



**KURTH  
ELECTRONIC**

# Fault locator bridge

## KE-FLB



### At a glance

- DC and AC fault location measurement
- Isolation resistance measurement
- Loop resistance measurement
- Resistance difference measurement
- Mutual capacitance measurement
- Conductor-shield capacitance measurement
- Break and split measurement
- DMM functions
- Cable temperature measurement by external test probe
- Simple, menu controlled operation
- Storage of setups and results
- Results can be logged on external printer or PC via RS232C
- Software upgrade via RS232C
- Program for supporting the calibration procedure according to ISO 9000
- 128 x 128 pixel graphic LCD display with backlight
- Small size, suitable for usage in the field
- Internal rechargeable battery pack

The **Fault Locator Bridge KE-FLB** is a microprocessor controlled DC and AC cable measuring instrument intended for fast and accurate fault location and quality testing of telecommunication cables.

The seven test modes of **KE-FLB** allow for precisely locating all kind of faults like water ingress, short, open resistance faults, split, insulation problems with the big display with backlight.

The **KE-FLB** is one of the smallest and lightweight cable qualifiers on the market. The serial interface allows to download and upload the measurement data to a PC. With this interface it is also possible to make a software upgrade if necessary. The unit comes with rechargeable batteries, a charger, test leads set and a carrying pouch.

### KE-FLB Technical data

#### Loop resistance

|                 |                             |
|-----------------|-----------------------------|
| Measuring range | 1 Ω – 10 kΩ                 |
| Accuracy        | ± 0,2% MV ± 0,1 Ω ± 1 digit |

#### Resistance difference (ΔR)

|                       |                          |
|-----------------------|--------------------------|
| Measuring range of R  | 1 Ω – 5 kΩ               |
| Measuring range of ΔR | 1 Ω – 1 kΩ               |
| Accuracy ΔR           |                          |
| 1 Ω – 10 Ω            | ± 1% FV ± 0,1 Ω          |
| 10 Ω – 100 Ω          | ± 1% – ± 0,2% FV ± 0,1 Ω |
| 100 Ω – 1 kΩ          | ± 0,2% FV ± 0,05 Ω       |

#### Insulation resistance

|                 |                         |
|-----------------|-------------------------|
| Measuring range | 10 kΩ – 100 (20.000) MΩ |
| Accuracy        |                         |
| 100 kΩ – 10 MΩ  | ± 1% MV ± 1 digit       |
| 10 MΩ – 100 MΩ  | ± 2% MV                 |
| 100 MΩ – 3 GΩ   | ± 10% MV                |
| 3 GΩ – 10 GΩ    | ± 20% MV                |
| 10 GΩ – 20 GΩ   | ± 30% MV                |

#### Capacity

|                 |                     |
|-----------------|---------------------|
| Measuring range | 1 nF – 10 (25) μF   |
| tan δ           | 0,0001 – 0,1        |
| Accuracy        |                     |
| 1 nF – 10 μF    | ± 0,5% MV ± 1 digit |
| Measuring range | 11 Hz               |

#### DC fault locations

|  |  |
|--|--|
| Measuring methods                          | Murray Loop<br>Three Point<br>Improved Hector (Küpfmüller) |
| Loop resistance range                      | 1 Ω – 10 kΩ  |
| Accuracy Lx/L (Rs = 2kΩ, Lx/L = 0,1 bis 1) |  |
| Fault < 1 MΩ                               | ± 0,1% MV ± 1 digit  |
| Fault 1 – 5 MΩ                             | ± 0,2% MV ± 1 digit  |
| Fault 5 – 25 MΩ                            | ± 1% MV ± 1 digit  |
| Fault 25 – 100 MΩ                          | ± 5% MV ± 1 digit  |
| Measuring voltage                          | max. 100 V   |
| Internal filter                            | > 70 dB at 50 Hz   |
| Measuring current                          | max. 400 μA  |



Stored cable parameters    Standard Cu and Al cables  
    User defined cables  
    User defined MultiSection cables  
    User defined Loaded cables

**AC fault location**

Wire break with or without leakage  
 Measuring range                    depending on cable up to 20 km  
 Accuracy of Lx/L  
   20 nF– 10 µF                        ± 0,2 – 1% MV ± 1 digit  
 Measuring frequency            11 Hz  
 Split location  
 Measuring range                    depending on cable up to 20 km  
 Accuracy of Lx/L and L2/L  
   20 nF – 10 µF                        ± 0,2 – 1% MV ± 1 digit  
 Measuring frequency            11 HZ

**Voltage measurement**

DC voltage                            0 – 100 V  
 AC voltage                            0 – 100 V<sub>eff</sub>  
 Accuracy  
   (DC u. AC at 50/60 Hz)        ± 1% MV ± 0,1 V  
 Frequency range                    15 – 300 Hz

**Temperature (with Pt 1000 temperature probe)**

Temperature range                -20 – +60 °C  
 Resolution                            0,1 °C  
 Accuracy                                ± 0,4 °C

**Storage and print of measurement results**

Memory                                for 128 result displays  
 Print from result display or from memory via RS232C-  
 Schnittstelle transferrable to PC

**Connectors**

Conn. f. measuring cables    4 mm safety banana sockets  
 Interface f. RS232C            D Sub9  
 Charger                                2,1 / 5,5 mm

**Allgemeine Spezifikationen**


Power supply                        internal rechargeable battery pack  
 Operation time                    app. 8 hours  
 Ext. charging                        via charger 230V, 50/60 Hz  
     via 12 V car charger  
 Charging time (fast charging)    < 3 Hours  
 Auto power down                after 10 minutes without keystroke  
 Display                                192 x 192 pixel graphic LCD  
     with backlight with autom..  
     power down (5 mm)  
 Input protection                100 V<sub>eff</sub> 50 Hz, 140 V<sub>DC</sub>,  
     100 mA<sub>PEAK</sub> für 30 s  
 Dimensions                        200 x 100 x 40 mm  
 Mass                                    0,8 kg

**Environmental conditions**

Reference range                    +23 ± 5 °C  
   RH 30 % – 75 %\*  
 Specified operating range        0 – 40 °C  
   RH 30 % – 75 % (< 25 g/m<sup>3</sup>)\*  
 Operating range limits            -10 – 50 °C  
   RH 30 % – 75 % (< 25 g/m<sup>3</sup>)\*  
 Transport / Storage range limits -20 – 70 °C  
   RH 30 % – 75 % (< 35 g/m<sup>3</sup>)\*

\* no condensation  
 MV = measured value  
 FV = final value

Your Dealer

|  | Type   | Description   |
|--|--------|---|
| KE-FLB   | KE-FLB | KE-FLB fault locator bridge, including operating manual, calibration certificate, measuring cable set, interface cable, PC software on CD, mains adapter, built-in rechargeable battery, carrying case, shoulder bag, EFF 50 filter unit (temperature probe optional) |

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