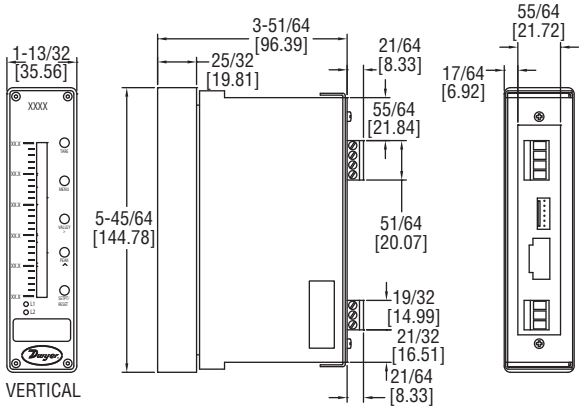
Series BGM Bar Graph Meter

Installation and Operating Instructions

Vertical

Horizontal



The Series BGM Digital Bar Graph Meter is extremely durable and can replace a wide range of analog meters. The 4-digit display will significantly reduce the potential for human error in reading by eliminating errors commonly produced by the viewing angle when reading analog meters. This series has a key pad that allows for easy access of features without complex menu structures. With the combined ability to create a wide range of custom faceplate and the optional NEMA 4X bezel, the Series BGM can be used in a variety of applications. The LED bar graph adds a visual indicator of the measured value so that it can be visually analyzed, preventing accidents or system failures from happening.

POWER SUPPLY SPECIFICATIONS

120 VAC UNITS
Input Voltage Range: 85 to 140 VAC
Input Frequency Range: 47 to 63 Hz
Power Dissipation: < 3 VA

P4 WIRING
P4 - 1 : Neutral Line
P4 - 2 : 120 VAC Hot Line
P4 - 3 : Chassies Ground - Read Cautions

5 TO 12 VDC UNITS
Input Voltage Range: 5 TO 12 VDC
Permissable Ripple: 200 mV Max
Input Current: < 200 mA

P4 WIRING
P4 - 1 : GROUND
P4 - 2 : + DC
P4 - 3 : Chassies Ground - Read Cautions

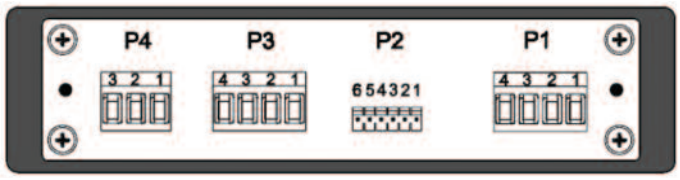
10 TO 30 VDC UNITS
Input Voltage Range: 10 TO 30 VDC
Permissable Ripple: 500 mV Max
Input Current: < 150 mA

P4 WIRING
P4 - 1 : GROUND
P4 - 2 : + DC
P4 - 3 : Chassies Ground - Read Cautions

SPECIFICATIONS

Inputs: 0 to ±10 VDC or 4 to 20 mA.
Accuracy: ±0.05% FS.
Power Requirements: 120 VAC 50/60 Hz, 5 to 12 VDC, or 10 to 30 VDC model dependent.
Power Consumption:
120 VAC: 2.4 W @ 20 mA max;
5 to 12 VDC: 1.2 W @ 100 mA max;
10 to 30 VDC: 1.5 W @ 50 mA max.
Display:
LED Display: 4 red colored digits, 0.3″ height;
LED Graph: 31 element bar, 0.2″ W x 3.1″ L (5.08 mm W x 78.74 mm L).
Decimal Point: 3 positions, user selectable.
Temperature Limits:
Operating: -13 to 176°F (-25 to 80°C);
Storage: -67 to 176°F (-55 to 80°C).
Enclosure Rating: NEMA 1 or NEMA 4X†, model dependent IP65 front.
Electrical Connections: Removable screw terminal blocks.
Outputs: 2 SPST relay outputs (optional).
Switch Rating: 1 A @ 200 V.
Enclosure Material:
Bezel: Black epoxy enameled steel;
Window: Acrylic;
Case and Mounting Bracket: 304 SS.
Time Delay: 0.5 sec.
Weight: 40 oz (1.13 kg).

Wiring Guide



Rear View

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FRONT PANEL CONTROLS

PEAK / ^ (SET)
• Press and hold to view peak value
• To reset the peak value - while holding 'PEAK', press 'SETPT/RESET' momentarily.
• When in the setpoint or menu mode, this button changes the setting for a parameter or increments the flashing digit.

SETPT / RESET
• Press momentarily to view/set setpoint 1 - see instructions below to set a setpoint or scaling value.
• Press again momentarily to view/set setpoint 2 - see instructions below to set a setpoint or scaling value.
• Press again momentarily to return to the operate mode.
• Press while holding 'PEAK', 'VALLEY' or 'TARE' to reset those values.

