



20635
ДСТУ EN ISO/IEC 17025



State Enterprise «All-Ukrainian state research and production center for standardization, metrology, certification and consumers' rights protection»
(SE «UKRMETRTESTSTANDART»)
UKRAINIAN SCIENTIFIC AND TECHNICAL INSTITUTE FOR CERTIFICATION AND TESTING OF ELECTRICAL EQUIPMENT (UkrTEST)

TEST REPORT

EN 54-11:2001+A1:2005

Fire detection and fire alarm systems
Part 11: Manual call points

Report Number: 0864-1-2023

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Testing Laboratory: UkrTEST of SE «UKRMETRTESTSTANDART»

Address: 4, Metrologichna Str., 03143, Kyiv, Ukraine

E-mail: gmamchin@ukrcsm.kiev.ua

Applicant's name: AJAX SYSTEMS MANUFACTURING LLC

Address: 5 Sklyarenka Str., Kyiv, 04073, Ukraine

Test specification:

Standard.....: EN 54-11:2001+A1:2005

Test procedure.....: UkrTEST

Test Report Form No.: T.R.F.2.6.2 - EN 54-11

Test Report Form(s) Originator.....: UkrTEST of SE «UKRMETRTESTSTANDART»

Master TRF: Dated 2018-02

General disclaimer:

The test results presented in this report relate only to the object tested.

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Test item description:	
Product	Manual call point
Trade Mark	
Manufacturer	AJAX SYSTEMS MANUFACTURING LLC, Ukraine
Model / Type reference	MCP.R.J-000-EU for testing MCP.R.J-xxx-(NA, MA, SA, AU, IN) *
Type of Manual call point	<input checked="" type="checkbox"/> A <input type="checkbox"/> B
Environment category	<input checked="" type="checkbox"/> indoor <input type="checkbox"/> outdoor <input type="checkbox"/> special environmental conditions
Ratings	2xCR123A (3 Vdc)
PCB version	Int. reference: EMP.001, MBR.001v7
Software version	v. EU 5.59.1.14
Type of connection	<input checked="" type="checkbox"/> Addressable <input type="checkbox"/> Non-addressable
* - see General product information	
Tested by (name + signature)	
	V. Zayika (test engineer) 
	Y. Savchuk (test engineer) 
Approved by (name + signature)	
	A. Gindikin (head of TS UkrTEST) 
	
List of Attachments (including a total number of pages in each attachment):	
Attachment 1: EMC tests (pages 23 - 27);	
Attachment 2: User Manual (pages 28 - 30);	
Attachment 2: Software Documentation (pages 31 - 36);	
Attachment 3: Photos (pages 37 - 39).	

Summary of testing:

The Manual call points MCP.R.J-000-EU (v. EU 5.59.1.14) were connected wirelessly with the Ajax Hub 2 (v. 96.0.10.10.5.3.1.0 EU 2.17.110) security panel with ethernet connected and visual status monitoring using the Ajax Security System mobile application (v. 2.29 build #2848).

Tests performed (name of test and test clause):

The sample(s) tested with the requirements of EN 54-11:2001+A1:2005;

Testing location:

UkrTEST of SE "UKRMETRTESTSTANDART"
4, Metrologichna Str., 03143, Kyiv, Ukraine

The Manual Call Point (RED) MCP.R.J-000-EU **fulfils** the requirements of EN 54-11:2001+A1:2005.

Copy of marking plate:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBS that own these marks.

Marking on the button



Marking on the box



Possible test case verdicts:

- test case does not apply to the test object: N/A
- test object does meet the requirement: P (Pass)
- test object does not meet the requirement: F (Fail)

Testing:

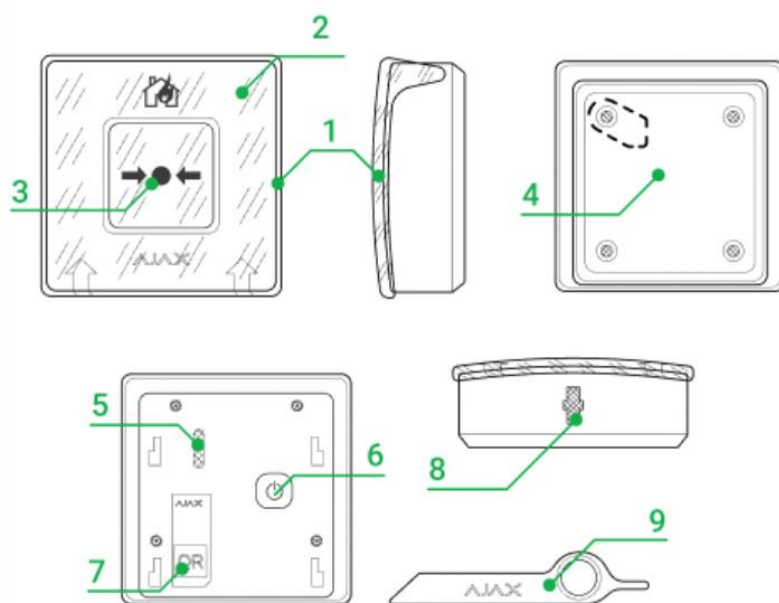
Date of receipt of test item: 28.08.2023

Date (s) of performance of tests: 28.08.2023 to 29.09.2023

General product information:

ManualCallPoint MCP.R.J-000-EU Jeweller is a wireless manual alarm activation button. The device allows you to activate an alarm in case of an emergency. The button can be restored using a special tool (key) included in the kit. The device is designed for indoor installation only.

MCP.R.J-xxx-(EU, MA, SA, AU, IN) - where "xxx" digits from 0 to 9 indicate the device modification.



The human interface of the device consists of the following units:

- 1 white LED (HG1), used for state indication;
- 1 tamper switch (S2);
- 1 tamper switch (SW2) for alarm activation;
- 1 button (SW1) for switching ON/OFF state;

General product information:

The device utilizes CC1310F128RHB SoC (DD1), an ultra-low-power wireless SoC.

The MCU utilizes two clock sources:

- an external 24 MHz crystal oscillator as its main clock source;
- an external 32,68 kHz crystal oscillator for low-power mode operation;

The SoC uses its RF stage to communicate with the Hub via Jeweller protocol.

The exact operating frequency range depends on the software-defined region.

Operation frequency	Region name	Model name
865,0 - 867,0 MHz	8IN	MCP.R.J-000-IN MCP.B.J-000-IN
868,0 - 868,6 MHz	8EU	MCP.R.J-000-EU MCP.B.J-000-EU
868,7 - 869,2 MHz	8MA	MCP.R.J-000-MA MCP.B.J-000-MA
921,0 - 922,0 MHz	9SA	MCP.R.J-000-SA MCP.B.J-000-SA
905,0 - 926,5 MHz	9NA	MCP.R.J-000-NA MCP.B.J-000-NA
915,85 - 926,5 MHz	9AU	MCP.R.J-000-AU MCP.B.J-000-AU

The device is supplied with 2 CR123A Li-ion batteries.

The MCU is powered directly by the batteries.

The version of Software can be decoding by Technical support.

An example of decoding QR code 30372a1f4f0 for Manual call points:

GENERAL INFO:

qr: 30372a1f4f0
 region: EU
 country: [No info](#)
 pro account email: [No info](#)
 pro account name: [No info](#)
 comment: SWAUT-3779
 production time: [No info](#)
 factory const: {'mac_eth': None, 'mac_wifi': None}
 board name: EMP.001.MBR.001.v7[RED]
 dev type: Manual Call Point
 ajax name: Ajax Manual Call Point (Red)
 color:
 kit in old db: [No info](#)
 barcode: [No info](#)
 vendor: [No info](#)
 spec: []
 location: SK5

COMBINING INFO:

PD SETTER INFO:

ASSEMBLING INFO:

CALIBRATION INFO:

LONG TEST INFO:

TEST ROOM INFO:

QC INFO:

PACK INFO:

KIT INFO:

REPAIR INFO:

PROD CONTROL INFO:

PROG INFO:

success:
 operator: tester_shipyard.
 time: 2023.08.24 21:28:27
 firmwares: {'main': '5.59.1.14', 'test': '5.59.100.4'}
 app ver: [4, 224, 170850]

EN 54-11			
Clause	Requirement	Result-Remark	Verdict
4	Requirements		
4.1	Compliance	see below	P
	In order to comply with this standard the manual call point shall meet the requirements of this clause		P
4.2	Marking and data		P
4.2.1	Marking		P
a)	the number of this standard (i.e. EN 54-11)	EN 54-11	P
b)	the name or trademark of the manufacturer or supplier		P
c)	the model designation (type A or type B)	type A	P
d)	environment category	indoor	P
e)	the wiring terminal designations	no wiring terminals	N/A
f)	marks by which the manufacturer can identify the date or batch and place of manufacture, and	code and QR-code	P
	the version number of any software	by code	P
	Where marking on the manual call point uses symbols or abbreviations not in common use then these shall be explained		N/A
	The marking shall be visible during installation of the manual call point and shall be accessible during maintenance	back side under cover	P
	The markings shall not be placed on screws or other easily removable parts		P
4.2.2	Data		P
	Manual call points shall either be supplied with sufficient technical, installation and maintenance data	Quisk start guide with all device	P
	if all of these data are not supplied with each manual call point, reference to the appropriate data sheet shall be given	QR-code to full version	P
	To enable correct operation these data shall describe the requirements for the correct processing of the signals from the manual call point	Jeweller protocol	P
	This may be in the form of a full technical specification of these signals, a reference to the appropriate signalling protocol or a reference		P
4.3	Frangible element		P
4.3.1	Normal condition	see Photo	P
4.3.2	Alarm condition		P
	Transfer from the normal condition to the alarm condition shall be achieved by the following and shall be easily recognisable by the change in the appearance of the operating face:		-
a)	for type A manual call points:		P
	1) breaking the frangible element or		N/A
	2) displacing the frangible element as a result of the breaking or		N/A

