

NAVIGATOR-LM/ NAVIGATOR-LM HV

Overhead Faulted Circuit Indicator

Product Features

- Fault detection; momentary versus permanent
- LED indication with 360 degrees of visibility
- Double-flashing mode upon detection of a second fault
- Battery status indication
- Reset depending on type: manual, current restoration, timed, on restoration of voltage
- Mounting can be performed while overhead line is energised
- NAVIGATOR-LM HV: permissible voltage ≤ 161 kV

The NAVIGATOR short-circuit indicator is an electronic device which is designed for medium voltage utility overhead lines.

The indicator is provided with a self-adjusting load-dependent control of the trip current level. This function allows the indicator to continuously sample the load current on overhead lines and electronically set a corresponding trip value for fault detection as a function of the load current. The maximum load current sampled by the indicator, is kept in a memory for a period of at least 72 hours. Thus, the indicator is most favourably adapted to the network to be monitored, even if low load is currently present.

The indicator is provided with a built-in battery control. When the battery capacity decreases from a total indicating time of 500 hours to a residual time of 50 hours, the yellow LED of the display starts flashing for a period of 6 months.

The NAVIGATOR-LM differentiates between two subsequent short-circuit detections. Upon the detection of a first short-circuit, the LED indicator light starts flashing at equal rates. The detection of a second short-circuit (e. g. after ARC) switches the LED to double flashing mode.

Reset options provided by the various versions:

NAVIGATOR Version A

Faults are indicated by means of 6 high-intensity LEDs. The indication is reset automatically on restoration of current or after expiry of a pre-set time, or can be reset manually, whichever criterion occurs first.

NAVIGATOR Version B

Faults are indicated by 6 high-intensity LEDs. The indication is reset automatically after expiry of a pre-set time, or manually.

NAVIGATOR Version C

Faults are indicated by means of 4 red LEDs and 2 yellow high-intensity LEDs. The red LED indicator lights are reset automatically on restoration of current, after expiry of a pre-set time, or manually. The yellow LED indicator lights are reset automatically after expiry of a pre-set time, or manually.

NAVIGATOR Version E

The indicator samples both the line current and voltage on the line. The device is tripped only if the line has been under voltage for at least 60 seconds. Automatic reset after 60 seconds upon restoration of voltage, after passage of a pre-set time, or manual reset. Its design blocks high inrush currents for indication, even upon reclosure. Both the overbuilt and underbuilt conditions shall be avoided!

Current/Time Characteristic

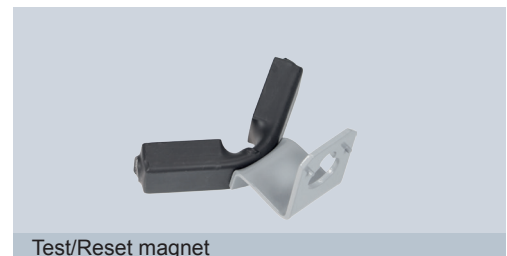
Load Current [A]	0 - 50	70	100	170
Trip currents [A]/ 100 ms	200	294	450	1.000



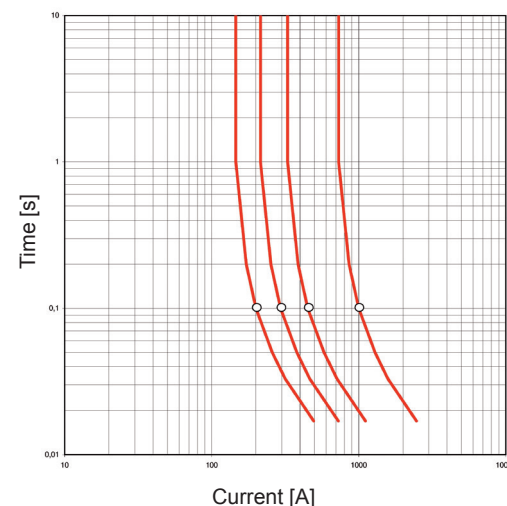
NAVIGATOR-LM (≤ 46 kV)



NAVIGATOR-LM HV (≤ 161 kV)



