DRESSER
UTILITY SOLUTIONS

Dresser Measurement

Dresser ES3 Electronic TC Index

With the security of a proven mechanical index

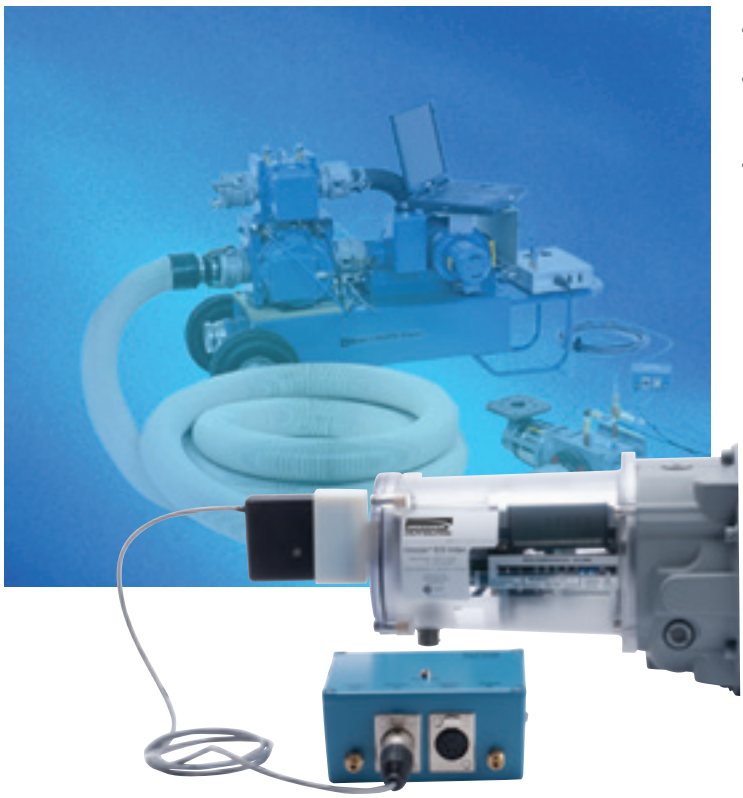
Dresser ES3 Electronic TC Indexes deliver accurate temperature compensation

Accuracy and reliability are key requirements when selecting a temperature compensating (TC) index.The ES3 product line from Dresser Measurement provides the accuracy and reliability you have come to trust from Dresser rotary meters, plus the added security of the established Dresser Series 3 non-compensated mechanical index. The Dresser ES3 is designed for the current temperature compensated Series B meter family.

Building upon our legacy of integrated metering solutions, the ES3 product line provides the consistency and dependability required for custody transfer applications. This full featured index provides an average battery life of 20 years, factory installation of the index and customized configuration and installation of Automated Meter Reading (AMR) endpoints.

Product Features and Benefits

- Non-compensated mechanical index
- Reduced TC proving time (up to 97%) on Model 5 Prover with simple, single cable ES3
- Non-volatile memory retains the last 150 days of time stamped logged data
- Factory installed index on both new and refurbished Dresser meters
- Factory configured indexes for immediate on-site installation
- Compatible with commercially available AMR devices
- Simple field replacement of existing Dresser meter indexes
- Single point temperature recalibration
- Configurable fixed pressure factor
- Tamper-resistant magnetic scrolling of LCD display
- 20 user selectable, scrollable display screens
- Non-compensated counter masked to customer requirements
- Battery life displayable in both months and voltage



ES3 Prover Cable to Model 5 Prover Field Junction Box

ES3 with AMR device installed

Testing is Fast and Simple

- Fast proving - two minute proving with Dresser Model 5 Transfer Prover
  - One communication cable to field junction box
  - Directly supported by factory
  - Preconfigured test files
  - Flow rate displayed for differential testing

