

# Alcyon

## FIRE DETECTION AND PROTECTION SYSTEM Commissioning and maintenance manual



PH377111

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This document is applicable to commissioning and maintenance operations



Order to fill the document :

Insert X in columns « OK » et « note » and « Not relevant » to give the result. If « note » is selected the corresponding observation is to be insert in the corresponding line of the Measurement and notes column

## CONTROLS TO BE DONE IN ABSENCE OF POWER AND WITH CABLES NOT CONNECTED


### Visual control

1 External visual control	Result		Measure / Comment
	Ok	Note	
<ul style="list-style-type: none"> <li>The panel must be established in accordance with code of practice.</li> <li>Absence of streak, shock.</li> <li>Panel is to be fixed to wall with solidity.</li> </ul>			
2 Internal visual control	Result		Measure / Comment
	Ok	Note	
<ul style="list-style-type: none"> <li>Boards shall be properly fixed</li> <li>Internal wiring is done in accordance with code of pratice.</li> <li>Quality of screwing on connectors</li> </ul>			

### Control of internal LON FTT bus between modules on cabinet

3 Control of internal LON FTT bus..	Result		Measure / Comment
	Ok	Note	
<ul style="list-style-type: none"> <li>Configuration of Lon module in the cabinet is done in free topology.</li> </ul>			



### Control of RS 485 bus to RS repeaters

4 Resistance of the RS bus	Result		Measure / Comment
	Ok	Note	
<ul style="list-style-type: none"> <li>Measured resistance of RS bus shall be more than 100 ohms (no short circuit).</li> </ul>			
5 Isolement from earth	Result		Measure / Comment
	Ok	Note	
<ul style="list-style-type: none"> <li>Measured resistance between each conductor and the earth shall be equivalent or superior to 1 MOhms.</li> </ul>			
 For this measurement, the line is not to be connected on the panel. If measurement is not correct, it is necessary to find the defect of isolation on the line and to put right it.			
6 Number of connected repeater	Result		Measure / Comment
	Ok	Note	
<ul style="list-style-type: none"> <li>Number of repeaters shall be less than 16.</li> </ul>			

## Control of power supply line to RS repeaters

7	Power supply	Result		Measure / Comment
		Ok	Note	
	<ul style="list-style-type: none"> <li>Power supply shall be between 15 Vdc 27 Vdc</li> </ul>			


## Control of Lon Bus to Lon repeater

8	Resistance of the Lon bus	Result		Measure / Comment
		Ok	Note	
	<ul style="list-style-type: none"> <li>Measured resistance of Lon bus (no short circuit)</li> </ul>			
	 <ul style="list-style-type: none"> <li>For this measurement, the Lon bus is not to be connected on the panel but has to be connected on all repeaters.</li> <li>LON bus is to be configured in "Bus" mode at the origin of the bus. A 105 ohms resistor is to be wired on the last Alcyon Lon repeater.</li> <li>Spurs are not allowed.</li> </ul>			
9	Control of isolement from earth	Result		Measure / Comment
		Ok	Note	
	<ul style="list-style-type: none"> <li>Measured resistance between each conductor and the earth shall be equivalent or superior to 1 MOhms.</li> </ul>			
	 <p>For this measurement, the line is not to be connected on the panel. If measurement is not correct, it is necessary to find the defect of isolation on the line and to put right it.</p>			


## Control of power supply to Lon repeater

10	Power supply	Result		Measure / Comment
		Ok	Note	
	<ul style="list-style-type: none"> <li>Power supply shall be between 18 Vdc 50 Vdc.</li> </ul>			


## Controls on addressable loops

11	Control of resistance on the 0V conductor (with cable having a diameter of 8/10 mm)	Result		Measure / Comment
		Ok	Note	
	<ul style="list-style-type: none"> <li>Resistance must be less than 45 ohms.</li> </ul>			
	 <ul style="list-style-type: none"> <li>Loop maximum length : 1600m</li> <li>Loop + spurs maximum length : 2000m</li> <li>If there is not a loop but a spur configuration mark not relevant column</li> </ul>			
12	Control of isolation from earth	Result		Measure / Comment
		Ok	Note	
	<ul style="list-style-type: none"> <li>Resistance between each conductor and the earth shall be equivalent or superior to 1 MOhms.</li> </ul>			

