

Accredited lab in
Electrical, Oil, Gas,
Telecommunications,
IT,
Renewable Energy
and
Medical Industries



Energy & Power Industries Laboratories Co.(J.S.)

ISO IEC 17025
Accredited Lab

Inspection Body

TL17-70001

1 of 9

LQF-708-02
Review No:06

EPIL TEST REPORT

Project No.: TL17-70001

Equipment under Test: LOCK OUT RELAY

Model/Type

: ELA070 H

S/N

: AUX112070

Manufactured by: HAMIANFAN Co.

Applicant: HAMIANFAN Co.

Trade Mark:

Tested According to: Client Request

Reception Date of Sample: 17-june-2021

Testing Date: 22-june-2021

Issue Date: 26-june-2021

Test Result: PASSED

No. of pages: 9

Prepared and Tested by: Test Engineer

A. Bayat

Verified by: Technical Manager

B. Hamidifard

Approved by:

Engineering Deputy Of Test And Inspection

Prof. B. Vanidi

Chief Executive Officer

S.M. Mirsadri



*This report should not be reproduced in extracts without written approval by EPIL.
Test results pertain to the tested sample only.
Not Valid Without Lab Stamp.*

Office: Unit 12, No.2, Boujari Sefat Dead-End, Corner of Fariman St., Bozorgmehr St., Vali-Asr Ave., Tehran-Iran

Postal Code: 1416854523 Tel: 021-61971 Fax: 021-66174283

Lab: Kavosh Reaserch City, Supa Blvd., 8th km of karaj-Qazvin Freeway, Iran

Contents

1.	GENERAL INFORMATION.....	3
1.1.	Product Information.....	3
1.2.	Client Information.....	3
1.3.	Tests Performed.....	3
1.4.	Results of Tests.....	3
2.	PERFORMANCE AND RESULTS OF TESTS.....	4
2.1.	Function Test.....	4
2.1.1.	Test data.....	4
2.1.2.	Ambient conditions.....	4
2.1.3.	Instrument used for the test.....	4
2.1.4.	Procedure of test.....	4
2.1.5.	Result of test.....	5
3.	FIGURES.....	7

*This report should not be reproduced in extracts without written approval by EPIL.
Test results pertain to the tested sample only.
Not Valid Without Lab Stamp.*

1. GENERAL INFORMATION

1.1. Product Information

Model/Type	:	ELA070 H
S/N	:	AUX112070
Nominal Voltage	:	110VDC
Operation Voltage	:	35-140VDC
Operation Time of Heavy-Duty Contacts for 52 VDC	:	<5ms
Operation Time of Heavy-Duty Contacts for 140 VDC	:	<4ms
Details and Drawings	:	According to report

1.2. Client Information

Main Client	HAMIANFAN CO.
Contact Person	Eng. Araghi
Telephone	+98-21-88581431-4
Fax	+98-21- 44725313

1.3. Tests Performed

Function Test	PASSED
---------------	--------

1.4. Results of Tests

See Pages 5-6

*This report should not be reproduced in extracts without written approval by EPIL.
Test results pertain to the tested sample only.
Not Valid Without Lab Stamp.*

2. PERFORMANCE AND RESULTS OF TESTS

2.1. Function Test

2.1.1. Test data

Location	E.P.I.L Co.
Date	22-june-2021
Engineer of EPIL	Eng. Bayat
Normative document	Client Request
Number of samples	2

2.1.2. Ambient conditions

Ambient Temperature	"18°C -24°C"
---------------------	--------------

2.1.3. Instrument used for the test

Instrument	Calibration
Multimeter	Ok
DC Voltage Supply(CMC 256)	Ok
Stopwatch	Ok
Oscilloscope	Ok
Relay Tester	Ok

2.1.4. Procedure of test

The functions of lock out Relay shall be tested.

When a lock out signal comes, the red LED turns ON, to show trip status, and remains ON, until reset key pushed or remote reset is done. When the relay is not locked out, the red LED is OFF, while the discussed relay is in lock out status, the circuit breaker cannot operate. This relay operates into complex with protective relay. The break contact of protective relay make series with the lock out relay's coil and when this break contact operates, main contact of relay works, this relay is equipped with two possibilities for reset. One by hand reset on relay and other one is electrical reset from control room, Tests shall be conducted to demonstrate the above specifications and functions during the operation voltage range (35 to 140 VOC).

