

**SV SISTEMI DI SICUREZZA**

ITALIA



# EXFIRE360

EX8RO – TECHNICAL SPECIFICATION

DATASHEET

REVISION 05 DTD. 21/12/2011

TS-0009-EN-REV05

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## REVISION INDEX

Revision	Description	Date
Revision 01	Preliminary	17/01/2010
Revision 02	Revised for certification scope	08/03/2010
Revision 03	Revised for certification scope	20/09/2010
Revision 04	Revised for certification scope	03/08/2011
Revision 05	Revised for certification scope	21/12/2011

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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.

Standard Eurocard (160x100) with rack mounting kit.

#### **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.

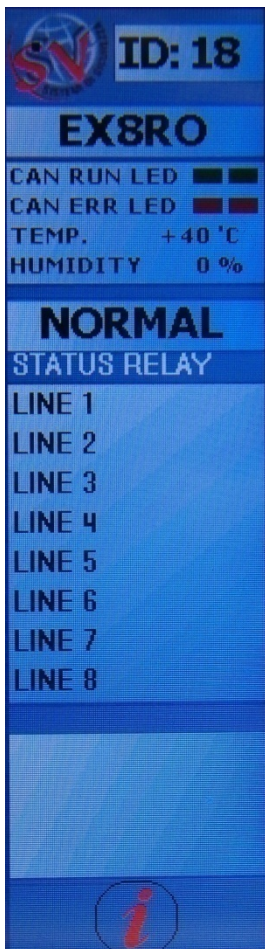
The same conditions are repeated on the module’s Lcd displays.

## 2 TECHNICAL SPECIFICATION OF EX8RO MODULE

### 2.1 OPERATING DESCRIPTION OF EX8RO MODULE

EX8RO module provides eight programmable relay outputs (normally closed or normally open). Dry contacts may be associated with events or conditions of EXFIRE360's I/O modules or triggered by remote controls (third-party panels or data management systems).

### 2.2 MAIN CHARACTERISTICS



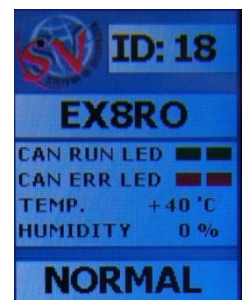
- Self diagnostics of 8 hardware blocks
- Hot plug and hot swap capability (with the panel in operation)
- Automatic addressing of the modules
- Installation on 19" subrack (8 TE) with fixing screws
- Eurocard with standard size 160 mm x 100 mm
- Eight programmable relay outputs (N.C. or N.O.)
- Monitoring 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
- Indication of the activated outputs (with indication of the ID code)
- Power supply voltage: 21-30 Vdc
- Quiescent current draw at 24 Vdc: 100 mA
- Quiescent current draw of each output circuit: 70 mA
- Current rating of relays: 4 A at 24 Vdc
- Operating temperature: from -5 to +40°C
- Storage temperature: from -10 to +50°C
- Relative humidity: <= 95% (non condensing)

### 3 VIEW MENU

#### 3.1 QUIESCENT CONDITION

In quiescent condition, the module display shows:

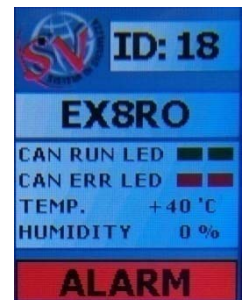
- Card address and identification
- CAN Bus communication status
- Card temperature and humidity
- Status of relay outputs
- Access to Info menu



#### 3.2 ALARM CONDITION

In fire alarm condition, the module display shows:

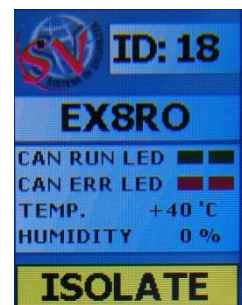
- Card address and ID number
- Card temperature and humidity
- Identification of activated outputs



#### 3.3 DISABLED CONDITION

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

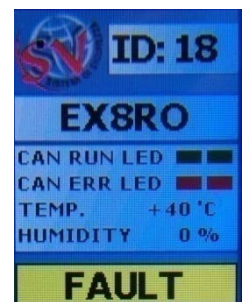
- Card address and ID number
- Card temperature and humidity
- Identification of the disabled output(s)



#### 3.4 FAULT WARNING CONDITION

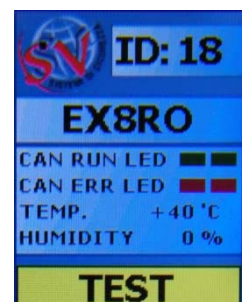
In case of fault, the card display shows:

- Card temperature and humidity
- Fault warning indication, which may correspond to:
  - abnormal temperature/humidity
  - Can Bus error
  - Abnormal power supply voltage (24vdc, 5vdc, 3.3vdc)
  - Fault of hardware blocks.

