OSID® Release Note

V5.00.06

OSID

Release Type:

Firmware upgrade

Purpose

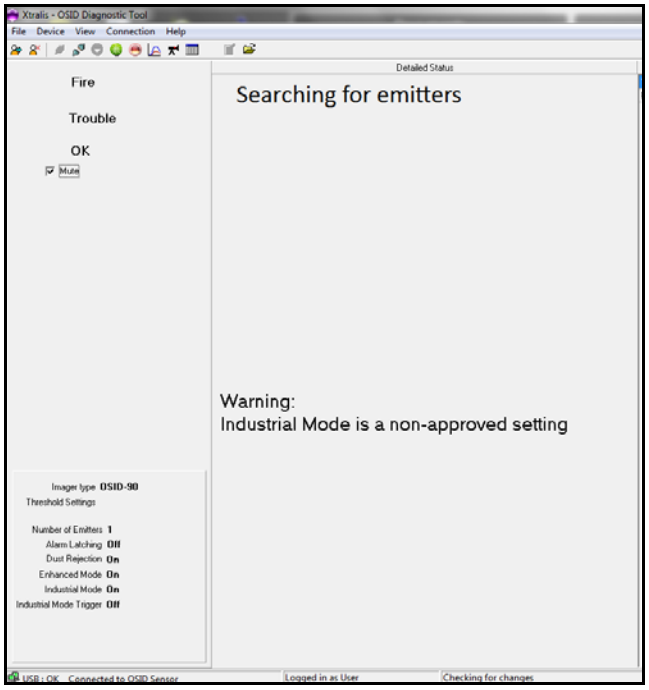
- Imager and OSID Diagnostic upgrades - V5.00.06
- Emitter Firmware upgrade for EN versions

V5 upgrades

- Major operational changes
  - Industrial Mode
  - Improve Reference Level Drift Fault signalling
- Extra features for Imagers
  - Single Emitter commissioning also on OSI-45 and OSI-90
  - Reset alarm relay on halfway from sensitivity setting rather than currently at 10%
  - Changes External Reset Overuse
- Improvement on OSID Diagnostic
  - Captures more data in the event log
  - Changes in log file naming, representation and exported file format
  - Shows area for Emitter(s) location in the field of view

OD start up screen

- V5 will be standard in all EN54 units as from manufacturing date May 25th 2015 onwards
- V5 is in progress for UL/FM, CSIRO, ...
- Mind that even though the V5 firmware is approved as a whole, the Industrial mode uses a non-approved A1 and A2 alarm level



Major operational changes

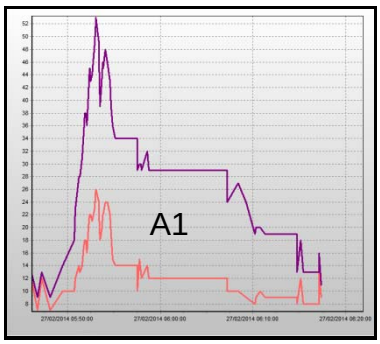
Industrial mode

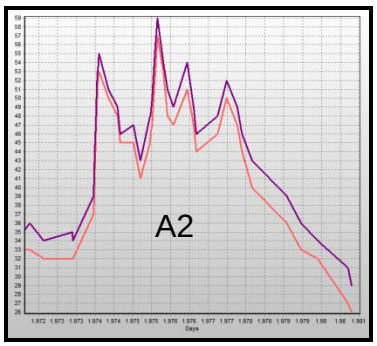
- Industrial functionality can also be obtained by upgrading the Imager to V5 using OSID Diagnostic
- The Industrial Mode and Sensitivity setting are non-approved settings that can be used in challenging environments where abnormal dust, steam levels etc. can (temporarily) cause unwanted alarms.
- Will be submit to the test lab together with the Ground Station firmware update

Conditions:

- The Industrial Mode and/or Sensitivity is unapproved (for now) and should only be set with the written approval of the AHJ or auditing agency, Insurance Company, Fire Brigade and end-user.
- A standard smoke test, conform to the local beam installation rules, should be performed for every Imager that has been set to Industrial Mode
- Label on the Imager needs to be corrected
  - Obliterate the NF and CE logos as well as all other certifications logos and numbers from other bodies where the 65% alarm levels are not certified.

Only OSID, thanks to dual frequency beams, can distinguish between smoke types and hence the alarm channels can be ‘tuned’ in challenging environments.





- A1 (flaming channel) at 65% - extra (4th) sensitivity setting
- A2 (smouldering channel) at 65%
  - Through DIP switches (permanent), or
  - Turn Reset input in GPI – functionality; Reset mode or Industrial mode (for the period that the input is activated)

Industrial mode for the A2 level through the GPI input is preferred as it can be set only for the time an extreme event is anticipated. The input can be triggered by a key switch, timer, intrusion panel Day/Night setting…

Offers smoke detection where the alternative would be heat detection.

