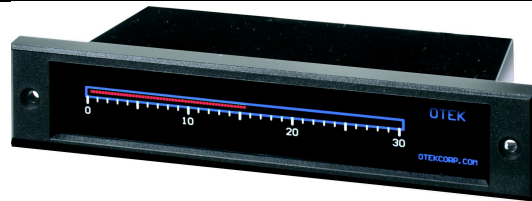


BARGRAPH/CONTROLLER/REMOTE DISPLAYS

Direct Replacements for Ametek (Dixson) BE051 & BE101 Models

HI-Q101



DESCRIPTION

O TEK's New **HI-Q101** is not only a form, fit and function replacement of the **BE051** & **BE101** but a 21st Century technology equivalent of our successful **HI-Q** Series.

The look is similar but the performance is different. You get many included features and options not available before, such as:

***Relays:** 2 each with S.P.D.T. 1 amp contacts, or Open Collector Transistors (O.C.T.) for fast switching.

***Limits:** 100% adjustability via 15 turn potentiometers on the rear of the unit.

***Display:** 101 monolithic bright Red LED display with four (4) Red full digits and "-" sign with over/under range indication for either vertical or horizontal mounting.

***Housing:** Same as **BE** Series with added rear slots for new options.

***Power Input:** 5V non-isolated (like the **BE**) or 5, 12, 24 & 48VDC or 100-240VAC isolated.

***Connector:** Same as the **BE** (edgeboard) or the new "Euro" style plug-in screw terminal connector for 16-22 ga. wire.

***Serial I/O:** None, RS232D, RS485 or **USB** and you can even power the **HI-Q101** from the **USB!**

***Signal Inputs:** VDC/mADC (including 4-20mA), V/m**ARMS** plus new signal conditioners for many signals.

***Old Set-Point Assembly:** You don't need it, it is all included in the **HI-Q101!** Either rear or remote adjustment. See Ordering Information.

***Replacement:** 100% for BE051 & BE101 basic function models.

***Filter:** Standard 0-100% custom filters available.

FEATURES

- Microprocessor-based
- Serial I/O (RS232, 485 or USB)
- 5-48VDC, 100-240VAC or USB Powered
- Dual Alarms (Relays or O.C.T.)
- V/mADC, RMS or Other Input Signals
- Edgecard or Plug-In Screw Terminal Connector
- Form, Fit and Function "+" New Technology Replacement
- Lifetime Warranted

SPECIFICATIONS @ 5VDC POWER 25°C AMBIENT

# Segments (Red)	101	Power Req't @ 5VDC	1W (2W with relays)
Analog Accuracy & Resolution	± 1%	Over-Under Range	Display Blinks
# Digits (9.9.9.9)	Four (-4)	Baud Rate (1200-19,200) Selectable ..	9600 Std.
Digital Accuracy & Resolution	±0.05%	Power Input Non-isolated	5VDC±5%
Display Colors.....	Red (Other colors, contact factory)	Power Input Isolated	5-48VDC
Polarity	Unipolar	Power Input Isolated	100-240VAC
Zero & Span	Yes	Operating Temperature	0-60°C
Input Impedance mA/VDC	See Range	Storage Temperature	-20 to 70°C
Response Time	75ms (10-90% of F.S.)	Humidity	5-95% N.C.
Serial I/O	RS-232C/RS485/USB	MTBF (Calculated)	>100,000Hrs
Characters	ASCII	Temp. Coefficient:	±0.005%/°C
Address Selection	Via Serial Port	Warranty	Lifetime (LTD)

520-748-7900

FAX: 520-790-2808

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O TEK™
CORP.

