SV SISTEMI DI SICUREZZA

ITALIA

EXFIRE360

EX6EV-C – TECHNICAL SPECIFICATION

DATASHEET

REVISION 05 DTD. 26/01/2012

TS-0008-EN-REV05

PROPERTY RIGHTS

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REVISION INDEX

Revision index	Description	Date
Revision 01	Preliminary	17/01/2010
Revision 02	Revised for certification scope	08/03/2010
Revision 03	Revised for certification scope	20/10/2010
Revision 04	Revised for certification scope	20/12/2011
Revision 05	Revised for certification scope	26/01/2012

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1 GENERAL INFORMATION

1.1 CODES AND STANDARDS

Design of hardware and software has been developed according to the following reference standards.

Construction Products Directive (CPD) – Directive 89/106/EEC
"Council Directive 89/106/EEC of 21 December 1988 on the approximation of laws, regulations and administrative provisions of the Member States relating to construction products."

EN 54-2:1997 + A1:2006
"Fire detection and fire alarm systems - Part 2: Control and indicating equipment"

EN 54-4:1997 + A1:2002 + A2_2006
"Fire detection and fire alarm systems - Part 4: Power supply equipment)"

EN 12094-1:2003
"Fixed firefighting systems - Components for gas extinguishing systems - Part 1: Requirements and test methods for electrical automatic control and delay devices (only for EX6EV-C card)"

1.2 DESIGN REQUIREMENTS

Mechanical requirements

Environmental classification	Class A -5° +40° C.
Enclosure type	19" rack-mounted units, 40U cabinet with IP30 protection degree.

Components of the extinguishing modules were selected on the basis of the performance required and are suitable to operate when the ambient conditions on the external surface of the cabinet are of 3K5 class as per EN 60721-3-3.

Manual controls

Manual controls are identified for their specific purpose. Master display is equipped with a graphical symbol to provide access to the menu. By pressing "menu" key, the operator will read the electrical parameters of each channel as well as the diagnostics of the modules.

Visible indications

Alarm, fault and other supervisory or monitoring indications are visible on the Master display, light emitting indicators adjacent to the display and on ModLcd displays installed on each module.
Touch-screen operations on Master display give access to the panel functions (at access levels 1/2/3).
Visible indications are clearly identified at access level 1 for their specific function.

Distinct light indications

Mandatory visible indications could be fully tested through "Test LED" function available at level 1 or 2.
Visible indications are clearly identified at access level 1 for their specific function.

Indications shown on alphanumeric displays

EXFIRE360 panel is designed with an alphanumeric display, which shows system information, and a set of light emitting indicators that provide the following conditions: "Power", "Alarm", "Fault", "Isolate", "Test", "Supervisory", "Output activated", etc.
The same conditions are repeated on the module's Lcd displays.

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CE 0051 12

Modello/Model: :	EX6EV-C
Commessa/Job n. :	
Anno/Year :	
Cliente/Customer: :	
ID Centrale/Panel ID :	
Numero di Serie/Serial No. :	
Tensione/Supply Voltage :	230 V ~
Frequenza rete/Frequency :	50/60 Hz
Corrente Max/Max Current :	10 A
Grado IP/Prot. Degree :	IP55
N° Certificato/Certificate No.:	0051-CPD-0370

EN 12094-1 - Fixed firefighting systems - Components for gas extinguishing systems - Part 1: equirements and test methods for electrical automatic control and delay devices

