Single, Dual or Triple automatic tri-color bargraph meter with serial I/O, Analog I/O & relays

Green
Bargraph displays denote value is within normal operating parameters. Notice the alarm marks (Yellow & Red). 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 is easily configured and controlled with the alarm settings. Bargraph color and Alarm color is user programmable Red, Yellow or Green.

Yellow
Bargraph meter indicates value is just outside the normal operating parameters. Notice that the danger alarms (red) are still visible. These give an indication of how far from the danger zone you actually are. If programmed, the bargraph 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. These give an indication of how far from the intermediate zone you actually are. If programmed, the bargraph 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 pre-determined setting. This is extremely useful for taking control of a process in the event of a failure.

FEATURES:

- 18 bit Delta-Sigma A/D converter
- 10-32VDC or 90-265VAC Power, 15 Watts maximum
- Optional isolated 16 Bit analog output (4-20mA or 0-5VDC) two channels.
- Optional six 10A Relays or 8-1/4amp 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 each bargraph seperately or perform complex math functions.
- Math Functions: +, -, *, ÷, √ & More, user definable polynomials and 25 point linearization tables
- Custom face plate markings available
- Bargraphs are programmable to change color at the limits or as a continuous color display
- Replaces T.A. Bailey "775" series
- Front panel replaceable scale plate
- All metal construction
Specifications

A/D CONVERTER

• Bi-polar 18-bit Delta-Sigma A/D converter
• Accuracy: ±0.01% of Full Scale
• Linearity: ±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.: ±2VDC max (when powered by 5VDC)
• CMR: >90dB
• Averaging (Weighted): None to 40. Adjustable band method for quick response
• Input Impedance: >100K for voltage inputs
  <1K for current inputs.
See ordering information for details.

ANALOG CONTROL OUTPUTS

• 16-BIT Digital to Analog converter, Isolated
• Accuracy & Linearity: +/- 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(6)

• Type: 6 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 9-265VAC Power: 500V min
• Isolation to analog output: 500V minimum.
• Max. Current Sink: 250mA each
• Vsat @250mA: 1.8V
• Standard Collector voltage: 5VDC
• External Collector voltage: Up to 35VDC
• Switching Speed: 100µS

POWER INPUTS

• 10-32VDC or 9-36VAC Isolated to 500V minimum
• 90-265VAC or 100-300VDC Isolated to 500V minimum
• Power Consumption 10Watts Maximum

ENVIRONMENTAL

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

DISPLAY

• Bargraphs..................................51 segment tri-color LED
• Numeric..4 digit (9999 to -1999) uni-color LED, 0.32”
  tall high visibility type.
• Face Plate........Lexan with epoxy ink printed on front

Designed to meet

• Radiated Emissions MIL-STD-461
• Radiated Susceptibility MIL-STD-462
• Conducted Emissions MIL-STD-461
• Conducted Susceptibility MIL-STD-462
• Fast Transient
• Shock & Vibration MIL-STD-901 & MIL-STD-167
• MTBF calculated at 100,000 hours per MIL-HDBK
• Optional EMI / RFI mesh.
E-MAIL: sales@PrecisionInstrument.com
http://www.PrecisionInstrument.com

ORDERING INFORMATION

0 .............................................. None
1.  Contact sales for Custom Scales/Overlays
2. 30V Compliance is for External Transmitters/Transducers
3. Volt & AmpRanges are Internal Jumper Range Selectable .5, 5, 10 & 50VDC, 1, 5, 20mADC, Shipped with .5V or 1mA Unless specified.
4. Mixed Inputs (V&A, Temp & 4-20, Etc.) Available
5. 16" Deep Housing with Specific Connector Termination on Request

NOTES

MECHANICAL & ORDERING INFORMATION

0 .............................................. None
1 ............................. 14.5" Deep
2 ........................ 2 Each (Sides)
3 .......................... 1 Each Center
4 .......................... 2 Each (Sides)
5 .......................... 3 Each
6 .......................... Custom

BAR-DIGITAL COLOR

0 .......................... STD. GRN-RED
1 .......................... BLUE-RED
9 .......................... Custom

SERIAL I/O

0 .......................... Non-Isolated RS232C Only
1 .......................... Isolated RS232C/485
2 .......................... Isolated RS232C/422
9 .......................... Custom

POWER INPUT

1 .......................... 10-32VDC
2 .......................... 90-265VAC
9 .......................... Custom

CONTROL OUTPUTS

0 .......................... None
1 .......................... O.C.T. (8)
2 .......................... Relays (6)

ANALOG & POWER OUTPUTS (2)

0 .......................... None
1 .......................... 4-20mA, 1 Each
2 .......................... 0-5VDC, 1 Each
3 .......................... 4-20mA, 2 Each
4 .......................... 0-5VDC, 2 Each
5 .......................... 4-20mA & 0-5VDC, 1 Each
6 .......................... 4-20mA & 30V Compliance, 1 Each
7 .......................... 0-5VDC & 30V Compliance, 1 Each
8 .......................... 30V Compliance, 1 Each
9 .......................... Custom

SIGNAL INPUTS

0 .......................... None
1 .......................... Temperature RTD
2 .......................... Temperature Thermocouple
3 .......................... VRMS (1MΩ)
4 .......................... mARMS (0.1Ω)
5 .......................... Strain-Gage (>200<400Ω)
6 .......................... Strain-Gage (>1K<5KΩ)
7 .......................... Resistance (50KΩ)
8 .......................... 3 Each
9 .......................... Custom (Factory #)

