



NOLA-03-M

ARC PROTECTION SYSTEM

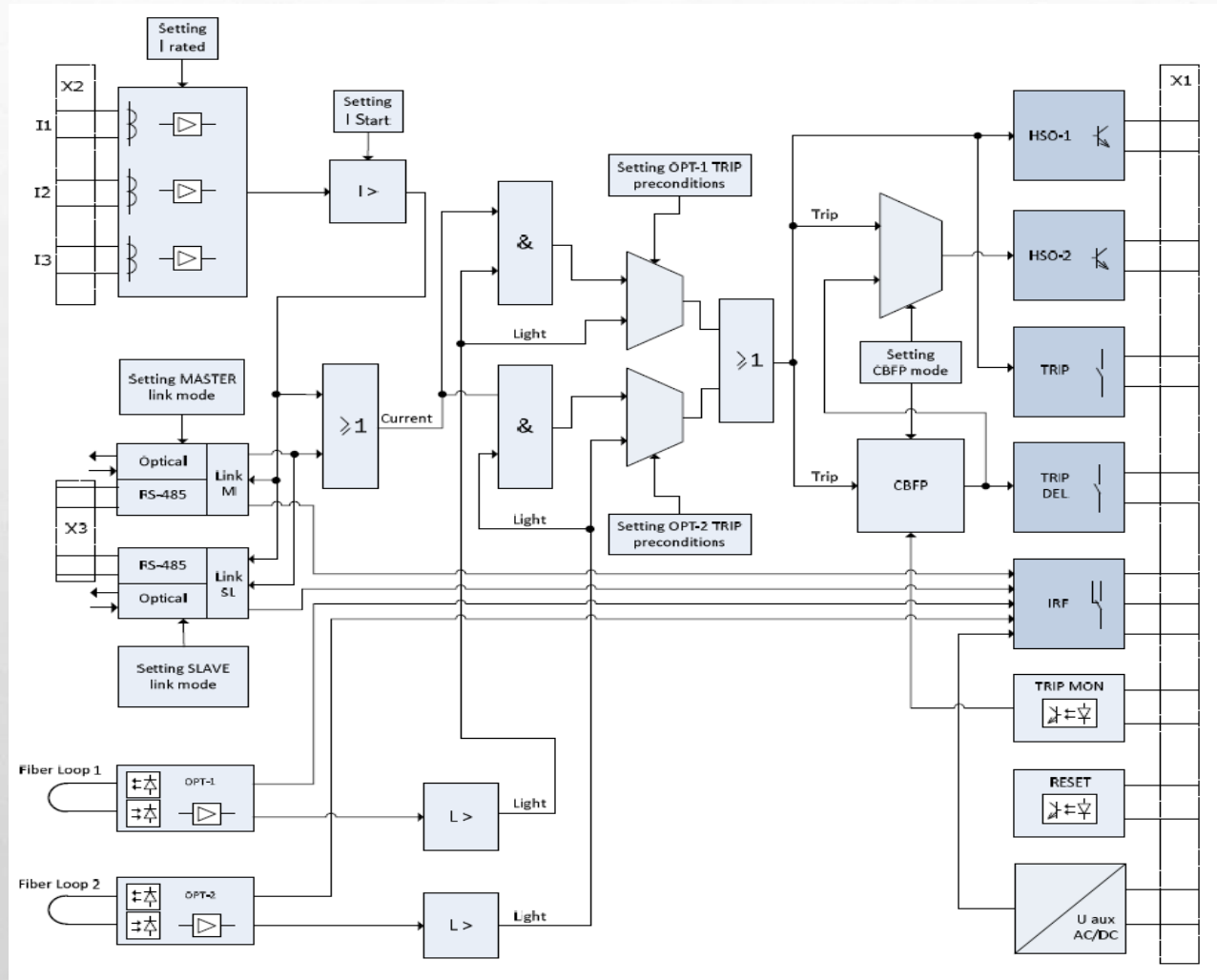
NOLA-03-M FEATURES

- Three-phase overcurrent function - as additional criteria for trip decision
- Loop-type fiber arc sensor for arc detection and light intensity measuring
- Two high-speed semiconductor outputs for fast tripping ($\leq 2,5$ ms), much faster than conventional protection relays
- Two relay outputs for trip signalization and circuit breaker failure protection