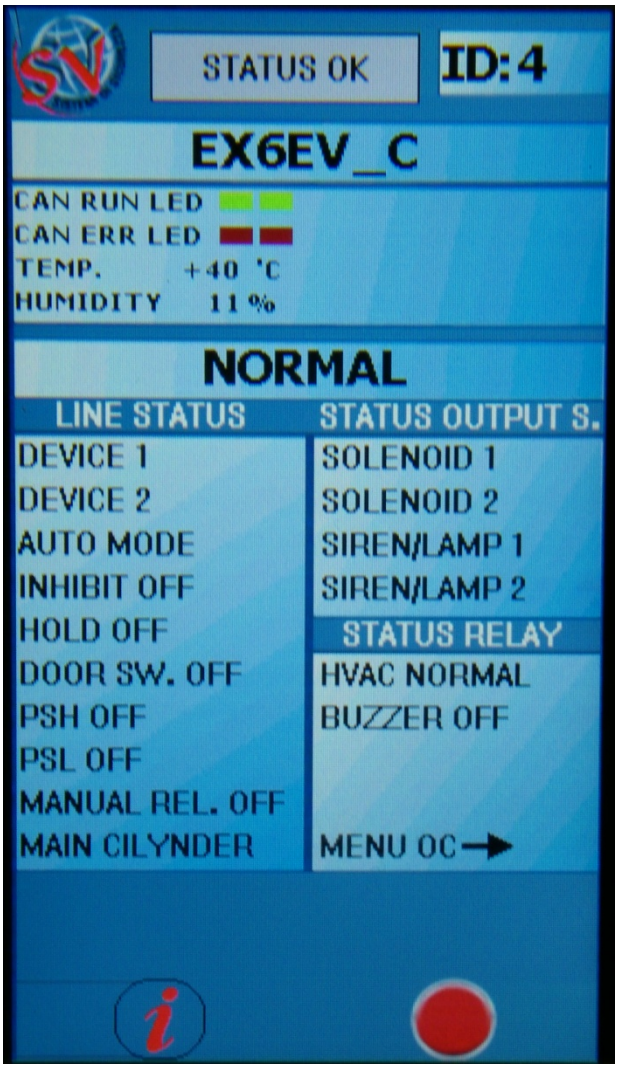
Only EX6EV-C card, installed in EXFIRE360 fire alarm control panel
Environmental class: A
Flooding zones: 1 ÷ 29
Flooding zones type: CO_2, inert gas, halogenated hydrocarbons
Delay time on extinguishing signal: 2 s
Delay time on outputs activation: 1 s
Provided options:
Delay on extinguishing signal
Signal representing the flow of extinguishing agent
Monitoring of the status of components
Emergency hold device
Manual only mode
Triggering of equipment within the system
Triggering of equipment outside the system
Extinguishing signal to reserve cylinders
Discharge inhibition
Other technical data: see documentation held by the manufacturer

2 TECHNICAL SPECIFICATION OF EX6EV-C MODULE

2.1 EX6EV-C EXTINGUISHANT CONTROL MODULE

EX6EV-C IS DESIGNED IN ACCORDANCE WITH EUROPEAN STANDARD EN12094- 1 FIXED FIREFIGHTING SYSTEMS - COMPONENTS FOR GAS EXTINGUISHING SYSTEMS - PART 1: REQUIREMENTS AND TEST METHODS FOR ELECTRICAL AUTOMATIC CONTROL AND DELAY DEVICES. IT PROVIDES ALL INPUTS AND OUTPUTS REQUIRED TO CONTROL A FIRE SUPPRESSION SYSTEM.

When EX8SI AND EX6EV cards are combined in an EX6EV-C module, the two front displays will merge in a single one. This display shows status information of all input and output circuits.



3 MAIN TECHNICAL SPECIFICATIONS

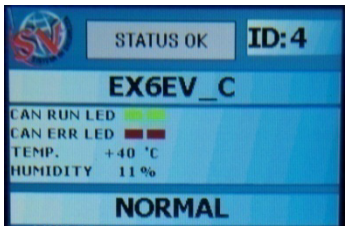
- Self diagnostics of 13 hardware blocks
- Hot Swap capability
- Automatic addressing of the modules
- Installation on 19” subrack (8 TE) with fixing screws
- Automatic control of a fire extinguishing system even without CPUs
- Monitoring of ten inputs with line supervision (open and short circuit)
- Four supervised outputs (max 2 A) with open and short circuit monitoring
- Two 2 A unsupervised outputs
- n. 14 open collector outputs (max. current draw: 500 mA)
- Monitoring of card temperature during operation
- Monitoring of card humidity during operation
- Real time supervision of CAN Bus communication
- Monitoring of 24 Vdc/5 Vdc/3.3 Vdc voltages
- Automatic switching of faulty channels
- Driver redundancy
- Programmable fire safety functions
- Automatic agent release with programmable 1oo2 or 2oo2 logic of operation
- Programmable pre-alarm and alarm thresholds of each channel
- Quiescent current draw at 24 Vdc: 50 mA
- Maximum current draw: 200 mA
- Power supply voltage: 24-30 Vdc
- Operating temperature: from -5 to +40°C
- Storage temperature: from -10 to +50°C
- Relative humidity: <= 95% (non condensing)
- Eurocard size: 160mmx100mm

4 VIEW MENU

4.1 QUIESCENT CONDITION

In quiescent condition, the module display shows:

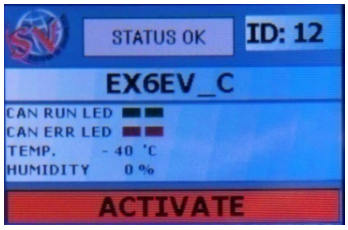
- Card address and identification
- CAN Bus communication status
- Card temperature and humidity
- Input status of 4-20 mA inputs
- Status of supervised 24 Vdc outputs
- Status of unsupervised outputs
- Status of release timer
- Access to info menu



4.2 ALARM CONDITION

In fire alarm condition, the module display shows:

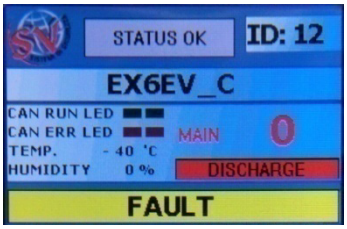
- Identification of inputs in alarm and relevant status
- Identification of inputs in pre-alarm and relevant status
- Status and identification of supervised outputs
- Status and identification of unsupervised outputs
- Status and identification of open collector outputs
- CAN Bus communication status
- Card temperature and humidity

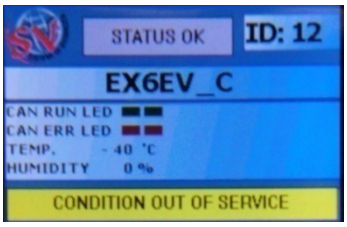


4.3 DISABLEMENT CONDITION

If a circuit or device is disabled, the card display shows:

- indication of disablement with identification of the disabled devices
- indication of disablement with identification of the disabled lines
- Status and identification of supervised outputs
- Status and identification of unsupervised outputs
- Status and identification of open collector outputs
- CAN Bus communication status
- Card temperature and humidity

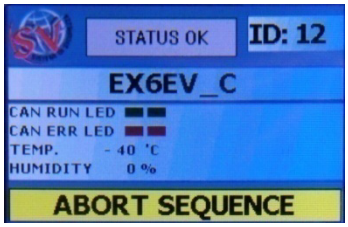




4.4 FAULT WARNING CONDITION

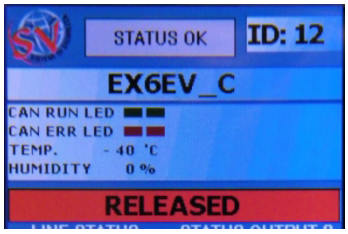
In case of fault, the card display will show:

- Abnormal condition of 4-20 mA inputs (open/short circuit)
- Fault of supervised outputs
- Can Bus error
- Abnormal card temperature/humidity
- Abnormal power supply voltage (24vdc, 5vdc, 3.3vdc)



4.5 MENU SEGNALAZIONE VISIVA CONDIZIONE DI TEST

Test condition is superimposed on other conditions of the module, inhibiting output circuits. Signal priority in the visualisation of messages is: alarm, disabled, fault and test.



5 MODULE SUBMENUS

5.1 CARD DIAGNOSTIC OF EX6EV-C MODULE

Card diagnostics menu of EX6EV-C's front display indicates the following messages:

HARDWARE FAULT OF THE MODULE

ADC 1 CONVERSION	"Analogue to digital conversion (normal status)"
ADC 2 CONVERSION	"Analogue to digital conversion (normal status)"
HW IN STATUS	"Abnormal input status"
HW OUT STATUS	"Abnormal output status"
CAN BUS COM	"Communication status of CAN Bus Rx messages"
RS 485 COM	"Communication status of RS485 link"
HW REDUNDANT	"Status of redundant channel"
BLOCCO HW TEMP/HUM	"Abnormal operation of temperature/humidity sensor"
POWER	"Power supply of the combined module"

6 TECHNICAL FEATURES OF I/O SIGNALS

6.1 SUPERVISED INPUTS

LINE 1	Supervised input from a fire detection circuit or a fire detection and alarm system
LINE 2	Supervised input from a fire detection circuit or a fire detection and alarm system
AUT / MAN	Automatic/manual selector switch (enabled at access level 2)
INIBIZIONE	Local inhibition input (enabled at access level 2)
PULSANTE HOLD	Hold device
DOOR SWITCH	Door switch, flood detector, etc.
PSH	High pressure switch
PSL	Low pressure switch (common signal)
PULSANTE DI SCARICA	Manual release station
MAIN / RESER	Main/reserve switch

N.B. maximum number of detectors or manual call points which can be connected to a conventional line is 32.

6.2 SUPERVISED OUTPUTS

The following supervised outputs shall not be used to connect type "E" and "J" equipment (EN 54-1).