EN 54-11			
Clause	Requirement	Result-Remark	Verdict
	3) displacing the frangible element without breaking together with changing the appearance of the operating face		P
b)	for type B manual call points:		N/A
1)	breaking and/or displacement of the frangible element to give access to the operating element		N/A
2)	manual activation of the operating element		N/A
	In addition, for type B manual call points, it shall be possible to see that the operating element is in the activated position		N/A
	it shall not be possible to activate the operating element without breaking or displacing the frangible element or without the use of a special tool		N/A







4.4	Indicators for alarm condition		P
	The alarm condition shall be indicated by:		-
a)	for type A: the condition of the frangible element as specified in 4.3		P
b)	for type B: the frangible element as described in 4.3 together with an identifiable activated position of the operating element		N/A
	The alarm condition may be additionally indicated visually by other means	red LED	P
	If an additional visual indicator is provided, it shall be positioned within the operating face or within the front face of the manual call point	on the top of front face	P
	The visual indicator shall be red, shall identify the manual call point, which released an alarm, until the alarm condition is reset	alarm mode show by blinks of red LED	P
	it shall be visible from a distance of 2 m directly in front of the manual call point, in an ambient light intensity up to 500 lx		P
	Where other conditions of the manual call point may be visually indicated, they shall be clearly distinguishable from the alarm indication	- 1 white LED (HG1), used for state indication; - 1 tamper switch (S2); - 1 tamper switch (SW2) for alarm activation; - 1 button (SW1) for switching ON/OFF state;	P

4.5	Reset facility		P
	It shall only be possible to reset the manual call point after operation by means of a special tool as follows:		-
a)	for non-resettable frangible elements by inserting a new element		N/A
b)	for resettable frangible elements by resetting the frangible element	by special tool	P
	for type B manual call points, it shall only be possible to return the operating element to its normal condition by means of a special tool		N/A

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Clause	Requirement	Result-Remark	Verdict
4.6	Test facility		N/A
	The manual call point shall be equipped with a facility to carry out routine testing when installed	frangible element without breaking	N/A
	The operation of this test facility shall:		-
a)	simulate the alarm condition by activating the operating element without breaking the frangible element		N/A
b)	allow the manual call point to be reset without breaking the frangible element		N/A
	The operation of the test facility shall only be possible using a special tool		N/A

4.7	Construction and design		P
4.7.1	Safety aspects		P
	When operating the frangible element injury to the operator shall not occur		P
	For type B manual call points the actuation force of the operating element shall meet the requirements of EN 894-3		N/A
	Corners and edges of the manual call points shall be rounded to reduce the possibility of injury		P
	the radius of curvature shall not exceed 0,05 a		P
	Requirement, mm	≤ 4,6	-
	Measuring, mm	max 4,0	-
4.7.2	Shape, dimensions and colours		P
4.7.2.1	Shape		P
	The front face of the manual call point shall be approximately square	front face has square form	P
	The operating face shall either be square or rectangular	operating face has square form	P
	The operating face:		-
a)	shall be central about the vertical centre line of the front face and	in the center	P
b)	may be designed to have a vertical offset about the horizontal centre line of the front face		N/A
	The operating face shall be level with or recessed into the front face	recessed	P
	it shall not project beyond the front face		P
4.7.2.2	Dimensions		P
	The dimensions of the front face and of the operating face		P

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Clause	Requirement	Result-Remark	Verdict
	Manual call point with a square operating face		P
	height of front face "a", mm	99,0	P
	requirement, mm	85,0 - 135,0	-
	width of front face "b", mm	99,0	P
	requirement, mm	85,0 - 135,0	-
	ratio of width to height of the front face "b/a"	1,00	P
	requirement	0,95 - 1,05	-
	height of operating face "c", mm	46,0	P
	requirement, mm	44,5 - 54,5	-
	width of operating face "d", mm	46,0	P
	requirement, mm	44,5 - 54,5	-
	ratio of width to height of the operating face "d/c"....	1,00	P
	requirement, mm	0,95 - 1,05	-
	maximum vertical offset of the operating face "e"....	0,0	P
	requirement, ± mm	9,9	-
	The manual call point shall be designed so that it is capable of being mounted with the front face at least 15 mm proud of the surrounding surface		P
	front face above of the surrounding surface, mm....	31,0	-
4.7.2.3	Colours		P
	The colour of the visible surface area of the manual call point when mounted in accordance with 5.1.3 shall be red, except for	red	P
a)	the operating face	white	P
b)	the symbols and lettering on the front face specified in 4.7.3.2	logo AJAX below on the front face	P
c)	the special tool access, cable entry holes and crews	special tool is black	P
	The colour of the operating face other than symbols and lettering specified in 4.7.3.3 shall be white		P
	The colour of the visible part of the operating element (Type B) shall be black		N/A

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Clause	Requirement	Result-Remark	Verdict
4.7.3	Symbols and lettering		P
4.7.3.1	General	type A	P
4.7.3.2	Symbols and lettering on the front face		P
4.7.3.2.1	Front face		P
	Symbol 		P
	dimension, mm	15,0	-
	requirement, mm	≥ 14,8	-
	word "FIRE", mm		N/A
	requirement, mm		-
4.7.3.2.2	Other markings		N/A
4.7.3.3	Symbols and lettering on the operating face		P
4.7.3.3.1	The operating face of type A manual call points shall be marked with the symbol with figure 3c		P
	Symbol 		P
	Symbol 		N/A
	dimensions symbol, mm	11,0	P
	requirement, mm	≥ 9,9	-
	The operating face of type B manual call points shall be marked with the symbols in accordance with figures 3b and 3d		N/A
	Symbol 		N/A
	dimensions symbol, mm		N/A
	requirement, mm		-
	Symbol 		N/A
	Symbol 		N/A
	dimensions symbol, mm		N/A
	requirement, mm		-
	These symbols may be supplemented by appropriate words for instruction		N/A
	These symbols shall be area not exceeding 10% of the area of the operating face		N/A
4.7.3.3.2	Markings other shall be restricted to the upper and/or the lower 25% of the area		N/A
	The total area for this marking other than white shall not be greater than 5% of the area of the operating face		N/A
4.7.4	Protection against accidental operation		P
	In addition to the use of the frangible element other means of protection may be used, e.g. a transparent flap	transparent flap	P
	The protection shall be easily and immediately removable and shall have clear instructions for its removal		P

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Clause	Requirement	Result-Remark	Verdict
	With the protection in place, the appearance of the manual call point, the instructions for its operation and the state of the manual call point in the normal and alarm condition shall be clearly visible	transparent flap	P
4.7.5	Environment category		P
	The environment category of the manual call point shall be specified by the manufacturer	indoor	P
	The manual call point shall be tested as given in the table 2		P
4.8	Additional requirements for software controlled manual call points		P
4.8.1	General		P
4.8.2	Software documentation	see Attachment 3	P
4.8.2.1	The manufacturer shall submit documentation which gives an overview of the software design		P
	This documentation shall be in sufficient detail and shall include at least the following:		-
a)	a functional description of the main program flow (e.g. as a flow diagram or structogram) including:		P
	1) a brief description of the modules and the functions that they perform		P
	2) the way in which the modules interact		P
	3) the overall hierarchy of the program		P
	4) the way in which the software interacts with the hardware of the manual call point		P
	5) the way in which the modules are called, including any interrupt processing		P
b)	a description of which areas of memory are used for the various purposes		P
c)	a designation, by which the software and its version can be uniquely identified.		P
4.8.2.2	The manufacturer shall have available detailed design documentation, which only needs to be provided if required by the testing authority		P
	It shall comprise at least the following:		-
a)	an overview of the whole system configuration, including all software and hardware components		P
b)	a description of each module of the program, containing at least:		-
	1) the name of the module		P
	2) a description of the tasks performed;		P
	3) a description of the interfaces, including the type of data transfer, the valid data range and the checking for valid data		P
c)	full source code listings		P
d)	details of any software tools used in the design and implementation phase (e.g. CASE-tools, compilers)		P

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Clause	Requirement	Result-Remark	Verdict

4.8.3	Software design		P
	In order to ensure the reliability of the manual call point, the following requirements for software design shall apply:		-
a)	the software shall have a modular structure	software has a modular structure	P
b)	the design of the interfaces for manually and automatically generated data shall not permit invalid data to cause error in the program operation		P
c)	the software shall be designed to avoid the occurrence of deadlock of the programme flow		P

4.8.4	The storage of programs and data	data only can be read by special software tools; specific data in non-volatile memory	P
	The program shall be held in non-volatile memory		P
	Writing to areas of memory		P
	data shall be held in memory which will retain data for at least two weeks without external power		P

