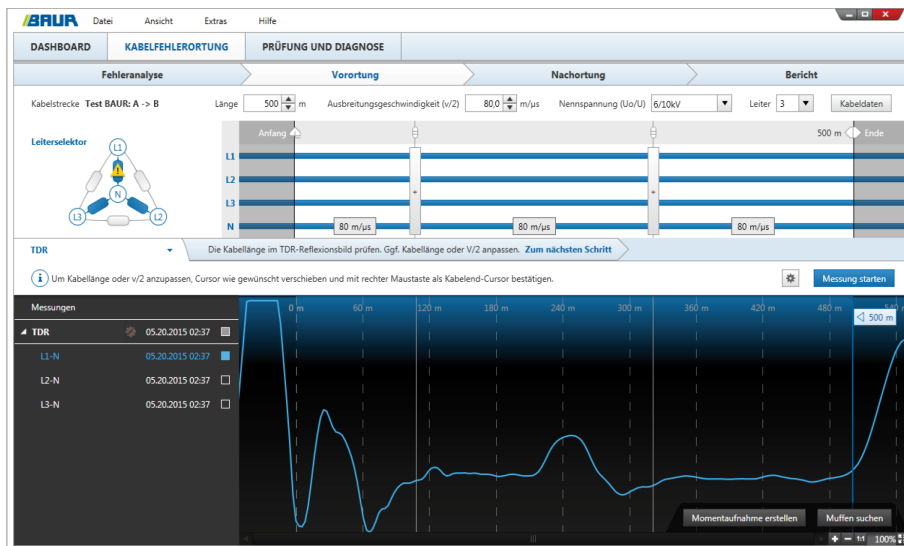# BAUR Software 4
Cable fault location with IRG 4000

The figure is illustrative.

Reliable cable fault location with minimum effort

↗ Easy operation thanks to the intuitive operational concept

↗ Maximum precision with high resolution and sampling rate

↗ Precise fault location methods for every type of fault

The IRG 4000 time domain reflectometer is integrated in BAUR cable fault location systems and is used in combination with the software for locating cable faults in single and three-phase cable systems.

Thanks to the novel operational concept, cable faults can be located more rapidly and easily with BAUR Software 4 and IRG 4000. A high-performance industrial PC and improved measurement parameters allow for a precise cable fault location in all cable types.

The well-proven and continuously enhanced methods are available for the cable fault location as well as the newly developed Conditioning-SIM/MIM method which makes it even more effective and quick to locate wet cable faults that are difficult to detect. The SIM/MIM technology with 20 reflection measurements per HV pulse allows for selecting the best reflection image for a very precise determination of the fault distance.

Fault location methods

- Insulation resistance measurement up to 1,000 V
- TDR: time domain reflectometry (1- and 3-phase)
- Envelope curve display for intermittent faults – even small changes in impedance are made visible and saved.
- SIM/MIM: secondary/multiple impulse method with surge voltage or in DC mode 20 reflection measurements per HV pulse
- Conditioning-SIM/MIM (only available for titron® systems): fault conditioning with subsequent SIM/MIM measurement
- ICM: impulse current method with surge voltage or in DC mode
- Decay method
- Differential methods* for the fault location in branched networks

Features

- Intuitive user interface in multiple languages adapted to the work flow
- Integrated proven cable fault pre-location methods
- Automatic detection of cable end and fault position
- Dynamic input signal gain
- Automatic saving of all measurement data
- Interface to GIS databases*

