

# TEST REPORT

## ACCORDING TO:

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

**FOR:**  
**Paradox Security Systems Ltd.**

**EUT:**  
**Wired Keypad**

**Model:**  
**TM70**

This report is in conformity with ISO/IEC 17025. The "A2LA Accredited" symbol endorsement applies only to the tests and calibrations that are listed in the scope of Hermon Laboratories accreditation. The test results relate only to the items tested.  
This test report shall not be reproduced in any form except in full with the written approval of Hermon Laboratories Ltd.

## Table of contents

1	Applicant information.....	3
2	Equipment under test attributes .....	3
3	Manufacturer information .....	3
4	Test details.....	3
5	EUT description.....	4
5.1	General information.....	4
5.2	Setup and settings.....	6
6	Tests summary.....	7
7	Tests results.....	9
7.1	Reduced functional test procedure and results .....	16
7.2	Access level test procedure and results .....	18
7.3	PIN code test procedure and results .....	20
7.4	Invalid authorization attempts test procedure and results .....	22
7.5	Availability of indications test procedure and results .....	25
7.6	Tamper protection test procedure and results.....	27
7.7	Tamper detection - Access to the inside of the housing procedure and results .....	28
7.8	Tamper detection - Removal from mounting test procedure and results .....	30
7.9	Event Log.....	32
7.10	Marking and documentation test procedure and results.....	35
8	APPENDIX A Test equipment and ancillaries used for tests.....	38
9	APPENDIX B Test laboratory description .....	39
10	APPENDIX C Abbreviations and acronyms .....	39
11	APPENDIX D Tests specifications .....	40
12	APPENDIX E Measurement uncertainties.....	40

## 1 Applicant information

**Client name:** Paradox Security Systems Ltd.  
**Address:** 780 INDUSTRIAL BLVD ST-EUSTACHE, QC, CANADA J7R 5V3  
**Telephone:** 450-491-7444  
**Fax:** 450-491-1095  
**E-mail:** nimrodh@paradox.com  
**Contact name:** Mr. Nimrod Herman

## 2 Equipment under test attributes

Model Name	HW Version	SW Version
TM70	680-6006-991	V1.00

**Condition of the equipment** Test samples  
**Receipt date** 28-May-17

## 3 Manufacturer information

**Client name:** Paradox Security Systems Ltd.  
**Address:** 780 INDUSTRIAL BLVD ST-EUSTACHE, QC, CANADA J7R 5V3  
**Telephone:** 450-491-7444  
**Fax:** 450-491-1095  
**E-mail:** nimrodh@paradox.com  
**Contact name:** Mr. Nimrod Herman

## 4 Test details

**Project ID:** 29642  
**Location:** Hermon Laboratories Ltd. Harakevet Industrial Zone, Binyamina 30500, Israel  
**Test started:** 29- May-17  
**Test completed:** 18- June-17  
**Test specification(s):** EN 50131-3:2009, EN 50131-1:2006+A1:2009

## 5 EUT description

### 5.1 General information

The EUT, model TM70, is wired touchscreen keypad.

The keypad classified as Security Grade 3, Environmental Class II, fixed equipment, ACE category Type B.

The EUT tested with ancillary control equipment (certified control panel) model EVOHD.

The EUT is presented in Photographs 5.1.1 to 5.1.4

**Photograph 5.1.1 - Keypad general view**



**Photograph 5.1.2 - Keypad rear view**



Photograph 5.1.3 - Keypad internal view



Photograph 5.1.4 - Keypad PCB view



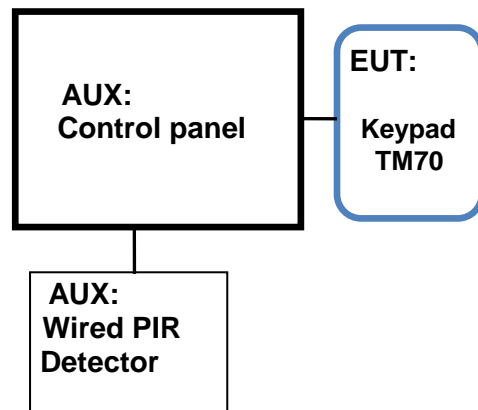
Photograph 5.1.5 - Keypad Label



## 5.2 Setup and settings

The test configuration is presented in Figure 5.2.1.

Figure 5.2.1 Setup configuration



## 6 Tests summary




Test	Status
<b>EN 50131-3</b>	
Section 11.3, Reduced functional test	Pass
Section 11.4.1, Functional tests: Processing intruder alarm signals or messages	N/A*
Section 11.4.2, Functional tests: Processing of hold-up signals or messages	N/A*
Section 11.4.3, Functional tests: Processing of tamper signals or messages	N/A*
Section 11.4.4, Functional tests: Processing of fault signals or messages	N/A*
Section 11.4.5, Functional tests: Processing masking signals or messages	N/A*
Section 11.4.6, Functional tests: Processing reduction of range signals or messages	N/A*
Section 11.4.7, Functional tests: CIE Processing in the presence of non-I&HAS inputs	N/A*
Section 11.5, Access level	Pass
Section 11.6.1, Authorization requirements: Mechanical key tests	N/A
Section 11.6.2.1, Authorization requirements: Logical key tests: Digital key tests	N/A
Section 11.6.2.2, Authorization requirements: Logical key tests: PIN code tests	Pass
Section 11.6.3, Authorization requirements: Invalid authorization attempts	Pass
Section 11.7.1, Operational tests: Setting procedures	N/A*
Section 11.7.2, Operational tests: Prevention of setting and overriding of prevention of setting procedures	N/A*
Section 11.7.4, Operational tests: Unsetting procedures	N/A*
Section 11.7.5, Operational tests: Setting and/or unsetting automatically at pre- determined times	N/A*
Section 11.7.6, Operational tests: Inhibit and isolate functions	N/A*
Section 11.7.7, Operational tests: Test functions	N/A*
Section 11.7.8, Operational tests: Other functions	N/A*
Section 11.7.9, Operational tests: Monitoring of CIE processing	N/A*
Section 11.7.10, Operational tests: Availability of indications	Pass
Section 11.8.2, Tamper security tests: Tamper protection	Pass
Section 11.8.3, Tamper security tests: Tamper detection - Access to the inside of the housing	Pass
Section 11.8.4, Tamper security tests: Tamper detection - Removal from mounting	Pass
Section 11.8.5, Tamper security tests: Tamper detection - Penetration of the housing	N/A**
Section 11.9, Substitution tests	N/A**
Section 11.10, Testing of I&HAS timing performance	N/A*
Section 11.11.1, Testing for interconnections: Monitoring of interconnections	N/A*
Section 11.11.2, Testing for interconnections: Testing of monitoring of periodic communication	N/A*
Section 11.11.3, Testing for interconnections: Testing of verification during setting procedure	N/A*
Section 11.12, Event log	Pass
Section 11.13, Marking and documentation	Pass
Section 11.14, Environmental and EMC tests	See Note1

\* Control Panel feature

\*\* Not mandatory for Grade 3

**Note 1:** See separate reports PARENV\_EN.29642 and PAREMC\_29350

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 equipment as listed in the table above and found to be in compliance with the standards requirements.