5	Tests		
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5.1	General		P
5.1.1	Atmospheric conditions for tests	(22±2) °C; (48±5) %; (99±1) kPa	P
5.1.2	Operating conditions for tests	powered by batteries, connected to AJAX Hub	P
5.1.3	Mounting arrangements	by normal means	P
5.1.4	Tolerances	5%	P
5.1.5	Measurement of response time	1 s	P
5.1.6	Provisions for tests		P
	The following shall be provided for testing compliance with this European Standard:		-
a)	for manual call points that are simple switches or contain simple electronic components		N/A
b)	for manual call points with active electronic components	14 specimens were tested	P
c)	30 additional frangible elements		N/A
d)	the technical data sheets or specifications according to 4.2.2		P
e)	additional technical information		N/A
	The specimens shall be representative of the manufacturer's normal production		P
5.1.7	Test schedule	accordig to Table 2	P

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Clause	Requirement	Result-Remark	Verdict
5.2	Operational performance test		P
5.2.1	Object	the specimen №10	P
5.2.2	Test procedure		P
5.2.2.1	Test for non-operation		P
5.2.2.1.1	State of the specimen during test	acc. to cl. 5.1.3	P
5.2.2.1.2	Initial state		P
5.2.2.1.3	Conditioning	22,5 N	P
5.2.2.1.4	Measurements during testing	no alarm when applying force 22,5 N	P
5.2.2.1.5	Final measurements		P
	a) After the force has been released, the frangible element shall be examined	the frangible element reliable	P
	b) The specimen shall then be tested as described in the test facility test of 5.4		P
5.2.2.2	Test for operation		P
5.2.2.2.1	Conditioning	impact by ball	P
5.2.2.2.2	State of the specimen during test	acc. to cl. 5.1.3	P
5.2.2.2.3	Initial state		P
5.2.2.2.4	Resetting	by special tool	P
5.2.2.2.5	Measurements during testing		P
5.2.3	Test requirements		P
	The specimen shall satisfy the following requirements:		P
	a) in the test of 5.2.2.1 the frangible element shall not transfer into the alarm condition	frangible element was not transferred in alarm condition	P
	b) for type A - in the test of 5.2.2.2 the frangible element shall transfer into the alarm condition	frangible element was transferred in alarm condition	P
	c) for type B - in the test of 5.2.2.2 the frangible element shall transfer into the alarm condition		N/A
5.3	Function test		P
5.3.1	Object	the specimen №1	P
5.3.2	Test procedure	as described in 5.2.2.2	P
5.3.3	Test requirements		P
5.4	Test facility test		N/A
5.4.1	Object		N/A
5.4.2	Test procedure		N/A
5.4.2.1	General		N/A
5.4.2.2	State of the specimen during test	acc. to cl. 5.1.3	N/A
5.4.2.3	Measurements during testing		N/A

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Clause	Requirement	Result-Remark	Verdict
5.4.3	Test requirements		N/A
	The following requirements shall be satisfied:		-
a)	An alarm signal shall be given in accordance with 5.1.5, when the test facility has been operated		N/A
b)	no fault signal shall be given during the test		N/A
c)	when reset the specimen shall return to its normal condition		N/A
5.5	Reliability test		P
5.5.1	Object	the specimen №9	P
5.5.2	Test procedure		P
5.5.2.1	Test apparatus		P
5.5.2.2	State of the specimen during conditioning	acc. to cl. 5.1.3	P
5.5.2.3	Conditioning	250 times	P
5.5.2.4	Final measurements		P
a)	the specimen shall be checked visually for any damage;	no damage	P
b)	the specimen shall be tested as described in the operational performance test of 5.2		P
	test for non-operation		P
	test for operation		P
5.5.3	Test requirements		P
	The following requirements shall be satisfied:		-
a)	there shall be no visible damage to the specimen likely to impair its operation		P
b)	in the test of 5.5.2.4 b) the specimen shall comply with the requirements of 5.2.3	operating element is reliable	P
5.6	Variation of supply parameters		P
5.6.1	Objects	the specimen №2	P
5.6.2	Test procedure		P
5.6.2.1	State of the specimen during conditioning		P
5.6.2.2	Conditioning	$U_{max} = 3,2 \text{ Vdc}$; $U_{min} = 2,6 \text{ Vdc}$	P
5.6.2.3	Measurements during conditioning		P
a)	the specimen shall be monitored during the conditioning period to detect any alarm or fault signals	no alarm or fault signals	P
b)	at the end of each conditioning period the function test of 5.3 shall be carried out at the upper and lower limits respectively		P
c)	the specimen shall be reset after each function test.		P

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Clause	Requirement	Result-Remark	Verdict
5.6.3	Test requirements		P
	The following requirements shall be satisfied:		-
a)	no alarm or fault signals shall be given during the conditioning period, except as required in the tests of 5.6.2.3 b)	no alarm or fault signals	P
b)	in the test of 5.6.2.3 b) the specimen shall comply with the requirements of 5.3.3		P
c)	after the specimen has been reset there shall be no alarm or fault signal		P

5.7	Dry heat (operational)		P
5.7.1	Object	the specimen №1	P
5.7.2	Test procedure		P
5.7.2.1	Reference		P
5.7.2.2	State of the specimen during conditioning	acc. to cl. 5.1.3	P
5.7.2.3	Conditioning	55 °C, 16 h	P
5.7.2.4	Measurements during conditioning		P
a)	the specimen shall be monitored during the conditioning period to detect any alarm or fault signals;	alarm signal was activated	P
b)	during the last half hour of the conditioning period, the function test of 5.3 shall be carried out	alarm signal was activated	P
5.7.2.5	Final measurements		P
	Recovery period	1 h	P
	Operational performance test of 5.2:		-
	test for non-operation		P
	test for operation		P
	The dry heat operational and endurance tests may be combined		N/A
5.7.3	Test requirements		P
	The following requirements shall be satisfied:		-
a)	no alarm or fault signal shall be given during the conditioning period, except as required in the test of 5.7.2.4	no alarm or fault signals	P
b)	in the test of 5.7.2.4 b)the specimen shall comply with the requirements of 5.3.3	alarm signal was activated	P
c)	in the test of 5.7.2.5 the specimen shall comply with the requirements of 5.2.3		P

5.8	Dry heat		N/A
5.8.1	Object		N/A
5.8.2	Test procedure		N/A
5.8.2.1	Reference		N/A
5.8.2.2	State of the specimen during conditioning		N/A

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Clause	Requirement	Result-Remark	Verdict
5.8.2.3	Conditioning		N/A
5.8.2.4	Final measurements		N/A
	The following requirements shall be satisfied:		-
a)	no fault signal attributable to the endurance conditioning shall be given on connection of the specimen		N/A
b)	in the test of 5.8.2.4 the specimen shall comply with the requirements of 5.5.3		N/A

5.9	Cold (operational)		P
5.9.1	Object	the specimen №2	P
5.9.2	Test procedure		P
5.9.2.1	Reference		P
5.9.2.2	State of the specimen during conditioning	acc. to cl. 5.1.3	P
5.9.2.3	Conditioning	-10 °C, 16 h	P
5.9.2.4	Measurements during conditioning		P
a)	the specimen shall be monitored during the conditioning period to detect any alarm or fault signals;	no alarm or fault signals	P
b)	during the last half hour of the conditioning period, the function test of 5.3 shall be carried out.	alarm signal was activated	P
5.9.2.5	Final measurements		P
	Recovery period	1h	P
	Operational performance test of 5.2:		
	test for non-operation		P
	test for operation		P
5.9.3	Test requirements		P
	The following requirements shall be satisfied:		-
a)	no alarm or fault signal shall be given during the conditioning period, except as required in the test of 5.9.2.4	no alarm or fault signals	P
b)	in the test of 5.9.2.4 b) the specimen shall comply with the requirements of 5.3.3	alarm signal was activated	P
c)	in the test of 5.9.2.5 the specimen shall comply with the requirements of 5.2.3		P

5.10	Damp heat, cyclic		P
5.10.1	Object	the specimen №3	P
5.10.2	Test procedure		P
5.10.2.1	Reference		P
5.10.2.2	State of the specimen during conditioning	acc. to cl. 5.1.3	P
5.10.2.3	Conditioning	2 cycles	P
5.10.2.4	Measurements during conditioning	no alarm or fault signals	P

EN 54-11			
Clause	Requirement	Result-Remark	Verdict
5.10.2.5	Final measurements		P
	Recovery period		P
	Operational performance test of 5.2:		-
	test for non-operation		P
	test for operation		P
	The damp heat, cyclic operational and endurance tests may be combined . Only one final measurement shall be made		N/A
5.10.3	Test requirements		P
	The following requirements shall be satisfied:		-
a)	no alarm or fault signals shall be given during the conditioning period	no alarm or fault signals	P
b)	in the test of 5.10.2.5 the specimen shall comply with the requirements of 5.2.3		P

5.11	Damp heat, cyclic (endurance)		N/A
5.11.1	Object		N/A
5.11.2	Test procedure		N/A
5.11.2.1	Reference		N/A
5.11.2.2	State of the specimen during conditioning		N/A
5.11.2.3	Conditioning		N/A
5.11.2.4	Final measurements		N/A
	Recovery period		N/A
	Operational performance test of 5.2:		N/A
	test for non-operation		N/A
	test for operation		N/A
5.11.3	Test requirements		N/A
	The following requirements shall be satisfied:		-
a)	no fault signal		N/A
b)	in the test of 5.11.2.4 the specimen shall comply with the requirements of 5.2.3		N/A

5.12	Damp heat, steady state (endurance)		P
5.12.1	Object	the specimen №4	P
5.12.2	Test procedure		P
5.12.2.1	Reference		P
5.12.2.2	State of the specimen during conditioning		P
5.12.2.3	Conditioning	40°C, 93%, 21 days	P
5.12.2.4	Final measurements		P
	recovery period	1 h	P
	tested as described in the reliability test of 5.5.		P

