AMETEK®
DIXSON

DROP-IN

REPLACEMENT FOR

- GE/Yokogawa AB/DB40
- Weschler K231/241

TWO-YEAR WARRANTY
ISO 9001 CERTIFIED

BW051P Programmable Bargraph

(Class III-Commercial/Industrial Grade)

AMETEK Dixson "PRO" (PROgrammable) Series bargraphs are the preferred choice for new applications, or for replacement of switchboard meters, other common size indicators, and set point controllers. The "PRO" Series is feature-enhanced, and options are available to solve most common application problems. These models are easily configurable for maximum flexibility.

Application

AMETEK Dixson bargraphs are appropriate in any application where moving pointer meters have been used in the past, and in applications where greater accuracy, readability, and reliability are desirable. Signal sensitivities span ANSI C39.1 ranges, all conventional current loops, and voltage control signals. An optional RS-422 serial data bus allows for distributed control system applications. The instruments are suitable for local or remote, primary or redundant system indication.

The BW051P enclosure replaces all 4 1/2 -inch standard switchboard circular meters and is a direct replacement for the GE/Yokogawa AB/DB40 and Westinghouse/Weschler K231/241 meters. This simplifies retrofit into existing systems without panel modifications.

For control applications, the optional set point/relay module provides on/off and differential gap control and annunciation using three set points. The optional digital display reads to 10 percent over- and underrange.

An optional temperature measurement module makes the instrument a direct-reading indicator for E, J, K, and T thermocouples or 100-ohm RTD, and an optional retransmission module simplifies distribution of the temperature parameter throughout the system.

User-programmability provides maximum versatility and minimizes the need for spares. A solid-state design with no moving parts yields a highly reliable product, especially under conditions of shock, vibration, dust and moisture. Features such as linearization, sensor power, retransmission, and min/max readings make the "PRO" Series the ideal choice for your application.

Features

- Brilliant red LED display for excellent visibility
- Minimum 88,000-hour MTBF
- Rugged—high resistance to vibration and shock
- Microprocessor-based design
- rogrammable configuration using front panel switches or PC serial link
- Available with or without program switches on front
- Input signal ranges switch-selectable
- Auto-calibration algorithm
- Linearization of input signal
- Interchangeable with all major manufacturers and panel cutouts
- Underrange/overrange indication
- Modular design for flexibility and options

Options

- Digital display with true minus-sign indication
- Green, amber or multi-color LEDs
- On/off control using three set point relays
- Direct temperature measurement
- Auxiliary transducer power supply
- Two-wire, isolated retransmission
- RS-422 serial communication

BW051P Specifications

Note: for ISA S67.04 and RP67.04 Part II, consult factory for models and assistance.

PHYSICAL CHARACTERISTICS

Number of bargraph segments	51
Resolution	2.0%

ENCLOSURE MATERIAL Non-glare black Noryl or ABS case complying with UL94 V-0 or V-1

DIGITAL DISPLAY OPTION (True minus sign) –9999 to 9999

Number of digits	4
Resolution	0.01% ± 1 count*

ENVIRONMENTAL CHARACTERISTICS

Operating temperature range (MIL-E16400G, Class 4)	0 to +60° C
Storage temperature range	–40 to +85° C

POWER REQUIREMENTS Either 115/230 VAC at 50, 60, 400 Hz or 5, 12, 24 or 48 VDC

Line regulation	±10%
Power consumption (typical, depends upon options)	4.0 VA

SENSITIVITY RANGES (Reference ANSI C39.1 Std. Sensitivities)

STANDARD FULL SCALE INPUTS FROM ZERO (DIP-switch selectable):	
DC currents	500 μA to 50 mA
DC voltages	1 to 250 V
OPTIONAL FULL SCALE INPUTS FROM ZERO	
DC currents – factory configured	50 μA to 250 mA
Plug-in modules:	
RS-422	Serial Data Comm.
DC voltages	50 to <1000 mV
AC currents	1 to 1000 mA; 5 A
AC voltages	250 mV to 250 V
Thermocouple - Type E	–100 to +1000° C
Thermocouple - Type J	–18 to +760° C
Thermocouple - Type K	–18 to +1370° C
Thermocouple - Type T	–160 to +400° C
RTD (100-ohm platinum)	–200 to +850° C

