Fault Mapper Pro®
Model CA7027

FEATURES

► 11 range scales indicating cable faults and terminations up to 19,000 ft (6000m) in feet or meters
► Detects opens, shorts, taps, faulty taps, bridge taps, splitters, high resistance, wet cables, splices and more
► Identifies impedance mismatches
► Works with twisted pair, parallel and coaxial cable
► Selectable cable impedance (25Ω, 50Ω, 75Ω, 100Ω)
► Over-voltage protection up to 250V
► Adjustable cursor assists in locating faults and termination
► Built-in tone generator for tracing and locating cables
► Auto-Ranging scale
► Large high-visibility blue electroluminescent backlit display

APPLICATIONS

► Determine length of cable runs
► Find cable faults and the distance to them
► Determine degradation of cables due to moisture and other contaminants
► Trace and identify cables
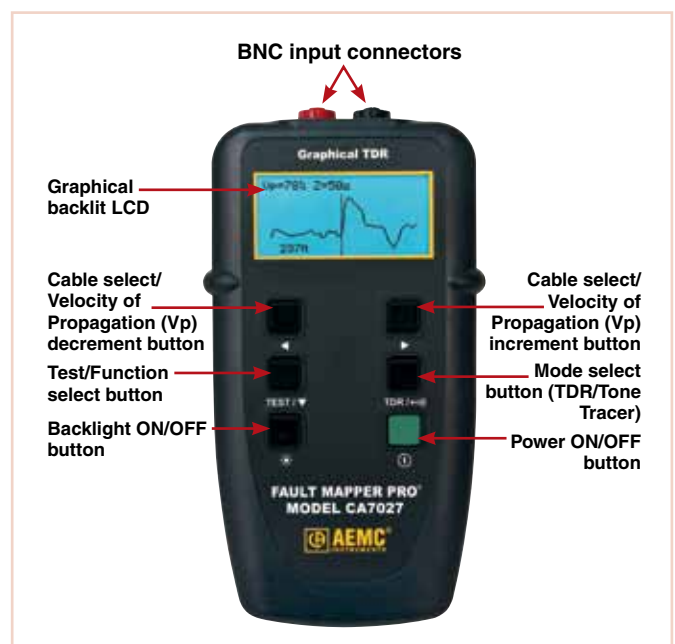► Determine telephone cable connections and the length to them

The Fault Mapper Pro® is a hand-held graphical TDR (Time Domain Reflectometer) designed for identifying and locating faults on power and communication cables, given access to one end only.

The Fault Mapper Pro® measures cable length and indicates the length and distance to cable faults to a range of 9 ft (3m) to 19,000 ft (6000m) on virtually any type of cable. It injects a series of pulses into the cable under test. The velocity at which the pulses travel is determined by the type of cable, which is known as the velocity of propagation (Vp) of the cable. The Velocity of Propagation (Vp) is adjustable between 1% and 99% enabling accurate calibration to the cable under test.

The Vp value is expressed as a percentage of the speed of light (e.g. 67% or ft/mtrs/micro-second), this value will vary according to the type of cable under test. The Fault Mapper Pro® can accept user selectable values between 1 and 99% (or the equivalent value in feet or meters per micro-second).

Based on the selected Vp and the time taken for the pulses to travel through the cable, a reflection profile of the cable under test is displayed. An adjustable cursor assists in locating faults and termination.

The Fault Mapper Pro® incorporates an oscillating tone tracer, which is detectable with a standard tone tracer, for use in the tracing and identification of cable pairs.

BNC input connectors

Graphical backlit LCD

Cable select/ Velocity of Propagation (Vp) decrement button

Test/Function select button

Backlight ON/OFF button

Cable select/ Velocity of Propagation (Vp) increment button

Mode select button (TDR/Tone Tracer)

Power ON/OFF button

FAULT MAPPER PRO® MODEL CA7027

AEMC® INSTRUMENTS

SPECIFICATIONS

MODEL	CA7027
ELECTRICAL	
Ranges @ Vp=70%	23, 49, 98, 197, 394, 820, 1640, 3280, 6560, 9850, 19000 ft
Range Selection	Manual range control
Accuracy*	±1% of range
Resolution	Approximately 1% of selected range
Minimum Cable Length	1.5 ft (0.5m)
Sensitivity	Minimum 3 pixel return on a fault at 4km on 0.6mm 0, PE, TP
Vp (Velocity of Propagation)	Adjustable from 1% to 99%
Output Pulse	+5V peak to peak into an open circuit
Output Impedance	Selectable between 25, 50, 75 & 100Ω
Output Pulse Width	3 ns to 3 ms, Automatic with range
Scan Rate	2 scans / second or scan held
Tone Generator	Oscillating tone 810Hz - 1110Hz
Voltage Protection	250V$_{AC}$
Power Supply	4 x 1.5V AA Alkaline batteries
Battery Life	60 hours continuous scanning
Auto-off	Selectable 1, 2, 3, 5 minutes or disabled
MECHANICAL	
Dimensions	6.5 x 3.5 x 1.5" (165 x 90 x 37mm)
Weight (with battery)	12oz (350g)
Display Resolution	128 x 64 pixel Graphical LCD
Display Backlight	Electroluminescent
ENVIRONMENTAL	
Operating Temperature	14 to 122°F (-10° to 50°C)
Storage Temperature	-4 to 158°F (-20 to 70°C)
Relative Humidity	5 to 95% RH non-condensing
Altitude	6000 ft (2000m)
SAFETY	
Safety Rating	IEC61010-1; EN60950
Protection Degree	IP54
Electro-Magnetic Compatibility	EN61326-1
CE Approved	Compliant with current EU directives

Measurement accuracy of ±1% assumes the instrument setting for velocity of propagation (Vp) of the cable under test to be accurately set, and homogeneity of the velocity of propagation (Vp) along the cable length. Accurate positioning of the cursor is also required.

ORDERING INFORMATION	**CATALOG NO.**
Fault Mapper Pro® Model CA7027 (Telephone Cable Tester / Graphical TDR)	**Cat. #2127.84**