In-Line Flow Meter
Series 534FTB

The Kurz 534FTB is designed with built-in inlet and outlet piping reducers/expanders to produce exceptional immunity to upstream and downstream flow disturbances caused by elbows, valves, and line size changes.

The patented technology results in output with exceptional low end-to-end pressure drop and the fastest response to velocity and temperature changes in the industry.

The Kurz 534FTB in-line flow meter includes the qualities and features found in all Kurz constant temperature thermal flow meters that make them outperform all other currently available thermal mass flow meters, including:

- The highest repeatability, accuracy, and reliability available
- The fastest response to temperature and velocity changes in the industry
- Constant temperature thermal technology
- High turndown ratio
- Low flow noise
- Continuous self-monitoring electronics that verify the integrity of sensor wiring and measurements
- Sensors do not overheat at zero flow using a unique constant temperature control method and power limiting design
- Sensor lead length independent circuitry
- Sensor lead length independent circuitry
- Zero velocity as a valid data point
- Completely field configurable using the local user interface or via a computer connection
- Supports HART, Profibus DP, and Modbus communication protocols
- Velocity-temperature mapping for wide ranging velocity and temperature
- User-defined binary gas compositions or up to five multiple gas calibrations
- Flexibility with transmitter-attached or transmitter-separate designs
- Patented digital sensor control circuit (US 7,418,878)

Kurz Instruments is dedicated to manufacturing and marketing the best thermal mass flow meters available and to support our customers in their efforts to improve their businesses.

Applications
- Process & specialty gases
- Compressed air
- Fuel flow
- Natural gas metering
- Solvent & VOC recovery
- NOx control using ammonia
- Flow calibration
- Air sampling
In-Line Thermal Mass Flow Meter
2411 Garden Road • Monterey, CA 93940 | 800-424-7356 • 831-646-5911 | www.KurzInstruments.com

**SPECIFICATIONS**

- **Mass flow range**
  - Up to 7,016 SCFM (10,944 NCMH) depending on model and calibration option
- **Flow accuracy** (SCFM at laboratory conditions)
  - ± (1 + 2000 x A/F)%
  - where F=SCFM, A=flow body area (ft^2)
- **0.25% reading repeatability**
- **Velocity time constant**
  - 1 second for velocity changes at 6,000 SFPM (constant temp)
- **Process temperature time constant**
  - 8 seconds for temperature changes at 6,000 SFPM (constant velocity)
- **Temperature accuracy**
  - ± (0.5% of reading +1ºC) for velocities above 100 SFPM
- **Electronics operating temperature**
  - Integral display: -13ºF to 149ºF (-25ºC to 65ºC)
  - Remote aluminum display: -40ºF to 149ºF (-40ºC to 65ºC)
  - Remote polycarbonate display: -13ºF to 122ºF (-25ºC to 50ºC)

**PROCESS CONDITIONS**

- **Process pressure rating**
  - Up to 300 PSIG (20 BARg)
- **Process temperature rating**
  - -40ºF to 257ºF (-40ºC to 125ºC)

**APPROVALS**

- **EPA mandatory GHG certification**
  - 40 CFR 98.34(c)(1)
- **Alarm output conformity**
  - NAMUR NE43
- **European Union CE compliance**
  - EMC, LVD, PED, ROHS, and WEEE
- **Canadian Registration**
  - CRN
- **CSA, ATEX & IECEx approvals for**
  - Nonincendive, Flameproof, and Explosion-proof
  - EN IEC 60079-0, EN IEC 60079-1
  - EN IEC 60079-15, CSA Class I, Div. 1 and 2

