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TEST REPORT

ACCORDING TO:

EN 50131-3:2009
EN 50131-1:2006+A1:2009

For:

Paradox Security Systems

EUT:

1) Control Panel
2) Keypad

Model: 1) EVOHD
2) K641+

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1 Applicant information

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Telephone:	242-352-7766
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E-mail:	nimrodh@paradox.com
Contact name:	Mr. Nimrod Herman

2 Equipment under test attributes

Model	HW	SW
EVOHD	668-5005-996	V1.10
K641+	641-5005-130	V1.00

Receipt date: February 20, 2014

3 Manufacturer information

Manufacturer name:	Paradox Security Systems
Address:	780 Industrial Boulevard St-Eustache, Quebec J7R 5V3 Canada
Telephone:	450- 491-7444
Fax:	450-491-1095
E-mail:	sgravel@paradox.com
Contact name:	Ms. Sophie Gravel

4 Test details

Project ID:	25445
Location:	Hermon Laboratories Ltd. Harakevet Industrial Zone, Binyamina 30500, Israel
Test completed:	4 May, 2014
Test specifications:	EN 50131-3:2009, EN 50131-1:2006+A1:2009

4.1 Test specification

1.	EN 50131-1: 2006+A1:2009	Alarm systems - Intrusion and hold-up systems Part 1: System requirements
2.	EN 50131-3: 2009	Alarm systems - Intrusion systems Part 3: Control and indicating equipment

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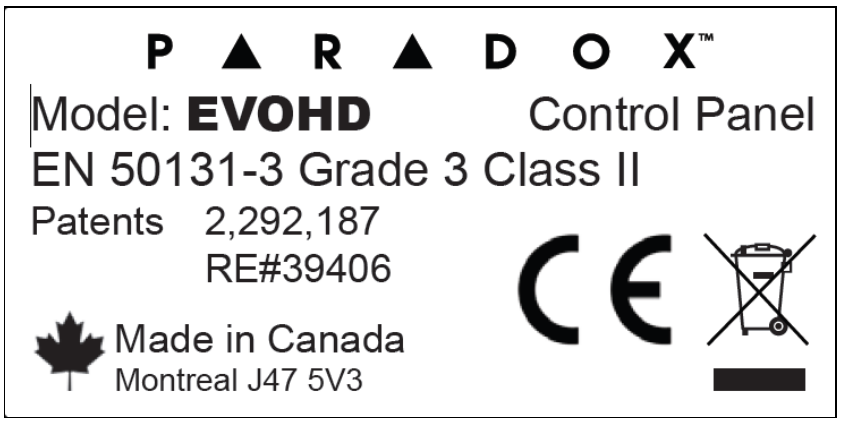

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Summary of testing				
Clause	Test description	comments	Verdict (EVOHD)	Verdict (K641+)
11.4.1	Functional tests: Processing intruder alarm signals or messages		Pass	Pass
11.4.2	Functional tests: Processing of hold-up signals or messages		Pass	Pass
11.4.3	Functional tests: Processing of tamper signals or messages		Pass	Pass
11.4.4	Functional tests: Processing of fault signals or messages		Pass	Pass
11.5	Access level		Pass	Pass
11.6.2.1	Authorization requirements: Digital key tests		N/A	N/A
11.6.2.2	Authorization requirements: PIN code tests		Pass	Pass
11.6.3	Authorization requirements: Invalid authorization attempts		Pass	Pass
11.7.1	Operational tests: Setting procedures		Pass	Pass
11.7.2	Operational tests: Prevention of setting and overriding of prevention of setting procedures		Pass	Pass
11.7.4	Operational tests: Unsetting procedures		Pass	Pass
11.7.5	Operational tests: Setting and/or unsetting automatically at pre-determined times		Pass	Pass
11.7.7	Operational tests: Test functions		Pass	Pass
11.7.10	Availability of indications		Pass	Pass
11.8.2	Tamper security tests: Tamper protection		Pass	Pass
11.8.3	Tamper security tests: Tamper detection - Access to the inside of the housing		Pass	Pass
11.8.4	Tamper security tests: Tamper security tests: Tamper detection - Removal from mounting		Pass	Pass
11.10	Testing of I&HAS timing performance		Pass	Pass
11.11	Testing for interconnections		Pass	Pass
11.12	Event log		Pass	Pass
11.13	Marking and documentation		Pass	Pass
11.14	Environmental and EMC tests (clauses below are from EN 50130-5)	Separate Reports		
Clause 27	EMC(operational)	Separate Reports		

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5 Summary and signatures

The EUT was subjected to tests according to EN 50131-3:2009, in conjunction with EN 50131-1:2006+A1:2009 standards, for Security Grade 3, Environmental Class II, portable equipment as listed in the table above and found to be in compliance with the standards requirements.

Note:
For passing the functional tests it was verified that proper settings and combination of settings are available and functional. These settings are to be identified by the manufacturer in EVOHD Programming Guide.

This report alone does not constitute a proof of certification.

The present Test Report ID: PARIAS_EN50131-3.25445_rev1 replaces the previous issued Test Report ID: PARIAS_EN50131-3.25445 issued on May 21, 2014. The changes are described in Revision History Table below.

Revision History Table:					
Date	Report No.	Prepared	Reviewed	Approved	Amendment Description
July 6, 2014	PARIAS_EN50131-3.25445_rev1	Mr. Mihaeli Feldmann, Project Manager	Mr. Michael Brun, Safety Group Manager	Mr. Michael Brun, Safety Group Manager	Typo corrections
May 21, 2014	PARIAS_EN50131-3.25445	Mr. Mihaeli Feldmann, Project Manager	Mr. Michael Brun, Safety Group Manager	Mr. Michael Brun, Safety Group Manager	Original Report

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6 General information

6.1 Abbreviations and acronyms

ARC	alarm receiving centre
ACE	ancillary control equipment
°C	degree Celsius
C	compliant
CIE	control and indicating equipment
EUT	equipment under test
HL	Hermon Laboratories
hPa	hectopascal
kg	kilogram
m	meter
min	minute
mm	millimeter
NA	not applicable
NT	not tested
NC	not compliant
gr.	Gram
RFT	Reduced functional test
sec	second
WD	warning device
CP	Control Panel

6.2 Test laboratory description

Testing laboratory and location	Tests were performed at Hermon Laboratories, which is a fully independent, private safety, EMC, telecommunication and environmental testing facility. Hermon Laboratories is accredited by American Association for Laboratory Accreditation (A2LA, USA) according to ISO GUIDE 17025 (certificate No. 839.01) and accredited as CBTL under responsibility of SII. The safety laboratory has gained numerous certifications and accreditations from National Certification Bodies including UL, ETL, TUV, MET, SII, Telefication and others, and provides solution for global safety certification in various product categories. Address: P.O. Box 23, Binyamina 30500, Israel. Telephone: +972 4626 8401 Fax: +972 4626 8444 e-mail: mail@hermonlabs.com website: www.hermonlabs.com Person for contact: Mr. Michael Brun, Product Safety Group Manager

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6.3 EUT description

The EUTs are CIE Alarm System Components Classified:
Security Grade 3, Environmental Class II, fixed equipment

1) EVOHD is a security and access control system with 8 on-board zone inputs (16 with zone doubling) that is expandable to 192 zones via the 4-wire hybrid bus. The EVOHD control panel features up to 999 users, 8 partitions, 32 doors and can support up to 254 modules in any combination.

EVOHD also supports 32 virtual zones in addition to its security zones and access control doors. Virtual zones can be used to automate PGM activations without occupying a security zone and without affecting the system's security functions.

EVOHD has Bell, External siren, PSTN and/or IP ATS to ARC notifications.
Only the PSTN single path notification was implemented in EUT for the EN 50131-3 tests sesion.

The main board, transformer and PS are housed in a tamper protected metal box as presented in Appendix C Photographs.

2) K641+ is an LCD wired keypad use to control and program the EVO control panel
The 32-character screen on LCD keypad will display messages and menus to guide through the system's operations. The installer can customize the messages on LCD keypads for your home or business. The LED display allows the user to assess the system to communicate instructions to the system through the keypad.

The unit External and internal views are presented in Appendix C Photographs.

*** Note:**
For functional purpose and compliance with EN50131-1, EN50131-3 **EVOHD** is designed to be controlled and work with the compatible **K641+** therefore the units compliance was checked and treated together in the configuration presented in Figure 6.5.1.

6.4 Environmental conditions

All tests were performed under the following laboratory conditions:

-Temperature: 15-35℃
-Relative humidity: 25-75%
-Air pressure: 86-106 kPa

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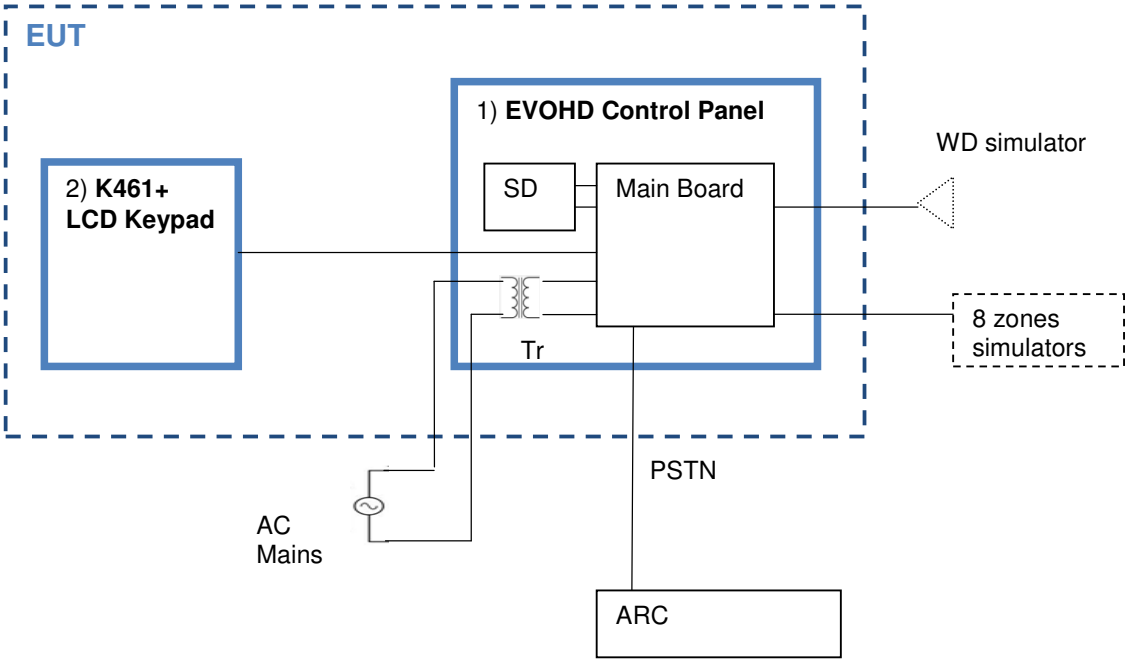
6.5 Setup and settings

The EUTs test setup is presented below in Figure 3.5.1.

Figure 3.5.1 Test setup configuration



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EN 50131-3			
Clause	Requirement – Test	Result - Remark	Verdict

7 Test protocol

4	**Equipment Attributes**		
4.1	**General**		
	Compliance with this standard shall be demonstrated by assessment of clause 4 through clause 10 and the application of the tests of clause 11		P

4.2	**Functionality**		
	Functions additional to the mandatory functions specified in this standard may be included in the I&HAS providing they do not influence the correct operation of the mandatory functions.	Other functions do not influence the operation.	P
	Where provided, these additional functions shall not affect compliance with the requirements of this standard, except as permitted by EN 50131-1:2006, 8.3.13	Other functions do not affect compliance.	P
	It is permitted for the CIE to include functionality for special purposes that would render the I&HAS non-compliance with EN 50131-1. The manufacturer's documentation shall include a warning to this effect.	Keyswitch programming not to be used in EN approved systems	P

5	**CIE construction**		
	Provision shall be made to allow adequate fixing of the housing to the mounting surface.		P
	Use of equipment not part of the I&HAS may be used to carry out ACE functions (example: computer, PDA) if the conditions specified in Annex C are met.	No such EN compliant equipment	N/A

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EN 50131-3			
Clause	Requirement – Test	Result - Remark	Verdict

6	**Security grade**		
	The CIE and ACE shall be declared to comply with one of the four security grades and shall meet all the requirements of that grade	Security Grade 3	P

7	**Environmental performance**		
7.1	**Requirements**		
	CIE and ACE shall be suitable for use in at least one of the environmental classes defined in EN 50131-1.	Environmental class II	P
	When the requirements of the four environmental classes are inadequate, due to the extreme conditions experienced in certain geographic locations, special national conditions are given in EN 50131-1:2006, Annex A	No extreme conditions are evaluated	N/A
7.2	**Environmental and EMC tests**		
	EN 50130-4 specifies EMC susceptibility tests relevant to I&HAS components. The operating conditions for these tests are specified in Table 32 of this standard.	See separate EMC report	
	EN 50130-5 describes the environmental test methods relevant to I&HAS components. The tests applicable are specified in Table 32 of this standard.	See separate Environmental test report	

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EN 50131-3			
Clause	Requirement – Test	Result - Remark	Verdict

8	**Functional requirements**		
8.1	**Inputs**		
	Depending on the grade of the CIE and ACE, means shall be provided to receive signals or messages from detectors, hold-up trigger devices and information from user input devices as specified in the following subclauses.		P
8.1.1	Intruder detection		
	The CIE shall provide the means to receive signals or messages from intruder detectors.		P
8.1.2	Hold-up device		
	When a CIE provides a hold-up facilities, means shall be provided to receive signals or messages from hold-up devices.	Hold-up (Panic) can be activated	P
8.1.3	Tamper		
	The CEI shall provide the means to receive tamper signals or messages		P
8.1.4	Fault		
	Dependant on the grade, CIE shall include means to recognize the fault conditions as specified in EN 50131-1:2006, Table 1 and in addition those faults shown in Table 1	All std. specified faults recognized	P
8.1.5	User input		
	The CIE shall provide the means to receive information from user input devices (example: a keypad or switch)	External wired keypad with LCD	P
8.1.6	Masking		
	The CIE shall provide the means to receive masking signals or messages, according to grade.	Masking test with Grade 3 detector NVX80	P
	The CIE shall process masking signals or messages when the system is set and optionally when unset.	Masking signals processed as Tamper/Trouble	P

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EN 50131-3			
Clause	Requirement – Test	Result - Remark	Verdict
8.1.7	Movement detector range reduction		
	The CIE shall provide the means used to receive reduction of range signals or messages, according to grade.	Not applicable for the specific products under test	N/A
8.1.8	Non-I&HAS inputs		
	When a CIE receives signals or messages or other information not necessary to meet the requirements of this standard (example: monitoring of non-I&HAS equipment), this shall not affect the ability of the CIE to meet the requirements of this standard.	Not applicable for the specific products under test	N/A
8.2	**Outputs**		
	The CIE may need to provide output signals or messages to interface with other I&HAS components, as required by relevant component standards. The installation documentation shall identify which configurations are available.	installation documentation identifies which configurations are available	P
	Output signals or messages may additionally be provided to interface to equipment outside of the I&HAS (example: lighting)	PGMs	P
8.3	**Operation**		
	The CIE shall provide means necessary to enable authorized users to access the functions of the CIE. Access to these functions shall be restricted by access levels and corresponding authorizations according to 8.3.1 and 8.3.2 (example: by using a keypad or lock)	Keypad with restricted access	P
8.3.1	Access levels		P
	Access to the functions of a CIE shall be restricted according to the requirements of EN 50131- 1:2006, Table 2 the access levels necessary to operate those functions shall be specified by the manufacturer. Access levels for any non-security functions shall be specified in the manufacturer's documentation.	Access is restricted to user with proper password Level 2 User and Master User Level 3 Installer (access only when allowed by Level 2)	P
	Access at level 3 shall be authorized by access level 2 such that: a) access remains authorized until manually removed. or b) access requires authorization for each occasion it is used.	b) option	P
	Access at level 4 shall be authorized by access level 2 and 3 for each occasion it is used.	Not applicable for the specific products under test	N/A

