# 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

Cutalog Italibers				
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

<sup>\* 75°</sup>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 100 A 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	Carton.	Weight Pe	er Carton_	
Rating	Qty	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	



Form No. TCF & TCFH Page 1 of 4 Data Sheet: 9000

# **TCF & TCFH**

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

1-100 Amps

1.05 [26.75]

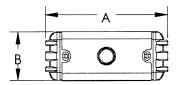
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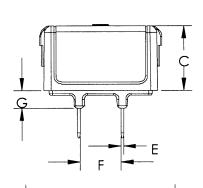
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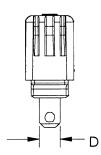
.80 [20.32]

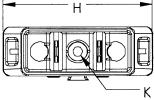
2.51 [63.75]

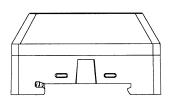
# **Dimensional Data For TCF and TCFH**

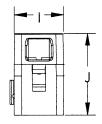


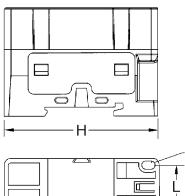


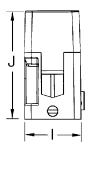


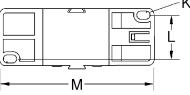












Dimension	30A in [mm]	60A in [mm]	100A in [mm]
А	1.88 [47.75]	2.13 [54.10]	3.01 [76.45]
В	.75 [19.05]	1.00 [25.40]	1.00 [25.40]
С	1.00 [25.40]	1.13 [28.58]	1.26 [32.00]
D	.31 [7.94]	.44 [11.11]	.57 [14.48]
Е	.04 [1.02]	.04 [1.02]	.06 [1.60]
F	.63 [15.88]	.63 [15.88]	.63 [15.88]
G	.27 [6.86]	.38 [9.65]	.39 [9.93]
Н	2.30 [58.42]	2.60 [66.04]	2.91 [73.91]

1.03 [26.16]

1.53 [38.86]

.17 [4.32]

N/A

**Dimensional Data For TCF and TCFH** 

.76 [19.30]

1.27 [32.18]

.15 [3.81]

N/A

N/A

-

J

Κ

L

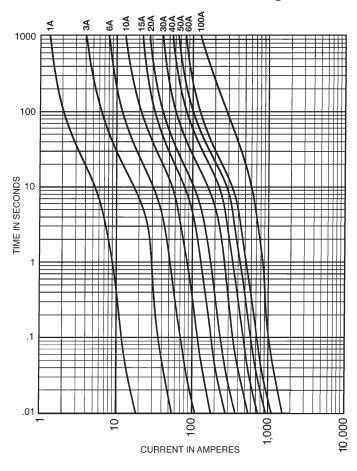
Μ

# TCF & TCFH

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

1-100 Amps

Time-Current Characteristic Curves-Average Melt



# 100,000 B B 100,000 B 100,000 B B 100,000

PROSPECTIVE SHORT CIRCUIT CURRENT (SYMMETRICAL RMS AMPERES

**Current Limitation Curves** 



Form No. TCF & TCFH Page 3 of 4 Data Sheet: 9000

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

TCF & TCFH 1-100 Amps

# **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

Form No. TCF & TCFH
Page 4 of 4
Data Sheet: 9000