

SERVICE INSTRUCTIONS FOR

Fire Alarm System

FX

Version 2.3
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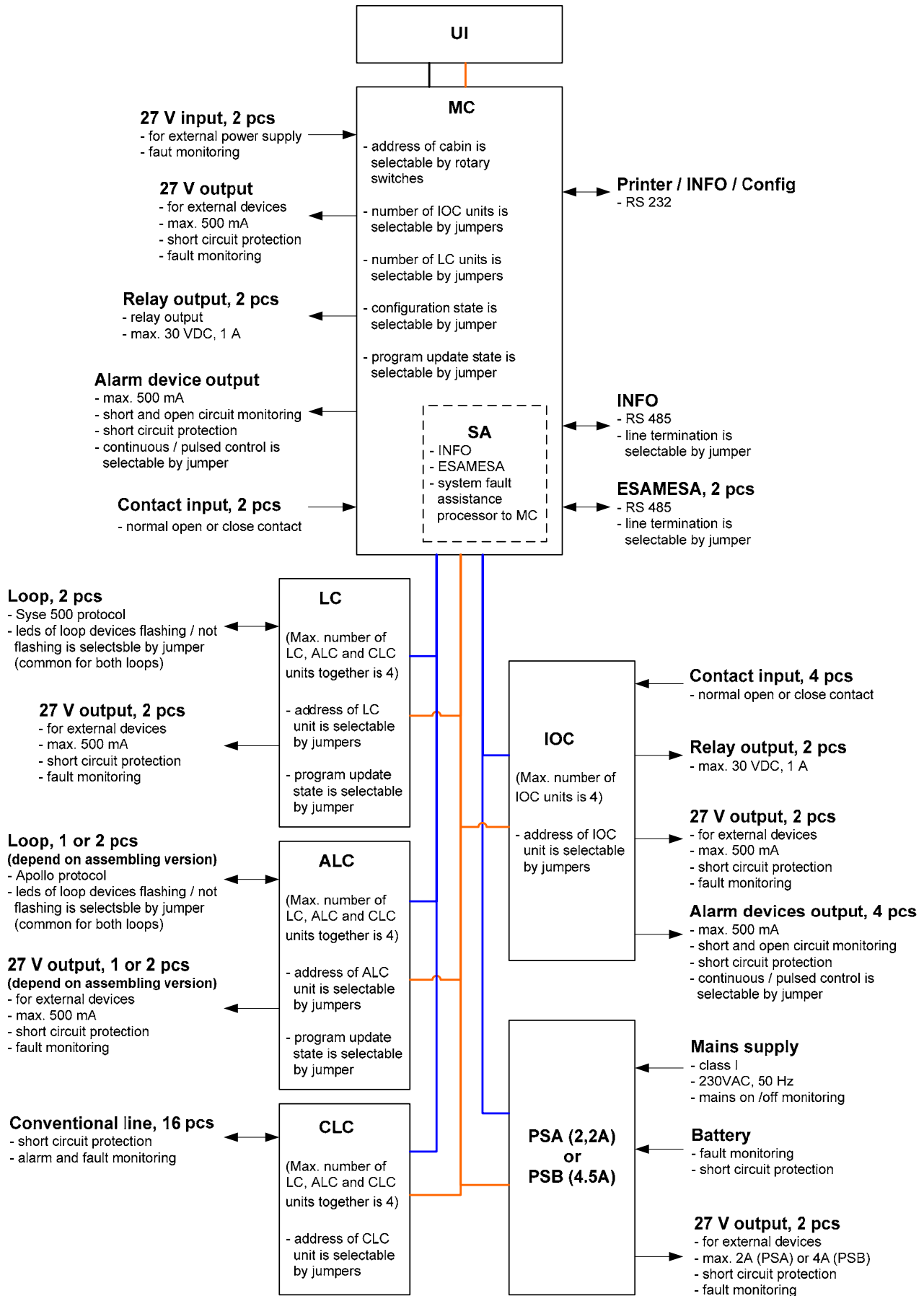
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1. VERSIONS OF THIS DOCUMENT