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EN 50131-3			
Clause	Requirement – Test	Result - Remark	Verdict
	If level 3 access is granted without level 2 authorization, as permitted by EN 50131-1:2006, 8.3.1, the internal warning device shall be time limited, either to a fixed time quoted by the manufacturer or until silenced by the level 3 user.	Not applicable for the specific products under test	N/A
8.3.2	Authorization		
	Access to the functions of a CIE (as defined) at levels 2, 3 and 4 shall be restricted as required by EN 50131-1:2006, 8.3.2. Authorization is not required for access at level 1.	Access to the functions is restricted to user with proper password	P
	Authorization shall be validated by the CIE		P
8.3.2.1	Use of a mechanical key		
	Where mechanical keys are used, the manufacturer shall supply sufficient information to establish the number of combinations available	No mechanical keys are used.	N/A
8.3.2.2	Use of logical keys		
	Where logical keys are used, the manufacturer shall supply sufficient information to establish the number of combinations available.		N/A
	Additionally the following apply to specific types of logical key. This does not restrict use of other types.		-
8.3.2.2.1	Use of PIN codes		
	Where PIN codes are used, the number of combinations not available shall be identified by the manufacturer and shall be disallowed from calculation of codes available	No not available combinations	N/A
	Means shall be provided to prevent reading of authorization codes		P
	Entry of a code shall be completed within 60s. If the entry code is not completed in that time, it shall be treated as invalid in the context of 8.3.2.4		P
8.3.2.2.2	Digital keys		
	Where a user can complete the setting or unsetting procedure from a location more than 1 m from the CIE or ACE, digital keys used to I&HAS of grades 3 and 4 shall include means to prevent acceptance of keys copied from intercepted data (example: rolling codes)		N/A
	Where the operation can be performed other than at the point of exit from the premises, means shall be provided to make the “prevention of setting’ and “completion of setting” indications available to the user (example: on the key)		N/A
	Self-powered digital keys shall monitor device charge as required by EN 50131-6:2008, 4.2.2 and report battery low condition to the CIE (via ACE where applicable) each time the device is used for setting or unsetting.		N/A

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EN 50131-3			
Clause	Requirement – Test	Result - Remark	Verdict
	This report shall be made on each event for a minimum of 25 such events, over a period not exceeding 1 month and shall result in an indication and event log entry (including the identity of the relevant user) each time the condition is reported.		N/A
	When a low battery condition is identified at the time of setting, the I&HAS shall not set until the low battery indication has been manually acknowledged and the CIE or ACE. This acknowledgement shall be logged at the grade 2 and above.		N/A
8.3.2.2.3	Biometric keys		
	Where biometric means are used for authorization, the recognition coding structure shall provide a minimum number of combinations as shown in Table 2. Each recognition information presented to the system shall be compared with this structure. The false acceptance and false rejection rates shall not exceed the values shown in table 2.	Biometric keys not used	N/A
	If the FAR and FFR are adjustable, the means of adjustment shall permit identification of the parameters of ensure compliance with the above grades. This information shall be included in the manufacturer's documentation.		N/A
8.3.2.3	Use of methods of authorization in combination		
	Two or more devices or technologies may be used by one or more individuals to authorize level 2 or level 3 access to a CIE (example: use of PIN codes plus digital key)	Two or more methods not used	N/A
	The combination of operations shall be verified by the CIE		N/A
	The maximum time between completion of one operation and the initiation of the next shall be restricted by grade according to table 3		N/A
8.3.2.4	Detection of repeated invalid authorization attempts		
	Depending on the grade, when a CIE uses logical keys to restrict access or when the CIE has the means to identify individual mechanical keys, means shall be provided to detect and record repeated attempts to gain access not recognized as valid by the CIE, as specified in table 4	See below	P
	When required by table 4, the user input device(s) at which the invalid attempts are made shall be disabled for a minimum of 90s. Other user input devices may also be disabled.	7.19 Keypad Lock-out Feature (EVOHD Manual) Default value assures EN compliance	P
	Tamper shall not be activated when less than 3 invalid attempts are detected.	Tamper activation is optional	N/A
	The CIE may treat repeated use of the same invalid logical key as a single attempt.	Optional	N/A

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EN 50131-3			
Clause	Requirement – Test	Result - Remark	Verdict
8.3.3	Setting procedures		
	CIE shall provide means for a user to set the I&HAS or part thereof in accordance with EN 50131-1:2006, 8.3.3 and 8.3.4	Provided	P
	The CIE may provide means to set automatically at pre-determined times. When means are provided to set at pre-determined periods, the CIE shall generate at least one indication before commencing setting. Details of the pre-setting indication(s) shall be included in manufacturer's documentation.	Provided A 60-second Exit Delay (default value) triggers before the partition arms	P
	If setting at grade 1 is implemented as permitted by EN50131-1:2006, 8.3.4, means shall be provided to cancel the setting procedure before it is completed. This shall not permit cancelling the setting procedure if started by other means.		N/A
8.3.3.1	Prevention of setting and overriding of prevention of setting		
	The CIE shall provide means to prevent the setting of the system in accordance with EN 50131-1:2006, 8.3.5 and may provide means to override such prevention of setting in accordance with EN 50131-1:2006, 8.3.6	Both prevention and overriding of prevention of setting provided	P
	Where the prevention of setting condition arises after the exit procedure has commenced, there shall be means to warn the user that setting has been prevented (example: audible alert indication)	Audible then fail to set indication	P
	When setting is time dependant, means may be provided to override conditions preventing setting automatically.	Scheduled Arm/Disarm allowed. In this condition the system automatically override the prevention of setting.	P
	The overriding of prevention of setting conditions shall be logged as specified in 8.10		P
8.3.3.2	Exit route facility		
	Provision of an exit route facility is optional	Provided	P
	When an exit route facility is provided, the CIE shall be provided with the means to select the defined alarm point(s) to be included in the exit route facility.	Provided	P
	The CIE may provide the means to indicate that the exit procedure has commenced, in accordance with EN 50131-1:2006 8.3.4 and Table 9	Provided	P
8.3.3.3	Failure to set		

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Clause	Requirement – Test	Result - Remark	Verdict
	Means shall be provided to indicate and/or notify when the CIE fails to set, following the initiation of setting procedure.		P
8.3.3.4	Set state		
	The CIE shall provide time limited means to indicate that the system has set (in accordance with EN 50131-1:2006, 8.3.7)	LCD enters in Confidential mode after few minutes	P
	Means shall be provided to comply with at least one of the requirements specified in EN 50131-1:2006, 8.3.7 whilst the I&HAS is in the set state.	Opening the door to the entry/exit route shall initiate an entry procedure	P
8.3.4	Unsetting procedure		
	The CIE shall provide means for a user to unset the I&HAS or part thereof in accordance with EN 50131-1:2006, 8.3.3 and 8.3.8	The unit is able to unset by using the keypad	P
	The CIE may provide means to unset at pre-determined times. When this is done, the automatic unsetting action shall not cancel an existing requirements of EN 50131-1:2006, 8.3.8	Not evaluated under EN50131-1 requirements	-
	The procedure for unsetting with associated indications, including the optional use of an entry route, shall be in accordance with the requirements of EN 50131-1:2006, 8.3.8	See Manual 4.6.8 Delay Before Alarm Transmission SECTION [0400]: OPTION [8] SECTIONS [0101] TO [0196]: OPTION [8] For entry route Entry Delay Timer, key in the desired 3-digit delay value (001 to 45	P
8.3.5	Restore function		
	The CIE shall provide means to restore conditions as defined in EN 50131-1:2006, 8.3.9	For Fault (trouble) 7.2 Trouble Latch SECTION [3033]: OPTION [6] should be enabled	P
8.3.6	Inhibit function		
	Inhibit functions may be applied to individual alarm, tamper, fault or hold-up points, as defined in EN 50131-1:2006, 8.3.10	By manual bypass	P
	When the CIE is next set or unset, inhibit conditions shall be cancelled		P
	Where inhibit functions are provided, the manufacturer shall include details in documentation.		P
8.3.6.1	Automatic inhibit function		
	Inhibit may be performed automatically, except for hold-up functions.		N/A

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EN 50131-3			
Clause	Requirement – Test	Result - Remark	Verdict
	Where this facility is provided, the manufacturer's documentation shall specify the number of occurrences of each type of event in a given set or unset period before the inhibit is applied.		N/A
8.3.7	Isolate operation		
	Isolate functions may be applied to individual alarm, tamper, fault or hold-up points, access to these means shall be restricted according to EN 50131-1:2006, 8.3.11	Access level 3	P

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EN 50131-3			
Clause	Requirement – Test	Result - Remark	Verdict
8.3.8	Verification of I&HAS functions		
	The CIE shall include means for a user, at access level 2, to carry out a function test of intrusion detectors and hold-up device(s), provided such tests do not render the device inoperable. Additionally, the CIE may include means to test WD or other components.		P
	Tamper functionality is not the object of this test: the CIE shall continue to process tamper signals or messages as described in EN 50131-1:2006, 8.4.3 during such a test		P
	At grade 4, the CIE shall make provision for remote initiation of self-tests of system components, as required by the relevant component standards.		N/A
8.3.9	Alarm point soak test mode		
	The CIE may include a soak test function. When this is provided, alarm signals or messages from one or more alarm points under test shall continue to be recorded in the event log.	No soak test function	N/A
	The manufacturer's documentation shall specify the criteria for automatic removal of the soak test attribute and the time period for which it is applied (if not programmable). Access to initiate and manually restore the soak test function shall be restricted to access level 3 in all grades.		N/A
	Indication that components are being soak tested shall be available to users at access levels 2 and 3 and the condition shall be indicated to a user when setting the system.		N/A
8.3.10	Other functions		
	In addition to normal functions described in this specification, the CIE may provide additional functions. A list shall be provided in the manufacturer's documentation.	All functions described in documentation	P

8.4	**Processing**		
	The CIE shall include the means necessary to provide input signals or messages and generate the output signals or messages indications and notifications as required by EN 50131-1:2006, 8.4		P
8.4.1	Processing of input signals or messages		
	Intruder, hold-up, tamper and fault signals or messages shall be processed to provide the notifications required by EN 50131-1:2006, 8.4 and Table 7		P

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Clause	Requirement – Test	Result - Remark	Verdict
	Dependent upon grade, masking and reduction of range of movement detector events shall similarly be processed according to EN 50131-1:2006, 8.4.3 or 8.4.4 and Table 7. The manufacturer's instructions shall state how masking and reduction of range signals or messages are processed.	Grade 3, Masking signals are processed processed according to EN 50131-1:2006, 8.4.3 or 8.4.4 and Table 7	P
8.4.1.1	Alarm inputs		
	Intrusion alarm signals or messages shall be processed: a) individually to generate one or more intruder alarm conditions or b) an alarm condition may be generated by the logical combination of signals or messages within a defined time window from the same alarm point or from logically grouped alarm points	Both a) and b) options	P
8.4.1.2	Priorities		
	The CIE default priority of signal or message processing shall be described in the manufacturer's documentation. In the event of multiple signals or messages being present simultaneously, all these signals or messages shall be processed and at least one of the highest priority signals or messages shall be notified as required by 8.6.	Conform	P
	NOTE Multiple signals or messages from a Single detector may be prioritized by that detector in accordance with the recommendation of the detector standard.	Conform	P
8.4.2	Processing of user inputs		
	When facilities are provided for a user to input commands other than at the CIE or ACE, processing shall verify that the selected functions are authorized according to 8.3.2.	PGMs restricted authorization as required by EN 50131-1:2006, 8.3.2.	P
8.4.3	Monitoring of CIE processing		
	In CIE with program controlled data processing, means shall be provided to monitor the processing function and provide an appropriate signal, in accordance with Table 5.	See 11.7.9	P
	A processing monitoring function shall be provided (EXAMPLE: Watchdog), which shall detect a complete failure of the processing function within 10 s and attempt to restart the processing.	Watchdog	P
	If successful, the CIE shall resume operation in its previous operating mode (EXAMPLE: set, or unset) and this event shall be logged and indicated.	Operation correctly resumed, warm /cold start events logged	P

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	A dedicated output signal shall be provided which shall change state within 30 s of the processing failure being detected, unless the CIE has already resumed its previous operating mode after restart. Once activated, the output shall remain until the CIE has resumed its previous operating mode.	CIE resumes its previous operating mode after restart	P
	NOTE If cannot restart, I&HAS remains inactive.	System restarts	P
8.5	**Indication**		
8.5.1	General		
	Indications shall be provided and displayed in accordance with the requirements of EN 50131-1: 2006, 8.5.1, 8.5.2 and 8.5.3.	Provided at keypad LCD and LEDs	P
	The manufacturer shall document how a level 2, 3 or 4 user can cancel displayed information which is not permitted to be displayed at access level 1.	Documented	P
	NOTE This may be performed by an automatic timed operation.		N/A
	The indications shown in Table 6 are additional to those shown in EN 50131-1:2006, Table 8.	-Failure of CIE processing evaluated. -Masking Evaluated	P
	When indicators share common means of annunciation, a pending indication shall be provided when further information is available for display (EXAMPLE: a liquid crystal display).	On keypad's LCD	P
	Means shall be provided to control an alert indication for users at access level 1 to indicate that information is available to other access levels (EXAMPLE: audible indicator or flashing visual indicator).	Audible indicator	P
	When an event activates more than one indication, at least one indication shall remain until the cause is restored.	LED and LCD indication, Remain until restored	P
	NOTE 1 The pending and alert indications are described in EN 50131-1.	Informational	-
	NOTE 2 If a mimic panel is used, the indications may be available with no restriction to provide a tool for security management. In this case, according with the specific need of the installation, general access to the mimic panel should be restricted (EXAMPLE: inside security room, inside key locked cabinet).	Informational	-

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	NOTE 3 Display of information whilst in a test mode is NOT considered to be an indication in the context of EN 50131-1:2006, Tables 8 and 9.	Informational	-
	Masking and range reduction shall be indicated in the same way as intrusion or fault conditions, depending upon how they are processed. Depending upon how these conditions are reported by the detector, it may not be possible to differentiate between them at the CIE (see detector standards).	Grade 3, Masking Indicated as tamper	P
8.5.1.1	Alarm, tamper and fault indications		
	Alarm, tamper and fault indications shall require to be cancelled (acknowledgement) by a user according to the requirements of EN 50131-1:2006, 8.5.3.	Acknowledgement by a user “Alarm in memory” until MEM is consulted by the user with appropriate access level	P
8.5.1.2	Other conditions		
	Conditions other than alarm, tamper and fault shall be indicated during setting and unsetting and when required by a user.	Conform	P
8.5.2	Visual Indicators		
	Where colors are used to differentiate the alarms, then the requirements of EN 60073 shall apply.	Not applicable for the specific products under test	N/A
8.5.3	Priority of indications		
	When indicators share common means of annunciation, indications shall be prioritized in accordance with the manufacturer's specifications.	Not applicable for the specific products under test	N/A

8.6	**Notification outputs**		
	The CIE shall provide one or more output signals or messages to fulfil the requirements described in EN 50131-1:2006, 8.6. The CIE documentation shall state which option(s) can be fulfilled.	Grade 3, Option D considered when using IP ATS4 as main ATS Only Op ATS 2 tested	P
	Additionally, if means is provided to gain level 3 access without level 2 authorization (as permitted by EN 50131-1:2006, 8.3.1), means shall be provided to remotely notify "level 3 access" at security grades 2 and 3.	Installer needs User Authorization	N/A
	Where the CIE provides output signals or messages for SPT and WDs, means may be provided to delay or suppress the operation of WDs as described in EN 50131-1:2006, 8.6.	Silent alarm feature (see Manual section 4.6.5)	P
	Means shall be provided to delay notification of an EPS fault for a maximum of 1 h. This notification shall be cancelled if the EPS fault has been restored within the delay period.	Manual section 9.11Power Failure Report Delay For EN compliance program value 001 to 060	P

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8.6.1	Other notification		
	The CIE may provide other notification output signals or messages. Operation of such shall not affect any requirements of this standard.	Bell option	P
8.7	**Tamper security (detection/protection)**		
	All connections to the CIE shall be contained within the CIE housing(s) and all connections to the ACE shall be contained within the ACE housing(s). The CIE and ACE housing(s) shall be provided with the means to prevent access to internal elements to minimize the risk of tampering, according to the grade of the CIE.	Tamper devices provided	P
	For the purposes of tamper protection and detection requirements, ACE are categorized as:		
	Type A: Access to internal elements resulting from damage to the housing could not enable the status of any part of the I&HAS to be changed or prevent the initiation of mandatory notification (EXAMPLE: potted device);	not Type A	N/A
	Type B: Access to internal elements resulting from damage to the housing could enable the status of any part of the I&HAS to be changed or prevent the initiation of mandatory notification (EXAMPLE: ACE includes connections for detectors).	Type B	P
8.7.1	Tamper protection		
	The construction of the CIE and ACE housing(s) shall meet the tamper protection requirements of EN 50131-1 and the impact requirements for the appropriate grade according to Table 7. IK impact ratings are detailed in EN 62262.	1J Impacts	P
	This requirement permits the housing to be damaged, provided that a tamper alarm shall be generated before unauthorized access to internal elements is possible (except for Type A devices).	1J Impacts	P
	Where the CIE is distributed within the housing of other components of the I&HAS, then the tamper protection of such housings shall comply with this standard.	No such case	N/A
	Means of access to internal elements of a CIE or ACE shall be robust and mechanically secured.		P
	In grades 1 and 2 this requirement does not include indicators or operating controls (EXAMPLE: pushbuttons, keypads, LCD or graphic screens); in grades 3 and 4 such indicators and operating controls are included, where these can be accessed by a level 1 user.	Grade 3	N/A

