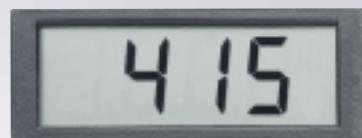
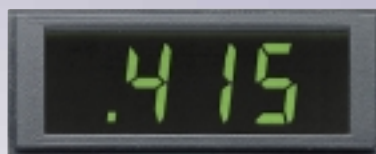
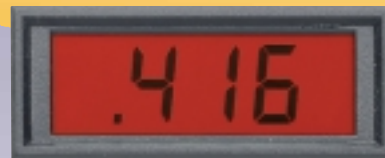
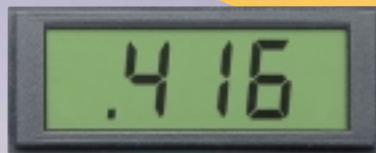


## BL Isolated Power DPM Big Little Digital Panel Meters

MODUTEC

**BEST OF  
CLASS**



### Backlighting Options

- Positive Green Black on Green Background
- Negative Green Green on Black Background
- Positive Red Black on Red Background
- Negative Red Red on Black Background
- Non-Backlit LCD Black on Grey Background

*The MODUTEC BL Digital panel meter gives you all the functionality you need with none of the extras you don't need.*

*BL Isolated Power Series is the right choice for a variety of situations.*

- Ideal for line monitoring
- Isolated DC powered for monitoring multiple choices

*The BL means simplicity, easy readability, small footprint, and a low cost.*

- Ultra compact form factor
- Value priced

*The MODUTEC BL is easy-to-read and provides a variety of indicators — all in a compact unit.*

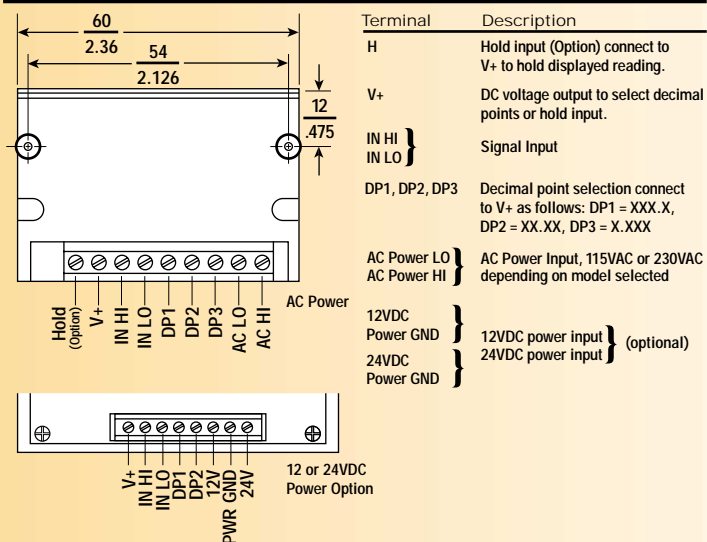
- 3 ½ digit readout, full scale 1999 display
- ½" high digits on a high contrast LCD
- Auto-polarity (-) displayed

### Applications

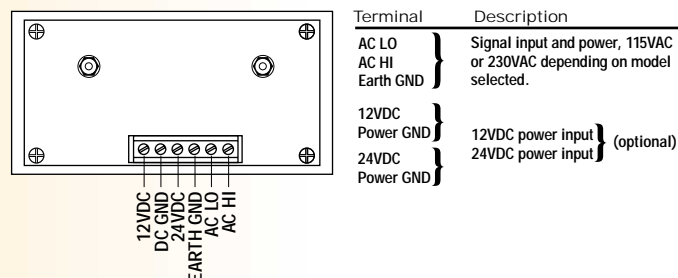
- ▶ DC Volt and Amp
- ▶ AC Volt and Amp
- ▶ Line Frequency Monitor
- ▶ RTD and Thermocouple Temperature Inputs

## BL Isolated DC and AC Powered DPMs (mm/in)

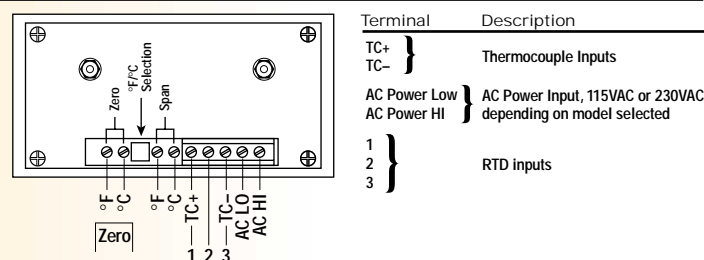
### AC and DC Inputs (AC and Isolated DC power)