EV 01	24 Vdc solenoid valve
EV 02	24 Vdc solenoid valve
TOA 01	Notification appliance
TOA 02	Notification appliance

6.3 UNSUPERVISED OUPUTS

The following relay outputs cannot be used as type “C”, “E”, “J”, “G” (EN 54-1 and EN 54-2), therefore notification appliances, fire alarm and fault warning routing equipment and fire protection systems cannot be connected to these outputs (no line supervision is provided).

RELE 01	N.C./N.O. relay (for magnetic door holders, HVAC systems, fire dampers)
RELE 02	N.C./N.O. relay (for magnetic door holders, HVAC systems, fire dampers)

6.4 OPEN COLLECTOR OUTPUTS

Open collector outputs cannot be used as type “C”, “E”, “J”, “G” (EN 54-1 and EN 54-2), therefore notification appliances, fire alarm and fault warning routing equipment and fire protection systems cannot be connected to these outputs (no line supervision is provided).

Basic configuration of O.C. outputs is as follows:

System release started (EV 01)
System release started (EV 02)
Release timer started
Predischarge sequence completed
Fault warning
Power on
Release imminent
Discharge inhibition
Automatic/manual operating mode
System released (signal from PSH)
Line fault
Disabled condition
Main/reserve selection
Emergency hold switch operated
Common negative

7 FUNCTIONAL DESCRIPTION OF EX6EV-C MODULE

EN 12094-1 standard states that the electrical automatic control and delay device may be an integral part of a control and indicating panel (c.i.e.) or a separate unit.
EX6EV-C is considered as an integral part of EXFIRE360 panel. Common indicators are used for both the c.i.e. and EX6EV-C module.
EXFIRE360 c.i.e. can perform logic functions that involve EX6EV-C module, however EX6EV-C is capable of operating a fire suppression system even if the c.i.e. is out of service.
C.i.e. is equipped with two redundant CPUs (one is active, the secondary is in standby).
Input and output circuits are controlled by the following modules:

EX8SI
Provides eight supervised inputs which can be programmed for controlling manual call points, pressure switches, selector switches and dry contacts.

INPUT 1	detection circuit 1
INPUT 2	detection circuit 2
AUT / MAN	local selector switch (enabled at access level 2)
ABORT	Release inhibition
HOLD	Hold switch
DOOR SWITCH	Flood detector, door switch, etc.
PSH	High pressure switch
PSL	Low pressure switch (common signal)

7 open collector outputs (common positive) programmable for each input (max. current output: 500 mA)

EX6EV
Provides two supervised inputs and six outputs, four of which are 24 Vdc supervised for activating solenoid valves and notification appliances.

EV 01	24 Vdc solenoid valve (programmable)
EV 02	24 Vdc solenoid valve (programmable)
TOA 01	Notification circuit (programmable)
TOA 02	Notification circuit (programmable)
RELE 01	N.C./N.O. relay (for magnetic door holders, HVAC systems, fire dampers)
RELE 02	N.C./N.O. relay (for magnetic door holders, HVAC systems, fire dampers)
SCARICA	Manual release station
MAIN/RES	Main/reserve switch

7 programmable open collector outputs

<u>Maximum number of EX6EV-C modules per panel is 29.</u>

7.1 MANDATORY REQUIREMENTS OF EX6EV-C MODULES

EX6EV-C module is designed to comply with the following mandatory requirements:

- Connection and processing of signals from a fire detection and alarm system and from manual controls available on the touch-screen interface.
- Control of supervised inputs for manual activation of the extinguishing system.
- Activation of 24 Vdc supervised outputs for triggering solenoid valves and notification appliances.
- Visible indication of active, fault warning and disabled conditions on Lcd displays (ModLcd and MasterLcd) and by means of light emitting indicators.
- Status of inputs and outputs is supervised; any abnormal condition of hardware and software is monitored.
- Monitoring of ten input circuits (both short and open circuit).
- Monitoring of six output circuits (both short and open circuit).
- Seven open collector outputs for remote transmission of system status.
- Monitoring and indication of the current draw of each input circuit
- Monitoring and indication of the current draw of each 24 Vdc supervised output.
- Monitoring of card temperature while the module is in operation.

7.2 ADDITIONAL REQUIREMENTS OF EX6EV-C MODULES

EX6EV-C modules provide the following additional functions; these features are not mandatory according to EN 12094-1, but are subjected to the requirements of the EN standard.