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8.7.2	Tamper detection		
	Whether the CIE/ACE is self-contained within its own housing(s) or is distributed within the housing(s) of other components of the I&HAS, a tamper signal or message shall be generated according to the requirements specified in Table 8 before access can be gained to override the detection.		P
8.7.2.1	Access to the inside of housing		
	Opening the CIE/ACE Type B housing by normal means shall generate a tamper signal or message.		N/A
	The housing shall not permit the introduction of tools of dimensions as specified in Table 9 to defeat the tamper detection before it has operated.	Not possible to defeat the tamper	P
	This requirement is not applicable to Type A devices.		N/A
	In grades 1 and 2 this requirement does not include insertion of the tool via indicators or operating controls (EXAMPLES: push-buttons, keypads, LCD or graphic screens) or other apertures; in grades 3 and 4 such indicators, operating controls and any other apertures accessible to a level 1 user are included.		N/A
8.7.2.2	Removal from mounting		
	Attempts to remove the CIE/ACE Type B from its mounting surface for a distance greater than that defined in Table 10 shall generate a tamper signal or message according to Table 8.	Not possible to defeat the tamper	P
	It should not be possible to defeat the removal from mounting detection by sliding a 25 x 1 x > 300 mm blade or by use of pliers (of thickness 5 mm and reach 150 mm) between the mounting surface and the CIE/ACE.	Not possible to defeat the tamper	P
8.7.2.3	Penetration of the housing		
	When mounted according to the manufacturer's instructions, it shall not be possible to penetrate the housing of the CIE/ACF Type B through any *qf* its accessible faces with a metal tool creating a hole of 4 mm or greater diameter without generating a tamper signal or message.	Mandatory only for Grade 4	N/A
8.7.3	Monitoring of substitution		
	Grade 4 CIE shall provide means to monitor substitution of I&HAS components as required by EN 50131·1: 2006, 8.7.3 and 8.7.4.	Mandatory only for Grade 4	N/A

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Clause	Requirement – Test	Result - Remark	Verdict
8.8	**Interconnections**		
	The CIE shall include means to verify that the interconnection function is operating normally as described in EN 50131-1: 2006, 8.8 (including subclauses).	Continuously monitored (EOL should be enabled on Control Panel for EN compliance	P
	The CIE shall include physical and logical interface for interconnections. The manufacturer's documentation shall specify the type of the interconnection supported, as shown in Annex A.	Direct connection with EOL resistor for EN Compliance	P
8.9	**Timing**		
	Signals and messages shall be processed as specified in EN 50131-1: 2006, 8.9 (including subclauses).		P
	Timings shall be applied to masking and reduction of range conditions according to whether they are processed as fault or intrusion events.		P
8.10	**Event Recording**		
	Event recording shall be in accordance with EN 50131-1: 2006, 8.10.	Conform	P
	The CIE shall include means to record the events as specified in Table 22 of EN 50131-1: 2006 and, in addition, those conditions shown in Table 11.	Events logged in Control Panel buffer Where they can be consulted by appropriate Access Level also stored in ARC (Monitoring station)	P
8.10.1	Event recording at the CIE		
	When events are recorded at the CIE each new event shall be recorded during the processing time permitted by EN 50131-1: 2006, 8.9.2.	Conform	P
	Recording of the events listed as mandatory in Table 11 and in EN 50131-1:2006, Table 22 shall not be affected, nor overwritten by the recording of events listed as "optional" (EXAMPLE: separate event logs) where this will reduce the number of recorded events below the minimum required by EN 50131-1: 2006, Table 21.		P
	Logging of additional events, outside the scope of EN 50131-1 is permitted, but shall not over-ride events specified by EN 50131-1:2006, Table 22 where this will reduce the number of recorded events below the minimum required by EN 50131-1:2006, Table 21.		P
	The time recorded with a logged event shall include, as a minimum, hours and minutes, the date shall include as a minimum the day and month.		P

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Clause	Requirement – Test	Result - Remark	Verdict
	Where the storage time requirement of EN 50131-1:2006, Table 21 is met by the provision of a memory support battery, the CIE manufacturer shall specify the interval between battery changes.		N/A

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	In CIE for grades 3 and 4, a facility shall be provided to permanently record the event log.	The CIE is designed to work with Ademco Monitoring Station	P
8.10.2	Event recording at the ARC or other remote location		
	When event recording is provided at the ARC or other remote location, the CIE shall provide means to indicate that the transmission of events to the remote location has been unsuccessful.	Event recording is provided firstly on CIE Coom. Failure is indicating the impossibility to further send these events to ARC	P
	When events cannot be transferred, in security grade 1, a fault condition shall be generated. In security grades 2, 3 and 4, events that have failed to be transmitted shall be transferred to a suitable I&HAS component for storage until transfer is possible. The requirements for this temporary memory shall be in accordance with the requirements of EN 50131-1 :2006, Table 21.	Tested	P
8.11	**Power Supply**		
	The CIE may be powered by an integrated PS or by a separate PS. In either case the requirements of EN 50131-1: 2006, 9.2, EN 50131-6 and this standard shall be complied with.	See separate report of EN 50131-6	
	The PS shall be capable of supporting the CIE in all conditions including when recharging storage devices within the required periods.	See separate report of EN 50131-6	
	The manufacturer's documentation shall define the current consumption of the CIE and of the ACE.	See separate report of EN 50131-6	
9	**Product documentation**		
9.1	**Installation and maintenance**		
	Information specified by EN 50131-1 :2006, 14.2 shall be provided, along with the following:		--
	a) operating temperature and humidity range;	Provided in documentation	P
	b) weights and dimensions;	Provided in documentation	P
	c) fixing details;	Provided in documentation	P
	d) installation, commissioning and maintenance instructions, including terminal identifications;	Provided in documentation	P
	e) type of interconnections (refer to 8.8);	Provided in documentation	P
	f) details of methods of setting and unsetting possible (see 11.7.1 to 11.7.3 and Tables 23 to 26);	Provided in documentation	P
	g) where there are serviceable parts (EXAMPLE: fuses) their type and value;	No serviceable parts	N/A

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	h) power supply requirement if no integrated PS;	Provided in documentation	P
	i) where PS is integrated, the information required by EN 50131-6:2008, Clause 6;	No integrated PS	N/A
	j) the maximum number of each type of ACE and expansion device;	Provided in documentation	P
	k) the current consumption of the CIE and each type of ACE and expansion device, with and without an alarm condition;	Provided in documentation	P
	l) the maximum current rating of each electrical output;	Provided in documentation	P
	m) programmable functions provided;	Provided in documentation	P
	n) how indications are made inaccessible to level 1 users when level 2, 3 or 4 user is no longer accessing the information (see 8.5.1);	Provided in documentation	P
	0) masking/reduction of range signals/messages processed as "fault" or "masking" events (see 8.4.1, 8.5.1 and Table 11);	Masking processed as trouble	P
	p) prioritization of signal and message processing and indications (see 8.4.1.2, 8.5.3);	Provided in documentation	P
	q) the minimum number of variations of PIN codes, logical keys, biometric keys and/or mechanical keys for each user (see 8.3);	6 digits codes explanation provided, the number of combinations can be derived from this	P
	r) method of time-limiting internal WD for level 3 access without level 2 authorization (see 8.3.1);		N/A
	s) the number and details of disallowed PIN codes (see 8.3.2.2.1);	No disallowed PIN codes	N/A
	t) details of any biometric authorization methods used (see 8.3.2.2.3);		N/A
	u) the method used to determine the number of combinations of PIN codes, logical keys, biometric keys and/or mechanical keys (see 11.6);	Provided in documentation	P
	v) number of invalid code entries before user interface is disabled (see 8.3.2.4);	Provided in documentation	P
	w) details of means for temporary authorization for user access (see 8.3.2);		N/A
	x) if automatic setting at pre-determined times provided, details of pre-setting indication and any automatic over-ride of prevention of set (see 8.3.3,8.3.3.1);	Provided in documentation	P
	y) details of conditions provided for the set state (see 8.3.3.4);	Provided in documentation	P
	z) notification output signals or messages provided (see 8.6);	Provided in documentation	P

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	aa) other output configurations to interface with I&HAS components (see 8.2);	Provided in documentation	P
	bb) criteria for automatic removal of "soak test" attribute (see 8.3.9);		N/A
	cc) number of events resulting in automatic inhibit (see 8.3.6.1);	Programmable function Provided in documentation	P
	dd) if ACE is Type A or Type B (see 8.7) and whether portable or moveable (see 11.14);		N/A
	ee) component data for non-volatile memory components (see Table 30, step 6);	EEPROM 24LC64 for the last 64 events and Flash memory W25Q32BV for all the other events	P
	ff) life of memory support battery (see 8.10.1);	No battery for memory support	N/A
	gg) optional functions provided (see 4.1);	Provided in documentation	P
	hh) additional functions provided (see 4.2, 8.1.8);	Provided in documentation	P
	ii) access levels required to access such additional functions provided;	Provided in documentation	P
	jj) details of any programmable facility that would render an I&HAS non-compliant with EN 50131-1:2006, 8.3.13 or compliant at a lower security grade, with instruction on consequent removal of compliance labelling (see 4.2 and 8.3.10).	During testing it was verified that all necessary EN50131-1 compliant settings or combination of setting exist. The manufacturer mentions: “For more details on how to set up your panel for EN compliancy, please refer to the EVOHD Programming Guide”	P
9.2	**Operating Instructions**		
	The following information shall be provided:		--
	a) operating instructions for all security and non security functions available to the user;	Provided in documentation	P
	b) standard(s) to which compliance is claimed for product;		P
	c) security grade to which the CIE and ACE comply;	Provided in documentation	P
	d) environmental class;	Provided in documentation	P
	e) the minimum number of variations of logical and/or mechanical keys for each user;	6 digits codes explanation provided, the number of combinations can be derived from this	P
	f) the number and details of disallowed codes;	No disallowed codes	N/A
	g) user programmable functions provided;	Provided in documentation	P

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	h) where there are user serviceable parts (EXAMPLE: fuses), their type and value.		N/A
10	**Marking and labeling**		
	The CIE and ACE shall be marked as required by EN 50131-1, along with other information required by EU regulatory Directives.		P

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11	**Tests**		
	Where products are to be tested for compliance with this standard, the requirements of Clause 11 shall be applied.		--
	Security grades 1 to 4 shall be in accordance with the descriptions in EN 50131-1.	Security grade 3	P
	In the event of an additional component being developed for use with equipment already tested or of that equipment being revised, a revised test plan should be agreed with the test house.	No additional components	N/A
11.1	Test Conditions		
11.1.1	Laboratory conditions and tolerance		
	Testing conditions shall be in accordance with EN 60068-1 :1994,5.3.1, as follows:		--
	- temperature: 15℃ to 35 ℃ - relative humidity: 25 % to 75 % - air pressure: 86 kPa to 106 kPa		P
11.1.2	Mounting		
	Except where shown otherwise, the CIE/ACE shall be mounted in accordance with the manufacturer's installation instructions. For environmental testing, the EUT shall be mounted in its correct operational orientation. The material used for the mounting surface shall not 'influence the test results.		P
	Any additional equipment necessary to carry out the tests (EXAMPLE: simulation of detectors or warning devices) shall be supplied by the manufacturer by agreement with the test house.	See test setup in chapter 6.5 of this report	P
	All input signals/messages (EXAMPLE: directly wired detector inputs or bus line) shall be correctly terminated according to the manufacturer's instructions.		P
11.1.3	CIE test configuration		
	For functional testing, a CIE with representative configuration shall be supplied, as follows:		P
	a) the CIE shall include at least one of each type of ACE and 10 % (but at least one) of each type of expansion device or networked CIE component for which the manufacturer requires the testing;	See test setup in chapter 6.5 of this report	P
	b) the manufacturer shall provide equipment to the test house with alarm point inputs connected as defined below and programmed to meet the requirements of this standard:		P
	- each peripheral component capable of accepting inputs from alarm points shall have 10 % (but at least 2) of each type of input connected to alarm points;	No such EUT component	N/A

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	- for wire-free equipment, at least 8 wire-free alarm points shall be tested;	No wire free zones	N/A
	- if either of the above determinations result in a number greater than the capacity of the device, all inputs shall be connected;	Not greater than capacity	N/A
	- where several "bus" inputs are provided or a mix of wired and wire-free inputs may be connected, the alarm points shall be distributed to check all buses and all types of interconnections;	No such inputs	N/A
	- there may be several types of peripheral system components capable of accepting input connections. In this case, all such types of peripheral shall be checked;	No such components	N/A
	c) the remainder of the I&HAS configuration may be simulated (EXAMPLE: switches to simulate detectors, LEDs to simulate WDs);	switches to simulate detectors, LEDs to simulate WDs	P
	d) the event log may be pre-filled by the manufacturer before the test.	No event log filling was considered	N/A
	The EPS and any APS shall be connected according to the manufacturer's instructions.		P
	Where a real time clock is used in conjunction with an event log, the clock shall be set to the local time.	Clock set	P
	The manufacturer shall provide a declaration that the maximum system configuration for the CIE has been fully tested in-house.	Provided	P
	A reduced system configuration may be provided for environmental and EMC testing.	System provided for environmental and EMC testing	P
11.1.4	Power supply		
	Where power for the CIE is provided by PS Type A or B, the reduced functional test shall be carried out with the EPS at nominal value and with the APS at a level of at least 80 % of full capacity and connected according the manufacturer's instructions. For a CIE requiring a type C PS, the SD shall be at a level of at least at 80 % of full capacity.	Type A PS used	P
11.1.5	Event log checks		
	Test procedures specify checking of event logs at the step to which the check is relevant. It may not be practical to perform the check at this step (EXAMPLE: if CIE must be in unset condition to view log events). Thus all log event checks for a test may be performed together as a final step.	Considered	P
	At least one check should verify that the time specified in 8.10.1 is met.		P

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11.1.6	Documentation		
11.1.6.1	Product		
	The product documentation (as required in Clause 9) shall be provided with the CIE.	EVOHD-EI00 (Installer Manual) K641+-EI01 (Installation Manual)	P
11.1.6.2	Simulator test device		
	If additional equipment (EXAMPLE: a simulator or a programmable device) is supplied by the manufacturer, connection drawings, operational description and instructions for use shall be supplied.	No such equipment used	N/A
11.2	**Test procedures**		
	All tests described in Clause 11 shall be carried out.		P
11.2.1	Tolerances		
	Where signals/messages are applied for a specified time, this shall be subject to a tolerance of -0 %, +5 %.		--
	The pass-fail criteria are given in each test.		--
11.2.2	Wire-free devices		
	Wire-free devices shall be subjected to the additional tests required by EN 50131-5-3.		N/A
11.3	**Reduced functional test**		
	For specified tests, (EXAMPLE: environmental tests), it may not be possible or desirable to carry out a full functional test; in these cases a reduced functional test shall be carried out in accordance with Table 12.	Reduced functional tests carried out	P
11.4	**Functional tests**		
11.4.1	Processing intruder alarm signals or messages		
	a) Object of the test		
	To demonstrate the ability of the CIE to comply with 8.1.1, 8.3.5, 8.4.1, 8.4.1.2, 8.5, 8.6, 8.9 and 8.10:		P
	1) receive and process an intruder signal or message, within the processing timing requirements of this specification, when the CIE is in the set and the unset conditions;		P
	2) provide indication(s) and notification(s);		P
	3) correctly record the event(s) in the event log;		P
	4) restore in accordance with 8.3.5.		P
	b) Principle		

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	The test consists of applying an intrusion signal/message as specified in 8.9 to an intruder input and monitoring that the input has been processed within the required time period and that the correct indication and notification(s) occur, see Table 13.	Intrusion signal correct processed within <10s	P
11.4.2	Processing of hold-up signals or messages		
	a) Object of the test		
	To demonstrate the ability of the CIE including Hold-Up function to comply with 8.1.2, 8.3.S, 8.4.1, 8.S, 8.6, 8.9, 8.10 and to:	Comply	P
	1) receive and process a hold-up signal or message, within the processing timing requirements of this specification, when the CIE is in the set and the unset conditions;		P
	2) provide indication(s) and notification(s);		P
	3) correctly record the event(s) in the event log;		P
	4) restore in accordance with 8.3.5.		P
	b) Principle		
	The test consists of applying a hold-up signal as specified in 8.9 or a hold-up message compatible to the CIE to a hold-up input when the system is in a variety of conditions shown in Table 14. The system shall be monitored to ensure that the input has been processed within the required time period and that the correct indication(s), notification(s) and event recording occur.		P
11.4.3	Processing of tamper signals or messages		
	a) Object of the test		
	To demonstrate the ability of the CIE to comply with 8.1.3, 8.3.5, 8.4.1, 8.5, 8.6, 8.9, 8.10 and to:	Correctly processed as for intrusion signals/messages	P
	1) receive and process a tamper signal or message, within the processing timing requirements of this specification, when the CIE is in the set and the unset conditions;		P
	2) provide indication(s) and notification(s);		P
	3) correctly record the event(s) in the event log;		P
	4) restore in accordance with 8.3.5.		P
	b) Principle		