Revision History Table:					
Date	File No.	Prepared	Reviewed	Approved	Amendment Description
June 25, 2017	PARIAS_EN 50131-3.29642	Mr. Ilan Benihass Team leader , Product Safety & Security Systems 	Mr. Mihaeli Feldmann, Environmental Group Manager 	Mr. Michael Brun Product Safety Group Manager 	Original Report



## 7 Tests results

**Table 7.1 - EN 50131-3 Compliance General Matrix**

The results apply to all EUTs bellow according to their technology type and security grade

Model	Applicable Standard	Security Grade
TM70	EN 50131-3	3

I. EN 50131-3 reference		Result				Remarks and/or document reference
Section	Requirement	C	NC	NA	NT	
<b>4</b>	<b>Equipment attributes</b>					
4.1	General	✓				
4.2	Functionality	✓				No additional function that affects EN compliance
<b>5</b>	<b>CIE construction</b>	✓				Single housing, fixed equipment
<b>6</b>	<b>Security grade</b>	✓				3
<b>7</b>	<b>Environmental performance</b>					
7.1	Requirements	✓				Class II
7.2	Environmental and EMC tests	✓				See separate HL reports: PARENV_EN.29642 and PAREMC_29350
<b>8</b>	<b>Functional requirements</b>					
<b>8.1</b>	<b>Inputs</b>	✓				
8.1.1	Intruder detection			✓		Not applicable for the specific products under test
8.1.2	Hold-up device	✓				Panic Alarm and Duress code considered hold-up device
8.1.3	Tamper	✓				For Type B ACE - keypad
8.1.4	Fault	✓				Checked
8.1.5	User input	✓				From keypad
8.1.6	Masking	✓				Checked
8.1.7	Movement detector range reduction			✓		Grade 4 only
8.1.8	Non-I&HAS inputs			✓		Not applicable for the specific products under test
<b>8.2</b>	<b>Outputs</b>	✓				Installation documentation identifies which configurations are available
<b>8.3</b>	<b>Operation</b>	✓				The keypad is made available at access level 2 (user). Access restricted by PIN code.
8.3.1	Access levels	✓				Access restricted according to EN 50131-1:2006, 8.3.1. Installer access (level 3) is permitted with user (level 2) authorization only.
8.3.2	Authorization	✓				Access to the functions of CIE is restricted as required by EN 50131-1
8.3.2.1	Use of a mechanical key			✓		No mechanical keys are used
8.3.2.2	Use of logical keys	✓				Logical keys are used by PIN codes
8.3.2.2.1	Use of PIN codes	✓				PIN code by keypad screen
8.3.2.2.2	Digital keys			✓		Digital keys not used

I. EN 50131-3 reference		Result				Remarks and/or document reference
Section	Requirement	C	NC	NA	NT	
8.3.2.2.3	Biometric keys			✓		Biometric keys not used
8.3.2.3	Use of methods of authorization in combination			✓		Two or more methods not used together to give authorization
8.3.2.4	Detection of repeated invalid authorization attempts	✓				After 2 attempts the device disabled and generates special locked out event.
8.3.3	Setting procedures			✓		CP feature Settings determine from the keypad
8.3.3.1	Prevention of setting and overriding of prevention of setting	✓				CP feature For all conditions of EN 50131-1:2006, 8.3.5, the set by keypad is prevented
8.3.3.2	Exit route facility			✓		Not applicable for the specific products under test
8.3.3.3	Failure to set	✓				"The selected action failed because the area is locked out" indication and notification
8.3.3.4	Set state	✓				Set indication provided by keypad screen.
8.3.4	Unsetting procedure	✓				The unit is able to unset. Through keypad
8.3.5	Restore function			✓		Not applicable for the specific products under test
8.3.6	Inhibit function			✓		As above
8.3.6.1	Automatic inhibit function			✓		As above
8.3.7	Isolate operation			✓		As above
8.3.8	Verification of I&HAS functions			✓		As above
8.3.9	Alarm point soak test mode			✓		As above
8.3.10	Other functions	✓				All functions described in documentation
8.4	<b>Processing</b>			✓		Control Panel feature
8.4.1	Processing of input signals or messages			✓		As above
8.4.1.1	Alarm inputs			✓		As above
8.4.1.2	Priorities			✓		As above
8.4.2	Processing of user inputs			✓		As above
8.4.3	Monitoring of CIE processing			✓		As above
8.5	<b>Indication</b>					
8.5.1	General	✓				Provided at keypad
8.5.1.1	Alarm, tamper and fault indications	✓				Acknowledgment by consulting the event log by the user with appropriate access level.
8.5.1.2	Other conditions			✓		No such conditions
8.5.2	Visual Indicators			✓		Icons- detailed explanation in the user manual
8.5.3	Priority of indications			✓		No share of indications
8.6	<b>Notification outputs</b>			✓		Not applicable for the specific products under test
8.6.1	Other notification			✓		As above
8.7	<b>Tamper security (detection/protection)</b>	✓				Keypad is considered Type B ACE.
8.7.1	Tamper protection	✓				1J impacts for Grade 3 See 11.8.2 below
8.7.2	Tamper detection	✓				Tested
8.7.2.1	Access to the inside of housing	✓				See 11.8.3 below
8.7.2.2	Removal from mounting	✓				See 11.8.4 below
8.7.2.3	Penetration of the housing			✓		Grade 4 only
8.7.3	Monitoring of substitution			✓		Grade 4 only

I. EN 50131-3 reference		Result				Remarks and/or document reference
Section	Requirement	C	NC	NA	NT	
8.8	Interconnections			✓		CP feature Not applicable for the specific products under test
8.9	Timing			✓		CP feature hold-up, and tamper signals with an active period exceeding 400ms processed
8.10	Event Recording	✓				Events logged in event log buffer of CIE where they can be consulted by appropriate Access Level by keypad
8.10.1	Event recording at the CIE	✓				All events properly logged in memory. Events are =        hours : min date stamped =    day : month ; year
8.10.2	Event recording at the ARC or other remote location			✓		Not applicable for the specific products under test
8.11	Power Supply			✓		Wired product powered by CIE
9	Product documentation					
9.1	Installation and maintenance	✓				See 11.13 below
9.2	Operating Instructions	✓				See 11.13 below
10	Marking and labeling	✓				See 11.13 below
11	Tests					
11.1	Test Conditions					Temperature: 15-35°C Relative humidity: 75% Air pressure: 86-106kPa
11.2	Test procedures	✓				
11.3	Reduced Functional Test	✓				See Chapter 7.1
11.4	Functional tests					
11.4.1	Processing intruder alarm signals or messages			✓		This is a CP feature. Not applicable for the specific products under test
11.4.2	Processing of hold-up signals or messages			✓		As above
11.4.3	Processing of tamper signals or messages			✓		As above
11.4.4	Processing of fault signals or messages			✓		As above
11.4.5	Processing masking signals or messages			✓		As above
11.4.6	Processing reduction of range signals or messages			✓		As above
11.4.7	CIE Processing in the presence of non-I&HAS inputs			✓		As above
11.5	Access level					
11.5.1	Access to the functions and controls	✓				See Chapter 7.2
11.6	Authorization requirements					
11.6.1	Mechanical key tests			✓		No mechanical keys
11.6.2	Logical key tests					