This report should not be reproduced in extracts without written approval by EPIL.

Test results pertain to the tested sample only.

Not Valid Without Lab Stamp.

2.1.5. Result of test

Table 1: Result of operation time

Applied Voltage	Breaking Current	Iteration No.	Operation Time	Result
140	< 3 A	1	< 4 msec	OK
		2	< 4 msec	OK
		3	< 4 msec	OK
		4	< 4 msec	OK
		5	< 4 msec	OK
120	< 3 A	1	< 4 msec	OK
		2	< 4 msec	OK
		3	< 4 msec	OK
		4	< 4 msec	OK
		5	< 4 msec	OK
110	< 3 A	1	< 4 msec	OK
		2	< 4 msec	OK
		3	< 4 msec	OK
		4	< 4 msec	OK
		5	< 4 msec	OK
70	< 3 A	1	< 5 msec	OK
		2	< 5 msec	OK
		3	< 5 msec	OK
		4	< 5 msec	OK
		5	< 5 msec	OK
35	< 3 A	1	< 5 msec	OK
		2	< 5 msec	OK
		3	< 5 msec	OK
		4	< 5 msec	OK
		5	< 5 msec	OK

*This report should not be reproduced in extracts without written approval by EPIL.
Test results pertain to the tested sample only.
Not Valid Without Lab Stamp.*

Table 2: Results of keeping the contact and LED status

Applied Voltage	Iteration No.	Result
140	1	OK
	2	OK
	3	OK
	4	OK
	5	OK
110	1	OK
	2	OK
	3	OK
	4	OK
	5	OK
80	1	OK
	2	OK
	3	OK
	4	OK
	5	OK
35	1	OK
	2	OK
	3	OK
	4	OK
	5	OK

The operation time of this relay is less than 5msec during the operation voltage range (35-140 VDC) and the breaking currents less than or equal to 3 amps. In addition to measuring of operation time, the function test has been examined and the test results are passed.

This relay keeps the contact and LED status after interruptions. The relay is tested under locked out status, and DC tripping circuit it has been removed, the relay remained locked out until reset.

The local and electrical resets have been checked and their performances were OK.

✓ **PASSED**

This report should not be reproduced in extracts without written approval by EPIL.

Test results pertain to the tested sample only.

Not Valid Without Lab Stamp.

3. FIGURES

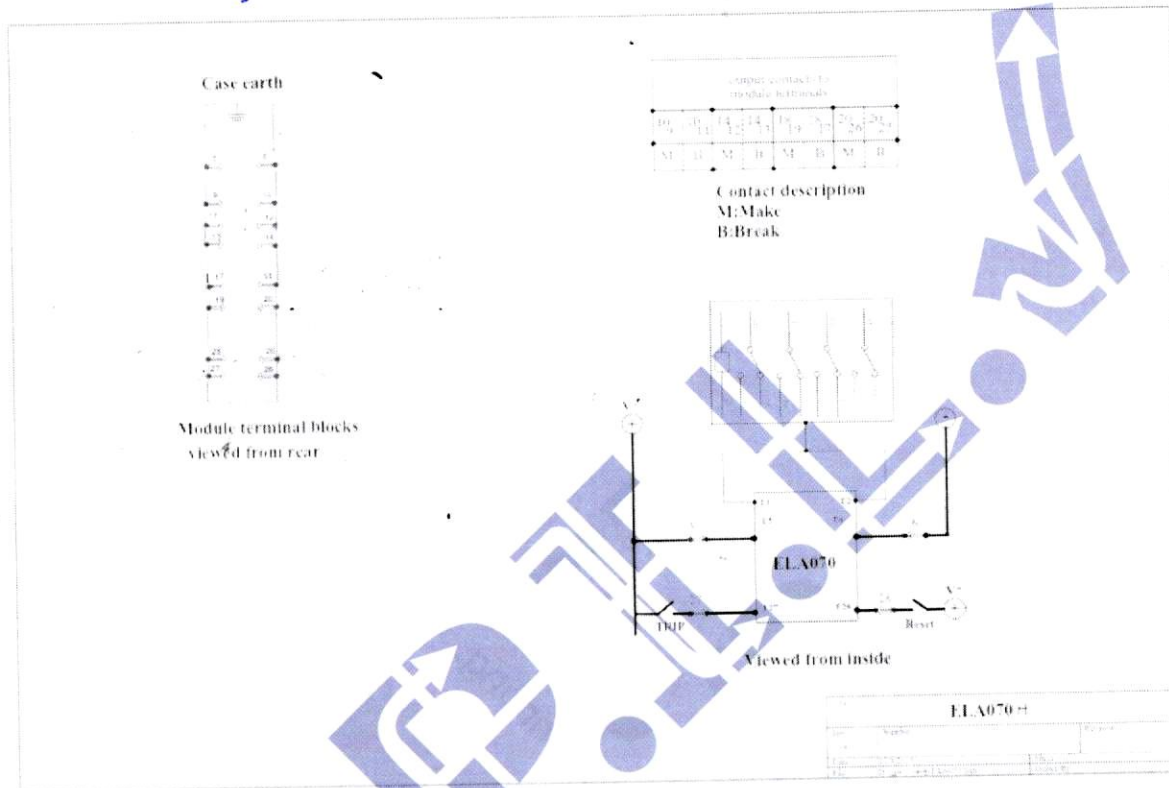
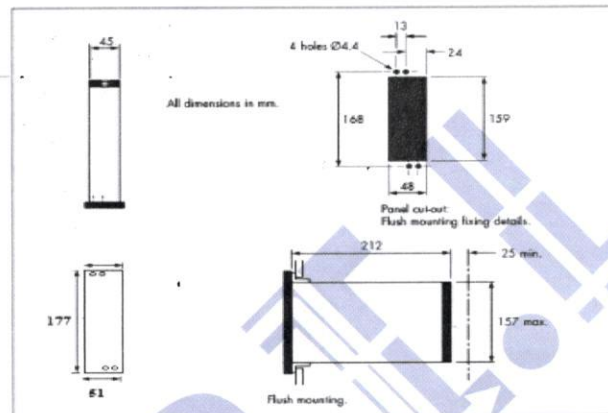


