KISTLER-MORSE
Measure of Success

Technical Specifications

STX Signal Processor

A stand-alone blind transmitter for in-process or bulk inventory weighing applications where a display is not required.

The STX accepts input signals from half- or full-bridge strain gage load cells through a high resolution (up to 21-bit) analog-to-digital converter. Resolution and gain are adjustable for optimal system performance. The RS-422/485 serial port allows a multi-drop network configuration that simplifies field installation and wiring, resulting in reduced installation costs. An optional 0-20/4-20-mA output allows the STX to function as a highly stable analog output directly to a PC or PLC.

The unit includes KM's **Sentry**™ DSP filter, which provides stable, accurate readings under a variety of mixing conditions or plant vibrations. **Sentry**™ digitally separates the vessel weight changes from the vibrations and dynamic conditions often experienced on vessels with mixers. This provides stable and accurate weight readings. Its flexibility allows you to optimize system performance so it won't be fooled by sudden weight changes like other filter systems.

The STX is configured in three principle ways. In one version, the STX card is housed in an enclosure or mounted on a panel. Both are available with or without an integral power supply. The 3U Eurocard, 8 HP format provides for mounting in a 19-inch rack configuration with DC power from an external supply. In the MVS-STX configuration, the card is mounted in the KM Multi-Vessel System (MVS) and becomes part of the MVS bus. The MVS provides power to the card, six-digit readout capability and full access to the card parameters through the MVS keyboard. MVS-STX data is then also available to any of the MVS digital interface option cards. The STX in any of its versions can also interface to an MVS through its standard serial port. The data exchange is as if the card was part of the MVS rack.

Features & Benefits

Blind Transmitter
Simple yet powerful device with serial output and optional analog output to communicate effectively with host control systems.

Sentry™ DSP Filter
Separates mixer and plant vibrations from weight changes. This provides accurate and reliable weight readings.

High-resolution Weight Conversions
Selectable resolution up to 21-bits to optimize speed with system performance requirements.

Built-in Serial Port
Versatile interface for data collection, servicing and building large multi-vessel communications systems.

Enclosure
NEMA-4X fiberglass reinforced polyester (FRP) or optional stainless steel as well as board set options.

Output
Digital output standard with optional current output.

Specifications:

Transducer/Sensor Input

Transducers/Sensors: All KM half-bridge, full-bridge foil gage

Excitation: Programmable between 5 and 13 volts @ 114 mA

Resolution: Selectable 16-bits (1 part in 65,536) to 21-bit (1 part in 2,097,152) in 1-bit increments

Conversion Speed: 20 mSec at 16-bits; 125 mSec at 19-bits; 512 mSec at 21-bits

Span: Programmable between +/-3.0V @ 12V Excitation, Gain = 1; +/-19.5 mV @ 10V Excitation, Gain = 128

Temperature Stability: Zero 1 ppm/°C; span 5 ppm/°C

Common Mode Rejection: 92db min @ DC; 150db min @ 60 Hz

Normal Mode Rejection: 100db min @ 60Hz

Programmable Filter Range: 1.95 Hz to 205.5 Hz

Inputs/Outputs/Communications

Built-in Serial Communication: RS-422, RS-485 (optical isolation standard), TTL, 300, 1200, 2400, 4800, 9600 or 19.2 K baud for multi-drop single cable connection; RS-232 compatible for single point connection

Optional Analog Output
Format: 0-20 or 4-20 mA
Resolution: 14 bit (1 part in 16,384)

Isolation: 500 VAC

Maximum Load: 600 ohms with internal loop supply; up to 2400 ohms with external loop supply

Electrical (sensor loads not included)

DC Power (standard): 14.4 VDC to 30.0 VDC @ 80 mA; 225 mA with 0-20/4-20 current output option

AC Power (optional): 87-110 VAC, 15 watts maximum, 50/60 Hz; 105-132 VAC, 15 watts maximum, 50/60 Hz; 192-242 VAC, 15 watts maximum, 50/60 Hz

Environmental

Operating Temperature - Board Set (no power supply): 14° to 158°F (10° to 70°C)

Operating Temperature - With Power Supply: 14° to 122°F (10° to 50°C)

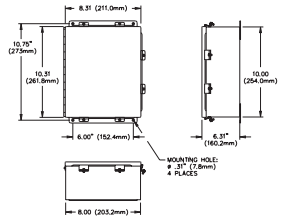
Humidity: 1% to 100% (non-condensing)

Storage: -40° to 158°F (-40° to 70°C)

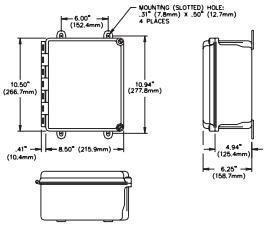
Optional Enclosures and Rating:
Stainless Steel: NEMA 4X, (equivalent to IP66)
Fiberglass: NEMA 4X, (equivalent to IP66)

Physical

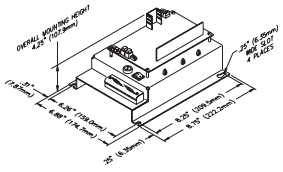
Approvals: CE Mark (with optional enclosures)



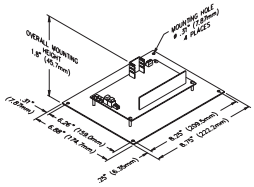
Nema-4X (STAINLESS STEEL) ENCLOSURE INSTALLATION MOUNTING DIMENSIONS



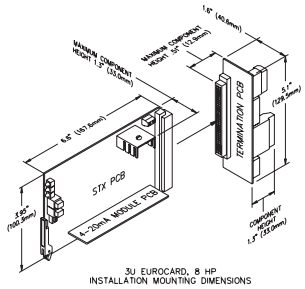
Nema-4X (FIBERGLASS) ENCLOSURE INSTALLATION MOUNTING DIMENSIONS



STX: POWER SUPPLY BRACKET ASSEMBLY INSTALLATION MOUNTING DIMENSIONS



PANEL MOUNTED STX: WITHOUT POWER SUPPLY INSTALLATION MOUNTING DIMENSIONS



3U EUROCARD, 8 HP INSTALLATION MOUNTING DIMENSIONS

P/N 97-7049-01 Rev A

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