I. EN 50131-3 reference		Result				Remarks and/or document reference
Section	Requirement	C	NC	NA	NT	
11.6.2.1	Digital key tests			✓		No digital keys
11.6.2.2	PIN code tests	✓				See Chapter 7.3
11.6.2.3	Tests for authorization by biometric means			✓		Biometric means not used
11.6.2.4	Tests for authorization by combinations of keys			✓		No combinations used
11.6.3	Invalid authorization attempts	✓				See Chapter 7.4
11.7	<b>Operational tests</b>					
11.7.1	Setting procedures			✓		This is a CP feature. Not applicable for the specific products under test
11.7.2	Prevention of setting and overriding of prevention of setting procedures			✓		This is a CP feature. However, it was checked that setting prevented according to EN 50131-1 tables 4 and 5 for Grade 3
11.7.3	The set state			✓		As above
11.7.4	Unsetting procedures			✓		As above
11.7.5	Setting and/or unsetting automatically at pre-determined times			✓		As above
11.7.6	Inhibit and isolate functions			✓		As above
11.7.7	Test functions			✓		As above
11.7.8	Other functions			✓		As above
11.7.9	Monitoring of CIE processing			✓		As above
11.7.10	Availability of Indications	✓				See Chapter 7.5
11.8	<b>Tamper security tests</b>					
11.8.1	ACE Type A			✓		No claim or reason for a type A classification
11.8.2	Tamper protection	✓				See Chapter 7.6
11.8.3	Tamper detection - Access to the inside of the housing	✓				See Chapter 7.7
11.8.4	Tamper detection - Removal from mounting	✓				See Chapter 7.8
11.8.5	Tamper detection - Penetration of the housing			✓		Only for Grade 4
11.9	<b>Substitution tests</b>					
11.9.1	Tests for monitoring of substitution of components			✓		Only for Grade 4
11.9.2	Tests for monitoring of substitution – Timing requirements			✓		As above
11.10	<b>Testing of I&amp;HAS timing performance</b>			✓		This is a CP feature. Not applicable for the specific products under test
11.11	<b>Testing for interconnections</b>					
11.11.1	Monitoring of interconnections			✓		This is a CP feature. Not applicable for the specific products under test
11.11.2	Testing of monitoring of periodic communication			✓		As above
11.11.3	Testing of verification during setting procedure			✓		As above

I. EN 50131-3 reference		Result				Remarks and/or document reference
Section	Requirement	C	NC	NA	NT	
11.11.4	Test for security of communication			✓		As above
11.12	Event log	✓				See Chapter 7.9
11.13	Marking and documentation	✓				See Chapter 7.10
11.14	Environmental tests operational					
	Dry Heat	✓				See separate HL report PARENV_EN.29642
	Cold	✓				
	Damp heat (steady state)			✓		
	Temperature change			✓		
	Damp Heat (cyclic)	✓				
	Water Ingress			✓		
	Impact	✓				
	Free Fall			✓		
	Mechanical Shock	✓				
	Vibration, sinusoidal	✓				See separate HL report PAREMC_29350
	EMC	✓				
	Environmental tests endurance					
	Dry Heat			✓		See separate HL report PARENV_EN.29642
	Damp heat (steady state)	✓				
	Damp Heat (cyclic)			✓		
	SO <sub>2</sub> Corrosion			✓		
	Salt mist, cyclic			✓		

C= conform; NC= not conform; NA = not applicable; NT = not tested

Table 7.2 - EN50131-1 Compliance General Matrix

II. EN 50131-1 reference		Result				Remarks and/or document reference
Section	Requirement	C	NC	NA	NT	
4	System functions	✓				Security <b>Grade 3</b> , Environmental <b>Class II</b>
5	System components	✓				
6	Security grading	✓				
7	Environmental classification	✓				
8	Functional requirements					
8.1	Detection of intruders, triggering, tampering and the recognition of faults					
8.1.1	Intruder detection			✓		See Table 7.1 above EN 50131-3 Table
8.1.2	Hold-up device-triggering	✓				
8.1.3	Tamper Detection	✓				
8.1.4	Recognition of faults	✓				
8.2	Other functions					
8.2.1	Masking	✓				See Table 7.1 above EN 50131-3 Table
8.2.2	Movement detector range reduction			✓		Only for Grade 4 Option not present in the system features
8.3	Operation					
8.3.1	Access levels	✓				See Table 7.1 above EN 50131-3 Table
8.3.2	Authorization	✓				
8.3.3	Setting and Unsetting			✓		
8.3.4	Setting			✓		
8.3.5	Prevention of setting			✓		
8.3.6	Overriding prevention of setting			✓		
8.3.7	Set state			✓		
8.3.8	Unsetting			✓		
8.3.9	Restoring			✓		
8.3.10	Inhibit			✓		
8.3.11	Isolate			✓		
8.3.12	Test			✓		
8.3.13	Other Functions			✓		
8.4	Processing					
8.4.1	Intruder signals or messages			✓		This is a CP feature. Not applicable for the specific products under test
8.4.2	Hold-up signals or messages			✓		
8.4.3	Tamper signals or messages			✓		
8.4.4	Fault signal or messages			✓		
8.4.5	Masking signals or messages			✓		
8.4.6	Reduction of range signals or messages			✓		
8.5	Indications					
8.5.1	General	✓				This is mainly a CP feature, however the keypad itself has indications See Table 7.1 above
8.5.2	Availability of indications	✓				
8.5.3	Canceling indication	✓				
8.5.4	Indication-Intrusion detectors	✓				

II. EN 50131-1 reference		Result				Remarks and/or document reference
Section	Requirement	C	NC	NA	NT	
8.6	Notification			✓		Not applicable for the specific products under test
8.7	<b>Tamper Security</b>					
8.7.1	Tamper protection	✓				See Table 7.1 above EN 50131-3 Table
8.7.2	Tamper detection	✓				
8.7.3	Monitoring of substitution			✓		This is a CP feature. Not applicable for the specific products under test
8.7.4	Monitoring of substitution-timing requirements			✓		
8.8	<b>Interconnections</b>					
8.8.1	General			✓		This is a CP feature. Not applicable for the specific products under test
8.8.2	Availability of interconnections			✓		
8.8.3	Monitoring of interconnections			✓		
8.8.4	Verification			✓		
8.8.5	Security of communication			✓		
8.8.6	Signals or messages to be generated	✓				Fault signal and message
8.9	<b>I&amp;HAS timing performance</b>					
8.9.1	Intruder detection, tampering and recognition of faults	✓				See Table 7.1 above EN 50131-3 Table
8.9.2	Processing			✓		
8.10	Event Recording	✓				
9	<b>Power Supply</b>					
9.1	Types of power supply			✓		Wired product that powered from CIE.
9.2	Requirements			✓		As above
10	<b>Operational reliability</b>					
10.1	I&HAS components	✓				Comply
11	<b>Functional reliability</b>	✓				Comply
12	<b>Environmental requirements</b>	✓				See separate HL report PARENV_EN.29642
12.1	Electromagnetic compatibility	✓				See separate HL report PAREMC_29350
13	<b>Electrical safety</b>				✓	Not tested by HL
14	<b>Documentation</b>	✓				See Chapter 7.10
15	<b>Marking / Identification</b>	✓				

C= conform; NC= not conform; NA = not applicable; NT = not tested



Test specification: Reduced functional test procedure and results			
Test procedure:		EN 50131-3 TEST METHOD: 11.3 Reduced functional test procedure and results	
Test mode:	Compliance	Verdict: PASS	
Test Date:	29/5/2017		
Atmospheric conditions during the test:	Temperature: 23.4 °C	Air Pressure: 1010hPa	Relative Humidity: 44 %
Remarks:			

## 7.1 Reduced functional test procedure and results

### 7.1.1 Test purpose

This test was performed to demonstrate the ability of the EUT to operate under full load conditions before and after other tests.

