

BG Series Circular BarGraphs™

The Weschler BG Series Circular BarGraphs include the BG241, BG251, BG261 and BG281. The panel footprint, shape and mounting meets direct retrofit applications for 4½" and 8¾" switchboard meters, as well as 6" and 8" pressure gauge meters. The electronics housing is identical for both sizes.

Bars are available in red, green or amber for easy viewing. Weschler BarGraphs combine the visual indication of an analog gauge with the precision of a digital instrument.

Digital displays are available with either 3½ or 4½ digit resolution. The 101 segment bar gives the operator a quick view of the measured signal and the control setpoints. Separate setpoint LEDs provide an added visual indication of control/alarm status. Signal direction is shown by two trend arrows. Setpoints and other parameters are easily entered from the front panel.

Weschler BarGraph instruments can be configured for a wide range of input signals. Retrofit sizes are available for most panel and switchboard meters in use today. These instruments satisfy the high quality standards of the utility, OEM and process industries.

FEATURES

High resolution 101 segment LED bar array

3½, 4½ or 5 digit display with resolution to 0.01%

Programmable functions

- Zero point location
- Setpoint location
- Hysteresis (setpoint, trend)
- Span and zero
- Digital display for engineering units
- Enable/disable front buttons
- I.D. selection for communication

Form-C relay outputs

- Normally Open
 - 5A, resistive @ 250V AC
 - 5A, resistive @ 28V DC
- Normally Closed
 - 3A, resistive @ 250V AC
 - 2A, resistive @ 28V DC

Peak and Valley hold

Trend indication for signal Direction

Communication

RS-232, RS-485, SCADA, DCS

Analog retransmit

4-20, 10-50, 0-1 mA DC
1-5, 0-1, 0-5 V DC

Retrofit sizes for:

GE/Yokogawa AB/DB40 4½" and AB/DB16 8¾" switchboard meters

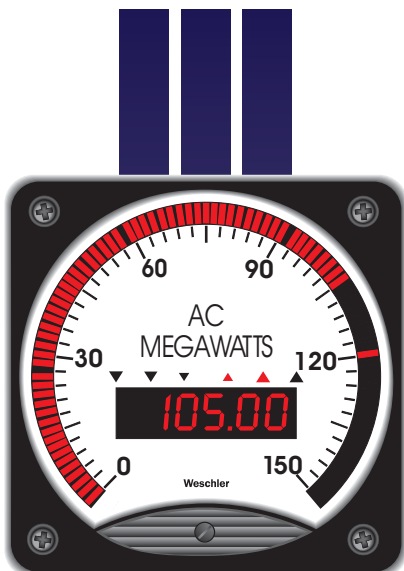
Crompton 075/077 4½" and 8¾" switchboard meters

Ashcroft, Heise 6" and 8" gauges

Dixson BW051/P, Weschler K241

Versatile selection of inputs

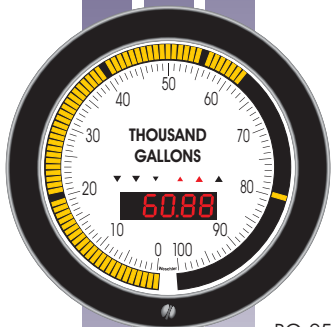
DC	Up to 5A & 250V
AC	Up to 5A & 250V
Thermocouple	J, K, T
RTD	10Ω Cu or 100Ω Pt
Power	Watts, VARS, power factor, phase angle
Frequency	Line or mag pickup
Process Control	ma, V



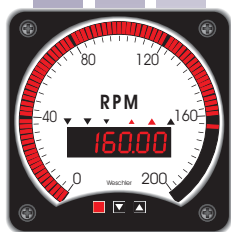
BG-261



BG-281



BG-251



BG-241



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SPECIFICATIONS

Bar Display

101 segment LED
 1% full scale resolution
 Circular Displays:
 BG-241 285°
 BG-261/281 270°
 BG-251 270°/345°