DC INPUT PARAMETERS

Linearity	0.02% of span ± 1 count*
Accuracy	0.04% of span ± 1 count*†
Zero stability	<0.01% per °C
Gain stability	<0.02% per °C
Input impedance:	
For voltage inputs	>200 k ohms
For 4 to 20 mADC current inputs	100-ohm compliance resistor
For 10 to 50 mADC current inputs	40-ohm compliance resistor
For all other current inputs	Consult factory
Response time (typical)	175 ms
Overload (signal)	200% or 250 VDC maximum

AC INPUT PARAMETERS (true RMS-reading)

Linearity	0.4% of span **
Accuracy	0.5% of span **
Zero stability	<0.04% per °C
Gain stability	<0.04% per °C
Input impedance for voltage inputs	>200 k ohms
Response time (typical)	325 ms
Overload (signal)	200% or 250 VDC maximum

SET POINT OPTION (internal module)

Standard set points	LO and HI
Configurable alarm	HI/HI (default) or LO/LO
Setability	0.1%
Hysteresis	1.0%
Relay response time (typical):	
For DC inputs	350 ms
For AC inputs	650 ms
Relay contact ratings (three Form C):	0.4 A at 125 VAC 2 A at 30 VDC

RETRANSMISSION ACCURACY (4 to 20 mA) ± 0.1%

LINEARIZATION

8th-order polynomial (nine terms). Refer to "PRO" Series Interface Kit.

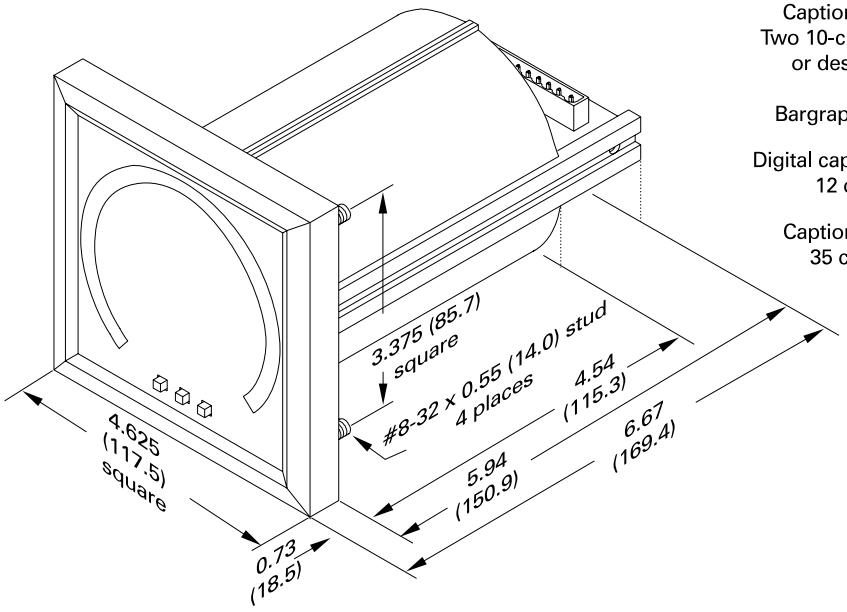
* 1 count is defined as a ± unit value change of the right-most digit.

† Call factory for thermocouple, RTD, and square root input accuracy information.

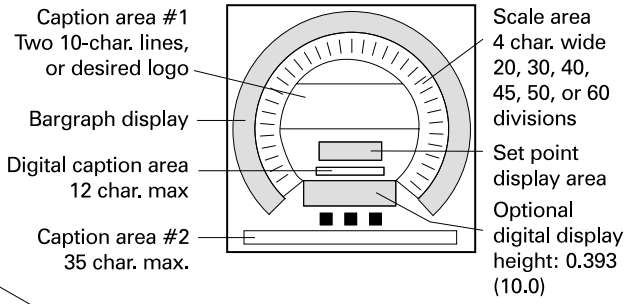
** Except for first 5% of span.

BW051P Dimensions

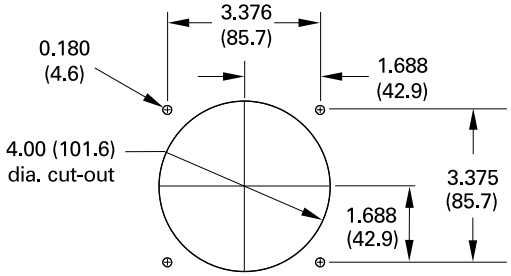
Dimensions given in inches
(metric in parentheses)



Artwork Guidelines



Panel Cutout Dimensions



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