High-voltage bridge for cable fault location, sheath testing, sheath fault prelocation and pinpointing

- Automatic test sequence
- Bi-polar prelocation for the elimination of external influences
- Detection and indication of wrong connections
- Touchscreen and rotary encoder
- Only one HV connection cable
- Completely independent of the parameters of auxiliary lines
SebaKMT’s **HVB 10** is a highly accurate high-voltage bridge designed to locate cable and sheath faults, perform sheath testing, and pinpoint sheath faults, especially suited also for long HV cables.

With its top resolution, intermittent fault detection function, and load adaptation for faster cable charging, the **HVB 10** is an indispensable tool for all utilities that want to reduce downtime and facilitate repair of power and for example pilot and communication cables.

**Why HVB 10?**

Why do you need a HV bridge when you have ARM-based prelocation?

Because it locates faults where the otherwise perfect reflection based technologies have limits, for example on long cables as subsea cables.

» TDR reflection based technologies have very large reflections on crossbonded cables, which prevent longer ranges.

» Reflection measurements are based on an impedance measurement, while the **HVB 10** measures resistance. Resistance- and impedance values can be completely different while having the same cause.

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**Connection principle sheath fault location**

**Connection core-to-screen or to core fault location**
Cable fault location

The HVB 10 accurately prelocates cable interruptions and short-circuit faults, and detects high-resistance conductor faults that cannot be pre-located with impulse reflection based methods.

The HV bridge is equipped with a strong discharge unit which allows the safe discharge of cables with a capacity of up to 25 µF. Prior to each test, a capacity measurement ensures that the expected discharge energy does not exceed these parameters and damage the HVB 10. This makes it very suitable for very long cables and their parameters.

Sheath testing

Healthy sheath insulation is of paramount importance for the safe operation of cables. Sheath faults allow water to ingress into the cable, cause insulation deterioration, joint faults and other corrosion-based damages, and reduce the life expectancy of power cables and the transmission quality of communication cables.

The HVB 10 performs sheath testing based on the DC voltage method. The value of the applied DC depends on the cable type and the material of the outer cable sheath.

Sheath fault prelocation

The prelocation of sheath faults takes place automatically. The only parameters which need to be entered are the peak test voltage and the cable length. If the cable length is not available, the fault distance is displayed as a percentage of the length.

The HVB 10 evaluates all measurements automatically, providing the user with a report of the test results and a statement about the sheath condition.

Sheath fault pinpointing

The HVB 10 provides two possibilities for sheath fault pinpointing:

- by means of the standard pulsed DC and the step voltage method (in combination with an earth fault probe such as our ESG NT, for instance)
- by means of a 3 or 4.8 Hz signal and an A-frame

Optionally, the HVB 10 can be equipped with an audio frequency module. In addition to the step voltage, this module generates an audio frequency signal of 8.44 kHz for simultaneous tracing and fault pinpointing.

The power can be supplied either from the mains, via the wide range AC input from 88 V to 264 V, or by using the integrated rechargeable battery for minimum of 2 hours operation. This battery can also be charged by a 12/24 DC input.

With the proven SebaKMT easyGo principle, almost no operational steps are required. Basic settings can be made in the easiest way possible, by using the rotary encoder.
**HVB 10**

**Technical data**

<table>
<thead>
<tr>
<th>Max. fault resistance @ 10 kV with a 1 km cable with defined cross section. Fault position @ 50% of cable length</th>
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<td>CU conductor</td>
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<th>Max. fault resistance @ 10 kV with a 1 km cable with defined cross section. Fault position between 10% and 90% of cable length</th>
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**Scope of delivery**

- HVB 10, high-voltage measuring bridge 10 kV
- USB-drive with software EasyProt
- KST 10, bag black
- Cable set for HVB 10
- 6 clamps
- Manual

**Options**

- Connection set for HV armatures

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