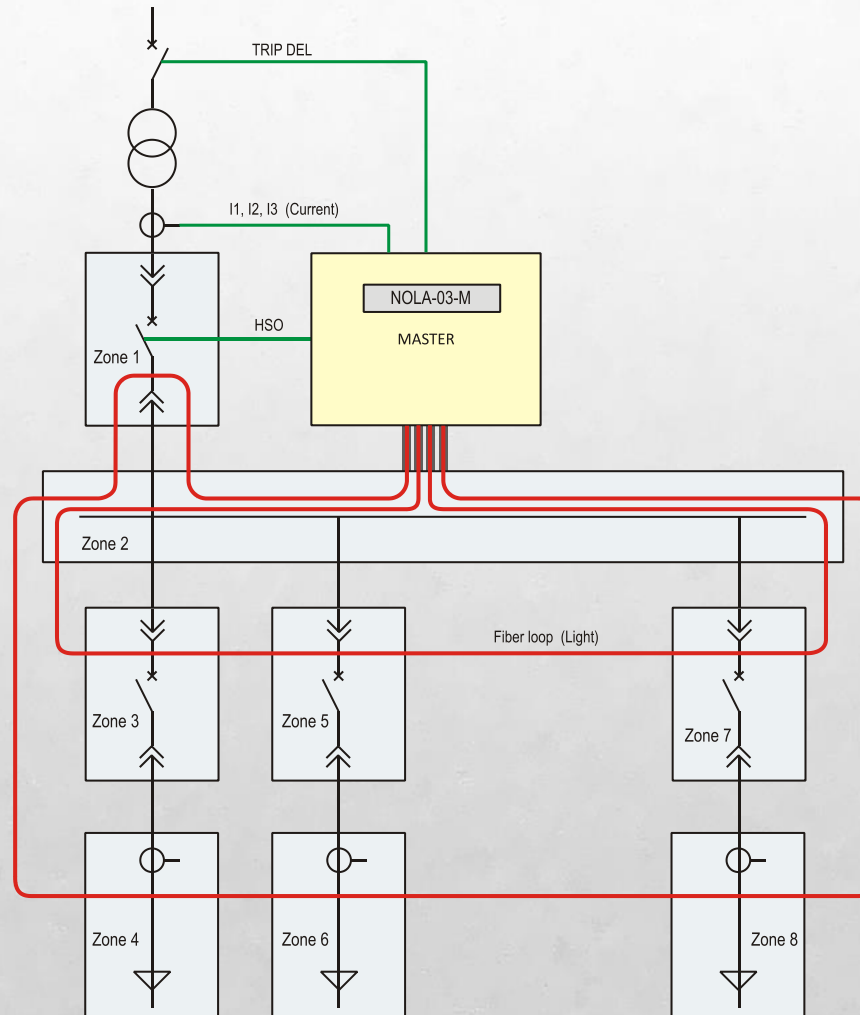
NEW!