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Clause	Requirement – Test	Result - Remark	Verdict
	The test consists of applying a tamper signal as specified in 8.9 or a tamper message compatible with the CIE, to a tamper input when the system is in a variety of conditions shown in Table 15. The system shall be monitored to ensure that the input has been processed within the required time period and that the correct indication(s), notification(s) and event recording occur.		P
11.4.4	Processing of fault signals or messages		
	a) Object of the test		
	To demonstrate the ability of the CIE to comply with 8.1.4, 8.3.5, 8.4.1, 8.5, 8.6, 8.9 and 8.10 to receive, process, log and notify a fault signal or message, within the requirements of this specification. The tests shall be performed with the CIE in set and unset modes to ensure that detection of faults satisfies all relevant requirements.	Fault processing within the requirements of this specification	P
	b) Principle		
	To demonstrate the ability of the CIE to:		P
	1) receive and process a fault signal or message, within the processing timing requirements of this specification, when the CIE is in the set and the unset conditions;		P
	2) provide indication(s) and notification(s);		P
	3) correctly record the event(s) in the event log;		P
	4) restore in accordance with 8.3.5.		P
	The test consists of applying fault conditions as specified in 8.1.4, as shown in Table 16.	Fault conditions as specified in 8.1.4 performed	P
	The system shall be monitored to ensure that the input has been processed within the required time period and that the correct indication(s), notification(s) and event recording occur.		P
11.4.5	Processing masking signals or messages		
	a) Object of the test		
	To demonstrate the ability of the CIE to comply with 8.1.6, 8.3.5, 8.5, 8.6, 8.9 and 8.10 to receive, process, log and notify a masking signal or message, within the requirements of this standard. The tests shall be performed with the CIE in set and unset modes to ensure that detection of faults satisfies all relevant requirements.	Mandatory for Grade 3	P
	b) Principle		
	1) Receive and process a masking signal or message as required by 8.1.6 and 8.10.		P
	2) Provide notification and indication(s).		P
	3) Correctly record the event(s) in the event log.		P

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Clause	Requirement – Test	Result - Remark	Verdict
	The test consists of applying masking signals or messages as specified in 8.1.6 and verifying that the correct indication and notification(s) occur, see Table 17.		
11.4.6	Processing reduction of range signals or messages		
	a) Object of the test		
	To demonstrate the ability of the CIE to comply with 8.1.7, 8.3.5, 8.5, 8.6, 8.9 and 8.10 to receive, process, log and notify a reduction of range signal or message, within the requirements of this standard. The tests shall be performed with the CIE in set and unset modes to ensure that detection of faults satisfies all relevant requirements.	Range reduction is optional in security grade 3. Not applicable for the specific products under test	N/A
	b) Principle		
	1) Receive and process a masking signal or message as required by 8.1.7 and 8.10.		N/A
	2) Provide notification and indication(s).		N/A
	3) Correctly record the event(s) in the event log.		N/A
	The test consists of applying reduction of range signals or messages as specified in 8.1.7 and verifying that the correct indication and notification(s) occur, see Table 18.		N/A
11.4.7	CIE Processing in the presence of non-I&HAS inputs		
	a) Object of the test		
	To demonstrate the ability of CIE that includes inputs for non-I&HAS purposes to comply with 8.1.8, 8.9 and 8.10; to receive and process an intruder, hold-up, tamper or fault signal or message within the processing timing requirements of this specification, when the CIE is in the set and the unset modes and one or more optional signals or messages are present.	No non-I&HAS inputs. Not applicable for the specific products under test	N/A
	b) Principle		
	The test consists of applying a mandatory signal or message, whilst a non-I&HAS signal or message is applied to another input of the CIE and monitoring that the mandatory signal or message has been processed within the required time period and that the correct indication and notification(s) occur. See Table 19.		N/A

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Clause	Requirement – Test	Result - Remark	Verdict
11.5	**Access level**		
11.5.1	Access to the functions and controls		
	a) Object of the test		
	To demonstrate the ability of the CIE to comply with 8.1.5, 8.3.1, 8.3.3.1, 8.3.5, 8.3.6, 8.3.7, 8.3.9, 8.4.2 and 8.10 to provide up to four levels of access and verify the relevant access to the functions and controls.	(See appended table 11.5)	P
	b) Principle		
	The test consists of attempting to use the functions and the controls required by 8.1.5, 8.3.1, 8.3.3.1, 8.3.5, 8.3.6, 8.3.7, 8.3.9, 8.4.2 and 8.10, operating the CIE at each access level and verifying that access is granted for permitted functions and is denied for non-permitted functions (see Table 20).		P
11.6	**Authorization requirements**		
	Where a CIE is able to accept more than one method of authorization, the number of combinations shall, be checked individually for each method as per the following procedures, to ensure compliance if that method only is used on an I&HAS.		P
11.6.1	Mechanical key tests		
	a) Object of the test		
	To verify the mechanical key variations, as specified in EN 50131-1 :2006, Table 3,: are met by the CIE and any associated ACE and that the requirements of 8.3.2 and 8.3.2.1 are met.	No mechanical keys	N/A
	To verify the manufacturer's documentation complies with the requirements of Clause 9.		N/A
	b) Principle		
	Verify the range of combinations of mechanical keys is provided and that invalid mechanical keys are not accepted.		N/A
	c) Test conditions		
	The manufacturer shall provide the test-house with the following information:		N/A
	1) the number of key variations;		N/A
	2) the method used to determine the number of key variations.		N/A
	d) Test procedure		
	1) Attempt to change the state of the CIE using a valid key.		N/A
	2) Attempt to change the state of the CIE using a non valid key.		N/A

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Clause	Requirement – Test	Result - Remark	Verdict
	3) Examine the manufacturer's information regarding key construction and calculations.		N/A
	e) Measurement		
	1) Verify that the manufacturer's information and calculations are valid. Note the state of the CIE before and after use of valid key.		N/A
	2) Note the state of the CIE before and after attempted use of non-valid key.		N/A
	3) Record details of the invalid keys.		N/A
	f) Pass/fail criteria		
	1) The valid key changes the state of the CIE.		N/A
	2) The non-valid key does not change the state of the CIE.		N/A
	3) The manufacturer's supplied information and calculations verify that the number of combinations complies with EN 50131-1:2006, Table 3.		N/A
11.6.2	Logical key tests		
	Where no specific tests are provided for the type of logical key used, the principles of the "digital key" tests should be applied.		P
11.6.2.1	Digital key tests		
	a) Object of the test		
	To verify the numper of logical key variations, as specified in EN 50131-1:2006, Table 3, are met by the CIE and any associated ACE and that the requirements of 8.3.2 and 8.3.2.2.2 are met.	No digital keys	N/A
	To verify the manufacturer's documentation complies with the requirements of Clause 9.	Ditto	-
	Verify the range of variations of digital keys are provided and that invalid digital keys are not accepted, also, where applicable, that copy rejection and power supply requirements are met.	Ditto	-
	c) Test conditions		
	The manufacturer shall provide the test-house with the following information:	Ditto	--
	1) the number of key variations;	Ditto	--
	2) the method used to determine the number of key variations;	Ditto	--
	3) if the operational range of the digital key exceeds 1 m, the method of rejection of unauthorized copies.	Ditto	-
	d) Test procedure		
	1) Attempt to change the state of the CIE using a valid key.	Ditto	-

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Clause	Requirement – Test	Result - Remark	Verdict
	2) Attempt to change the state of the CIE using a non valid key.	Ditto	-
	3) Examine the manufacturer's information regarding key construction and calculations.	Ditto	--
	4) Check the number of variations of the digital key.	Ditto	--
	5) If the operational range exceeds 1 m, either the manufacturer shall provide the means to simulate a copied key or the manufacturer shall provide details of how the copy rejection operates.	Ditto	--
	6) If self-powered, the manufacturer shall provide the means to simulate a key with low storage device charge, as required by EN 50131 6:2008, 7.7.4.1.	Ditto	--
	e) Measurement		
	1) Verify that the manufacturer's information and calculations are valid.	Ditto	--
	2) Note the state of the CIE before and after use of valid key.	Ditto	--
	3) Note the state of the CIE before and after attempted use of non-valid key.	Ditto	--
	4) Record details of the invalid digital keys.	Ditto	--
	5) Record range of digital key.	Ditto	--
	6) Record the system response to a copied key or evaluate the manufacturer's documented copy rejection technique.	Ditto	--
	7) Record the system responses to a key with low voltage storage device.	Ditto	--
	f) Pass/fail criteria		
	1) The valid digital key changes the state of the CIE.	Ditto	--
	2) The non-valid digital key does not change the state of the CIE.	Ditto	--
	3) The manufacturer's supplied information and calculations verify that the number of combinations complies with EN 50131-1:2006, Table 3.	Ditto	--
	4) If range exceeds 1 m, a copied key is rejected or the manufacturer's described copy protection technique meets the copy protection requirement.	Ditto	--
	5) If self-powered, the requirements of 8.3.2.2.2 and EN 50131-6:2008, 7.7.4.1 for low battery reporting are met.	Ditto	--

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Clause	Requirement – Test	Result - Remark	Verdict
11.6.2.2	PIN code tests		
	a) Object of the test		
	To verify the number of combinations specified in EN 50131-1: 2006, Table 3 are met by the CIE and any associated ACE and that the requirements of 8.3.2 and 8.3.2.2.1 are met.	The Master/Installer Code is six digits in length where each digit can be any value from 0 to 9 100,000,000 differs result The users codes can have 4 digits 10 000 differs	P
	To verify the manufacturer's documentation complies with the requirements of Clause 9.	User Manual 14.1, 14.2 Access Codes Section	P
	Verify that the range of variations of PIN codes is provided and that invalid codes are not accepted.	Invalid codes are not accepted	P
	c) Test conditions		
	For the test purpose, the manufacturer shall provide to the test-house the following information:		-
	1) the number of disallowed codes;	No disallowed codes	N/A
	2) the method used to determine the number of variations.	See a) above	P
	3) for each user, the minimum number of variations of logical key shall be indicated.	See a) above	P
	d) Test procedure		
	1) Create samples of valid codes as described in the CIE documentation. The number of valid codes to be created shall be: 10 for grade 1; 20 for grade 2; 50 for grade 3; 100 for grade 4.		P
	2) Attempt to create an invalid code.		P
	3) Verify the validity of the manufacturer's calculations.		P
	e) Measurement		
	1) Record the valid codes.		P
	2) Record the invalid code.		N/A
	f) Pass/fail criteria		
	1) All valid codes created in "d) 1)" above shall be accepted according to grade.		P
	2) Invalid codes shall not be accepted.		N/A
	3) Calculations shall be shown to be in accordance with code combinations shown in Table 2.	100 000 Combinations	P

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Clause	Requirement – Test	Result - Remark	Verdict
11.6.2.3	Tests for authorization by biometric means		
	Relevant parts of the test procedure described for digital keys at 11.6.2.1 shall be applied.	Biometric means not used	N/A
	Additionally, the manufacturer shall provide information for the test house to evaluate compliance with the requirements of 8.3.2.2.3 (Table 2).		N/A
11.6.2.4	Tests for authorization by combinations of keys		
	Where combinations of keys are accepted, as specified in 8.3.2.4, each type must be evaluated as appropriate to the type of key. The timing requirements of Table 3 shall be met. The number of combinations of each type shall be multiplied to assess compliance with EN 50131-1:2006, Table 3.	No combinations used	N/A
11.6.3	Invalid authorization attempts		
	a) Object of the test		
	Verify that the detection and notification of attempted entry of invalid logical keys or (when the CIE has the means to distinguish such) mechanical keys complies with 8.3.2 and Table 3.	Not applicable for the specific products under test	P
	b) Principle		
	The test consists of entering a series of invalid logical or (if appropriate) mechanical keys and establishing that when the number of invalid attempts have been made as specified in Table 3 the user input device is disabled and/or a tamper signal or message is generated and recorded in the event log as specified. See Tables 21 and 22.	Unit disabled, No tamper	P
	When testing invalid PIN codes, at least one attempt shall take the form of a valid code entry not completed within 60 s.		P
11.7	**Operational tests**		
11.7.1	Setting procedures		
	a) Object of the test		
	Verify that all setting procedures are in accordance with 8.3.3, 8.3.3.2 and 8.3.3.3.	(See appended table 11.7.1)	P
	b) Principle		
	The test consists of setting the CIE and verifying that these are in accordance with the requirements of this standard (see Table 23).		P

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Clause	Requirement – Test	Result - Remark	Verdict
11.7.2	Prevention of setting and overriding of prevention of setting procedures		
	a) Object of the test		
	Verify that all procedures are in accordance with 8.3.3.1.		P
	b) Principle		
	The test consists of attempting setting the CIE and verifying that the responses are in accordance with the requirements of this standard (see Table 24).	Setting prevented for the faults Table 4,EN50131-1	P
11.7.3	The set state		
	Prior to testing unsetting functions, ascertain from manufacturer's documentation which option(s) for the set state are provided (see 8.3.3.4).	LCD time limited indication then enter in “Confidential” indication mode	P
	At least one of the options described in EN 50131-1:2006, 8.3.7 shall be provided, appropriate to security grade.	Options b provided	P
	Depending upon the option(s) provided, the relevant portion(s) of 11.7.4 shall be tested.	Entry route	P
11.7.4	Unsetting procedures		
	a) Object of the test		
	Verify that all procedures are in accordance with the requirements of 8.3.4.	Entry route	P
	b) Principle		
	The test consists of unsetting the CIE using all the procedures provided as specified in the manufacturer's documentation and verification that these are in accordance with the requirements within this specification (see Table 25).		P
11.7.5	Setting and/or unsetting automatically at pre-determined times		
	If the CIE has the facility to set and/or unset automatically at pre-determined times, the following test shall apply:	See Manual 7.10 Timed Auto-Arming	P
	a) Object of the test		
	Verify that all procedures are in accordance with 8.3.3, 8.3.3.1 and 8.3.4.		P
	b) Principle		
	The test consists of attempting setting the CIE and verifying that the responses are in accordance with the requirements of this standard (see Table 26).		P
11.7.6	Inhibit and isolate functions		

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Clause	Requirement – Test	Result - Remark	Verdict
	a) Object of the test		
	To verify that the operation of inhibit or isolate functions comply with the requirements of 8.3.6 and 8.3.7.	By manual bypass	P
	b) Principle		
	The test consists of operating inhibit and isolate modes to ensure correct functionality (see Table 27).		P
	c) Test conditions		
	Examine the manufacturer's documentation to confirm details of functionality.		P
	The test shall be run with the system initially in the unset condition.		P
11.7.7	Test functions		
	a) Object of the test		
	To verify the ability of the CIE to permit test functions to be carried out in accordance with the requirements of 8.3.8, 8.3.9 and 8.10.	(See appended table 11.7.7)	P
	b) Principle		
	The test consists of operating the test modes to ensure correct functionality (see Table 28).		P
	c) Test conditions		
	The test shall be run with the system initially in the unset condition.		P
11.7.8	Other functions		
	a) Object of the test		
	To demonstrate the ability of the CIE to function normally whilst a non-EN 50131-1 function is used, as required by 8.3.10.	Not EN evaluated	N/A
	b) Principle		
	The test consists of operating an additional function during a normal CIE operation and verifying that compliance with this standard is not affected.		N/A
	The manufacturer shall advise on what additional functions are provided and how these may be operated which I&HAS functions the additional function may interfere with.		N/A
	c) Test conditions		
	The CIE shall be in the condition appropriate to testing the I&HAS function identified.		N/A
	d) Test procedure		
	Operate the I&HAS and additional functions simultaneously (or within an agreed time).		N/A

