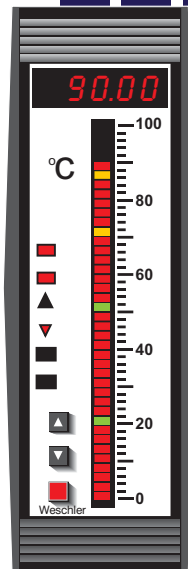


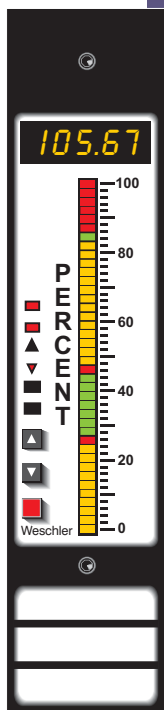
# BG TC Series TriColor BarGraphs™



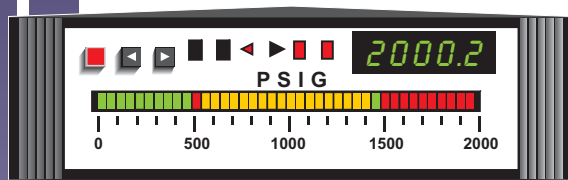
BG-252TC

The Weschler Instruments BG "TC", TriColor BarGraphs provide the quickest way to spot problems in your process control panels with bright changing colors. Quick identification of trouble conditions can help prevent equipment damage or production loss, thus reducing down time and maintenance costs, and improving operational safety. Each 40 segment LED (Light Emitting Diode) of the BG TC family has the ability to illuminate as Red (Danger), Yellow (Caution), or Green (Safe condition). The bar color identification can be easily changed by the user, from the front pushbuttons or through a tamper safe mode. The fully programmable Weschler BG TC BarGraph™ fits

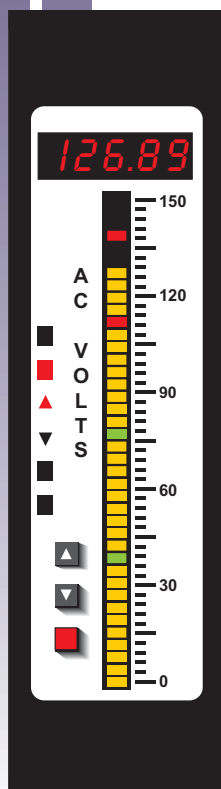
the widest range of inputs and retrofits most edgewise switchboard and panel meters. Weschler's instruments satisfy the high quality standards set forth by the utility, OEM, and process control industries.



BV-5ATC



BH-252TC



BD-101TC

## FEATURES

**Large, high resolution  
40 segment LED bar array**

**5 digit display with resolution  
to 0.01%**

**Field programmable functions**

- Zero and full scale point location
- Setpoint type (Hi or Low)
- Hysteresis & latching
- Setpoint time delay
- 16 step dimming
- Digital display for engineering units
- Enable/disable front buttons
- I.D. selection for communication
- Bar form
- Peak / Valley enable
- Color zones
- Over-range/Under-range flashing
- Lamp test

**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**

RS232/485, SCADA, DCS

**Analog retransmit**

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

**Retrofit sizes for:**

GE/Yokogawa 180,  
Bailey draft gauges,  
Crompton 128,  
Dixon SA/BB 101 (all models),  
Dixon BJ101, K051  
Hays Republic 216, 3600/V5A,  
Foxboro 65PP,  
Sigma/International Instruments 1151

**Versatile selection of inputs**

DC	Up to 5A & 250V
AC	Up to 5A & 250V
Thermocouple	J, K, T
RTD	10Ω Cu or 100Ω Pt
Serial	ASCII
Frequency	Line or mag pickup
Process Control	V, mA



**WESCHLER  
INSTRUMENTS**  
DIVISION OF HUGHES CORPORATION

16900 FOLTZ PARKWAY - CLEVELAND, OH 44149  
Phone: (440) 238-2550 - Fax: (440) 238-0660  
www.weschler.com e-mail: sales@weschler.com

# SPECIFICATIONS

## Bar Display

40 segment LED  
2.5% full scale resolution

Height  
BG252, BH252, BV5A 4" (10.12mm)  
BD101 10" (25.4mm)

## Digital Display

5 digit LED -9999 to 99999  
Resolution 0.01% full scale  
Linearity  $\pm 1$  count

Height  
BG252, BH252, BV5A 0.3" (7.62mm)  
BD101 0.56" (14.2mm)

## 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

## Setpoints

Up to 4 SPDT relays with form C  
contacts available  
Hysteresis 0.00-10.00% FS or latching  
Time delay 0-10 sec.

