The Series IEFB is a field-adjustable insertion thermal energy meter that uses electromagnetic technology to accurately and reliably measure fluid velocity and energy consumption. The high accuracy IEFB is adjustable to fit pipe sizes from 4 to 10” (100 to 250 mm), while the standard accuracy IEFB fits pipe sizes 4 to 36” (100 to 900 mm). The energy meter is simple to install and incorporates a temperature meter and calculator into a single unit. The LCD display provides clear readings of the meter’s values, including temperature and energy consumption, making it ideal for installation on chillers, boilers, and other heating and cooling applications. The high measuring accuracy and long lifetime keeps annual operating costs at a minimum. In addition, it offers several output options, including selectable BACnet MS/TP or Modbus communications protocol over 2-wire RS-485 and standard analog, frequency, and alarm outputs.

**APPLICATIONS**
- Monitoring chilled cooling output performance
- Industrial boiler heating performance
- Energy efficiency monitoring
- Optimization of heat energy performance
- Commercial and residential heat energy consumption and metering
- District heating and cooling monitoring
- Energy cost allocation monitoring

**BENEFITS/FEATURES**
- Save time and reduce installation costs with flow, temperature sensors and calculator delivered in one preprogrammed, complete package.
- Maintain system energy efficiency with high performance accuracy that is maintained through changes in temperature, density or viscosity per universally accepted standard.
- Meet application requirements with field configurable setup displays (+-LCD integral option or remote accessory A-IEF-DSP), which accommodate a variety of application configurations with one model through multiple display configurations i.e. pipe size, type, liquid type, analog output, display selectable; female NPT conduit connection, (2) PG 16 gland or (2) PG 16 gland with 10 ft (3 m) female NPT conduit connection, (2) PG 16 gland with 10 ft (3 m) female NPT conduit connection.
- Quick and easy ordering and set up with Setup Wizard and installation tool that are simple to use and allow for precise installation.
- Save time with accessory setup kit A-IEF-KIT that ensures exact installation depth with included thickness gage and measuring tape.
- Reduced costs, long product life, and minimal maintenance requirements with no moving parts to wear or break and electrodes that discourage fouling.
- Minimize installation costs with isolation valve accessory options to allow for installation in operational systems via hot-tap kit or easy removal without system downtime.
- Required documents included with NIST traceable pass/fail verification certificate included standard for Carbon Steel Schedule 40 pipes sized 4” (102 mm), 6” (150 mm), 8” (200 mm).

**SPECIFICATIONS**
- **Service:** Compatible clean or dirty non coating, conductive liquids.
- **Range:** 0 to 20 ft/s (0 to 6 m/s).*
- **Wetted Materials:** Body: stainless; Electrodes: stainless SS; Electrode cap: Silversil; Thermowell: SS; Thermowells: 304 SS.
- **BTU Accuracy per EN1434/ASTM E3137/CSA C900.1-13:** High accuracy units: Class 2 for 2 to 20 ft/s (0.6 to 6 m/s) **; Standard accuracy units: Class 3 for 6.5 to 20 ft/s (2 to 6 m/s).**
- **Flow Sensor Accuracy:** High accuracy units: ±0.5% of reading at calibrated velocity, ±1% of reading from 2 to 20 ft/s (0.6 to 6 m/s) ±0.02% of ±0.006% at < 2 ft/s (0.6 m/s); Standard accuracy units: ±1% FS.
- **Temperature Accuracy:** Class B ±(0.30 + 0.005*t)°C per EN60751.
- **Differential Temperature Accuracy:** ΔT ±(0.5 + 3*ΔΘmin/ΔΘ) % per EN1434.
- **Temperature Limits:** Ambient: -20 to 160°F (-29 to 71°C) **; LCD –4 to 158°F (-20 to 70°C) Process: 15 to 250°F (49 to 121°C). Storage: -40 to 185°F (-40 to 85°C).
- **Process Connection:** Flowmeter: 1” NPT or BSPT with accessory full port ball valve options; Thermowell: (2) ¼” NPT or BSPT thermowell with 1” full port ball valve options.
- **Pressure Limit:** 400 psi (27.6 bar) @ 100°F (37.8°C).
- **Pressure Drop:** < 0.1 psi at 12 ft/s in 4” (<0.01 bar at 3.7 m/s in 100 mm) and larger pipes.
- **Outputs:** (1) Analog: 4-20 mA, 0-5 V, 0-10 V or 2-10 V (display selectable); (1) Pulse/Frequency: 0-15 V peak pulse, 0 to 500 Hz or scalable pulse output (display selectable); (2) Alarm: Empty pipe detection or minimum/maximum velocity, (display selectable).
- **Supported Baud Rates:** 9600, 19200, 38400, 57600, or 115200 bps (display selectable).
- **Pressure Ratings:** 20 ft/s (2 to 6 m/s) **.
- **Display (-LCD option):** 2 x 2” (50 x 50 mm) graphic LCD with backlight.
- **Conductivity:** >20 microsiemens.
- **Enclosure Material:** Powder coated die cast aluminum.
- **Enclosure Ratings:** NEMA 6P (IP68) (Non display models); NEMA 4X (IP66) (-LCD option).
- **Compliance:** BTL.