EN 54-11			
Clause	Requirement	Result-Remark	Verdict
5.12.3	Test requirements		P
	The following requirements shall be satisfied:		-
a)	no fault signal attributable to the endurance conditioning shall be given on connection of the specimen	no fault signals	P
b)	in the test of 5.12.2.4 the specimen shall comply with the requirements of 5.5.3		P

5.13	SO₂ corrosion		P
5.13.1	Object	the specimen №5	P
5.13.2	Test procedure		P
5.13.2.1	Reference		P
5.13.2.2	State of the specimen during conditioning		P
5.13.2.3	Conditioning	25 ppm, 25°C, 93%, 21 days	P
5.13.2.4	Final measurements		P
	drying period	16 h	P
	recovery period	2 hours	P
	Operational performance test of 5.2:		-
	test for non-operation		P
	test for operation		P
5.13.3	Test requirements		P
	The following requirements shall be satisfied:		
a)	no fault signal attributable to the endurance conditioning shall be given on connection of the specimen	no fault signals	P
b)	in the test of 5.13.2.4 the specimen shall comply with the requirements of 5.2.3		P

5.14	Shock		P
5.14.1	Object	the specimen №6	P
5.14.2	Test procedure		P
5.14.2.1	Reference		P
5.14.2.2	State of the specimen during conditioning	acc. to cl. 5.1.3	P
5.14.2.3	Conditioning	6 ms, 980 m s ⁻²	P
5.14.2.4	Measurements during conditioning	no alarm or fault signals	P
5.14.2.5	Final measurements		P
	Operational performance test of 5.2:		-
	test for non-operation		P
	test for operation		P

EN 54-11			
Clause	Requirement	Result-Remark	Verdict
5.14.3	Test requirements		P
	The following requirements shall be satisfied:		-
a)	no alarm or fault signals shall be given during the conditioning period or the additional 2 min	no alarm or fault signals	P
b)	in the test of 5.14.2.5 the specimen shall comply with the requirements of 5.2.3		P
5.15	Impact		P
5.15.1	Object	the specimen №7	P
5.15.2	Test procedure		P
5.15.2.1	Apparatus		P
5.15.2.2	State of the specimen during conditioning	see cl. 5.1.3	P
5.15.2.3	Conditioning	1,9 J; hammer velocity 1,5 m s ⁻¹	P
5.15.2.4	Measurements during conditioning	no alarm or fault signals	P
5.15.2.5	Final measurements		P
5.15.3	Test requirements		P
	The following requirements shall be satisfied:		-
a)	no alarm or fault signals shall be given during the conditioning period or the additional 2 min	no alarm or fault signals	P
b)	in the test of 5.15.2.5 the specimen shall comply with the requirements of 5.2.3		P
5.16	Vibration, sinusoidal		P
5.16.1	Object	the specimen №8	P
5.16.2	Test procedure		P
5.16.2.1	Reference		P
5.16.2.2	State of the specimen during conditioning	acc. to cl. 5.1.3	P
5.16.2.3	Conditioning	10 to 150 Hz, 5 m s ⁻²	P
5.16.2.4	Measurements during conditioning	no alarm or fault signals	P
5.16.2.5	Final measurements		P
	Operational performance test of 5.2:		-
	test for non-operation		P
	test for operation		P
	The vibration operational and endurance tests may be combined		N/A
5.16.3	Test requirements		P
	The following requirements shall be satisfied:		-
	no fault signal attributable to the endurance conditioning shall be given on connection of the specimen		P
	in the test of 5.16.2.5 the specimen shall comply with the requirements of 5.2.3		P

EN 54-11			
Clause	Requirement	Result-Remark	Verdict
5.17	Vibration, sinusoidal		P
5.17.1	Object	the specimen №8	P
5.17.2	Test Procedure		P
5.17.2.1	Reference		P
5.17.2.2	State of the specimen during conditioning	no connecting	P
5.17.2.3	Conditioning	10 to 150 Hz; 10 m s ⁻²	P
5.17.2.4	Final measurements		P
	Operational performance test of 5.2:		P
	test for non-operation		P
	test for operation		P
5.17.3	Test requirements		P
	The following requirements shall be satisfied:		-
a)	no fault signal attributable to the endurance conditioning shall be given on connection of the specimen	no fault signals	P
b)	in the test of 5.17.2.4 the specimen shall comply with the requirements of 5.2.3		P

5.18	Electromagnetic compatibility (EMC)		P
5.18.1	Object	the specimen №9	P
5.18.2	Test Procedure		P
5.18.2.1	Reference		P
	The test apparatus and the test procedures shall be as described in EN 50130-4: 2011. The following tests shall be applied:		P
a)	Electrostatic discharge	see Attachment 1	P
b)	Radiated electromagnetic fields		P
c)	Conducted disturbances induced by electromagnetic fields		N/A
d)	Fast transient burst		N/A
e)	Slow high energy voltage surges		N/A
5.18.2.2	State of the specimen during conditioning		P
5.18.2.3	Conditioning		P
5.18.2.4	Measurement during conditioning		P
5.18.2.5	Final measurements		P
5.18.3	Test requirements		P
	The following requirements shall be satisfied:		P
a)	no alarm or fault signals shall be given during the conditioning period	no alarm or fault signals	P
b)	in the test of 5.18.2.5 the specimen shall comply with the requirements of 5.3.3		P
c)	after the specimen has been reset there shall be no alarm or fault signal		P

EN 54-11			
Clause	Requirement	Result-Remark	Verdict
5.19	Enclosure protection		N/A
5.19.1	Object		N/A
5.19.2	Test procedure		N/A
5.19.2.1	Reference		N/A
5.19.2.2	State of the specimen during conditioning		N/A
5.19.2.3	Conditioning		N/A
5.19.2.4	Measurement during conditioning		N/A
5.19.2.5	Final measurements		N/A
	Operational performance test of 5.2:		N/A
	test for non-operation		N/A
	test for operation		N/A
5.19.3	Test requirements		N/A
	The following requirements shall be satisfied:		-
	a) no alarm or fault signals shall be given during the conditioning period		N/A
	b) in the test of 5.19.2.5 the specimen shall comply with the requirements of 5.2.3		N/A
Annex A	Test apparatus for test for operation		P
Annex B	Test apparatus for test for non-operation		P
Annex C	Test apparatus for the impact test		P
Annex ZA	Clauses addressing the provisions of the EU Construction Products Directive 89/106/EEC		N/A

Attachment 1

EN 50130-4:2011 Alarm systems -

Part 4: Electromagnetic compatibility - Product family standard: Immunity requirements for components of fire, intruder, hold up, CCTV, access control and social alarm systems

1.1 Equipment Description

The device is supplied with 2 CR123A Li-ion batteries.
The MCU utilizes two clock sources:
- an external 24 MHz crystal oscillator as its main clock source;
- an external 32,68 kHz crystal oscillator for low-power mode operation;

1.2 Equipment Used During Test:

Use	Product Type	Manufacturer	Model	Comments
EUT	ManualCallPoint	AJAX SYSTEMS MANUFACTURING LLC	MCP.R.J-000- EU	battery powered EU 5.59.1.14
AE	Security control panel	AJAX SYSTEMS MANUFACTURING LLC	Ajax Hub 2 (2G)	96.0.10.10.5.3.1.0 EU 2.17.110
AE	mobile application	AJAX SYSTEMS MANUFACTURING LLC	Ajax Security System	v. 2.29 (build #2848)
Abbreviations:		EUT - Equipment Under Test; AE - Auxiliary/Associated Equipment;		

1.3 Input/Output Ports:

Port #	Name	Type*	Cable length	Cable shielding	Comments
0	Enclosure	N/E	—	—	—
*Note:		N/E - Non-Electrical;			

1.4 EUT Internal Operating Frequencies:

Frequency (MHz)	Description
24 MHz	crystal oscillator
32,68 kHz	crystal oscillator

1.5 Power Interface:

Mode #	Voltage (V)	Current (A)	Power (VA)	Frequency (DC/AC-Hz)	Phases (#)	Comments
Rated	3,5	—	—	DC	—	battery powered

1.6 EUT Operation Modes:

Mode #	Description
1	Operation in the quiescent state, connected to alarm system (via RF communication).

Attachment 1

1.7 EUT Configuration Modes:

Mode #	Description
1	The EUT was placed on the support 0.1 m height above the ground reference plane. The vertical coupling plane (VCP) of dimensions 0,5 m x 0,5 m was placed parallel to the EUT at a distance of 0,1 m from it.
2	The EUT was placed on the wooden table approx. 0,8 m height. Edge of the EUT coincided with uniform field area.

1.8 Immunity Performance Criteria

Criteria	Description
A	The specimen shall continue to operate as intended both during and after the test. For those functions specified by the manufacturer as being safety functions, when the specimen is used as intended no loss of function is allowed and the performance requirements given in Table 5 of the standard shall be complied with.
B	During the test: degradation of performance is allowed but the performance requirements given in Table 5 of the standard shall not be exceeded by more than a factor of 2, or the specimen shall show a specified fault indication and/or output. After the test any degradation in performance shall be self-recoverable and the specimen shall continue to operate as intended. No permanent change of actual operating state or stored data or continuous deactivation of alarm is allowed.
C	Temporary loss of function is allowed during the test, provided the loss of function is self-recoverable or can be easily restored by the operation of the controls. The specimen shall operate as intended after the test. No change of stored data is allowed.