- Two fiber optic (or RS-485) interfaces for the connection of other master or slave units (up to 16)
 - Event log (650 events) and real-time clock
 - 2 row/16 char OLED display and 5 push-button membrane keyboard
 - USB port for PC configuration, event evaluation and software upgrade
 - A new type of reliable optical fiber connectors
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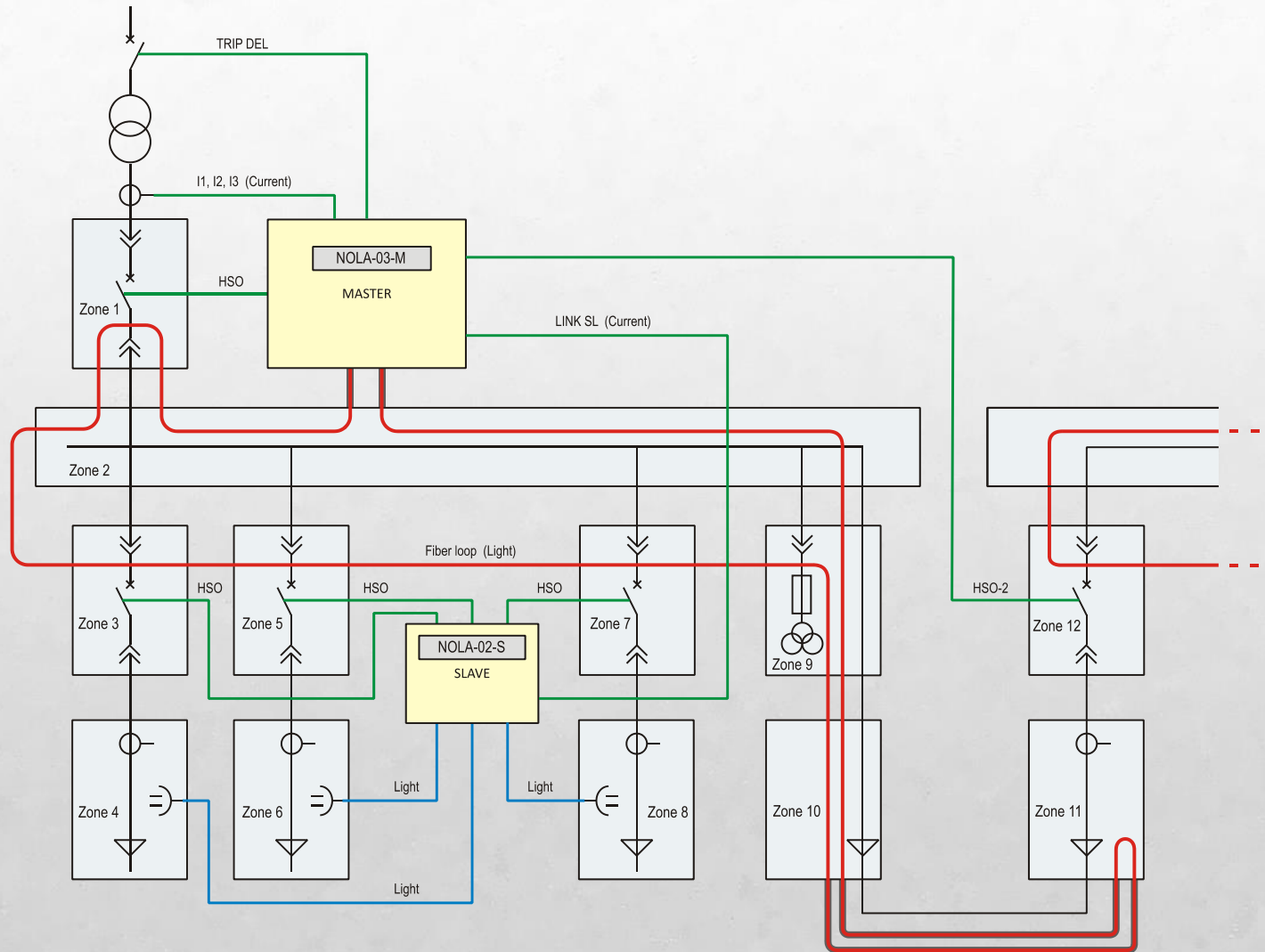
INTERNAL STRUCTURE OF THE DEVICE



