

Klixon® 3TC series

15–35 amp, single–phase, miniature ambient compensated

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Features and Overview

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- Miniature size
- Light weight
- Trip–free design
- Options include: longer push button, high vibration, random vibration, metric mounting thread, metric terminal thread, dust boot (part #14500-1 fits 15/32 bushing, part #14500-5 fits 7/16 bushing), terminal hardware
- AS58091 qualified
- Current rating: 15 to 35 amps
- Coordinated ratings
- High vibration resistance (option)
- High interrupting capacity
- Typical use: Where ambient temperature exceeds the 160°F (71°C) maximum of non–ambient compensated thermal circuit breakers

Klixon single–phase TC devices are the smallest, lightest, high performance aircraft circuit breakers available today. They represent the state-of-the-art protection of today's aerospace power systems. Their light weight and small size make them especially well suited for aircraft, avionics and electronic systems.

The Klixon trademark has set the standard for aerospace circuit breakers. For a small, light weight configuration, the TC series offers the endurance and reliability required by exacting military specifications, and are available in standard current ratings from 15 through 35 amperes. The 3TC is available in 15 to 35 amps.

Coordination

The 3TC single–phase and three–phase breaker ratings are coordinated so that in the event of a fault of up to 6,000 amps let–through current any rating will trip before another circuit breaker twice its rating. This results in improved overall equipment performance since only the smallest faulted circuit is interrupted, while larger circuits remain operational.

Ambient Temperature Compensation

Ambient compensated circuit breakers permit system designers to specify smaller gauge wire where the circuit breaker and wiring are exposed to different ambient temperatures. They are especially suited for application where ambient temperature exceeds the 160°F (71°C) maximum of non–ambient compensated thermal circuit

breakers. The TC series may be applied where operating temperatures are as high as 250°F (121°C) with no derating of the circuit breaker. This eliminates the need for cooling air and allows substantial weight, space, and cost savings.

Trip-Free

The complete line of TC series circuit breakers is trip-free. The circuit breaker cannot be maintained closed during an overload even with the actuator button held closed.

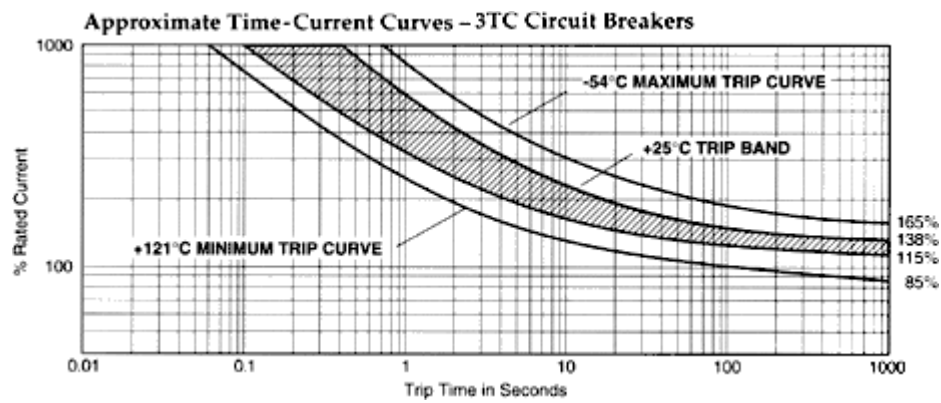
High Short Circuit Capacity

For its miniature size, the 3TC series offers unusually high current interrupting capacity. Overloads up to 6,000 amps at 28 VDC or 2,000–3,500 amps at 120 VAC, 400 Hz can be safely interrupted without affecting calibration or operating performance in the standard 3TC series.

Performance Characteristics /\ Top	
Vibration	10G minimum, 50–500 Hz (<i>other vibration levels available</i>)
Mechanical Shock	50G
Acceleration	10G
Weight	36 gram maximum (3TC14)
Interrupt Current	15–35 amps: 6,000 amps at 28 VDC 15–35: 2,000 amps at 120 VAC, 400 Hz 25 amps: 1,800 amps at 120 VAC, 400 Hz
Endurance	2,500 cycles: 120 VAC, 400 Hz inductive 5,000 cycles: 120 VAC, 400 Hz resistive 2,500 cycles: 30 VDC inductive 5,000 cycles: 30 VDC resistive 10,000 cycles: Mechanical, no load

Calibration Chart 3TC14 /\ Top					
Temp.	Minimum Ultimate Trip	Maximum Ultimate Trip	Trip Time in seconds		
			200 %	500 %	1000 %
25°C	115%	138%	4–20	0.40–1.70	0.10–0.40
-54°C	115%	165%	6–35	0.55–3.00	0.15–0.70
121°C	85%	145%	2–15	0.25–1.00	0.06–0.25

Trip Curve /\ Top	
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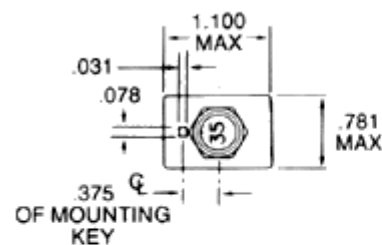


Drawings and Dimensions

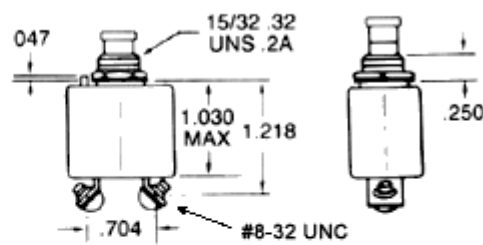
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Klixon 3TC14 is shown here:

Top View



Side View



Panel Mounting