Digital Display

3½, 4½ or 5 digit
 Linearity ±1 count
 Resolution
 3½ digit 0.1% full scale
 4½ digit 0.01% full scale
 5 digit 0.01% full scale
 Height
 BG-241 0.4" (10.16mm)
 BG-261/281 0.8" (20.32mm)
 BG-251 0.56" (14.22mm)

Response Time

DC <600msec full scale
 AC <800msec full scale

Temperature

Operation 0° to 50°C, <95% RH (non-condensing)
 Storage -40° to 85°C

Input Isolation

AC Transformer isolated (>50mA, 1V)
 DC Differential

Sensor Power

24V DC excitation power @ 90mA

Setpoints

Up to 4 SPDT relays with form C contacts available. Hysteresis values of 0.5, 1.0, 2.0% of full scale, selectable (other values are available).
 Optional: Field programmable 0-10% or latching

Retransmit Signals

4-20mA DC
 0-1mA DC
 10-50mA DC
 1-5V DC
 0-5V DC

Communication

RS232
 RS485

Power

120, 240V AC (6VA)
 12, 24, 28, 48, 125, 250V DC (3W)

Input Impedance

2Mohm @ >4V DC
 30kohm @ 120V AC P.T.
 0.1ohm @ 5A AC C.T.
 250ohm @ 4-20mA DC
 100ohm @ 10-50mA DC

Input Overload Ratings

200%, not to exceed 10A
 200%, not to exceed 300V

Input Sensitivities [ANSI C39.1]

DC:
 Current 50 microamp - 5A
 Voltage 50mV - 250V
 Accuracy 0.04% of full scale ± 1 count

AC RMS:
 Current 1mA - 5A
 Voltage 50mV - 250V
 Accuracy 0.1% of full scale ± 1 count

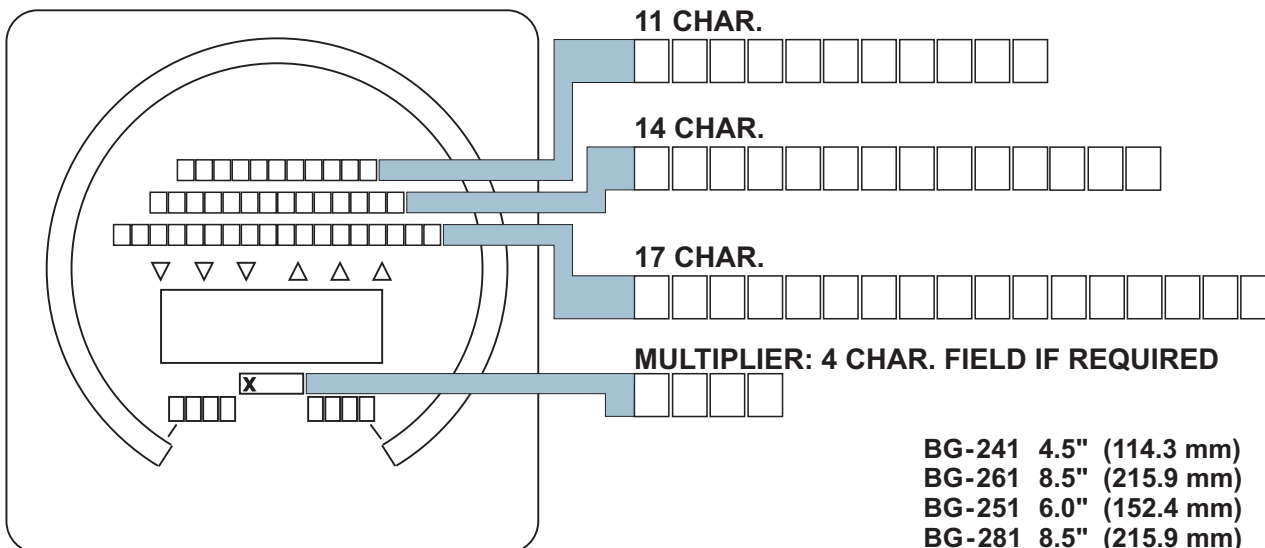
Temperature:
 Thermocouple °C °F
 Type J -210 to 795 -346 to 1463
 Type K -270 to 851 -454 to 1563
 Type T -270 to 400 -454 to 752
 Accuracy 0.1% of full scale ± 1 count
 Linearity 50 point, 0.1%