## Control on integrated outputs A and B to sounders / strobes


13.	Control of resistance	Result		Measure / Comment
		Ok	Note	
	<ul style="list-style-type: none"> <li>Resistance with end of line is to be comprise between: 3700 ohms and 4100 ohms</li> </ul>			
14.	Control of isolation from earth	Result		Measure / Comment
		Ok	Note	
	<ul style="list-style-type: none"> <li>Resistance between each conductor and the earth shall be equivalent or superior to 1 MOhms.</li> </ul>			
	 For this measurement, the line is not to be connected on the panel but has to be connected. If measurement is not correct, it is necessary to find the defect of isolation on the line and to put right it.			

## Control on each outputs of 4 / 8 way sounder module




15	Control of resistance between the board and the more distant active end of line	Result		Measure / Comment
		Ok	Note	
	<ul style="list-style-type: none"> <li>Resistance with end of line is to be comprise between: 3700 ohms and 4100 ohms</li> </ul>			
16	Control of isolation from earth	Result		Measure / Comment
		Ok	Note	
	<ul style="list-style-type: none"> <li>Measured resistance between each conductor and the earth shall be equivalent or superior to 1 MOhms.</li> </ul>			
	 For this measurement, the line is not to be connected on the panel but has to be connected on all repeaters. If measurement is not correct, it is necessary to find the defect of isolation on the line and to put right it.			

# CONTROLS TO BE DONE WITH POWER SUPPLY AND WITH CABLES CONNECTED

## Control of mains

17	Mains value	Result		Measure / Comment
		Ok	Note	
	<ul style="list-style-type: none"> <li>Remove fuse from terminal block</li> <li>Mains Value shall be comprise between 198 VAC and 253 VAC</li> </ul>			
	Connection to earth shall comply with local requirements			
18	Power from power supply to main board	Result		Measure / Comment
		Ok	Note	
	<ul style="list-style-type: none"> <li>Voltage shall be comprise between 26 VdC and 28 VdC.</li> </ul>			


## Control of batteries

19	Battery configuration	Result		Measure / Comment
		Ok	Note	
	<ul style="list-style-type: none"> <li>Compliance between batteries and configuration on power supply</li> </ul>			
20	Battery voltage	Result		Measure / Comment
		Ok	Note	
	<ul style="list-style-type: none"> <li>Batteries voltage shall be comprise between 24 VdC and 27 VdC.</li> </ul>			
	This is to be done with batteries not connected to power supply			
21	Battery charge	Result		Measure / Comment
		Ok	Note	
	<ul style="list-style-type: none"> <li>Charge voltage shall be comprise between 26, 6 VdC and 28, 2 VdC.</li> <li>Charge voltage with batteries connected to power supply shall be comprise between 27 VdC and 28, 5 VdC</li> </ul>			
	If fault still is signalled after 2 hours either power supply or batteries are to be replaced This is to be done. If this is not correct, power supply is to be replaced			
22	Batteries fault indication	Result		Measure / Comment
		Ok	Note	
	<ul style="list-style-type: none"> <li>Following batteries connection, batteries fault indication will automatically disappears (Power supply fault indicator steady and batteries fault indication on display)</li> </ul>			
	If fault still is signalled after 2 hours either power supply or batteries are to be replaced			
23	Mains fault indication	Result		Measure / Comment
		Ok	Note	
	<ul style="list-style-type: none"> <li>Remove mains and check that mains fault indication is given (Power supply fault indicator steady and mains fault indication on display)</li> </ul>			

## Downloading of configuration with the configuration tool

24	Download the program	Result		Measure / Comment
		Ok	Note	
25	Installation of boards with Lon Programmer	Result		Measure / Comment
		Ok	Note	
	■ For each board, after a PIN service indicate board number			

## Verification of software version on boards

26	Issues	Result		Measure / Comment
		Ok	Note	
	■ Last issue for software version on different modules			
	 If this is not the case, download last issue			

## Control of RS repeaters

27	Installation	Result		Measure / Comment
		Ok	Note	
	■ Check the address and configuration of each repeater. ■ Check connection to RS bus and power supply.			
28	Indicator test	Result		Measure / Comment
		Ok	Note	
	■ Push the indicator test button and check that the audible indication is given and that all visible indicators are activated			
29	Check standby indication	Result		Measure / Comment
		Ok	Note	
	■ Reset the panel and check that no other indication than Power indication (LED) and POWER ON on display are given			

