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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)

AMENDMENT No.1 to TEST REPORT No. 0092-1-2023

EN 50291-1:2018

Gas detectors – Electrical apparatus for the detection of carbon monoxide in domestic premiss

Part 1: Test methods and performance requirements

Report Number : 0198-1-2023

Date of issue : 22.03.2023

Total number of pages : 12

Testing Laboratory: UkrTEST of SE «UKRMETRTESTSTANDART»

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

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Applicant's name: AJAX SYSTEMS MANUFACTURING LLC

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

Test specification:

Standard: EN 50291-1:2018

Test procedure.....: UkrTEST

Test Report Form No.: T.R.F.2.6.2 - EN 50291-1

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

Master TRF.....: Dated 08.2022

General disclaimer:

This report shall not be reproduced (in full or in part) without the written approval of Testing Service UkrTEST.

The test results presented in this report relate only to the tested object, in the form in which it was obtained.

Procedure 1 of IEC GUIDE 115 is used when report the statement on conformity (binary conclusion (pass or fail) for a simple decision rule (without taking into account the measurement uncertainty)

Throughout this report the decimal separator is comma.

Throughout this report the data provided by the customer is marked with «*».

Test item description:		
Product	Smoke, heat, and CO alarm	
Trade Mark		
Manufacturer	AJAX SYSTEMS MANUFACTURING LLC, Ukraine	
Model / Type reference.....	FP2J1000EU FP2J3000EU	
Ratings	2 batteries CR123A/CR17345 (FP2J1000EU) 2 batteries CR-2/3AZE27N (FP2J3000EU)	
PCB version	AJAX EM4.002.MBR.000v4	
Software version	EU 5.59.1.51	
Tested by (name + signature)..... :	V. Zayika	
Approved by (name + signature)..... :	A. Gindikin	
		
List of Attachments (including a total number of pages in each attachment):		

Summary of testing:

The specimens FP2J1000 and FP2J3000 with the model index EU were tested.

The specimens were connected to AJAX Hub 2 Plus which managed Ajax WallSwitch during tests it is turned on in the case of CO alarm.

The radio link provides communication between the apparatus, the hub and the relay (e.g. to turn on the ventilation) and has been tested only for Type A validation.

The short user manual in paper form that was provided in the kit with the sensor and the full manual on the manufacturer's website at the link were considered.

The gas mixtures and a gas generator mod. 655ГР05 were used for the tests.

The Interconnected Alarm function is not certified according to EN 14604 and EN 50291.

Tests performed (name of test and test clause):

The sample(s) was tested with the requirements of EN 50291-1-2018 cl. 6.3.14.

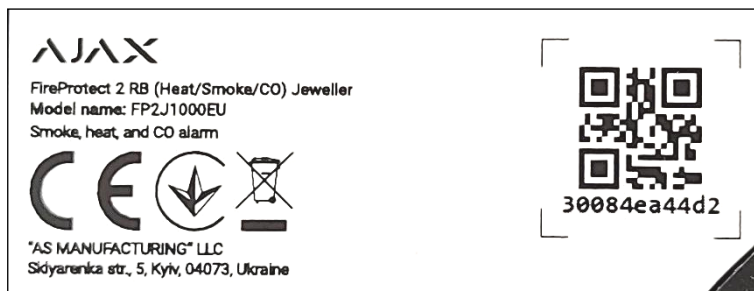
Testing location:

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

Smoke, heat, and CO alarms models FP2J1000EU and FP2J3000EU **fulfil** the requirements of EN 50291-1:2018 cl. 6.3.14.

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.



EN14604:2005
EN 50291-1:2018

Manufactured: MM.YEAR
Replace by MM.YEAR

Test the alarm for correct operation using the test facility, whenever the batteries are replaced.
For installation and maintenance, visit: www.ajax.systems.

CAUTION: READ THE INSTRUCTIONS CAREFULLY BEFORE OPERATING OR SERVICING.

Led Indications:

Green – power
Yellow – fault
Red – alarm

Battery: 3 V, CR123A – 2 pcs.
Apparatus type A

FP2J1000EU



EN14604:2005/AC:2008
EN14604:2005
EN 50291-1:2018

Manufactured: MM.YEAR
Replace by MM.YEAR

For installation and maintenance, visit: www.ajax.systems.

CAUTION: READ THE INSTRUCTIONS CAREFULLY BEFORE OPERATING OR SERVICING.

Led Indications:

Green – power
Yellow – fault
Red – alarm

Apparatus type A

FP2J3000EU

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: 27.10.2022

Date (s) of performance of tests.....: 19.11.2022 - 22.03.2023

General product information:

The original Test Report No. 0092-1-2023 dated 23 February 2023;

Amendment No.1 adds test cl. 6.3.14 "Long term stability" to the original Test Report.

