

# Product matrix

## Overhead line faulted-circuit indicators

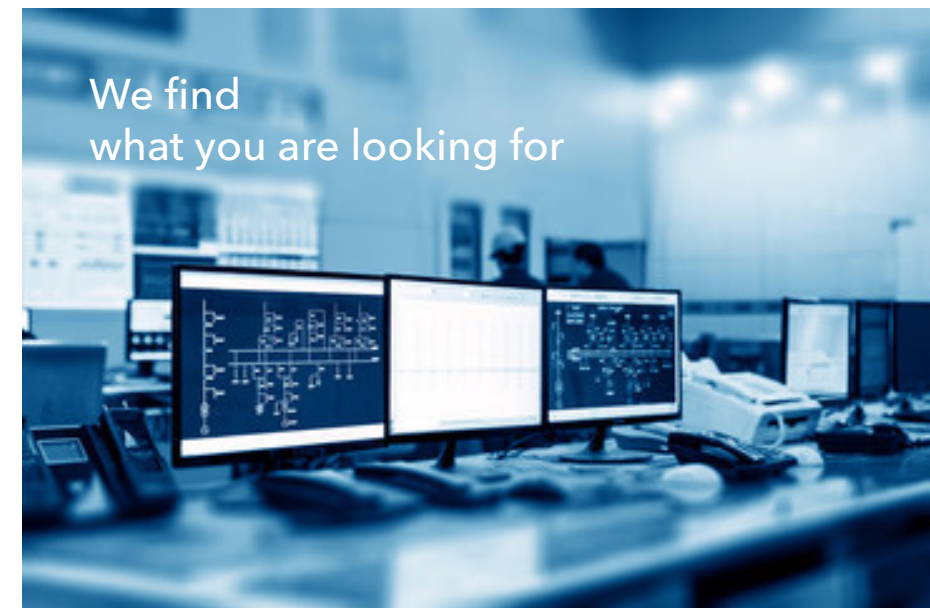
Overhead faulted circuit indicators



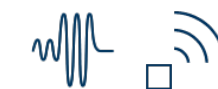
Function	Navigator LM	Navigator LM HV	Navigator LED + Flag	Smart Navigator 2.0	Smart Navigator 2.0 HV	Smart Navigator 2.0 LC + Pole Master
Short-circuit indication	■	■	■	■	■	■
Directional indication	-	-	-	■ (red/green)	■ (red/green)	■ (red/green)
Self-adjustment/ fixed settings	■/■*	■/■*	■/■*	■/■*	■/■*	■/■*
Monitoring	-	-	-	■	■	■
Recloser mode	■	■	■	■	■	■
Rated voltage	≤46 kV	≤161 kV	≤46 kV	≤69 kV	≤161 kV	≤69 kV
Withstand current	25 kA/3 s	40 kA/1 s	31.5 kA/3 s	40 kA/1 s	40 kA/1 s	40 kA/1 s
<b>Trip settings</b>						
I>> short-circuit trip current	200 – 1000 A	200 – 1,000 A	50 – 1,000 A	20 – 1,200 A	20 – 1,200 A	7 – 1,200 A
tI>> response delay	100 ms	100 ms	100 ms	100 ms	100 ms	100 ms
<b>Reset</b>						
Manual	■	■	■	■	■	■
Remote	-	-	-	■	■	■
Automatic time reset	■	■	■	■	■	■
Current restoration	■**	■**	■**	■	■	■
Voltage restoration	■**	■**	■**	■	■	■
<b>Test</b>						
Via magnet	■	■	■	■	■	■
Remote	-	-	-	■	■	■
<b>Communication</b>						
4G	-	-	-	■	■	■
<b>Parameter setting</b>						
Local	-	-	-	■	■	■
Remote	-	-	-	■	■	■
<b>Monitoring</b>						
Conductor temperature	-	-	-	■	■	■
Ambient temperature	-	-	-	■	■	■
<b>Conductor</b>						
Diameter	8 - 29 mm	13 - 36 mm	8 - 29 mm	≤33 mm	≤33 mm	≤33 mm
<b>Power supply</b>						
Long-life lithium cell, shelf life	≥20 years	≥20 years	≥20 years	≥10 years	≥10 years	≥20 years
Battery status indication	■	■	■	■	■	■
<b>Mechanic</b>						
Degree of protection IP68	■	■	■	■	■	■
Temperature range	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C

\* Fixed trip current values only with Navigator PM

\*\* Version-dependent (further information in the catalogue)



- Overhead line faulted-circuit indicators
- Overhead line monitoring
- Remote monitoring



# Navigator

Overhead line faulted-circuit indicator



## Navigator LM

Navigator LM is an electronic faulted-circuit indicator for medium-voltage overhead line networks. It is used for the detection of short circuits and earth faults and their visual local indication.

The Navigator LM has a load-dependent self-adjustment of the trip current threshold, i.e. it constantly monitors the load current magnitude of the overhead line and automatically adjusts the corresponding threshold for short-circuit detection depending on this.

- 360° all-round LED display – Very good visibility
- Service life  $\geq 20$  years – Maintenance-free
- Automatic inrush current suppression – Robust against false indications
- Dynamic adjustment of the tripping threshold – Easy handling due to „Plug & Play“ principle
- Live-line installation possible – No supply interruption required during installation



## Navigator LM HV

Navigator LM HV offers the same functionality as the Navigator LM but has been modified for use on high-voltage overhead lines.

- Rated voltage  $\leq 161$  kV



## Navigator LED + Flag

Navigator LED+Flag uses a mechanical flag in addition to the LEDs for fault indication. Flashing LEDs are reset after re-energization, expiry of the reset time or manually. The flag indicator is reset after the expiry of its own reset time, which can be up to one week.

- Fault indication over several days – Flexible assignment planning of your team for troubleshooting possible

# Smart Navigator for medium voltage

Overhead line sensor with monitoring



## Smart Navigator 2.0

Smart Navigator 2.0 continuously monitors the overhead line and provides the control room with measured values and fault information. One set is required for each overhead line section to be monitored. The set consists of a master and two satellites. The satellites report all measured values and fault information to the master, which communicates with the control room via 4G mobile network.

- Fast fault detection, including fault direction – On site and in the control room at the same time
- Remote reporting of measured values – Highly accurate values for line current, load flow direction and conductor temperature permanently available in the control room
- Integrated cellular modem – Cost savings due to simple and quick installation (no „box on the pole“ necessary)
- Remote configuration and updates from the control room or on site via USB transmitter – Easy adaptation to changing network conditions
- Energy harvesting from the conductor current ( $\geq 5$  A) for energy supply – Low maintenance (no battery replacement)

## Smart Navigator 2.0 HV

Smart Navigator 2.0 HV offers the same functionality as the Smart Navigator 2.0 but has been modified for use on high-voltage overhead lines.

- Rated voltage  $\leq 161$  kV

# Pole Master

Overhead line sensor for areas with low load



For overhead lines with very low load currents (from 0 A), e.g. at normally open tie points, the Pole Master can be used for remote signalling.

The Pole Master supports up to 9 Smart Navigator 2.0 satellites, allowing up to 3 feeders to be monitored simultaneously. The GPS position of the installation is dynamically reported to the control room.

## iHost Cloud

Remote signalling solution for overhead lines



iHost is a data and device management system for short-circuit and earth fault indicators. It bundles and manages all data sent by devices in the network.

- Data access possible at any time and in different ways
- Central management of all network components – with one click
- Network monitoring: system overview, data analysis, function control
- Configuration and firmware updates from the control room as required

**You want more information? Contact us directly:**

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