Sensata
Technologies

KLIXON®

AIRCRAFT CIRCUIT BREAKERS

Aerospace & Defense

KLIXON®
Aircraft Circuit Breakers

KLIXON® aircraft circuit breakers are compact, lightweight, protective devices designed to repeatedly interrupt short circuits or extended overloads in applications which require precise, dependable operation plus high resistance to shock and vibration. To avoid nuisance tripping caused by harmless transient or momentary overloads, these circuit breakers feature an inherent thermal time-lag characteristic. This enables equipment to operate at maximum limits with complete safety.

The heart of the aircraft circuit breaker is the KLIXON® metal disc. At a predetermined overload, the heat caused by current passing through the disc causes the disc to reverse its curvature, or snap. This snapping action separates the electrical contacts and opens the circuit.

Trip curves provide the approximate time vs current characteristics based on the ambient "room" temperature of 77°F (25°C). Should your application require performance characteristics beyond the ambient "room" temperature of 77°F (25°C), derating curves provide additional data for ambient temperatures significantly higher or lower than standard room temperature.

KLIXON® aircraft circuit breakers are available in automatic reset and manual reset. Some manual reset devices offer a switchable feature whereby the contacts can be manually opened to de-energize the circuit. For the automatic reset device, the circuit stays open until the disc cools and returns to its original curvature, completing the circuit. For the trip-free manual reset device, the contacts will remain open until the device's push button is depressed to reset the device and complete the circuit.

"With over 90 years of experience in a myriad of industries and mission-critical applications, Sensata Technologies is one of the world's leading suppliers of sensing, electrical protection, control and power management solutions.

Motors, machines, equipment and vehicles in the aerospace and military industries operate safely and efficiently thanks to reliable and robust Sensata circuit protectors, switches, and sensors. Our products sense and monitor position, temperature and pressure, provide power protection and help manage challenging DC-to-AC power conversions.

From design to manufacturing and every business process in between, our people strive not just to meet standards of excellence but to set them. Serving you is mission-critical to us."

***Tom Wroe**, Chairman of the Board and Chief Executive Officer, Sensata Technologies*

Condensed KLIXON® Aircraft Circuit Breaker Guide

	DEVICE	APPROVAL	ACTUATING OR RESET MEANS	MANUAL	INDICATING	RATING IN AMPS	MAJOR DIMENSIONS IN INCHES APPROX. LxWxH	APPROX. WT. IN GRAMS	APPROX. 20% TIME TO TRIP (SECONDS) AT 2x RATED CURRENT
	2TC 3TC	MS 3320 MS 14105 M5809/1	Button	Yes	Yes	1 - 25 15 - 35 5 - 35 2.5 - 15 2.5 - 10	.75 x .56 x 1.2 1.10 x .75 x 1.2 1.10 x .75 x 1.49 1.21 x .75 x .56	25.0 36.0	10 10
	5TC	—	Button	Yes	Yes	20 - 50	1.65 x .77 x 1.92	53 (std) 55 (aux)	10
	6TC 9TC	MS 14154 MS 14153	Button	Yes	Yes	2 - 20 1, 15 - 35	.75 x 1.78 x 1.2 1.10 x 2.35 x 1.2	65.0 110.0	10 10
	7274 7277	MS 26574 MS 22073	Button	Yes	Yes	1/2 - 20	.75 x .562 x 2.20	28.0 32.0	10
	15TC	—	Button	Yes	Yes	20 - 50	2.1 x 1.3 x 2.15		35
	6752	MS 24571 MS 25361	Button	Yes	Yes	2.5 - 50 50 - 100 2.5 - 90	2.2 x .75 x 3.3 2.2 x .75 x 3.3 2.2 x 2.25 x 3.3	38.9	35
	7270 7271	MS 24509 MS 24510	Toggle Button	Yes	Yes	3 - 35	1.37 x .75 x 2.25 1.37 x .75 x 2.00	39.0	50 50
	20TC	—	Rocker	Yes	Yes	3 - 35	2.00 x .75 x 2.00	39.0	50
	7235 7236	—	—	—	—	7 - 400	3.63 x 1.38 x 2.33		—
	3SB Simulator	—	Button	Yes	Yes	—	.75 x .562 x 2.20	33.0	—