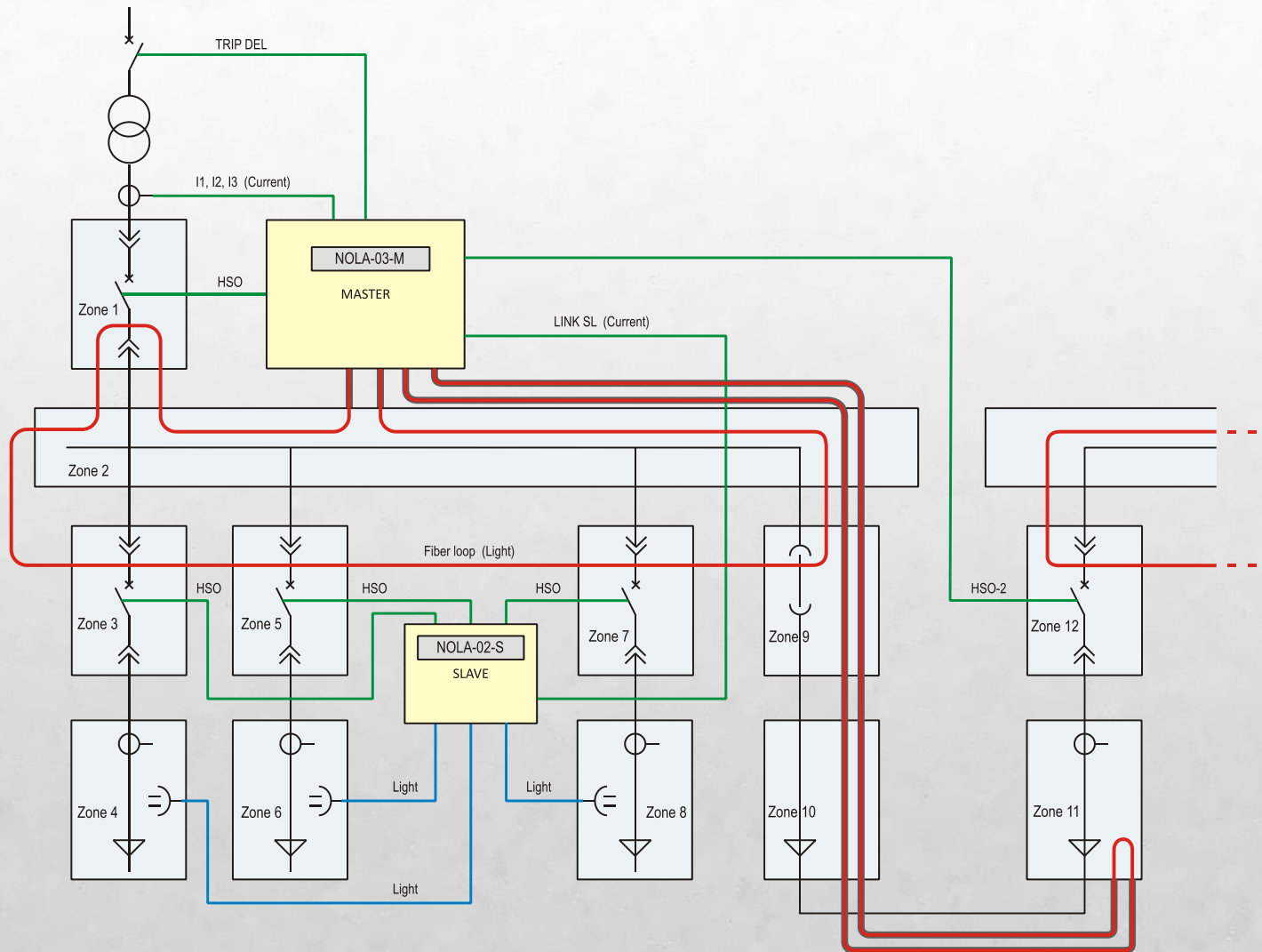
NON-SELECTIVE PROTECTION SCHEME



SELECTIVE PROTECTION SCHEME 1



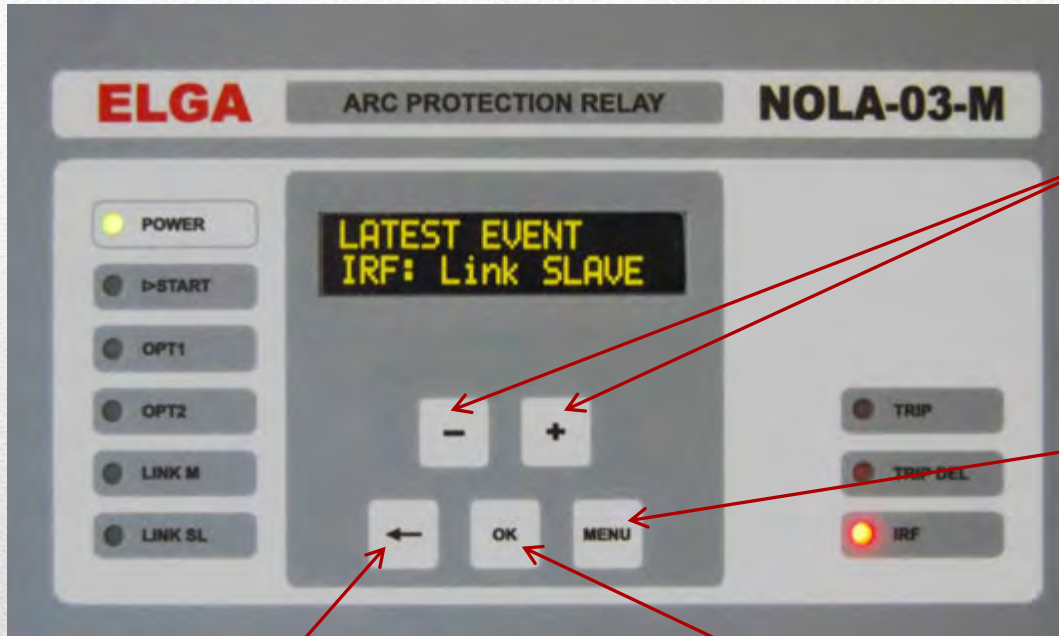
SELECTIVE PROTECTION SCHEME 2



CONTROL AND INDICATION ELEMENTS



CONTROL BUTTONS



The buttons **[+]** and **[-]** allow changing a programmable parameter in the setting mode or changing an event number in the operating mode.

