

NEW

AUTOMATIC TRICOLOR SWITCHBOARD BARGRAPH FOR MIL-SPEC, NUCLEAR & HI-REL INDUSTRIAL USES

**MODEL
SEB**

FEATURES:

- 51 Automatic Tricolor Bars
- 4 Digits (9.9.9.9., -9.9.9.)
- RS232/485/USB Serial I/O
- Fits Industry's Std.4" ANSI or 1/4 DIN Panel Cut-Out, But Only 1" Deep
- Use As Indicator/Controller/ Remote Display
- Optional 10-32VDC or 100-240VAC Power Input
- Power For Transmitter (28VDC@20mA)
- NEMA 4X Front Panel
- Replaces Many Old Bargraphs
- Lifetime Warranted



SPECIFICATIONS @ 25°C 5VDC Power (Industrial Grade)

- Accuracy & Linearity: $\pm 0.01\%$ of F.S. ± 1 Digit
- Bargraph Resolution: 2% (51 Segments)
- Span & Zero Range: ± 3000 Counts
- C.M.V. - Signal to - Power: 2VDC Max.
- Digits: 0.6", 4(9.9.9.9)
- Temperature Coefficient: 50 PPM
- Operating/Storage Temp: 0-60/-20 + 80°C
- Power Consumption: 5Watts @ 5VDC + Options
- Environmental: NEMA 4X , 5-95% RH N.C.
- Serial I/O 300-19.2KB (8N1 Setting)
- All ASCII I/O, Address: 255
- **CMTBF:** 100,000+ Hours

FUTURE OPTIONS:

- Signal Conditioners for any Input

DESCRIPTION

Now you can replace the Old analog or digital "Switchboard" meters with **OTEK's** latest Nano & ASIC Technology worthed of its Lifetime Warranted products. The New **SEB** (Switchboard **LED** Bargraph) complements the new breed of Programmable Intelligent Controllers, with features only found in other **OTEK's** Mil-Spec, Nuclear and Outerspace versions. The new nanotechnology used with proven firmware and **ASIC** reduces the number of components and cost without compromising in quality.

You can use the **SEB** as stand alone or part of a **DCS**, **SCADA**, or **PLC** system via its Serial and/or Analog I/O. Only order what you need!

GRADES: 4 grades are available: Hi-Rel Industrial (see specs.), Mil-Spec to specific standards, Nuclear to 10CFR50-B to your specific list and custom to your requirements. Contact **OTEK** for available "Off The Shelf" specs. **NOTE:** **M** & **N** grades are supplied in a metal housing, **I** grade in plastic or metal.

ANALOG INPUTS: Industry's standard 4-20mA, mA and VDC are included. Special signal conditioners for pH, TC, RTD, RMS, S-g and more are available on request.

ANALOG OUTPUT: Optional 4-20mA, 0-1mA, 0-20mA or 0-5VDC all isolated and reversed scale are available on request.

POWER INPUT: Standard is 5VDC with optional isolated 5-48VDC, 100-240VAC or USB powered are available.

DISPLAY: The 51 segment automatic tricolor bargraph can be programmed for any direction (up or down), any start (bottom, top, middle), segmented or pointer color change as limits are reached or fixed. The 4 1/2 (0.6") digital display has floating decimal point and it is fully scalable, zeroed and tared just like the bargraph. Four alarm annunciators illuminate when their limits are reached.

SERIAL I/O: Standard is RS232 with optional RS485 or **USB**. You can even power the **SEB** via the **USB** port (2W Max.).

POWER OUTPUT FOR 4-20mA TRANSMITTER: Either isolated 30VDC @ 20mA (Options 4, 7 or 8) or Non-Isolated 28VDC @ 20mA (Option E)

Watch for World's 1st Auto Tri-Color Loop Powered SEB!
Other Bargraphs: LSB, LBD, EBD, LPB, HI-Q Series.

Warranty: Lifetime Ltd.

**IF YOU DON'T SEE IT
ASK FOR IT!**



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SEB SERIES

ORDERING INFORMATION 6/11/09

Model: SEB - 1 2 3 4 5 6 7 8 9

GRADE (1)

I Industrial
M Mil-Spec
N.....Nuclear (Contact Otek)
9 Custom

SCALE PLATE

0 Standard 0-100%
9 Custom (Specify)

RANGE/CALIBRATION

0 Standard
9 Custom (Specify)

HOUSING & MOUNTING (6)

0 Plastic & 3.375"
1 Plastic & 90mm
2 Metal & 3.375"
3 Metal & 90mm
4 Explosion Proof
5 Sanitary
9 Custom

CONTROL OUTPUTS(8)