1.9 Result Summary

Reference standard			Verdict	
EN 61000-4-2:2009 Immunity – Electrostatic discharge			P	
Laboratory Parameters:		Ambient Temperature	Relative Humidity	
		23 °C	57 %	
Test specifications				
Discharge type	Level (kV)	Number of discharges per location (each polarity)	Performance criteria	Result
Contact	± 2	10	B	A
	± 4	10	B	A
	± 6	10	B	A
Air	± 2	10	B	A
	± 4	10	B	A
	± 8	10	B	A

Attachment 1

EUT	EUT Operation mode	EUT Configuration mode	Power interface	
EUT1	1	1	Rated	
	Discharge location	Level (kV)	Polarity	Remark
Contact discharges				
Indirect discharges	VCP (all sides)	2	+ / -	1 / 1
		4	+ / -	1 / 1
		6	+ / -	1 / 1
Air discharges				
Direct discharges	Enclosure (all sides)	2	+ / -	2 / 2
		4	+ / -	2 / 2
		8	+ / -	2 / 2

Test Equipment Used					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
ESD simulator	TESEQ	NSG 438	1361	07/23	07/24
Environment conditions meter	—	Атмосфера-1	478	12/22	12/23

Remarks	
X	Test was not performed.
1	Reaction from the EUT was not observed.
2	Discharge was not observed. Direct contact discharges were not applied because there were no accessible conductive parts.



Attachment 1

Reference standard				Verdict
EN 61000-4-3:2006+A1:2008+A2:2010 Immunity – Radio-frequency electromagnetic field				P
Test specifications				
Frequency bandwidth (MHz)	Modulation	Level (V/m)	Performance criteria	Result
80 to 2700	AM 80 % (1 kHz)	10	B*1	A
Frequency step	1 % with 5 s dwell time			
Note: The test level specified is the r.m.s. value of the unmodulated carrier. *1 – If the EUT meet only B performance criteria at 10 V/m, then it must meet A performance criteria at 3 V/m.				

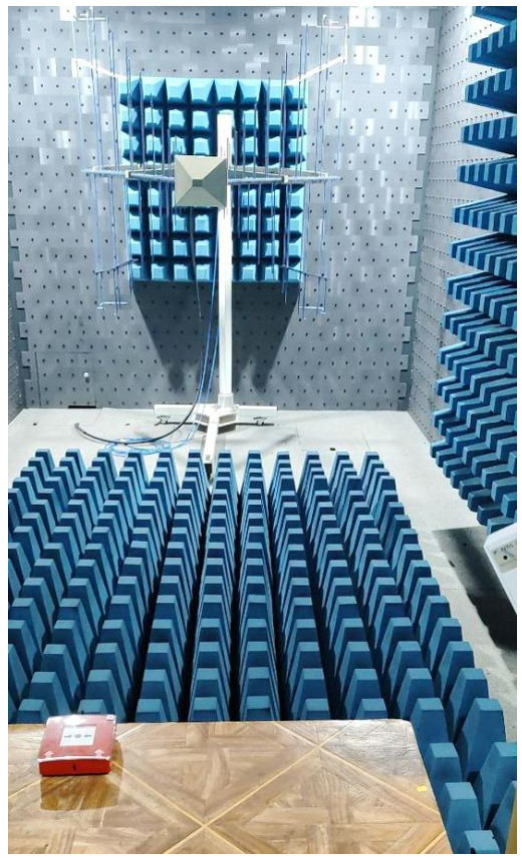
EUT	EUT Operation mode	EUT Configuration mode	Power interface
EUT2	1	2	Rated

Side of the EUT	Frequency (MHz)	Level (V/m)	Antenna polarization (H/V)	Remark
Front	80 – 2700	10	H	1
Front	80 – 2700	10	V	1
Back	80 – 2700	10	H	1
Back	80 – 2700	10	V	1
Left	80 – 2700	10	H	1
Left	80 – 2700	10	V	1
Right	80 – 2700	10	H	1
Right	80 – 2700	10	V	1

Remarks	
X	Test was not performed
	Reaction from the EUT was not observed

Test Equipment Used					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Anechoic chamber	Albatross	M-CDC	—	—	—
Generator	Rohde & Schwarz	SMB100A	107761	10/22	10/25
Power amplifier	Rohde & Schwarz	BBA100-B500	101169	—	—
Power amplifier	Rohde & Schwarz	BBA100-C125	101169	—	—
Power amplifier	Rohde & Schwarz	BBA150-D110	101633	—	—
Power sensor	Rohde & Schwarz	NRP-Z11	101313	10/22	10/24
Power sensor	Rohde & Schwarz	NRP-Z11	101314	10/22	10/24
Antenna	Rohde & Schwarz	HL046E	100152	—	—
Software	Rohde & Schwarz	EMC32 (ver. 9.15.02)	—	—	—
Environment conditions meter	—	Атмосфера-1	478	12/22	12/23

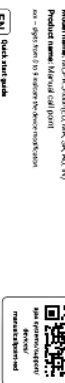
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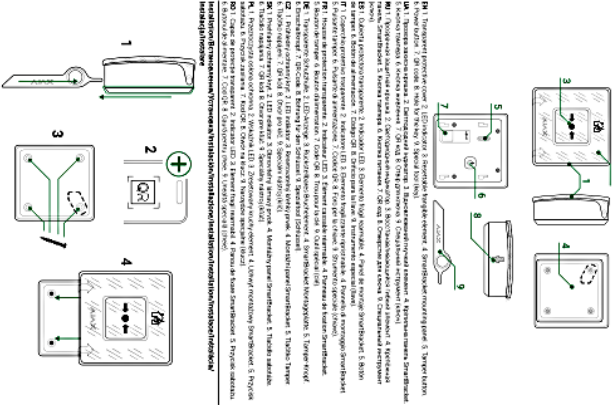
Attachment 2



ManualCallpoint (Red) Jeweller



- EU Quick start guide
UA Register as a manufacturer
ES Register as a manufacturer
FR Register as a manufacturer
DE Register as a manufacturer
SK Register as a manufacturer
PL Register as a manufacturer
RO Register as a manufacturer



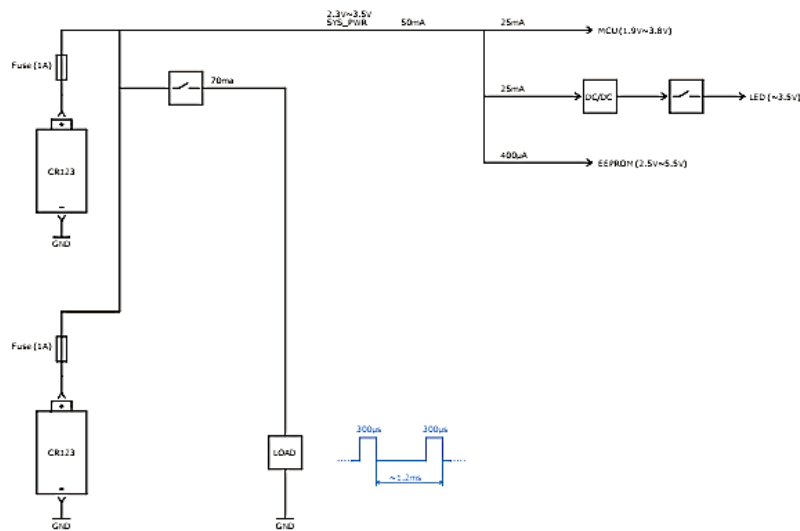
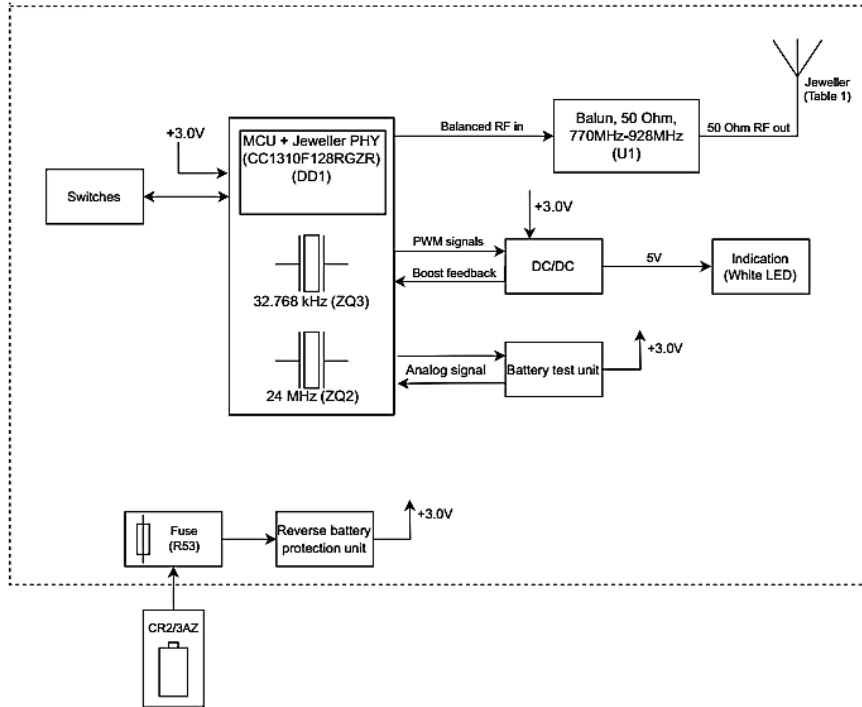
EN The kit can be used as a...
FR Le kit peut être utilisé...
DE Das Kit kann als...
SK Toto súprava...
PL Ta zestaw...
RO Acest set...

