

The Fischer Custom Communications, Inc. non-contact capacitive voltage probe (F-CVP-1) is used to measure the common mode voltage appearing between a multi-pair balanced cable bundle and the local ground reference for the cable bundle in accordance with CISPR 22 Section C.1.3 (shown on the reverse side of this page). The F-CVP-1 makes this voltage measurement without requiring direct contact with the metallic conductors in the cable bundle, or requiring physically breaking the cable bundle to install the F-CVP-1.

The F-CVP-1 consists of 2 concentric metal electrodes. A capacitive voltage divider is formed by the capacitance between the cable bundle under test and the inner metal electrode of the F-CVP-1, and the capacitance between the inner and outer metal electrodes of the F-CVP-1. A Fischer Custom Communications, Inc. proprietary circuit buffers and amplifies the voltage from this capacitive divider, and provides a voltage out of the F-CVP-1 for direct input into a 50  $\Omega$  signal or spectrum analyzer.

The F-CVP-1 meets the critical requirement to minimize capacitive loading of cables under test. If the loading is greater than 5 pico farads the overall impedance of the cable under test can be significantly lowered and result in erroneous common mode voltage measurements.



## SPECIFICATIONS

Operating Bandwidth: 9 kHz – 100 MHz

Nominal Probe Gain: - 20 dB

Nominal Gain Flatness: (150 kHz – 30 MHz): +/- 0.2 dB  
(9 kHz – 100 MHz): +/- 1.5 dB

Dynamic Range: 80 dB minimum

Minimum Measurable Signal (1kHz detection bandwidth): 10 dB $\mu$ W

Maximum Measurable Signal:  $\approx$ 10 V

Maximum diameter of wire/cable bundle under test: 2 cm for < 5 pF nominal loading for cable/bundle under test

Probe Power Source: Internal rechargeable NiMH or NiCad, or disposable Alkaline (10 size AA)

Battery Life: 40 hours minimum

Battery Charger: External, powered from 120 VAC

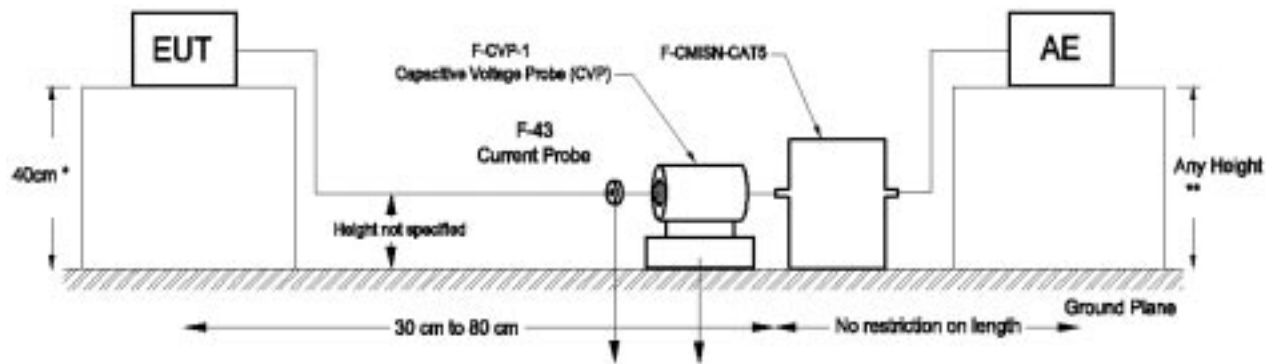
Recharging Time (maximum): 14 hours

Output Connector: Type N (female)

Overall Dimensions (approximate): 7.7 inches High X 5.0 inches Wide X 8.0 inches Long (19.6 cm X 12.7 cm X 20.3 cm)

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\* Distance to the reference groundplane (vertical or horizontal) Output to monitoring equipment

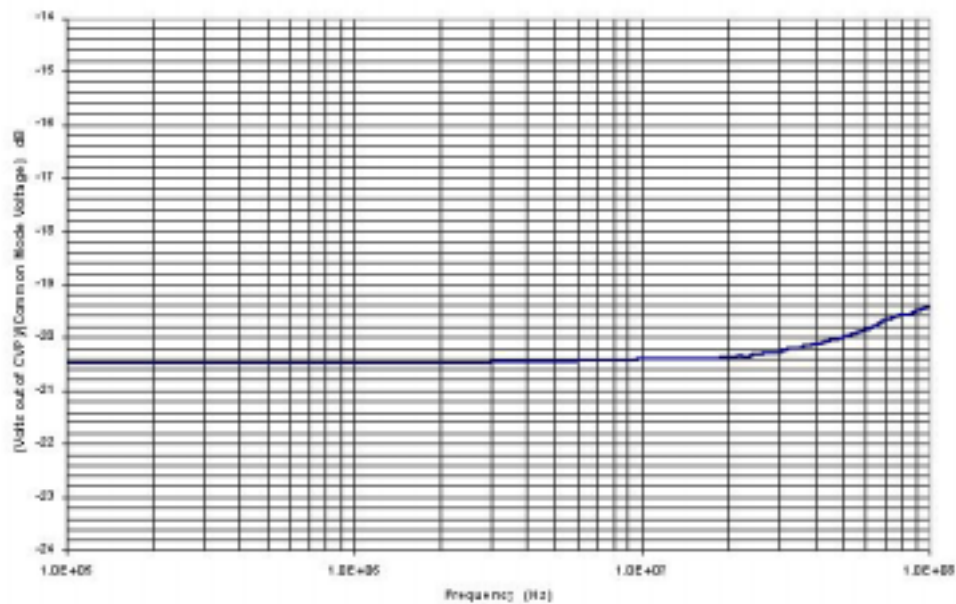
\*\* Distance to the reference groundplane is not critical

EUT = Equipment under test

AE = Associated equipment

Refer to CISPR22 Annex C.1.3

Nominal Capacitive Voltage Probe Calibration Curve



Accessories Provided:

- Rechargeable NiMH batteries
- Battery Charger
- Foam inserts to hold/position wire/cable under test inside CVP
- Operating Manual
- Carrying Case

**FOC**

**Fischer Custom Communications, Inc.**

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