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Clause	Requirement – Test	Result - Remark	Verdict
	e) Measurement		
	Monitor the operation of the I&HAS function.		N/A
	f) Pass/fail criteria		
	The operation of the I&HAS function shall comply with the requirements of this standard.		N/A
11.7.9	Monitoring of CIE processing		
	a) Object of the test		
	To demonstrate the ability of the CIE with programmed controlled serial data processing to comply with 8.4.3 to detect and react to processing faults.	Mandatory for Grade 3	P
	b) Principle		
	The test consists of introducing a fault in the processing and monitoring that the correct indication(s) and notification(s) occur, see Table 29.	CIE Reset	P
	The manufacturer shall advise on how a processing failure may be induced for test purposes.	CIE Reset	P
11.7.10	Availability of Indications		
	a) Object of the test		
	To demonstrate the ability of the CIE to comply with the requirements of 8.5.1.	(See appended table 11.7.10)	P
	b) Principle		
	The test consists of introducing a condition requiring a mandatory indication and ensuring that the requirements of EN 50131-1: 2006, 8.5.2 and 8.5.3 are met, in accordance with Table 30.	System ready- green LED on keypad, not ready no green led, further indications available to proper access level on LCD upon PIN code keying	P
11.8	**Tamper security tests**		
11.8.1	ACE Type A		
	Documentation provided by the manufacturer to justify a claim of "Type A" status for ACE shall be verified.	Type B	N/A
11.8.2	Tamper protection		
	a) Principle		
	The principle of this test is to use Impact testing to verify that the CIE/ACE housing meets the tamper protection requirements of 8.7.1.		P
	b) Procedure		

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Clause	Requirement – Test	Result - Remark	Verdict
	Subject the CIE/ACE housings to impact testing using the methodology of EN 50130-5, with equipment meeting the requirements of EN 60068-2-75:1997 at the severity levels specified in 8.7.1.		P
	c) Measurement		
	Assess the EUT as described in the reduced functional test in 11.3.		P
	d) Pass/fail criteria		
	The EUT shall meet the requirements of the reduced functional test before, during and after the test.		P
	The generation of signals or messages is permitted as a result of this test.		P
	There shall be no signs of mechanical damage that will permit access to internal elements of the CIE/ACE housing unless a tamper signal or message has been generated.		P
	There shall be no damage to the ACE housing that would permit the status of the I&HAS to be changed or prevent the CIE from initiating all mandatory notification responses.		P
11.8.3	Tamper detection - Access to the inside of the housing		
	a) Principle		
	The principle of this test is to verify that it is not possible to insert a tool into the CIE/ACE in its normal mounting position and defeat the operation of the tamper detection circuitry before a tamper signal or message is generated (see 8.7.2.1).	(See appended table 11.8.3)	P
	b)Test Conditions		
	The CIE should be in unset condition.		P
	c) Mounting		
	Mount the CIE/ACE according to the manufacturer's instructions with the housing securely closed.		P
	d) Procedure		
	Open the CIE/ACE housing by normal means and attempt to introduce a sabotage tool as specified in 8.7.2.1, into the EUT without causing physical damage before the tamper detection device operates.	Tamper device operated before access inside could be gained	P
	If the tool is successfully inserted, it should be maneuvered to try to interfere with the tamper detection device. The wire test includes forming the wire as appropriate.		P

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Clause	Requirement – Test	Result - Remark	Verdict
	Attempts shall be restricted to 5 min per tool (10 min for grade 4). If the test fails, it should be repeated and a further failure within 4 further attempts shall result in the overall test failing.	5 min / tool	P
	e) Measurement		
	Record the generation of the tamper signal or message.		P
	f) Pass/fail criteria		
	Opening the CIE/ACE by normal means shall only be possible by following the procedure defined by the manufacturer and shall generate a tamper signal or message.		P
	Either, the tamper detection device shall not have been defeated before the generation of a tamper signal or message,		P
	Or visible damage has been caused in order to defeat the tamper detection device.		P
11.8.4	Tamper detection - Removal from mounting		
	a) Principle		
	The principle of this test consists of removing the CIE/ACE from its mounting surface and monitoring the EUT to determine whether a tamper signal or message is generated within the required time period when the maximum permitted distance (see 8.7.2.2) is exceeded.	(See appended table 11.8.4)	P
	b)Test Conditions		
	The CIE should be in the unset condition.		P
	c) Mounting		
	Position the EUT on a horizontal flat surface, taking into account any requirements specified by the manufacturer to operate the removal from mounting detection device.		P
	d) Procedure		
	Lift the EUT from the flat surface in a perpendicular direction to the mounting surface by a distance exceeding that specified in 8.7.2.2, whilst monitoring the tamper signal or message output.		P
	Attempt to slide a test blade as defined in 8.7.2.2 to defeat the removal from mounting detection before and during the above test.	Performed, tamper activated while the unit was distanced for mounting surface	P
	Attempt to use pliers as specified in 8.7.2.2 to defeat the removal from mounting detection before and during the above test.		P
	Attempts shall be restricted to 5 min per tool (10 min for grade 4). If the test fails, it should be repeated and a further failure within 4 further attempts shall result in the overall test failing.		P

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Clause	Requirement – Test	Result - Remark	Verdict
	e) Measurement		
	Monitor the tamper signal or message output.		-
	Record whether it was possible to prevent the generation of a tamper signal or message using the test blade or pliers.	Not possible to prevent the tamper generation	P
	f) Pass/fail criteria		
	The tamper signal or message shall have been generated within 11 s of the UET exceeding the distance specified in 8.7.2.2.		P
	It shall not have been possible to prevent the generation of a tamper signal or message using the test blade or pliers.		P
11.8.5	Tamper detection - Penetration of the housing		
	a) Principle		
	The principle of this test consists of drilling a hole in an accessible face of the housing and verifying that a tamper signal or message is generated (see 8.7.2.3).	Penetration of housing is optional for security grade 3	N/A
	b) Test Conditions		
	The I&HAS should be in the unset condition.		N/A
	c) Mounting		
	Mount the EUT according to the manufacturer's instructions with the housing securely closed.		N/A
	d) Procedure		
	Drill a hole of 4 mm diameter in any accessible face of the EUT using a metal drill bit.		N/A
	e) Measurement		
	Monitor the tamper signal or message output.		N/A
	f) Pass/fail criteria		
	A tamper signal or message shall be generated when a hole of 4 mm is made in any accessible face of the housing.		N/A

11.9	**Substitution tests**		
11.9.1	Tests for monitoring of substitution of components		
	The manufacturer shall provide information from which it can be verified that the method of monitoring is compliant with the requirement of EN 50131-1:2006, 8.7.3.	Substitution tests is optional in security grade 2, 3	N/A
11.9.2	Tests for monitoring of substitution - Timing requirements		
	The manufacturer shall provide information from which it can be verified that the method of monitoring is compliant with the timings requirement specified in EN 50131-1		N/A

11.10	**Testing of I&HAS timing performance**

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Clause	Requirement – Test	Result - Remark	Verdict
	a) Object of the test		
	To demonstrate the ability of the CIE to comply with 8.9 and the timing requirement of EN 50131-1:2006, 8.8.1.	(See appended table 11.10)	P
	b) Principle		
	The test consists of introducing a notifiable event and ensuring that this takes place within the time specified by EN 50131-1: 2006, 8.8.1 and 8.9.1.	Alarm, Fault, tamper events	P
	c) Procedure		
	With the system in set mode, trigger an intruder alarm event.		P
	d) Measurement		
	Record the time before the notification output(s) become live.	<2s	P
	e) Pass/fail criteria		
	The time from triggering the event until notification takes place shall not exceed 20 s.		P
	For message structured systems: a) the manufacturer shall provide information to enable the time at which the message originated to be determined; b) the manufacturer shall provide evidence that this timing requirement can be maintained under the slowest possible communication conditions in an installed system.		N/A
11.11	**Testing for interconnections**		
11.11.1	Monitoring of interconnections		
	a) Object of the test		
	To demonstrate the ability of the CIE to comply with 8.8 and the timing requirement of EN 50131-1:2006, 8.8.3.	(See appended table 11.11)	P
	b) Principle		
	The test consists of simulating the interconnection being disabled and monitoring the response.	EOL resistors use for EN compliance	P
	c) Procedure		
	Disable the interconnection (EXAMPLE: by short circuit).		P
	If the system uses non-specific interconnections, simulate another application taking permanent control of the interconnection.	No non-specific interconnection	N/A
	d) Measurement		
	Record the system response and measure the time taken for the system to respond.	System change to Not Ready Fault condition, Faulted Zone is indicated as open	P
	e) Pass/fail criteria		

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Clause	Requirement – Test	Result - Remark	Verdict
	In each case, the response shall comply with the requirements of EN 50131-1: 2006, 8.8.3.		N/A
11.11.2	Testing of monitoring of periodic communication		
	a) Object of the test		
	To demonstrate the ability of the CIE to comply with 8.8 and the timing requirement of EN 50131-1: 2006, 8.8.4.1.	Wired system interconnection integrity monitored continuously (EOL resistors used) Panel EOL should be enabled for EN compliance	P
	b) Principle		
	The manufacturer shall provide means to, either:		P
	verify from documentation that the system response would comply with the requirements of EN 50131-1: 2006, Table 17, or	Based on user manual	P

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	identify the point at which a periodic communication takes place in order to test as follows:	See above	P
	c) Procedure		
	With the system in set mode, apply a fault condition (EXAMPLE: short circuit) to the interconnect, immediately following the identified periodic communication.	See above	P
	d) Measurement		
	Measure time for system to respond.	See above	P
	e) Pass/fail criteria		
	System response defined by EN 50131-1: 2006, Table 20 must occur within the time specified by EN 50131-1: 2006, Table 17.	See above	P
11.11.3	Testing of verification during setting procedure		
	a) Object of the test		
	To demonstrate the ability of the CIE to comply with 8.8 and the timing requirement of EN 50131-1: 2006, 8.8.4.2.		P
	b) Principle		
	The manufacturer shall provide means to, either		--
	verify from documentation that the system response would comply with the requirements of EN 50131-1: 2006, Table 18, or	User Manual	P
	identify the point at which a periodic communication takes place in order to test as follows:	See above	N/A
	c) Procedure		
	With the system in unset mode, apply a fault condition (example: short circuit) to the interconnect, immediately following the identified periodic communication for the period required by Table 18. Attempt to set the I&HAS.	See above	N/A
	d) Measurement		
	Monitor the status of the I&HAS.		N/A
	e) Pass/fail criteria		
	The I&HAS shall not set.	The I&HAS will not set.	N/A
11.11.4	**Test for security of communication**		
	The manufacturer shall provide information from which compliance with the requirements of EN 50131-1: 2006, 8.8.5 can be verified.	Optional in security grade 2,3	N/A

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Clause	Requirement – Test	Result - Remark	Verdict
11.12	**Event log**		
	a) Object of the test		
	To demonstrate the ability of the CIE to maintain an event log and keep an accurate clock in accordance with the requirements of 8.10.		P
	b) Principle		
	The test consists of operating the CIE to ensure correct operation of the event log, whilst ensuring the long-term accuracy of the clock	Within 1 s in 8 days (NIST atomic clock reference)	P
	c) Test condition		
	The test shall be run with the system initially in the unset condition.		P
11.13	**Marking and documentation**		
	a) Principle		
	The principle of this test is to verify that the marking of the CIE and the documentation supplied with the CIE meet the requirements of Clauses 9 and 10.		-
	Examine the marking of the CIE and ACE.	See clause 10	-
	Examine the documentation supplied by the CIE manufacturer.	See clause 9	-
	c) Pass/fail criteria		
	The marking on the CIE and ACE shall meet the requirements of Clause 10 of this standard.	Meets requirements of clause 10	
	The documentation shall meet the requirements of Clause 9 of this standard.	Meets requirements of clause 9	P

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Clause	Requirement – Test	Result - Remark	Verdict

11.14	**Environmental and EMC tests**		
	The environmental classification is described in EN 50131-1. Relevant environmental tests carried out shall be in accordance with EN 50130-5.	Separate Environmental test report	
	The EMC susceptibility tests required for compliance with the EMC Directive are defined in EN 50130-4.	Separate EMC test report	
	Where the Reduced Functional Test is specified during the environmental and EMC conditioning, this shall be carried out as detailed in EN 50130-5.	See separate test report	
	For operational tests, CIE and ACE shall not generate alarm, tamper, fault or other signals or messages or change from one mode to another, when subjected to the specified range of environmental and EMC conditions and shall continue to function normally.	See separate test report	
	For endurance tests, the CIE and ACE shall pass the reduced functional test after being subjected to the specified range of environmental conditions.	See separate test report	

11.3	**Reduced functional tests (Table 12)**		P
Test Condition	Action	Measurement	P/F criteria
CIE Unset, Absence of "intruder, tamper, fault signals and messages"	Apply an intruder alarm signal or message for 401 ms	Record indications	Alarm condition and zone identification.
		Result: -open zone	**Result:** Pass
As above + one intruder alarm input, not allocated as an entry route	Attempt to set the system	Record whether system sets	The system should be prevented from being
		Result: -No setting	**Result:** Pass
As in 1 above	Set the system	Record indications	Indications for completion of setting, I&HAS Set/Unset
		Result: Temporary indications appear then confidential mode	**Result:** Pass
CIE set	Apply an alarm signal or message as In 8.9	Monitor the notification output signals or messages and record results	All notifications activated
		Result: Alarm	**Result:** Pass
CIE in "set condition" and in "alarm" conditions	Manually unset the CIE	Record whether the system has changed its status to "unset" and that the notification output signals or messages are correct, check event log	Indications for completion of unsetting, I&HAS Set/Unset WD outputs shall silence, other notification output signals or messages may remain active until restored. Correct time

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Clause	Requirement – Test	Result - Remark	Verdict
		Result: Unset, correct notifications and event log	**Result:** Pass
CIE in “unset” conditions	Restore CIE	Record whether system returns to normal condition	Restore at access level 2 or 3
		Result: Acknowledgement of messages is required when unsetting system. Restore at access levels 2,3	**Result:** Pass

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Clause	Requirement – Test	Result - Remark	Verdict

11.4.1	TABLE: Processing intruder alarm signals or messages (Table 13)			P
Test condition	Test procedure	Measurement	Pass/Fail criteria	Result
GENERAL CONDITION The CIE is in the condition described in the steps below with all inputs and outputs in normal condition.		GENERAL MEASUREMENT Record the condition of the indications and notifications of the CIE and any associated user input devices. Time when signal/message applied. Time when notification occurs Record the event log.	GENERAL CRITERIA Processing shall be in accordance with EN 50131-1:2006, Table 7 and 8.4.1. The indications and notifications shall be in accordance with EN 50131-1:2006, Tables 8, 9 and 10.	P
CIE in "set mode"	Apply intruder signal/message for 401 ms	General measurement + Record the identity of the alarm point being activated. Zone 04	General criteria + Notification shall occur within the time specified by EN 50131-1:2006, 8.9. The logging shall be in accordance with 8.10.	P
CIE in "set mode" (with alarm condition)	Unset the CIE	General measurement Checked indications per 8.5	General criteria Indications shall comply with 8.5	P
CIE in "unset mode"	Restore	General measurement Alarm Restored	In accordance with 8.3.5	P
CIE in "set mode"	Apply the same intruder signal/message for 401 ms once more than the maximum number of times specified in EN 50131-1:2006, 8.10. Afterwards repeat step 3	General measurement Limited by programmable function to 10 events from the same source, 10 events recorded Note: 4.6.1 Auto Zone Shutdown SECTION [0400]: OPTION [1] Set to 010	The number of intruder alarms from the same source shall comply with EN 50131-1:2006, 8.10.	P
CIE in "unset mode"	Apply the same intruder signal/message for 401 ms 4 times.	Note: 4.6.1 Auto Zone Shutdown SECTION [0400]: OPTION [1] Set to 004	General criteria	P
	Afterwards repeat step 3			P
CIE in "set mode".	Apply intruder signals or messages equivalent to 5 % of the maximum alarm point capacity of the CIE or 5 (whichever is the greater) within 1 s.	Zone 08 processed, all rest of the zones processed finally	At least one intruder signal or message shall be processed in accordance with 8.4.1.2 and 8.9.	P

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CIE in "set mode" (with more than one alarm condition)	Unset the CIE	Indication comply	General criteria Indications shall comply with 8.5.1.1.	P
CIE in "unset mode"	Restore all the conditions.	Restored	In accordance with 8.3.5	P

11.4.2	TABLE: Processing of hold-up signals or messages (Table 14)			P
Test condition	Test procedure	Measurement	Pass/Fail criteria	Result
GENERAL CONDITION The CIE is in the condition described in the steps below with all inputs and outputs in normal condition.		GENERAL MEASUREMENT Record the condition of the indications and notifications of the CIE and any associated user input devices. Time when signal/message applied Time when notification Occurs Record the event log	GENERAL CRITERIA Processing shall be in accordance with EN 50131-1:2006, Table 7 and 8.4.1. The indications and notifications shall be in accordance with EN 50131-1:2006, Tables 8, 9 and 10.	P
CIE in "set mode"	Apply hold-up signal/message for 401 ms	Z 02 Notification within the required time	General criteria + Notification shall occur within the time specified by EN 50131-1:2006, 8.9. The logging shall be in accordance with 8.10.	P
CIE in "set mode" (with alarm condition)	Unset the CIE	Indication comply	General criteria Indications shall comply with 8.5	P
CIE in "unset mode"	Restore	Restored	In accordance with 8.3.5	P