Condensed KLIXON® Aircraft Circuit Breaker Guide

FAULT INTERRUPTING CAPACITY AMPS @ VOLTS & CYCLES	REMARKS	TYPICAL APPLICATIONS	DEVICE	PAGE
6000 @ 28 VDC 2500 @ 120 VAC, 400 Hz 3500 @ 120 VAC, 400 Hz (3TC7) 6000 @ 28 VDC 2000 @ 120 VAC, 400 Hz	Subminiature, ambient compensated, single pole	Aircraft power distribution, aircraft, avionics, and electrical systems	2TC 3TC	6
4000 @ 28VDC 2000 @ 115 VAC, 400 Hz	Ambient compensated, single pole, higher amp ratings	Aircraft, avionics, and electrical systems	5TC	16
2000 @ 120 VAC, 400 Hz 2000 @ 120 VAC, 400 Hz	Subminiature, ambient compensated, three pole	Aircraft power distribution	6TC 9TC	18
2000 @ 28 VDC 500 @ 125 VAC, 400 Hz	Non ambient compensated, quick acting, single pole	Aircraft power distribution, Avionics, ground support, missile systems, protection of wire, motors, solenoids, transformers	7274 7277	20
4000 @ 28 VDC 2000 @ 115 VAC, 400 Hz	Non ambient compensated, quick acting, three pole, higher amp ratings	Aircraft, avionics and electrical systems	15TC	22
6000 @ 30 VDC, 120 VAC, 400 Hz	Ambient compensated, single pole and three pole available, highest interrupting protection	Aircraft power distribution, ground support	6752	24
4000 @ 30 VDC 3500 @ 120 VAC, 400 Hz	Single pole, low profile, toggle, rocker or push button	Aircraft power distribution	7270 7271	26
2000 @ 30 VDC 1000 @ 120 VAC, 400 Hz	Single pole, panel mounted, low profile, rocker	Circuit switching & protection light aircraft, electronics, vehicles	20TC	28
—	Protection and remote sensing of overloads in single & three-phase circuits	Remote sensing of overloads in aircraft electrical systems or other applicable remote systems	7235 7236	30
—	Simulator breaker, low amperage and fast trip time	Commercial and military simulators	3SB	32

*NOTE: For FAA/PMA approved devices, go to http://klixon.sensata.com/

KLIXON® | 2TC2, 2TC27 & 2TC63 SERIES

1 to 35 Amps, Single Pole Aircraft Circuit Breakers

FEATURES

- Ambient Compensated
- 1 to 35 amps, 120VAC, 28VDC
- Miniature size, lightweight
- Trip-free, coordinated ratings
- High vibration resistance and interrupt capacity
- SAE AS58091
- All U.S., China and most European aircraft OEM's qualifications

ADDITIONAL OPTIONS

- Longer push buttons
- High or random vibration*
- Metric mounting or terminal thread
- Dust boot ‡
- Terminal barriers, hardware
- Variable frequency
- Variable voltage
- 15/32 bushing terminals in-line

DESCRIPTION

The Klixon® single-pole 2TC devices are the smallest, lightest aircraft circuit breakers available today. They represent "state-of-the-art" protection for today's aerospace power systems. Their lightweight and small size make them especially well suited for aircraft, avionics, electrical systems, communication systems and defense vehicles (land and air).

The Klixon® trademark has historically set the standard for aerospace circuit breakers. Despite the small size, the TC series offers the endurance and reliability offered by exacting military and commercial applications.