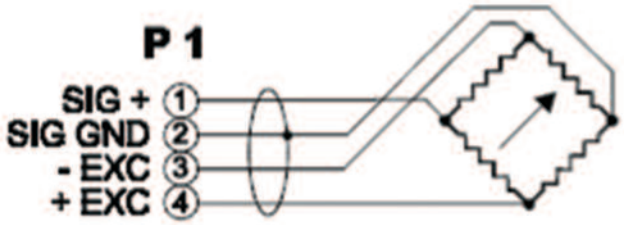
TARE
• Press momentarily to zero meter display.
• Display offset (TARE) value is stored until power is removed, menu is entered or TARE is reset.
• To reset the TARE value - while holding 'TARE', press 'SETPT/RESET' momentarily.

MENU
• Press to enter the menu/scaling mode.
• Press again to exit the menu/scaling mode.

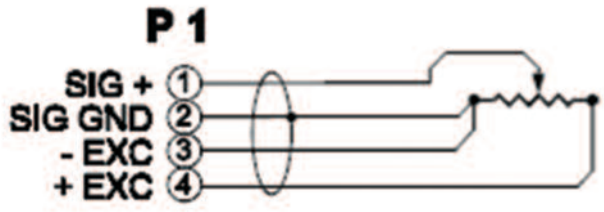
VALLEY / > (STEP)
• Press and hold to view valley value.
• To reset the valley value - while holding 'VALLEY', press 'SETPT/RESET' momentarily.
• When in the setpoint or menu mode, this button advances to the next parameter or to the next digit.

CONNECTOR / PIN DESCRIPTIONS

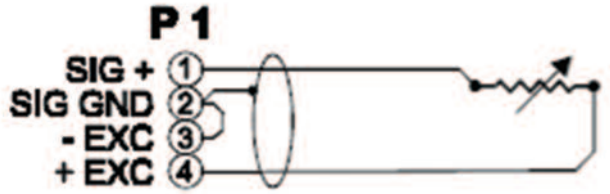
P1 - SIGNAL INPUT
P1 - 1: SIGNAL INPUT
P1 - 2: SIGNAL RETURN
P1 - 3:+VOLTAGE RETRANSMISSION (OPTIONAL)
P1 - 4: -VOLTAGE RETRANSMISSION (OPTIONAL)



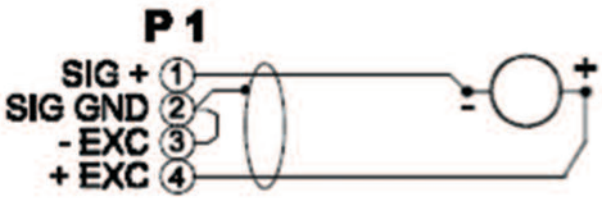
4 WIRE TRANSDUCERS
ie: LOAD CELL VOLTAGE INPUT METERS



3 WIRE TRANSDUCERS
ie: LINEAR POT VOLTAGE INPUT METERS



TRANSCONDUCTANCE SENSORS
ie: PH PROBE CURRENT INPUT METERS



2 WIRE LOOP POWERED PROBES
ie: 4-20 mA TEMPERATURE TRANSMITTER
CURRENT INPUT METERS

P2 - REMOTE CONTROL INPUTS
P2 - 1: GROUND RETURN
P2 - 2: TARE
P2 - 3: SETPT / RESET
P2 - 4: PEAK / ^ (SET)
P2 - 5: VALLEY / > (STEP)
P2 - 6: MENU

Above inputs are all active low - short input to ground return or pull to logic low to activate function; see front panel control section for a description of each function.

Installation of a shorting jumper between pins P2-5 and P2-6 disables the five front panel push buttons.