Version	Date	By	Modification
0.15			Initial document as supplied to the test house
1.1	20.08.2005	IN	New fault codes added (12, 66, 92, 93, 94)
1.2	27.10.2005	TB	Clean up of old changes, minor editorial changes
1.3	27.10.2005	TB	Rewriting of access levels chapter
1.7	20.03.2006	HJS	Intellia Loop Controller ALC added PSA monitoring and fuses added CLC line monitoring added
2.0	09.05.2006	TB	All changes of previous versions up until temporary version 17 accepted (tracking of changes stopped) Document released as version 2.0
2.1	31.05.2006	IN	Fault and maintenance codes of address points updated
2.2	11.07.2006	SS	MC flash erase procedure added
2.3	27.07.2006	HJS	ALC loop cable resistance specification modified

2. BLOCK DIAGRAM OF THE CONTROL PANEL



3. MONITORINGS (FAULT EXPLANATIONS)

All fault warnings are indicated on the display with an optical and an audible signal. Fault warning origins are specified, either by means of a monitor specific LED, or by means of a fault explanation, displayed on the alphanumeric display.

To clarify the reason for a fault warning, first:

- silence the common fault warning
- disable the monitoring of the faulty object
- reset the fault warning condition,

then:

- select the faulty object
- set it to test state.

3.1. MONITORING OF DETECTION CIRCUITS

3.1.1. Loop Controller (LC)

A detection circuit of the FX control panel is a closed loop. That means, the loop starts at and returns to the Loop Controller (LC). A single break in the loop cable doesn't prevent the communication in the loop.

The start point of the loop is connected to the terminals A+ and A- and the end point of the loop is connected to the terminals B+ and B-

The communication between loop devices and loop controller is accomplished by using serial communication. (The loop devices includes sensors and other addressable modules installed to the loop.) The loop controller sends the address and command bits. The loop devices response with current pulses. The information is represented by the lengths (time) of these pulses.

The break monitoring circuit is on the LC. The voltage level between terminals B+ and B- is monitored.

Short circuit isolators are provided on the loop controller, both in the start point and in the end point of the loop.

Maximum cable resistance of the loop is 40 ohms and capacitance between the loop wires is 360 nF.

3.1.1.1. Normal Condition

Normally the voltage between terminal A+ and A- (on the loop controller) is approx. 24 V (when the mains is on). During communication the voltage of the loop varies between 24 V and 5V and 0 V.

3.1.1.2. Fire Condition

If fire is detected, there is no change in the loop voltage compared to the normal condition (only current consumption is increased because of alarm led of detector).

3.1.1.3. Loop Break Condition

Cable resistance of loop has radically increased so that depending on the load the voltage over B+ and B- is lower than 14 V. After a loop break detection the second loop relay is activated and the loop is supplied also from the end point (terminals B+ and B-).

Monitoring:

Dc voltage level between B+ and B- is lower than approx. 14 V.

3.1.1.4. Short Circuit Condition

If the loop voltage falls below the fault limit, the supply of the loop is cut and after a new start up the isolator circuit can separate the faulty part of the loop if at least one isolator is installed in the loop.

Monitoring:

The loop current is limited to approx. 560 mA. If the loop voltage measured between A+ and A- is decreased more than 5 V comparing the normal loop voltage the short circuit is detected.

3.1.2. Intellia Loop Controller (ALC)

A detection circuit of the FX control panel is a closed loop. That means, the loop starts at and returns to the Intellia Loop Controller (ALC). A single break in the loop cable doesn't prevent the communication in the loop.

The start point of the loop is connected to the terminals A+ and A- and the end point of the loop is connected to the terminals B+ and B-

The communication between loop devices and loop controller is accomplished by using serial communication. (The loop devices includes sensors and other addressable modules installed to the loop.) The loop controller sends the address and command bits. The loop devices response with current pulses.

The break monitoring circuit is on the ALC. The voltage level between terminals B+ and B- is monitored.

Short circuit isolators are provided on the loop controller, both in the start point and in the end point of the loop.

Maximum cable resistance of the loop is 60 ohms and capacitance between the loop wires is 500 nF. Maximum cable resistance between panel and first short circuit isolator and between two short circuit isolators is 15 ohms.

3.1.2.1. Normal Condition

Normally the voltage between terminal A+ and A- (on the loop controller) is approx. 27,2 V. During communication the voltage of the loop varies between 27.2 V and 35V.

3.1.2.2. Fire Condition

If fire is detected, there is no change in the loop voltage compared to the normal condition (only current consumption is increased because of alarm led of detector).