Test/Reset magnet





NAVIGATOR-LM/ NAVIGATOR-LM HV

Overhead Faulted Circuit Indicator

Technical Data	NAVIGATOR-LM/LM HV			
	Version A	Version B	Version C	Version E
Trip current range	≥200 A/ 100 ms, load-dependent self-adjustment (see current/time characteristic)			
Accuracy	±10 % at 20 °C			
Self-adjustment	≥50 A load current			
Trip factor	4–6 x load current (see current/time characteristic)			
Adjustment delay	≥50 s load current flow time			
Holding time of self-adjustment	72 h			
Indicators (short-circuit/earth fault)	<ul style="list-style-type: none"> 4 red LEDs (>5,000 mcd or 7,000 mLm per piece) 2 yellow LEDs 			
Visibility	>50 m/day, >150 m/night/360 degrees of visibility			
Flash rate	30 flashes per minute, total indication time >500 h			
Reset	<ul style="list-style-type: none"> Manual reset by mean of a permanent magnet Automatic time reset: 4 h ±10 % (2 or 8 h) 			
	Current restoration >3 A load current	—	Current restoration >3 A load current	—
	—	—	—	Voltage restoration, line voltage ≥5 kV
Power supply	Lithium cells, replaceable, shelf life ≥20 years			
Battery check	1 yellow LED, flash rate: 6 per minute, 0.5 years			
Max. permissible voltage	<ul style="list-style-type: none"> NAVIGATOR-LM: ≤46 kV/50 Hz or 60 Hz NAVIGATOR-LM HV: ≤161 kV/50 Hz or 60 Hz 			
Withstand current	<ul style="list-style-type: none"> NAVIGATOR-LM: 25 kA/200 ms NAVIGATOR-LM HV: 40 kA/1 s 			
Cable diameter range	<ul style="list-style-type: none"> NAVIGATOR-LM: 8–29 mm NAVIGATOR-LM HV: 13–36 mm 			
Influence	No influence by vicinal power lines with a horizontal distance of at least 250 mm from the indicator			
Housing	UV-resistant polycarbonate/polyamide, IP68 Clamping mechanism: stainless steel			
Temperature range	-30 to +70 °C (IEEE 495 -40 to +85 °C)			

Dimension drawing see on page 50, M8

Article	Order No.			
	Version A	Version B	Version C	Version E
NAVIGATOR-LM	41-2101-111	41-2101-211	41-2101-311	41-2101-511
NAVIGATOR-LM HV	41-2108-111	41-2108-211	41-2108-311	41-2108-511
Magnet (test and reset)	49-6001-002			
Hot stick with hook	see on page 91			

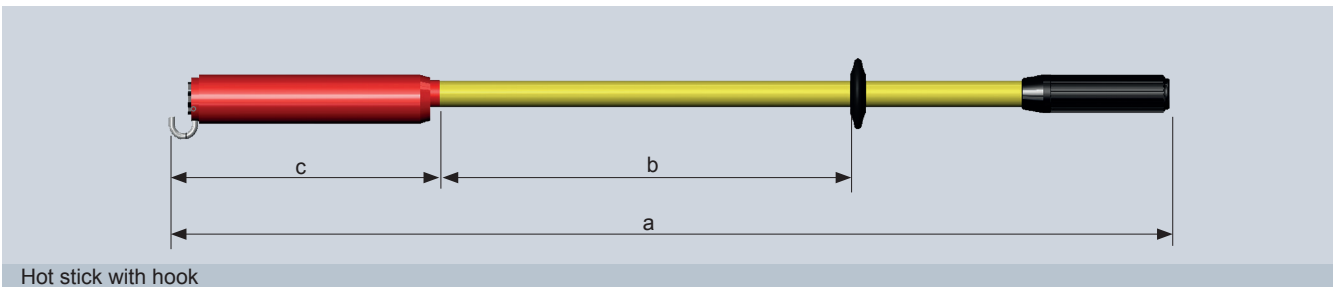
NAVIGATOR PM without self-adjustment facility provided with fixed trip currents (e. g. 800 A/ 100 ms) available ex works after consultation with the manufacturer.

Hot Sticks

With hook for applications in dry weather conditions 🏠

The hook serves to mount and dismount (Euromold) elbow connectors and NAVIGATOR type overhead line indicators.

Turning the handle will open or close the hook. When closing, the elbow connector bar is pulled into a slot recess of the rod head where it is retained.



Hot stick with hook

Nominal Voltage max. [kV]	Dimensions [mm]			Order No.
	a	b	c	
20	1,200	500	310	65-0301-001
30	2,000	900	310	65-0301-002
30	3,000	900	1,310	65-0301-003
46	2,000	900	310	65-0301-004