## Sensor Power

24V DC excitation power @ 90mA

## Retransmit Signals

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

## Communication

RS232  
RS485 (2-wire)

## Power

120/240V AC  $\pm 10\%$   
50/60/400Hz (13VA)  
12V DC  $\pm 10\%$  (8W)  
24V DC  $\pm 10\%$  (8W)  
28V DC  $\pm 10\%$  (8W)  
48V DC  $\pm 10\%$  (8W)  
250V DC  $\pm 10\%$  (8W)  
110-250V DC (8W)/85-264V AC,  
50-440 Hz (13VA)

## 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  
 $\pm 1$  count

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

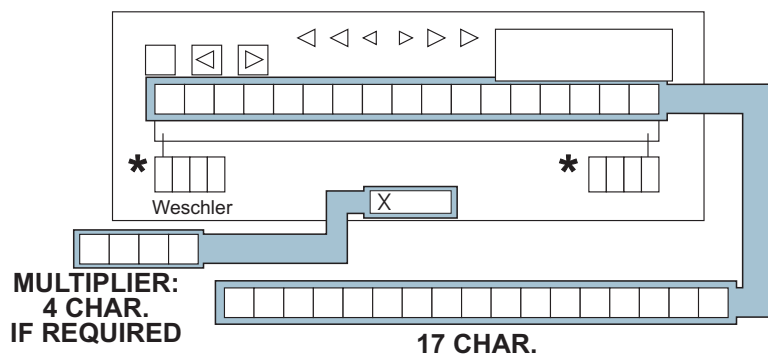
## Frequency:

50Hz to 20kHz at 5 to 250V p-p  
Accuracy 0.1% of full scale  $\pm 1$  count

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

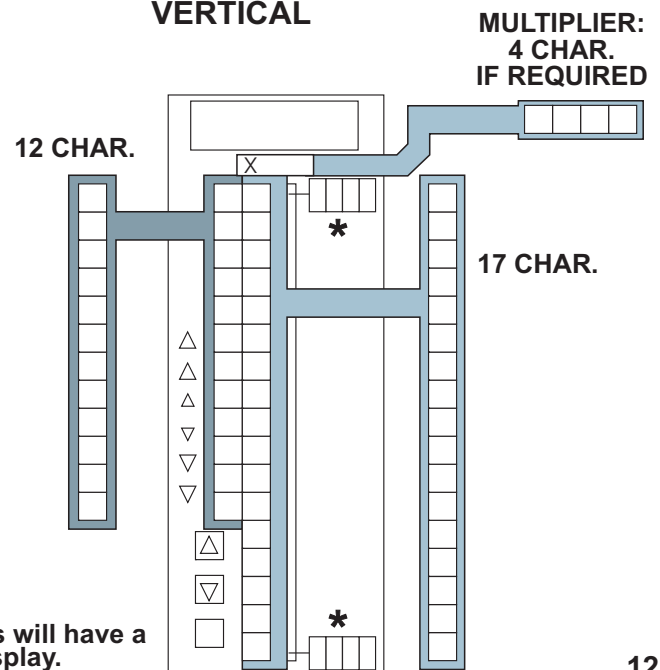
# ARTWORK GUIDELINES

## HORIZONTAL



\* Numerical range  
MAX. 4 Digits

## VERTICAL



\*\*Non-digital units will have a  
centered bar display.

SAMPLE PART NUMBER (SEE BOTTOM OF PAGE FOR EXAMPLE)

2	B	Y	4	P	A	A	M	1	F	A	P	T	X	T
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

PART NUMBER

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

**TYPE:**

- 2 = BG252 6" Vertical BarGraph
- 5 = BH252 6" Horizontal BarGraph
- A = BV5A 7.5" Vertical BarGraph
- K = BD101 10" Vertical 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:**

- R = Red
- Y = Yellow
- G = Green
- S = Special

**SETPOINT RELAYS:**

- 4 = 4 relays
- X = No relays
- S = Special

**SETPOINT HYSTERESIS:**

- P = Programmable 0-10% or latching
- X = Not required
- S = Special

**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 or  10 Ohm Cu
- S = Special
- U = Serial ASCII (requires com. type A or C in Communication options)

**BAR COLOR:**

- T = TriColor

- K = Conformal Coating
- T = Terminal Strip Connector
- A = Custom Artwork
- X = None
- S = Special

- T = Trend Indicator
- X = NA

- P = Peak/Valley Hold
- X = NA

**COMMUNICATION:**

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

**RETRANSMIT:**

- C = 1-5V DC (or 0-5V on request)
- D = 0-1V DC
- F = 4-20mA DC, 700 Ohm max.
- G = 0-1mA DC
- W = Excitation Power 24 VDC @ 90mA
- S = Special
- X = None

**POWER:**

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

**INPUT LEVEL:**

See input Level Matrix Guide

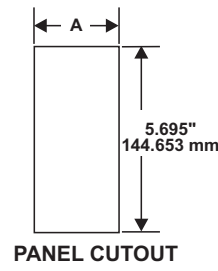
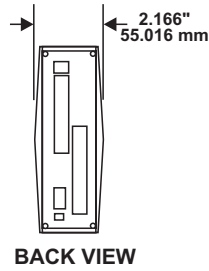
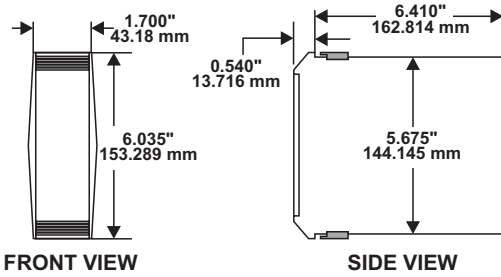
EXAMPLE: 

