

Critical filter and surge protective device—I TCFxxx10xxx models



ITCFxxx10

Introduction

Since 1980, Eaton's Innovative Technology® has provided surge protective devices (SPDs) to power quality equipment users around the world. Whatever your electrical surge protection need may be, Eaton's Innovative Technology has a surge protective device to fill it.

Product description

Series or parallel wired, terminal strip connected, multi-stage hybrid Active Tracking Network (ATN®) sine wave tracking surge protective device.

Application description

Dedicated AC and DC power circuits operating at 5–275 Vac / 5–300 Vdc, ≤10A, feeding variable speed drives, variable frequency drives, process controllers, PLCs, power supplies, microprocessor-based loads, CNCs, and a wide variety of other mission-critical and general-purpose loads.

Features

- Peak surge current: 40 kA per phase; 20 kA per mode
- Warranty: 10-year free replacement ①
- Enclosure: ABS plastic UL® 94-5VA

- Connection: wire clamping box terminals
 - Minimum 22 AWG (0.34 mm²) wire size
 - Maximum 12 AWG (4.0 mm²) wire size
- Weight: ≈ 1 lb (0.45 kg)
- Operating temperature: –40°F (–40°C) to +140°F (+60°C)
- Provides three modes of protection: L–G, L–N, and N–G
- Input power frequency: 0–64 Hz (AC)
- Response time: active <1 nanosecond
- Maximum continuous operating current: 10A rms up to 250V
- Circuit interrupt: reference installation instructions for details
- UL nominal discharge current rating: 5 kA ②
- UL SCCR: 10 kA ②
- UL voltage protection rating: 500 L–G, 500 L–N, 500 N–G ②

① With product registration.

② 120 Vac model only.

Table 1. Maximum EMI/RFI Attenuation—MIL-STD-220

10 kHz	100 kHz	1 MHz	10 MHz	100 MHz	Maximum Attenuation Frequency
Model xxCF12010					
17 dB	35 dB	64 dB	33 dB	51 dB	64 dB at 1.0 MHz
Model xxCF12010-CP					
16 dB	35 dB	62 dB	40 dB	50 dB	68 dB at 1.25 MHz

Standards and certifications

- Unit listings: recognized components under UL 1449 Third Edition (certain models, see performance data table on page 2), UL 1283 Fifth Edition filter, CSA®
- Manufacturer qualifications: ISO® 9001:1994 Quality System Certification BSI FM 30833
- RoHS compliant



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Performance data

Table 2. Technical Specifications

Catalog Number	Voltage Range	Protection Modes	VPR	MCOV	I_n	SCCR	Peak Surge Current Per Mode
ITCF02410 ①	5–38 Vdc ①	L–N, L–G, N–G	—	—	—	—	4, 2, 2 kA
ITCF04810 ①	24–65 Vdc ①	L–N, L–G, N–G	—	—	—	—	13, 6.5, 6.5 kA
ITCF12010 ②	48–149 Vdc ① 100–127 Vac	L–N	500	150	5 kA	10 kA	40 kA
		L–G	500	150	5 kA	10 kA	20 kA
		N–G	500	150	5 kA	10 kA	20 kA
ITCF24010 ③	150–300 Vdc ① 200–240 Vac	L–N, L–G, N–G	—	—	—	—	16, 8, 8 kA

① UL 1449 Third Edition does not list SPD products rated less than 100 Vac or DC voltages.

② UL 1449 Third Edition, UL 1283 Fifth Edition.

③ UL 1283 Fourth Edition, EMI filter.

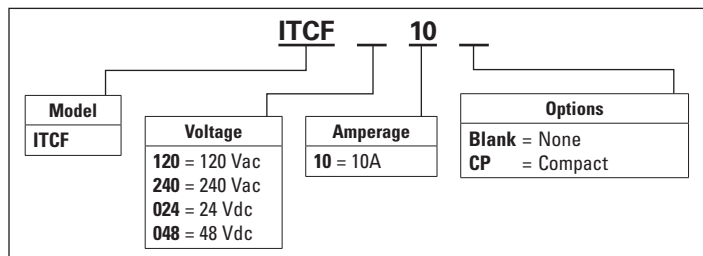
Table 3. Let-Through Voltages Based Upon IEEE Std C62.62-2010 Testing Waveforms ①

Test Impulse	xxCF12010	xxCF12010-CP
IEEE Category A 100 kHz ring wave—6000V, 200A	150V	300V
IEEE Category B 100 kHz ring wave—6000V, 500A	330V	400V
IEEE Category B combination wave—6000V, 3000A (UL 1449-3 VPR)	470V	460V

① All tests conducted on 120 Vac units.

Product selection

Table 4. Catalog Numbering Selection



Dimensions

Approximate dimensions in inches (mm).

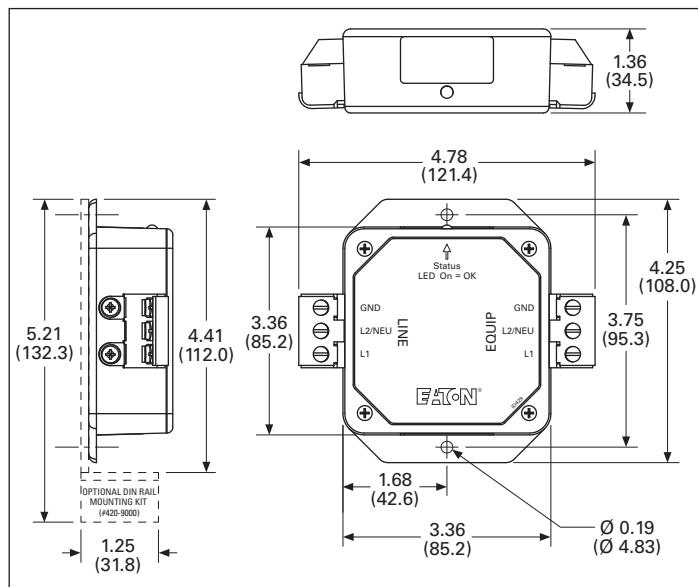


Figure 1. ITCFxxx10 Model Dimensions

For additional information, go to www.itvss.com or call 1-800-809-2772 option 4, option 2.

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