**TRANSMITTER FEATURES**

- **Aluminum (Type 4, IP66) dual chamber polyester powder-coated enclosure**
- **Adjustable display/keypad orientation**
- **Two optically-isolated 4-20 mA outputs**
  - 12-bit resolution and accuracy
  - Maximum loop resistance is 500Ω at 18 V DC, 800Ω at 24 V DC, 1400Ω at 36 V DC
- **Input power**
  - AC (85-264 V 50/60 Hz, 24 watts max.) or DC (24 V ±10%), 1 A max.
- **Solid state relays**
  - Optically isolated, 0.5 A, 24 V AC/DC maximum
- **Integral or remote user interface**
  - Easy-to-use interface
  - Backlit display / keypad
  - 2-lines of 16-characters each
- **User-configurable flow display**
  - (scrolling or static)
- **User-configurable English or metric units for mass flow rate, mass velocity, and process temperature**
  - °C, °F, KGH, KGM, NCMH, NLPM, NMPS, PPD, PPH, PPM, SCFH, SCFM, SCMH, SLPM
- **Two optically isolated solid-state relays / alarms**
  - Configurable as alarm outputs or pulsed totalizer output, or air purge cleaning
- **Built-in flow totalizers and elapsed time**
- **User-configurable digital filtering**
  - from 0 to 600 seconds
- **Configuration/data access**
  - USB or RS-485 Modbus (ASCII or RTU)
- **Meter memory**
  - 200 recent events, top 20 min/max, and 56 hours (10 second samples of trends)
- **3-year warranty**

**SUPPORT & ELEMENT COMPONENTS**

- **Sensor material**
  - C-276 alloy all-welded sensor construction
- **Sensor support**
  - 316L stainless steel
- **Sensor flow body diameter options**
  - Available from 1/2" to 8"
- **Connection type**
  - Raised-face flange (Class 150 ANSI B16.5 or Class 30 ANSI B16.5) or male NPT pipe ends
- **3-year warranty**

**OPTIONS**

- **Enclosures**
  - Aluminum, stainless steel, or polycarbonate (remote only)
- **Multiple gas calibrations with up to five curves loaded in memory**
- **User-defined binary gas composition**
- **Communication protocols**
  - HART (v7 FSK) and PROFIBUS DP
- **One 4-20mA non-isolated analog input**
- **Digital input dedicated to zero-mid-span drift check**
- **Pulsed output as a remote flow totalizer**
- **Hardware accessories**
  - Available hardware includes sun shades, ball valves, cable glands, conduit seals, and cable

**Series 534FTB**

In-Line Thermal Mass Flow Meter
PROCESS TEMPERATURE & COMPENSATION

Temperature influences the physical properties of gases, so temperature compensation is required for a thermal sensor to accurately measure gas flow rates.

- **Standard Temperature Compensation (STC)** is used for process temperatures from 0°C to 125°C over a moderate velocity range.
- **Velocity Temperature Mapping (VTM)** is used when the process temperature and gas velocity vary widely. Multiple velocity calibrations are stored in the meter. VTM compensation is based on air; specific gas correlations are required to ensure accuracy at high temperatures.

The flow area (Fa) is the flow measurement section of the 534FTB, as shown in Parent Number table.

SPECIALTY GAS VELOCITY CALIBRATION

There are two types of gas calibration:

- **Laboratory gas calibrations** are performed with gases of high purity and are NIST traceable. Values above the calibrating facility limit are correlated up to the specified range. Customers must specify the calibration process pressure.

- **Correlation gas calibrations** are based on experimental data correlated to an Air calibration at ambient pressure and temperature. The flow element is calibrated in Air, and then an additional calibration data sheet is generated using the correlation factors. All correlation calibrations include velocity-temperature mapping.

Add ±5% of reading to the accuracy specification when using a correlation calibration.

For Oxygen gas, the customer is responsible for ensuring the mass flow sensor is clean of hydrocarbons and safe for Oxygen use.

ANALOG & DIGITAL INPUTS

All options include USB interface with ASCII text and Modbus protocol through RS-485.

The 4-20mA analog outputs (AO) are used for flow rate and/or temperature, or one AO for PID flow control. All AO are NAMUR NE-43 compliant.

Relay digital outputs (DO) can be alarms, EPA zero-mid-span drift is active, or pulsed totalizer function. PID uses one 4-20mA output for the flow controller. The EPA zero-mid-span drift check requires a contact closure to start the drift check. All 4-20mA outputs are used during the Drift Check Calibration process.

EPA zero-mid-span drift check can be initiated using digital inputs (DI), elapsed runtime automatic drift check, Modbus, or HART.