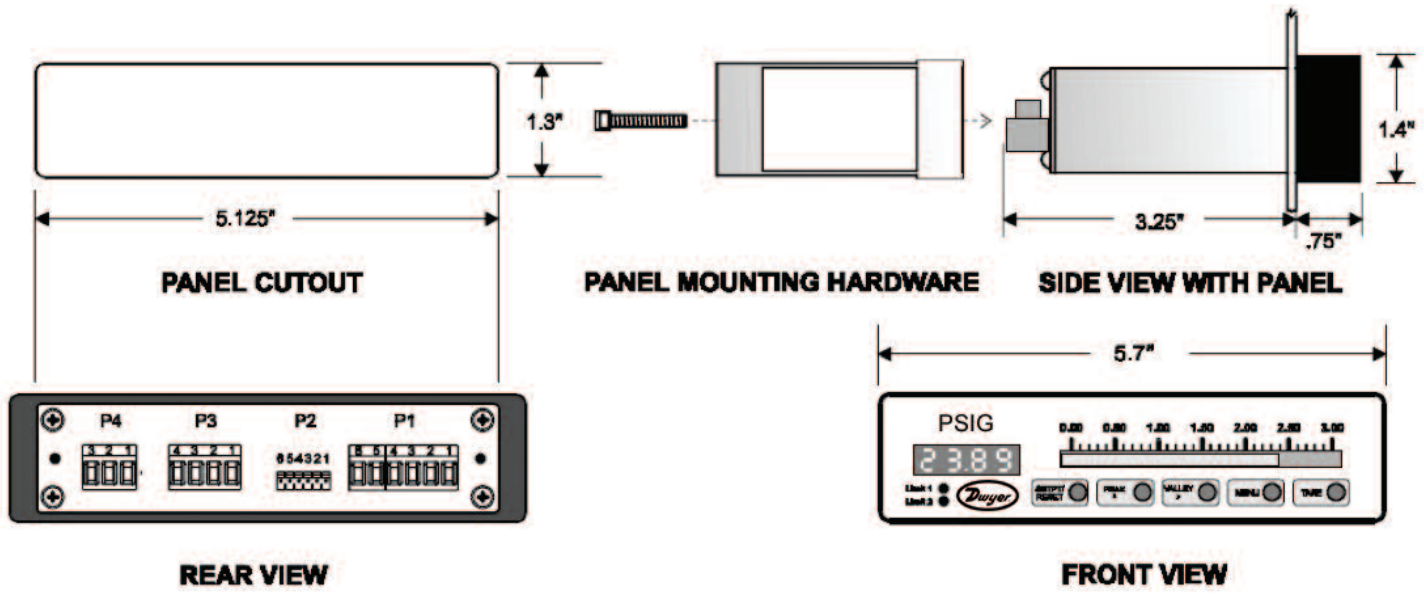
P3 - SETPOINT RELAY OUTPUT
Note: This terminal block position will only be present if the meter is equipped with the corresponding option.

Note: Setpoint relays are rated at 200 VAC/DC @ 1 AMP maximum.

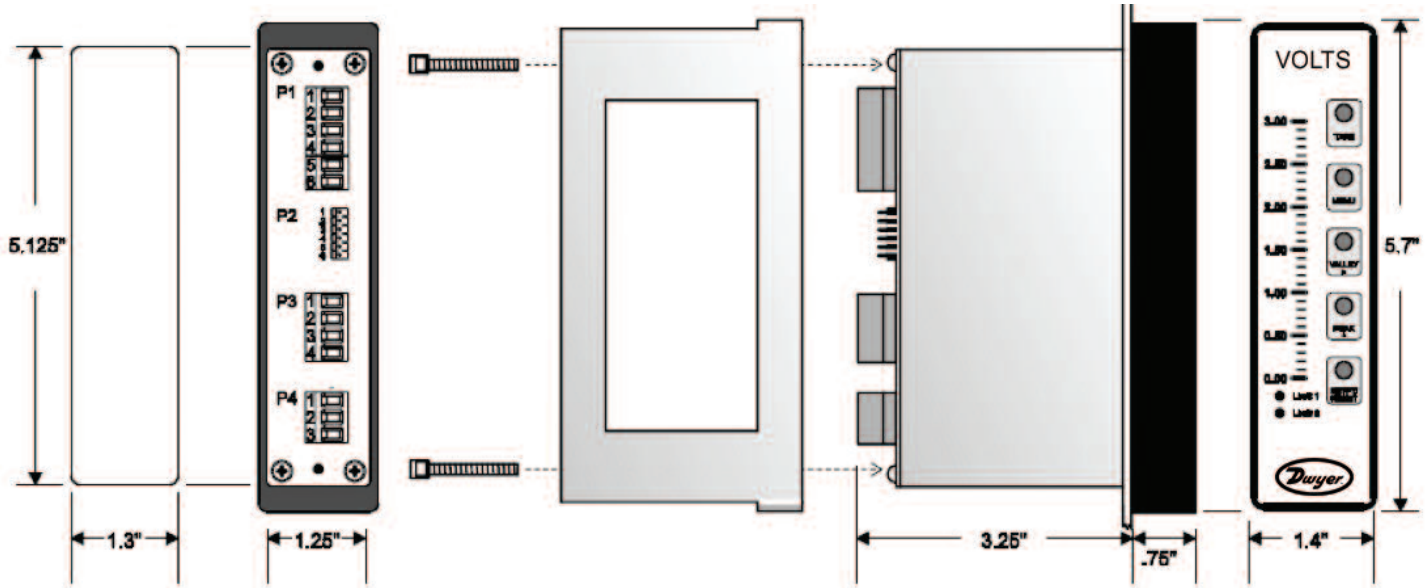
P3 - 1: SETPOINT 1 RELAY
P3 - 2: SETPOINT 1 RELAY
P3 - 3: SETPOINT 2 RELAY
P3 - 4: SETPOINT 2 RELAY

P4 - POWER INPUT
See power supply specifications (page 1) for connection information.