### Frequency Input

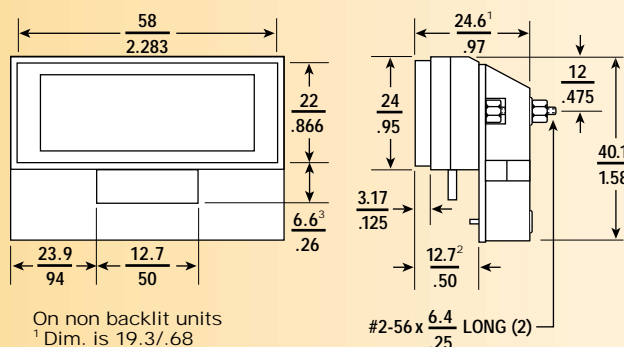


### Temperature Inputs

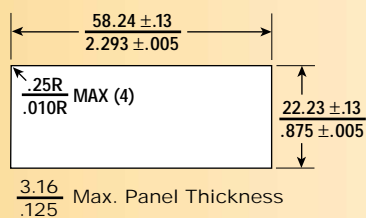


## BL Isolated DC/AC Powered DPMs — Dimensional Drawings

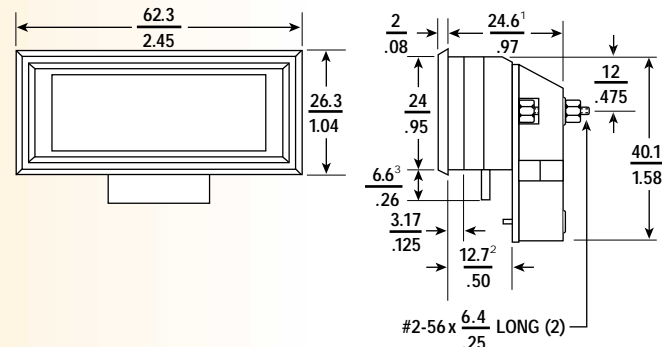
### Window Mount



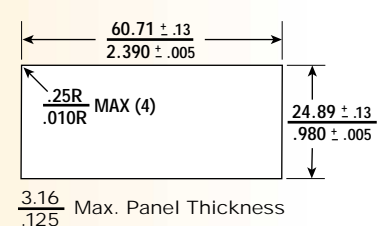
### Window Mount Cutout



### Bezel Mount



### Bezel Mount Cutout



## BL Isolated DC and AC Specifications

### Performance

**Conversion Rate:** 2.5 per second

**Normal Mode Rejection:**  $\geq 40\text{db}$  50Hz-60Hz

**Common Mode Rejection:**  $\geq 100\text{db}$  50Hz-60Hz (except isolated DC powered which is  $\geq 80\text{db}$  50Hz-60Hz)

**Zero Adjust:** Automatic

**Tempco:**  $\pm 200$  PPM/ $^{\circ}\text{C}$  typical (except thermocouple inputs which are  $.1^{\circ}/\text{degree}$ )

**Warmup:** 10 Minutes

### Power Options

**115V  $\pm 10\%$ ,  $-15\%$**  50Hz to 400Hz at 2VA

**230V  $\pm 10\%$ ,  $-15\%$**  50Hz to 400Hz at 2VA

**10 to 15VDC or 20 to 32VDC** 150mA (including backlighting)

### Environment

**Operating:**  $-4^{\circ}\text{F}$  to  $140^{\circ}\text{F}$  ( $-20^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$ )

**Storage:**  $-22^{\circ}\text{F}$  to  $158^{\circ}\text{F}$  ( $-30^{\circ}\text{C}$  to  $70^{\circ}\text{C}$ )

### Weight

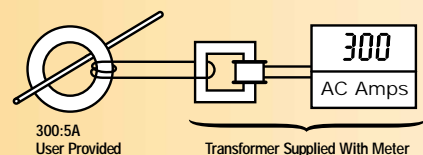
2 oz.

### FCC Compliance

Complies with the class B Limits of FCC rules and regulations part 15, sub-part J for conducted and radiated emissions.