Use the **MENU** buttons to select a menu item. The Menu items are highlighted in a loop: after reaching the last menu item the first menu item is automatically highlighted.

Use the button **[←]** to move to the previous menu item. The button becomes unresponsive after reaching the first menu item. In the setting mode, the button is used to switch a programmable parameter to the previous one.

The **OK** button is used to select a programmable parameter and to confirm its set value.

LED INDICATORS

POWER indicates that supply voltage is present, i.e. device is working

I>START lights up when the preset current is exceeded

OPT1 and **OPT2** lights up when a light signal is detected

LINK M or **LINK SL** flashes at a constant rate (once per second) when communication faults are present



LED INDICATORS

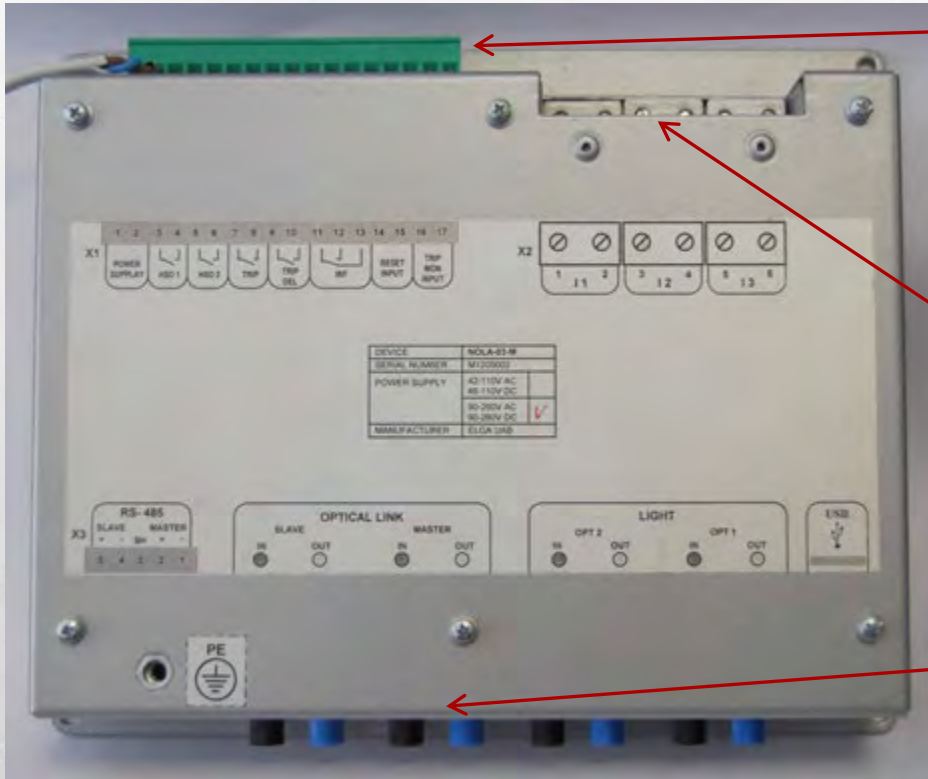


TRIP illuminates and locks when outputs HSO1 & HSO2 and the signaling output TRIP are triggered. Use the RESET command to switch it off

TRIP DEL is on when the relay output TRIP DEL has been triggered. Use the RESET command to switch it off

IRF is on when a fault is present (the relay output IRF is activated) and goes off when the fault is eliminated.