The 4-20mA analog input (AI) supports feedback to the device.
SERIES 534FTB OUTLINE DRAWINGS (cont'd)

ZONE 2
Ex n DESIGN
FIBERGLASS ENCLOSURE
TYPE 4, IP66

SENSOR ELECTRONICS FOR REMOTELY ATTACHED
ELECTRONICS ENCLOSURE (TS) (WALL MOUNT)
W/ DISPLAY & KEYPAD OPTION (SHOWN)
(NOTES 3 & 4)

ZONE 1
Ex d DESIGN
ALUMINUM ENCLOSURE
TYPE 4, IP66

MODEL 534FTB-08B
FLOW BODY ASSEMBLY FOR REMOTELY ATTACHED
ELECTRONICS ENCLOSURE (TS) SHOWN
(NOTES 1, 3, & 4)

FLOW DIRECTION ARROW

GROUND LUG
#10-32 SCREW

POWER INPUT OUTPUTS
SENSOR INPUTS

CAUTION LABEL
AC OR DC

FLANGES (STANDARD)
MNPT (OPTIONAL)
(SEE FEATURE 3)

FLOW BODY ASSEMBLY FOR REMOTELY ATTACHED
ELECTRONICS ENCLOSURE (TS) SHOWN
(NOTES 1, 3, & 4)

SENSE NAMER ELECTRONICS FOR REMOTELY ATTACHED ELECRONICS ENCLOSURE (TS) (WALL MOUNT) W/ DISPLAY & KEYPAD OPTION (SHOWN)
(NOTES 3 & 4)

ZONE 2
Ex n DESIGN
FIBERGLASS ENCLOSURE
TYPE 4, IP66

SENSOR ELECTRONICS FOR REMOTELY ATTACHED
ELECTRONICS ENCLOSURE (TS) (WALL MOUNT)
W/ DISPLAY & KEYPAD OPTION (SHOWN)
(NOTES 3 & 4)

ZONE 1
Ex d DESIGN
ALUMINUM ENCLOSURE
TYPE 4, IP66

MODEL 534FTB-08B
FLOW BODY ASSEMBLY FOR REMOTELY ATTACHED
ELECTRONICS ENCLOSURE (TS) SHOWN
(NOTES 1, 3, & 4)

FLOW DIRECTION ARROW

GROUND LUG
#10-32 SCREW

POWER INPUT OUTPUTS
SENSOR INPUTS

CAUTION LABEL
AC OR DC

FLANGES (STANDARD)
MNPT (OPTIONAL)
(SEE FEATURE 3)

FLOW BODY ASSEMBLY FOR REMOTELY ATTACHED
ELECTRONICS ENCLOSURE (TS) SHOWN
(NOTES 1, 3, & 4)
TABLE 1 - ENCLOSURE DIMENSIONS (NOTE 3)

<table>
<thead>
<tr>
<th>MODEL NUMBER</th>
<th>NORMAL PIPE SIZE (INCHES)</th>
<th>DIMENSIONS (INCHES)</th>
<th>NET WEIGHT (APPROX. 1 LB = 0.45 kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>L(1)</td>
<td>H(2)</td>
</tr>
<tr>
<td>534FTB-06A</td>
<td>1”</td>
<td>0.0 (0.0mm)</td>
<td>6.17 (156.9mm)</td>
</tr>
<tr>
<td></td>
<td>3/4”</td>
<td>0.0 (0.0mm)</td>
<td>6.17 (156.9mm)</td>
</tr>
<tr>
<td>534FTB-06C</td>
<td>1”</td>
<td>0.0 (0.0mm)</td>
<td>6.17 (156.9mm)</td>
</tr>
<tr>
<td>534FTB-06A</td>
<td>1”</td>
<td>0.0 (0.0mm)</td>
<td>6.25 (158.8mm)</td>
</tr>
<tr>
<td>534FTB-06B</td>
<td>3/4”</td>
<td>0.0 (0.0mm)</td>
<td>6.25 (158.8mm)</td>
</tr>
<tr>
<td>534FTB-06C</td>
<td>1”</td>
<td>0.0 (0.0mm)</td>
<td>6.25 (158.8mm)</td>
</tr>
</tbody>
</table>

Notes:
1) THIS PROBE CONFIGURATION ALSO USED FOR DIRECTLY ATTACHED, DC POWERED, NO DISPLAY.
2) SENSOR WIRE TERMINAL J-BOX USED FOR SENSOR ELECTRONICS FOR DC POWERED, NO DISPLAY.
3) ENCLOSURE STYLES AND DIMENSIONS ARE SUBJECT TO CHANGE.
4) THIS CONFIGURATIONS ALLOWS FOR PROBE ASSY TO BE MOUNTED IN ZONE 1 AREA AND FOR REMOTE ELECTRONICS TO BE MOUNTED IN ZONE 2 AREA.
5) 1 DIMENSION IS OVERALL END TO END.
6) ADD 0.37” (9.4mm) TO L AND L1 DIMENSIONS FOR KIT OPTION.
7) WEIGHTS SHOWN ARE FOR DIRECTLY ATTACHED, AC POWER, WITH DISPLAY. FOR REMOTELY ATTACHED VARIATIONS ADD 4.0 LBS. (1.82 kg).
**ESTIMATED PRESSURE DROP**

To compute the expected pressure drop for a flow rate, multiply the full scale pressure drop by the square of the flow ratio.