### 7.1.2 Test procedure

7.1.2.1 Reduced functional test shall be carried out in accordance with Table 7.1.1

### 7.1.3 Test results

Table 7.1.1 Test results

Step	Test Condition	Action	Measurement	Pass criteria	Verdict
1	CIE unset Absence of "intruder, tamper, fault signals and messages" No indication active	Apply an intruder alarm signal or message for 401ms	"1 Open" indication under Zones icon on the Keypad LCD	Indications shall be according to the grade (as shown in EN 50131-1:2006, Tables 8 and 9).	P
2	As above +: one intruder alarm input, not allocated as an "entry route"	Attempt to set the system	Setting prevented	The system should be prevented from setting.	P
3	As in 1 above	Set the system	System set. "Armed" (LCD indication) and Lock icon indication at the Keypad	Indications shall be according to the grade (as shown in EN 50131-1:2006, Tables 8 and 9).	P
4	CIE set	Apply an alarm signal or message as specified in 8.9.	Alarm Notifications OK:  - LCD Indication "Area in Alarm"  - Internal audible alarm	At least one notification configuration required by EN 50131-1:2006, Table 10, according to the grade, shall be activated in accordance with EN 50131-1:2006, Table 7.	P
5	CIE in "set condition" and in "alarm" conditions	Manually unset the CIE	System unset. Correct notifications and event log:  - Alarm silence  - Disarm after alarm logging	CIE unset Indications shall be according to the grade (as shown in EN 50131-1:2006, Tables 8 and 9). WD outputs shall silence, Other notification	P





HERMON LABORATORIES

Report ID: PARIAS\_EN 50131-3.29642

Date of Issue: 25-Jun-17

<b>Test specification: Reduced functional test procedure and results</b>			
<b>Test procedure:</b>		EN 50131-3 TEST METHOD: 11.3 Reduced functional test procedure and results	
<b>Test mode:</b>		Compliance	<b>Verdict:</b> PASS
<b>Test Date:</b>		29/5/2017	
<b>Atmospheric conditions during the test:</b>	<b>Temperature:</b> 23.4 °C	<b>Air Pressure:</b> 1010hPa	<b>Relative Humidity:</b> 44 %
<b>Remarks:</b>			

				output signals or messages may remain active until restored. Correct time and events sequences recorded	
6	CIE in "unset condition"	Restore CIE	Acknowledgement of messages is required when unsetting system.  Restore at access levels 2,3	In accordance with 8.3.5	P

**7.1.4 Results**

(X) The above results comply with this section of the standard.

(...) The above results do not comply with this section of the standard.

**Reference numbers of test equipment used**

HL 2774	HL 3460
---------	---------

Full description is given in Appendix A.



<b>Test specification:</b>		<b>Access level test</b>	
<b>Test procedure:</b>		EN 50131-3 TEST METHOD: 11.5.1 Access to the functions and controls	
<b>Test mode:</b>	Compliance	<b>Verdict:</b>	<b>PASS</b>
<b>Test Date:</b>	7/6/2017		
<b>Atmospheric conditions during the test:</b>	<b>Temperature:</b> 23.6 °C	<b>Air Pressure:</b> 1011hPa	<b>Relative Humidity:</b> 48%
<b>Remarks:</b>			

## 7.2 Access level test procedure and results

### 7.2.1 Test purpose

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.

### 7.2.2 Test procedure

**7.2.2.1** The tests shall be performed with the CIE in set and unset modes and one or more optional signals or messages are present.

**7.2.2.2** Attempt 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.

**7.2.2.3** The results were documented as presented in Table 7.2.1.

### 7.2.3 Test results

**Table 7.2.1 Test results**

Step	Test Condition	Action	Measurement	Pass criteria	Verdict
1	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 level 1: No one can watch system error, device errors, bypassed zones without level 2 authorization  Not permitted to change arm/disarm or system configuration	Access is in accordance with 8.3.9 and EN 50131-1:2006, Tables 2, 5, 6 and 8.	P
2	As above	Repeat as step 1 for access level 2.	Permitted to activate all authorized functions  Access not permitted for the functions programmed by Installer User	As above	P
3	As above	Repeat as step 1 for access level 3.	As above  Installer access (level 3) is permitted only with the authorization of level 2. Keypad screen is locked and access to keypad functions permitted only be	As above	P



<b>Test specification:</b>		<b>Access level test</b>	
<b>Test procedure:</b>		EN 50131-3 TEST METHOD: 11.5.1 Access to the functions and controls	
<b>Test mode:</b>	Compliance	<b>Verdict:</b> PASS	
<b>Test Date:</b>	7/6/2017		
<b>Atmospheric conditions during the test:</b>	<b>Temperature:</b> 23.6 °C	<b>Air Pressure:</b> 1011hPa	<b>Relative Humidity:</b> 48%
<b>Remarks:</b>			

			access level 2 code (access level 3 code not valid)		
4	As above	Repeat as step 1 for access level 4.	Can be considered the manufacturer action to implement a new SW version	As above	P
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:					
5	CIE unset	Enter level 3 access code or key	Level 3 user cannot gain access without level 2 authorization	Notified by internal WD and (grade 2 and 3) remotely	N/A
6	Perform action defined by manufacturer to silence WD or allow to time out, as applicable	-	As above	WD silenced. Level 3 access obtained	N/A
7	CIE set	Repeat steps 5 and 6	As above	No response, remains at level 1 access	N/A

**7.2.4 Results**

(X) The above results comply with this section of the standard.

(…) The above results do not comply with this section of the standard.

**Reference numbers of test equipment used**

HL 2774	HL 3460
---------	---------

Full description is given in Appendix A.



<b>Test specification:</b>		<b>PIN code test</b>	
<b>Test procedure:</b>		EN 50131-3 TEST METHOD: 11.6.2.2 PIN code	
<b>Test mode:</b>	Compliance	<b>Verdict:</b>	<b>PASS</b>
<b>Test Date:</b>	7/6/2017		
<b>Atmospheric conditions during the test:</b>	<b>Temperature:</b> 23.6 °C	<b>Air Pressure:</b> 1011hPa	<b>Relative Humidity:</b> 48%
<b>Remarks:</b>			

### 7.3 PIN code test procedure and results

#### 7.3.1 Test purpose

To verify that the range of variations of PIN codes is provided and that invalid codes are not accepted.

