

Programmable Tri-color LED bargraph meter with numeric display replaces older DB-40 instruments

HI-QIBS



Green

Bargraph display denotes value is within normal operating parameters. Notice the alarm marks (Yellow & Red) at 10%, 20%, 80% and 90%. The bargraph can be programmed to change to the color of the alarm marks or only the portion beyond the alarm marks can change. Alternately, the alarm pointers can be disabled and the bargraph will still change to the pre programmed colors. Flashing the bargraph display is easily configured and controlled with the alarm settings. Bargraph color and Alarm color is user programmable Red, Yellow or Green.

FEATURES:

- ≅ 18 bit Delta -Sigma A/D converter
- ≅ 5V, 10-32VDC or 90-265VAC Power, 10 Watts maximum
- ≅ Optional Isolated 16 Bit analog output (4-20mA or 0-5VDC)
- ≅ Optional Four 10A Relays or 8- $\frac{1}{2}$ amp open collector transistor outputs
- ≅ Optional Isolated RS-232C/422/485 Serial communications
- ≅ Optional Isolated excitation to power your Sensors/Transducers
- ≅ 1, 2 or 3 analog input channels. Control the bargraph separately or perform complex math functions.
- ≅ Menu Driven Keypad programmable as soft keys for changes ON-THE-FLY
- ≅ Industrial NEMA 4X Rated Front Panel
- ≅ Math Functions: +, -, x, \div , $\sqrt{\quad}$, $\frac{1}{\quad}$ & More, user definable polynomials and 25 point linearization tables
- ≅ Custom face plate markings available
- ≅ Bargraph display is programmable to change color and flash at the limits or as a continuous color display



Yellow

Bargraph display indicates value is just outside the normal operating parameters. Notice that the danger alarms (red) are still visible at 10% and 90%. These give an indication of how far from the danger zone you actually are. If programmed, the bargraph display can flash at this alarm and relays can be triggered to turn equipment on or off.

RED

Bargraph display shows value is outside the normal operating parameters. Notice that the warning alarms are still visible at 20% and 80%. These give an indication of how far from the intermediate zone you actually are. If programmed, the bargraph display can flash at this alarm and outputs can be triggered to turn equipment on or off. The HI-Q also has a feature known as the "PANIC" setting. When enabled, this will cause the relays to switch to a user programmed state (open or close) and the analog output to jump to the predetermined setting. This is extremely useful for taking control of a process in the event of a failure.



Specifications

A/D CONVERTER

- Bi-polar 18-Bit Delta-Sigma A/D converter
- Accuracy: $\pm 0.01\%$ of Full Scale
- Linearity: $\pm 0.01\%$ of Full Scale
- Zero offset: Automatic/Programmable
- SPAN: User Programmable for any reading
- F.S.Input Voltage Range: User selectable with internal jumpers
- Sampling Rate: 16 conversions per second (62.5mS), 100 per second available on request.
- Input Type: DC with internal signal conditioners for RMS, thermocouple, RTD, Strain-Gage or Watts available.
- Input Bias: 50pA
- C.M.V.: ± 2 VDC max (when powered by 5VDC)
- CMR: >90 dB
- Averaging (Weighted): None to 40. Adjustable band method for quick response
- Input Impedance: >100 K for voltage inputs
 <1 K for current inputs.
See ordering information for details.

ANALOG CONTROL OUTPUTS

- 16-BIT Digital to Analog converter, Isolated
- Accuracy & Linearity: $\pm 0.03\%$
- Outputs: 0-5VDC (100K ohm minimum load)
4-20mADC (1K ohm maximum load)
Sourcing at 24VDC
- Isolation: 500VDC
- Response 70mS standard, 12mS available on request

ON-OFF CONTROL OUTPUT RELAYS(4)

- Type: 4 each, S.P.D.T. Form "C"
- Max. Switching Current: 10A Res.
- Max. Switching Voltage: 30VDC/ 240VAC @Rated Current
- Contact Protection: Included
- Life Expectancy: 10,000,000 Cycles
- Activation: 30mS on / 50mS off
- Programmable Hysteresis eliminates chatter