PERFORMANCE CHARACTERISTICS

Interrupt Current Capacity	1-20 amps : 6,000 amps @ 28 VDC 25-35 amps :1,625 amps @ 28 VDC 1-15 amps : 2,500 amps @ 120 VAC, 400 Hz 20 amps : 2,000 amps @ 120 VAC, 400 Hz 25-35 amps :1,800 amps @ 120 VAC, 400 Hz
Vibration Resistance**	10G minimum, 50 - 500 Hz
Mechanical Shock Resistance**	Exceeds 50G's
Insulation Resistance	100 MΩ min @500VDC
Endurance	*120VAC 400Hz* 2,500 cycles inductive 5,000 resistive load *28VDC* 2,500 cycles inductive load 5,000 resistive load 10,000 cycles mechanical no load
Overload Cycling	Minimum 100 cycles @ 200% rated current
Acceleration	Exceeds 10G's
Weight	2TC27 - 25 gm max

ORDERING INFORMATION

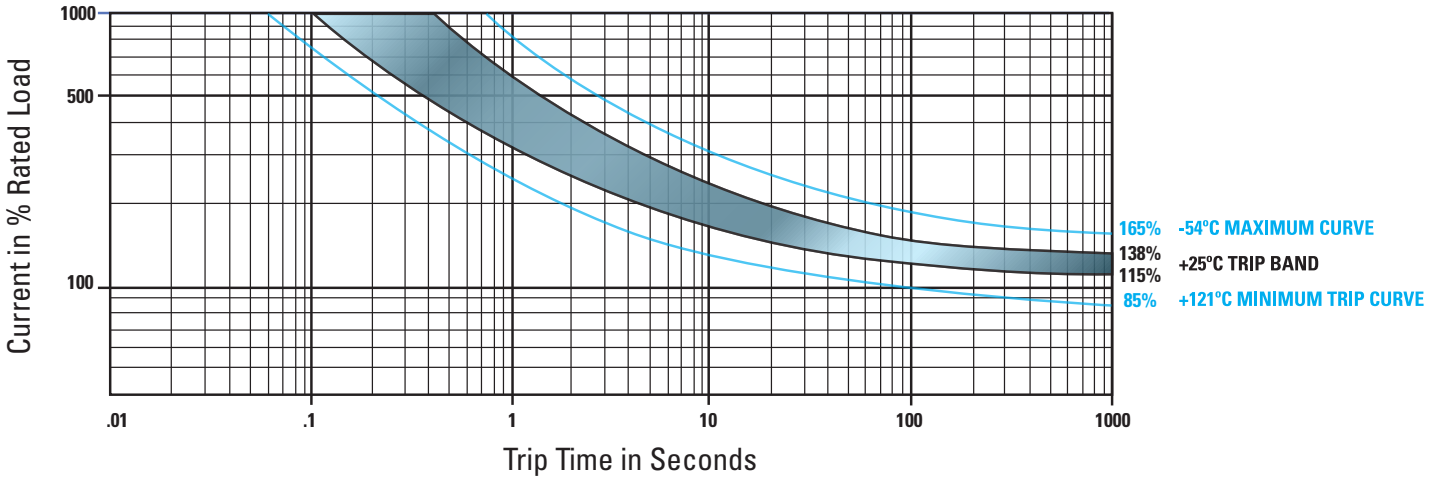
2TC X – X

2TC Style
2 = MS3320 Standard
27 = MS3320L, Long Push Button
63 = MS3320V, High Sine Vibration

Amp Rating§
(**1**, **2**, **2 ½**, **3**, **4**, **5**, **7 ½**, **10**, **15**, **20**, 25, 30, 35)

‡ Part Number 14500-5 Fits 7/16 Bushing
§ Amperage ratings of 1 to 25 amps are MS approved, 2TC63-1 non-MS approved
* Consult factory for 3 grams lower weight option
** Other vibration levels available, contact factory for details

TRIP CURVE - Approximate Time, Current Characteristics at 77°F (25°C)