#### 7.3.2 Test procedure

**7.3.2.1** 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.

**7.3.2.2** Attempt to create an invalid code.

**7.3.2.3** Verify the validity of the manufacturer's calculations.

**7.3.2.4** The results were documented as presented in Table 7.3.1.

#### 7.3.3 Test results

**Table 7.3.1 Test results**

Step	Test Condition	Action	Measurement	Pass criteria	Verdict
1	For the test purpose, the manufacturer shall provide to the test house the following information: 1) The number of disallowed codes; 2) The method used to determine the number of variations; 3) For each user, the minimum number of variations of logical key shall be indicated.	Record the valid codes.	-The valid codes created can accepted to arm/disarm  -All user codes are 6 digits long exactly  - Installer code are 6 digits long exactly  -Each digit can be 0-9 So the total number of options: $Z=10^6=1000000$  * Codes must not be identical  * No disallowed codes  -Correct codes were created as required.	All valid codes shall be accepted according to grade.	P
2	As above	Record the invalid	- 123123 was not	Invalid codes	P



HERMON LABORATORIES

Report ID: PARIAS\_EN 50131-3.29642

Date of Issue: 25-Jun-17

<b>Test specification:</b>		<b>PIN code test</b>	
<b>Test procedure:</b>		EN 50131-3 TEST METHOD: 11.6.2.2 PIN code	
<b>Test mode:</b>		Compliance	<b>Verdict:</b> PASS
<b>Test Date:</b>		7/6/2017	
<b>Atmospheric conditions during the test:</b>	<b>Temperature:</b> 23.6 °C	<b>Air Pressure:</b> 1011hPa	<b>Relative Humidity:</b> 48%
<b>Remarks:</b>			

		code.	a code from the 50 codes that programmed.  - When tried this code it was not accepted.	shall not be accepted.	
--	--	-------	--	------------------------	--

**7.3.4 Results**

(X) The above results comply with this section of the standard.

(…) The above results do not comply with this section of the standard.

**Reference numbers of test equipment used**

HL 2774	HL 3460
---------	---------

Full description is given in Appendix A.



<b>Test specification: Invalid authorization attempts test procedure and results</b>			
<b>Test procedure:</b>		EN 50131-3 TEST METHOD: 11.6.3 Invalid authorization attempts test procedure and results	
<b>Test mode:</b>	Compliance	<b>Verdict:</b> PASS	
<b>Test Date:</b>	7/6/2017		
<b>Atmospheric conditions during the test:</b>	<b>Temperature:</b> 23.6 °C	<b>Air Pressure:</b> 1011hPa	<b>Relative Humidity:</b> 48%
<b>Remarks:</b>			

## 7.4 Invalid authorization attempts test procedure and results

### 7.4.1 Test purpose

To 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.

### 7.4.2 Test procedure

**7.4.2.1** Enter 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.

**7.4.2.2** Verify the validity of the manufacturer's calculations.

**7.4.2.3** The results were documented as presented in Table 7.4.1 and/or 7.4.2.

### 7.4.3 Test results

**Table 7.4.1 Test results for disabling user input device by invalid keys**

Step	Test Condition	Action	Measurement	Pass criteria	Verdict
<b>If the CIE has the facility to disable user input device carry out this series of tests</b>					
	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.	Repeated for unset mode	As below	P
1	CIE unset	Enter a valid key and attempt to set CIE.	System set. "Armed" (LCD indication) and Lock icon indication at the Keypad	CIE set	P
2	CIE set	Enter a series of invalid keys according to Table 1 to attempt to initially disable the user input device.	After 5 invalid code entries, the user input device disabled for 120 sec (programmable function)  "The selected action failed because the area is locked out" indication at the	CIE should not change state, the generation of tamper conditions and event log shall be in accordance with Table 1.	P



Test specification:		Invalid authorization attempts test procedure and results	
Test procedure:		EN 50131-3 TEST METHOD: 11.6.3 Invalid authorization attempts test procedure and results	
Test mode:		Verdict: PASS	
Test Date:			
Atmospheric conditions during the test:	Temperature: 23.6 °C	Air Pressure: 1011hPa	Relative Humidity: 48%
Remarks:			

			Keypad LCD.		
3	CIE set	During the "disabling time" apply an alarm signal or message.	- special locked out event was logged at event log	The alarm generated during the disable period shall be processed in accordance with EN 50131-1:2006, Table 7 and 8.4.1.	P
4	CIE set	During the "disabling time" try to enter a valid key.	- No response, device disabled.	The CIE shall not change state. The user input device shall remain disabled.	P
5	CIE set	When disabling time has expired, enter another series of invalid keys according to Table 4.	- User input device disabled after 1 invalid code entry.	The CIE shall not change state and shall be in accordance with Table 4.	P
6	CIE set	During the "disabling time" try to enter a valid key.	- No response, device disabled.	The CIE shall not change state. The user input device shall remain disabled.	P
7	CIE set	When disabling time has expired enter a valid key and attempt to change state of the CIE.	- After the user is introducing the user code, CP disarmed – CIE changed state	The CIE shall change state.	P



<b>Test specification: Invalid authorization attempts test procedure and results</b>			
<b>Test procedure:</b>		EN 50131-3 TEST METHOD: 11.6.3 Invalid authorization attempts test procedure and results	
<b>Test mode:</b>	Compliance	<b>Verdict:</b> PASS	
<b>Test Date:</b>	7/6/2017		
<b>Atmospheric conditions during the test:</b>	<b>Temperature:</b> 23.6 °C	<b>Air Pressure:</b> 1011hPa	<b>Relative Humidity:</b> 48%
<b>Remarks:</b>			

Table 7.4.2 Test results for generation of tamper by invalid keys

Step	Test Condition	Action	Measurement	Pass criteria	Verdict
<b>If the CIE has the facility in accordance with Table 1 to generate a tamper, carry out this series of tests</b>					
	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 and 3 shall be repeated in the "UNSET" mode of the CIE.	Optional for Grade 3.	As below	N/A
1	CIE unset	Enter a valid key and attempt to set CIE.	As above	CIE set	N/A
2	CIE set	Enter a series of invalid keys according to Table 4 to attempt to initially disable the user input device.	As above	CIE shall not change state, the generation of tamper conditions and event log shall be in accordance with Table 1.	N/A
3	CIE set	Enter a valid key to acknowledge the tamper condition.	As above	The tamper condition shall be acknowledged and shall be in accordance with Table 1.	N/A

**7.4.4 Results**

(X) The above results comply with this section of the standard.

(...) The above results do not comply with this section of the standard.

**Reference numbers of test equipment used**

HL 2774	HL 3460	HL 4882
---------	---------	---------

Full description is given in Appendix A.





<b>Test specification:</b>		<b>Availability of Indications test</b>	
<b>Test procedure:</b>		EN 50131-3 TEST METHOD: 11.7.10 Availability of Indications	
<b>Test mode:</b>	Compliance	<b>Verdict:</b>	<b>PASS</b>
<b>Test Date:</b>	7/6/2017		
<b>Atmospheric conditions during the test:</b>	<b>Temperature:</b> 23.6 °C	<b>Air Pressure:</b> 1011hPa	<b>Relative Humidity:</b> 48%
<b>Remarks:</b>			

## 7.5 Availability of indications test procedure and results

### 7.5.1 Test purpose

To demonstrate the ability of the CIE to comply with the requirements of 8.5.1

### 7.5.2 Test procedure

**7.5.2.1** Introduce 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 7.5.1.

### 7.5.3 Test results

**Table 7.5.1 Test results**

Step	Test Condition	Action	Measurement	Pass criteria	Verdict
1	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.	- Interconnection fault was applied by disconnecting the detector cable.  - Alert presented  - "Missing Module" trouble presented on keypad.	Alert indication present	P
2	Gain access to CIE at level 2.	View information displayed.	- "Missing Module" trouble presented on keypad.  - Fault message displayed at the event log.	Correctly indicates fault condition generated.	P
3	Return to level 1 access in accordance with manufacturer's specification – using automatic (timed) response if provided.	View information displayed.	Fault message presented	Alert indication present If automatic (timed) action, it is performed within time limit specified by manufacturer.	P
4	Remove the fault condition applied at step 1.	View information displayed.	Fault message presented	Alert indication present	P
5	Gain access to CIE at level 2.	View information displayed.	Indication of the fault condition remains available.	Indication of the fault condition remains available.	P
6	Return to access level 1	View information	Trouble	No indication	P