FIGURE 1 : EUT connections and terminals

*This report should not be reproduced in extracts without written approval by EPIL.
Test results pertain to the tested sample only.
Not Valid Without Lab Stamp.*



183

Figure 2 : Drawing And dimensions of EUT

*This report should not be reproduced in extracts without written approval by EPIL.
Test results pertain to the tested sample only.
Not Valid Without Lab Stamp.*

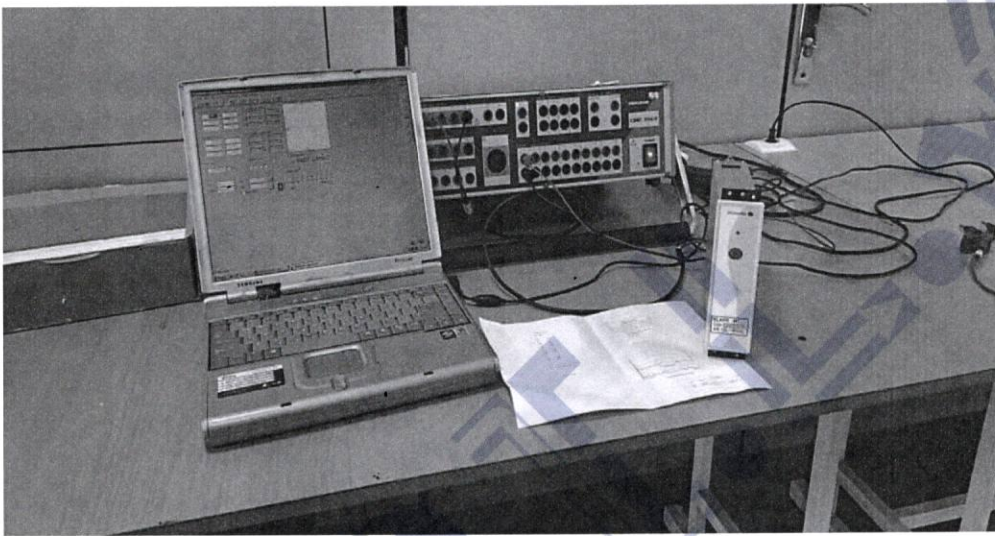


Figure 3 : The test circuit of measurement of operation time of EUT.

*This report should not be reproduced in extracts without written approval by EPIL.
Test results pertain to the tested sample only.
Not Valid Without Lab Stamp.*