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.

KE-TDR20

KURTH ELECTRONIC

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

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 µs pulse widths for testing non-loaded cables.

330 µs 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.

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
Selectable ....OFF, 2.5, 5

Resolution
with zoom..0.06% of range
without zoom...................................**.**.......0.3% of range

Accuracy
Sampling ....0,01 m

Fault location ....0.2% of range

KE-TDR20 Time Domain Reflectometer

Propagation velocity
For non-loaded cables
V/2 ....45 to 150 m/μs
VOP ....30 to 99%
For all cables
V/2 ....1.2 to 30 m/μs
VOP ....0.8 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
Range ....0 to 90 dB
Steps ....6 dB/step

Line connection
Impedance ....120 Ohm balanced
Input protection .... 350 V RMS 50 Hz 500 V DC
Balance control................................ 50 to 270 Ohm

Memory locations
For waveforms 50
For setups.. 10
For user stored PVF values 10
For standard cable parameters 30

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
Weight ....0.8 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.

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