INTEGRATED FLAME SCANNER
WITH TWO INTERNAL FLAME RELAYS
Type 95DSS3

The FIREYE InSight II Type 95DSS3 flame scanners are micro-processor based flame scanners utilizing both solid state infrared (IR) and ultraviolet (UV) sensors.

The FIREYE InSight II flame scanners incorporate two internal flame relays with adjustable ON/OFF thresholds and two 4-20 mA analog outputs, thereby eliminating the need for a remote flame amplifier.

The FIREYE InSight II scanners are powered by 24 Vdc and have electronic self checking. Model 95DSS3-1 has one 8-pin and one 12-pin electrical cable quick disconnect. Models 95DSS3-1CEX and -1WICEX have internal terminal blocks for cable connection. The scanners have either an attached Keypad & VFD display, or an infrared transmitter for a remote handheld keypad / display.

### INSIGHT II SCANNER FEATURES

<table>
<thead>
<tr>
<th>Features</th>
<th>95DSS3-1</th>
<th>95DSS3-1CEX</th>
<th>95DSS3-1WICEX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrared &amp; Ultraviolet Sensors</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Flame Relays (2)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Fault Relay</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>4-20 mA Outputs (2)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Modulation Frequency Selections</td>
<td>21</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>Memory Files</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Communications</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Auto Config</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>NEMA 4X, IP66 Housing</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Keypad &amp; VFD Display</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>IR Transmitter for remote handheld display</td>
<td>ordered separately</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Area Classification:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class I DIV 2, Group A,B,C,D,F,G</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ex nA nC IIC T4</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ex d IIC T6</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>
**INSIGHT II SCANNER SPECIFICATIONS**

**MECHANICAL:**

- **Housing Material:** Cast aluminum with gray polyester powder coat finish
- **Housing Weight:** 5.9 lbs (2.69kg), 7.1 lbs (3.22kg) “CEX” models, flange additional
- **Environmental:** NEMA 4X, IP66
- **Area Classification:**
  - 95DSS3-1: Class I Div 2, Groups A, B, C, D, Class II Div 2, Groups F & G
  - 95DSS3-1CEX, -1WICEX: Ex d IIC T6
- **Mounting:** Requires one of two threaded mounting flanges, ordered separately (see below)
- **Mounting Flanges:** Contains an integral heat-insulating female thread insert (heat insulating nipple not required)
- **Flange Threads:**
  - P/N 60-2919-1 1”NPT female pipe mount with 3/8” NPT female cooling air connection.
  - P/N 60-2919-2 1”BSP female pipe mount with 3/8” BSP female cooling air connection.
- **Cooling / Purge Air Weight:** 0.62 lbs (0.28kg)
- **Cooling / Purge Air Requirements:** Volume: 4 SCFM (113 l/min) at 3/8” threaded mounting flange, or 1 inch “Y” fitting, mounted on scanner sight pipe. Temperature near the upper limit of the scanner operating range and/or use with dirty/dusty fuels may require up to 15 SCFM (425 l/min).
- **Temperature Rating:** -40° to +150°F (-40°C to +65°C)
- **Humidity:** 0% to 95% relative humidity, non-condensing

**ELECTRICAL:**

- **Input Power:** 24 Vdc, +10%, -15% supply current, .35 A, 8.5 VA
- **Electrical Connection:** 8-pin and 12-pin screw type quick disconnect (non-CEX), “CEX” models have internal terminal blocks
- **Relay Output:**
  - FLAME RELAY 1, SPDT (1 N.O, 1 N.C.)
  - FLAME RELAY 2, SPDT (1 N.O, 1 N.C.)
  - FAULT RELAY, SPST (1 N.O.)
- **Contact Rating:**
  - Minimum: 10mA @ 5 Vdc
  - Maximum: 100 mA @ 30 Vdc, 100 mA @ 50 Vac
- **Analog Output:** Two, 4-20 mA dc current, referenced to 24 Vdc common, maximum connected load: 750 ohms
- **Operator Interface:**
  - P/N 95DISP-1 Alpha-Numeric Display with five push button keys.
  - P/N 95WIDISP-2 Infrared Transmitter, used in conjunction with P/N 95WIHH-2 hand-held communications tool.
- **Cable Specification:**
  - P/N 59-546 [8-conductor], P/N 59-547 [12-conductor]:
    - Multi-core, 8 and 12 conductor [color coded], 18- AWG, with foil wrap and overall braided shield and drain wire. PLT-C-ER rating. Maximum cable length 1000 feet (305 meters)
    - Cable Jacket: PVC / black (flame-retardant, low smoke, zero halogen)
    - Temperature Rating: -40 F to +221 F (-40 C to +105 C)
  - P/N 59-546 Nominal O.D. 0.44” [11.2 mm], maximum O.D. 0.48” [12.2mm]
  - P/N 59-547 Nominal O.D. 0.52” [13.2 mm], maximum O.D. 0.56” [14.2mm]
  - Maximum cable length 1000 feet (305 meters)

**Thinking Beyond the Traditional...**

3 Manchester Road
Derry, NH 03038 USA
tel: 603-432-4100 • fax: 603-432-1570
www.fireye.com

INS-2
OCTOBER 2014