CONNECTION TERMINALS



CONNECTOR X1



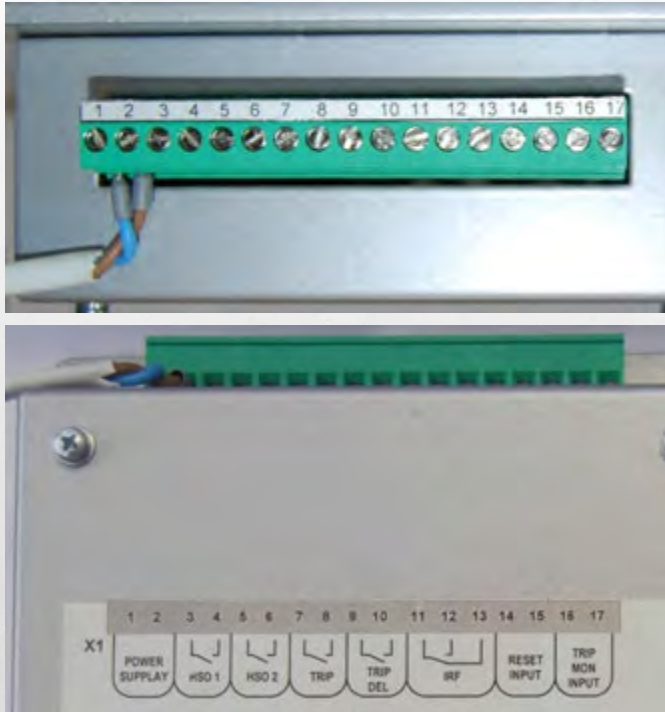
CONNECTOR X2



CONNECTOR X3



CONNECTOR X1



Contacts 1-2. Terminals POWER are used for connection of a power source.

Contacts 3-6. High speed semiconductor outputs HSO-1 and HSO-2 are intended for arc protection tripping of circuit breakers.

Contacts 7-8. The relay output TRIP duplicates activation of HSO 1 and is used for signaling of arc protection activation.

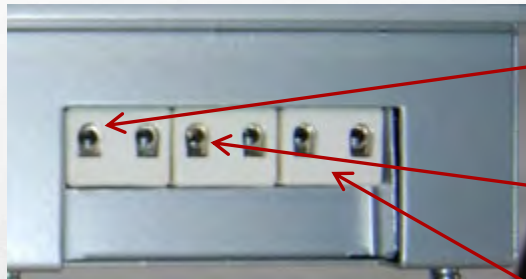
Contacts 9-10. Output TRIP DEL is used to disconnect higher level switchgear.

Contacts 11-13. Self-supervision relay output IRF is used for failure signaling.

Contacts 14-15. Input RESET is used to remotely reset device.

Contacts 16-17. Logical input TRIP MON is used for confirmation of circuit breaker tripping, if enabled.

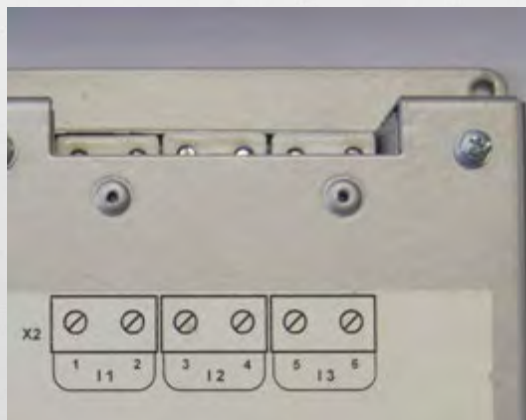
CONNECTOR X2



Contacts 1-2. Input I1 is dedicated for connection of a current transformers.

Contacts 3-4. Input I2 is dedicated for connection of a current transformers.

Contacts 5-6. Input I3 is dedicated for connection of a current transformers.

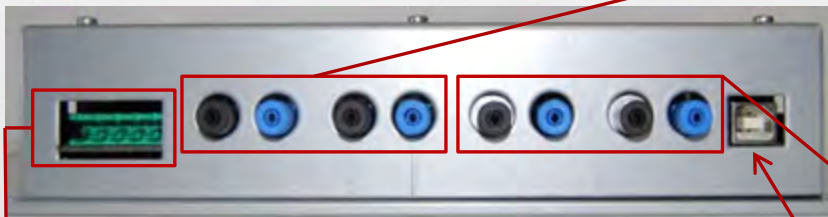


X2	⊗	⊗	⊗	⊗	⊗	⊗
	1	11	2	3	12	4
				5	13	6

CONNECTOR X3



Contact **PE** is dedicated for connection of the grounding conductor.



Fiber-optic connectors **OPTICAL LINK** are dedicated for interconnection of NOLA-03-M units by a fiber-optic cable (MASTER channel) and connection of extension modules units by a fiber-optic cable (SLAVE channel).

Contacts 1 and 2 are dedicated for connection of extension (SLAVE) modules by a twisted-pair cable (RS-485 link).

Contact 3 (SH) is dedicated for connection of the twisted-pair cable shield.

Fiber-optic connectors **LIGHT** are used for connection of optical fiber cable loops measuring the background light intensity.

USB connector is used for programming of module parameter, reading and storing events, verification of system functionality and firmware update.

WIRING SCHEME OF MAIN AND EXTENSION UNITS (USING OPTICAL AND RS-485 LINK)

