SV SISTEMI DI SICUREZZA

ITALIA

EXFIRE360

BUSCPU – TECHNICAL SPECIFICATION

DATASHEET

REVISION 04 DTD. 26/01/2012

TS-0004-EN-REV04

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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	26/01/2012

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1 GENERAL INFORMATION

1.1 CODES AND STANDARDS

Design of hardware and software have 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.

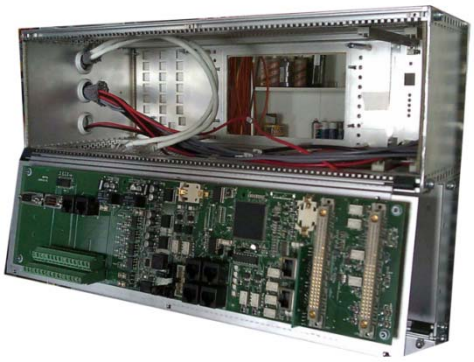
Indications shown on alphanumeric displays

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.

2 TECHNICAL SPECIFICATION OF BUSCPU CARD

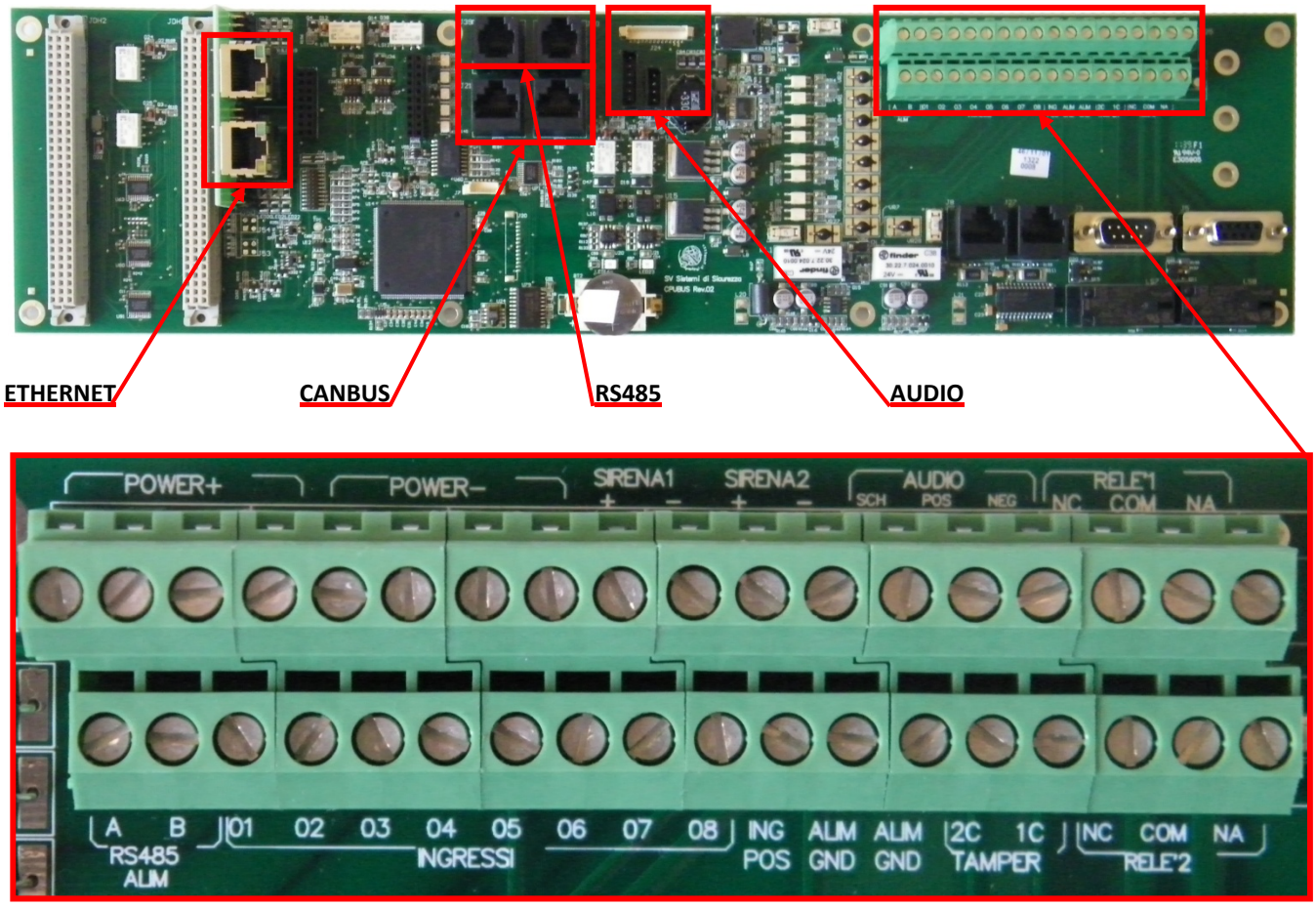
2.1 DESCRIPTION

BUSCPU is designed to control redundant communications, from CPU switchover to TCP/IP, RS485 and RS232 links. Communication parameters are display on the panel, in order to provide full supervision to the operator.
BUSCPU has also the specific function of a backplane card which connects the CPUs.



BUSCPU is protected from mechanical damage as well as from electromagnetic interference, and is mounted on the rear side of the subrack.

The card is supplied with two 72-pole connectors for installing EXCPU360 units, n.36 terminals for input/output signals, n.2 RJ45 Ethernet ports, one 20-pole audio connector, n.2 RJ45 CAN Bus ports, n.2 RJ11 I/O ports for connecting remote displays and n.2 9-pole connectors for printers.
Separation of power supply circuits and overcurrent protection is ensured. Four 0 Vdc output terminals and four 24 Vdc output terminals are provided.
Two outputs for sounders and one outputs to voice alarm systems are also available.



3 MAIN TECHNICAL CHARACTERISTICS

- Self diagnostics of 13 hardware blocks;
- Installed on the backplane (which can be opened for inspection) of a 19” subrack;
- n.2 outputs for sounder circuits;
- n.2 72-pole connectors for EXCPU units in hot standby configuration;
- n.36 terminals for input/output connections (maximum wire size: 1.5 mm^2);
- n.2 RJ45 TCP/IP ports;
- n.1 audio connector (20 poles);