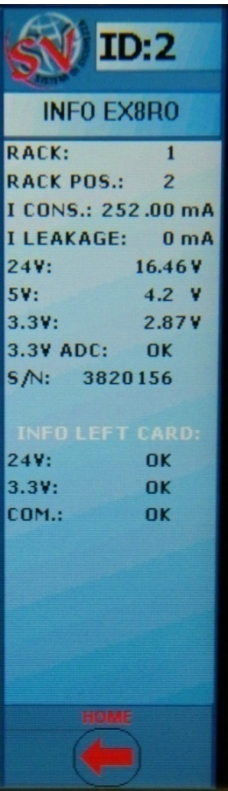


#### 3.5 TEST CONDITION

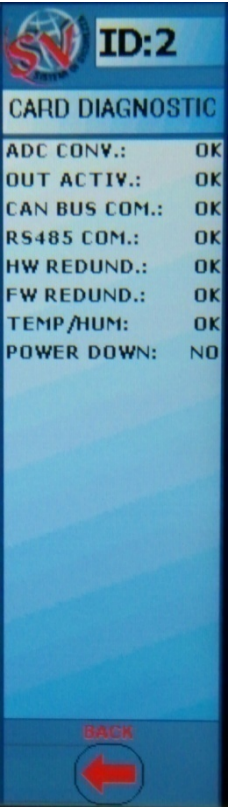
Test condition is superimposed on other conditions of the module, inhibiting output circuits. Signal priority in the visualisation of messages is: alarm, disabled, fault and test.



4 CARD MENU 



**Info menu**  
Shows main card information and power supply details of the module installed in the next position with respect to EX8RO card (for cross-check)



**Card diagnostics menu**  
Shows hardware blocks used for card diagnostics purposes

#### 4.1 CARD DIAGNOSTICS OF EX8RO MODULE

Card diagnostics menu of EX8RO's front display indicates the following messages:

##### HARDWARE FAULT OF THE MODULE

ADC 1 CONVERSION	"Analogue to digital conversion (normal status)"
HW OUT STATUS	"Abnormal status of outputs"
CAN BUS COM	"Communication status of CAN Bus Rx messages"
RS 485 COM	"Communication status of RS485 link"
HW REDUNDANT	"Status of redundant hardware"
BLOCCO HW TEMP/HUM	"Abnormal operation of temperature/humidity sensor"
POWER	"Power supply of the module combined with EX8RO card"

## 5 TECHNICAL FEATURES OF OUTPUT SIGNALS

### 5.1 UNSUPERVISED OUPUTS

Unsupervised 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).

RELAY 01	N.C./N.O. relay for activation of door holders, fire dampers, shutdowns, etc.
RELAY 02	N.C./N.O. relay for activation of door holders, fire dampers, shutdowns, etc.
RELAY 03	N.C./N.O. relay for activation of door holders, fire dampers, shutdowns, etc.
RELAY 04	N.C./N.O. relay for activation of door holders, fire dampers, shutdowns, etc.
RELAY 05	N.C./N.O. relay for activation of door holders, fire dampers, shutdowns, etc.
RELAY 06	N.C./N.O. relay for activation of door holders, fire dampers, shutdowns, etc.
RELAY 07	N.C./N.O. relay for activation of door holders, fire dampers, shutdowns, etc.
RELAY 08	N.C./N.O. relay for activation of door holders, fire dampers, shutdowns, etc.