**COMMUNICATIONS (-COM OPTION)**
- Type: BACnet MS/TP or Modbus® RTU communication protocol (default disabled, display selectable).
- **Supported Baud Rates:** 9600, 19200, 38400, 57600, 78000, or 115200 bps (display selectable).
- **Device Load:** 1/8 unit load.

**ADDITIONAL SPECIFICATIONS**
- **Applicable Pipe Material:** Most popular plastic and metal pipes; i.e. Carbon steel, SS, copper, UPVC/PVF/DF, galvanized steel, mild steel, and brass.
- **Applicable Pipe Size:** 4 to 36” (100 to 900 mm), model dependent. See model chart.
- **Temperature Range:** Matched 4 wire platinum RTD’s.
- **Relative Humidity:** 10 to 90% non-condensing.
- **Output Impedance:** 4-20 mA: 536Ω; 5V: 500Ω; 10V: 1.27kΩ.**
- **Verification:** Certified at standard temperature 73.4°F (23°C) refer to listed standards for detailed accuracy formulations.

**APPLICATIONS**
- Energy cost allocation monitoring
- District heating and cooling monitoring
- Commercial and residential heat energy consumption and metering
- Industrial boiler heating performance
- Energy efficiency monitoring
- Optimization of heat energy performance
- Field Adjustable, BACnet/Modbus® Outputs
- Monitoring chilled cooling output performance
- Energy cost allocation monitoring
CONVENIENT ACCESS TO IEF AND IEFB METER READINGS

**REMOTE DISPLAY FOR SERIES IEF AND IEFB**

The Series A-IEF Remote Display can be installed almost anywhere near a Series IEF flow transmitter or IEFB thermal energy meter. Both the indicator display (A-IEF-IDSP-RM) and the full functional display (A-IEF-FDSP-RM) have a maximum display cable length of 100 ft (30 m) to permit easy viewing of flow readings. The full functional display allows for convenient adjustment of configuration settings and allows the user to save the IEF or IEFB configuration settings to a computer for printing.

**APPLICATIONS**
- Mechanical rooms with a small footprint
- Hard-to-reach piping
- Boilers and chillers
- Chilled water
- Condenser water
- Make-up water
- Heating water
- Boiler feed water
- Steam condensate

**SPECIFICATIONS**
- Temperature Limits: Ambient: -4 to 158°F (-20 to 70°C); Storage: -40 to 185°F (-40 to 85°C).
- Display: 3.3” diagonal graphic LCD. Backlight (full functional display only).
- Enclosure Material Housing: Powder coated die cast aluminum.
- Electrical Connection: Removable terminal blocks, #22 AWG (100 ft (30 m) max).
- Mounting: Wall or pipe mount.
- Weight: 2.46 lbs (1.12 kg).
- Compliance: CE.

**MODEL CHART**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>A-IEF-DSP-RM</td>
<td>Indicator remote display</td>
</tr>
<tr>
<td>A-IEF-FDSP-RM</td>
<td>Full functional remote display</td>
</tr>
</tbody>
</table>

**ACCESSORIES**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-IEF-CBL</td>
<td>Plenum rated cable 50 ft (15.2 m)</td>
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</tbody>
</table>

**INTEGRAL LCD DISPLAY**

- Full functional display
  - A-IEF-FDSP-RM
- Indicator display
  - A-IEF-IDSP-RM

Shown with IEF-HN-PG and A-IEF-VLV-BR accessory valve

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