2	B	Y	4	P	A	A	M	1	F	A	P	T	X	T
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

(2) BG-252, (B) zero at bottom, (Y) Yellow, (4) Four relays, (P) Programmable setpoint hysteresis, (A) DC volts input, (AM) full scale is 0.05 volts, (1) 120 VAC 50/60 Hz power, (F) 4-20 mA DC isolated retransmit, (A) RS232 communication, (P) peak/valley hold, (T) trend indicator, (X) No option, (T) TriColor

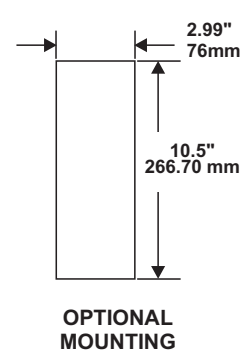
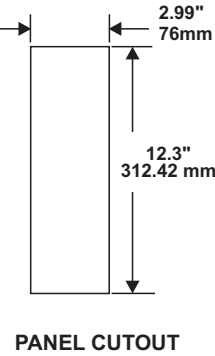
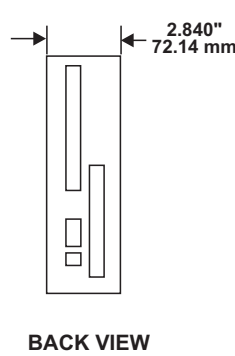
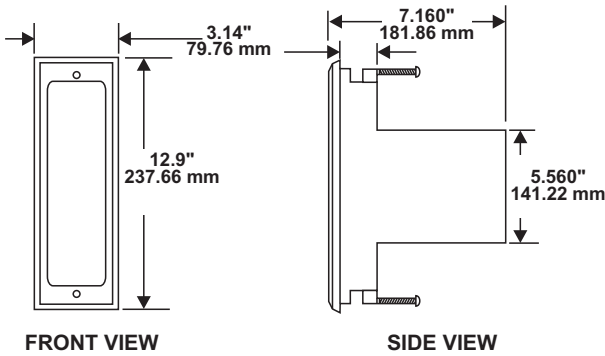
# DIMENSIONS

## BG-252TC and BH-252TC

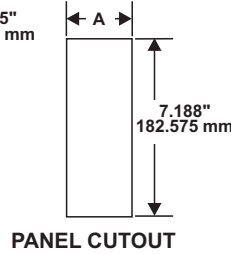
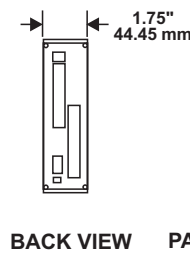
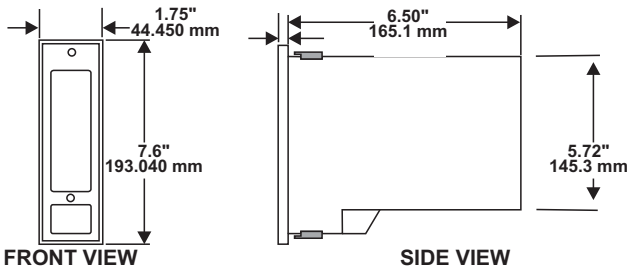


Number of Instruments	A Inches	(Millimeters)
1	1.770	(45)
2	3.510	(89)
3	5.250	(133)
4	6.990	(178)
.	.....	.....
.	.....	.....
.	.....	.....
8	13.95	(354)

## BD-101TC

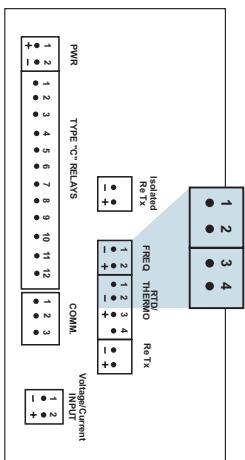


## BV-5ATC



Number of Instruments	A Inches	(Millimeters)
1	1.770	(45)
2	3.510	(89)
3	5.250	(133)
4	6.990	(178)
.	.	.
.	.	.
8	13.95	(354)

# TERMINAL CONNECTIONS



WHEN EXCITATION POWER IS ORDERED THIS PINOUT APPLIES

### INPUT

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

### RTD

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

FREQUENCY/MAGNETIC PICKUP  
(1) Lead 1 (-) (2) Lead 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 (-)

### COMMUNICATIONS

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

### EXCITATION POWER

(1) VAC (hot side)  
(2) VAC (return)  
(3) 24 VDC +  
(4) 24 VDC -

### RELAY CONTACTS\*

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



16900 FOLTZ PARKWAY - CLEVELAND, OH 44149  
Phone: (440) 238-2550 - Fax: (440) 238-0660  
www.weschler.com e-mail: sales@weschler.com