**Table B: Estimated Pressure Drop (DPs)**

<table>
<thead>
<tr>
<th>Gas Type</th>
<th>Inches H₂O</th>
<th>mm H₂O</th>
<th>kPa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air</td>
<td>7.5</td>
<td>191</td>
<td>1.86</td>
</tr>
<tr>
<td>Argon</td>
<td>10.3</td>
<td>263</td>
<td>2.56</td>
</tr>
<tr>
<td>Butane</td>
<td>15.1</td>
<td>382</td>
<td>3.73</td>
</tr>
<tr>
<td>Carbon Dioxide</td>
<td>11.4</td>
<td>289</td>
<td>2.83</td>
</tr>
<tr>
<td>Dry Ammonia</td>
<td>4.4</td>
<td>112</td>
<td>1.09</td>
</tr>
<tr>
<td>Dry Chlorine</td>
<td>18.4</td>
<td>466</td>
<td>4.55</td>
</tr>
<tr>
<td>Ethane</td>
<td>7.8</td>
<td>198</td>
<td>1.93</td>
</tr>
<tr>
<td>Ethylene</td>
<td>7.3</td>
<td>185</td>
<td>1.80</td>
</tr>
<tr>
<td>Helium</td>
<td>1.0</td>
<td>26</td>
<td>0.26</td>
</tr>
<tr>
<td>Hydrogen</td>
<td>0.5</td>
<td>13</td>
<td>0.13</td>
</tr>
<tr>
<td>Methane</td>
<td>4.2</td>
<td>106</td>
<td>1.03</td>
</tr>
<tr>
<td>Digester Gas: 50% CH₄, 50% CO₂</td>
<td>7.8</td>
<td>198</td>
<td>1.93</td>
</tr>
<tr>
<td>Digester Gas: 60% CH₄, 40% CO₂</td>
<td>7.1</td>
<td>179</td>
<td>1.75</td>
</tr>
<tr>
<td>Digester Gas: 70% CH₄, 30% CO₂</td>
<td>6.3</td>
<td>161</td>
<td>1.57</td>
</tr>
<tr>
<td>Nitrogen</td>
<td>7.3</td>
<td>184</td>
<td>1.80</td>
</tr>
<tr>
<td>Oxygen</td>
<td>8.3</td>
<td>210</td>
<td>2.06</td>
</tr>
<tr>
<td>Propane</td>
<td>11.4</td>
<td>290</td>
<td>2.83</td>
</tr>
</tbody>
</table>

**Note:** Estimated pressure drop (DPs) is the end-to-end pressure drop at standard conditions at the baseline flow rate in Table A.
In-Line Thermal Mass Flow Meter

F1  Option  Electronics Enclosure Configuration and Input Power
A  Directly attached dual-chamber electronics enclosure, AC/DC power, display / keypad
B  Directly attached dual-chamber electronics enclosure, AC/DC power, without display / keypad
C  Directly attached dual-chamber electronics enclosure rotated 180° for viewing, AC/DC power, display / keypad
D  Remote dual-chamber electronics enclosure, AC/DC power, display / keypad
E  Remote dual-chamber electronics enclosure, AC/DC power, without display / keypad
F  Directly attached dual-chamber electronics enclosure, DC power, display / keypad
G  Directly attached single-chamber electronics enclosure rotated 180° for viewing, DC power, display / keypad
H  Directly attached single-chamber electronics enclosure, DC power, without display / keypad
I  Remote dual-chamber electronics enclosure, DC power, display / keypad
J  Remote single-chamber electronics enclosure, DC power, without display / keypad
R  Remote polycarbonate electronics enclosure, AC/DC power, with display / keypad
S  Remote polycarbonate electronics enclosure, AC/DC power, without display / keypad
V  Stainless steel sensor and electronics enclosures, AC power, with display / keypad
W  Stainless steel sensor and electronics enclosures, AC power, without display / keypad
X  Stainless steel sensor and electronics enclosures, DC power, with display / keypad
Y  Stainless steel sensor and electronics enclosures, DC power, without display / keypad

