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
**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

**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**

- **11 CHAR.**
- **14 CHAR.**
- **17 CHAR.**
- **MULTIPLIER: 4 CHAR. FIELD IF REQUIRED**

BG-241 4.5” (114.3 mm) SQUARE
BG-261 8.5” (215.9 mm) SQUARE
BG-251 6.0” (152.4 mm) ROUND
BG-281 8.5” (215.9 mm) ROUND
### SAMPLE PART NUMBER

| 4 | B | 3 | N | 1 | A | A | M | 1 | F | A | P | T | T | X |

**PART NUMBER**

<table>
<thead>
<tr>
<th>TYPE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 = BG241 4-1/2&quot; Square BarGraph</td>
</tr>
<tr>
<td>6 = BG261 8-3/4&quot; Square BarGraph</td>
</tr>
<tr>
<td>8 = BG281 8&quot; Circle BarGraph</td>
</tr>
<tr>
<td>3 = BG251 6&quot; Circle BarGraph</td>
</tr>
</tbody>
</table>

**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 |
| X = Not required |
| S = Special |
| 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 |
| D = AC Amps RMS |
| F = Line Frequency |
| Q = MAG Pickup Frequency |
| J,K,T= Thermocouple Types |
| R = RTD: Specify 3 or 4 wire & alpha |
| S = Special |
| U = Serial ASCII (requires com type A, B or C in Communication options) |

**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 |

**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 |

*isolated outputs must have AC power

**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
**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.