EN 50291-1			
Clause	Requirement - Test	Result	Verdict
6	TEST AND PERFORMANCE REQUIREMENTS		
6.3.14	Long term stability		P
6.3.14.1	Test		P
	Mount the apparatus, expose it to a CO test gas mixture as specified in 6.2.3 and energize continuously for a period of 3 months		P
	At the commencement of the test and every month thereafter the apparatus shall be exposed to the test gases as specified in 6.3.2		P
	During the test, the ambient conditions shall remain within the overall bands specified in 6.2.6, 6.2.7 and 6.2.8 disregarding tolerances		P
6.3.14.2	Performance requirement		P
	The apparatus not activates alarm when exposed to the test gas as specified in 6.2.3		P
	When exposed to test gases A, B, C and D in Table 4, the alarm shall operate according to the conditions in Table 5		P
	Recovery from the alarm state shall take place within 6 min when exposed to clean air		P

EN 50291-1			
Clause	Requirement - Test	Result	Verdict

FP2J1000EU

Specimen No.8

Long Term Stability 1–30 days

Nominal CO concentration (ppm)	Actual CO concentration (ppm)	Exposure period (min)	Required response and time	CO alarm response	Time of response (hrs:min:s)	Verdict
30	34	120	Alarm >120min	No Alarm	-	P
Clean air	0	15	Recover <6min	Quiescent	-	P
50	57	90	Alarm 60-90min	Alarm	1:08:20	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
100	118	40	Alarm 10-40min	Alarm	0:23:14	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
300	343	3	Alarm < 3min	Alarm	0:01:44	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P

Long Term Stability 31–60 days

30	34	120	Alarm >120min	No Alarm	-	P
Clean air	0	15	Recover <6min	Quiescent	-	P
50	57	90	Alarm 60-90min	Alarm	1:07:02	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
100	118	40	Alarm 10-40min	Alarm	0:21:35	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
300	343	3	Alarm < 3min	Alarm	0:01:50	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P

Long Term Stability 61–90 days

30	34	120	Alarm >120min	No Alarm	-	P
Clean air	0	15	Recover <6min	Quiescent	-	P
50	57	90	Alarm 60-90min	Alarm	1:10:07	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
100	118	40	Alarm 10-40min	Alarm	0:20:25	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
300	343	3	Alarm < 3min	Alarm	0:01:45	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P

EN 50291-1			
Clause	Requirement - Test	Result	Verdict

FP2J1000EU

Specimen No.9

Long Term Stability 1–30 days

Nominal CO concentration (ppm)	Actual CO concentration (ppm)	Exposure period (min)	Required response and time	CO alarm response	Time of response (hrs:min:s)	Verdict
30	34	120	Alarm >120min	No Alarm	-	P
Clean air	0	15	Recover <6min	Quiescent	-	P
50	57	90	Alarm 60-90min	Alarm	1:11:03	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
100	118	40	Alarm 10-40min	Alarm	0:24:13	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
300	343	3	Alarm < 3min	Alarm	0:01:46	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P

Long Term Stability 31–60 days

30	34	120	Alarm >120min	No Alarm	-	P
Clean air	0	15	Recover <6min	Quiescent	-	P
50	57	90	Alarm 60-90min	Alarm	1:09:52	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
100	118	40	Alarm 10-40min	Alarm	0:24:56	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
300	343	3	Alarm < 3min	Alarm	0:01:37	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P

Long Term Stability 61–90 days

30	34	120	Alarm >120min	No Alarm	-	P
Clean air	0	15	Recover <6min	Quiescent	-	P
50	57	90	Alarm 60-90min	Alarm	1:08:43	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
100	118	40	Alarm 10-40min	Alarm	0:22:21	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
300	343	3	Alarm < 3min	Alarm	0:01:55	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P

EN 50291-1			
Clause	Requirement - Test	Result	Verdict

FP2J1000EU

Specimen No.10

Long Term Stability 1–30 days

Nominal CO concentration (ppm)	Actual CO concentration (ppm)	Exposure period (min)	Required response and time	CO alarm response	Time of response (hrs:min:s)	Verdict
30	34	120	Alarm >120min	No Alarm	-	P
Clean air	0	15	Recover <6min	Quiescent	-	P
50	57	90	Alarm 60-90min	Alarm	1:15:34	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
100	118	40	Alarm 10-40min	Alarm	0:26:34	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
300	343	3	Alarm < 3min	Alarm	0:01:44	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P

Long Term Stability 31–60 days

30	34	120	Alarm >120min	No Alarm	-	P
Clean air	0	15	Recover <6min	Quiescent	-	P
50	57	90	Alarm 60-90min	Alarm	1:17:24	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
100	118	40	Alarm 10-40min	Alarm	0:26:45	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
300	343	3	Alarm < 3min	Alarm	0:01:58	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P

