

# CUBEFuse™ and Fuseholder

## Finger-Safe Dual-Element Time-Delay Fuses Indicating – 600 Volts or Less

# TCF & TCFH

## 1-100 Amps



Catalog Symbol: TCF (Fuse) & TCFH (Holder)  
 Dual-Element, Time-Delay Fuse: 10 Seconds  
 Minimum Operating Time at 500% Rated Current  
 Ampere Rating: 1 to 100A  
 Voltage Rating: 600Vac (or less)  
 Interrupting Rating: 300,000A RMS Symmetrical (UL)  
 200,000A RMS Symmetrical (CSA)

**Agency Information:**

UL Listed Special Purpose Fuse: Guide JFHR,  
 File E56412

CSA Certified Fuse: Class 1422- 02, File 53787

UL Listed Fuseholder: Guide IZND,  
 File E214079

CSA Certified Fuseholder: Class 6225-01, File 47235

**Other Electrical Certifications:**

CE compliance for the European Union Low Voltage  
 Directive (50-1000Vac, 75-1500Vdc)

DC Voltage Rating: 300Vdc (or less), 100,000AIR

**Catalog Numbers**

TCF1	TCF3	TCF6	TCF10
TCF15	TCF17-1/2	TCF20	TCF25
TCF30	TCF35	TCF40	TCF45
TCF50	TCF60	TCF70	TCF80
TCF90	TCF100		

**CUBEFuse™ Fuseholder Catalog Data**

Amps	Poles	Wire *	Dual Wire *	Part Number
30	1	14 AWG to 8 AWG CU	14 AWG CU	TCFH30
60	1	14 AWG to 4 AWG CU	10 AWG to 6 AWG CU	TCFH60
100	1	10 AWG to 1 AWG CU	6 AWG CU	TCFH100

\* 75°C (MIN) CU Wire Only

- The world's first finger safe industrial fuse system.
- True dual-element fuse construction with a minimum of 10 seconds time-delay at 500% of rating.
- Long time-delay minimizes nuisance circuit openings due to temporary overloads and transient surges.
- Meets UL Class J Time-Delay electrical performance requirements.
- High interruption rating to safely interrupt faults up to 300,000A.
- Faster response to damaging faults reduces destructive thermal and magnetic forces.
- Permanent open fuse indication.
- Designed to be an internationally accepted and specified world class product.
- Smallest footprint of any power class fuse including Class J, CC, T and RK.
- Meets requirements of IEC 60529 for IP-20 finger safe rating.
- No venting of arc or molten metal and gases during opening.
- Robust cycling and inrush current withstand.
- Low let through currents under fault conditions.
- Provides TYPE 2 "no damage" protection for IEC motors starters when properly sized.
- Low watt loss reduces power consumption and lowers operating temperature.
- Conventional Class J fuse case sizes and ampere ratings.
- Dovetail fuseholder design for ganging multiple fuse poles.
- 30, 60 and 100A fuseholders can be ganged together.
- 30A fuses can be plugged into the 60 and 100A holder without a reducer.
- 60A fuses can be plugged into the 100A holder without a reducer.
- 35mm DIN rail and chassis mounting features.
- Fuseholder wire ports rated for dual wires.

**Carton Quantity and Weight**

Ampere Rating	Carton Qty	Weight Per Carton	
		Lbs.	Kg.
TCF1-30	12	1.39	.518
TCFH30	12	2.42	.902
TCF35-60	12	1.42	.530
TCFH60	12	2.57	.958
TCF70-100	6	1.74	.791
TCFH100	6	1.38	.626

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Dimensional Data For TCF and TCFH



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Dimension	30A in [mm]	60A in [mm]	100A in [mm]
A	1.88 [47.75]	2.13 [54.10]	3.01 [76.45]
B	.75 [19.05]	1.00 [25.40]	1.00 [25.40]
C	1.00 [25.40]	1.13 [28.58]	1.26 [32.00]
D	.31 [7.94]	.44 [11.11]	.57 [14.48]
E	.04 [1.02]	.04 [1.02]	.06 [1.60]
F	.63 [15.88]	.63 [15.88]	.63 [15.88]
G	.27 [6.86]	.38 [9.65]	.39 [9.93]
H	2.30 [58.42]	2.60 [66.04]	2.91 [73.91]
I	.76 [19.30]	1.03 [26.16]	1.05 [26.75]
J	1.27 [32.18]	1.53 [38.86]	2.01 [51.05]
K	.15 [3.81]	.17 [4.32]	.160 [4.06]
L	N/A	N/A	.80 [20.32]
M	N/A	N/A	2.51 [63.75]

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Time-Current Characteristic Curves-Average Melt



### Current Limitation Curves



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#### ELECTRICAL SPECIFICATIONS

Maximum operating voltage: 600Vac (300Vdc)  
 Maximum interruption current:  
 300K A maximum @ 600Vac  
 100K A maximum @ 300Vdc  
 Watts Loss at rated current:  
 TCF30: 3.99W  
 TCF60: 6.23W  
 TCF100: 9.51W

#### THERMAL SPECIFICATIONS

Operating temperature range: -10°C to 65°C

#### MECHANICAL SPECIFICATIONS

Tested continuous harmonic vibration: 0.03" amplitude, 10Hz-60Hz-10Hz 4min excursion, repeated for 4hr, repeated for 3 mutually perpendicular planes (fuse in holder)

Tested impact acceleration: 20g in 3 mutually perpendicular planes

#### FUSE MODULE MATERIAL SPECIFICATIONS

Fuse case: 20% glass filled PES (Polyethersulfone)  
 Fuse terminals: 110 Copper  
 Fuse terminal plating: Electroless Tin  
 Fusible element: Copper Alloys  
 Filler: Pure quartz silica  
 Fill plug: Nylon  
 Indicator lens: PES (Polyethersulfone)  
 Indicator: Energetic chemical

#### FUSEHOLDER MATERIAL SPECIFICATIONS

Holder case: 15% glass filled PBT (polybutylene terephthalate)  
 Interface Clips: High Performance Copper Alloy  
 Interface Clip plating: Electroless Tin (*No plating on TCFH100*)  
 Contact Lubricant: Fluoroether Grease  
 30A Box Lug: Copper  
 60A Box Lug: Copper  
 100A Box Lug: Aluminum  
 DIN Rail Spring: Stainless Steel

#### HANDLING & STORAGE SPECIFICATIONS

Storage Temperature: -10°C to 65°C