F2  Option  Sensor Material (first digit)
3  C-276 alloy

F3  Option  Flow Body Material (second digit)
2  316L stainless steel

F4  Option  Flow Body Connection Type & Pressure Rating
A  Male NPT pipe ends (MNPT)  300 PSIG
B  Class 150 ANSI B16.5 flanges (CL150)  150 PSIG
C  Class 300 ANSI B16.5 flanges (CL300)  300 PSIG

F5  Option  Process Temperature Compensation
1  Standard temperature compensation over process range of -40°C to 125°C for all gases. Accuracy: ± (1 + 2000 x A/F) %, where F = SCFM, A= flow body area (ft²)

Note: An accuracy specification of ±0.025%/°C = (A*)(0.25 SFPM/°C) should be added for temperatures above or below standard.

Parent Number  Model  Inlet / Outlet Pipe Size  Length

755438  S34FTB-06A  0.5” (13 mm)  9” (229 mm)
755439  S34FTB-06B  0.75” (19 mm)  9” (229 mm)
755440  S34FTB-06c  1” (25 mm)  9” (229 mm)
755441  S34FTB-08A  0.5” (13 mm)  15” (381 mm)
755442  S34FTB-08B  0.75” (19 mm)  15” (381 mm)
755443  S34FTB-08C  1” (25 mm)  15” (381 mm)
755444  S34FTB-12A  0.75” (19 mm)  20” (508 mm)
755445  S34FTB-12B  1” (25 mm)  20” (508 mm)
755446  S34FTB-12C  1.5” (38 mm)  20” (508 mm)
755447  S34FTB-16A  1” (25 mm)  26” (660 mm)
755448  S34FTB-16B  1.5” (38 mm)  26” (660 mm)
755449  S34FTB-16C  2” (51 mm)  26” (660 mm)
755450  S34FTB-24A  1.5” (38 mm)  38” (965 mm)
755451  S34FTB-24B  2” (51 mm)  38” (965 mm)
755452  S34FTB-24C  3” (76 mm)  38” (965 mm)
755453  S34FTB-32A  2” (51 mm)  48” (1219 mm)
755454  S34FTB-32B  3” (76 mm)  48” (1219 mm)
755455  S34FTB-32C  4” (102 mm)  48” (1219 mm)
755459  S34FTB-48A  3” (76 mm)  72” (1829 mm)
755460  S34FTB-48B  4” (102 mm)  72” (1829 mm)
755461  S34FTB-48C  6” (152 mm)  72” (1829 mm)
755462  S34FTB-64A  4” (102 mm)  94” (2388 mm)
755463  S34FTB-64B  6” (152 mm)  94” (2388 mm)
755464  S34FTB-64C  8” (203 mm)  94” (2388 mm)

Note: Model lengths from 9” to 48” use the MD sensor type. Model lengths 72” and 94” use the FD2 sensor type.
**F5 Gas Flow Rate Calibration Data Range**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>100% Qmax</td>
<td>I</td>
<td>60% Qmax</td>
</tr>
<tr>
<td>B</td>
<td>95% Qmax</td>
<td>J</td>
<td>55% Qmax</td>
</tr>
<tr>
<td>C</td>
<td>90% Qmax</td>
<td>K</td>
<td>50% Qmax</td>
</tr>
<tr>
<td>D</td>
<td>85% Qmax</td>
<td>L</td>
<td>45% Qmax</td>
</tr>
<tr>
<td>E</td>
<td>80% Qmax</td>
<td>M</td>
<td>40% Qmax</td>
</tr>
<tr>
<td>F</td>
<td>75% Qmax</td>
<td>N</td>
<td>35% Qmax</td>
</tr>
<tr>
<td>G</td>
<td>70% Qmax</td>
<td>P</td>
<td>30% Qmax</td>
</tr>
<tr>
<td>H</td>
<td>65% Qmax</td>
<td>Q</td>
<td>25% Qmax</td>
</tr>
</tbody>
</table>