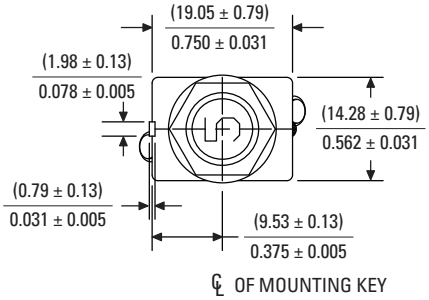
MAX VOLTAGE DROP @ NOMINAL RATED CURRENT

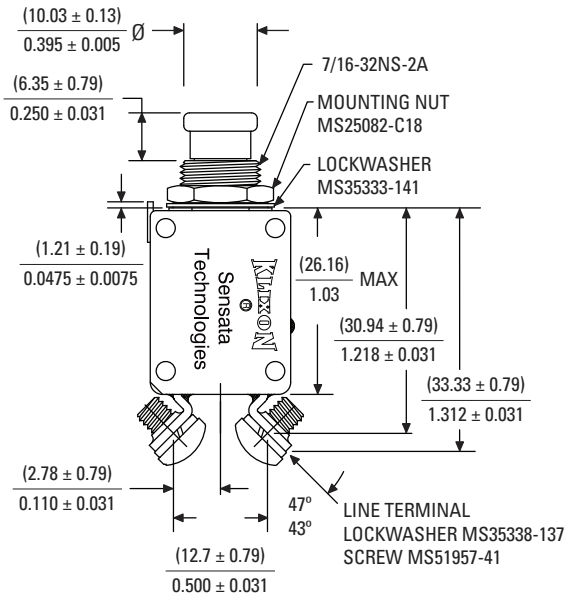
Amp Rating	Max Drop	Amp Rating	Max Drop
1	1.10	10	0.28
2	0.70	15	0.25
2.5	0.50	20	0.25
3	0.40	25	0.25
4	0.45	30	0.25
5	0.35	35	0.25
7.5	0.30	*1 to 20 amps = MS approved*[5]	

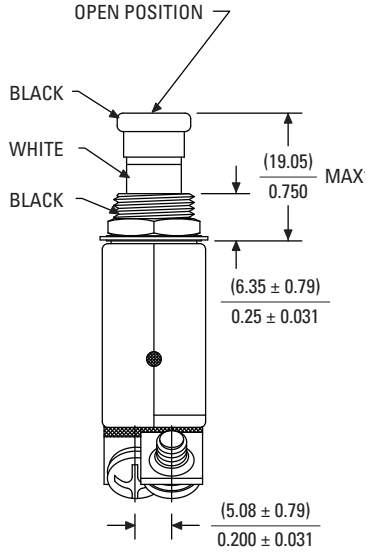
CALIBRATION

TEMP °C / °F	MIN ULT TRIP	MAX ULT TRIP	Trip Time in Seconds		
			200%	500%	1000%
+25 / +77	115%	138%	5 to 20	.5 to 2.0	.12 to .53
-54 / -65	115%	160%	7 to 40	.6 to 3.0	.16 to .8
+121 / 250	100%	138%	3 to 13	.33 to 1.1	.07 to .3

DIMENSIONAL DRAWINGS







Note: 2TC27 amp rating marking is rotated 180 degrees from illustration
*** 2TC27 dimension is 1.125" (28.57mm) Max

KLIXON® | 2TC49 SERIES

2.5 to 10 Amps, Single Pole Aircraft Circuit Breakers

FEATURES

- Extension of the 2TC series
- Ambient Compensated
- 2.5 to 10 amps ratings
- Miniature size, lightweight
- Separable link
- Redundancy protection in hard fault, catastrophic conditions

DESCRIPTION

The Klixon® 2TC49 "Dual Safety™" circuit breaker represents a refinement in electrical control and circuit protection. The 2TC49 dual safety circuit breaker incorporates a fusible element in a standard 2TC (MS 3320) package size to provide redundant protection in hard fault conditions.