HERMON LABORATORIES

Report ID: PARIAS\_EN 50131-3.29642

Date of Issue: 25-Jun-17

<b>Test specification:</b>		<b>Availability of Indications test</b>	
<b>Test procedure:</b>		EN 50131-3 TEST METHOD: 11.7.10 Availability of Indications	
<b>Test mode:</b>	Compliance	<b>Verdict:</b> PASS	
<b>Test Date:</b>	7/6/2017		
<b>Atmospheric conditions during the test:</b>	<b>Temperature:</b> 23.6 °C	<b>Air Pressure:</b> 1011hPa	<b>Relative Humidity:</b> 48%
<b>Remarks:</b>			

	and restore.	displayed.	Indication does not presented		
--	--------------	------------	-------------------------------	--	--

#### 7.5.4 Results

(X) The above results comply with this section of the standard.

(...) The above results do not comply with this section of the standard.

#### Reference numbers of test equipment used

HL 2774	HL 3460
---------	---------

Full description is given in Appendix A.



<b>Test specification:</b>		<b>Tamper protection test</b>	
<b>Test procedure:</b>		EN 50131-3 TEST METHOD: 11.8.2 Tamper protection	
<b>Test mode:</b>	Compliance	<b>Verdict:</b>	<b>PASS</b>
<b>Test Date:</b>	29/5/2017		
<b>Atmospheric conditions during the test:</b>	<b>Temperature:</b> 23.4°C	<b>Air Pressure:</b> 1010hPa	<b>Relative Humidity:</b> 44 %
<b>Remarks:</b>			

## 7.6 Tamper protection test procedure and results

### 7.6.1 Test purpose

To use Impact testing to verify that the CIE/ACE housing meets the tamper protection requirements of 8.7.1.

### 7.6.2 Test procedure

**7.6.2.1** The CIE/ACE was installed in their operational position.

**7.6.2.2** The CIE/ACE housing was subjected to impacts from a small hemispherical hammer-head on any exposed surfaces of the EUT.

**7.6.2.3** A visual inspection following by a reduced functional test was performed after the impact test

**7.6.2.4** The results were documented as presented in Table 7.6.1.

### 7.6.3 Test results

**Table 7.6.1 Test results**

Observation	Verdict
<ul style="list-style-type: none"> <li>- Keypad tested with impacts of <b>1 Joule</b> (3 impacts per point at each exposed surface)</li> <li>- The EUT meet the requirements of the reduced functional test before, during and after the test.</li> <li>- No structural or mechanical damages were registered during the visual inspection.</li> <li>- The EUT passed the impact test.</li> </ul>	P

### 7.6.4 Results

(X) The above results comply with this section of the standard.

(...) The above results do not comply with this section of the standard.

### Reference numbers of test equipment used

HL 2774	HL 3460	HL 3013
---------	---------	---------

Full description is given in Appendix A.

<b>Test specification: Tamper detection - Access to the inside of the housing test</b>			
<b>Test procedure:</b>		EN 50131-3 TEST METHOD: 11.8.3 Tamper detection - Access to the inside of the housing	
<b>Test mode:</b>	Compliance	<b>Verdict:</b> PASS	
<b>Test Date:</b>	4/6/2017		
<b>Atmospheric conditions during the test:</b>	<b>Temperature:</b> 23.6 °C	<b>Air Pressure:</b> 1011hPa	<b>Relative Humidity:</b> 45 %
<b>Remarks:</b>			

## 7.7 Tamper detection - Access to the inside of the housing procedure and results

### 7.7.1 Test purpose

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.

### 7.7.2 Test procedure

**7.7.2.1** Mount the CIE/ACE according to the manufacturer's instructions with the housing securely closed.

**7.7.2.2** 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.

**7.7.2.3** 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.

**7.7.2.4** 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.

**7.7.2.5** The results were documented as presented in Table 7.7.1.

### 7.7.3 Test results

**Table 7.7.1 Test results**

Step	Test Condition	Action	Measurement	Pass criteria	Verdict
1	The CIE should be in unset condition.	Open by normal means	Tool required for opening	Opening the keypad by normal means shall only be possible by following the procedure defined by the manufacturer and shall generate a tamper signal or message.	P
2		Attempt to introduce a sabotage tool by Steel rod.	1mm for grade 3  No access without generation of the tamper signal or message		P
3		Attempt to introduce a sabotage tool by Flat bar.	5 x 0.5 x 300mm for grade 3  No access without generation of the tamper signal or message	The tamper detection device shall not have been defeated before the generation of a tamper signal or message.	P
4		Attempt to introduce a sabotage tool by Steel wire.	1 mm x 300 mm for Grade 3	Visible damage has been caused	P



Test specification:		Tamper detection - Access to the inside of the housing test	
Test procedure:		EN 50131-3 TEST METHOD: 11.8.3 Tamper detection - Access to the inside of the housing	
Test mode:	Compliance	Verdict: PASS	
Test Date:	4/6/2017		
Atmospheric conditions during the test:	Temperature: 23.6 °C	Air Pressure: 1011hPa	Relative Humidity: 45 %
Remarks:			

				in order to defeat the tamper detection device.	
--	--	--	--	---	--

Note: Tested for Keypad

#### 7.7.4 Results

(X) The above results comply with this section of the standard.

(...) The above results do not comply with this section of the standard.

#### Reference numbers of test equipment used

HL 2774	HL 3460	HL 2043	HL 4548-3	HL 4548-4
---------	---------	---------	-----------	-----------

Full description is given in Appendix A.

<b>Test specification: Tamper detection - Removal from mounting test</b>			
<b>Test procedure:</b>		EN 50131-3 TEST METHOD: 11.8.4 Tamper detection - Removal from mounting	
<b>Test mode:</b>	Compliance	<b>Verdict:</b> PASS	
<b>Test Date:</b>	4/6/2017		
<b>Atmospheric conditions during the test:</b>	<b>Temperature:</b> 23.6 °C	<b>Air Pressure:</b> 1011hPa	<b>Relative Humidity:</b> 45%
<b>Remarks:</b>			

## 7.8 Tamper detection - Removal from mounting test procedure and results

### 7.8.1 Test purpose

To remove 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.

### 7.8.2 Test procedure

**7.8.2.1** 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.

**7.8.2.2** 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.

**7.8.2.3** 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.

**7.8.2.4** Attempt to use pliers as specified in 8.7.2.2 to defeat the removal from mounting detection before and during the above test.