3.1.2.3. Loop Break Condition

Cable resistance of loop has radically increased so that depending on the load the voltage over B+ and B- is lower than 14 V. After a loop break detection the second loop relay is activated and the loop is supplied also from the end point (terminals B+ and B-).

Monitoring:

Dc voltage level between B+ and B- is lower than approx. 14 V.

3.1.2.4. Short Circuit Condition

If the loop voltage falls below the fault limit, the supply of the loop is cut and after a new start up the isolator circuit can separate the faulty part of the loop if at least one isolator is installed in the loop.

Monitoring:

The loop current is limited to approx. 560 mA. If the loop voltage measured between A+ and A- is less than 25 V the short circuit is detected.

3.1.3. Conventional Loop Controller (CLC)

The FX panel handles internally the whole CLC board as one addressable loop and each conventional line as an address of that loop. Each conventional line can therefore be configured and used just as the conventional zone module connected to an addressable detection circuit.

It also means that the conventional lines are handled by the user in the same way as the conventional zone modules, e.g. for disablement/re-enablement.

Each line is by default in its own detection zone.

The voltage supplied by the CLC to the conventional line is 21Vdc to 24Vdc.

Monitoring of conventional line:

Configuration			Condition	Voltage (V) over measuring resistor (R200 – 215)	Current (mA) in line
Type	End of line	Exi-area			
Conventional line	4k7	no	Fault (open circuit)	0- 0,5	0 – 1,8
			Normal	0,9 – 1,65	4,0 – 6,8
			Alarm	2,05 – 13,75	9,5 – 59,4
			Fault (short circuit)	14,21 - 24	67,9 – 144,8
Conventional line	4k7	yes	Fault (open circuit)	0 – 0,43	0 -1,5
			Normal	0,81 – 1,43	3,6 – 5,9
			Alarm	1,85 – 5,96	8,6 – 25,5
			Fault (short circuit)	6,37 – 9,18	30,3 – 39,5
Conventional line	2k94	no	Fault (open circuit)	0 - 1	0 – 4,0
			Normal	1,4 – 2,69	6,4 – 11,3
			Alarm	3,11 – 13,75	14,6 – 59,4
			Fault (short circuit)	14,21 - 24	67,9 – 114,8
Conventional line	2k94	yes	Fault (open circuit)	0 – 0,82	0 – 3,2
			Normal	1,21 – 2,17	5,5 – 9,1
			Alarm	2,57 – 5,96	12,0 – 25,5
			Fault (short circuit)	6,37 – 9,18	30,3 – 39,5
Input line	4k7	no	Fault (open circuit)	0- 0,31	0 - 1,0

			Normal	0,67 – 1,32	2,9 – 5,4
			Alarm	1,7 – 4,67	7,8 – 19,9
			Fault (short circuit)	5,1 - 24	24,2 – 114,8
Input line	4k7	yes	Fault (open circuit)	0 – 0,31	0 – 1,0
			Normal	0,67 – 1,23	2,9 – 5,0
			Alarm	1,59 – 4,67	7,3 – 19,9
			Fault (short circuit)	5,1 – 9,18	24,2 – 39,5

3.1.4. Fault Monitoring of Loop Devices

Fault and maintenance warnings of the loop devices are identified by codes in the display. The codes and a short explanations of each are listed below.