AMR Compatibility

- Compatible with commercially available AMR devices
- Optional tamper resistant AMR mounting platform
- Itron's® AMR devices are factory installed and programmed upon request
- Two user configurable insulated AMR pulse output channels (Form A)
- One insulated alarm output (Form B) provided on indexes with AMR mounting platform

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Communication Compatibility

- Dresser MeterWare – communications software compatible with multiple Dresser metering products
- IrDA (Infra Red) communications interface
  - Configuration (User Terminal)
  - Prover testing
  - Temperature Calibration
  - Firmware upgrades

Series B meter with ES3 and AMR mounting bracket installed

Temperature Measurement System

- Extremely stable Class A, PT1000 precision RTD
- Range: -40 to 140°F (-40 to 60°C)
- Total ambient temperature effect: Less than 0.1°F (0.05°C) over entire temperature range

Temperature Reading Accuracy

- -40°F to 140°F: +/- 0.9°F (-40°C to 60°C: +/- 0.5°C)

Computational Accuracy

- Computation: +/-0.25% of compensated volume reading

Environmental Conditions

- Ambient temperature range: -40 to 140°F (-40 to 60°C)
- Ambient humidity range: 0 to 100% non-condensing

Certifications

- Designed for Class 1, Div 1, Group A, B, C and D Certification, to C22.2 No. 213 (CSA approval pending)
- Meets internationally recognized standards for moisture ingress protection (IP 65 and IP 67)
- Electromagnetic compliance per IEC standards
- Electrostatic discharge compliance per IEC standards

Warranty

- Four year ES3 index warranty
- 12 year battery warranty

Physical

- Dimensions: 6-3/4 x 5-1/4 x 5-1/4
- Weight: 2.75 lbs - Circular version
  3.20 lbs - AMR version

Display

- Screens – 20 (user selectable)
- Screens scrolling – magnetic switch

Power

- Sealed battery pack – Lithium Thionyl Chloride pack with CSA certified protective circuitry
- Average battery life of 20 years
- Flash memory for permanent information retention without power

Data Logging

- Data logging – 150 days of hourly logs
- Logged Data – Time, Stamp, Compensated volume, Non Compensated volume, Line temperature, Battery voltage, Faults and Alarms
- Audit trail – Parameter, Time Stamp, Old Value and New Value
- Data exportable to Microsoft® Excel®

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Alarms

- High temperature
- Low temperature
- High flow rate
- Volume input
- Low battery

Faults

- Temperature
- Volume
- Low battery
- Internal operation

Pulse Outputs

- Form A (normally open) outputs
  - Two user-selectable Form A outputs
  - Output representation: Compensated, Non-Compensated, Fault or Disabled
  - Pulse rate: User scaleable (x1, x10, x100 or x 1,000 cu. ft)
  - Pulse duration: User scalable (50, 150 or 250 ms)
  - AMR compatibility: Any Form A pulse collector such as Itron ERT
- Form B (normally closed) output - AMR version only
  - Dedicated Form B fault output
  - Output Representation: Fault or Disabled
  - User selectable fault output type:
    - Continuous: One 500 ms pulse every 30 seconds while fault is present
    - Latched: Provides a single 500 ms pulse output per each fault and selected alarm
- All pulse outputs are opto-isolated
- 8.2 V is the maximum applied voltage the isolation amplifier presents to the opto-isolaters
  - To maintain compliance with CSA requirements, use a suitable intrinsic safety barrier for a Class 1, Div 1, hazardous area for groups A, B, C, and D:
    - Do not exceed the following input values device:
      - Vi = 8.2 V
      - Ii = 10ma
    - The output and power handling capability of a barrier should not exceed:
      - Vout = 30 V
      - Iout = 50ma
  - For hazardous locations, use a recommended barrier such as Turck Brand IM1-12EX-T Single Channel or IM1-22 EX-R Dual Channel Barrier or equivalents. Refer to IOM:ES3 for more information.

Dresser Measurement

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