SV SISTEMI DI SICUREZZA

ITALY

ELITE-FIRE

NANO-CPU TECHNICAL SPECIFICATION

TECHNICAL SPECIFICATION

REVISION 02 OF 13/10/2020

TS-0023-EN-REV02

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INDEX OF REVISIONS

REVISION	DESCRIPTION	DATE
Revision.01	Revised for certification scope	02/02/2020
Revision.02	Revised for updating company address	13/10/2020

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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 Regulation (CPR) – Regulation 305/2011.
"Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011 laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC".

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

EN 54-4
"Fire detection and fire alarm systems - Part 4: Power supply equipment)"

EN 12094-1
"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)"

EN 60079-29-1
"Explosive atmospheres - Gas detectors - Performance requirements of detectors for flammable gases"

1.2 DESIGN REQUIREMENTS

NANO-CPU has the environmental classification of the ELITE-FIRE and EX-LITE units.
The card can only be connected to NANO-BUS board.

1.3 MANUAL CONTROLS

Card is not equipped with manual controls.

1.4 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.

1.5 DISTINCT LIGHT INDICATIONS

Visible indications are clearly identified at access level 1 for their specific function. Mandatory visible indications could be fully tested through "Test LED" function available at level 2.
NANO-CPU is also equipped with 6 LEDs that identify the card status.

1.6 INDICATIONS SHOWN ON ALPHANUMERIC DISPLAYS

NANO-CPU has no further indications.

2 NANO-CPU PRESENTATION

NANO-CPU is the control unit of the ELITE-FIRE and EX-LITE units. It can be used in redundant configuration, with “hot-swap” functionality and automatic master/slave operation.
It communicates with the I/O cards of the system via a redundant CANbus; NANO-CPU can be configured through USB port, using the programming software SV Protection.

2.1 MAIN FEATURES

- two 26 poles connectors for card mounting on NANO-BUS board;
- 32 bit microcontroller;
-- USB port for system configuration (using programming software SV Protection);
- supply voltage: 21÷30 Vdc;
- standby current consuption: 50 mA;
- working temperature: -5 to +40°C;
- storage temperature: -10 to +50°C;
- humidity range (UR): <= 95% non-condensing;
- six LEDs on card front panel;
  - LED1 (green): steady ON if 24 Vdc input voltage is present;
  - LED3 (green): identifies the Master unit;
  - LED4 (yellow): steady ON when a fault condition is present;
  - LED5 (red): identifies the initialization phase;
  - LED6 (green): steady ON when Ethernet link is ON;
  - LED7 (green/red): identifies the CANbus status.

2.2 EXCPU360 REDUNDANCY

The redundancy operation is managed by both NANO-CPU units, depending by diagnostics. Each card performs a series of checks on internal components and monitors communication and voltages of the adjacent unit.
In normal condition, both NANO-CPU receives the messages transmitted by the I/O cards but only the Master is enabled to transmit data and command to the system.
When an abnormal condition is detected on the Master unit, this will be swapped to Slave and the panel control will be taken by the redundant unit.

3 MAINTENANCE

NANO-CPU can be connected or disconnected when desired, after the related power circuitry on NANO-BUS board has been disabled acting on control switch.
In case of removal, panel will display the message “MISSING CPU”. Please wait 30 seconds before inserting the card again, to let the card electronic discharge completely.
Once the card will be connected anew the panel will cancel the fault indication.