<p>Fault and maintenance warnings of address point s = start up phase when scanning devices (after panel (re)start or when is loop connected by user) r = running time when device id normally monitored c = loop is configured with PC n = loop is not configured</p>	
MAINTENANCE 00: (s,c)	– The anytype of device has been configured for this address but no device is installed. This is indicated only once and will disappear after resetting the warning
MAINTENANCE 01: (s,c)	– No device has been configured to this address but some device is installed. This is indicated only once and will disappear after resetting the warning
MAINTENANCE 02: (s,c)	– Definite type of device has been configured but no device is installed. This warning can be removed only by installing device to this address or changing the configuration.
MAINTENANCE 03: (s,c)	– The configured type and installed type is not the same. This warning can be removed only by changing device to this address or changing the configuration.
MAINTENANCE 04: (s,n)	<ul style="list-style-type: none"> – A module and a detector has the same address switch setting. This is not allowed without configuration. – Module data will replace detector data in memory. – Warning will be re-created after reset. – Addresses have to be fixed and either the panel has to be restarted or the loop has to be disabled and re-enabled in service state.
MAINTENANCE 05: (s,n)	– Factory setting of address switches are 0,0. When panel starts or a previously disabled loop is re-enabled, detector(s) and module(s) with 0,0 address value are indicated maintenance warning. The LED's of the detector or module blink automatically for easier identification. It is not possible to detect any other fault or fire conditions for units that has the 00 address.
FAULT 06: (s,c/n)	– Unknown type of device.
FAULT 07: (s,n)	<ul style="list-style-type: none"> – Device removed from this address during loop disablement. The fault is detected when the loop is re-enabled. – Disablement of an address with this fault is not possible because the data of the unit will be removed from memory when the fault is reset. If disabled before the loop enablement, the disablement will also be removed automatically when the fault is reset. This is indicated only once and will disappear after resetting the warning
FAULT 08: (s,n)	– The type of device is changed. This is indicated only once and will disappear after resetting the warning
FAULT 09: (s,n)	– New addresses (devices) are found in the loop. This is indicated only once and will disappear after resetting the warning
MAINTENANCE 11: (s,c)	– Siren control (separate remote LED control) have been configured for sensor but the feature not exist in sensor
FAULT 12: (s,c)	– Technical alarm input configured for LC address but SW version of LC is not compatible (> 1.3)
FAULT 13: (s,c/n)	– Two or more devices have the same address ("double address").
MAINTENANCE 14:(s,c/n)	– Bad scan responses of a device.
MAINTENANCE 15:(s,c/n)	– Frame type ID is not compatible with memory type ID

MAINTENANCE 16: (s,c)	– Protocol family of device and configuration mismatch
	–
FAULT 51: (r)	– Too low analog value (< 400 μ s) received from analog sensor – Fault in the internal operation of an OMNI / 2251TEM / 7251LASER sensor
FAULT 52: (r)	– Invalid reply from the address.
FAULT 53: (r)	– Two or more devices have the same address ("double address").
FAULT 54: (r)	– Break in the input circuit of a monitor module.
FAULT 55: (r)	– Break in the output circuit of a control module.
FAULT 56: (r)	– Short circuit in output circuit of a control module.
FAULT 57: (r)	– Input module has been configured as "fault input". When module alarms FX show it as fault warning.
FAULT 58: (r)	– Input module has been configured as "zone disablement device" and disablement time exceeds (default 12h).
MAINTENANCE 59: (r)	– Input module is configured as "maintenance input". When module alarms FX show it as maintenance warning.
MAINTENANCE 60: (r)	– A dirty detector. If the analog value of the detector has exceeded the maintenance limit for more than 24 hours, this warning is indicated. – If detector exceeds value (during 24h) after user reset this fault warning, fault warning is re-generated immediately. – Also at case that value of some other detector(s) stay over the maintenance limit (but 24h timeout has not expired) at the moment when user select from the menu "report dirty detector" and press "enable" at access level 3, this fault warning is created. – OMNI / 2251TEM / 7251LASER drift compensation alert – OMNI / 2251TEM >200 <560; 7251LASER >200 < 650
FAULT 62: (r)	– Break or short circuit at the conventional sub loop of conventional zone module.
FAULT 63: (r)	– Invalid response from detector (> 4000 μ s for normal sensors, >860 and < 1600 for the OMNI sensor)
FAULT 64: (r)	– Device type (or functional type) changed when loop is running.
FAULT 65: (r)	– Sensor with separate remote LED control feature is changed to same type device without this feature. More often this event is indicated with fault 64
FAULT 66: (r)	– Input module has been configured as "fault in extinguisher". When module alarms FX show it as fault warning.
FAULT 70: (r)	– Undefined fault code from ALC device.
FAULT 71: (r)	– Memory write of device failed
FAULT 72: (r)	– Memory read of the device failed
FAULT 73: (r)	– Communication troubles with device.
FAULT 74: (r)	– Self test of the failed
FAULT 75: (r)	– Beam sensor CPU fault
FAULT 76: (r)	– Beam sensor align targeting
FAULT 77: (r)	– Beam sensor general fault
FAULT 78: (r)	– Beam sensor signal too high
FAULT 90: (r,s)	– Unacceptable device ALC: detector is not Intellia, device is XP95 but not configured
FAULT 92: (r)	– break in input line of the CLC unit
FAULT 93: (r)	– short circuit in input line of the CLC unit
FAULT 94: (r)	– voltage problem in input line of the CLC unit
	–
s = start up phase when scanning devices (after panel (re)start or when is loop connected by user)	

r = running time when device id normally monitored
 c = loop is configured with PC
 n = loop is not configured

3.2. ALARM DEVICE LINE MONITORING

Fault warning is indicated if there is a short circuit or a break in the alarm device lines.

