

IRG 400

BAUR time domain reflectometer



The figure is illustrative.

Reliable and fast cable fault location

- Precise pre-location with high-performance technology
- Light, compact and portable
- Maximum safety for operators
- Suitable for integration in a cable fault location system

The IRG 400 time domain reflectometer is used for fault pre-location on 1- and 3-phase cables. An integrated voltage filter enables direct measurement on live cables up to 400 V, and with the optional separation filter, even up to CAT IV/600 V.

Because the tablet can be taken out of the case but remains connected to the measuring device via Wi-Fi, the measurement engineer is able to control and trace the measurement conveniently and safely outside of the danger zone.

The user interface is clearly laid out and intuitive, and allows fast and precise fault pre-location. Once the IRG 400 has been connected to the test object, there is no need to perform any operating steps on the device itself. The rest of the measurement is conveniently controlled via the 10" touchscreen of the tablet. The measurement results can be exported via the USB interface.

The IRG 400 is light, convenient and weather-resistant (splash water and dust protection) and can be operated with its built-in rechargeable battery or a 12 V or mains connection as required.

Functions

- TDR time domain reflectometry (1- and 3-phase)
- Step-TDR for the pre-location of cable faults and joints in the vicinity of the system
- In combined operation with surge voltage generators
 - SIM/MIM secondary/multiple impulse method with 20 reflection measurements per HV pulse
 - ICM impulse current method

Features

- Remote control and data transmission via Wi-Fi connection on removable tablet
- Consistent signal strength irrespective of the length of the cable route
- Everything needed for the measurement in one handy case – time domain reflectometer, tablet, accessories
- 10" tablet with Windows operating system
- Suitable for use in the field and weatherproof
- Universal application as an individual device or in combination with surge voltage generators in the system
- Operation possible with rechargeable battery, mains voltage or external supply
- User interface enables safe, intuitive operation
- Data export via USB interface
- Standard-compliant, safe measurements on live cables through the measurement category CAT IV / 600 V (with optional separation filter)

Technical data

IRG 400	
Measurement methods	<ul style="list-style-type: none"> ▪ TDR time domain reflectometry (1- and 3-phase) ▪ Step-TDR
In combined operation with surge voltage generators	<ul style="list-style-type: none"> ▪ SIM/MIM secondary/multiple impulse method ▪ ICM impulse current method
Pulse voltage	60 V
Pulse width	30 ns – 10 µs
Voltage-proof up to	400 V, 50/60 Hz
Measurement category	CAT IV/600 V, 50/60 Hz (with optional separation filter)
Output impedance	30 – 300 Ohm
Input signal gain	Dynamic range 102 dB (-64 to +38 dB)
Display range	10 m – 1000 km
Accuracy	0.1% (relating to the measurement result)
Data rate	400 MHz
Resolution	0.1 m (at $v/2 = 80 \text{ m}/\mu\text{s}$)
Velocity of propagation ($v/2$)	20 – 150 m/µs, adjustable
Power supply	
Rechargeable battery	14.4 V; 2.9 Ah; 39.2 Wh (built in)
Mains voltage	100 – 240 V, 50/60 Hz
External supply	12 V
Rechargeable battery	
Operating time	Approx. 6 h
Charging time	Approx. 4 h
Weight	7.4 kg
Degree of protection	IP54
Ambient temperature (operational)	-20°C to +55°C
Storage temperature	-20°C to +65°C

Tablet	
Type	SCORPION 10X RUGGED
Display	<ul style="list-style-type: none"> ▪ 10.1" touch display ▪ Resolution of 1280x800 ▪ Brightness 1000 cd/m²
Storage capacity	64 GB
Operating system	Windows 10
Communication	<ul style="list-style-type: none"> ▪ Wi-Fi 802.11 a/b/g/n/ac ▪ Bluetooth 4.2
Interfaces	<ul style="list-style-type: none"> ▪ USB 3.0 ▪ USB Type C ▪ Micro SD card slot (max. 128 GB)
Power supply	
Rechargeable battery	3.7 V; 10 Ah (replaceable)
Mains voltage	100 – 240 V, 50/60 Hz (plug-in power supply USB 5 V/3 A with USB charge cable)
Ambient temperature (operational)	-10°C to +50°C
Dimensions (W x H x D)	Approx. 280 x 180 x 20 mm
Weight	Approx. 1.1 kg
Degree of protection	IP65
General	
Total weight	Approx. 8.5 kg
Dimensions	Approx. 409 x 331 x 175 mm
User interface languages	Multilingual

Standard delivery

- IRG 400 time domain reflectometer in transport case, incl.:
 - Connection cables
 - User manual
- SCORPION 10X TABLET incl.:
 - Pre-installed Windows operating system
 - Pre-installed software for cable fault location
 - Accessories

Accessories and options

- CAT IV/600V separation filter
- Holder for transport case incl. assembly kit

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