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Clause	Requirement – Test	Result - Remark	Verdict

CIE in "set mode"	Apply the same hold-up signal/message for 401 ms once more than the maximum number of times specified in EN 50131-1:2006, 8.10. Afterwards repeat step 3	As for intruder, No more than 4 signals from the same source (programmable function) 4.6.1 Auto Zone Shutdown SECTION [0400]: OPTION [1] Set to 010	The number of intruder alarms from the same source shall comply with EN 50131-1:2006, 8.10.	P
CIE in "unset mode"	Apply the same hold-up signal/message for 401 ms 4 times. Afterwards repeat step 3	Processing, notification and indications accordingly	General criteria	P
CIE in "set mode".	Apply hold-up signals or messages equivalent to 5 % of the maximum alarm point capacity of the CIE or 5 (whichever is the greater) within 1 s.	As for intruder signals	At least one intruder signal or message shall be processed in accordance with 8.4.1.2 and 8.9.	P
CIE in "set mode" (with more than one alarm condition)	Unset the CIE	Unset, Indication comply with 8.5.1.1	General criteria Indications shall comply with 8.5.1.1.	P
CIE in "unset mode"	Restore all the conditions.	Restored	In accordance with 8.3.5	P

11.4.3	**TABLE: Processing of tamper signals or messages (Table 15)**			P
Test condition	Test procedure	Measurement	Pass/Fail criteria	Result
GENERAL CONDITION The CIE is in the condition described in the steps below with all inputs and outputs in normal condition.		GENERAL MEASUREMENT Record the condition of the indications and notifications of the CIE and any associated user input devices. Time when signal/message applied Time when notification Occurs Record the event log	GENERAL CRITERIA Processing shall be in accordance with EN 50131-1:2006, Table 7 and 8.4.1. The indications and notifications shall be in accordance with EN 50131-1:2006, Tables 8, 9 and 10.	P
CIE in "set mode"	Apply tamper signal/message for 401 ms	General measurement + Record the identity of the alarm point being activated. Zone 2	General criteria + Notification shall occur within the time specified by EN 50131-1:2006, 8.9. The logging shall be in accordance with 8.10.	P

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Clause	Requirement – Test	Result - Remark	Verdict

CIE in "set mode" (with alarm condition)	Unset the CIE	Tamper indication	General criteria Indications shall comply with 8.5	P
CIE in "unset mode"	Restore	Restored	In accordance with 8.3.5	P
CIE in "set mode"	Apply the same tamper signal/message for 401 ms once more than the maximum number of times specified in EN 50131-1:2006, 8.10. Afterwards repeat step 3	As for intrusion signals 4.6.1 Auto Zone Shutdown SECTION [0400]: OPTION [1] Set to 010	The number of tamper alarms from the same source shall comply with EN 50131-1:2006, 8.10.	P
CIE in "unset mode"	Apply the same tamper signal/message for 401 ms 4 times. Afterwards repeat step 3	As for intrusion signals	General criteria	P
CIE in "set mode".	Apply tamper signals or messages equivalent to 5 % of the maximum alarm point capacity of the CIE or 5 (whichever is the greater) within 1 s.	As for intrusion signals Eventually all tamper signals are processed	At least one intruder signal or message shall be processed in accordance with 8.4.1.2 and 8.9.	P
CIE in "set mode" (with more than one alarm condition)	Unset the CIE	Correct processing, indication and notifications	General criteria Indications shall comply with 8.5.1.1.	P
CIE in "unset mode"	Restore all the conditions.	Conditions restored	In accordance with 8.3.5	P

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Clause	Requirement – Test	Result - Remark	Verdict

11.4.4	TABLE: Processing of fault signals or messages (Table 16)			P
Test condition	Test procedure	Measurement	Pass/Fail criteria	Result
GENERAL CONDITION The CIE is in the condition described in the steps below with all inputs and outputs in normal condition.	An EPS fault signal or message should be applied only where specifically stated.	GENERAL MEASUREMENT EPS Fault (not delayed) Yellow, Green LEDs-OFF Trouble indication on LCD, Notification	GENERAL CRITERIA Processing shall be in accordance with EN 50131-1:2006, Table 7 and 8.4.1. The indications and notifications shall be in accordance with EN 50131-1:2006, Tables 8, 9 and 10.	P
CIE in "set mode"	Apply fault signal/message for 10.1 ms	SD Fault, Notification within 20s, event log recorded the fault	General criteria + Notification shall occur within the time specified by EN 50131-1:2006, 8.9. The logging shall be in accordance with 8.10.	P
CIE in "set mode" (with alarm condition)	Unset the CIE	Indications comply	General criteria Indications shall comply with 8.5	P
CIE in "unset mode"	Restore	Restored as per 8.3.5	In accordance with 8.3.5	P
CIE in "set mode"	Apply the same fault signal/message for 10.1 ms once more than the maximum number of times specified in EN 50131-1:2006, 8.10. Afterwards repeat step 3	As for intrusion, tamper and other events 13.22 Auto Trouble Shutdown SECTION [3021] Set to 4	The number of fault alarms from the same source shall comply with EN 50131-1:2006, 8.10.	P
CIE in "unset mode"	Apply fault signal/message for 10.1 ms	As for intrusion, tamper and other events	General criteria	P
CIE in "unset mode"	Apply the same fault signal/message for 10.1 ms once more than the maximum permitted by EN 50131-1:2006, 8.10 Afterwards repeat step 3	As for intrusion, tamper and other events	The number of fault alarms recorded from the same source shall be as specified in EN 50131-1:2006, 8.10.	P
CIE in "set mode".	Apply 5 fault signals or messages (or the maximum possible number the EUT can recognize if less than 5) within 1 s.	As for intrusion, tamper and other events	At least one tamper signal or message shall be processed in accordance with 8.4.1.2 and 8.9.	P

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CIE in "set mode" (with more than one alarm condition)	Unset the CIE	Indications comply	General criteria Indications shall comply with 8.5.1.1.	P
CIE in "unset mode"	Restore all the conditions.	Restoring successful	In accordance with 8.3.5	P
CIE in "set mode"	Apply at least one of each of intruder, hold-up, tamper and fault signals or messages equivalent to 5 % of the maximum alarm point capacity of the CIE or 5 (whichever is the greater) within 1s	Al conditions, indicated logged and notified	General criteria + Notification should be in accordance with 8.4.1. All the conditions shall be correctly identified and logged in the event log at the correct time.	P
CIE in "unset" mode Enable EPS Fault notification delay required by 8.6.	Apply "EPS Fault" signal or message.	60 min delay programmed	Notification of the fault shall be delayed as required by 8.6.	P
As step 11, during delay period	Remove "EPS Fault" signal or message	No Notification if delay defined	Notification shall be cancelled according to 8.6.	P

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Clause	Requirement – Test	Result - Remark	Verdict

11.5.1	**TABLE: Test of the access to the functions and controls (Table 20)**			P
Test condition	Test procedure	Measurement	Pass/Fail criteria	Result
The CIE and any necessary ACE shall be mounted according to the manufacturer's specifications.	At access level 1 attempt to operate all the functions and controls listed in 8.3.6, 8.3.7 and 8.3.9 and in EN 50131-1:2006, Tables 2, 5, 6 and 8 and 8.3.10.	Access not permitted	Access is in accordance with 8.3.9 and EN 50131-1: 2006, Tables 2, 5, 6 and 8.	P
As above	Repeat as step 1 for access level 2.	Access not permitted For the functions programmed by Master/Instller User	As above	P
As above	Repeat as step 1 for access level 3.	As above	As above Record whether level 2 authorization for level 3 access is "until manually removed" or "required for each occasion"	P
As above	Repeat as step 1 for access level 4.	No Access Level 4 considered	As above	N/A
NOTE If means is provided to gain level 3 access without level 2 authorization (see EN 50131-1:2006,8.3.1), not permitted at grade 4:				
CIE unset	Enter level 3 access code or key	Monitor outputs.	Notified by internal WD and (grade 2 and 3) remotely	N/A
Perform action defined by manufacturer to silence WD or allow to time out, as applicable	-	Monitor outputs and status	WD silenced. Level 3 access obtained	N/A
CIE set	Repeat steps 5 and 6	Monitor outputs and status	No response, remains at level 1 access	N/A

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Clause	Requirement – Test	Result - Remark	Verdict

11.6.2.1	TABLE: Digital key tests	N/A
Test condition	Measurement	Result
Verify that the manufacturer's information and calculations are valid.		N/A
Note the state of the CIE before and after use of valid digital key.		N/A
Note the state of the CIE before and after attempted use of non-valid digital key.		N/A
Record details of the invalid digital keys.		N/A
Record range of digital key.		N/A
Record the system response to a copied key or evaluate the manufacturer's documented copy rejection technique.		N/A
Record the system responses to a key with low voltage storage device.		N/A

11.6.2.2	TABLE: PIN code tests	P
Test condition	Measurement	Result
Record the valid codes	The valid codes are accepted The codes that were not programmed are not accepted To comply with 100,000,000 combinations the user codes should be set to 6 digits	P
Record the invalid codes	No invalid codes The codes that were not programmed are not accepted	P

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Clause	Requirement – Test	Result - Remark	Verdict

11.6.3	**TABLE: Test for disabling user input device by invalid keys (Table 21)**			P
Test condition	Test procedure	Measurement	Pass/Fail criteria	Result
GENERAL: The CIE shall be configured with its inputs and outputs in their normal condition, allowing the CIE to be set and alarms to be generated from at least 1 alarm point.	GENERAL: The steps 2,4, 5, 6 and 7 shall be repeated in the "UNSET" mode of the CIE.			P
CIE set	Enter a valid key and attempt to set CIE.	Set	CIE set	P
CIE set	Enter a series of invalid keys according to Table 1 to attempt to initially disable the user input device.	No state change, device disabled, event log records the event	CIE should not change state, the user input device shall be disabled, the generation of tamper conditions and event log shall be in accordance with Table 1.	P
CIE set	During the "disabling time" apply an alarm signal or message.	Alarm condition is processed.	The alarm generated during the disable period shall be processed in accordance with EN 50131-1:2006, Table 7 and 8.4.1.	P
CIE set	During the "disabling time" try to enter a valid key.	The CIE did not change state. The user input device remained disabled.	The CIE shall not change state. The user input device shall remain disabled.	P
CIE set	When disabling time has expired, enter another series of invalid keys according to Table 4	No state change, device disabled, event log records the event. An additional disabling attempt prompts on LCD “Code denied” then the next attempt the keypad is already locked.	The CIE shall not change state and shall be in accordance with Table 4.	P
CIE set	During the "disabling time" try to enter a valid key.	No response.	The CIE shall not change state. The user input device shall remain disabled.	P
CIE set	When disabling time s expired enter a valid key and attempt to change state of the CIE.	unset	The CIE shall change state.	P

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Clause	Requirement – Test	Result - Remark	Verdict

11.7.1	TABLE: Setting procedures (Table 23)			P
Test condition	Test procedure	Measurement	Pass/Fail criteria	Result
GENERAL CONDITION: The CIE is in “unset” condition For the purpose of this series of tests The keys and/or codes shall be selected to have the necessary authorizations for "inhibit" and "override" functions.	The setting was Performed with the key pad and correct CP reaction was checked per below steps	GENERAL: Record the CIE condition	GENERAL CRITERIA When the CIE fails to set, means shall be provided to indicate or notify. If the indication of the set state is provided, it shall be time- limited according to EN 50131-1:2006, 8.3.7. The logging shall be in accordance with 8.10.	P
Complete the following series of tests for each setting method given in the manufacturer's documentation.				
CIE is unset	Initiate exit procedure by using the keypad	CIE set Correct indication provided	The CIE shall set and indicate accordingly.	P
CIE unset	Setting procedure initiated but prevented from completion "Fail to set" time expires	Fail to set indication No alarm notification	Incomplete exit condition indicated and/or notified, according to 8.3.3.3 CIE not set. No alarm notification	P
GENERAL CONDITION: The CIE is in “unset”				
CIE unset	Start the setting procedure (exit time).	Setting procedure correctly initiated and indicated	The setting procedure shall be initiated and indicated according to 8.3.3.2 and EN 50131-1:2006, Tables 8 and 9.	P
	Activate an exit route alarm point, during the exit time period.	No Alarm notification	The activated alarm point shall not cause alarm notification.	P
	Ensure the alarm point is no longer in the activated condition. Allow the setting procedure to complete or complete setting procedure as appropriate to method.	Set completed	The setting procedure shall be completed. CIE is set, in accordance with 8.3.3.2.	P
CIE unset Exit procedure initiated Exit route alarm point activated	Exit route alarm point remains activated Exit time or "Fail to set” time expires	Fail to set indication No alarm notification	Incomplete exit condition indicated and/or notified, according to 8.3.3.3 CIE not set No alarm notification	P
For CIE including facility to set by level 1 access, as permitted by EN 50131-1 :2006, 8.3.4 (grade 1 only):				
CIE is unset,	Initiate level 1 setting in accordance with manufacturer's instructions.	Record the CIE action	The CIE operation shall commence setting procedure.	N/A

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Clause	Requirement – Test	Result - Remark	Verdict

During setting procedure	Operate level 1 "cancel setting" in accordance with manufacturer's instructions.	Record the CIE action	The CIE shall cancel the setting procedure and remain unset.	N/A
CIE is unset	Initiate level 2 setting in accordance with manufacturer's instructions.	Record the CIE action	The CIE operation shall commence setting procedure.	N/A
During setting procedure	Operate level 1 "cancel setting" in accordance with manufacturer's instructions.	Record the CIE action	The CIE shall continue the setting procedure. Allow to set.	N/A
CIE is set	Operate level 1 "cancel setting" in accordance with manufacturer's instructions.	Record the CIE action	The CIE shall remain set.	N/A

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Clause	Requirement – Test	Result - Remark	Verdict

11.7.2	TABLE: Prevention of setting procedures (Table 24)			
Test condition	Test procedure	Measurement	Pass/Fail criteria	Result
GENERAL CONDITION: The CIE is in “unset” condition For the purpose of this series of tests The keys and/or codes shall be selected to have the necessary authorizations for "inhibit" and "override" functions.	Trying to set using the keypad while the conditions required to cause prevention of settings are present	GENERAL: Record the CIE condition See also User Manual Arming and Disarming Options 7.3 to 7.9	GENERAL CRITERIA When the CIE fails to set, means shall be provided to indicate or notify. If the indication of the set state is provided, it shall be time- limited according to EN 50131-1:2006, 8.3.7. The logging shall be in accordance with 8.10.	P
Complete the following series of tests for each setting method given in the manufacturer's documentation and for each condition specified in EN 50131-1 :2006, Table 4.				
Alarm point (not allocated to an exit route) in active condition CIE is unset	Try to set the system Setting with keypad	CIE remain unset	The setting procedure shall be in accordance with 8.3.3 and EN 50131-1:2006, Table 4.	P
Alarm point (not allocated to an exit route) in active condition Setting prevented (see step 1) CIE is unset	Inhibit the active alarm point (if function provided) - see 8.3.6. Try to set the system	CIE set (select bypass)	The setting procedure shall continue in accordance with EN 50131-1:2006, Table 4 and be completed according to manufacturer's instructions.	P
The CIE in "unset" condition. Tamper signal or message applied to the CIE	Try to set the system	CIE not set [3034] Option [8] enabled	The setting procedure shall be prevented in accordance with EN 50131-1 :2006, Table 4	P
Setting prevented (see step 3) CIE unset	Override the tamper (if function provided) – see EN 50131-1:2006 Table 5. Try to set the system	CIE set only by installer if Option [8] disabled	The setting procedure shall continue in accordance with EN 50131-1:2006, Table 4 and be completed according to manufacturer's instructions.	P
The CIE is in "unset" condition Hold-up signal or message applied to the CIE		As for zone open	The setting procedure shall be prevented in accordance with EN 50131-1:2006, Table 4.	P
Setting prevented (see step 5) CIE unset	Inhibit the hold-up device (if function provided) - see	As for zone open	The setting procedure shall continue in accordance with EN	P
	8.3.6. Try to set the system.		50131-1:2006, Table 4 and be completed according to manufacturer's instructions.	P
For movement detector masking. movement detector range reduction and each fault signal or message specified in EN 50131-1 :2006, Table 4 repeat steps 7 and 8.				