0 (50mA) None
1 (200mA) Relays (4 ea.)
2 (20mA) Open Collector Xtrs. (4 ea.)
3 (200mA) Retransmission (4-20mA)
4 (200mA) 30VDC for Transmitter
5 (400mA) Relays & 4-20mA Out
6 (220mA) O.C.T. & 4-20mA
7 (400mA) Relays & 30VDC Out
8 (220mA) O.C.T. & 30VDC Out
9 Custom
E..(400mA) Non-Isol. 28VDC & 4-20mA Out

SERIAL I/O (4,7)

2 RS232
3 RS485
4 USB
9 Custom (Specify)

INPUT TYPE FULL SCALE (2)

2 Current Loop 4-20mA
3 10-50mA
4 ±1VDC
5 ±10VDC
6 ±100VDC
7 ±1mADC
8 ±10mADC
9 Custom
R None, Remote Display

POWER INPUT(7)

1 Non-Isolated 5VDC
6 Isolated 100-240VAC
7 Non-Isolated USB Powered
8 Isolated 9-36VDC
9 Custom

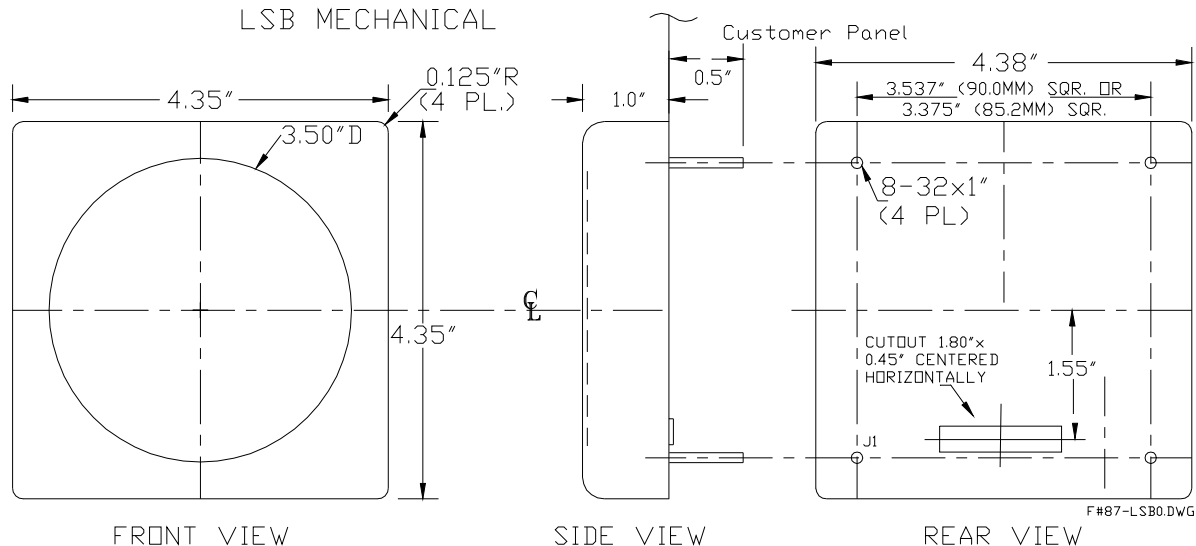
DISPLAY CONFIGURATION (3)

0 Standard
9 Custom

- NOTES: *=Options Power Consumption @5VDC**
- Contact **OTEK** for M & N grades and available specs. Otek will build to certain MIL-standards but testing and confirmation of compliance, if required, will need to be done by a third party and at customer's expense.
 - Other inputs on request.
 - Standard display configurations is (Digit 3): Colors are 0-10% = red, 10-20% = amber, 20-80% = green, 80-90% = amber, 90-100% = red. Field configurable only with serial communication options (Digit 5).
 - Maximum power consumption (all options): 2 Watts
 - Options A, B, D & E are non-isolated 28VDC @ 20mA for 4-20mA transmitters.

- Zero and SPAN adjustments on front on Options 0-3. No NEMA 4x rating.
- USB Powered is limited to 0.5A @ 5V (V2.0). Contact OTEK for maximum loading. Requires Serial I/O
- (mA = Current Consumption/Option)6. Zero and SPAN adjustments are behind the unit.

MECHANICAL INFORMATION



- ANSI 4" (3.375") Case Can Also Be Mounted In 1/4 DIN Panel Cutout.
- Connectors and 3.375" Studs Spacing Meet ANSI 39.1 Standard For Switchboard Meters. J1 Falls Within Existing "Barrel" Cutout.