- Delay of extinguishing signal.
- Processing of signal representing the flow of extinguishing agent.
- Monitoring of the status of components.
- Emergency hold device.
- Manual only mode.
- Triggering of equipment inside the system.
- Signal to reserve cylinders.
- Triggering of equipment outside the system.
- Input signal for discharge inhibition.

7.3 VISIBLE INDICATIONS

One EX6EV-C module shall be installed for each fire suppression system. The module's front panel shows all the mandatory visible indications, which are hereby described.

Activated status	Activated indication (including indication of main/reserve)
Extinguishant status (release imminent, released)	Indication on main display + indication on ModLcd display + red light emitting indicator on MasterLcd
Fault warning condition	Indication on main display + indication on ModLcd display + "fault" light emitting indicator on MasterLcd
Disabled condition	Indication on main display + indication on ModLcd display
Discharge inhibition	Indication on main display + indication on ModLcd display
Emergency hold	Indication on main display + indication on ModLcd display
Manual only mode	Indication on main display + indication on ModLcd display
Selection of reserve cylinders	Indication on main display + indication on ModLcd display

Activation of outputs (both supervised/unsupervised and open collector) is indicated on the card display.
Alarm, fault warning and disabled conditions are shown on module display and main display of the panel.

7.4 SIGNALS FROM FIRE DETECTION AND ALARM SYSTEM (FDAS)

EX6EV-C modules is capable of receiving and processing signals from the fire detection system and a manual release signal connected to a EX8SI module.
When a signal from a FDAS is received and the activated condition is established, no disablement of the fire suppression system can be performed.
Release countdown timer (programmable from 0 to 60 seconds, with one-second step increments) will be started. Default pre-discharge interval lasts for 30 second.
Signals from an emergency hold switch or an inhibition circuit will affect the pre-discharge sequence; in case of fault of any of these two circuits, or if the disabled condition exists, the discharge sequence will not be started.

7.5 TRANSMISSION OF DISCHARGE SIGNAL

Signal to solenoid valves (on main or reserve cylinders) is transmitted when the signal from the fire detection and alarm signal is received. Status information is indicated on ModLcd display.
An open collector output may be programmed to be activated when this condition occurs.

7.6 ACTIVATION OF ALARM DEVICES

Activation of alarm devices is performed when the signal from the fire detection and alarm signal is received. Status information of notification circuits is indicated on ModLcd display, MasterLcd and by means of light emitting indicators.
An open collector output may be programmed to be activated when this condition occurs.

7.7 ACTIVATED CONDITION

This condition is established within a second from the signal received from the fire detection and alarm system.
Notification appliances are operated within a second. Activated status is indicated by means of the following:

- An audible indicator
- A light emitting indicator (steady light) and a message of activation on the module display
- A message which indicates that notification appliances are operated

7.8 EXTINGUISHANT STATUS

Released condition is established when the module receives the signal that represents the flow of extinguishing agent (PSH) or the activation of the solenoid valves (EV1). This condition is annunciated on ModLcd display, MasterLcd and by means of a light emitting indicator.
An open collector output may be programmed to be activated when this condition occurs.
If the released condition is started when the signal from the high pressure switch is received but without any signal from the fire detection and alarm system, an audible indication is determined.

7.9 RESET OF ACTIVATED AND RELEASED CONDITIONS

Reset of activated and released conditions is performed at access level 2. Reset function is disabled for a programmable time interval (from 1 to 30 minutes) when activated and released conditions exist. This delay may be programmed at access level 3.

7.10 FAULT WARNING CONDITIONS

The following fault warning conditions are processed and displayed:

- Short or open circuit of transmission paths to fire alarm devices
- Short or open circuit of transmission paths to manual controls
- Short or open circuit of transmission paths to a discharge inhibition device, a emergency hold device or a door switch
- Internal power supply faults
- System faults
- Abnormal execution of the program or error in the memory contents
- Short or open circuit of transmission paths to releasing equipment
- Short or open circuit of transmission path to devices that indicate the flow of extinguishing agent

Fault warning condition also determines:

- Intermittent activation of light emitting indicator on the main display
- Indication of the details of the fault condition on MasterLcd and ModLcd (including the total number of faults and indication of internal hardware faults)
- Activation of fault warning output (general output)
- Audible annunciation; If previously silenced, the audible indication will re-sound for each newly recognized fault
- Visible indication by means of a light emitting indicator at access level 1

Fault condition is manually or automatically reset. Manual reset if permitted at access level 2.

