**Environmental:**
- Operating temperature: -32°C to +66°C
- Storage temperature: -40°C to 85°C
- Relative humidity: 95% at 40°C, non-condensing
- Case: Sealed against dust and moisture

**Data input:**
- Data update: Continuous
- Connection:
  - Data rate: 2.5 display updates per second max.
  - Baud rate: 1200
- Format: #999999<cr>; odd or even parity, 8 data bit word length and 1 stop bit
  - # / D D D D D D / Note 1 / CR
  - # ............... Pound Sign (decimal 035)
  - D ............... Numeric data, 6 digits max. (decimal 048 to 057)
  - Note 1 ......... This area may contain up to 4 non-numeric characters such as Lb, Kg etc.
    These characters will not be displayed.
  - CR ............... Carriage Return
**MECHANICAL**

Dimensions ........................................ see Dimensions & Mounting
Weight:

<table>
<thead>
<tr>
<th>Digit Size</th>
<th>4 Digit</th>
<th>5 Digit</th>
<th>6 Digit</th>
</tr>
</thead>
<tbody>
<tr>
<td>6&quot;</td>
<td>15 lb</td>
<td>17 lb</td>
<td>18 lb</td>
</tr>
<tr>
<td>9&quot;</td>
<td>37 lb</td>
<td>43 lb</td>
<td>45 lb</td>
</tr>
</tbody>
</table>

Case material .......... Black painted aluminum, ABS back panel
Window material .................................................. Clear or red acrylic

Connectors:
- Power and Data input .......... Pigtail leads via a weatherproof conduit box.

**DISPLAY INDICATIONS**

- **OPEN DATALOOP**
- **123456** DATA DISPLAY
- **-12345** DATA DISPLAY
- **LOST DATA**
- **999999** MAXIMUM DISPLAY

Note: Some programs may display HELP instead of center dashes to indicate an open data loop.

**ELECTRICAL CONNECTIONS**

- **Blk** ac Power Line 1
- **Wht** ac Power Line 2
- **Grn** Earth Ground
- **Red** dc Pwr (+), optional, flip digits only
- **Blk** dc Pwr Return, optional, flip digits only

**ORDERING GUIDE**

One entry required per block. For example, model 587-6RD is a remote display with five, yellow six-inch "flip" digits, 115Vac power input and RS232 serial data input. An asterisk requires no entry.

**MODEL**

**Flip Digit Models**

- **468-6RD** 6", 4 Digit Remote Display
- **467-9RD** 9", 4 Digit Remote Display
- **587-6RD** 6", 5 Digit Remote Display
- **587-9RD** 9", 5 Digit Remote Display
- **687-6RD** 6", 6 Digit Remote Display
- **687-9RD** 9", 6 Digit Remote Display

**Outdoor LED Digit Models**

- **4XL-4RD** 6", 4 Digit Remote Display
- **4XL-6RD** 9", 4 Digit Remote Display
- **5XL-6RD** 6", 5 Digit Remote Display
- **5XL-9RD** 9", 5 Digit Remote Display
- **6XL-6RD** 6", 6 Digit Remote Display
- **6XL-9RD** 9", 6 Digit Remote Display

**POWER (flip digit models)**

- *115Vac, 50/60Hz
- 230Vac, 50/60Hz
- 12Vdc

**POWER (LED digit models)**

- *90 to 264 Vac or Vdc is standard on LED models

**DATA INPUT (all models)**

- *RS232 Serial
- 20mA Serial

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Single Gang Weatherproof Conduit Box

It is recommended that these displays be protected from direct exposure to weather.

Typical Mounting and Connection

(4) 5/16" Dia. Mounting Holes

1/2" Conduit

DIMENSIONS and MOUNTING
SEE MODELS IN TABLE BELOW

DIGIT SIZE       MODEL     L    H    B    A

4"
468-4 & 4XL-4    16 3/4  7 7/8  10 1/2  6 7/8
587-4 & 5XL-4    25    7 7/8  16 3/4  6 7/8
687-4 & 6XL-4    25    7 7/8  16 3/4  6 7/8

6"
468-6 & 4XL-6    25    9 3/4  16 3/4  8 3/4
587-6 & 5XL-6    38 3/4  9 3/4  30 1/2  8 3/4
687-6 & 6XL-6    38 3/4  9 3/4  30 1/2  8 3/4

9"
487-9 & 4XL-9    38 3/4  9 3/4  30 1/2  8 3/4

Dimensions Are In Inches +/- 1/8"
Call: **1-800-854-8530** or Fax: 951-695-7246 for Applications Assistance

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**MIGHTY-4C REMOTE DISPLAY**

Option 1: Bale Mount

Option 2: Panel Mount

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**MIGHTY-5C REMOTE DISPLAY**

Option 1: Wall Mount Back Panel

Option 2: Universal Mounting Brackets

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DIMENSIONS and MOUNTING (CONT.)

MICRO-C REMOTE DISPLAY
(1/8 DIN DPM)

Panel Cutout

Front View

Top View

For extended features, add "E" to the part number i.e. MCRE

MIGHTY-1C REMOTE DISPLAY

Panel Cutout

Front View

Top View

Wiring on all models is simplified with screw terminal connectors that plug into mating printed circuit board jacks at the rear of the displays.
WARRANTY & SERVICE

LIMITED PRODUCT WARRANTY:
Electro-Numerics Incorporated warrants these products to be free of defects in material and workmanship for 18 or 24 months (depending on model) 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.

CONDITIONS OF SALE

Freight:
F.O.B Temecula, California. Insurance and handling charges are added to all shipments. Handling charges are computed at 1% of the shipment product cost with $1 minimum & $7 maximum.

Prices:
Prices published in catalogs, price lists or on the Internet are not offers to sell and are subject to change without notice. General price information should be specifically confirmed. Product listings, specifications and manufacturing details are subject to change without notice.

Payment Terms:
Net 30 days from invoice date with credit approval, Visa, Mastercard, American Express or C.O.D.. A 1\(\frac{1}{2}\)% service charge will be added on balances beyond 30 days. All returns must be authorized and pass factory inspection. Returns are subject to a restocking fee and a maximum of 90 days from invoice date.