## Control of Lon repeaters


30	Installation	Result		Measure / Comment
		Ok	Note	
	■ After control and connection ensure "pin service" procedure in order to ensure addressing of repeater.			
31	Indicator test	Result		Measure / Comment
		Ok	Note	
	■ Push the indicator test button and check that the audible indication is given and that all visible indicators are activated			
32	Check standby indication	Result		Measure / Comment
		Ok	Note	
	■ Reset the panel and check that no other indication than Power indication (LED) and POWER ON on display are given			

## Control on addressable loop

33	Control of loop	Result		Measure / Comment
		Ok	Note	
	■ Following connection of loop on board ensure panel reset. Check that no fault indication are given for detection zones			



## Control of output to sounders / strobes

34	Control of line	Result		Measure / Comment
		Ok	Note	
	<ul style="list-style-type: none"> <li>Following connection of loop on board ensure panel reset. Check that no fault indication are given for detection zones</li> </ul>			
35	Control of process	Result		Measure / Comment
		Ok	Note	
	<ul style="list-style-type: none"> <li>Ensure activation of the evacuation zone</li> <li>Staff alarm value of T1</li> <li>Alert value of delay before evacuate</li> <li>Evacuate signal</li> <li>Evacuate signal audible on all accessible areas</li> <li>Reset the panel</li> </ul>			
 This is to be done with proper information to occupants and with owner authorization				

## Consumption

36	Standby current	Result		Measure / Comment
		Ok	Note	
	<ul style="list-style-type: none"> <li>Measure the standby current</li> </ul>			
37	Alarm current	Result		Measure / Comment
		Ok	Note	
	<ul style="list-style-type: none"> <li>Measure the current when there is an alarm</li> </ul>			

# FUNCTIONAL TESTS

## Functional tests

38	Standby indication	Result		Measure / Comment
		Ok	Note	
	<ul style="list-style-type: none"> <li>Check that no other indication than Power indication (LED) and POWER ON on display are given</li> </ul>			
39	Indicators test	Result		Measure / Comment
		Ok	Note	
	<ul style="list-style-type: none"> <li>Push the indicator test button and check that the audible indication is given and that all visible indicators (including display) are activated</li> </ul>			
40	Procedure	Result		Measure / Comment
		Ok	Note	
	<ul style="list-style-type: none"> <li>Remove mains</li> </ul>			
41	Walk test	Result		Measure / Comment
		Ok	Note	
	<ul style="list-style-type: none"> <li>Set all detection zone in test mode</li> <li>Test each detector and call point and verify correct indication are given on display and that remote indicators are activated</li> <li>Remote indicator properly located</li> </ul>			
42	Short circuit control	Result		Measure / Comment
		Ok	Note	
	<ul style="list-style-type: none"> <li>Ensure a short circuit on each addressable loop and check correct indication are given by general indicator and display</li> </ul>			
43	Short circuit control	Result		Measure / Comment
		Ok	Note	
	<ul style="list-style-type: none"> <li>Ensure an open circuit on each addressable loop and check correct indication are given by general indicator and display</li> </ul>			
<b>Control of RS repeaters</b>				
44	Control of fire alarm and fault indications	Result		Measure / Comment
		Ok	Note	
	<ul style="list-style-type: none"> <li>Generate a fault and check the corresponding indication on the repeater</li> <li>Generate a fire ad check the corresponding indication on the repeater</li> </ul>			
<b>Control of Lon repeaters LCD</b>				
45	Control of fire alarm and fault indications	Result		Measure / Comment
		Ok	Note	
	<ul style="list-style-type: none"> <li>Generate a fault and check the corresponding indication on the repeater</li> <li>Generate a fire ad check the corresponding indication on the repeater</li> </ul>			

## DOCUMENTATION

46	Operating manual	Result		Measure / Comment
		Ok	Note	
	■ Operating manual given to the customer?			
47	Training	Result		Measure / Comment
		Ok	Note	
	■ Training of customer ensured?			
48	Functional test	Result		Measure / Comment
		Ok	Note	
	■ Functional test report signed by the customer			

## WRITING OF OBSERVATIONS

Write all determined observations, during the procedure. (Regulation, technical, commercial points, service, etc)

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