7.11 DISABLED CONDITION

Input and output circuits of EX6EV-C module may be disabled at access level 2. In this scenario, released condition will not be established (including supervised outputs and emergency hold and inhibit circuits), except if the signal representing the flow of extinguishing agent is received.
Disablements are not affected by a reset command.
Il the disablement of a function or a transmission path is cancelled during a fire alarm condition, the extinguishing process is started and the agent is released at the end of the pre-discharge time interval.
Any disablement is indicated at access level 1 for each fire suppression zone and within 2 seconds, by means of:
La funzione di disabilitazione viene segnalata al livello di accesso 1 per ogni zona di scarica entro 2 s inequivocabilmente mediante:

- Light emitting indicators
- Messages on ModLcd and MasterLcd

7.12 EXTINGUISHANT RELEASE DELAY

Extinguishant release delay can be adjusted from 0 to 60 seconds, using one second steps. This function is accessible at level 3.

7.13 SIGNAL REPRESENTING THE FLOW OF EXTINGUISHING AGENT

If this signal is received without an activated condition, the released condition is established and the corresponding outputs are operated.

7.14 MONITORING OF THE STATUS OF COMPONENTS

Signal representing the loss of extinguishant is indicated on ModLcd, MasterLcd and a light emitting indicator, and is annunciated by means of an audible signal within 100 s (at access level 1).

7.15 EMERGENCY HOLD DEVICE

Emergency hold device enables the extinguishant delay time to be extended, as described in EN12094-1 Section 4.20 (option with requirements). Notification appliances are not activated until the hold switch is pressed.
If the control panel is in the activated alarm condition, the extinguishant release sequence shall be halted. Release of the Hold input shall re-start the countdown release timer from maximum.

The panel will execute the following actions:

- Activation of buzzer (if previously silenced)
- HOLD status is shown on the module display
- Activation of a dedicated output which is associated with the emergency hold condition

While in operation, a fault of the hold device is processed and indicated within 2 seconds, and it stops the discharge process. Fault of emergency hold's initiating circuit inhibits the operation of the releasing circuits.

7.16 SIGNAL TO RESERVE CYLINDERS

EX6EV-C module provides two extinguishant outputs for operating main or reserve cylinders (if installed). Selection of the cylinder bank is done using main/reserve switch. If this switch is on "main" and a 2nd stage condition occurs, the main cylinders will be released. In the event of a loss of extinguishant (indicated by the PSL signal), the activated condition will cause the discharge of reserve cylinders (even if the main/reserve switch is on "main").

7.17 MANUAL ONLY MODE

EX6EV module is designed to switch from manual only to automatic&manual mode and vice versa. A dedicated input is provided for connecting auto-manual selector switches.

Upon operation of the auto-manual switch, the system will carry out the following actions:

- Activation of an open collector output
- Visible indication on ModLcd and MasterLcd displays at access level 1

