

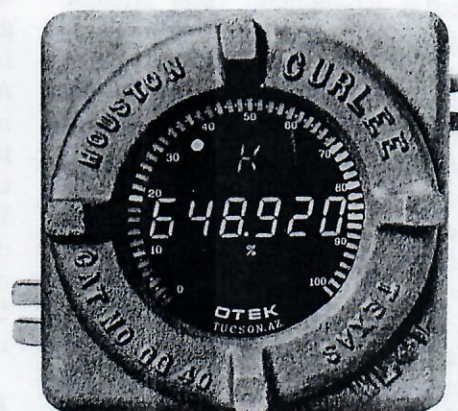
# Intelligent Tricolor Meter

MODEL  
HI-QTBE



Actual Size

The **HI-QTBE** Intelligent Panel Meter is a combination bargraph and numeric display that can also be used as a process monitor. A communications port is also provided to enable two-way digital communication between the meter and other devices that make up a facility's overall control architecture. The **HI-QTBE** comes in a standard switchboard-size case, Plastic or Metal which is only 1" deep.



Explosion Proof

## FEATURES:

- Internal Controller Implements a Variety of Process Display Functions
- Tricolor Programmable Bargraph with 51 Segments
- 6-digit-numeric Display and 16-segment Annunciator
- 16-bit High Speed A/D with 3-channel Analog Multiplexer
- Standard RS-232C/422/485 I/O
- Programmable Blinking & Dimming

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## APPLICATIONS:

- Remote Process Monitoring
- Process-to-Computer Interface
- Computer-to-Process Interface
- One or Two Process Variable
- Complex Eng. Units Conversion

**OTTEK**™

# HI-QTBE™

# INTELLIGENT CONTROLLING METER

• Temperature

• Flow

• Frequency

• Pressure

## GENERAL DESCRIPTION

The **HI-QTBE** Intelligent Panel Meter is a combination bargraph and numeric display that can also be used as a process controller. A communications port is also provided to enable two-way digital communication between the meter and other devices that make up a facility's overall control architecture.

## DISPLAY

The meter's displays consist of a circular 51-segment (2%) tricolor (R,G,A) bargraph, a 6-digit numeric display, a separate alphanumeric annunciator, and an LED alarm light. Each segment is individually addressable and operates independently of the others.

The annunciator is often used to indicate a multiplier (K=1,000, M=1,000,000) or units of measure (F, C, K, T, etc.).

If it is desired to alert operators, the displays can be set to blink. In addition, the displays' intensity can be controlled.

## SIGNAL CONVERSION

A 16-bit, 16 conversion/sec A/D converter is used to digitize the analog signal selected by the associated 3

channel multiplexer. To minimize the effects of noise, only the most significant 16-bits are used with maximum counts of  $\pm 50,000$  reported. The converter is self-calibrating every second for auto-zero. Operation of both A/D converter and multiplexer are software controlled. Data from the converter is routed through the meter's microprocessor for conversion to engineering units, or linearization.

## PROGRAMMING

The meter's microprocessor is programmed with high level commands interpreted by its operating system. A rich command set is provided permitting full control of all hardware features as well as the implementation of common control strategies. Programming is accomplished by downloading commands from a dumb terminal, or a PC connected to the meter's asynchronous communications port.

## PACKAGE

The **HI-QTBE** meter is available in several packaging options. The most common is a switchboard style case conforming to the ANSI and DIN mounting dimensions (3.375" or 90 mm studs) used by most meter

manufacturers. No space is required behind the panel and the meter extends 1" above the mounting surface. The switchboard case is available in either metal or plastic and meets NEMA 4 requirements. An optional EMI/RFI gasket/filter is available for use with the metal case. The meter's digital communications connector (DB9, male) is located on the back-panel in the area of the mounting panel barrel cutout for traditional analog switchboard meters. All meters are equipped with an antiglare smoked filter which can be used for the screening of custom scales and legends.

An **Explosion-Proof Housing** is also available for the **HI-QTBE** meter. This is an aluminum casting that meets class I, div. 1 & 2, groups B, C & D, class II, div. 1 & 2, groups E, F & G, class III, NEMA 3, 4, 7 & 9. The case is FM, CSA, Baseefa, and Cenelec certified.

## POWER

All **HI-QTBE** meters operate from filtered and regulated 5VDC  $\pm 5\%$  and require a maximum of 500mA. A wall-plugin-power supply is optional. It accepts 120( $\pm 15\%$ )VAC, 50-60Hz & delivers 500mA@5VDC.

## APPLICATIONS

The **HI-QTBE** meter can be used as a remote display for a computer or "**HI-Q**" series controller as shown in Figure 1. When used in this manner, it is not generally equipped with its signal conditioning circuitry and relies exclusively on its asynchronous ASCII data port for input.

As **Stand Alone**, the **HI-QTBE** monitors the process and transmits data to other RS-232C/422/485 devices as well as accepts new command via this port.

