

# Critical filter and surge protective devices— ITCFxxx60xxx models



ITCFxxx60-RJ Model

## 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.

## Description

Series wired, terminal strip connected, multi-stage hybrid Active Tracking Network (ATN®) sine wave tracking surge protective device with remote alarm capability and two pair (RJ14) telecommunication circuit protection.

## Application description

Dedicated 120 or 250 Vrms single-phase AC power circuits operating at ≤60A, feeding 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: 80 kA per phase; 40 kA per mode
- Warranty: 10-year free replacement ①
- Enclosure: ABS plastic UL94-5VA
- Connection: stud lugs
- Weight: ≈ 3 lb (1.5 kg)
- Operating temperature: -40°F (-40°C) to +140°F (+60°C)
- Protection modes: all mode—L-N (normal mode), L-G, N-G (common mode)
- Input power frequency: 47–64 Hz (AC)
- Response time: AC—Active <1 nanosecond
- Maximum continuous operating current: 60A
- Diagnostics: Form C dry relay contacts rated 1A at 30 Vdc, 0.5A at 125 Vac ②
- Circuit interrupt: reference installation instructions for details

① With product registration.

② Optional.

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

10 kHz	100 kHz	1 MHz	10 MHz	100 MHz	Maximum Attenuation Frequency
<b>Model xxCF12060</b>					
20 dB	48 dB	53 dB	29 dB	46 dB	69 dB at 0.4 MHz

## Standards and certifications

- Unit listings: 120V units recognized components under UL® 1449 Third Edition, UL 1283 Fifth Edition, telecommunications circuit UL 497A (optional), CSA®
- Manufacturer qualifications: ISO® 9001:1994 Quality System Certification BSI FM 30833

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ISO 9001

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LEVEL FUSING

EXCLUSIVE  
12 YEAR

WARRANTY  
FREE  
REPLACEMENT

## Performance data

**Table 2. Technical Specifications**

Catalog Number	Voltage Range	Protection Modes	VPR	MCOV	I <sub>n</sub>	SCCR	Peak Surge Current Per Mode
xxCF12060xxx ①	48–149 Vdc ② 100–127 Vac	L–N	500	150	5 kA	10 kA	40 kA
		L–G	600	150	5 kA	10 kA	40 kA
		N–G	500	150	5 kA	10 kA	40 kA
xxCF24060xxx ③	150–300 Vdc ② 200–240 Vac	L–N, L–G, N–G	—	275	N/A	N/A	40 kA

① UL 1449 Third Edition, UL 1283 Fifth Edition EMI Filter.

② UL 1449 Third Edition does not list SPD products rated less than 100 Vac or Vdc voltages.

③ 1283 Fourth Edition, EMI Filter.

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

Test Impulse	xxCF12060xxx
IEEE Category A 100 kHz ring wave—6000V, 200A	90V
IEEE Category B 100 kHz ring wave—6000V, 500A	230V
IEEE Category B combination wave—6000V, 3000A (UL 1449-3 VPR)	450V

① All tests conducted on 120 Vac units.

## Telecom specifications (optional)

- Application: modular jacks are RJ11 (1 pair) or RJ14 (2 pair) compatible with standard voice grade lines including ISDN
- Protection modes: all mode—normal/transverse—tip to ring, common/longitudinal—tip to ring and ring to ground
- Frequency range: 0–16 MHz
- Data rate: ≤1.6 Mbps
- Continuous current maximum: 100 mA
- Response time: ≤1 nanosecond
- EMI/RFI attenuation: 3 dB point 17 MHz, maximum attenuation 39 dB at 38 MHz
- Maximum continuous operating voltage: 127 Vrms tip to ring, tip and ring to ground
- Series resistance: ≈10 ohms
- Pairs protected: (1–4) (203)

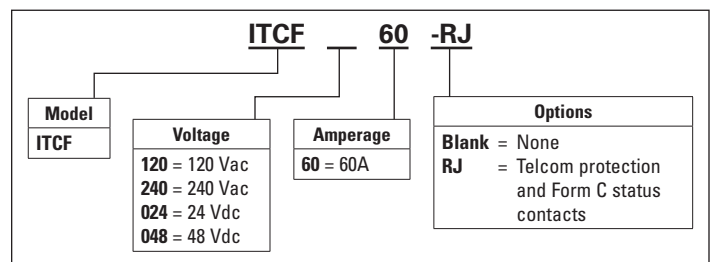
**Table 4. Telcom RJ14 Waveform Specifications**

Telcom	Maximum Continuous Operating Voltage (Vrms)	IEC 801-5 10 x 700 μs Telecommunications Waveform			
		500V 25 Ohm	1000V 25 Ohm	2000V 25 Ohm	4000V 25 Ohm
RJ14	127V	L–G, L–L	L–G, L–L	L–G, L–L	L–G, L–L
		170	170	170	170
		170	170	170	170

① Test environment: positive polarity. Tested with AC power applied. All units tested at terminals, time base = 1 ms. All measurements referenced from zero volts per NEMA® LS-1.

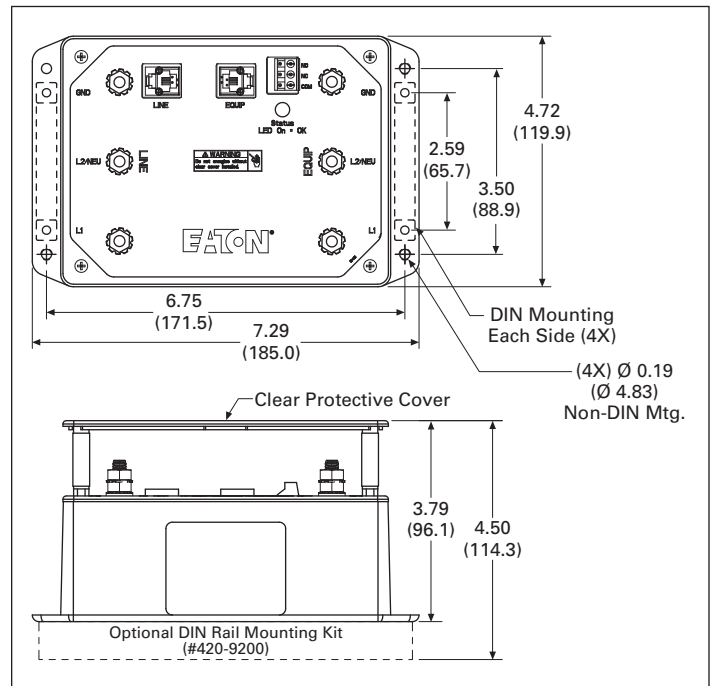
## Product selection

**Table 5. Catalog Numbering Selection**



## Dimensions

Approximate dimensions in inches (mm).



**Figure 1. xxCFxxx60-RJ Model Dimensions**

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