RTD °C °F
 100Ω Pt -260 to 700 -436 to 1292
 Alpha 0.00385 & °C standard
 Other Alpha ratings available
 10Ω Cu -100 to 260 -148 to 500
 Accuracy 0.2% of full scale ± 1 count

Frequency:
 50Hz to 20kHz at 5 to 250V p-p
 Accuracy 0.1% of full scale ± 1 count

Line Frequency (55 to 65 Hz):
 Accuracy 0.01% of full scale ± 1 count

ARTWORK GUIDELINES



ORDERING GUIDE

SAMPLE PART NUMBER (SEE BOTTOM OF PAGE FOR EXAMPLE)

4	B	3	N	1	A	A	M	1	F	A	P	T	T	X
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PART NUMBER

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TYPE:

- 4 = BG241 4-1/2" Square BarGraph
- 6 = BG261 8-3/4" Square BarGraph
- 8 = BG281 8" Circle BarGraph
- 3 = BG251 6" Circle BarGraph

BAR ZERO POINT:

- B = Zero at Bottom
- H = Zero at 50% mid scale
- F = Zero at F.S.
- S = Special /off scale zero

DIGITAL DISPLAY:

- 3 = 3-1/2 digit Display
- 4 = 4-1/2 digit Display
- 5 = 5 digit Display
- X = Not required

SETPOINTS:

- N = Hi/Lo
- H = Hi/Hi-Hi
- L = Lo/Lo-Lo
- 4 = Hi-Hi/Hi/Lo/Lo-Lo
- Z = Fail Safe Hi/Lo
- X = Not required
- S = Special order
- P = Programmable Hi or Lo (not available with LED Color X)

SETPOINT HYSTERESIS:

- 1 = 1% of F.S. (standard)
- 2 = 2% of F.S.
- 5 = 0.5% of F.S.
- X = Not required
- S = Special
- P = Programmable 0-10% or Latching (requires Setpoints P)

INPUT TYPE:

- A = DC Volts
- B = DC Amps
- P = 4-20mA DC (input level AK)
- N = 1-5V DC (input level AV)
- M = 10-50mA DC (input level BA)
- C = AC Volts RMS
(Barrier terminal strip connections included)
- D = AC Amps RMS
(Barrier terminal strip connections included)
- F = Line Frequency
- Q = MAG Pickup Frequency
- T = Thermocouple
Specify J, K, T
- R = RTD: Specify 100 Ohm Pt 10 Ohm Cu
- S = Special
- U = Serial ASCII (requires com type A, B or C in Communication options)

LED COLOR:

- G = Green only *
- A = Amber only *
- X = Red only (not available on 251)
- M = Multi-color Display *
- B = Enhanced Red *
- P = Superbright red or amber *
(not available on 241)

* Includes 2 step dimming

- B = Analog Backplate
- K = Conformal Coating
- T = Terminal Strip Connector
- A = Custom Artwork

- S = Special

- T = Trend Indicator
- X = NA

- P = Peak/Valley Hold
- X = NA

COMMUNICATION:

- A = RS232
- C = RS485 Bi-directional
- X = None

RETRANSMIT:

- A = 4-20mA DC into 250 ohms
 - B = 0-1mA DC into 1000 ohms
 - C = 1-5V DC
 - D = 0-1V DC
 - F = 4-20mA DC, 700 ohms max. (isolated source*)
 - G = 0-1mA (isolated source*)
 - H = 10-50mA DC (isolated source*)
 - W = Excitation Power 24 VDC @ 90mA
 - X = None
- *isolated outputs must have AC power

POWER:

- 1 = 120V AC ±15% 50/60Hz
- 2 = 240V AC ±15% 50/60Hz
- 4 = 12V DC ±10%*
- 6 = 250VDC±10%
- 7 = 24V DC ±10%
- 8 = 28V DC ±10%
- 9 = 48V DC ±10%
- U = 110-250V DC / 85-264V AC, 50-440Hz