Alarm device lines are monitored with reversed polarity (line - is positive and line + is negative). Therefore, all alarm devices have to be provided with diodes and all the lines with End-Of-Line resistors (4.7 kohm).

The alarm device line current is limited to approx. 650 mA. If the load in alarm state is bigger than 650 mA, short circuit fault is indicated.

3.2.1. Monitoring in normal state:

Fault is indicated if:

- the resistance in the line is $> 8800 \Omega$ (including eol 4700Ω)(open circuit is indicated).
- the resistance in the line is $< 600 \Omega$ (short circuit is indicated)

3.2.2. Monitoring in test state:

Measured values of the alarm device lines are indicated in the display.

Fault limits are the same as in normal state.

3.3. INPUT MONITORING

The function and the normal state of the inputs depends on the configuration.

Functions for inputs	Input	Normal open	Normal closed
Not in use			
Evacuation input			Default
Fault warning input	Default for IOC input 1		Default
Fault in fire alarm router	Default for MC input 1		Default
Fault in fault warning router	Default for MC input 2		Default
Fault in extinguisher	Default for IOC input 2		Default
Maintenance warning input			Default
Technical alarm input			Default
Silent technical alarm input			Default
Day mode activation input		Default	
Delayed alarm enable input		Default	
Day mode and delayed alarm enable		Default	
General silence input		Default	
General reset input		Default	
Internal logic input		Default	
External logic input		Default	
Extinguisher activated input	Default for IOC input 3	Default	
Smoke vents activated input	Default for IOC input 4	Default	
Activation of customer led 1		Default	
Activation of customer led 2		Default	

Monitoring:

Normally closed lines are activated if voltage level between terminals is $> 3.0\text{V}$ (resistance is $> 6\text{ k}\Omega$).

Normally open lines are activated if voltage level between terminals is $< 3.0\text{ V}$ (resistance is $< 6\text{ k}\Omega$).

3.4. EARTH LEAKAGE MONITORING

Earth leakage is monitored with respect to both the positive and the negative supply voltage poles. The cabinet (earth) is connected to the monitor circuit through the two mounting screws in the Master Controller.

Fault warning is indicated if the resistance from either pole to the earth is less than $20\text{ k}\Omega$. The faults are indicated as "fault -" or "fault +".

Monitoring:

Normally the voltage level between cabinet and Gnd (ie. negative of 24V supply on the Master Controller) is 14 V .

- FAULT - is indicated if voltage level is $< 7.8\text{ V}$
- FAULT + is indicated if voltage level is $> 19.6\text{ V}$

These voltage levels are floated by factor $V_{\text{supply}}/27\text{V}$ where V_{supply} is voltage level measured from eg. 24 V supply terminals on the Master Controller.

3.5. POWER OUTPUT MONITORINGPower outputs of MC, LC, ALC, and IOC:

The power output current is limited to approx. 650 mA . If the load is bigger than 650 mA , power output fault is indicated.

Power outputs of PSA (2,2A):

The power output current of each output is limited to approx. $2,1\text{ A}$. If the load is bigger than 2.1 A , power output fault is indicated.

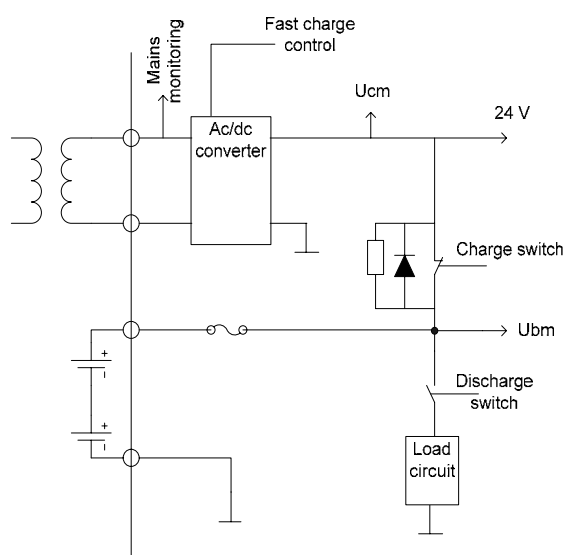
Power outputs of PSB (4,5A):

The power output current of each output is limited to approx. $4,2\text{ A}$. If the load is bigger than 4.2 A , power output fault is indicated.