SINCE 1974

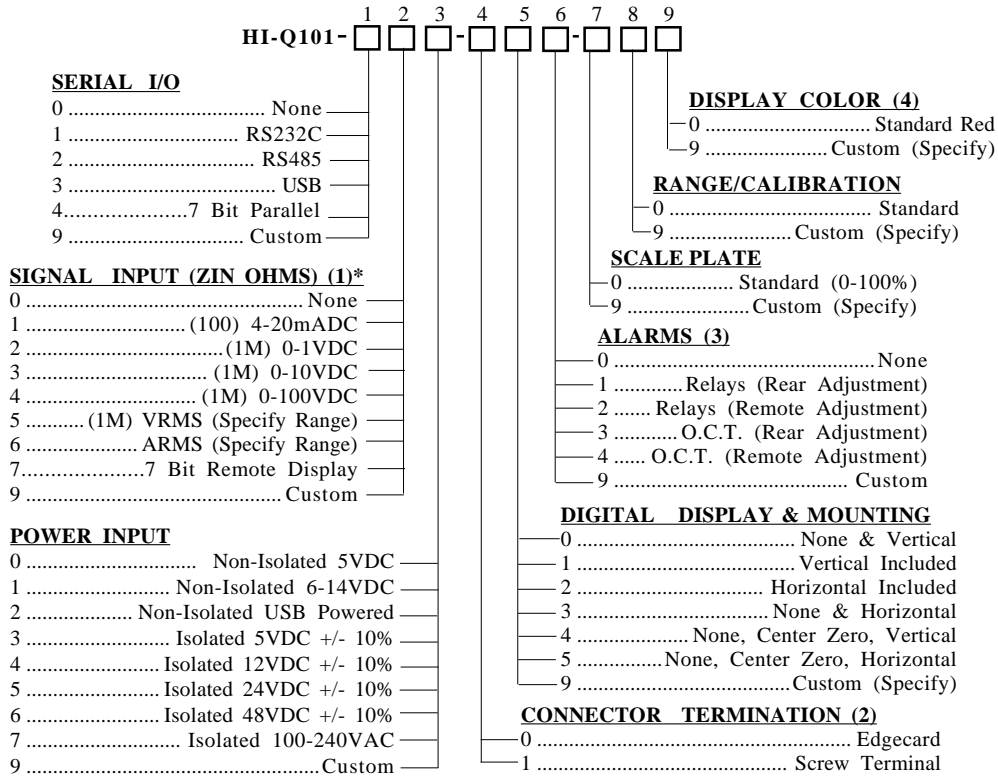
4016 E. TENNESSEE ST.
TUCSON, AZ. 85714 U.S.A.

MADE
IN
USA



Smart Bargraph-Remote Display
Direct Replacements for Ametek/Dixson Models BE051 & BE101

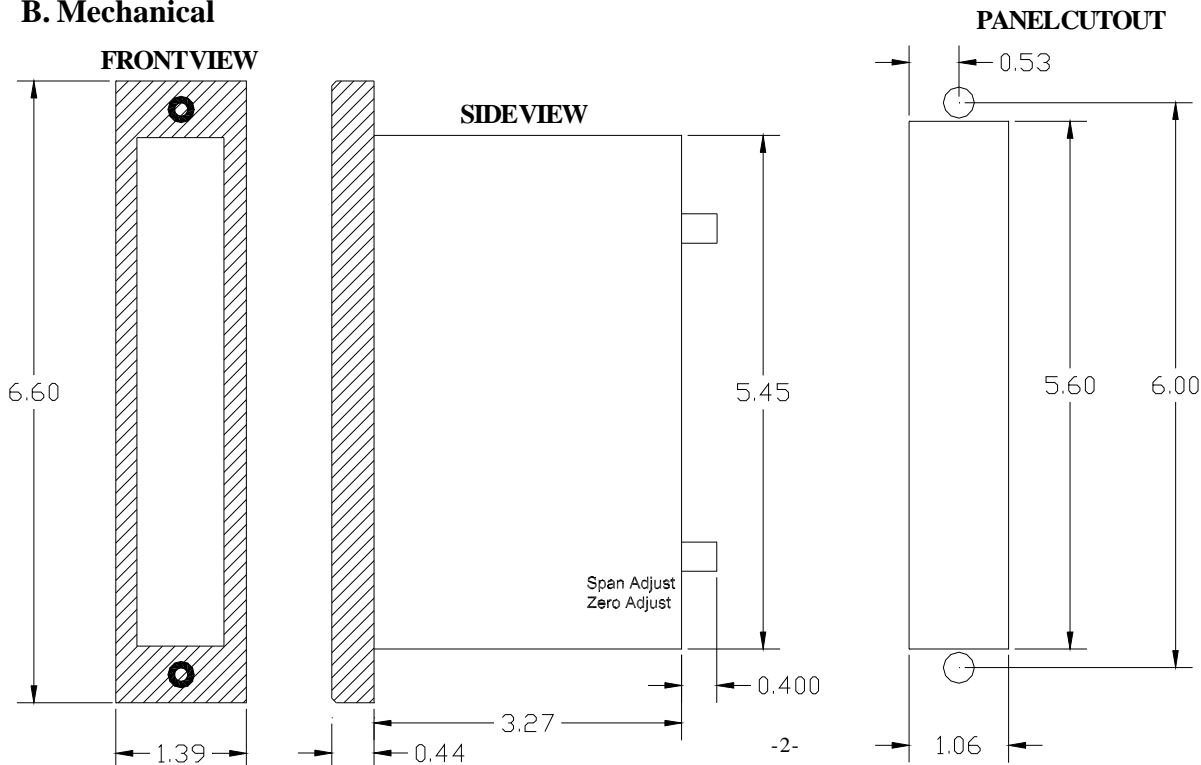
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NOTES:


