



ENSURING THE FLOW.

Press release

Testing cable sheaths and locating cable faults with a mobile device

Finding earth-sensitive faults within minutes

Sulz, 24. August 2012 – Operators of electrical distribution networks, as well as network managers at photovoltaic power plants, wind farms, street lighting or in industrial parks want to find cable faults quickly. Easy to handle and operate and reliable determination of the fault location take priority. BAUR Prüf- und Messtechnik GmbH (Sulz, Austria) took all this into consideration while designing “shirla”, a lightweight device weighing not even 20 kg, for cable/cable sheath testing and cable fault location and pinpointing. Powered via the mains supply or via a built-in accumulator, shirla enables cable and cable sheath testing up to 10 kV DC. Hence, it is suitable for use in low and medium voltage networks testing control cables and telecommunication cables.

Preliminary location of low ohmic faults, e.g. sheath faults, works with direct current and is based on the Wheatstone measuring bridge. Hereby, a measuring bridge is balanced with a variable resistance. In shirla, the measuring bridge is used according to Murray (bridge circuit with one auxiliary return) and Glaser (bridge with two auxiliary returns). When measurement is completed, shirla displays the distance to the fault location, either in percentage of the measured cable line or in meters. For distance calculating, the device considers inputs for length, conductor cross-section and conductor material of the cable and its segments to increase the accuracy of the result.

As length and position of the cable are usually known for in-house infrastructures, the fault can be detected within a few meters using a line measuring device (running wheel). Then exact pinpointing only takes a short time. The search receiver KMF 1 or the universal receiver UL 30 can be used for pinpointing. The step voltage method can be applied with both receivers and the sheath fault is often located within a few minutes. shirla delivers the required voltage (e.g. rectangular shape). Depending on cable type, the operator can adjust this pulsed voltage continuously between 100 V and 10 kV.

shirla - the cable sheath testing and fault location system - has proven to be a universal tool for finding cable sheath faults in low voltage structures, such as the lighting network, and also within medium voltage networking, e.g. of wind power plants. Operators and makers of solar parks use shirla regularly for testing and fault location, even on 1 kV DC cables. Apart from faults in the sheath (earth-sensitive faults), low and high ohmic faults can be located with the BAUR device.



ENSURING THE FLOW.



Easy handling, light weight and rechargeable battery operation make shirla the favourite tool even for small network-operators.



Preliminary location with shirla narrows sheath faults down to a few meters. With the step voltage method and the corresponding manual devices, pinpointing the exact position is easily performed.



Earth-sensitive, low ohmic and high ohmic faults can be detected with shirla - the portable sheath testing and fault location device.

shirla – Technical Data

Input voltage	110 VAC ... 240 VAC, 50 Hz / 60 Hz
Max. input power	Max. 200 VA
Display	Illuminated digital LCD display, automatic brightness adjustment, 320 x 240 dots
Testing	
Output voltage	0 –10 kV
Output current	10 mA at 5 kV, 5 mA at 10 kV
Resolution	1 μ A
Resistance measurement	yes
Voltage and current limitation	yes
Cable and cable sheath fault prelocation	
Measurement method	4-conductor measuring bridge according to Murray and Glaser
Measuring voltage / Bridge voltage	Up to 10 kV
Measuring current	Max. 50 mA
Accuracy	\pm 0.1%
Measuring sequence	Fully automatic balancing and measuring procedure
Definable cable sections	50 sections
Voltage and current limitation	yes
Cable and cable sheath fault pin-pointing	
Pulse voltage	100 V – 10 kV
Pulse current	Max. 700 mA
Pulse pattern	Three selectable pulse patterns
General	
Battery mode	Integrated rechargeable battery, battery mode for all uses
Report preparation	Automatic measurement report for testing and fault prelocation, report output via USB 2.0 interface
Operating temperature	-20 °C....+50 °C
Storage temperature	-40 °C....+60 °C
Relative humidity	Non-condensing
Dimensions (in mm)	Approx. 440 x 490 x 220 (L x H x W)
Weight including accessories	< 20 kg



ENSURING THE FLOW.

More information / Press contact:

**BAUR Prüf- und Messtechnik GmbH
Alexander Gerstner**

Raiffeisenstrasse 8 – 6832 Sulz (Austria)
Tel.: +43 (0)5522 4941-0 - Fax: +43 (0)5522 4941-8055
a.gerstner@baur.at – www.baur.at

**Press'n'Relations II GmbH
Ralf Dunker**

Graefstrasse 66 – 81241 Munich (Germany)
Tel.: +49 (0)89 5404722-11 – Fax: +49 (0)89 5404722-29
du@press-n-relations.de – www.press-n-relations.de