7.18 TRIGGERING OF EQUIPMENT OUTSIDE THE SYSTEM

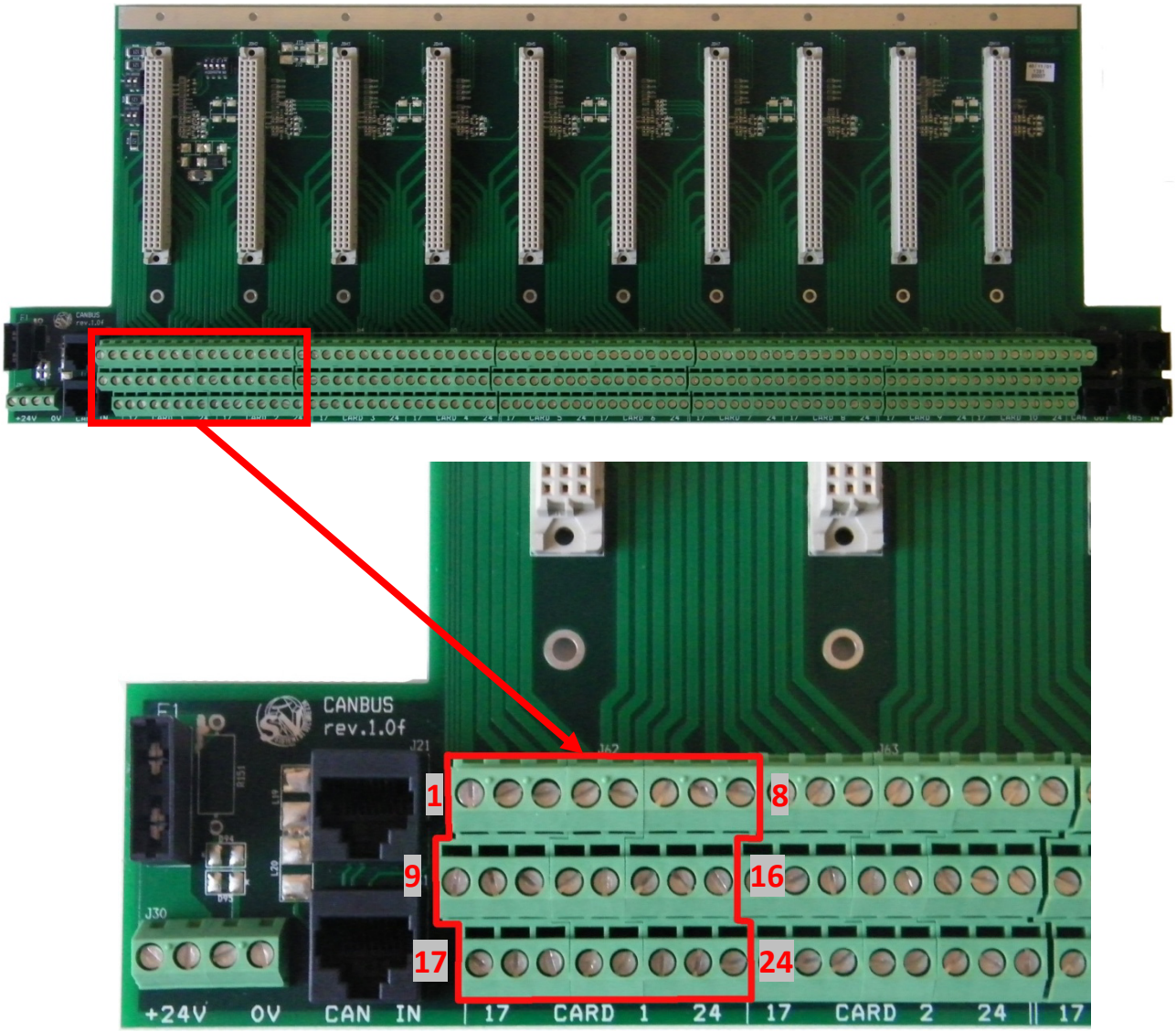
EX6EV-C has two 2 A relay outputs (on per fire suppression zone) that can be used for HVAC shutdown, release of door holders, etc.
Open collector outputs may be programmed to be associated with the operation of these two relays.
Operation of relay outputs is indicated on ModLcd and MasterLcd displays.

7.19 INPUT SIGNAL FOR DISCHARGE INHIBITION

EX6EV-C provides an input for discharge inhibition. If the control panel is in the quiescent or activated alarm condition, the extinguishant release sequence shall not be started or be halted until the discharge inhibition is reset and the activated condition is established.
Open collector outputs may be associated with this condition.
Any fault in the inhibition circuit is received and processed.
Discharge inhibition is indicated on ModLcd and MasterLcd displays.

8 WIRING EX6EV-C MODULE

8.1 CANBUS TERMINAL BOARD



Terminals are power limited to avoid danger in the event of short circuit. Technical specifications of the terminal strip are summarized as follows:

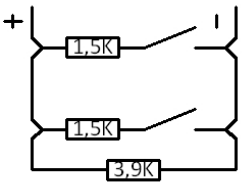
- Wire entry: horizontal
- Maximum operating temperature: 110°C.
- Accepted wire cross sections: AWG 12, 14, 16, 18, 20, 22, 24 – mm² 0.05 - 2.50.
- Maximum current: 17,5A.
- Maximum voltage: 300V.

8.2 WIRING SPECIFICATION OF EX8SI MODULE

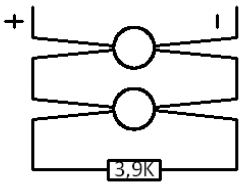
The following table shows the connection of inputs and outputs to EX8SI module.