### 5.2 APPLICATIONS

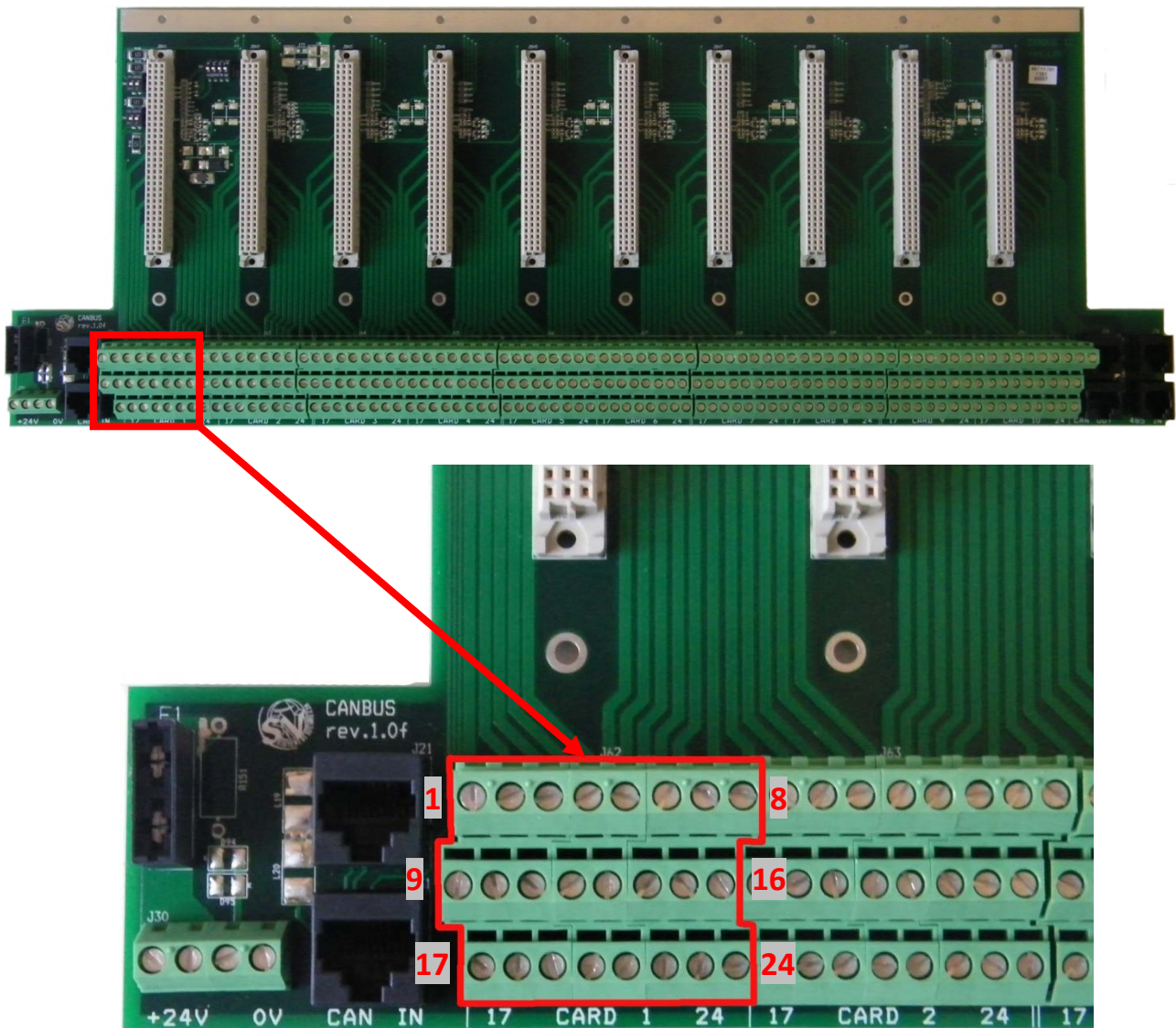
EX8RO module can be used to perform the following activations:

- Door holders, fire dampers, shutdowns
- Light indicators
- Electric door locksets

**Current rating may not exceed 4A.**

## 6 WIRING EX8RO MODULE

### 6.1 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 – mm<sup>2</sup> 0.05 - 2.50.
- Maximum current: 17,5A.
- Maximum voltage: 300V.

## 6.2 WIRING SPECIFICATIONS

The following table shows the connection of outputs to EX8RO module.

Module	Terminal	Programmable thresholds (typical values)				Module
		Quiescent	Open circuit	Pre-alarm	Alarm	
EX8RO	1					Common Relay1
EX8RO	2					Common Relay 2
EX8RO	3					Common Relay 3
EX8RO	4					Common Relay 4
EX8RO	5					Common Relay 5
EX8RO	6					Common Relay 6
EX8RO	7					Common Relay 7
EX8RO	8					Common Relay 8
EX8RO	9					Normally open Relay 1
EX8RO	10					Normally open Relay 2
EX8RO	11					Normally open Relay 3
EX8RO	12					Normally open Relay 4
EX8RO	13					Normally open Relay 5
EX8RO	14					Normally open Relay 6
EX8RO	15					Normally open Relay 7
EX8RO	16					Normally open Relay 8
EX8RO	17					Normally closed Relay 1
EX8RO	18					Normally closed Relay 2
EX8RO	19					Normally closed Relay 3
EX8RO	20					Normally closed Relay 4
EX8RO	21					Normally closed Relay 5
EX8RO	22					Normally closed Relay 6
EX8RO	23					Normally closed Relay 7
EX8RO	24					Normally closed Relay 8

**NOTE:** all outputs cannot be used to connect type C equipment (sounders), type E and J devices (fire and fault warning routing equipment) and type G systems (fire protection).

## 7 MAINTENANCE

EX8RO modules can be removed or replaced while the panel is in operation: the panel will show a card fault message to indicate that the module 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 the module and the fault condition shall be automatically reset.