ANALOG INPUTS (1 Channel)

1 .......................... VDC (1MΩ)
2 .......................... mADC
3 .......................... 4-20mA Current Loop (25Ω)
4 .......................... VRMS (1MΩ)
5 .......................... mARMS (0.1Ω)
6 .......................... 4-20mA Current Loop (>200<400Ω)
7 .......................... Strain-Gage (>1K<5KΩ)
8 .......................... Temperature RTD
9 .......................... Temperature TC
10 .......................... VRMS (1MΩ)
11 .......................... mADC
12 .......................... 4-20mA, 1 Each
13 .......................... 0-5VDC, 1 Each
14 .......................... 4-20mA, 2 Each
15 .......................... 0-5VDC, 2 Each
16 .......................... 4-20mA & 0-5VDC, 1 Each
17 .......................... 4-20mA & 30V Compliance, 1 Each
18 .......................... 0-5VDC & 30V Compliance, 1 Each
19 .......................... 30V Compliance, 1 Each
20 .......................... Custom (Factory #)

ANALOG INPUTS (2 Channels)

1 .......................... VDC (1MΩ)
2 .......................... mADC
3 .......................... 4-20mA Current Loop (25Ω)
4 .......................... Watts DC (1M-0.1Ω)
5 .......................... VRMS (1MΩ)
6 .......................... mARMS (0.1Ω)
7 .......................... Watts RMS (1M-0.1Ω)
8 .......................... Temperature RTD
9 .......................... Temperature TC
10 .......................... mVDC (1MΩ)
11 .......................... Custom (Factory #)

ANALOG INPUTS (3 Channels)

1 .......................... VDC (1MΩ)
2 .......................... mADC (0.1Ω)
3 .......................... 4-20mA Current Loop (25Ω)
4 .......................... VRMS (1MΩ)
5 .......................... mARMS (0.1Ω)
6 .......................... Temperature RTD
7 .......................... Temperature TC
8 .......................... Custom (Factory #)

MECHANICAL & ORDERING INFORMATION

P7

MECHANICAL

BAR-DIGITAL COLOR

0 .......................... STD. GRN-RED
1 .......................... BLUE-RED
9 .......................... Custom

SERIAL I/O

0 .......................... Non-Isolated RS232C Only
1 .......................... Isolated RS232C/485
2 .......................... Isolated RS232C/422
9 .......................... Custom

POWER INPUT

1 .......................... 10-32VDC
2 .......................... 90-265VAC
9 .......................... Custom

CONTROL OUTPUTS

0 .......................... None
1 .......................... O.C.T. (8)
2 .......................... 10-32VDC
9 .......................... Custom

ANALOG & POWER OUTPUTS (2)

0 .......................... None
1 .......................... 10-32VDC (2)
2 .......................... 90-265VAC (2)
9 .......................... Custom

SIGNAL INPUTS

0 .......................... None
1 .......................... Temperature RTD
2 .......................... Temperature Thermocouple
3 .......................... VRMS (1MΩ)
4 .......................... mARMS (0.1Ω)
5 .......................... Strain-Gage (>200<400Ω)
6 .......................... Strain-Gage (>1K<5KΩ)
7 .......................... Resistance (50KΩ)
8 .......................... 3 Each
9 .......................... Custom (Factory #)

ANALOG INPUTS (1 Channel)

1 .......................... VDC (1MΩ)
2 .......................... mADC
3 .......................... 4-20mA Current Loop (25Ω)
4 .......................... VRMS (1MΩ)
5 .......................... mARMS (0.1Ω)
6 .......................... 4-20mA Current Loop (>200<400Ω)
7 .......................... Strain-Gage (>1K<5KΩ)
8 .......................... Temperature RTD
9 .......................... Temperature TC
10 .......................... VRMS (1MΩ)
11 .......................... mADC
12 .......................... 4-20mA, 1 Each
13 .......................... 0-5VDC, 1 Each
14 .......................... 4-20mA, 2 Each
15 .......................... 0-5VDC, 2 Each
16 .......................... 4-20mA & 0-5VDC, 1 Each
17 .......................... 4-20mA & 30V Compliance, 1 Each
18 .......................... 0-5VDC & 30V Compliance, 1 Each
19 .......................... 30V Compliance, 1 Each
20 .......................... Custom (Factory #)

ANALOG INPUTS (2 Channels)

1 .......................... VDC (1MΩ)
2 .......................... mADC
3 .......................... 4-20mA Current Loop (25Ω)
4 .......................... Watts DC (1M-0.1Ω)
5 .......................... VRMS (1MΩ)
6 .......................... mARMS (0.1Ω)
7 .......................... Watts RMS (1M-0.1Ω)
8 .......................... Temperature RTD
9 .......................... Temperature TC
10 .......................... mVDC (1MΩ)
11 .......................... Custom (Factory #)

ANALOG INPUTS (3 Channels)

1 .......................... VDC (1MΩ)
2 .......................... mADC (0.1Ω)
3 .......................... 4-20mA Current Loop (25Ω)
4 .......................... VRMS (1MΩ)
5 .......................... mARMS (0.1Ω)
6 .......................... Temperature RTD
7 .......................... Temperature TC
8 .......................... Custom (Factory #)