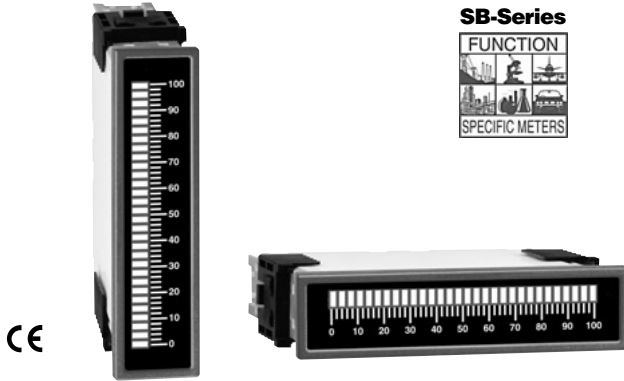




## SB-B31

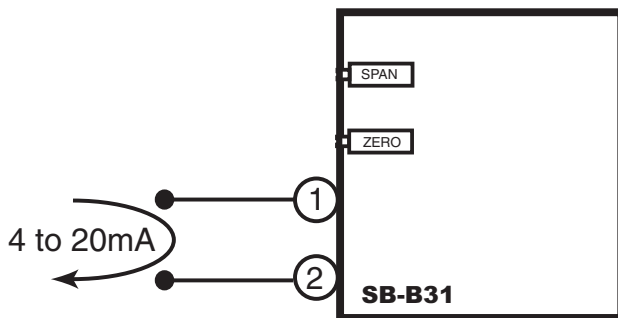
### 4 to 20mA Loop Powered 31 Segment Bargraph in a 1/16 DIN Case



#### General Features

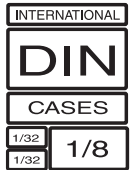
- Elegantly simple 4 to 20mA loop powered bargraph.
- Low loop drop of only 4V.
- Needs no external power supply.
- Choice of red, green or red/green color options.
- Easy to calibrate with ZERO and SPAN potentiometers.
- Customized faceplates available.
- Compact short depth 96 X 24mm case.
- Can be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

#### Typical Application Connections



#### 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.



#### Specifications

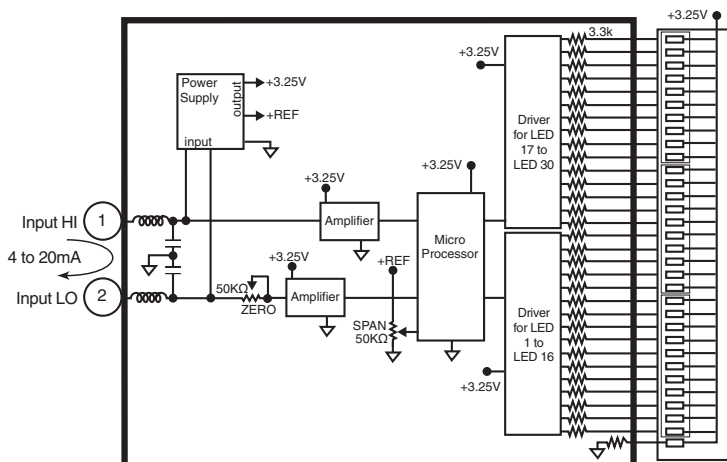
- Input Configuration:** .....Single ended
- Full Scale Range:** .....4 to 20mA to read 0 to full scale
- Input Impedance:** .....Approximately 200Ω  
Maximum 4V loop drop at 20mA input
- A/D Converter:** .....Flash converter
- Accuracy:** .....1% of full scale
- Temperature Coefficient:** ...200ppm/°C (typical)
- Warm Up Time:** .....Instantly reads to specified accuracy
- Conversion Rate:** .....Instantaneous flash conversion
- Display:** .....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:** .....90.72 gms (3.2 oz)  
136.1 gms (4.8 oz) when packed

#### Other Signal Powered Meters

- CM-35XT** .....3.5 digit LCD, Loop Powered, 4-20mA (1.0.0.0.0)
- CM-35XTL** .....3.5 digit LCD, 1 Volt Drop, Loop Powered, 4-20mA (1.0.0.0.0)
- SD-50X** .....5 Digit 4-20 mA Loop Powered
- SD-50XTOT** .....Loop Powered Totalizer

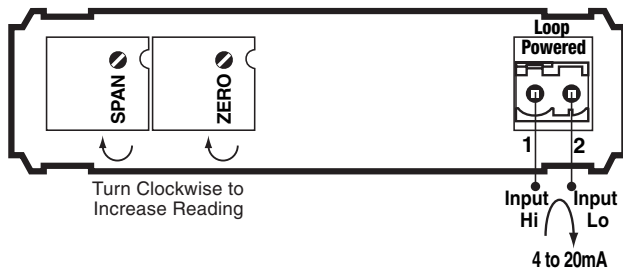
- SD-50XTOTSQ** ....Loop Powered Totalizer with Square Root Function
- SP-35X** .....3.5 digit LCD, Signal Powered by DC voltage
- SP-35XMV** .....3.5 digit LCD DCMV Input, 10-100VDC or 18-36VAC Pwr
- SP-35XRMS** .....3.5 digit LCD, VAC RMS Signal Pwr, 15.0-199.9VAC/DC

## Functional Diagram



## Connector Pinouts

### REAR VIEW OF CASE AND CONNECTOR

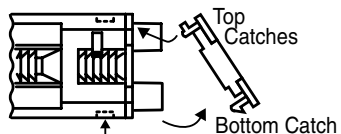


Connectors are supplied by Texmate with the bargraph.