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Clause	Requirement – Test	Result - Remark	Verdict

The CIE is in "unset" condition. Apply fault signal or message to CIE.	Try to set the system	Setting prevented	The setting procedure shall be prevented in accordance with EN 50131-1:2006, Table 4.	P
Setting prevented (see step 7) CIE unset	Override the setting prevention (if function provided) – see 8.3.6.	As above only at installer level	The setting procedure shall continue in accordance with EN 50131-1:2006, Table 4 and be completed according to manufacturer's instructions.	P

11.7.4	**TABLE: Unsetting procedures (Table 25)**			
Test condition	Test procedure	Measurement	Pass/Fail criteria	Result
GENERAL CONDITION: The CIE is in “unset” condition For the purpose of this series of tests The keys and/or codes shall be selected to have the necessary authorizations for "inhibit" and "override" functions.	Trying to set using the keypad while the conditions required to cause prevention of settings are present	GENERAL: setting prevented, indication of the prevention cause provided in Trouble (LCD) and LEDs	GENERAL CRITERIA When the CIE fails to set, means shall be provided to indicate or notify. If the indication of the set state is provided, it shall be time- limited according to EN 50131-1:2006, 8.3.7. The logging shall be in accordance with 8.10.	P
Complete the following series of tests for each unsetting method provided in the manufacturer's documentation.				
CIE set, in a normal condition with no alarms or, tampers activated.	Try to unset the system using the keypad	Unsetting procedure completed.	The unsetting procedure shall be completed	P
CIE set Alarm point (not on an agreed entry route) in active condition	Try to unset the system using the keypad	Unsetting procedure completed, correct indication, notification and event recording.	The unsetting procedure shall be completed. Notification, indication and event recording shall comply with EN 50131-1:2006, Tables 7, 8, 9 and 22.	P
For CIE with entry route facility, complete the following series of tests for each unsetting method provided in the manufacturer's documentation.				
CIE set	Manually start the unsetting procedure (entry time).	Entry time started, indicated Correct indications, notifications and event recording	The unsetting procedure shall be initiated. Indication shall be in accordance with EN 50131-1:2006, 8.3.8.2 and Tables 8 and 9 and recorded in the event log in accordance with EN 50131-1:2006, Table 22.	P
CIE set	Manually start the unsetting procedure (entry time).	Unsetting procedure initiated	The unsetting procedure shall be initiated	P

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Clause	Requirement – Test		Result - Remark	Verdict
	Generate an intruder alarm from an entry route alarm point.	Alarm not notified	An intruder alarm shall not be notified	P
	Do not complete the unsetting procedure (let the entry time expire).	Alarm condition notified	An alarm condition shall be notified according to EN 50131-1:2006, 8.3.8.2.	P
CIE set	Manually start the unsetting procedure (entry time).	unsetting procedure initiated and correctly Indicated	The unsetting procedure shall be initiated. Indication shall be in accordance with EN 50131 -1:2006, 8.3.8.2 and Tables 8 and 9.	P
Unsetting procedure in process	Generate an intrusion alarm from an entry route alarm point and complete the entry procedure.	Intruder alarm not processed. correct entry procedure indicated	CIE is unset. The intruder alarm shall not be processed. A correct entry procedure shall be indicated as per EN 50131-1 :2006,8.3.8.2 and Tables 8 and 9,and recorded in the event	P
		and logged	log in accordance with EN 50131-1:2006, Table 22.	P
CIE set	Manually start the unsetting procedure (entry time).	unsetting procedure initiated	The unsetting procedure shall be initiated.	P
	Generate a tamper alarm from an entry route alarm point.	tamper alarm notified	The tamper alarm shall be notified.	P
CIE set	Manually start the unsetting procedure (entry time).	unsetting procedure initiated.	The unsetting procedure shall be initiated.	P
	Generate an intrusion alarm from a non-entry route alarm point.	Indication and Bell output activation	Indication or Warning Device shall be activated in accordance with EN 50131-1:2006, 8.3.8.2.	P
Unsetting is proceeding	Wait for expiry of time programmed or specified by manufacturer after indication or internal WD activated. MINIMUM time is 30 s	By proper installer entry delay settings Notification delayed as required	Where remote notification devices are connected, ensure this is not activated prior to the completion of the delay required by EN 50131-1:2006, 8.3.8.2.	P
CIE set	Manually start the unsetting procedure (entry time).	Record the CIE condition.	The unsetting procedure shall be initiated.	P

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Clause	Requirement – Test	Result - Remark	Verdict

	Do not complete the unsetting procedure (let the entry time expire).	Alarm notified	The alarm shall be notified in accordance with EN 50131-1:2006, 8.3.8.2.	P
CIE set	Manually start the unsetting procedure (entry time).	Unsetting procedure initiated.	The unsetting procedure shall be initiated.	P
	Generate an alarm from a non entry route alarm point.	Indication or Warning Device activated	Indication or Warning Device shall be activated in accordance with EN 50131-1 :2006,8.3.8.2	P
	Complete the unsetting procedure before the notification delay expires, see paragraph 3 of EN 50131-1:2006, 8.3.8.2.	Unset, No any notification	The indicator or warning devices shall be restored and remote notification shall not take place. The CIE shall be unset.	P

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Clause	Requirement – Test	Result - Remark	Verdict

11.7.5	TABLE: setting and/or unsetting automatically at pre-determined times (Table 26)			
Test condition	Test procedure	Measurement	Pass/Fail criteria	Result
GENERAL CONDITION: The CIE is in “unset” condition For the purpose of this series of tests The keys and/or codes shall be selected to have the necessary authorizations for "inhibit" and "override" functions.		GENERAL: Unset	GENERAL CRITERIA When the CIE fails to set, means shall be provided to indicate or notify. If the indication of the set state is provided, it shall be time- limited according to EN 50131-1:2006, 8.3.7. The logging shall be in accordance with 8.10.	P
If CIE has facility for setting automatically:				
CIE is unset, prior to time that pre-setting	Allow automatic sequence to	Unset, unset indications	Pre-setting indication available as documented by manufacturer.	P
indication is scheduled.	Operate.	Setting entered in event log No override function identified	Setting and override of Prevention of set shall be entered in event log.	P
With CIE set, create an alarm	Allow automatic unset to take place	Unsetting takes place as scheduled. Alert indication present. Unsetting entered in event log.	Unsetting takes place as scheduled. Alert indication present. Unsetting entered in event log.	P
	Obtain level 2 access	Correct alarm record while set	Correct record of alarm created whilst set. Alarm is present in event log.	P
CIE is unset, prior to time that pre-setting indication is scheduled. Condition to prevent setting present	Allow automatic sequence to operate.	Setting prevented No overriding possible “Late to arm” recorded in event log	Pre-setting indication available as documented manufacturer. Setting prevented or prevention of setting automatically overridden. Setting and override of Prevention of set shall be entered in event log.	P
If CIE has provision for automatic unsetting:				
CIE set	Initiate unsetting sequence in accordance with manufacturer's instructions	N/A	The unsetting procedure shall be completed	N/A
CIE set and in alarm condition	Initiate unsetting sequence in accordance with manufacturer's instructions	N/A	The unsetting procedure shall be completed. The alarm condition shall not be cancelled. Alarm event and unsetting shall be entered in event log.	N/A

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Clause	Requirement – Test	Result - Remark	Verdict

11.7.7	**TABLE: Verification of test functions (Table 28)**		P
Test procedure	Measurement	Pass/Fail criteria	Result
With the system unset and in the normal condition, use level 2 access means to enter detection test mode (8.3.8).	5 intruder signals or messages as specified in 8.9. each of the activation detected	The CIE shall provide means to confirm that each of the activations has been detected.	P
If the CIE includes "soak test" function (8.3.9)			
Use level 3 access means to place at least 2 alarm points on soak test.	Record alarm points so programmed and, where removal is automatic, time period for test.		N/A
Set the CIE.	Record indications during the setting procedure.	During the setting procedure, an indication shall be provided that alarm points are being soak tested, in accordance with 8.3.9.	N/A
Whilst CIE is set, activate the alarm points that are being tested.	Record the identity of the alarm points activated and the condition of indication and notification outputs of the CIE.	The activations shall not be notified.	N/A
Unset the CIE.	Record the condition of indication outputs and event logs.	The activations shall be indicated at the time of unsetting in accordance with 8.5. Logging shall be in accordance with 8.3.9 and 8.10.	N/A
Where removal from test mode is automatic:	Repeat steps 3 and 4 one day before test period is due to end.	Test shall remain active.	N/A
	Repeat steps 3 and 4 after test period is due to expire.	There shall be no indication at step 3 and an alarm shall be notified and indicated at step 4.	N/A
Where removal from test mode is not automatic.	Use level 3 access means to remove the alarm points from soak test.		N/A

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Clause	Requirement – Test	Result - Remark	Verdict

11.7.9	TABLE: **Test of CIE process monitoring (Table 29)**		P
Test procedure	Measurement	Pass/Fail criteria	Result
Induce a failure of the processing function in unset mode	CIE successfully restarted Warm/cold start following reset	In grade 3 and 4 the output shall change status within 40 s unless the CIE has successfully restarted sooner.	P
Remove failure mode and apply the reduced functional test.	Resumed previous operating mode Warm/cold start recorded in event log	In grades 3 and 4, if the attempt to restart the processor is successful, the CIE shall resume in its previous operating mode, the reduced functional test shall be completed successfully and a CIE fault shall be indicated and recorded in the event log.	P
Repeat steps 1 & 2 as above for “set mode”.	As above.	As above.	P

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Clause	Requirement – Test	Result - Remark	Verdict

11.7.10	TABLE: Availability of Indications (Table 30)			
Test condition	Test procedure	Measurement	Pass/Fail criteria	Result
The CIE shall be in the unset mode, with all inputs and outputs in normal condition.	Induce a fault requiring mandatory indication according to EN 50131-1:2006, Table 8.	AC Fault, no yellow LED, Other faults, No green LED, Further indications on LCD	Alert indication present	P
Gain access to CIE at level 2.	View information displayed.	Fault indication “Trouble” on LCD	Correctly indicates fault condition generated.	P
Return to level 1 access in accordance with manufacturer's specification - using automatic (timed) response if provided.	View information displayed.	Absence of yellow and green LED	Alert indication present If automatic (timed) action, it is performed within time limit specified by manufacturer.	P
Remove the fault condition applied at step 1	View information displayed.	Trouble Indication does not change until acknowled ged	Alert indication present	P
Gain access to CIE at level 2.	View information displayed.	Indication of the fault condition remains	Indication of the fault condition remains available.	P
Return to access level 1 and restore.	View information	Fault restored	No indication	P

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Clause	Requirement – Test	Result - Remark	Verdict

11.8.3	TABLE: Tamper detection - Access to the inside of the housing (Security Grade 2)			
Component	Action	Access possible?	Observations	Results
	Open by normal means	Screwdriver required	It is not possible to open without a visible damage	P
	2.5mm steel rod	No access	No access	P
	10mm x 1mm x 300mm flat bar	No access	No way to defeat without generation of tamper signal	P
	Open by normal means	Screwdriver required	It is not possible to open without a visible damage	P
	2.5mm steel rod	No access	No access	N/A
	10mm x 1mm x 300mm flat bar	No access	No way to defeat without generation of tamper	N/A
Supplemental information:				

11.8.4	TABLE: Tamper detection – Removal from mounting (Security Grade 3)				P
Component	Maximum lift distance	Measured lift distance	Defeated with blade or pliers?	Time for tamper signal	Result / Comments
Control Panel	5 mm	4 mm	No	<2s	P
Keypad	5 mm	2 mm	No	<2s	P
Supplementary information:					

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Clause	Requirement – Test	Result - Remark	Verdict

11.10	TABLE: Testing of I&HAS timing performance		P
Action	Required time to notification	Measured time to notification	Results
Intrusion alarm	20 seconds	2 s to SPT and Siren Notification	P
Supplemental information:			

11.11	TABLE: Interconnections (Security Grade 3)		P
Means	Requirements	Observations	Results
Maximum permitted duration of unavailability	100 s	Continuously monitoring (EOL for wired connections)	P
Maximum permitted intervals between periodic communication signals or messages	120 min	Continuously monitoring (EOL for wired connections)	P
Maximum time from the receipt of the last signal or message	20 min	Continuously monitoring (EOL for wired connections)	P
Delay, modification, substitution or loss of signals or messages	Op	N/A	N/A
Monitoring of interconnections (8.8.3)	T or F	Supervision loss F	P
Periodic communication (8.8.4.1 a)	F	F For wireless connection	P
Periodic communication (8.8.4.1 b)	T or F	F	P
Security of communication (8.8.5)	T or F	N/A	N/A
Supplemental information: Op = Optional, M = Mandatory, T = Tamper message, F = Fault message CP feature, Not applicable to EUT			

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Clause	Requirement – Test	Result - Remark	Verdict

11.12	**TABLE: Event Log (Table 31)**		P
Test procedure	Measurement	Pass/Fail criteria	Result
With the CIE unset and with no alarm condition, set the time and date.	25.02.14, 14:00 PM		P
With the system unset and in the normal condition enter an authorization code at each access level.	Even log cannot be deleted	There shall be no facility for a user to alter or delete the event log.	P
If the means of recording is cyclic: Fill the event log. With the system unset, add one more mandatory event.	FIFO	The oldest event shall be deleted by the last added mandatory events.	P
If the CIE has the facility to record non- mandatory events, then enter the appropriate number of mandatory events as defined in EN 50131-1:2006, 8.10. Fill the remainder of the event log with non-mandatory events. Add one non-mandatory event.	Mandatory events preserved	Verify that minimum permitted number of mandatory events has been preserved.	P
Following the previous test (C), add one mandatory event.	Mandatory events logged	Verify that the new mandatory event has been logged.	P
If memory retention component(s) are non-volatile (example; EEPROM): Check data supplied by manufacturer.	Non volatile memory for >30 days	Verify that storage component(s) are non-volatile for the period required by EN 50131-1:2006, Table 21.	P
If memory retention components are volatile (example; RAM): Remove EPS and APS from the system for the period required by EN 50131-1:2006, Table 21. At the end of this period, reapply power and check the event log.	contents of the event log not lost or corrupted	The contents of the event log shall not be lost or corrupted, except for the inclusion of event(s) caused by this test procedure (EXAMPLE: mains failure)	P
In CIE with the facility to make a permanent record, follow manufacturer's instructions to make a permanent record.	Permanent recoard on ARC, including date and time	The events displayed on the permanent record shall accurately reflect the event log, including date and time.	P
Checking the clock accuracy.	No deviation within 8 days	The accuracy shall be consistent with EN 50131-1:2006, 8.10.	P
Where the I&HAS stores event logs at the ARC, the manufacturer shall provide information or means to enable this function to be tested as follows:			
Check ability of CIE to send events to the SPT.	Event are sent to SPT.	Verify that the generated events are sent to the SPT.	P

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Clause	Requirement – Test	Result - Remark	Verdict
Generate an event at the CIE.			N/A
Check ability of CIE to indicate failure of transmission to the ARC: Disable the SPT and generate a number of mandatory events in accordance with EN 50131-1:2006, 8.10, to be reported to the ARC.	Fault indicated	Verify that a fault is indicated at the	P
Enable the SPT.	Events transmitted when SPT re-enabled	For CIE grades 2, 3 and 4, the event(s) shall be transmitted when the SPT is re-enabled.	P

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Clause	Requirement – Test	Result - Remark	Verdict

11.14	TABLE: Environmental and EMC tests (Class II components) (Table 32)			P
Test Conditions	Reduced functional test results			
	Before	During	After	Result
Dry Heat (Operational)	P	P	P	P
Cold (Operational)	P	P	P	P
Damp Heat, Steady State (Endurance)	P	-	P	P
Damp Heat, Cyclic (Operational)	P	P	P	P
Impact	P	-	P	P
Mechanical Shock (Operational)	P	-	P	P
Vibration, Sinusoidal (Operational)	P	-	P	P
EMC				
Supplementary information: Separate Report				

11.14	TABLE: Environmental and EMC tests (Class IV components)			N/A
Test Conditions	Reduced functional test results			
	Before	During	After	Result
Dry Heat (Operational)	-	N/A*	N/A*	N/A
Dry Heat (Endurance)	N/A	-	N/A	N/A
Cold (Operational)	N/A	N/A	N/A	N/A
Damp Heat, Steady State (Endurance)	N/A	-	N/A	N/A
Damp Heat, Cyclic (Operational)	N/A	N/A	N/A	N/A
Damp Heat, Cyclic (Endurance)	N/A	-	N/A	N/A
Impact	N/A	Monitor	N/A	N/A
Water Ingress (Operational)	N/A	Monitor	N/A	N/A
Sulfur Dioxide (Endurance)	N/A	-	N/A	N/A
Salt Mist, Cyclic (Endurance)	N/A	-	N/A	N/A
Mechanical Shock (Operational)	N/A	Monitor	N/A	N/A
Vibration, Sinusoidal (Operational)	N/A	Monitor	N/A	N/A
EMC	N/A	Monitor	N/A	N/A
Supplementary information: "P" for result of reduced functional test indicated that the results are identical to those in Clause 11.3 and Table 12. "Monitor" indicates no errant signals or messages occurred during the conditioning period. *EUT is Class II equipment				

