

## Data Sheet: TS®54 TDR

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#### Premium Voice, Data, and Video Telephone Test Set

The innovative **TS54 TDR** (Time Domain Reflector) is perfect for voice, data and video technicians and communication service provider technicians who need a best-in-class test set combined with a powerful TDR and toner. Fluke Networks took the **best telephone test set** features and design and combined them into one. There's nothing else like the TS54 TDR on the market today. No longer will you need to carry a separate TDR, toner, pair identifier and butt-in test set—everything you need is in one newly redesigned and compact package.

The TS54 delivers 20% more extreme weather protection with the latest advancements to our patented RainSafe™, DropSafe™ and DataSafe™ technology. This means the TS54 is weatherproof and rugged and able to butt in on live DSL lines to test POTS quality without crashing data service.



#### Features

- **TDR** – find cable length measurement and locate faults on virtually all types of cable including twisted pair, coaxial, and parallel conductors
- **Toner** – five separate tones for fast and easy differentiation between multiple wire pairs
- **SmartTone®** – short the correct pair and tone changes for exact pair identification
- Additional key testing functions include:
  1. **Data indication** – warns when data is present on the line
  2. **Voltage indication/measurement** – identifies potential line problems
  3. **Current (mA) indication/measurement** – verifies sufficient line current
  4. **Caller-ID with Call Waiting** — verifies functional service
  5. **DTMF Digit Grabbing** — isolates faulty customer premise equipment
  6. **Detects dial tone, places andreceives calls**
  7. **Polarity**



**APPROVED AND  
USED BY MAJOR  
CARRIERS**

- DropSafe™ PRO – passed 20-foot drop test onto concrete
- RainSafe™ PRO – protection for extreme weather conditions
- DataSafe™ PRO – prevents disruption of data transmission on the line
- High-visibility keypad with glow-in-the-dark keys for any outside plant environment
- Extra-large, backlit LCD screen
- Familiar, cell phone-like menu and user interface
- Two-way, hands-free speakerphone
- Low battery and mute indication
- Optional headset



**Extra-large, backlit LCD screen**



**Glow-in-the-dark keys for any outside plant environment**

## Specifications

Electrical	
Current range (Off-Hook)	10 mA to 100 mA
DC Resistance	
Off-Hook	150 Ω nominal
On-hook	3 MΩ
AC Impedance	
Off-hook	600 Ω nominal; 300 Hz to 3400 Hz
On-hook	120 kΩ; 300 Hz to 3400 Hz
Headset impedance	32 Ω
Rotary Dial Output	
Pulsing rate	10 pps ± 1 pps
Break/make ratio	60/40
Interdigit interval	300 ms
Resistance during break	100 kΩ
DTMF Output	
Tone frequency error	±1.5% maximum
Tone level	-3 dBm combined (typical)
High versus low tone difference	2 dB ± 2 dB

Environmental	
Temperature range	
Handset speech and dialing functions	-22°F to 140 °F (-30°C to 60°C)
LCD function	-13°F to 140°F (-25°C to 60°C)
Storage	-22°F to 150°F (-30°C to 66°C)
Altitude	To 10,000 ft. (3,000 m) max
Relative humidity	95% to 30°C 75% to 40°C 45% to 50°C 30% to 60°C
Safety	
Regulatory compliance	Complies with ANSI/ISA 82.02.01 (61010-1) 2004, CAN/ CSA-C22.2 No. 61010-1-04, UL 61010-1 (2004) and IEC 61010-1:2010 for measurement category I, 300 V dc maximum, pollution degree 2
Maximum transient voltage	1500 V
EMC	Complies with EMC EN61326-1

*Notes: Specifications subject to change without notice.*

Speed Dialing	
Memory capacity	9 speed dial memories of 23 digits, plus one last number redial memory
PBX pause duration	User programmable; default of 4 seconds
Hook flash duration	User programmable; default of 500 ms
Automatic shut-off duration	User programmable; default of 2 minutes
Voltage measurement	
Range	4 V dc to 140 V dc
Current measurement	
Range	0 mA to 100 mA
TDR	
Range	3,000 feet (914 m)
Accuracy	±2 m ±5 %
SmartTone toner	
Frequencies	Steady tone: 950 Hz Alternating tones: 950 Hz and 1480 Hz
Power	
Battery type	9 V alkaline battery
Physical	
Dimensions	8.3 in x 3.2 in x 2.6 in (211 mm x 81 mm x 66 mm)(without belt clip)
Weight	1.16 lb (0.53 kg) (without belt clip)
Water resistance	The test set is rain and moisture resistant

## Ordering Guide

Item Number	Description
TS54-A-09-TDR	Test Set + TDR, ABN with Piercing Pin
TS54-BANA	Test Set + TDR, 4 MM Banana, Extra-large Alligator Clips, Test Probe

## Accessories Guide

Item Number	Description
BELTCLIP-TS	Belt Clip
LEAD-PIRC-PIN	Test Leads with Piercing Pin Clips
LEAD-CO-346A	Test Leads with a 346A Plug for the Central Office <sup>1</sup>
LEAD-ABN-PPIN	Test Leads with Angled Bed-of-Nails (ABN) and Piercing Pin Clips
LEAD-ALIG-CLP	Test Leads with Alligator Clips
LEAD-ABNPRJ11	Test Leads with an RJ-11 Plug, Angled Bed-of-Nails (ABN), and Piercing Pin Clips
TEST-LEAD-BANA-CLP	Test Leads with a 4 mm Banana Plug, Alligator Clips, and Test Probe
HEADSET-TS	Headset

1. When you use these test leads, the TDR accuracy specifications do not apply.