DC Inputs	Accuracy	Input Resistance	Overload Protection
200mVDC & 2VDC	$\pm(1\% + 1 \text{ count})$ typical $\pm(2\% + 1 \text{ count})$ max.	$\geq 100$ Meg Ohms	200V continuous 300V intermittent
20VDC & 200VDC	$\pm(1\% + 1 \text{ count})$ typical $\pm(2\% + 1 \text{ count})$ max.	1 Meg Ohm	350V continuous 500V intermittent
DC Current	$\pm(1\% + 1 \text{ count})$ typical $\pm(2\% + 1 \text{ count})$ max.	200mV drop full scale	3 times f.s. current
AC Inputs	Accuracy	Input Resistance	Overload Protection
AC Voltage	$\pm(5\% + 1 \text{ count})$	1 Meg Ohm	350V continuous 500V intermittent
5AAC Current	$\pm(5\% + 1 \text{ count})$	Current transformer	3 times f.s. current
50AAC Current	$\pm(5\% + 5 \text{ counts})$	Current transformer	3 times f.s. current
Frequency Inputs	Accuracy	Distortion	
40.0 to 199.9Hz	$\pm 2\text{Hz}$ (40 to 70Hz) $\pm 5\text{Hz}$ (above 70Hz)	$\leq .1 \text{ Hz}$ for up to 20% third harmonic distortion	
40 to 440Hz	$\pm 1\text{Hz}$	$\leq .1 \text{ Hz}$ for up to 20% third harmonic distortion	

## Connection for High Current Measurement



## How to Order

B L - **a** **b** 3 **c** **d** - **e** **f**

3 3 3 4 38 - 04 2

### Display

- 1 = Non Backlit
- 3 = Positive Green Backlit
- 4 = Negative Green Backlit
- 5 = Negative Red Backlit
- 6 = Positive Red Backlit

a

### Mounting

- 0 = Window Mount
- 3 = Bezel Mount

b

### DPM Power

(Backlit and DPM power must be the same.)

- 4 = 115VAC
- 5 = 230VAC
- 7 = 12 or 24VDC (Isolated)

c

### Input Power

- 01 = 0-200mVDC
- 02 = 0-2VDC
- 03 = 0-20VDC
- 04 = 0-200VDC
- 10 = 0-200uADC
- 11 = 0-2mADC
- 12 = 0-20mADC
- 13 = 0-200mADC
- 21 = 200.0mVAC
- 22 = 2.000VAC
- 23 = 20.00VAC
- 24 = 200.0VAC
- 27 = 500VAC
- 28 = 80.0-130.0VAC
- 29 = 80-260VAC
- 30 = 250VAC
- 31 = 2.000mAAC
- 32 = 20.00mAAC
- 33 = 200.0mAAC
- 34 = 2.000AAC
- 36 = 5.0AAC
- 37 = 50.0AAC<sup>1</sup>
- 38 = 05AAC<sup>1</sup>
- 39 = 0-50AAC<sup>1</sup>

d

### Input Frequency

- 60 = 40-440Hz
- 61 = 40.0-199.9Hz

### Input Temperature<sup>2</sup>

- 70 = 100OHMS PT1 Res
- 71 = 100OHMS PT.1 Res

### Input Temperature (Thermocouple)<sup>2</sup>

- 80 = Type J<sup>3</sup>
- 81 = Type K<sup>3</sup>
- 82 = Type T<sup>3</sup>

e

### Backlit Power

(DPM and Backlit power must be the same.)

- 00 = No Backlight
- 04 = 115VAC
- 05 = 230VAC
- 07 = 12 or 24VDC

### Display

(For 5A current transformer inputs only)

- 1 = 2000
- 2 = 1500
- 3 = 1000
- 4 = 600
- 5 = 500
- 6 = 300
- 7 = 200
- 8 = 100

f

## BL Isolated DC and AC Specifications (continued)

Temperature Inputs	Accuracy	Input Characteristic	Overload Protection
<b>Type J thermocouple</b>			
-10°F to +1200°F (-23°C to +649°C)	±(1% +1 count) accuracy ±1.3°C (2.8°F) conformity error	45 uV max per 100 Ohms thermocouple lead resistance	200V continuous
<b>Type K thermocouple</b>			
-40°F to +1500°F (-40°C to +815°C)	±(1% +1 count) accuracy ±1.2°C (2.5°F) conformity error	45 uV max per 100 Ohms thermocouple lead resistance	200V continuous
<b>Type T thermocouple</b>			
-100°F to +600°F (-73°C to +315°C)	±(1% +1 count) accuracy ±1.5°C (3.5°F) conformity error	45 uV max per 100 Ohms thermocouple lead resistance	200V continuous
100 Ω Pt. α = .00385 -200°F to +600°F (-130°C to +315°C)	±(2% + 1 count) max	1mA RTD current	±5V
100 Ω Pt. α = .00385 -100.0°F to +200°F (-73°C to +98°C)	±(2% + 1 count) max	1mA RTD current	±5V

<sup>1</sup> Rated for use with 5A or 50A external current transformer supplied with DPM. See high current connection above.

<sup>2</sup> Not available with 12 or 24VDC DPM Power.

<sup>3</sup> No Backlighting on DC Power.

Example: BL-333438-042 is a positive green backlit, bezel mounted 115VAC meter. It has input via an external 5A current transformer and scaled to read 1500 for the 5A input to the transformer.

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