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[NEW]. 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[NEW]
   - IR Range Low, Low+1, Low+2, Med & High are replaced by a number from 1 to 10[NEW]

   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[NEW]: 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 vise 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.

Engineering Code 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**	
Engineering Code 17													
Standard	IR	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	Selection / Value	Range 0 to 180										Range 180 to 255
Standard	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	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[NEW]
       - UV Settings[NEW]
   - Manual Config FR2[NEW]
     - UV Settings[NEW]
     - IR Settings[NEW]

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

4. Remote file select switching has been improved
   Automatic switching from File A to B, or vise 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^{NEW}

5. Analog output re-design
   Analog 4-20mA through update, now offering an ungrounded^{NEW} temperature-compensated^{NEW} output related to:
   • Flame Quality 0-100
   • Flame Signal   0-999
   • UV Front End Gain^{NEW} 4mA = Low UV intensity, 20mA = High UV intensity
   • IR Front End Gain^{NEW} 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^{NEW} (Relay Feedback Error Handling Procedure) to increase the life cycle of the sealed relays and helps prevent the effect Silicon contamination.
   (For more details on RFEH operation, refer to the latest CU-113 bulletin from Fireye website)

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.

fireye.com

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