



SPRECON[®]-EDIR

Next Generation Directional Earth Fault & Short Circuit Indication



DETECT FAULTS RELIABLY

With the directional earth fault and short circuit indicator SPRECON-EDIR you can monitor your compensated, insulated or solidly earthed medium-voltage networks. Different methods for fault direction indication are used, which can be executed simultaneously and prioritised to form a single message.

ALWAYS FITTING

SPRECON-EDIR is available as:

- a single device in a standard switch panel housing according to IEC 61554 (W x H x D = 96 x 48 x 90 mm)
- a single device in combination with top-hat rail adapter for installation in the secondary compartment
- a software module within the SPRECON-E-P protection device series

THE ALLROUNDER, NOT ONLY FOR SECONDARY SUBSTATIONS

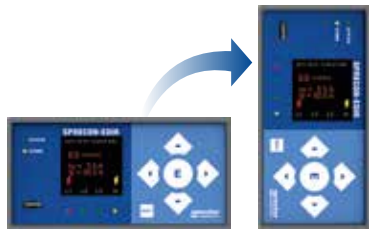
With Sprecher's SPRECON-EDIR as the next generation earth fault/short circuit indicator, you benefit from higher quality earth fault detection methods that provide even more reliable and accurate detection.

To ensure that your distribution grid is also fit for the future, we have additionally integrated many trend-setting and useful functions of our proven SPRECON platform:

- direct control and automation functions
- forward-looking communication connections such as MQTT
- Cybersecurity that goes beyond the state of the art
- Rollout mechanisms to easily monitor and manage many devices
- intuitive and secure operation directly via the web interface, without the need for a manufacturer's tool



System overview SPRECON-EDIR



SPRECON-EDIR for switch panel housing

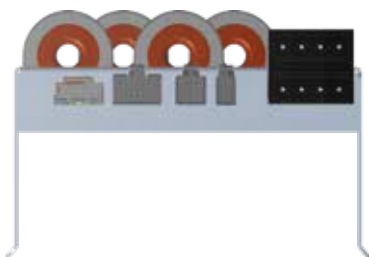


SPRECON-EDIR for top-hat rail installation

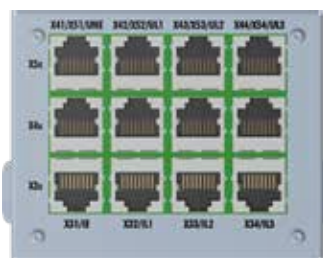
ONE DEVICE - MANY APPLICATIONS

Low power signal converters or conventional converters? No matter how you want to use the SPRECON-EDIR basic unit: The existing I/O interfaces can be flexibly adapted to your sensor technology thanks to mountable adapters.

Dozens of product variants are only confusing. That's why we have integrated all available software functions into each unit by default. They only need to be licensed and activated as required.



Adapter for conventional inputs



Adapter for low power signal/sensor inputs

TECHNICAL DATA

METHODS & SOFTWARE

Operational measurement	
U, I	✓
P, Q, S, cos(φ)	✓
Drag indicator	✓
I _{rms}	✓
Stationary methods	
Earth fault undirected, (delayed)	✓
cos(φ), sin(φ)	✓
Sector method 67N.x, (phi)N	Option 1
Harmonic method	
5., fx, fx1, fx2	Option 1
Transient method	
qu2: Z _f < 5 kΩ, qu4: Z _f < 20 kΩ	✓
Restriking method	
qui2: Z _f < 5 kΩ	✓
Pulse method	SPRECHER+
50 Hz symmetrical / asymmetrical	✓
Directed complex evaluation	✓
-> Over-compensation not required	✓
Prioritisation	✓
Directional short circuit indication	
I _L >, I _E >, DT/IDMT, 4 stages each	✓
Over- & undervoltage indication	
U _s >, U _c >, U _{NE} >, 2 stages each	✓
Over- & underfrequency indication	
f<, 4 stages, f>, 2 stages	✓
Admittance method	✓
Logical operations	✓
Event Recorder	✓
Display of latest events >20	✓
Time synchronisation via protocol	✓
Recording memory: 10 MB	✓
Fault location	Option 1
Frequency change indication	Option 1
Frequency load shedding indication (FLS)	Option 1
Q-U< indication	Option 1
Unbalanced system indication	Option 1
Overload function (thermal replica)	Option 1
Inrush restraint	Option 1
Fault recording	Option 2
Network & device intelligence	
SNMP Server & Rollout	Option 2
NTP, SNTP	SPRECHER+ Option 2
Control & Command	Option 2
Role-based access control (RBAC)	Option 2
MQTT	Option 2
Encryption & Certificates	Option 2
Parameterisation	
Secure web interface (HTTPS)	✓

