

Time Domain Reflectometer

KE-TDR20 is an impulse reflectometer using the pulse-echo method. A measuring pulse is sent through the cable. If the pulse reaches the cable end or a fault inside the cable, a certain part of the pulse energy will be reflected to the unit.



**KURTH
ELECTRONIC**

KE-TDR20



The KE-TDR20 has been designed for quick and accurate fault location and qualification of balanced telecommunication cables. The various measuring modes provide accurate location of discontinuities and errors like open circuits, wet sections, loose contacts etc.

KE-TDR20 employs optimized pulsing and sampling methods, supported with advanced filtering and signal processing techniques, to reach the maximum measurement range and clean waveforms for easier fault interpretation.

KE-TDR20 is designed for easy usage. If you select the cable type from the on-board cable library and set the measurement range covering the length of the cable to be tested, V/2, gain, pulse width and the distance dependent compensation of cable attenuation are automatically set as default.

3 to 10 ns pulse widths for close-in resolution.

Faults as near as 0.5 m from the pedestal can be located easily.

30 ns to 6 μ s pulse widths for testing non-loaded cables.

330 μ s pulse width for testing loaded cables

Help capability with sample traces and useful topic related information.

PC program is provided for post processing and transfer of test results via USB port.

At a glance

- TDR for balanced cables
- Small size, suitable for using in the field
- Widest range in a hand-held cable fault locator
- Languages selectable: English, German, Russian
- Dual balanced input enables
 - Examination of live lines
 - Comparison of two live lines
 - Difference between two live lines
 - Comparison of live line to memory
 - Difference between live line and memory
 - Location of crosstalk points
 - Location of intermittent faults
- 100 memory slots for waveform and settings storage
- 320 x 240 LCD colour display with backlight
- Zoom for detailed examination
- Cable library for standard and user defined types
- Results can be transferred to PC via USB
- Internal rechargeable NiMH battery pack
- Unit adjustment between V/2 and VOP

SPECIFICATIONS

Ranges (V/2=100 or V/2=10 for loaded cable)

1.	For non-loaded cable	16 m
2.	For non-loaded cable	32 m
3.	For non-loaded cable	64 m
4.	For non-loaded cable	160 m
5.	For non-loaded cable	320 m
6.	For non-loaded cable	640 m
7.	For non-loaded cable	1600 m
8.	For non-loaded cable	3200 m
9.	For all cables	6400 m
10.	For all cables	16000 m
11.	For all cables	32000 m

(Maximum range depends on cable features)

Evaluation of results

With cursor and marker in meters

Zoom

SelectableOFF, 2.5, 5

Resolution

with zoom.....0.06% of range

without zoom.....0.3% of range

Accuracy

Sampling0,01 m

Fault location0.2% of range



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Propagation velocity

For non-loaded cables
 V/245 to 150 m/μs
 VOP30 to 99%
 For all cables
 V/21.2 to 30 m/μs
 VOP0.8 to 20%

Measuring modes

L1 L2	Test of a single pair
L1 LONG TIME L2 LONG TIME	Location of intermittent faults
XTALK	Transmit on L2, receive on L1
L1 & L2 L1 - L2	Comparison of two pairs
L1 & MEMORY L1 - MEMORY	Comparison with memory

Pulse characteristics

Amplitude: max 12 V peak to peak into 120 Ohm
 Widths for non loaded cables:
 3, 6, 10, 30, 60, 100, 300, 600 ns 1, 3, 6 μs
 Width for loaded cables: 330 μs,
 The provided pulse width changes with range.
 Amplitude: peak to peak 1.3 to 12 V into 120 Ohm
 The pulse amplitude changes with gain and width.

Gain control

Range0 to 90 dB
 Steps6 dB/step

Line connection

Impedance120 Ohm balanced
 Input protection 350 V RMS 50 Hz 500 V DC
 Balance control..... 50 to 270 Ohm

Memory locations

For waveforms50
 For setups..... 10
 For user stored PVF values10
 For standard cable parameters30

General specifications

Power supply
 Internal rechargeable NIMH battery pack
 Operation time approx. 8 hours
 (60 % duty time)
 Charging (without taking the battery pack out)
 From 230 V mains with mains adapter
 From 12 V car battery with car adapter
 Charging time approx. 3 hours
 (Fast charging mode)
 Display 320 x 240 Colour LCD
 Connectors
 For mains or 12 V car adapter 2.1/5.5 mm coaxial
 L1 and L2 line connectors ...4 mm banana sockets
 USB B USB 1.1 device port to connect to PC
 Ambient temperature range
 Operating-10 to +50 °C
 Storage and transport..... -20 to +70 °C
 Dimensions..... 200 x 100 x 40 mm
 Weight0.8 kg
 Menu languages.....english, german, russian

Ordering information

TIME DOMAIN REFLECTOMETER KE-TDR20

Including:
 Operating Manual
 Short form operating instructions
 Calibration certificate
 CD (xxx version)
 Measuring cable set
 USB cable
 Mains adapter european version
 Rechargeable battery (built-in)
 Carrying case
 Shoulder bag
 PC software for data transfer

Optional:

ECA 10 coaxial adapter

No.	Type	Description
0.490326	KE-TDR20	TDR20 - Time domain reflectometer with graphical TDR display up to 32.000 meters. Dual port TDR for comparison measurements, XTALK, etc. Comes with color display, result memory, integrated rechargeable battery back, test leads, power supply, PC Software and pouch.

