

# InSight® II Feature Update Technical Document



## Engineering Code 17 Updates 95DSS3

Effective 1st of July 2022 all 95DSS3 flame scanners will be shipped with new firmware & new hardware features.

Following upgrades have been implemented, Engineering Code 17:

1. Flame Failure Detection Time (FFDT)

DC option added to FFDT

Range is now: 1 (default) to 6 and DC<sup>NEW</sup>. This allows the scanner to be used on Burner Controllers with DC input without exceeding the total limited FFRT of 1 sec.

2. Range Selection

UV & IR Range selection has been replaced with numerical option.

- UV Range Low, Med & High options are replaced a number from 1 to 10<sup>NEW</sup>
- IR Range Low, Low+1, Low+2, Med & High are replaced by a number from 1 to 10<sup>NEW</sup>

Expert Range Selection added.

The user has the ability to select between:

- Standard Range (default): A factory calibrated range can be selected between 1 to 10.
- Expert Range<sup>NEW</sup>: The user sets the pre-amplifier directly with a value between 0 & 255.

The scanner will calculate the correct range when switching over from Standard to Expert and vice versa.

For example : The figure below shows the selectable ranges in each mode if the scanner were calibrated for a value of 180 for the Standard range of 10.



Firmware 16												Factory Calibration Value	
UV	Selection	Low				Med						High	Factory calibration shall be between 145 and 255
	Value	0				90						180	
IR	Selection	Low	Low+1	Low+2		Med						High	
	Value	0	13	26		90						180	
Firmware 17													
Standard	IR/UV	Selection	1	2	3	4	5	6	7	8	9	10	N/A
		Value	0	20	40	60	80	100	120	140	160	180	N/A
Expert	IR/UV	Selection / Value	Range 0 to 180										Range 180 to 255

The tables above shows the relationship between the old & new settings

3. Manual configuration setting option for the UV & IR range.

This option used to be only available in the 'Automatic Configuration' menu but is now available in all important menus as shown below.

- Config Menu
  - Automatic Config Menu
  - Manual Config FR1<sup>NEW</sup>
    - UV Settings<sup>NEW</sup>
    - IR Settings<sup>NEW</sup>
- Manual Config FR2<sup>NEW</sup>
  - UV Settings<sup>NEW</sup>
  - IR Settings<sup>NEW</sup>

**Note: The AIM value will also be shown when the range is being selected.**



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### 4. Remote file select switching has been improved

*Automatic switching from File A to B, or vice versa, following to a Flame Relay changeover is now available. An Automatic File Select delay can be set between 0 & 60 seconds.*

- Key Pad
- Line
- Modbus
- Flame Relay A->B<sup>NEW</sup>

### 5. Analog output re-design

Analog 4-20mA through update, now offering an ungrounded<sup>NEW</sup> temperature-compensated<sup>NEW</sup> output related to:

- Flame Quality 0-100
- Flame Signal 0-999
- UV Front End Gain<sup>NEW</sup> 4mA = Low UV intensity, 20mA = High UV intensity
- IR Front End Gain<sup>NEW</sup> 4mA = Low IR intensity, 20mA = High IR intensity

### 6. Hardware improvements

#### Cold temperature

The scanner has proven cold-start-up functionality down to -50°C/-58°F and therefore the warning -40°C/-40°F has been removed.

#### Print circuit board upgrade

Repositioned components to avoid field damage and add additional protection to circumvent wiring mistakes.

#### Increase the life cycle of sealed relays

The most common reason for relay contact failures is the deposition of polluting materials which increases the contact resistance or cause corrosion of the contacts. This especially occurs in changing temperature/humidity environments such as burner fronts. Fireye offers a procedure to verify the status of the relay and have also added a special RFEH<sup>NEW</sup> (Relay Feedback Error Handling Procedure) to increase the life cycle of the sealed relays and helps prevent the effect Silicon contamination.

### 7. Obsolete models

The upgrade of the 95DSS3 firmware & hardware has also resulted in two flame scanner models becoming obsolete. These are the Insight 95DSS3-2 series flame scanners, capable of switching higher current than the standard -1 version (>1A@230Vac).

The following part-numbers are now no longer available:

- 95DSS3-2
- 95DSS3-2WINC
- 95DSS3-2WOC

For more information, please [contact](#) your Regional Sales Manager.

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