3.6. BATTERY, CHARGER AND MAINS MONITORING

The fault warnings of the battery, charger and mains.

Battery low voltage fault	If voltage level of battery is $< 23 \text{ V}$. (E.g. during a long mains break).
Battery fault	If the battery circuit is broken (e.g. blown fuse or loose connectors).
Charger over voltage fault	If voltage level of charger is too high ($> 32 \text{ V}$).
Charger fault	If mains is on and Control Panel doesn't get supply voltage from charger. If control circuit of fast charge is out-of-order.
Mains fault	If mains is off for 30 min.



Battery low voltage, charger over voltage and mains fault monitoring:

The test is done at intervals of 100 ms.

Test sequence:

battery voltage U_{bm} is measured
 charger voltage U_{cm} is measured
 mains input is read

Fault limit	Fault indication
$U_{bm} < 23 \text{ V}$ in four consecutive measurings	Battery low voltage fault
$U_{cm} > 32 \text{ V}$ in four consecutive measurings	Charger over voltage fault
Mains off for 30 min.	Mains fault

Battery and charger fault monitoring:

The tests are done at the same time at intervals of 40 s and immediately after the fault reset. If “faulty” result is measured, then the tests will be re-done at intervals of 100 ms, until four “faulty” result or one “ok” result have been measured. The tests are not done if mains is off or charger is in over voltage condition. The battery fault monitoring test is not done if charger fault is active.

Test sequence (battery fault monitoring):

- battery charge switch is opened
- battery discharge switch is closed
- 100 ms is waited
- 50 ms is waited
- battery voltage (discharged) $U_{bm(d)}$ is measured
- battery discharge switch is opened
- battery charge switch is closed

Test sequence (charger fault monitoring):

- battery charge switch is opened
- 100 ms is waited
- if fast charge control is active
 - o charger voltage (fast charge) $U_{cm(f)}$ is measured
 - o fast charge control is deactivated
 - o 50 ms is waited
 - o charger voltage (normal) $U_{cm(n)}$ is measured
 - o fast charge control is activated
- If fast charge control is not active
 - o charger voltage (normal) $U_{cm(n)}$ is measured
 - o fast charge control is activated
 - o 50 ms is waited
 - o charger voltage (fast charge) $U_{cm(f)}$ is measured
 - o fast charge control is deactivated
- battery charge switch is closed

Fault limit	Fault indication
$U_{cm(f)} - U_{cm(n)} < 0,5 \text{ V}$ in four consecutive measurings	Charger fault
$U_{bm(d)} < 21 \text{ V}$ in four consecutive measurings	Battery fault

Battery charge control:

The battery charge switch is opened if charger voltage $< 20 \text{ V}$. The battery charge switch is closed when battery voltage $> 20,5 \text{ V}$.

Fast charge control:

The fast charge control is activated if battery voltage $< 23 \text{ V}$. The fast charge control is deactivated when battery voltage $> 23 \text{ V}$ for 72 h.

4. PROGRAM MONITORING (System fault)

The internal system is supervised by the processor. The independent watch-dog will interrupt the running program, if not updated by the processor at least every 1200 msec.

System faults are indicated on the display with steady "GENERAL FAULT" and "SYSTEM FAULT" indicators and with an audible signal.

If the running processor cannot control the system the independent watch-dog lock the the system and the system fault is indicated and fault routing output is activated on the Master Controller board.

If system fault is detected by software (eg. wrong check sum in configuration memory) system fault is indicated and the fault routing output is activated on the Master Controller board and there is information on the lcd display to describe the reason of system fault.

WARNING!

Normal operation of the fire control panel is stopped when a system fault is detected.

NOTE!

It is important that system fault texts on lcd-display (if available) are recorded by service person for later fault analyzing.

The locked System fault indication may be removed only by pressing the restart buttons on the Master Controller Unit or by turning off the power of the system by disconnecting the battery cable and the 30Vac supply cable from the Power Supply Unit and after a few seconds turning on the power again.