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Clause	Requirement – Test	Result - Remark	Verdict

Appendix A - Equipment used for testing

Table A1
HL Equipment used in tests

HL No	Name	Manufacturer	Model	Ser. No.	Due Cal./check
2774	HygroThermometer, Min/Max Memory	Delta TRAK	13301	NA	22-May-15
2449	Precision Barometer, 910 - 1060 hPa	LUFFT Mess- und Regeltechnik GmbH	2039.70392	100087	12-May-15
4882	Chronograph. Digital Stopwatch	Bash-gal	NA	NA	23-Jun-15
1814	Caliper, 150 mm	Mitutoyo	150	367	20-Jun-15

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Appendix B - Measurement uncertainties

Table B1
Measurement uncertainties

Parameter	Uncertainty estimation at 95% confidence	
	Calculated	Limit
Temperature	± 1.3 °C	± 2°C
Humidity	± 2.86 %	± 5.0 %
Time measurement using the oscilloscope cursor	± 1.2 %	± 10 %
Time measurement using stopper watch (20 s intervals)	± 1.7 %	± 10 %
Impact energy measurement	± 6.1 %	± 10 %

Appendix C – EUT Photographs

C1. Keypad General View

C2. Keypad General View- Keyboard

C3. Keypad General View-Rear

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C4. Keypad Bracket and Tamper device

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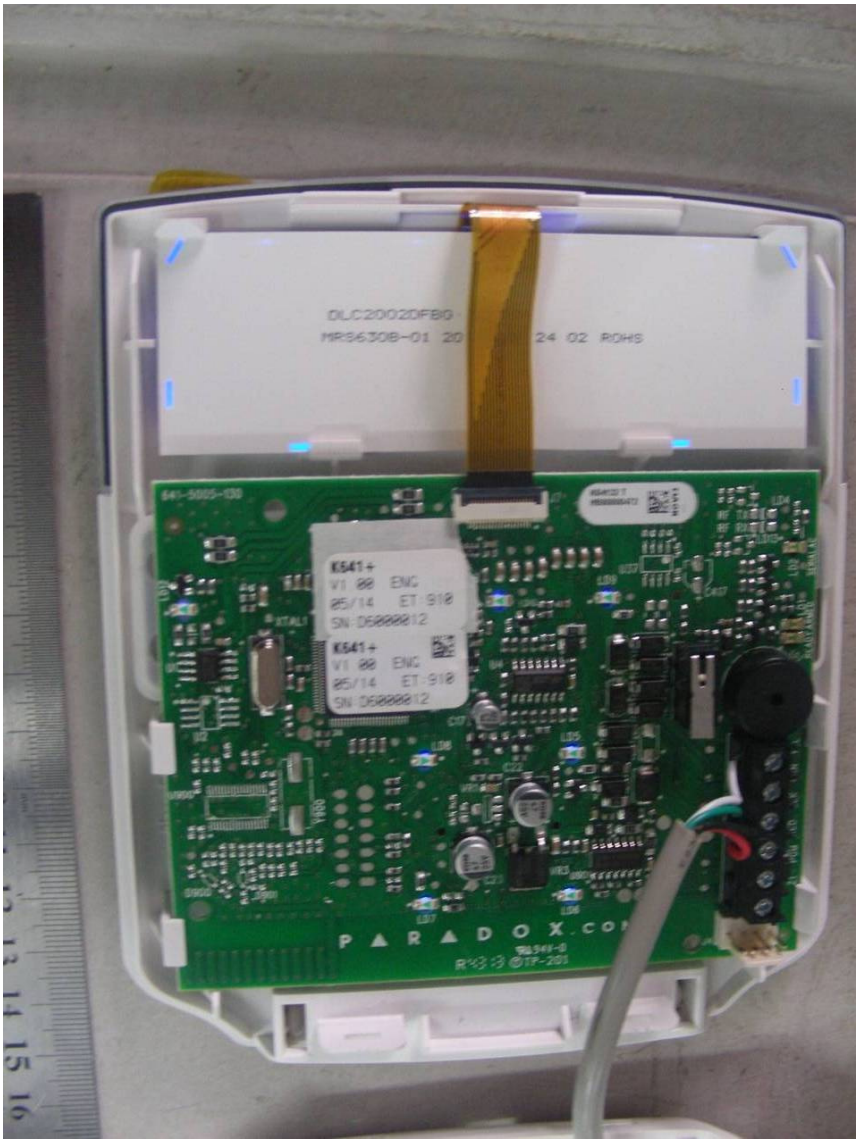
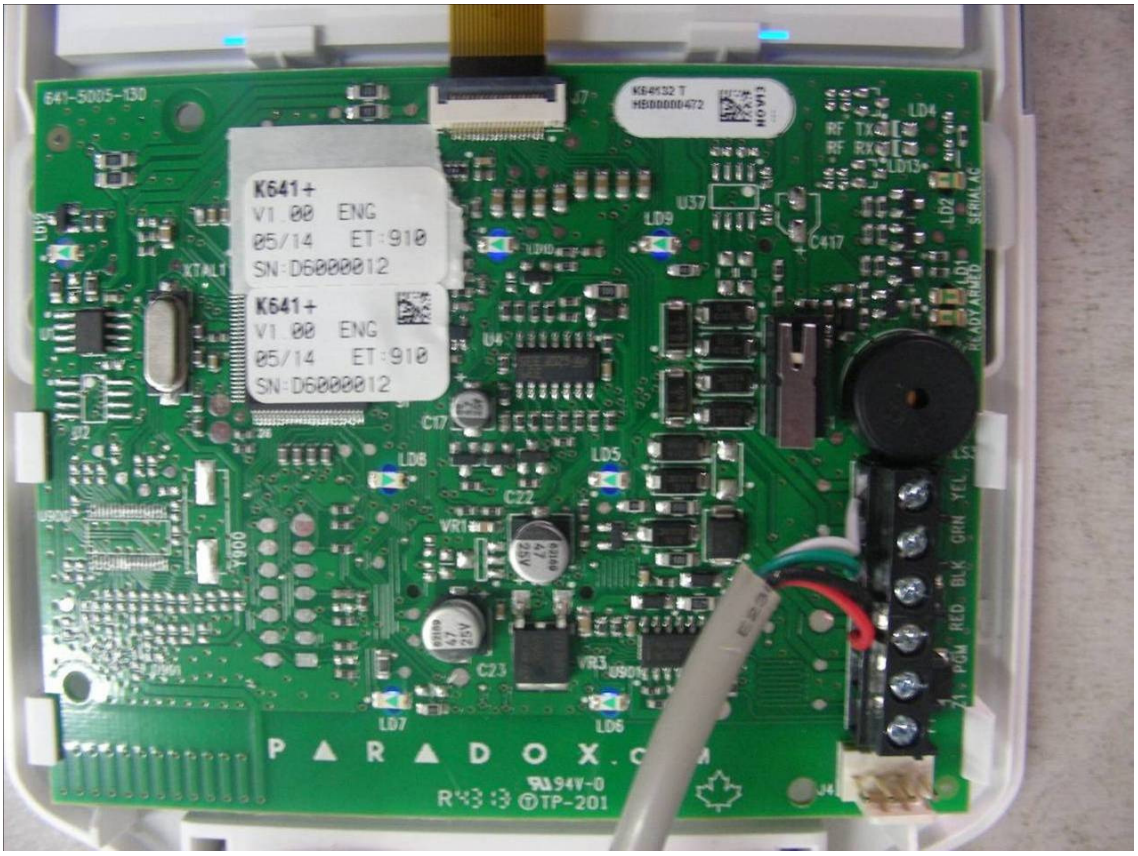
C5. Keypad Internal View



C6. Keypad PCB



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Clause	Requirement – Test	Result - Remark	Verdict

C7. Control Panel Box General View

C8. Control Panel Box Side View

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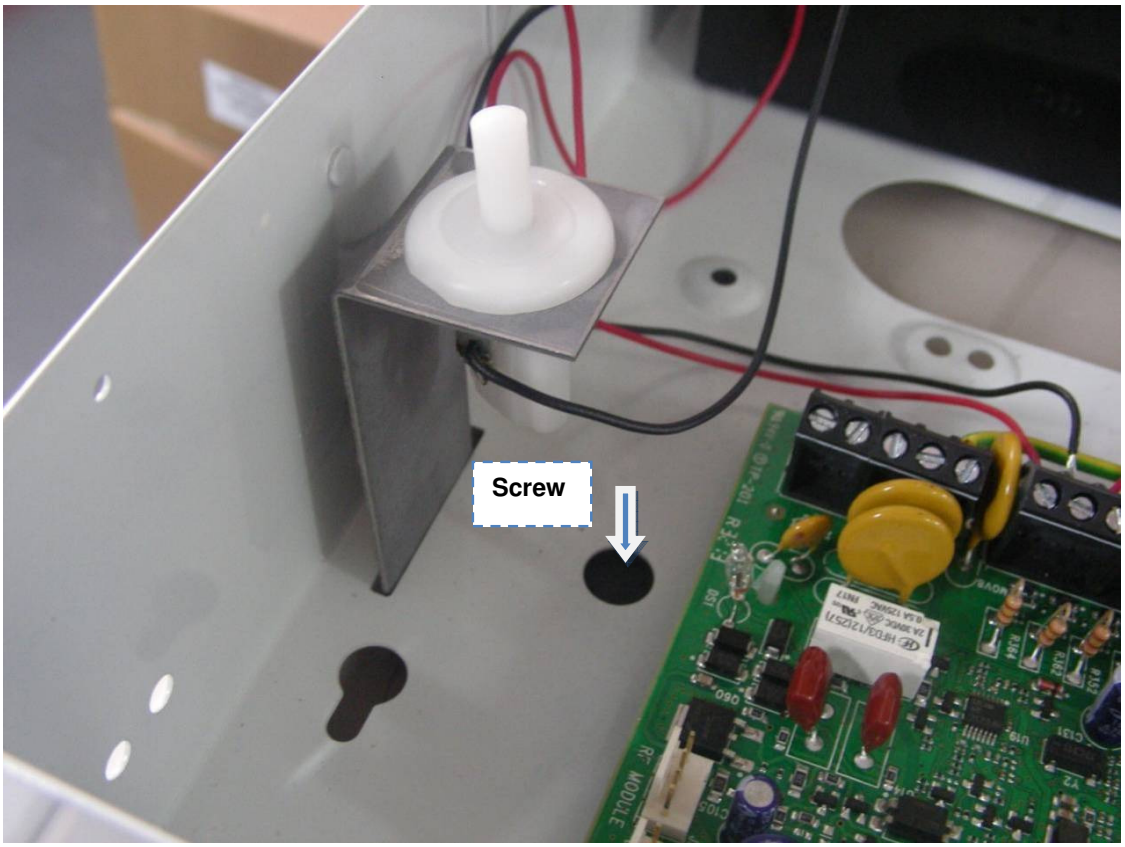
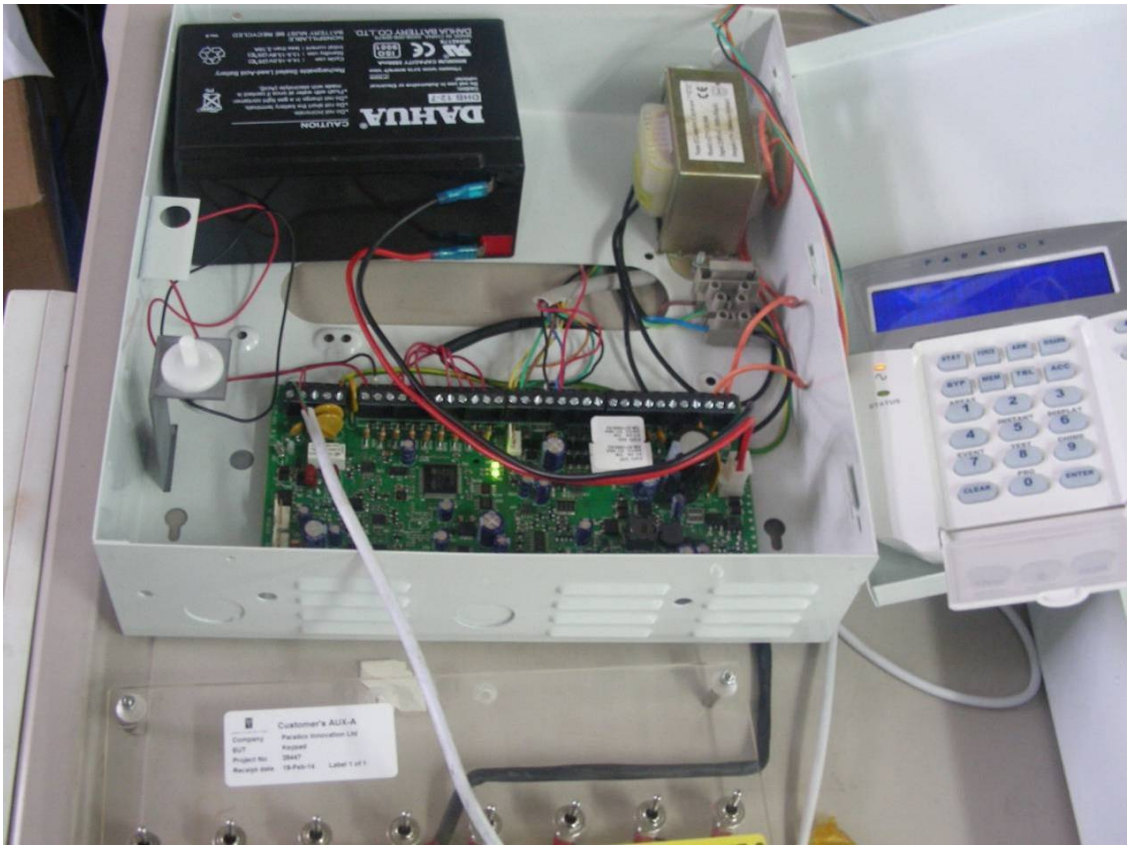
EN 50131-3			
Clause	Requirement – Test	Result - Remark	Verdict

C9. Control Panel Box Side View

C10. Control Panel Box -Tamper Device



C11. Control Panel Box Internal View and Setup



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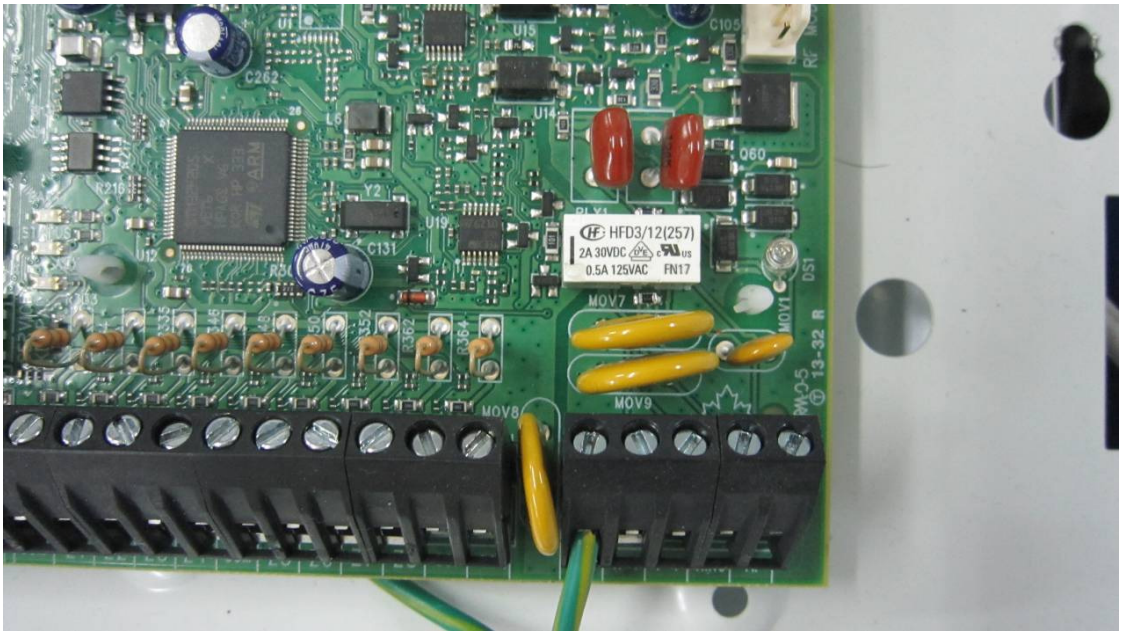
Clause	Requirement – Test	Result - Remark	Verdict

C12. Control Panel Box PCB

C13. Control Panel Dialer



End of Test Report