KURZ INSTRUMENTS INC.

FLOW AVERAGING TRANSMITTER
SERIES 255 FOR MULTISENSOR ARRAYS

The Kurz Series 255 Flow Averaging Transmitter used in conjunction with the Series K-BAR 2000B multipoint flow meter is a versatile system transmitter designed to continuously read and analyze flow rates and temperatures in very large ducts that have non-uniform or unstable velocity profiles and/or wide temperature ranges. It is a state-of-the-art microprocessor-based system that powers and reads up to 16 independent sensing points, providing a mass-weighted average of the flow and temperature.

The Series 255 is designed for high reliability and high availability with multiple and independent power and communication ports so that wiring issues will not bring down the entire multisensor network.

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SPECIFICATIONS

- **Flow measurement range**
  0 to 70,000 SFPM x A (0 to 325 NMPS x A)
  A=pipe / duct area
- **Temperature measurement range**
  -40°F to 500°F (-40°C to 260°C) (HT elements)
  -40°F to 932°F (-40°C to 500°C) (HHT elements)
- **Measurement rate**
  < 0.1 second per sensor @ 38.4 kbps
- **Optically-isolated loop powered 4-20mA outputs (+/- 48 VDC isolation)**
  12-bit resolution and accuracy;
  Maximum loop resistance is 300 Ohm at 18 VDC,
  550 Ohm at 24 VDC, 1400 Ohm at 36 VDC
- **Display update 2 seconds**
- **Two optically isolated solid-state relays/alarms**
  0.5 A, 24 VDC optically coupled solid state relays
- **Electronics operating temperature**
  -20ºC to 50ºC
- **Input Power**
  Models 255A, 255B, 255C – 100-240 VAC, 50/60 Hz;
  Model 255DC – 24 VDC, 3.6-13.5 A,
  depending on number and type of flow sensors

CERTIFICATES & COMPLIANCES

- **Industrial Safety for Electrical Equipment**
  Ordinary Locations
  IEC/CSA/UL 61010-1 and 61010-2-030
  Hazardous Locations ETL/cETL, ATEX
  IEC/CSA/UL 60079-0 — Explosive Atmospheres
  IEC/CSA/UL 60079-7 — Increased Safety
  IEC/CSA/UL 60079-15 — Type of Protection
  IEC/CSA/UL 60079-31 — Equipment Dust Ignition
- **EMI Compliance**
  EN 61000-6-2 — EMC Immunity
  EN 61000-6-4 — EMC Emission
  EN 61000-3-2 — Harmonic Current Emissions
  EN 61000-3-3 — Voltage Fluctuations & Flicker
- **Environmental**
  IP 65 Ingress Protection
  IP 66 Ingress Protection
  NEMA Type 4X
- **NAMUR Signaling Standard**
  NE43-compliant 4-20mA outputs
  NE107-compliant front panel indicators

FEATURES

- **Up to 16 sensors providing point velocity, temperature, and sensor fault code**
- **Polycarbonate,stainless steel, or rack mount options**
- **Flow and temperature measurement data quality indication for event logging**
- **Maintains a 30-day log of daily flow totals**
- **Velocity-dependent correction factors for flow rate calculations**
- **Optically-isolated loop powered 4-20 mA output**
- **Two digital inputs**
  DI1 — external trigger to toggle Maintenance Mode
  DI2 — external trigger to initiate Zero-Span Cycle
- **Six power/data ports for input channel network segmentation**
  Reverse polarity, ESD, Surge, EFT, and EMI protection;
  Each port current limited to 3.4 A
- **One 4-20 mA non-isolated analog input**
- **Battery backed real-time clock**
- **User-defined TAG ID and flow area**
- **Three EEPROM data areas for system configuration restore points**
- **Automatic sensor out-of-tolerance indication, alarm, and re-averaging for multipoint flow elements**
- **Isolated USB to RS-485 port for auxiliary MODBUS connection to individual channels**
  Galvanic isolation up to 1000 VDC
- **User-configurable English or metric units for mass flow rate, mass velocity, and process temperature**
  KGH, KGM, NCMH, NLPM, NMPS, PPH, PPM, SCFH, SCFM, SFPM, SLPM, SMPS
- **Easy-to-use interface**
  Backlit Display with 4-lines of 20-characters each; 20-button keypad
- **User-configurable flow display (scrolling or static)**

MODELS

- **AC-Powered models**
  Model 255A up to 4 channels;
  Model 255B up to 9 channels;
  Model 255C up to 16 channels;
- **DC-Powered model**
  Model 255DC up to 16 channels

OPTIONS

- **NEMA Type 4X window kits for stainless steel enclosures**
- **Startup Assistance**
  Site visit by factory technicians for startup, installation verification, and commissioning
- **Field Calibration**
  In-situ flow profile traversing with calibrated measuring equipment by qualified technician