

## **General Features**

- Elegantly simple 4 to 20mA loop powered bargraph.
- Low loop drop of only 4V.
- Needs no external power supply.
- Choice of red, green or red/green color options.
- Easy to calibrate with ZERO and SPAN potentiometers.
- Customized faceplates available.
- Compact short depth 96 X 24mm case.
- Can be stacked for multiple meter mounting.

*||EXMATE* 

# SB-B31

# 4 to 20mA Loop Powered 31 Segment Bargraph in a 1/16 DIN Case

#### Compatibility

The SB-B31 bargraph has a matching DIN case style that is complementary to the Lynx, Leopard and Tiger family of meters. The SB-B31 is the economical solution for displaying 4 to 20mA current loops on a bargraph display.

INTER	NATIONAL
D	IN
CA	ASES
1/32 1/32	1/8

#### Specifications

Input Configuration:Single ended							
Full Scale Range:4 to 20mA to read 0 to full scale							
Input Impedance:Approximately 200Ω Maximum 4V loop drop at 20mA input							
A/D Converter:Flash converter							
Accuracy:1% of full scale							
Temperature Coefficient:200ppm/°C (typical)							
Warm Up Time:Instantly reads to specified accuracy							
Conversion Rate:Instantaneous flash conversion							
<b>Display:</b> Thirty-one 0.20" X 0.06" (5.08mm X 1.52mm) bar segments							
Over-range Indication:All bars flash							
Power Supply:Powered from 4 to 20mA signal							
Operating Temperature:10°C to 60°C							
Storage Temperature:20°C to +70°C							
Relative Humidity:95% (non condensing)							
Case Dimensions:Bezel: 24X96 mm (0.95" X 3.78") Depth behind bezel: 56.5 mm (2.23") Plus 27 mm (1.06") for Push-on connector or plus 17.5 mm (0.69") for Edge connector							
Weight:							

#### **Other Signal Powered Meters**

## **Typical Application Connections**

	SPAN	
4 to 20mA		
	(2)	

## **Functional Diagram**



## **Connector Pinouts**

#### REAR VIEW OF CASE AND CONNECTOR



Connectors are supplied by Texmate with the bargraph.

**Pin 1 - Current Loop High Input**: The 4-20mA current loop is applied to Pin (1) and returned from Pin (2). If reverse polarity is applied no damage will occur; however the meter will not operate (this condition should not be maintained for extended periods). The maximum loop drop is 4V.

**Pin 2 - Current Loop Low Return**: The 4-20mA current loop is returned from Pin (2). At 4mA the bargraph has one segment ON. At 20mA the bargraph has all segments ON. The maximum loop drop is 4V.

#### TO REMOVE REAR COVER



Release Bottom Catch with a small flat blade, and lever outwards.

#### **Component Layout**



# Signal Conditioning Components



#### SPAN Potentiometer (Pot)

The 15 turn SPAN Pot is on the left side (as viewed from the back of the meter). Typical adjustment is 100% of the input signal range.



#### ZERO Potentiometer (Pot)

The ZERO Pot is to the right side (as viewed from the back of the meter). It enables the Digital Display Span to be offset 50% of the input signal range.

## **Calibration Procedure**

Apply an input of 4mA. Adjust the ZERO pot until the extreme left or bottom LED is ON. Apply 20mA input. Adjust the SPAN pot until all LEDs are ON. The bargraph is now calibrated.

#### Power Supply

The SB-B31 Bargraph is powered from the 4 to 20mA input signal. NO EXTERNAL POWER SUPPLY IS REQUIRED. The maximum loop drop is 4V.

#### Connector

Input Power Screw Terminal Plug

Part Number: 93-PLUG2P-DP Pin Socket

## Standard Face Plates and Scales

- Unless otherwise specified, a standard 0-100 scaled face plate with white letters on a black background is provided with each meter. In those cases where a temperature modules is ordered, a 0-300 °F (white on black) face plate will be provided as standard.
- Alternatively a face plate with black letters on a white background or a blank, white or black face plate, may be ordered as a no charge substitute. For temperature applications there are also several different optional face plates that may be ordered as a no charge substitute. (See below). Customized face plates with special scaling can also be ordered.







Optional no charge substitute faceplates for Temperature may be ordered scaled 0 to 300°F or 0 to 150°C, Vertical or Horizontal in Black or White background.

76-BXB3/BV 76-BXB3/WV 76-BXB3/BX 76-BXB3/WX standard optional optional optional

76-BXB3/BV2 76-BXB3/WV1 standard optional

	1 10 100 1000	1.2 12 120 1200	1.5 15 150 1500	2 20 200 2000	2.5 25 250 2500	3 30 300 3000	4 40 400 4000	4.5 45 450 4500	5 50 500 5000	6 60 600 6000	7.5 75 750 7500	8 80 800 8000	9 90 900 9000
<ul> <li>100</li> <li>90</li> <li>80</li> <li>70</li> <li>60</li> <li>Face plate scales and numbers are shown close to actual size</li> <li>40</li> <li>30</li> <li>20</li> <li>10</li> <li>0</li> </ul>	50 50 30 20 10 10 10x5	- - - - - - - - - - - - - - - - - - -	- 12 - 12 - 9 - 6 - 6 - 3 - 3 - 0 5x3x2		25 20 15 15 10 5x5x2			45 40 35 30 25 20 15 10 5 9x5			= 75 70 60 50 40 30 20 10 7.5x5		90 90 10 10 9x5
	Div. 50	24	15	20	25	30	40	45	50	30	37.5	40	45

#### Standard Caption Sheets (white or black lettering for do-it-yourself customizing)

Clear self-adhesive caption sheets with white or black lettering are provided for each meter shipped with a standard or optional faceplate.