Module	Terminal	Programmable thresholds (typical values)				Signal description Inputs / Open collector outputs
		Quiescent	Open circuit	Pre-alarm	Alarm	
EX8SI	1	4.0 mA	2.0 mA	14mA	20mA	Input 1 + 24 Vcc
EX8SI	2	4.0 mA	2.0 mA	14mA	20mA	Input 2 + 24 Vcc
EX8SI	3	4.0 mA	2.0 mA	14mA	20mA	Input 3 + 24 Vcc
EX8SI	4	4.0 mA	2.0 mA	14mA	20mA	Input 4 + 24 Vcc
EX8SI	5	4.0 mA	2.0 mA	14mA	20mA	Input 5 + 24 Vcc
EX8SI	6	4.0 mA	2.0 mA	14mA	20mA	Input 6 + 24 Vcc
EX8SI	7	4.0 mA	2.0 mA	14mA	20mA	Input 7 + 24 Vcc
EX8SI	8	4.0 mA	2.0 mA	14mA	20mA	Input 8 + 24 Vcc
EX8SI	9					Input 1 -0 Vcc
EX8SI	10					Input 2 -0 Vcc
EX8SI	11					Input 3 -0 Vcc
EX8SI	12					Input 4 -0 Vcc
EX8SI	13					Input 5 -0 Vcc
EX8SI	14					Input 6 -0 Vcc
EX8SI	15					Input 7 -0 Vcc
EX8SI	16					Input 8 -0 Vcc
EX8SI	17					Alarm o.c. output 1 max 500mA
EX8SI	18					Pre-alarm o.c. output 2 max 500mA
EX8SI	19					Line fault o.c. output 3 max 500mA
EX8SI	20					Card hw ok o.c. output 4 max 500mA
EX8SI	21					Common
EX8SI	22					Can bus ok o.c. output 5 max 500mA
EX8SI	23					Normal status o.c. output 6 max. 500mA
EX8SI	24					Fw redund. o.c. output 7 max. 500mA

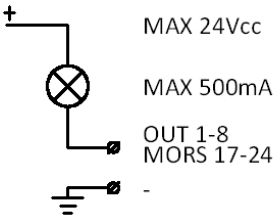
WIRING OF DRY CONTACTS



WIRING OF CONVENTIONAL DETECTORS



WIRING OF OPEN COLLECTOR OUTPUTS

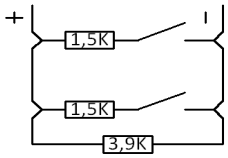


8.3 WIRING SPECIFICATION OF EX6EV MODULE

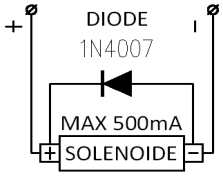
The following table shows the connection of inputs and outputs to EX6EV module.

Module	Terminal	Programmable thresholds (typical values)				Signal description Inputs / Open collector outputs
		Quiescent	Open circuit	Pre-alarm	Alarm	
EX6EV	1	4.0 mA	2.0 mA	14mA	20mA	Manual release station
EX6EV	2	4.0 mA	2.0 mA	14mA	20mA	Pressure switch (PSH)
EX6EV	3					EV 01 24 Vdc solenoid valve (+)
EX6EV	4					EV 02 24 Vdc solenoid valve (+)
EX6EV	5					TOA 01 notification appliance
EX6EV	6					TOA 02 notification appliance
EX6EV	7					Common (relay 1)
EX6EV	8					Common (relay 2)
EX6EV	9					Manual release station
EX6EV	10					Fire detection circuit
EX6EV	11					EV 01 24 Vdc solenoid valve (-)
EX6EV	12					EV 02 24 Vdc solenoid valve (-)
EX6EV	13					TOA 01 notification appliance
EX6EV	14					TOA 02 notification appliance
EX6EV	15					Relay 01 NC/NO
EX6EV	16					Relay 02 NC/NO
EX6EV	17					Manual release (o.c. output)
EX6EV	18					Fire alarm (o.c. output)
EX6EV	19					Start of release countdown timer (o.c. output)
EX6EV	20					Extinguishant agent released (o.c. output)
EX6EV	21					General fault (o.c. output)
EX6EV	22					Triggering of equipment outside the system (o.c. output)
EX6EV	23					Quiescent status
EX6EV	24					Common

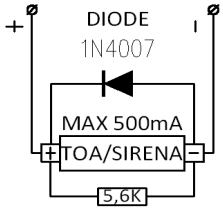
WIRING OF MANUAL RELEASE STATION OR MAIN/RESERVE SWITCH



WIRING OF SOLENOID VALVES



WIRING OF NOTIFICATION APPLIANCES



9 MAINTENANCE

EX6EV-C modules (EX8SI or EX6EV) can be removed or replaced while the panel is in operation: the panel will show a card fault message to indicate that the one of the modules is missing.
Wait at least 30 seconds before reconnecting the module to the panel, in order to avoid electrical damages to electronic components.
When the module is plugged in the CANBus backplane, the panel should identify it and the fault condition shall be automatically reset.