1. Max. VRMS (Option 5): 250V, Max ARMS (Option 6): 0.1ARMS. For 5A C.T. Mount External 0.2 0HM, 10W, 1% Resistor (Not Supplied), and Specify 1VRMS Range. *For bipolar input specify & contact OTEK. For differential input (Options 1-4 only) use #9 & specify Diff. New Option: 7 Bit Parallel Input Remote Display. Contact OTEK for details. No alarms (Digit 6) are available. In Example: P/N: HI-Q101-47X-XX0-XXX (X=Any Option).
2. Edgcard connector NOT included. Use single sided 18 position on 0.156" centers for 0.62" PCB.
3. Remote adjustment requires 2 ea. 10K Ohm, 10 turn Potentiometers (not supplied) connected to the rear via 4 wire cable (not supplied).
4. Standard Red Digits and Bargraph. For other colors, contact factory.

B. Mechanical



HI-Q101 vs. BE101 & BE051 Part No. Cross Reference

Note: The HI-Q101 is only available with 101 segments, not 51 (BE051)

P/N BE051 or BE101 -	HI-Q101 - (Only 101 Segments)	Example of Part Number Matching BE101AJTX4/20MADC_V_____
A = End Zero or _____ B = Center Zero*	Select Option On Digit #5	HI-Q101-010-013 = No Serial I/O, 4-20mA F.S., 5VDC Power, Edge Card Termination (No Connector Included), Digital Display, Vertical Mount, Open Collector Transistors (O.C.T.) Included For Set Points Local Adjustment, Standard 0-100% Scale Plate *Not Available with digital display Your Comments & "Customs" are Welcomed 
X = No Set Points or ___ J = In Unit or _____ K = Remote _____	Use "0" on Digit #6 Use "1" or "3" on Digit #6 Use "2" or "4" on Digit #6 Note: O.C.T. or Relays	
X = No Digits or _____ Y = 3 Digits or _____ T = 4 Digits	Use "0, 3, 4 or 5" on Digit #5 Use "1" or "2" on Digit #5 Note: Only 4 Digits Are Available	
X = Single Ended or ___ L = Differential	No Need To Specify For Differential Use Option #9 on Digit 3 and Specify Input Signal-- Differential (i.e. 9=Option 1 differential) Only For Options 1-4	
Specify Full Scale Input and V or A ie; 200V	Select Option # For Full Scale On Digit #2. Note: Range Field Selectable or Use #9 and Specify	
μ A, mA, A, mV or V	Included On Signal Input Digit #2. No Need To Specify	
DC or AC	Included On Signal Input Digit #2 Included On Digit #5 (Mounting) Select	
V = Vertical or H = Horizontal	Option # With or Without Digits Standard is 0-100%. (N.C.) Use	
Custom Scale Plate P/N and Specify	Option #9 On Digit #7 and Specify (Std. is 0--100%)	
Not Available	Serial Communication - Select Option # On Digit #1	
Only 5VDC Power	Use # "0" or Select Option # On Digit #3	
Connector: Only Solder Tail Edge Card Available	Select No Connector (Option 0) or Screw Terminal Connector (Option 1) on Digit #4	
Warranty: 1 Year	Warranty: Lifetime (LTD.)	