HARDWARE SPRECON-EDIR

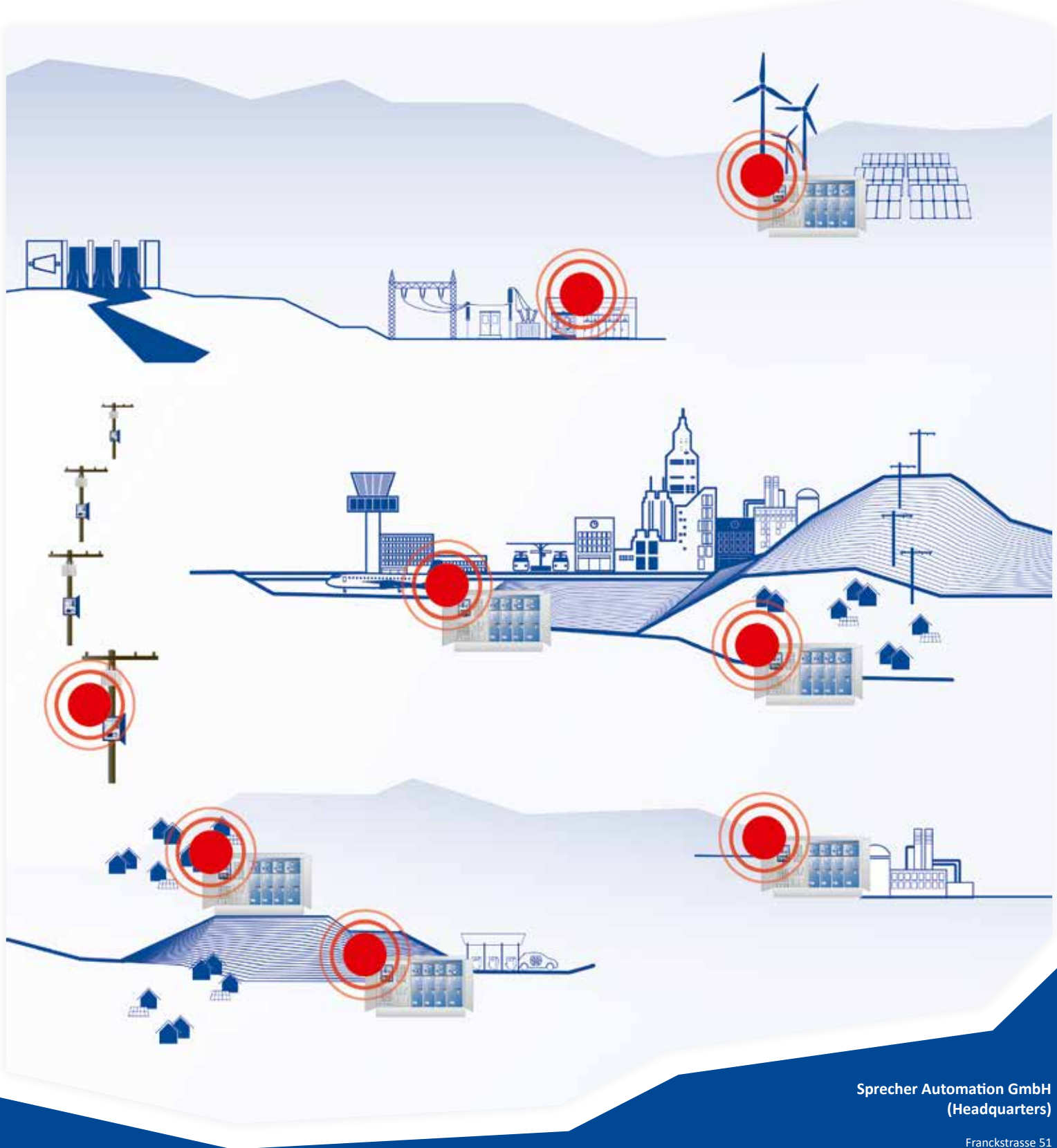
Voltage input	4
Adapter for low power signal (3,25/√3 VAC), according to IEC 61869-10 /11	✓
Adapter for 100 VAC, 110 VAC, 115 VAC, 120 VAC, according to IEC 61869-2 /-3	✓
Current input	4
Adapter for low power signal (0,225 m VAC)	✓
Adapter for 1 A / 5 A	✓
Binary inputs	2+4
Relays	2+5
RS485	2
MODBUS RTU	✓
IEC 60870-5-103	✓
IEC 60870-5-104	✓
USB 2.0 HS	✓
Ethernet 100 Mbit/s	✓
Auxiliary voltage 24-220 VDC	✓

Option 1: Fault Management Extended

Option 2: Network & Device Intelligence

ONE SOLUTION FOR ALL PURPOSES

Whether in the digital secondary substation or in medium-voltage systems: SPRECON-EDIR offers the most reliable fault detection with all necessary functions for automation, network and security. Combined with our SPRECON platform for control, protection and telecontrol technology plus our SPRECON-V460 visualisation, you will find everything you need for your digital grid operation at Sprecher Automation.



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