Reference level drift Faults

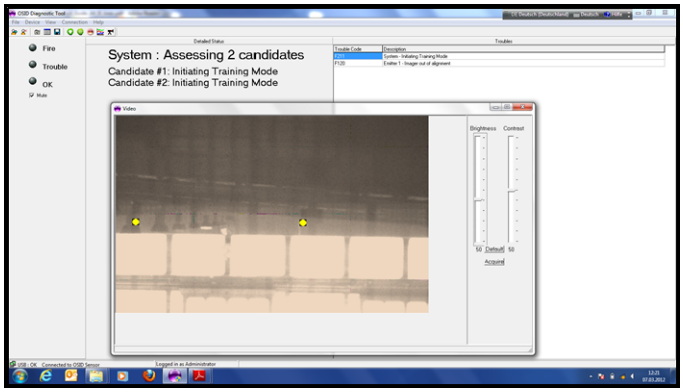
- Relax reference level drift high fault
  - Fault is typical for initialising OSID in dirty environments. Occurs when the grey levels increase 20% above the last initialised reference level and remain there for at least 6 min.
  - With the improvement, the Imager maintains its initial reference start up level when powered cycled and after a SW upgrade
  - If a new reference level is desired, use the recommission detector button on OSID Diagnostic or set Imager dips 3, 4 and 5 to '0' for a period exceeding 10 seconds, while the Imager is powered.

Note: It is important to initialise OSID in the cleanest possible environmental conditions.

Extra features for Imagers

Other improvements

- Single Emitter commissioning also on OSI-45 and OSI-90
  - Commission most central emitter when only one emitter is used/set, i.e. when short operation distances are used

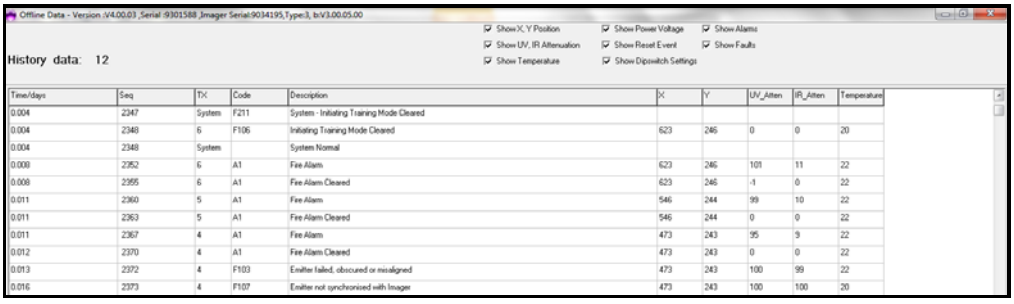


- Reset alarm relay on halfway down from sensitivity setting rather than currently at 10%
  - A1 @20% and A2 @27.5% for 50% level - A1 and A2 @37.5% for 65% level
  - Allows alarm relay reset in dusty environment after alarm
- Changes External Reset Overuse
  - Captured for abnormal reset use but does no longer creates a fault

Improvements on OSID Diagnostic

Other features

- Capture more data in the event log
  - Supply voltage - highlights power fluctuations (2 Vdc) and also recommissioning by dropping power
  - DIP switch settings - at initial start up when changed afterwards
  - Logs when the Imager is Reset
- Split Time column in 2 columns Time/days and Sequence
  - Single column 4.217 days - Seq 400 now split. in 2 columns: 4.217 and Seq 400.
  - Allows, when exported to a .csv file, an easy analysis of the duration of the events



