

SV SISTEMI DI SICUREZZA

ITALY



ELITE-FIRE

NANO-BUS TECHNICAL SPECIFICATION

TECHINICAL SPECIFICATION

REVISION 02 OF 13/10/2020

TS-0024-EN-REV02

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INDEX OF REVISIONS

REVISION	DESCRIPTION	DATE
Revision.01	Revised for certification scope	05/02/2020
Revision.02	Revised for updating company address	13/10/2020

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INDEX

1	GENERAL INFORMATION	4
1.1	CODES AND STANDARDS	4
1.2	DESIGN REQUIREMENTS.....	4
1.3	MANUAL CONTROLS.....	4
1.4	VISIBLE INDICATIONS.....	4
1.5	DISTINCT LIGHT INDICATIONS	4
1.6	INDICATIONS SHOWN ON ALPHANUMERIC DISPLAYS.....	4
2	NANO-BUS PRESENTATION	5
2.1	MAIN FEATURES	5
2.2	VISIBLE INDICATIONS.....	6
2.3	SWITCHES.....	6
3	TERMINALS	6
4	MAINTENANCE	6

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-BUS has the environmental classification of the ELITE-FIRE and EX-LITE units.

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.

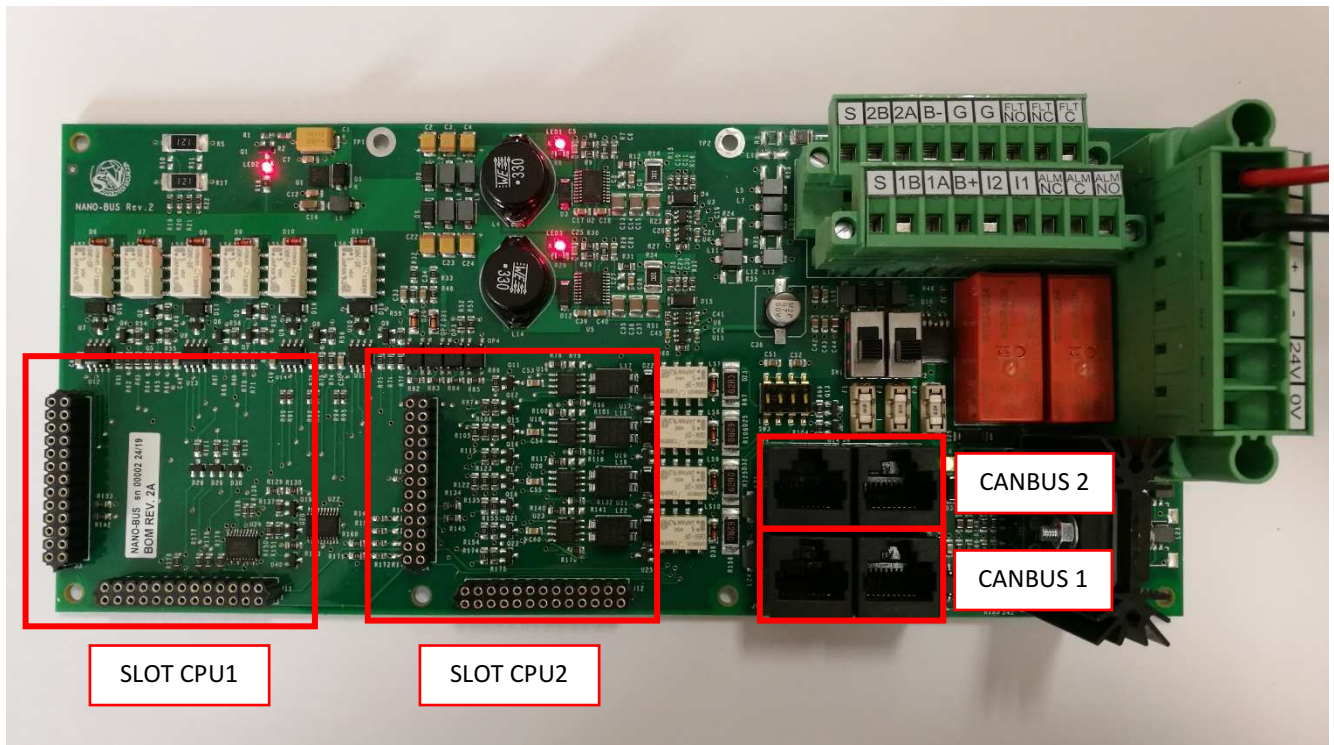
1.6 INDICATIONS SHOWN ON ALPHANUMERIC DISPLAYS

NANO-BUS has no further indications.

2 NANO-BUS PRESENTATION

NANO-BUS interfaces EXCPU360 control units with the input/output cards. It's mounted on the back plate of the NANO rack inside ELITE-FIRE panel or inside the EX-LITE unit.

Besides the connectors for the NANO-CPU units, the board is equipped with CANbus communication ports and a terminal board for input/outputs and two RS485 channels.



2.1 MAIN FEATURES

- two 24 Vdc inputs channels, decoupled via an integrated diode;
- one 24 Vdc output channel for powering EXMICRO board;
- 2 couple of connectors (26 poles) for “hot-swap” insertion of NANO-CPU units;
- two opto-isolated, digital inputs reserved for “power fault” and “battery fault” signals from external power supply unit;
- four RJ45 connectors for redundant CANbus;
- 1 SPDT relay for general alarm signal;
- 1 SPDT relay for general fault signal (normally energized);
- supply voltage: 21÷30 Vdc;
- standby current consumption: 50 mA;
- working temperature: -5 to +40°C;
- storage temperature: -10 to +50°C;
- humidity range (UR): ≤ 95% non-condensing;
- dimensions: 231 mm x 100 mm.

2.2 VISIBLE INDICATIONS

LED	COLOUR	MEANING
LED 1	RED	NANO-CPU 1 powered (5 Vdc active)
LED 2	RED	NANO-BUS powered (5 Vdc and 3,3 Vdc active)
LED 3	RED	NANO-CPU 2 powered (5 Vdc active)
LED 4	GREEN	External 24 Vdc power supply good.

2.3 SWITCHES

On NANO-BUS board, two switches (SW1 and SW2) are present, they are activated when shifted towards the microfuses. Each of them enables or disables the power supply circuitry for each single NANO-CPU card, in case of disconnection or replacement of a unit.

SW3 enables or disables the EOL (end-of-line) balancing resistor for the CANbus channels. Shifting ON dips 1 and 2 the EOL resistance on the first channel is enabled, the same for the second channel acting on dips 3 and 4. This setting is necessary when the NANO-BUS card is connected on the edge of the CANbus line of the system.

3 TERMINALS

TERMINAL	DESCRIPTION
ALM_NO ALM_C ALM_NC	General alarm relay
FLT_NO FLT_C FLT_NC	General fault relay (normally energized)
I1	Digital input 1 (external supply fault)
I2	Digital input 2 (battery fault)
G	Digital inputs reference voltage
B+ / B-	24 Vdc non-supervised output for external buzzer connection
1A 1B S	RS485 serial channel no. 1
2A 2B S	RS485 serial channel no. 2

NOTE: all outputs **HAVE NOT TO** be used for connecting fire alarm sounders (type C), fire alarm or fault routing equipment (type E and J) or automatic fire protection equipment (type G).

Volt-free relays **MUST** be connected to SELV circuits.

4 MAINTENANCE

Being a component necessary for the ELITE-FIRE or EX-LITE operation, any maintenance procedure implies that the complete protection of the system cannot be guaranteed until the end of the maintenance activity, so all the required actions must be taken in account.