HEAD	AC Vars	AC Amperes	AC Kilowatts	AIR PRESSURE	AC Milliamperes
	AC Volts AC Watts	AC Kilovars AC Kilovolts	AC Millivolts BPH X 1000	AC Kiloamperes	Battery Voltage
OILER		AC KIOVOIIS	CFH x 1000	AC Megavars AC Megawatts	Backup Voltage Displacement
ycles Depth		BBLS/HOUR	DC Amperes	AC Watts/Vars	DC Amps to Ground
EATER	DC Volts	BFM AMPS	DC Kilovolts	CENTIMETERS	DC Microamperes
eight		BHP x 100	DC Kilowatts		DC Milliamperes
ertz	De walls Degrees	BLOWER	DC Millivolts	DC Kiloamperes FD FAN AMPS	
	ENGINE	DC Current	FPM X 100	IN. H <sub>2</sub> O PRESS	GALLONS / MINUTE GENERATOR AMPS
lours NCHES		Dew Point	FPM X 100	LBS/MINUTE	LBS PER GALLON
			GPM X 1000	LEVEL INCHES	LOAD LIMIT PERCENT
iput OBT	Humidity METERS	Degrees C	HORSEPOWER	LEVEL INCHES	MANIFOLD PRESSURE
ORT		Degrees F	INCHES WC	LEVEL GALLONS	MILL LOAD AMPS
	Output	Degrees K		MILLIMETERS	MOTOR LOAD AMPS
eset	Percent	Degrees R	INCHES H <sub>2</sub> O		
set	Program	FPM X 10	KILOWATTS	Percent Current	Percent Horsepower
IAFT	Pounds	Frequency	LBS X 1000	Percent Load	OXYGEN PERCENT
PEED	Pulses	FUEL FLOW	MEGAWATTS	PERCENT OPEN	TEMPERATURE °C
etup	RUDDER	GALLONS	Power Factor	RATE of TURN	TEMPERATURE °F
ABLE	SPINDLE	IN. WATER	Phase Angle	STEAM TEMP °F	Motor Load Percent
lotal		LEVEL FT.	RPM X 100	TONS / HOUR	LEFT RIGHT
LVE		LBS X 100	STARBOARD	OIL PRESSURE	FRONT REAR
alley	THRUST	POSITION	TANK LEVEL	WATER LEVEL	FORWARD REVERSE
TTS	TURBINE	TONS X 10	VAC MM HG	1000 LBS/HOUR	TOP BOTTOM (L450)

# **Case Dimensions and Panel Cutouts**



## **Ordering Information**

#### Standard Options for this Model Number Part Number . .Description

#### **BASIC MODEL NUMBER**

SB-B31 Red 31 Seg. Bargraph, 4-20mA Loop Powered
► DISPLAY
SB-VERT/RED .Vertical Red (standard)
SB-HORZ/RED Horizontal Red LED option
SB-VERT/GRN Vertical Green LED option
SB-HORZ/GRN Horizontal Green LED option
SB-MULTIRed, green or amber LEDs (10 seg. increments)

# Special Options and Accessories

Part Number . . Description

#### ACCESSORIES

75-DMTC96X24Side Slide Brackets, extra set (96x24mm only)
75-DBBZ96X24Black Bezel for 96x24mm Case, BN and AM series
DN.CAS96X24 Din Case 96 X 24 Short Depth Plus Accessories
93-PLUG2P-DP Extra Screw Terminal Conn., 2 Pin Power Plug
OP-MTLCLIP Screw Mounting Clips (2 pc) to screw tighten slide brackets
75-DTP96X24 Black Metal Trim Plate (96x24mm Case) 1 Meter
75-DTP2X9624 Black Metal Trim Plate (96x24mm Case) 2 Meters
75-DTP3X9624 Black Metal Trim Plate (96x24mm Case) 3 Meters

Prices subject to change without notice.

#### WARRANTY

Texmate warrants that its products are free from defects in material and workmanship under normal use and service for a period of one year from date of shipment. Texmate's obligations under this warranty are limited to replacement or repair, at its option, at its factory, of any of the products which shall, within the applicable period after shipment, be returned to Texmate's facility, transportation charges pre-paid, and which are, after examination, disclosed to the satisfaction of Texmate to be thus defective. The warranty shall not apply to any equipment which shall have been repaired or altered, except by Texmate, or which shall have been subjected to misuse, negligence, or accident. In no case shall Texmate's liability exceed the original purchase price. The aforementioned provisions do not extend the original warranty period of any product which has been either repaired or replaced by Texmate.

#### USER'S RESPONSIBILITY

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