FR (continued)
DE (continued)
SK (continued)
PL (continued)
RO (continued)

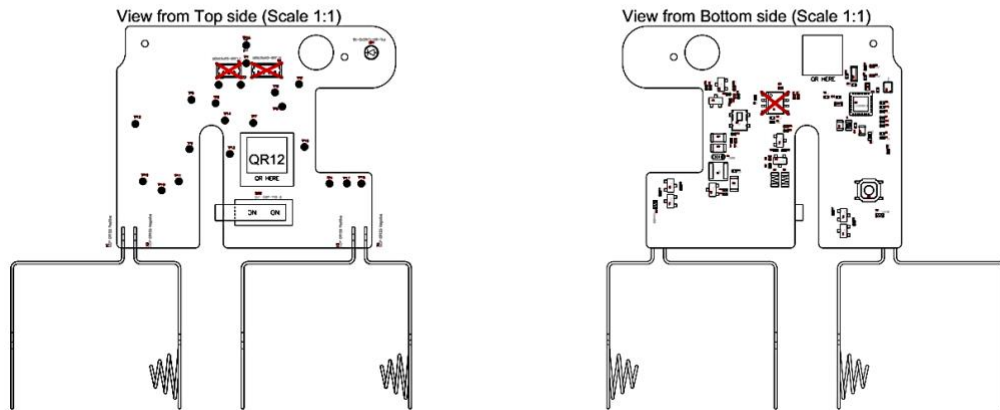
DE (continued)
SK (continued)
PL (continued)
RO (continued)

Attachment 2

MCP.x.J-000-xx
Structure Diagram



Attachment 2



Huiderrui

Lithium

Cell Type CR123A/CR17345

Specifiation

Nominal Voltage	3.0V	
Dimensions (Max.)	Diameter	16.8mm
	Height	34.5mm
Ref. Weight	16.5g	
Nominal Capacity (Ave.)	1400mAh	
Continuous Standard Load	20mA	
Cut off Voltage	2.0V	
Maximum Continuous Discharge Current	1000mA	
Maximum Pulse Discharge Current	3000mA	
Operating Temperature	-40~+70°C	

Discharge Characteristics

Discharge Characteristics

Pulse Discharge Characteristics

Discharge Characteristics

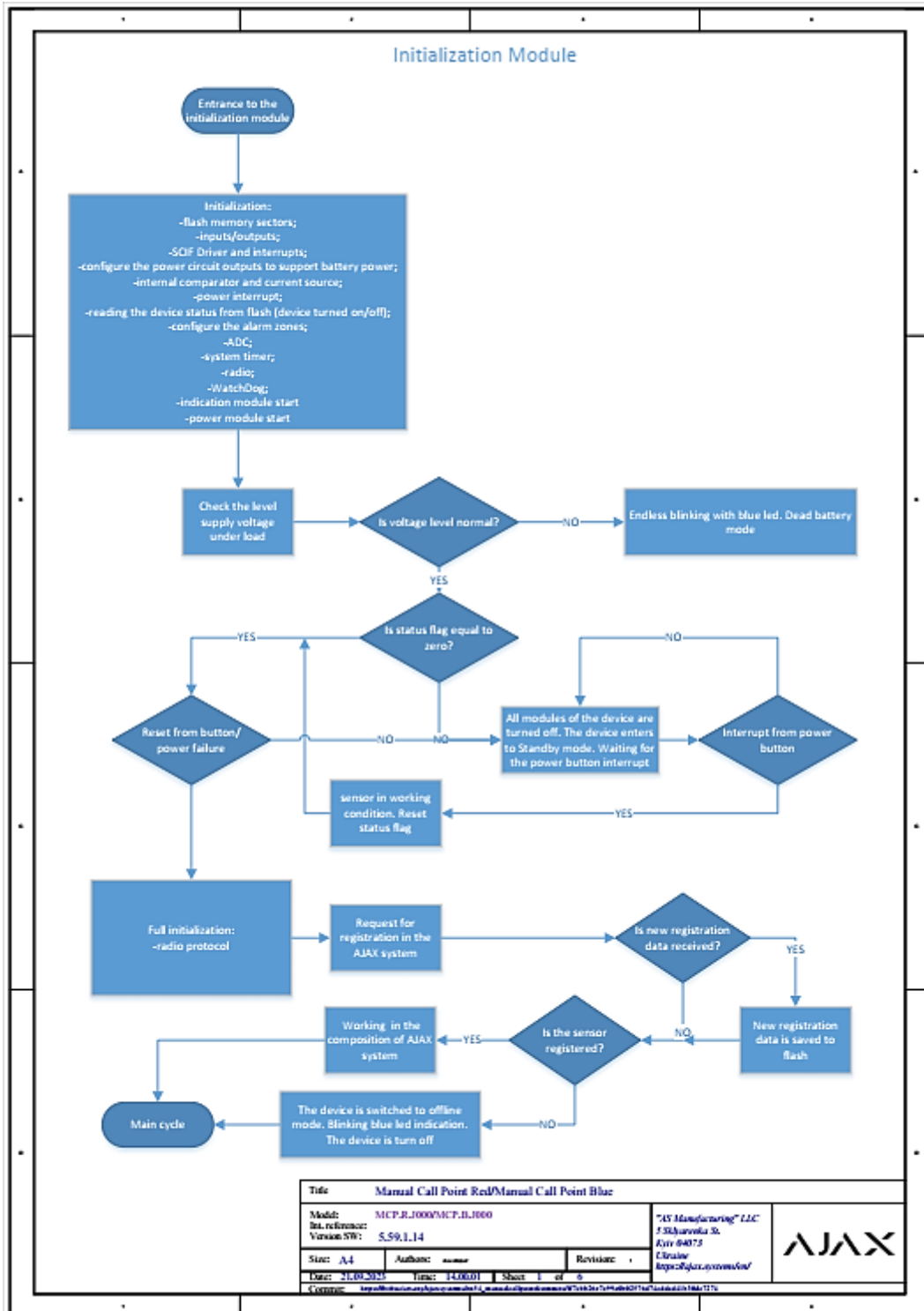
WARNING:

- Do not charge, disassemble, heat above 100°C or incinerate.
- Do not mix fresh batteries and used batteries or other types of battery together.
- Do not short circuit.

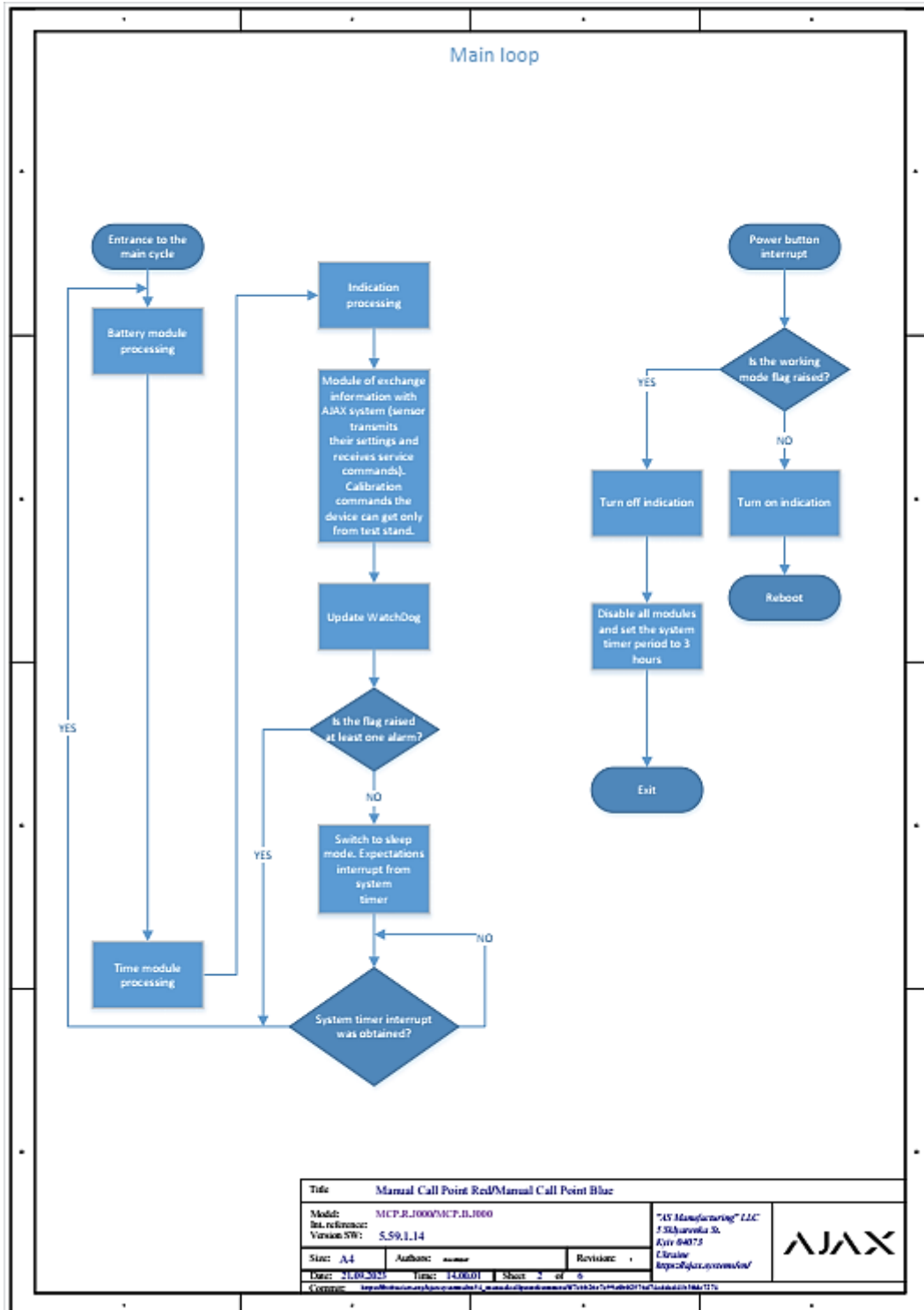
This information is generally descriptive only and is not intended to make or imply any representation, guarantee or warranty with respect to any cells and batteries. Cell and battery designs/specifications are subject to modification without notice. Contact Huiderrui for the latest information.