5. ACCESS LEVEL 3 (Service state) AND 4

The Control Panel is set into access level 3 (service state) or 4 by entering correct password from the user panel. The Control Panel has to be set first into access level 3 before setting into access level 4.

Control Panel returns to access level 1 when the key is turned off or removed.

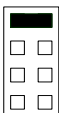

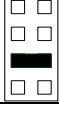
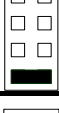
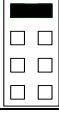
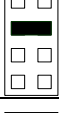
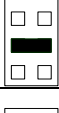

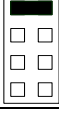
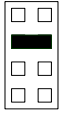
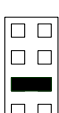
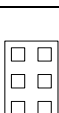
Functions in access level 3:







- The reset time of the fire alarm and prealarm is 5 sec. (normally 15 sec.).
- Detector loop may be disconnected (the voltage during disconnection between loop terminals is 0, but there is no galvanic isolation between the loop and the control panel).
- Zone may be set to the test state. During zone test the alarms and fault warnings in tested zone are indicated only on the LCD display. The outputs and other indicators are not activated.
- When a connected analog sensor is selected on the display the analog value received from that sensor is displayed as the puls width in μ s.
- The panel may be set to the configuration mode by setting the config jumper on the Master Controller.
- The language of the user interface may be changed from the menu.
- The analysis of the loop communication may be selected from the menu.
- The detectors that has exceeded the maintenance level (“dirty detector”) may be called to the display.
- The event register may be erased.





Functions in access level 4:







- The alarm counter may be erased from the menu.

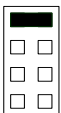

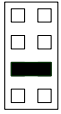
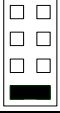
6. SETTINGS ON THE COMPONENT BOARDS

Master Controller (MC).		
Jumper	Position	Function. Default settings are in bold face.
J2		On -> Configuration state Off -> Normal state
		On -> Alarm device line control is pulsed Off -> Alarm device line control is continuous
		On -> Program update state Off -> Normal state
		On -> External power in use Off -> External power not in use
J1		Four Input Output Controllers in panel
		Three Input Output Controllers in panel
		Two Input Output Controllers in panel
		One Input Output Controllers in panel
J3		Four Loop Controllers in panel
		Three Loop Controllers in panel
		Two Loop Controllers in panel
		One Loop Controller in panel

Loop Controller (LC) and Intellia loop Controller (ALC)		
Jumper	Position	Function. Default settings are in bold face.
J1, J2		The address of Loop Controller is 1
		The address of Loop Controller is 2
		The address of Loop Controller is 3
		The address of Loop Controller is 4
J3		On -> Program update state Off -> Normal state
J4		On -> Leds of loop devices blink Off -> Leds of loop devices not blink

Conventional Loop Controller (CLC)		
Jumper	Position	Function. Default settings are in bold face.
J1, J2		The address of Loop Controller is 1
		The address of Loop Controller is 2
		The address of Loop Controller is 3
		The address of Loop Controller is 4

Input Output Controller.		
Jumper	Position	Function. Default settings are in bold face.
J1 J2		The address of Input Output Controller is 1
		
		The address of Input Output Controller is 2
		The address of Input Output Controller is 3
		
		The address of Input Output Controller is 4

J3		On -> Alarm device line 1 control is pulsed Off -> Alarm device line 1 control is continuous
		On -> Alarm device line 2 control is pulsed Off -> Alarm device line 2 control is continuous
		On -> Alarm device line 3 control is pulsed Off -> Alarm device line 3 control is continuous
		On -> Alarm device line 4 control is pulsed Off -> Alarm device line 4 control is continuous

7. PC CONFIGURATION

The system can be configured with site specific data with a PC (Personal Computer) and a configuration tool supplied by ESMI.

Usage of the configuration program is explained in the user manual of the program.

The configuration data can be read from and written to the FX panel.

7.1. Connecting a PC to the FX

The FX has a serial communication port using RS232 signal levels and including Rd and Td signals. No handshake signals are needed.

To connect the PC to the FX you will need a specially made cable according to the following:

PC			FX
25-pole D-contact	9-pole D-contact		Service terminal on the Master Controller
RxD 3	RxD 2	-----	TXD
TxD 2	TxD 3	-----	RXD
GND 7	GND 5	-----	GND

7.2. Preparing FX for configuration

To prepare the FX for configuration data transfer you have to set access level 3 and start the configuration task in the FX.