BiMOS OUTPUT (8) OPEN COLLECTOR

- Type: Sink Driver (Open collector Transistor)
- Isolation to 5V Power and analog inputs: None
- Isolation to 10-32VDC or 90-265VAC Power: 500V min
- Isolation to analog output: 500V minimum.
- Max. Current Sink: 250mA each
- V_{sat} @250mA: 1.8V
- Standard Collector voltage: 5VDC
- External Collector voltage: Up to 35VDC
- Switching Speed: 100 μ S

POWER INPUTS

- 5VDC $\pm 5\%$ Non-Isolated from analog inputs
- 10-32VDC or 9-36VAC Isolated to 500V minimum
- 90-265VAC or 100-300VDC Isolated to 500V minimum
- Power Consumption 10Watts Maximum

NEMA 4X

- NEMA 4x front panel when mounted in enclosure with the supplied gasket. Care must be taken during the installation process to not damage the gasket and to insure it is positioned properly

ENVIRONMENTAL

- Operating Temperature..... -10 to 60 Degrees C
- Storage Temperature.....-40 to 70 Degrees C
- Humidity.....5% to 95% non-condensing

DISPLAY

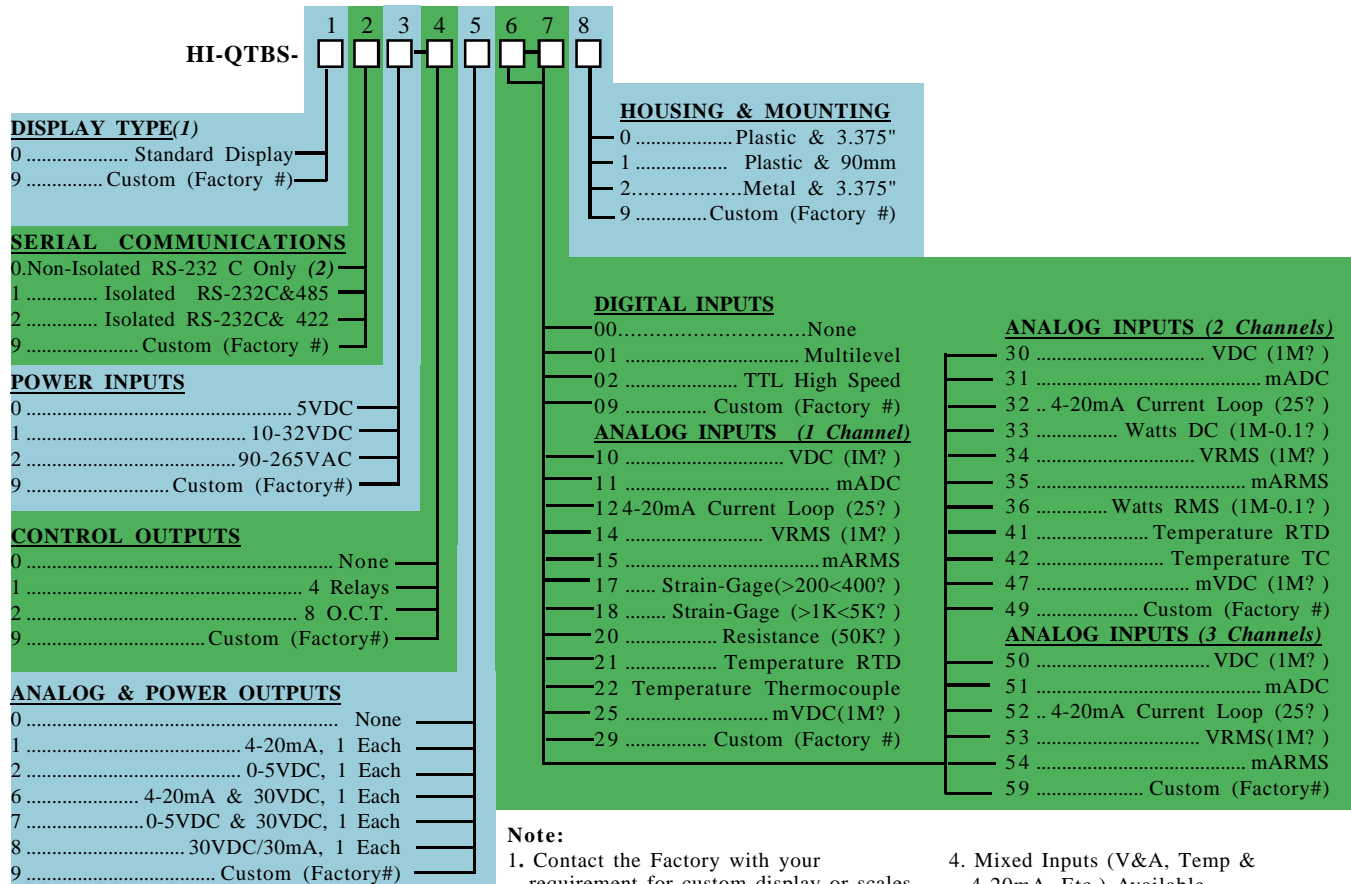
- Bargraph.....101 segment programmable tri-color LED
- Numeric....6 digit (999999 to -199999) 0.6" tall red LED
- Face Plate.....Lexan with epoxy ink printed on front

