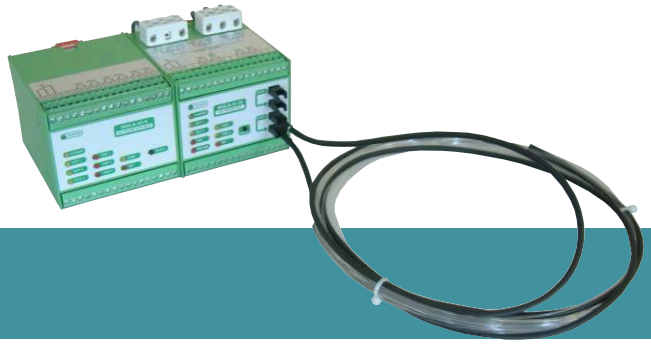


ELGA

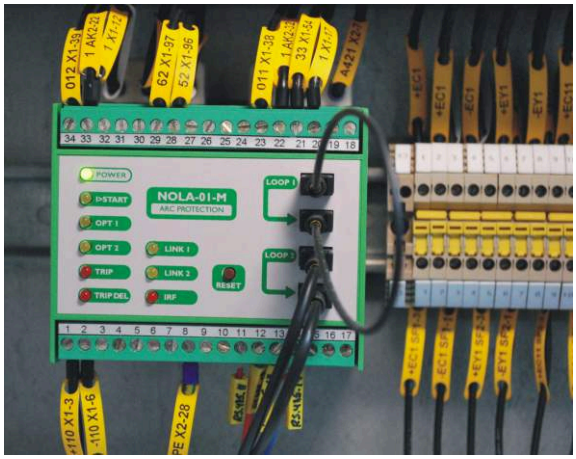
ELECTRICAL DISTRIBUTION EQUIPMENT

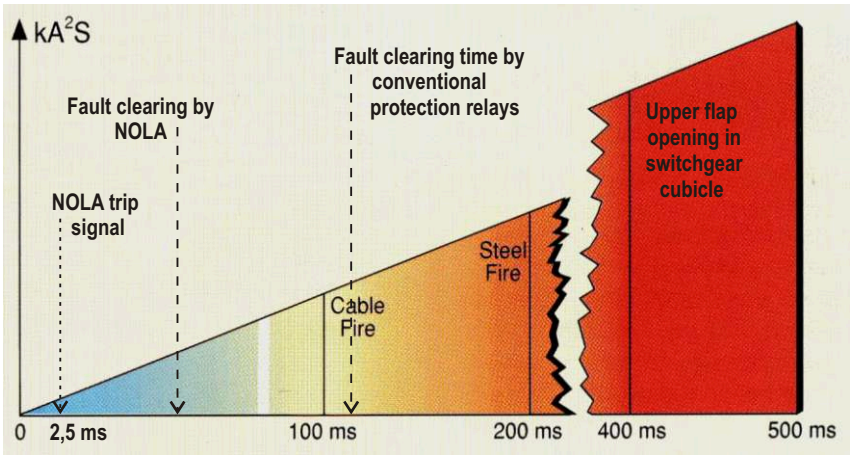
ARC PROTECTION SYSTEM NOLA

The arc protection relay NOLA-01-M and the extension unit NOLA-02-S are designed to be used for the protection of medium and low-voltage switchgear to increase personel safety and minimize equipment damage. The central unit type NOLA-01-M operates independently or together with the extension unit NOLA-02-S. This unit helps to create selective arc protection system increasing number of sensors and extending the area to be protected.

FEATURES

- ✓ Three-phase overcurrent function - as additional criteria for trip decision
- ✓ Loop-type fibre or optical arc sensor for arc detection
- ✓ 2 High-speed semiconductor outputs for fast tripping (<=2,5 ms), much faster then conventional protection relays
- ✓ 2 Relay outputs for tripping signalization and circuit breaker failure protection
- ✓ 2 RJ45 ports for the connection of slave units
- ✓ Continuous self-supervision and monitoring of sensor fibres, operating voltages and cabling between master units and slave units
- ✓ Selective triping of the faulted feader (with NOLA-02-S)
- ✓ The sensor capacity of the system can be increased simply by adding required number of slave units





Arc duration and resulting damage

In an arc situation, the fault place is quickly localized by inspecting the area covered by the sensor fibre that detected the arc.
The trip output is provided with two high-speed, galvanically isolated IGBT semi-conductor outputs, HSO1 and HSO2, and a relay output TRIP3. These outputs can be used in DC and AC circuits.
The system reacts only to fast light changes and automatically adapts itself to the surrounding light background. Maximum sensitivity of the light sensors is found in the infrared range of spectrum. The system permanently checks light fibre loops. If it finds broken light fibre, signal relay becomes active. This relay also becomes active if there is a power failure or interruption in the communication with the expansion modules.

TECHNICAL DATA

Current inputs

Rated current Iin	1A / 5A
Triggering current multiplier Iin × n	0.25, 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 4.0, 5.0, 6.0
Short time current for 1s	500A
Rated frequency	50 / 60 Hz

Outputs

Contacts HSO1 ir HSO2:

Rated voltage	24…260 V dc/ac
Continuous carry	3 A
Make and carry for 0.5 s	10 A
Time constant	<2.5ms

Contacts TRIP, TRIP DEL, IRF:

Rated voltage	260 V dc/ac
Continuous carry	3 A
Breaking capacity	60W, 125VA
Time constant	<10ms

Inputs

RESET, TRIP MON:

Logical 1	≥24...260 V dc /ac
Logical 0	≤12 V dc/ac
Uaux (Power Supply)	110 - 260 V dc/ ac, 48 - 110 V dc/ac

Optical fibre

Max length	50 m

RS-485 link

Max cable length	60 m
Cable type	Ethernet, shielded

Standards IEC60255-5, IEC60255-11, IEC60255-22, EN61000 (3/4/5/6),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ZAKŁAD WIELKICH MOCY
HIGH POWER DEPARTMENT

REPORT OF PERFORMANCE – Functional Test

ELECTRIC ARC PROTECTION SYSTEM

NOLA-01-M

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10 - 29.09.2004

Switchgear and Controlgear Testing Laboratory

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