To set access level 3 you:

- select 'current access level' from the menu
- press the 'Scroll' wheel and enter the password rolling the wheel.

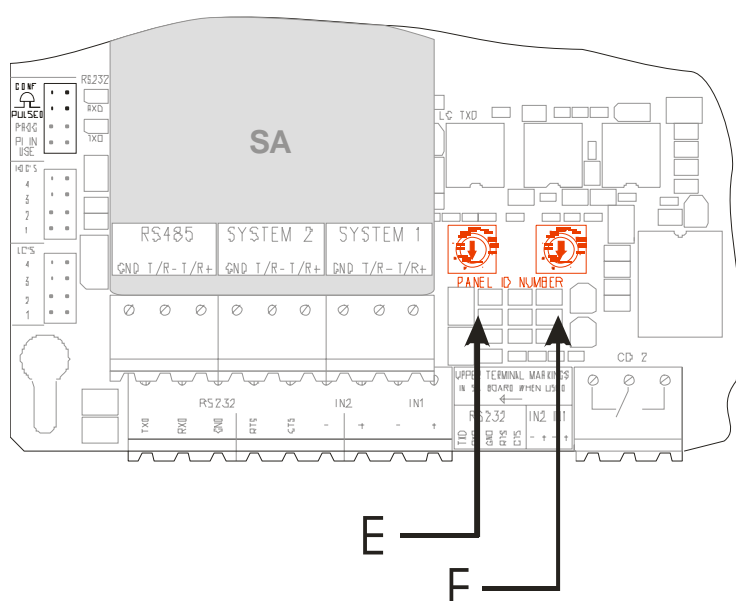
To start the configuration task you:

- close the pins of jumper named CONF on the Master Controller board
- FX indicates its readiness by displaying the text 'READY FOR CONFIGURATION' in the LCD.

7.3. To erase the Flash memory back to factory defaults

The configuration memory on the flash memory can be erased back to factory defaults by the following:

- disconnect power from the panel
- set “config”- jumper ON on MC
- turn the panel ID number (HEX- address selector) switches on MC to E and F
- turn the power ON
- follow the instruction on the panel LCD- screen
- when the reboot request can be seen on the screen, disconnect the power, set both address switches back to “0” and remove the “config”- jumper
- connect power back to the panel
- panel is starting without configuration data



WARNING!

The fire detection and alarming functions are disabled during configuration condition.

The FX has to be restarted when the configuration is done:

- by selecting the restart command in the configuration tool,
- or**
- by pressing restart button on the Master Controller board,
- or**
- by disconnecting the mains and the battery and after few seconds turn on the power again.

8. TO UPDATE THE APPLICATION PROGRAM IN THE UNITS

The application program may be updated to Master Controller (MC), Loop Controller (LC) and Intellia Loop Controller (ALC) separately connecting the PC to the MC unit and download the application to the unit.

The application programs in Conventional Loop Controller (CLC), I/O controller (IOC), Power supply A (PSA) and Power Supply B (PSB) may be downloaded only in factory. So the update of the program is done by replacing the unit.

9. RESTARTING THE SYSTEM

The system starts automatically when power is connected.

(To connect power to the panel, connect the 30Vac cable and battery cable to the Power Supply unit.)

The system can be restarted without power down – power up, by pressing the restart button on the Master Controller Board.

10. BOARD REPLACEMENT

NOTE!

Always de-energize the system by disconnecting the battery cable and the 30Vac cable from the Power Supply unit before replacing a board.

A board is removed by:

- Loosening (two turns) two screws (type pozidrive 1) in both front corners.
- Moving the board first laterally ½ cm and then up ½ cm and then pulling it out laterally from the mother board connector and the rack

A new board is installed in opposite order.

APPENDIX 1 - Fuses**Fuses on the Power supply board PSA (2,2A):**

Fuse	Type	Protects
BATT FUSE	T6.3A	Battery , “+”pole
MAIN FUSE	T3.15	30Vac , the secondary circuit of transformer

Fuses on the Power supply board PSB (4,5A):

Fuse	Type	Protects
BATT FUSE	T6.3A	Battery , “+”pole
MAIN FUSE	T6.3A	30Vac , the secondary circuit of transformer

The short circuit protections in other power supply outputs and in alarm device outputs are not done by fuses and those protections recover automatically.