**F6 Specialty Gas Velocity Calibration**

<table>
<thead>
<tr>
<th>Laboratory Calibration</th>
<th>Correlation Calibration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>010</td>
<td>–</td>
<td>Ambient Air</td>
</tr>
<tr>
<td>070</td>
<td>–</td>
<td>Compressed Air</td>
</tr>
<tr>
<td>–</td>
<td>0K0</td>
<td>Compressed Air (correlated to 4x baseline flow rate)</td>
</tr>
<tr>
<td>–</td>
<td>560</td>
<td>Dry Ammonia</td>
</tr>
<tr>
<td>080</td>
<td>580</td>
<td>Argon</td>
</tr>
<tr>
<td>–</td>
<td>600</td>
<td>Butane</td>
</tr>
<tr>
<td>140</td>
<td>640</td>
<td>Carbon Dioxide</td>
</tr>
<tr>
<td>–</td>
<td>680</td>
<td>Dry Chlorine</td>
</tr>
<tr>
<td>200</td>
<td>700</td>
<td>Ethane</td>
</tr>
<tr>
<td>220</td>
<td>720</td>
<td>Ethylene</td>
</tr>
<tr>
<td>260</td>
<td>760</td>
<td>Helium</td>
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<tr>
<td>280</td>
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<td>Hydrogen</td>
</tr>
<tr>
<td>320</td>
<td>820</td>
<td>Methane</td>
</tr>
<tr>
<td>350</td>
<td>850</td>
<td>Digester Gas; 50% CH4, 50% CO2</td>
</tr>
<tr>
<td>360</td>
<td>860</td>
<td>Digester Gas; 60% CH4, 40% CO2</td>
</tr>
<tr>
<td>370</td>
<td>870</td>
<td>Digester Gas; 70% CH4, 30% CO2</td>
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<tr>
<td>–</td>
<td>8K0</td>
<td>User-Defined Binary Gas Composition</td>
</tr>
<tr>
<td>–</td>
<td>8M0</td>
<td>One Gas Curve</td>
</tr>
<tr>
<td>–</td>
<td>8N0</td>
<td>Two Gas Curves</td>
</tr>
<tr>
<td>–</td>
<td>800</td>
<td>Three Gas Curves</td>
</tr>
<tr>
<td>–</td>
<td>8P0</td>
<td>Four Gas Curves</td>
</tr>
<tr>
<td>–</td>
<td>8Q0</td>
<td>Five Gas Curves</td>
</tr>
<tr>
<td>400</td>
<td>900</td>
<td>Nitrogen</td>
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<tr>
<td>440</td>
<td>940</td>
<td>Oxygen</td>
</tr>
<tr>
<td>460</td>
<td>960</td>
<td>Propane</td>
</tr>
</tbody>
</table>

**F7 Option Safety Approvals**

<table>
<thead>
<tr>
<th>Option</th>
<th>Safety Approvals</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Non-Incendive, CSA, ATEX, and IECEx</td>
</tr>
<tr>
<td>B</td>
<td>Explosion-Proof, CSA, ATEX, and IECEx</td>
</tr>
</tbody>
</table>

**F8 Option Process Pressure**

Enter the Absolute Pressure (PSIA) rounded to 3 digits. For example, a process Absolute Pressure of 14.7 PSI, rounded to 15.0 and enter 015; for 150 PSI enter 150.

**F9 Option Communications and Inputs/Outputs**

<table>
<thead>
<tr>
<th>Option</th>
<th>Communications and Inputs/Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Two 4-20mA isolated outputs</td>
</tr>
<tr>
<td>C</td>
<td>Two 4-20mA isolated outputs, two relays, two digital inputs, one non-isolated 4-20mA input</td>
</tr>
<tr>
<td>E</td>
<td>One 4-20mA isolated output, two relays, two digital inputs, one non-isolated 4-20mA input</td>
</tr>
<tr>
<td>H</td>
<td>Two 4-20mA isolated outputs, two relays, two digital inputs, one non-isolated 4-20mA input</td>
</tr>
<tr>
<td>K</td>
<td>Two 4-20mA isolated outputs, two relays, two digital inputs, one non-isolated 4-20mA input</td>
</tr>
</tbody>
</table>

**F10 Option Process Temperature**

Enter the Absolute Temperature (°Rankin = °F + 460) rounded to 3 digits. For example, a Process Temperature of 77°F is written as 537 (77 + 460).