PART # SCRATCH PAD

HI-Q101 _ _ _ _ _
 1 2 3 4 5 6 7 8 9

PART # SCRATCH PAD

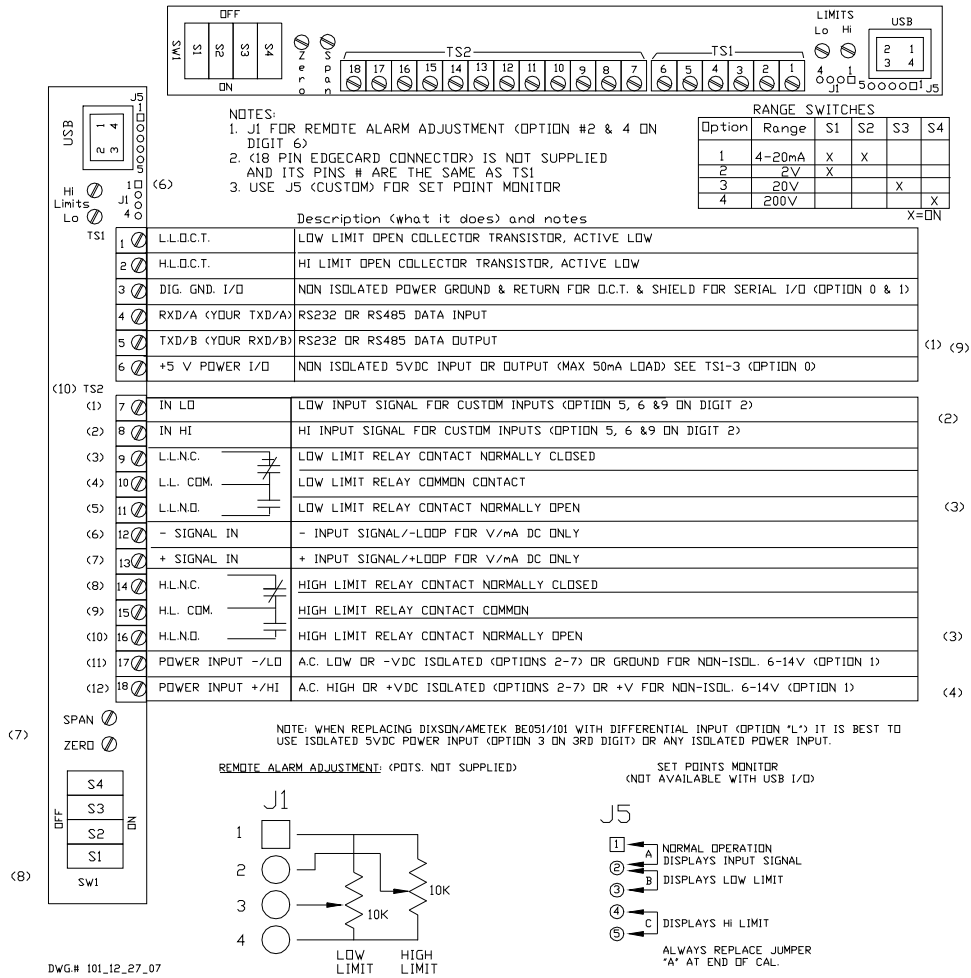
HI-Q101 _ _ _ _ _
 1 2 3 4 5 6 7 8 9

PART # SCRATCH PAD

HI-Q101 _ _ _ _ _
 1 2 3 4 5 6 7 8 9

Connections

Warning: Due to added features of the HI-Q101 some non-essential terminals have been changed. Please refer to the ordering information (page 5) to determine the configuration of the unit(s) you have ordered. **NOT ALL** features are available on all units and incorrect power or signal inputs could **damage the unit!** The following figure of the back of the unit will aid in making the appropriate connections. The edge board and screw terminal terminations are identical.



Non Serial Models Calibration:

1. Select desired range (see table).
2. Apply "0" volts or 4mA and adjust "Z" pot for zero display just to have bars 0 and 1 switching (or as desired).
3. Apply full scale signal (20mA or 2, 20, or 200V) and adjust "S" pot for full scale (1000 counts) just to have bar 50 lit but not blinking or as desired.
4. Check midranges for linearity, that's all!

Notes:

- (1.) For RS485 add 120 ohm across A and B on first and last units on bus.
- (2.) Reserved for input signal conditioner (AC, VA, S-G, TC, RTD, pH, etc.)
- (3.) Max. switching current is 1/2 A at 120VAC or 0.1A at 30VDC. Add external arc suppression (transorbors) as required.
- (4.) These inputs are isolated from all other terminals but NO isolation exists between all those terminals except relay contacts. All DC power inputs are ±5%. A.C. power input range is 100-240VAC 50/60 Hz.
- (5.) USB V2.0 "B" compatible connector. If USB powered (option 3 on 3rd digit) do NOT connect to terminals 17 and 18!
- (6.) Hi and Lo limits adjustment: Hi: Apply signal input to the limit you wish, adjust H.L. pot until HL. LED and/or relay/O.C.T. just turns "ON" and back down 1/4 turn or as required, varied the input signal to verify proper set point operation. The HL will operate (relay switch, LED turn "on" and O.C.T.). Go LOW when the input signal is greater than the set point, plus hysteresis of about 0.5% of setting. Lo: Do the same as for the hi limit but the Lo limit will operate when the signal is smaller than the set point and hysteresis.
- (7.) Calibration: If recalibration is required, ALWAYS calibrate the ZERO, then the SPAN, then the Set Points! Unless range change is required.
- (8.) Range change: If range change is required ALWAYS remove signal input first, change switches per table then do ZERO, SPAN, and Set Points. The Range Switch only applies to V/mADC and NOT to signal conditioners. See ordering information and part number on instrument.
- (9.) For models with Serial I/O calibration refer to Serial Input Calibration
- (10.) (#) = Terminal # on TS2 connector. For edge card connector us #1-18.