[Http://www.huiderrui.com/](http://www.huiderrui.com/) E-mail: sales@huiderrui.com Tel: +86-752-2652968 Fax: +86-752-2652186

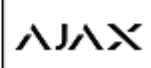
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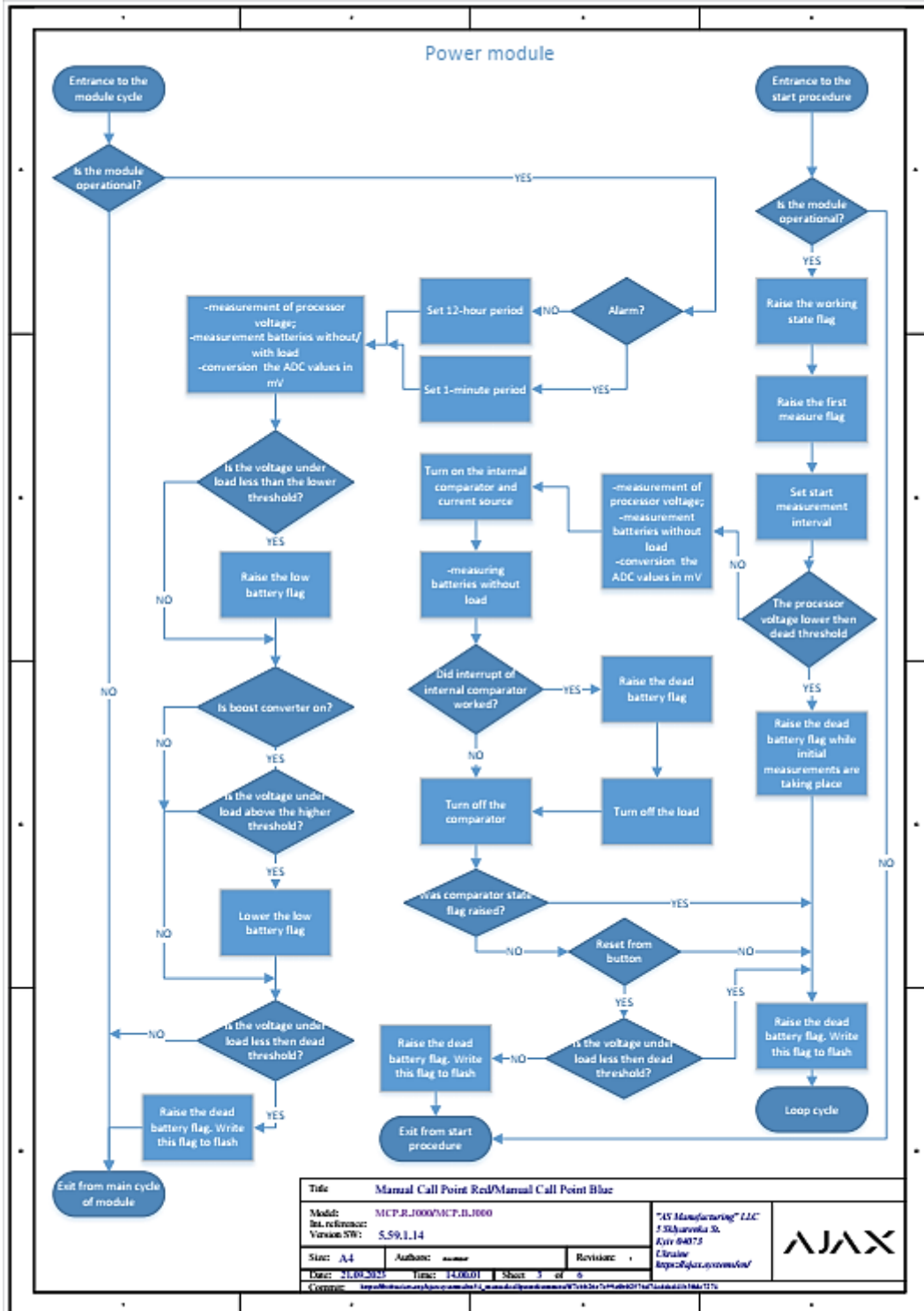
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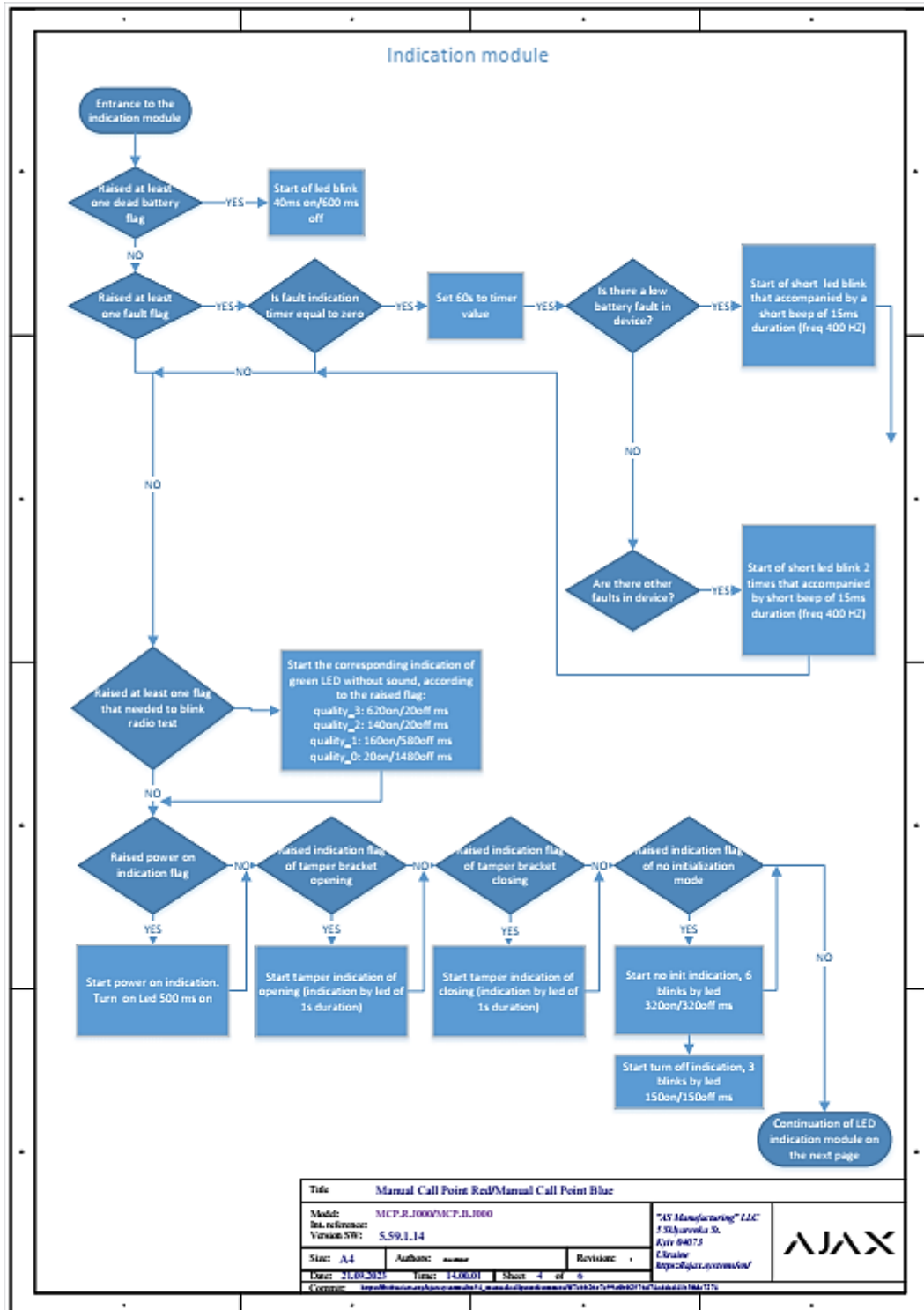
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Int. reference:		S.59.1.14		3 Skharyvka St.	
Version SW:		5.59.1.14		Kyiv 04073	
Size:	A4	Authentic:	✓	Revisi:	✓
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http://www.ajax.com.ua					