"Hard Fault" Tripping - The 2TC49 dual safety circuit breaker operates identically to a standard circuit breaker under all normal conditions, including short circuit. In the event of circumstances, which disable the internal circuit breaker mechanisms, such that the device is able to carry current, but unable to clear an overload via its normal means, the dual safety element acts as a built in fuse to provide redundant circuit protection. The key part in the dual safety design is a two part current carrying element joined by a special alloy. The geometry and material of the element determine its heating properties. The elements heating properties are slower than the bimetal sensor but faster than the smoke curve of the wire the rating is designed to protect. In the case where the standard mechanism is disabled or cannot operate normally, the separable element "fuses" open, interrupting the current. The benefits of the dual safety design result in calibrated overcurrent protection (based on fuse times) and specified post fuse dielectric properties for system and human protection.

PERFORMANCE CHARACTERISTICS

Interrupt Current Capacity	2.5 amps : 6,000 amps @ 28 VDC 2.5 amps : 2,800 amps @ 115 VAC, 400 Hz 3-10 amps : 2,500 amps @ 115 VAC, 400 Hz
Vibration Resistance	10G minimum, 50 - 500 Hz
Mechanical Shock Resistance	Exceeds 50G's
Insulation Resistance	100 MΩ min @500VDC
Endurance	*120VAC 400Hz* 2,500 cycles inductive 5,000 resistive load *28VDC* 2,500 cycles inductive load 5,000 resistive load 10,000 cycles mechanical no load
Overload Cycling	Minimum 100 cycles @ 200% rated current
Acceleration	Exceeds 10G's
Weight	2TC49 - 25 gm max

ORDERING INFORMATION

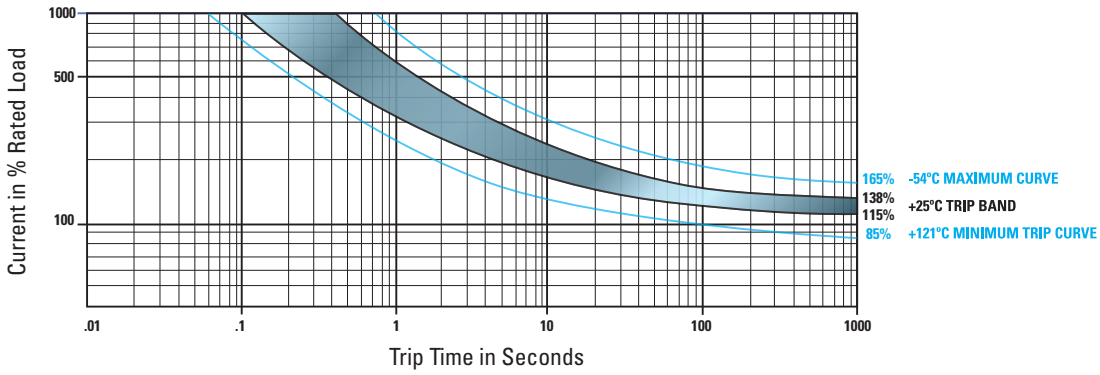
2TC X – X

2TC Style
49 = MS58091/1-XX

Amp Rating§
(2 ½, 3, 5, 7 ½, 10)

§ Amperage ratings of 2.5 to 10 amps are MS approved

TRIP CURVE - Approximate Time, Current Characteristics at 77°F (25°C)



MAX VOLTAGE DROP @ NOMINAL RATED CURRENT

Amp Rating	Max Drop	Amp Rating	Max Drop
2.5	0.70	7.5	0.30
3	0.55	10	0.28
5	0.35	*2.5 to 10 amps = MS approved*§	