**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.

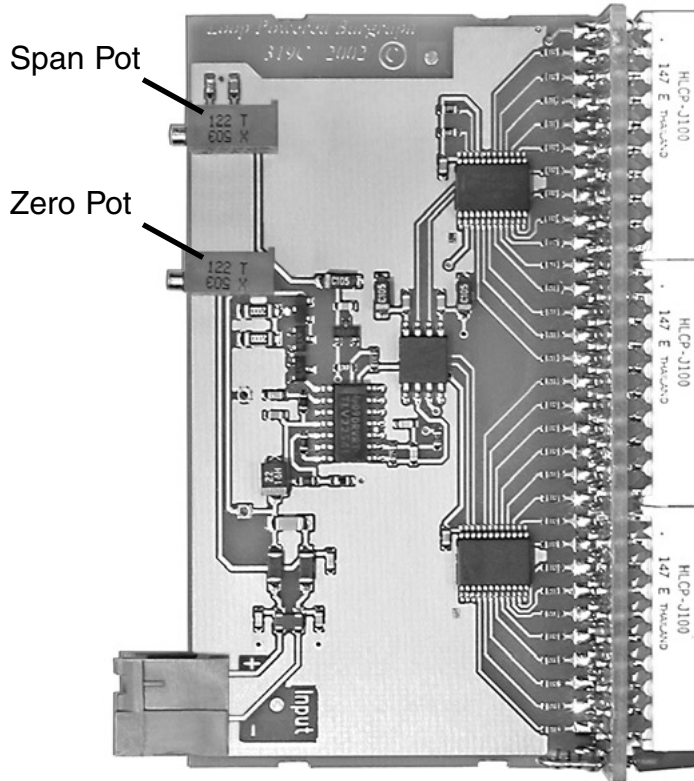
**Pin 2 - Current Loop Low Return:** The 4-20mA current loop is returned from Pin (2). At 4mA the bargraph has one segment ON. At 20mA the bargraph has all segments ON. The maximum loop drop is 4V.

### 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.  
Turn Clockwise to Increase Reading

**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.  
Turn Clockwise to Increase Reading

## Calibration Procedure

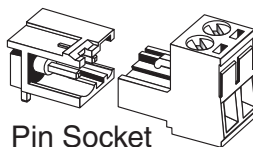
Apply an input of 4mA. Adjust the ZERO pot until the extreme left or bottom LED is ON. Apply 20mA input. Adjust the SPAN pot until all LEDs are ON. The bargraph is now calibrated.

## 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

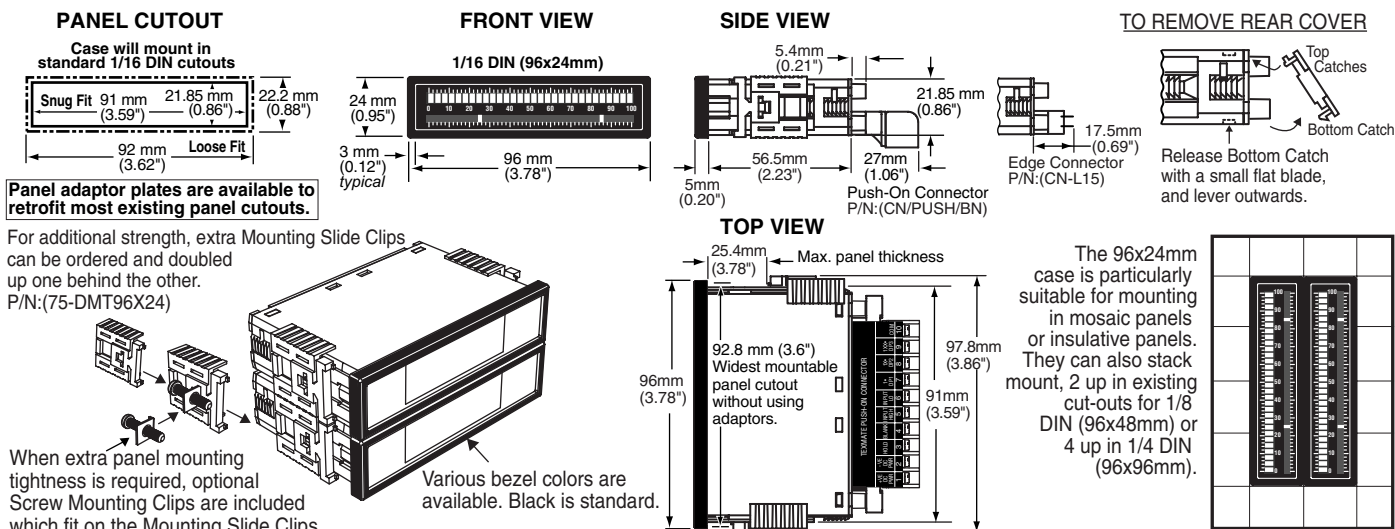
### Input Power Screw Terminal Plug



Part Number:  
93-PLUG2P-DP



# 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-MULTI . . . . .Red, green or amber LEDs (10 seg. increments)

### Special Options and Accessories

Part Number . . .Description

#### ► ACCESSORIES

75-DMTC96X24 . . .Side Slide Brackets, extra set (96x24mm only)

75-DBBZ96X24 . . .Black 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.

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