Long Term Stability 61–90 days

30	34	120	Alarm >120min	No Alarm	-	P
Clean air	0	15	Recover <6min	Quiescent	-	P
50	57	90	Alarm 60-90min	Alarm	1:14:33	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
100	118	40	Alarm 10-40min	Alarm	0:25:35	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
300	343	3	Alarm < 3min	Alarm	0:01:45	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P

Supplementary information: Test voltage: 3,2 VDC

EN 50291-1			
Clause	Requirement - Test	Result	Verdict

FP2J3000EU

Specimen No.8

Long Term Stability 1–30 days

Nominal CO concentration (ppm)	Actual CO concentration (ppm)	Exposure period (min)	Required response and time	CO alarm response	Time of response (hrs:min:s)	Verdict
30	34	120	Alarm >120min	No Alarm	-	P
Clean air	0	15	Recover <6min	Quiescent	-	P
50	57	90	Alarm 60-90min	Alarm	1:07:45	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
100	118	40	Alarm 10-40min	Alarm	0:25:06	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
300	343	3	Alarm < 3min	Alarm	0:01:35	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P

Long Term Stability 31–60 days

30	34	120	Alarm >120min	No Alarm	-	P
Clean air	0	15	Recover <6min	Quiescent	-	P
50	57	90	Alarm 60-90min	Alarm	1:07:26	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
100	118	40	Alarm 10-40min	Alarm	0:22:55	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
300	343	3	Alarm < 3min	Alarm	0:01:23	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P

Long Term Stability 61–90 days

30	34	120	Alarm >120min	No Alarm	-	P
Clean air	0	15	Recover <6min	Quiescent	-	P
50	57	90	Alarm 60-90min	Alarm	1:07:45	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
100	118	40	Alarm 10-40min	Alarm	0:18:12	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
300	343	3	Alarm < 3min	Alarm	0:01:15	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P

EN 50291-1			
Clause	Requirement - Test	Result	Verdict

FP2J3000EU

Specimen No.9

Long Term Stability 1–30 days

Nominal CO concentration (ppm)	Actual CO concentration (ppm)	Exposure period (min)	Required response and time	CO alarm response	Time of response (hrs:min:s)	Verdict
30	34	120	Alarm >120min	No Alarm	-	P
Clean air	0	15	Recover <6min	Quiescent	-	P
50	57	90	Alarm 60-90min	Alarm	1:12:14	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
100	118	40	Alarm 10-40min	Alarm	0:27:10	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
300	343	3	Alarm < 3min	Alarm	0:02:34	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P

Long Term Stability 31–60 days

30	34	120	Alarm >120min	No Alarm	-	P
Clean air	0	15	Recover <6min	Quiescent	-	P
50	57	90	Alarm 60-90min	Alarm	1:14:46	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
100	118	40	Alarm 10-40min	Alarm	0:25:24	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
300	343	3	Alarm < 3min	Alarm	0:01:32	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P

Long Term Stability 61–90 days

30	34	120	Alarm >120min	No Alarm	-	P
Clean air	0	15	Recover <6min	Quiescent	-	P
50	57	90	Alarm 60-90min	Alarm	1:16:17	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
100	118	40	Alarm 10-40min	Alarm	0:24:11	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
300	343	3	Alarm < 3min	Alarm	0:01:31	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P

EN 50291-1			
Clause	Requirement - Test	Result	Verdict

FP2J3000EU

Specimen No.10

Long Term Stability 1–30 days

Nominal CO concentration (ppm)	Actual CO concentration (ppm)	Exposure period (min)	Required response and time	CO alarm response	Time of response (hrs:min:s)	Verdict
30	34	120	Alarm >120min	No Alarm	-	P
Clean air	0	15	Recover <6min	Quiescent	-	P
50	57	90	Alarm 60-90min	Alarm	1:10:11	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
100	118	40	Alarm 10-40min	Alarm	0:25:16	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
300	343	3	Alarm < 3min	Alarm	0:01:43	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P

Long Term Stability 31–60 days

30	34	120	Alarm >120min	No Alarm	-	P
Clean air	0	15	Recover <6min	Quiescent	-	P
50	57	90	Alarm 60-90min	Alarm	1:09:28	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
100	118	40	Alarm 10-40min	Alarm	0:23:44	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
300	343	3	Alarm < 3min	Alarm	0:01:55	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P

Long Term Stability 61–90 days

30	34	120	Alarm >120min	No Alarm	-	P
Clean air	0	15	Recover <6min	Quiescent	-	P
50	57	90	Alarm 60-90min	Alarm	1:09:55	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
100	118	40	Alarm 10-40min	Alarm	0:28:46	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P
300	343	3	Alarm < 3min	Alarm	0:02:16	P
Clean air	0	15	Recover <6min	Quiescent	<6:00	P

Supplementary information: Test voltage: 3,0 VDC