**7.8.2.5** 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.

**7.8.2.6** The results were documented as presented in Table 7.8.1.

### 7.8.3 Test results

**Table 7.8.1 Test results**

Step	Test Condition	Action	Measurement	Pass criteria	Verdict
1	The CIE should be in unset condition.	Attempt to slide a 25 x 1 x > 300 mm test blade	Maximum distance allow before tamper detection: 5mm for Grade 3	The tamper signal or message shall have been generated within 11 s of the EUT exceeding the distance specified in 8.7.2.2.	P
2		Attempt to use pliers of thickness 5 mm and reach 150 mm	No way to defeat the removal from mounting detection without generation of tamper signal	It shall not have been possible to prevent the generation of a tamper signal or message using the test blade or pliers.	P



HERMON LABORATORIES

Report ID: PARIAS\_EN 50131-3.29642

Date of Issue: 25-Jun-17

<b>Test specification: Tamper detection - Removal from mounting test</b>			
<b>Test procedure:</b>		EN 50131-3 TEST METHOD: 11.8.4 Tamper detection - Removal from mounting	
<b>Test mode:</b>	Compliance	<b>Verdict: PASS</b>	
<b>Test Date:</b>	4/6/2017		
<b>Atmospheric conditions during the test:</b>	<b>Temperature:</b> 23.6 °C	<b>Air Pressure:</b> 1011hPa	<b>Relative Humidity:</b> 45%
<b>Remarks:</b>			

Note: Tested for Keypad

#### 7.8.4 Results

(X) The above results comply with this section of the standard.

(...) The above results do not comply with this section of the standard.

#### Reference numbers of test equipment used

HL 2774	HL 3460	HL 3822
---------	---------	---------

Full description is given in Appendix A.



<b>Test specification:</b>		<b>Event log test</b>	
<b>Test procedure:</b>		EN 50131-3 TEST METHOD: 11.12 Event log	
<b>Test mode:</b>	Compliance	<b>Verdict:</b>	<b>PASS</b>
<b>Test Date:</b>	7/6/2017		
<b>Atmospheric conditions during the test:</b>	<b>Temperature:</b> 23.6 °C	<b>Air Pressure:</b> 1011hPa	<b>Relative Humidity:</b> 48 %
<b>Remarks:</b>			

## 7.9 Event Log

### 7.9.1 Test purpose

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.

### 7.9.2 Test procedure

7.9.2.1 Operate the CIE to ensure correct operation of the event log, whilst ensuring the long-term accuracy of the clock.

7.9.2.2 The results were documented as presented in Table 7.9.1.

### 7.9.3 Test results

**Table 7.9.1 Test results**

Step	Test Condition	Test procedure	Measurement	Pass criteria	Verdict
1	The system initially in the unset condition.	With the CIE unset and with no alarm condition, set the time and date.	Date and time were set	-	P
2	As above	With the system unset and in the normal condition enter an authorization code at each access level.	Even log cannot be changed or deleted	There shall be no facility for a user to alter or delete the event log.	P
3	As above	If the means of recording is cyclic: Fill the event log. With the system unset, add one more mandatory event.	The minimum permitted number of mandatory events has been preserved  FIFO method used	The oldest event shall be deleted by the last added mandatory events.	P
4	As above	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 1000 events (the event log capacity)  Not mandatory events are not recorded	Verify that minimum permitted number of mandatory events has been preserved.	P
5	As above	Following the previous test (C), add one mandatory event.	Mandatory events logged	Verify that the new mandatory event has been	P





HERMON LABORATORIES

Report ID: PARIAS\_EN 50131-3.29642

Date of Issue: 25-Jun-17

<b>Test specification:</b>		<b>Event log test</b>	
<b>Test procedure:</b>		EN 50131-3 TEST METHOD: 11.12 Event log	
<b>Test mode:</b>		Compliance	<b>Verdict:</b> PASS
<b>Test Date:</b>		7/6/2017	
<b>Atmospheric conditions during the test:</b>	<b>Temperature:</b> 23.6 °C	<b>Air Pressure:</b> 1011hPa	<b>Relative Humidity:</b> 48 %
<b>Remarks:</b>			

				logged.	
6	As above	If memory retention component(s) are non-volatile (example; EEPROM): Check data supplied by manufacturer.	Non-volatile memory in use.  EEPROM may keep the data for years  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
7	As above	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.	Memory retention component is non-volatile EEPROM.	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)	N/A
8	As above	In CIE with the facility to make a permanent record, follow manufacturer's instructions to make a permanent record.	Permanent record on ARC, including date and time	The events displayed on the permanent record shall accurately reflect the event log, including date and time.	P
9	As above	Checking the clock accuracy.	No deviation within 8 days with reference to NIST clock	The accuracy shall be consistent with EN 50131-1:2006, 8.10.	P
<b>Where the I&amp;HAS stores event logs at the ARC, the manufacturer shall provide information or means to enable this function to be tested as follows:</b>					
10	As above	Check ability of CIE to send events to the SPT. Generate an event at the CIE.	Event stored at CP and presented on keypad.  No ARC logging	Verify that the generated events are sent to the SPT.	N/A
11	As above	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	As above	Verify that a fault is indicated at the CIE (grade 1).	N/A



HERMON LABORATORIES

Report ID: PARIAS\_EN 50131-3.29642

Date of Issue: 25-Jun-17

<b>Test specification:</b>		<b>Event log test</b>	
<b>Test procedure:</b>		EN 50131-3 TEST METHOD: 11.12 Event log	
<b>Test mode:</b>		Compliance	<b>Verdict:</b> PASS
<b>Test Date:</b>		7/6/2017	
<b>Atmospheric conditions during the test:</b>	<b>Temperature:</b> 23.6 °C	<b>Air Pressure:</b> 1011hPa	<b>Relative Humidity:</b> 48 %
<b>Remarks:</b>			

		ARC.			
12	As above	Enable the SPT.	As above	For CIE grades 2, 3 and 4, the event(s) shall be transmitted when the SPT is re enabled.	N/A

#### 7.9.4 Results

(X) The above results comply with this section of the standard.

(...) The above results do not comply with this section of the standard.

#### Reference numbers of test equipment used

HL 2774	HL 3460
---------	---------

Full description is given in Appendix A.

<b>Test specification:</b>		<b>Marking and documentation test</b>	
<b>Test procedure:</b>		EN 50131-3 TEST METHOD: 11.13 Marking and documentation	
<b>Test mode:</b>	Compliance	<b>Verdict:</b>	<b>PASS</b>
<b>Test Date:</b>	18/6/2016		
<b>Atmospheric conditions during the test:</b>	<b>Temperature:</b> 23.8 °C	<b>Air Pressure:</b> 1008hPa	<b>Relative Humidity:</b> 56 %
<b>Remarks:</b>			

## 7.10 Marking and documentation test procedure and results

### 7.10.1 Test purpose

To check and confirm that the customer user manual and labels are in accordance with EN 50131-1 and EN 50131-3 requirements

### 7.10.2 Test procedure

**7.10.2.1** The available last version of the user manual was read and compared with the product characteristics and standard requirements as summarized in Table 7.10.2.