*Max ambient 45°C

INPUT LEVEL:

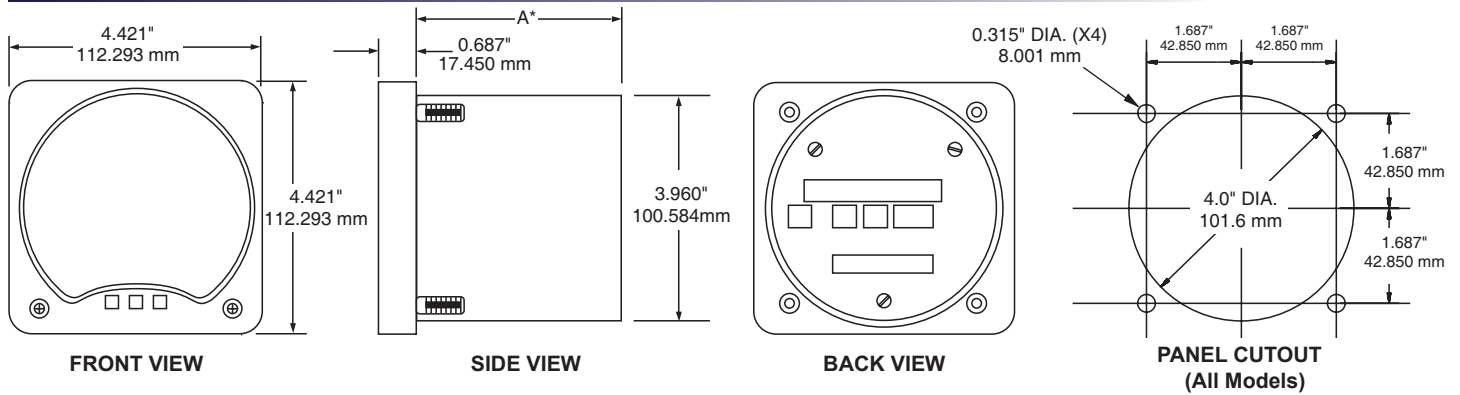
See input Level Matrix Guide

EXAMPLE: 4 B 3 N 1 A A M 1 F A P T T X

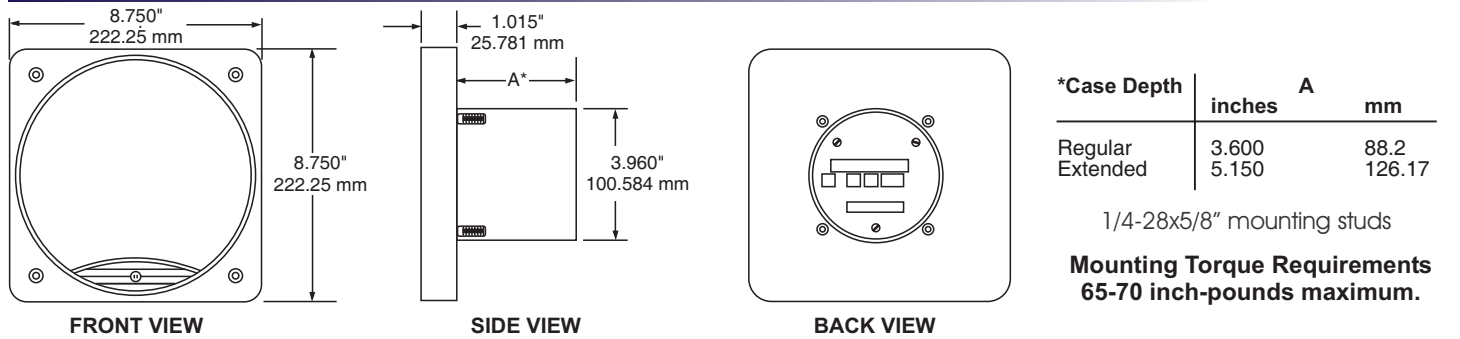
(4) BG-241, (B) zero at bottom, (3) 3 1/2 digit, (N) Hi/Lo setpoint, (1) 1% of F.S. setpoint hysteresis, (A) DC volts input, (A-M) full scale is 0.05 volts, (1) 120 VAC 50/60 Hz power, (F) 4/20 mADC isolated retransmit, (A) RS232 communication, (P) peak/valley hold, (T) trend indicator, (T) terminal strip connector, (X) red led color