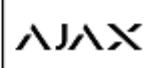
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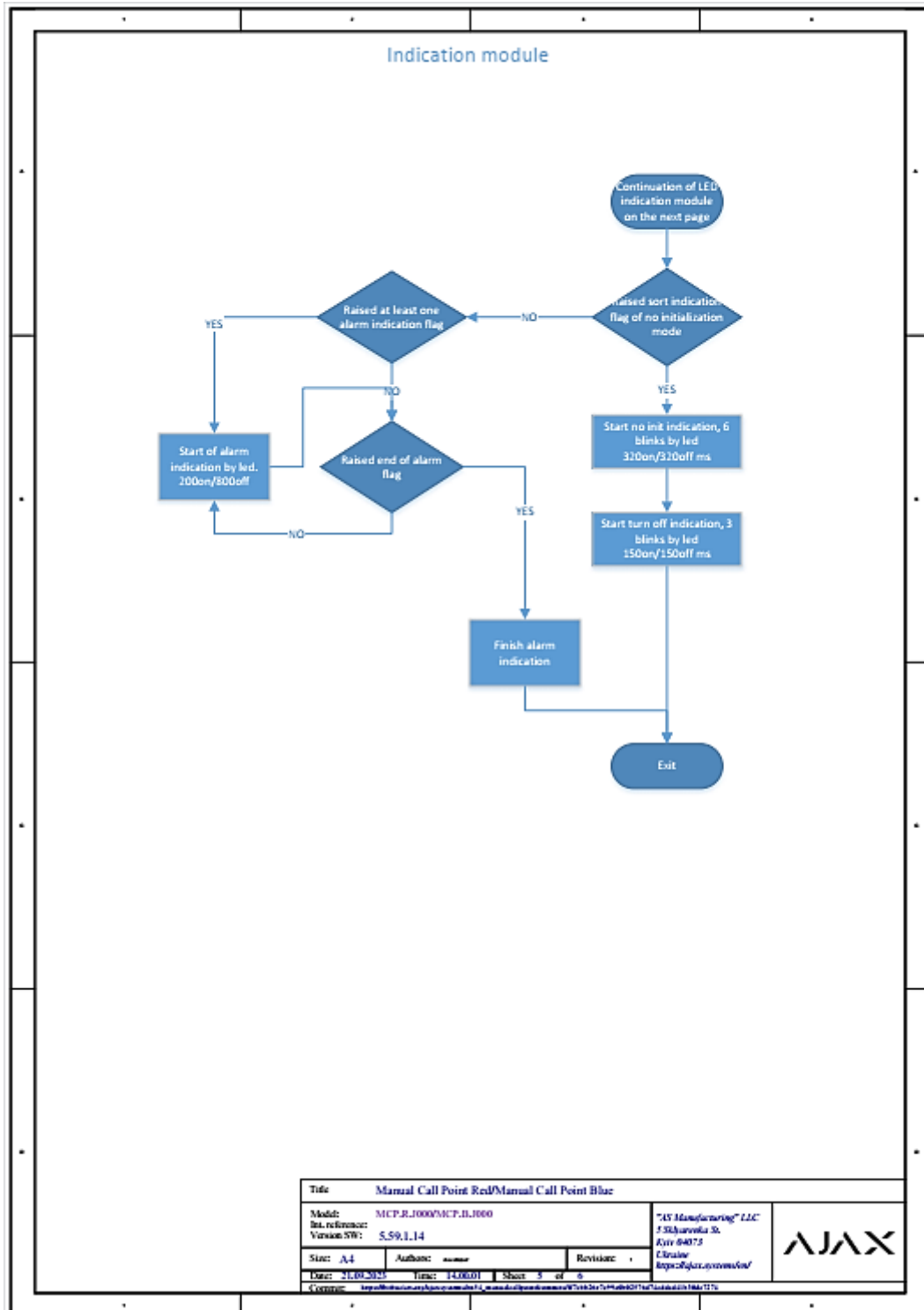
Attachment 3




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Model: MCP.R.1000/MCP.BL.1000	"AJAX Manufacturing" LLC		
Int. reference: S.59.1.14	7330, Yuryevka St.		
Version SW: S.59.1.14	Kyyv 04073		
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Copyright: [redacted]			



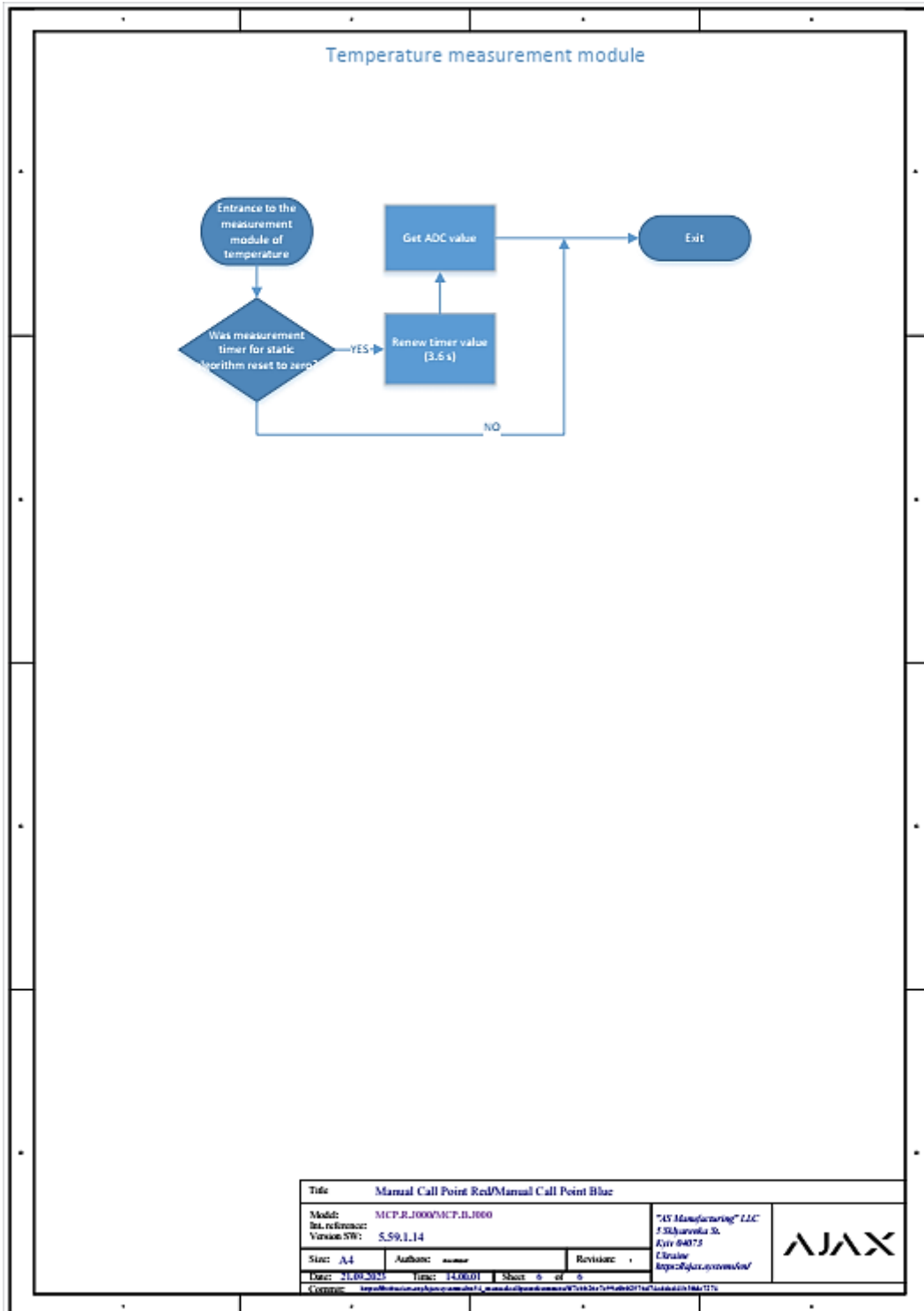
Attachment 3



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Version SW:	5.59.1.14	Kyiv 04073	
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Date:	21.04.2023	Time:	14:00:01
Sheet 3 of 6		Revision:	
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Attachment 3



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Model:	MCP.R.1000/MCP.BL.1000	"AJAX Manufacturing" LLC	
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Attachment 4



Photo 1

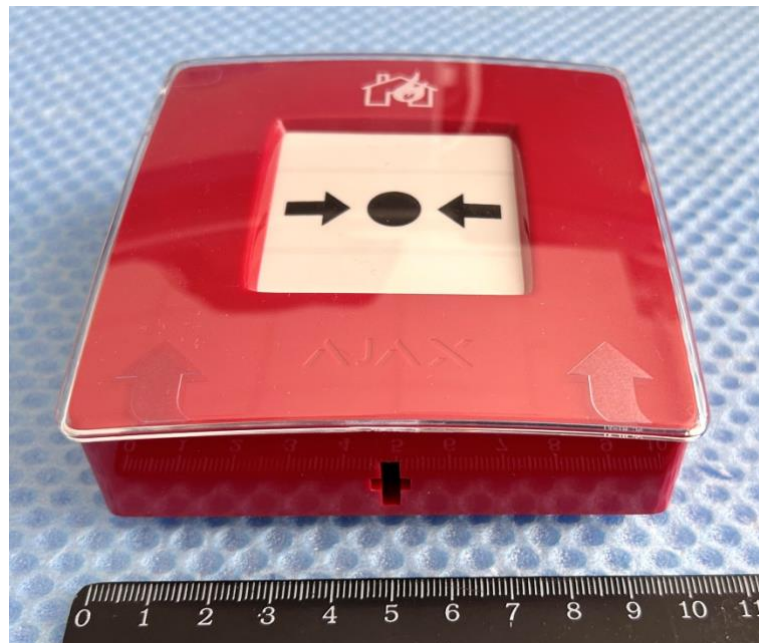


Photo 2

Attachment 4



Photo 3



Photo 4

Attachment 4



Photo 5



Photo 6