QUALIFICATIONS

(N, M and S series only. Consult Factory)

- Meets EPRI TR102323 rev B
- Radiated Emissions MIL-STD-461
- Radiated Susceptibility MIL-STD-462
- Conducted Emissions MIL-STD-461
- Conducted Susceptibility MIL-STD-462
- Fast Transient
- Seismic IEEE 323 / 344
- Software V&V per IEEE
- Shock & Vibration MIL-STD-901 & MIL-STD-167
- MTBF calculated at 100,000 hours per MIL-HDBK
- Optional EMI / RFI mesh and conductive gasket available with metal housing only.

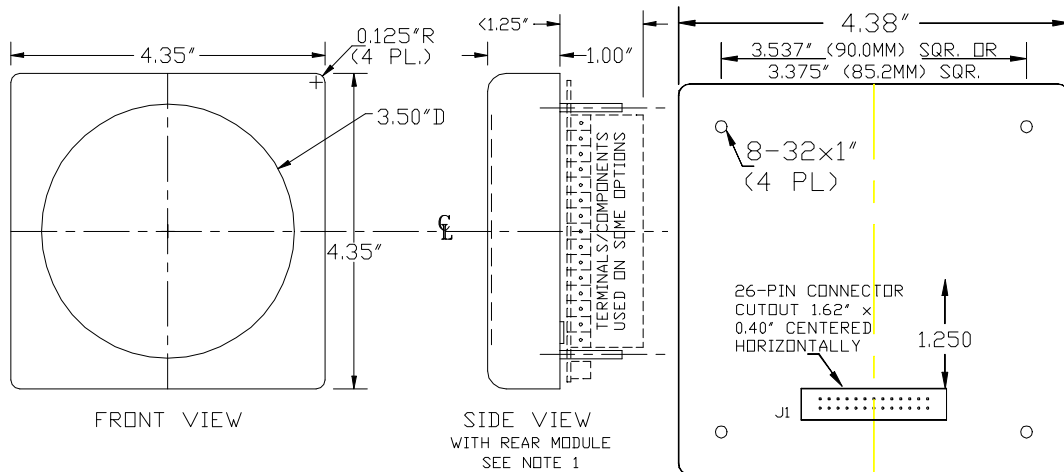
ORDERING INFORMATION 1/2003)



Note:

- Contact the Factory with your requirement for custom display or scales.
- RS-232C only (Option 0) is not isolated.
- Volt & Amps Ranges are Internal Jumper Range Selectable .5, 5, 10 & 50VDC, 1, 5, 20mADC. Shipped with .5V or 1mA Unless Specified.
- Mixed Inputs (V&A, Temp & 4-20mA, Etc.) Available.
- Specify Voltage input. Range option 36 is for use with 5A CT and 120VAC.

MECHANICAL FOR ALL "SWITCHBOARD" STYLE METERS



Note:

- J₁ connector and 3.375" studs spacing meet ANSI 39.1 standard for switch board meters. J1 falls within existing "Barrel" cutout.