Horizontal Version Mounting



Vertical Version Mounting



Set-Up Menu

Parameter	Setting	Description
Decimal Point	d_ _0	No Decimal Point
	d_0.0	O.O
	d0.00	O.OO
	d.000	O.OOO
Averaging	Av.16	4096 Conversions Averaged; 1 Update/Second
	Av.8	2048 Conversions Averaged; 2 Updates/Second
	Av.4	1024 Conversions Averaged; 4 Updates/Second
	Av.2	512 Conversions Averaged; 8 Updates/Second
	Av.1	256 Conversions Averaged; 16 Updates/Second
Setpoint 1 Active Level	S1.no	Setpoint 1 Output will be Normally Open
	S1.nc	Setpoint 1 Output will be Normally Closed
Setpoint 1 Bar Indication	S1nF	Do Not Flash Bar
	S1Fb	Flash Bar When Limit 1 Closes
Setpoint 2 Active Level	S2.no	Setpoint 2 Output will be Normally Open
	S2.nc	Setpoint 2 Output will be Normally Closed
Setpoint 2 Bar Indication	S2nF	Do Not Flash Bar
	S2Fb	Flash Bar When Limit 2 Closes
Bar Direction	br.bu	Bottom Up
	br.td	Top Down
	br.C0	Center Zero or Center Reference
Bar Format	bF.F	Full Bar Display
	bF.d	Moving Dot Display
Bar Starting Point Scaling	[ ] [ ] [ ] [ ]	Enter the Display Value for the Starting Bar LED
Bar Full Scale Point	[ ] [ ] [ ] [ ]	Enter the Display Value for the Full Scale Bar LED
CAL Point 1	CAL1	Announces CAL 1 Step
	1234	Adjust Display to Desired Value for CAL 1 Input
CAL Point 2	CAL2	Announces CAL 1 Step
	1234	Adjust Display to Desired Value for CAL 2 Input

To Set a Setpoint or Scaling Value

• Press and release the 'peak / ^' button until the flashing digit reaches the desired value.
• Press the 'valley / >' button to advance to the next digit.
• Repeat until all digits are set.

Note: This meter is equipped with leading zero suppression - blank digits are assumed to be 0's (they will not flash).

Note: To allow the entry of negative values, the msd (left most digit) will increment 0 thru 9, -1, -(0).

Calibration Instructions

• The BGM series requires 2 known input signals for calibration / scaling. These inputs can be of any polarity with respect to each other and should be as far apart as possible in magnitude.
• Apply the first known input signal to the meter input.
• Simulttaneously press the 'setpt / reset' and 'tare' push buttons to advance to the CAL 1 value setting step. Adjust the CAL 1 value on the display until it is at the desired value for the known input. See the instructions above to set a setpoint or scaling value.
• Simultaneously press both the 'setpt / reset' and 'tare' buttons to enter this scaling / calibration point. Press the 'valley / >' button to advance to the CAL 2 value setting step.
• Apply the second known input signal to the meter input.
• Adjust the CAL 2 value on the display until it is at the desired value for the known input. See the instructions above to set a setpoint or scaling value.
• Simultaneously press both the 'setpt / reset' and 'tare' buttons to enter this scaling / calibration point.

CAUTION **POWER WIRING -** This meter is designed to be powered from standard linevoltages, 120 VAC or 240 VAC, not both, check your model number to be sure which. Line voltages always present a hazardous and potentially lethal situation and care should be taken to ensure that power has been removed from the circuits being wired into.

WIRING - When using stranded wire, inspect the junctions to ensure that all of the strands are fully inserted into the terminal block, and that the terminal screw has been tightened, before applying power to the meter.

CHASSIS GROUNDING - If local electrical codes require the case of this unit to be electrically grounded, make the connection to P4 pin 3. If unsure of code requirement, make the ground connection. Poor line conditions may cause this connection to increase noise sensitivity of the meter.

MAINTENANCE/REPAIR

Upon final installation of the Series BGM, no routine maintenance is required. The Series BGM is not field serviceable and should be returned if repair is needed. Field repair should not be attempted and may void warranty.

WARRANTY/RETURN

Refer to “Terms and Conditions of Sales” in our catalog and on our website. Contact customer service to receive a Return Goods Authorization number before shipping the product back for repair. Be sure to include a brief description of the problem plus any additional application notes.

Printed in U.S.A. 12/13 FR# R2-444135-00

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