**Note:** The availability of individual methods depends upon the system configuration.

* optional function

BAUR Software 4
Cable fault location

The new intuitive operational concept

- Intuitive modern user interface in multiple languages – no long introduction or familiarisation period is required
- Optimal operator support during cable fault location provided by the Smart Cable Fault Location Guide (only available for titron® systems)
- Mapping*:
  - Unique combination of road maps, including the cable route
  - GPS-based system location determination (only available for titron® systems)
  - Cable routes and cable faults displayed on the map
- Cable Mapping Technology CMT: Overview of cable accessories and faults in relation to the cable length
- All data on the cable route such as geographic position*, voltage level, joints, all measured values, etc. are automatically saved and can be accessed at any time.
- Quick and easy compilation of clear and precise measurement logs – with freely selectable company logo, comments and figures of the traces.
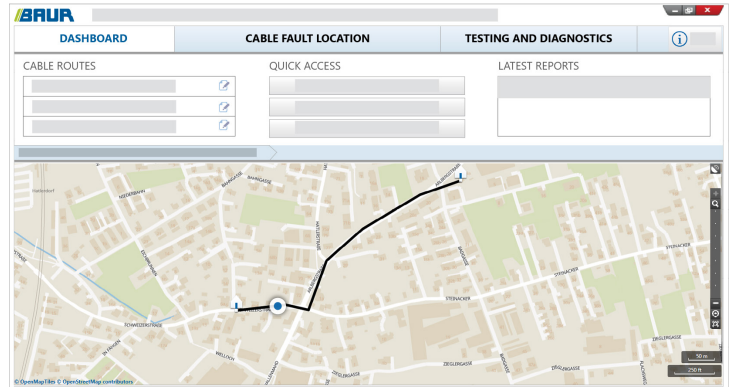
Easy and convenient to operate

- Standard, convenient operation by means of a mouse and keyboard
- Proven Windows operating system
- Printers, laptops and data carriers can be connected via standard connections.
- GIS interface* enables an exchange of cable data between your GIS database and the BAUR software.

Online system

- Online support via the Internet
  - With your permission, BAUR's customer service department can access your system computer, identify your problem and quickly find a solution.
  - During the fault location, your engineers can share the desktop with the test engineer on site and support him in the analysis of the measurement results (where applicable, a licence for a desktop-sharing program may be required).

* optional function

BAUR Software 4 technical data

General	
Data exchange	Database (DB3)
Data export format	
Report	PDF
TD data for external systems and statex®	CSV

System requirements	
Operating system	Windows 11 Windows 10 (64-bit)
Memory	8 GB RAM Recommended: 16 GB RAM
Display	TFT monitor acc. to quotation Resolution min. 1280 x 1024 pixels Recommended: 1920 x 1080 pixels

IRG 4000 technical data

Pulse reflectometry	
Pulse voltage	TDR 20 – 200 V
Pulse width	20 ns – 1.3 ms
Output impedance	8 – 2,000 Ohm
Input signal gain	Dynamic range 107 dB (-63 to +44 dB)
Display range	10 m – 1,000 km (at v/2 = 80 m/µs)
Accuracy	0.1% relating to the measurement result
Data rate	400 MHz
Resolution	0.1 m (at v/2 = 80 m/µs)
Velocity of propagation (v/2)	20 – 150 m/µs, adjustable
Measurement modes	▪ Automatic measurement mode ▪ Differential measurement ▪ Mean value calculation ▪ Continuous measurement ▪ Stop after recording the change ▪ Envelope curve display for the location of intermittent faults
Export format for report	PDF
Insulation resistance measurement	
Voltage	up to 1,000 V
Measurement range	0 ohm – 5 GOhm

General	
Storage capacity	> 100,000 measurements (hard disk limit)
Hard disk	SSD industry standard
Display	TFT monitor acc. to offer
Power supply	100 – 240 V, 50/60 Hz
Max. power consumption	150 VA
Voltage-proof up to	400 V, 50/60 Hz
Measurement category	CAT II/600 V In combination with the optional TDR connection cable up to CAT IV/600 V
Ambient temperature	0°C to +50°C
extended temperature range*	-20°C to +60°C
Storage temperature	-20°C to +60°C
Safety and EMC	CE-compliant in accordance with Low Voltage Directive (2014/35/EU), EMC Directive (2014/30/EU), EN 60068-2-ff Environmental testing

* Limited display performance possible

Standard delivery

BAUR Software 4 and IRG 4000 are usually integrated into a cable fault location system, the standard delivery depends on the quotation.

Optional software functions

	Integration in a cable fault location system		
	titron®	transcable 4000	Syscompact 4000
Mapping (available countries on request)	Optional	Optional	Optional
Interface for GIS data export/import	Optional	Optional	Optional
BAUR Fault Location App (for remote control of the surge voltage generator)	Optional	–	–
Insulation resistance measurement	✓	Optional	Optional
Differential methods	Optional	Optional	–
Control via laptop	Optional	–	–
BAUR software 4 for office PC (office installation)	Optional	Optional	Optional

✓ = included in the standard delivery
optional = available as an optional extra
– = not available

Would you like to discover more about this product?
If so, contact us: www.baur.eu > BAUR worldwide