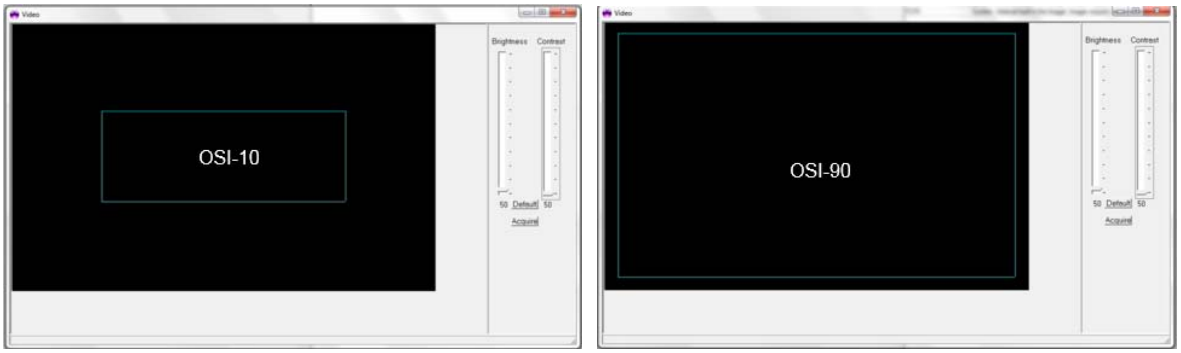
Time/days	Seq	TX	Code	Description	X	Y	UV_Atten	IR_Atten	Temperature
0.004	2347	System	F211	System - Initiating Training Mode Cleared					
0.004	2348	6	F106	Initiating Training Mode Cleared	623	246	0	0	20
0.004	2348	System		System Normal					
0.008	2352	6	A1	Fire Alarm	623	246	101	11	22
0.008	2355	6	A1	Fire Alarm Cleared	623	246	-1	0	22
0.011	2360	5	A1	Fire Alarm	546	244	99	10	22
0.011	2363	5	A1	Fire Alarm Cleared	546	244	0	0	22
0.011	2367	4	A1	Fire Alarm	473	243	95	9	22
0.012	2370	4	A1	Fire Alarm Cleared	473	243	0	0	22
0.013	2372	4	F103	Emitter failed, obscured or misaligned	473	243	100	99	22
0.016	2373	4	F107	Emitter not synchronised with Imager	473	243	100	100	20

Log file changes

- From V5.00.06 onwards the event log will also show the SW version number of the log, i.e. 20150323_9002471_V5.00.06_Eventlog.dat.
- From V5.00.06 onwards when upgrading the SW, an event log with the previous version number will be saved automatically in the Sunshine log directory i.e. 20150323_9002471_V4.00.03_Eventlog.dat.

Emitter area

- When selecting the  icon the static video image automatically shows the area in which the Emitter shave to be located to avoid edge of field faults.
  - Screenshots show examples of OSI-10 versus OSI-90 Imagers with their respective FOV



Firmware V5.01.00

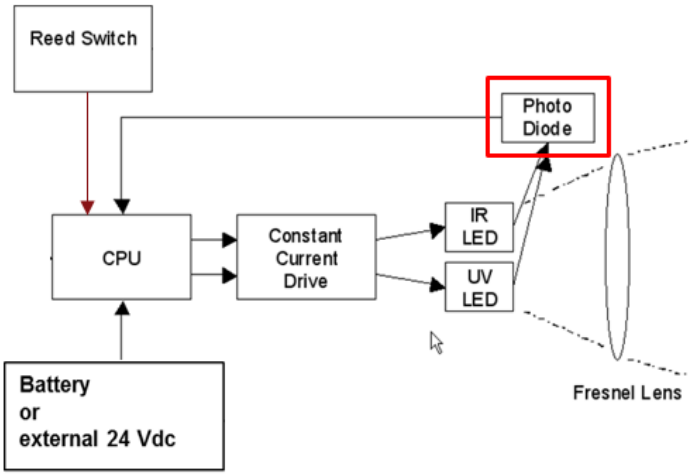
- Unapproved and only available by special request to PLM
- Will be submit to the test lab together with the Ground Station firmware update
- Identical to V5.00.06
- Relax reference level drift low fault
  - In normal sites, this fault is an indication that the lenses of the Imager and/or Emitter are getting dirty and require maintenance/cleaning. Occurs in V4 when 20% signal from the initially set UV/IR reference levels is lost for minimum 24 hrs.
  - In dirty sites with high obscuration levels (+ 20%) for longer periods the fault would occur regularly and not be indicating the condition of the lenses what it is meant to do.
  - In V5.01.00 the 24 hours required to trigger a reference low fault is stretched to a week. This includes a 5 day delay that resets whenever the compensation drift drops below 20%. If the compensation drops below 20% in the last 5 days of the week, the delay restarts and waits for another full 5 days before triggering a reference low fault

Note: It is important to initialise OSID in the cleanest possible environmental conditions.

Emitter Firmware upgrade

Emitter sunlight saturation improvement – EN only

- Currently the feedback Photo Diode continuously measures the output of the UV and IR signals. When direct sunlight blinds the Emitter, entering at an acute angle (generally less than 15 degrees) for one second or more the urgent Saturation Fault will be sent if the Emitter. The Emitter now stops working because it doesn't maintain the feedback power levels.



- As from manufacturing date May 25th 2015 onwards, the saturation fault is signaled if the Emitter is blinded for more than 2 hours continuously and/or if the temperature changes by more than 10 degrees Celsius from the last measurement point. The 2 hour timer is restarted if during these 2 hour period the saturation temporarily disappears.

Release Note

www.xtralis.com

UK and Europe +44 1442 242 330 **D-A-CH** +49 431 23284 1 **The Americas** +1 781 740 2223

Middle East +962 6 588 5622 **Asia** +86 21 5240 0077 **Australia and New Zealand** +61 3 9936 7000

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