- n.2 RJ45 CAN Bus ports;
- n.2 RJ11 serial ports for connection of remote displays;
- n.2 RS232 connectors for serial printers;
- n.7 digital inputs;
- 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;
- Status of input lines is shown on the panel display;
- CAN Bus connection of remote subracks, up to 1 km;
- Operating modes programmable by software;
- Power supply voltage: 21-30 Vdc
- Quiescent current draw at 24 Vdc: 200 mA
- Operating temperature: from -5 to +40°C
- Storage temperature: from -10 to +50°C
- Relative humidity: <= 95% (non condensing)
- Card size: 420mmx100mm.

3.1 DIAGNOSTIC FUNCTIONS OF BUSCPU CARD

The following error codes are displayed on “Card diagnostic” menu of the panel:

HARDWARE FAULT OF THE CARD	
ADC 1 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”
BLOCCO HW TEM/HUM	”Abnormal operation of temperature/humidity sensor”
POWER	“Power supply is correct”

4 TERMINAL BOARD OF BUSCPU CARD

1	24 Vdc power supply input
2	24 Vdc power supply input
3	24 Vdc power supply input
4	24 Vdc power supply input
5	0 Vdc power supply input
6	0 Vdc power supply input
7	0 Vdc power supply input
8	0 Vdc power supply input
9	+24 Vdc 1A sounder output 1
10	0 Vdc 1A sounder output 1
11	+24 Vdc 1A sounder output 2
12	0 Vdc 1A sounder output 2
13	Audio output (shield)
14	Audio output (positive)
15	Audio output (negative)
16	Relay 1 NC
17	Relay 1 COM
18	Relay 1 NA
19	Relay 2 NC
20	Relay 2 COM
21	Relay 2 NA
22	Tamper 1C
23	Tamper 2C
24	Power supply GND
25	Power supply GND
26	Common positive of digital inputs
27	Digital input 8
28	Digital input 7
29	Digital input 6
30	Digital input 5
31	Digital input 4
32	Digital input 3
33	Digital input 2
34	Digital input 1
35	RS485 B
36	RS485 A

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).

5 MAINTENANCE

In case of failure, replacement of BUSCPU card shall be carried out without power. Turn off primary and secondary power supply before removing the card.
Repower the panel when BUSCPU card is firmly installed, the CPUs are inserted and all other circuits reconnected.