DIMENSIONS

BG-241



BG-261

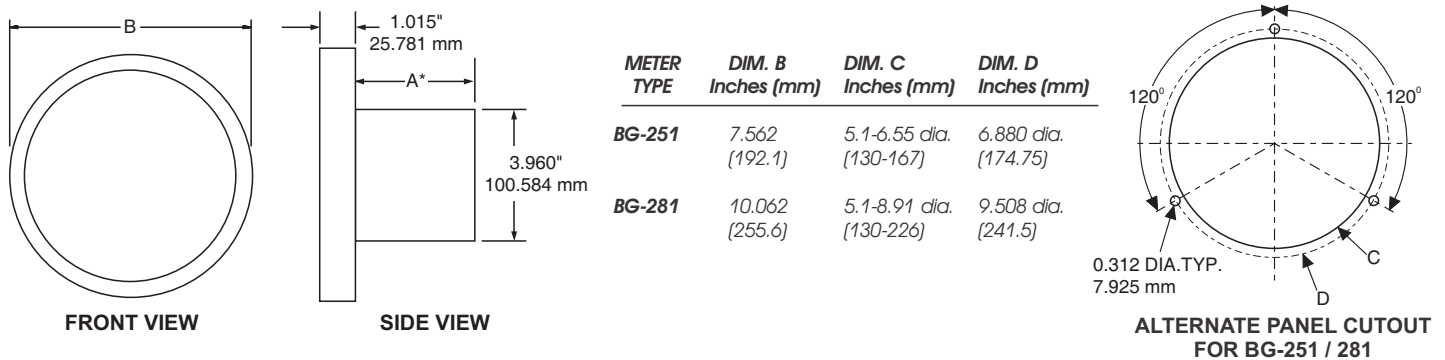


*Case Depth	A	
	inches	mm
Regular	3.600	88.2
Extended	5.150	126.17

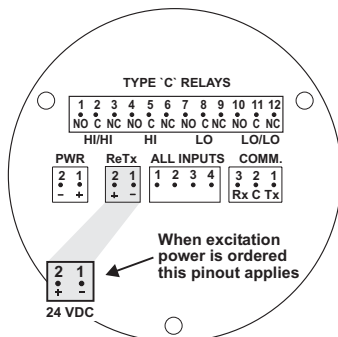
1/4-28x5/8" mounting studs

Mounting Torque Requirements
65-70 inch-pounds maximum.

BG-251 / 281



TERMINAL CONNECTIONS



BG-241 / BG-251 / BG-261 / BG-281

INPUTS

VOLTAGE / CURRENT
(1) Hot Side (+) (2) Return Side (-)

RTD
(1) + Source (2) + Sense
(3) - Sense (4) - Source

MAGNETIC PICKUP
(1) - (2) +

THERMOCOUPLE
Provided w / flying lead and plug

AC LINE FREQUENCY

(1) Hot Side (+) (2) Return Side (-)

AC Inputs have 6/32 barrier lug connections.

POWER

(1) Hot Side (+) (2) Return Side (-)

EXCITATION POWER 24 VDC

(1) - (2) +

COMMUNICATIONS

(1) Transmit (2) Common (3) Receive

RELAY CONTACTS*

(1) Hi/Hi N.O. (2) Hi/Hi C.
(3) Hi/Hi N.C. (4) Hi N.O.
(5) Hi C. (6) Hi N.C.
(7) Lo N.O. (8) Lo C.
(9) Lo N.C. (10) Lo/Lo N.O.
(11) Lo/Lo C. (12) Lo/Lo N.C.

* N.O.= Normally Open
N.C.= Normally Closed
C.= Common

Options and features vary by model. Contact factory for details and latest specifications.



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