**7.10.2.2** The results were documented as presented in Table 7.10.1.

### 7.10.3 Test results

**Table 7.10.1 Test results**

Observation	Verdict
Labels and documentation requirements fulfilled.	<b>Pass</b>

**Table 7.10.2 Marking and documentation requirements**

EUT: TM70		Documents: TM70-EI00				
Standard/Section	Requirement	Verdict				Remark
		C	NC	NA	NT	
EN 50131-3/ 10 EN 50131-1/ 15  Marking/ Identification Labeling	Name of manufacturer	✓				See Photograph 5.1.5
	Type	✓				
	Date of manufacture batch # or serial#	✓				
	Security grade	✓				
	Environmental class	✓				
	Installation and maintenance					
	Operating temperature and humidity range	✓				
	Weights and dimensions	✓				
	Fixing details	✓				
	Installation, commissioning and maintenance instructions, including terminal identifications	✓				
	Type of interconnections	✓				
	Details of methods of setting and unsetting possible			✓		CP feature
	Where there are serviceable parts			✓		No serviceable parts
Power supply requirement if no integrated PS			✓		Wired product powered by CIE	



<b>Test specification:</b>		<b>Marking and documentation test</b>	
<b>Test procedure:</b>		EN 50131-3 TEST METHOD: 11.13 Marking and documentation	
<b>Test mode:</b>	Compliance	<b>Verdict:</b>	<b>PASS</b>
<b>Test Date:</b>	18/6/2016		
<b>Atmospheric conditions during the test:</b>	<b>Temperature:</b> 23.8 °C	<b>Air Pressure:</b> 1008hPa	<b>Relative Humidity:</b> 56 %
<b>Remarks:</b>			

EN 50131-3/ 9.1.9,2  Documentation	Where PS is integrated, the information required by EN 50131-6:2008, Clause 6			✓		Wired product powered by CIE
	The maximum number of each type of ACE and expansion device			✓		CP feature
	The current consumption of the CIE and each type of ACE and expansion device, with and without an alarm condition	✓				
	The maximum current rating of each electrical output			✓		
	Programmable functions provided			✓		CP feature : see EVOHD-EI00 programming guide
	How indications are made inaccessible to level 1 users when level 2, 3 or 4 user is no longer accessing the information	✓				
	Masking/reduction of range signals/messages processed as "fault" or "masking" events			✓		CP feature
	Prioritization of signal and message processing and indications			✓		No Prioritization of signal and message
	The minimum number of variations of PIN codes, logical keys, biometric keys and/or mechanical keys for each user	✓				1000000 for logical keys using 6 digits
	Method of time-limiting internal WD for level 3 access without level 2 authorization			✓		CP feature
	The number and details of disallowed PIN codes			✓		No disallowed codes
	Details of any biometric authorization methods used			✓		No biometric
	The method used to determine the number of combinations of PIN codes, logical keys, biometric keys and/or mechanical keys	✓				
	Number of invalid code entries before user interface is disabled	✓				
	Details of means for temporary authorization for user access			✓		No such temporary authorization
	If automatic setting at pre-determined times provided, details of pre-setting indication and any automatic over-ride of prevention of set			✓		CP feature
	Details of conditions provided for the set state			✓		CP feature
	Notification output signals or messages provided			✓		CP feature
	Other output configurations to interface with I&HAS components			✓		CP feature
	Criteria for automatic removal of "soak test" attribute			✓		CP feature
	Number of events resulting in automatic inhibit			✓		CP feature
	If ACE is Type A or Type B (see 8.7) and whether portable or moveable (see 11.14)	✓				
	Component data for non-volatile memory components			✓		
	Life of memory support battery			✓		No use of battery supported memory
	Optional functions provided			✓		CP feature

<b>Test specification:</b>		<b>Marking and documentation test</b>	
<b>Test procedure:</b>		EN 50131-3 TEST METHOD: 11.13 Marking and documentation	
<b>Test mode:</b>	Compliance	<b>Verdict:</b>	<b>PASS</b>
<b>Test Date:</b>	18/6/2016		
<b>Atmospheric conditions during the test:</b>	<b>Temperature:</b> 23.8 °C	<b>Air Pressure:</b> 1008hPa	<b>Relative Humidity:</b> 56 %
<b>Remarks:</b>			

	Additional functions provided			✓		CP feature
	Access levels required to access such additional functions provided			✓		CP feature
	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			✓		CP feature
	<b>Operating instructions</b>					
	operating instructions for all security and non-security functions available to the user	✓				Provided
	standard(s) to which compliance is claimed for product	✓				
	security grade to which the CIE and ACE comply	✓				
	environmental class	✓				
	the minimum number of variations of logical and/or mechanical keys for each user	✓				
	the number and details of disallowed codes			✓		No disallowed codes
	user programmable functions provided			✓		CP feature : see EVOHD-EI00 programming guide
	where there are user serviceable parts (EXAMPLE: fuses), their type and value			✓		No serviceable parts
EN 50131-1/ 14.2 Documentation	Name of manufacturer	✓				
	Description of equipment	✓				
	Clear and concise documentation	✓				
	Standard to which component claims compliance	✓				
	Name or mark of the certification body			✓		
	Security grade	✓				
	Environmental class	✓				

#### 7.10.4 Results

(X) The above results comply with this section of the standard.

(...) The above results do not comply with this section of the standard.

#### Reference numbers of test equipment used

HL 2774	HL 3460
---------	---------

Full description is given in Appendix A.

## 8 APPENDIX A Test equipment and ancillaries used for tests

HL No	Description	Manufacturer	Model	Ser. No.	Due Cal./Check
2774	HygroThermometer, Min/Max Memory	Delta TRAK	13301	NA	19-Jun-18
3460	Precision Barometer, 870 - 1050 hPa	LUFFT Mess- und Regeltechnik GmbH	DKD-K-26701	100469	31-May-18
3013	ED&D Universal Spring Hammer	Educated Design & development, Inc.	F 22.50	I1145127	17-Jan-19
2043	Test Wire 1mm / 100 mm, CEI / 60529 clause 12	Hermon Laboratories	IP 1(4)	2043	15-Nov-18
4548	Tamper test tool set. EN50131-3:2009 STD	Hermon Laboratories	TTT-1	NA	18-Dec-17
4882	Digital Stopwatch	Bash-gal	Chronograph 1/100	NA	23-Aug-17
3822	Tape-measure, 3 m	The Stanley works Israel Ltd	33-218	NA	29-Dec-17

## 9 APPENDIX B Test laboratory description

<b>Testing laboratory and location</b>	<p>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) <b>and accredited as CBTL under responsibility of SII.</b></p> <p>The safety/Security 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.</p> <p>Address: P.O. Box 23, Binyamina 30500, Israel. Telephone: +972 4628 8001 Fax: +972 4628 8277 e-mail: <a href="mailto:mail@hermonlabs.com">mail@hermonlabs.com</a> website: <a href="http://www.hermonlabs.com">www.hermonlabs.com</a></p> <p>Person for contact: Michael Brun, Product Safety Group Manager.</p>
--	---

## 10 APPENDIX C Abbreviations and acronyms

ARC	alarm receiving centre
ACE	ancillary control equipment
BBA	broad band adapter
°C	degree Celsius
C	compliant
CP	control panel
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

## 11 APPENDIX D Tests specifications

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 and hold-up systems  
Part 3: Control and indicating equipment

## 12 APPENDIX E Measurement uncertainties

Parameter	Uncertainty estimation at 95% confidence	
	Calculated	Limit
Air pressure	$\pm 0.8$ mBar	$\pm 4.1$ mBar
Temperature	$\pm 1.3^{\circ}\text{C}$	$\pm 2^{\circ}\text{C}$
Humidity	$\pm 2.86$ %	$\pm 5.0$ %
Time measurement using the oscilloscope cursor	$\pm 1.2\%$	$\pm 10\%$
Time measurement using stopper watch (20 s intervals)	$\pm 1.7$ %	$\pm 10$ %
Impact energy measurement	$\pm 6.1\%$	$\pm 10\%$

**End of Test Report**