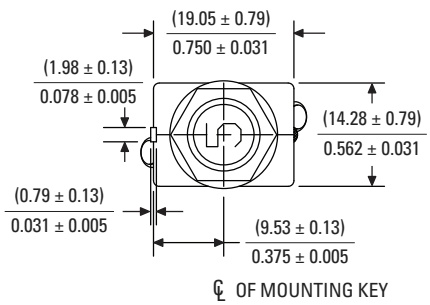
CALIBRATION

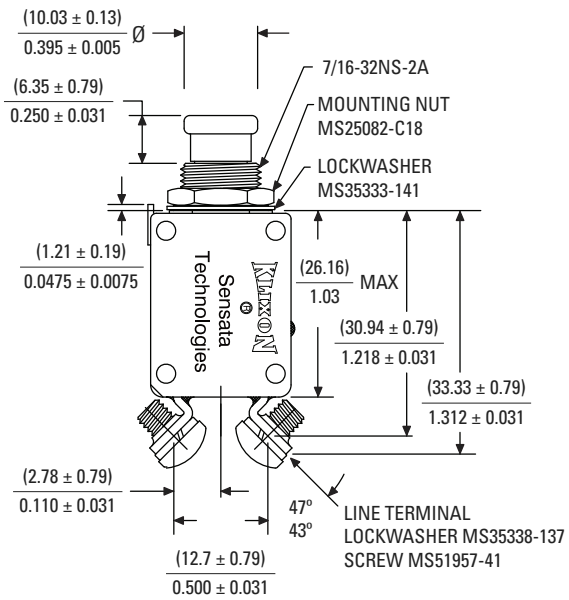
TEMP °C / °F	MIN ULT TRIP	MAX ULT TRIP	Trip Time in Seconds		
			200%	500%	1000%
+25 / +77	115%	138%	5 to 20	.5 to 2.0	.12 to .53
-55 / -65	115%	165%	7 to 40	.6 to 3.0	.16 to .8
+121 / 250	90%	138%	3 to 13	.33 to 1.1	.07 to .3

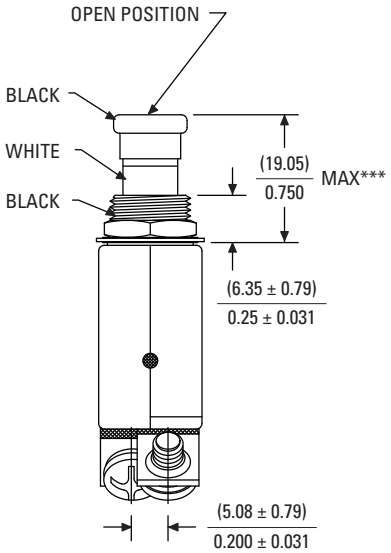
% OVERLOAD RATED CURRENT

Nominal Amperage Rating	Time (Seconds)						
	400%	500%	600%	700%	800%	900%	1000%
2.5 amps	—	—	34.0	20.0	13.0	9.0	6.0
3 amps	—	—	34.0	20.0	13.0	9.0	6.0
5 amps	—	95.0	36.0	18.0	10.0	6.0	3.5
7.5 amps	69.0	28.0	14.0	8.0	4.0	3.5	2.0
10 amps	60.0	35.0	20.0	12.0	7.0	4.0	2.5

DIMENSIONAL DRAWINGS







KLIXON® | 3TC2, 3TC14 & 3TC27 SERIES

15 to 35 Amps, Single Pole Aircraft Circuit Breakers

FEATURES

- Ambient Compensated
- 15 to 35 amps, 120VAC, 28VDC
- Miniature size, lightweight
- Trip-free, coordinated ratings
- High interrupt capacity
- SAE AS58091
- All U.S., China and most European aircraft OEM's qualifications

ADDITIONAL OPTIONS

- Longer push buttons
- High or random vibration*
- Metric mounting or terminal thread
- Dust boot ‡
- Terminal barriers, hardware
- Variable frequency
- Variable voltage

DESCRIPTION

The Klixon® single-pole 3TC devices are the smallest, lightest aircraft circuit breakers available today. They represent "state-of-the-art" protection for today's aerospace power systems. Their lightweight and small size make them especially well suited for aircraft, avionics, electrical systems, communication systems and defense vehicles (land and air).

The Klixon® trademark has historically set the standard for aerospace circuit breakers. Despite the small size, the TC series offers the endurance and reliability offered by exacting military and commercial applications.

PERFORMANCE CHARACTERISTICS

Interrupt Current Capacity	15-35 amps: 6,000 amps @ 28 VDC 15-35 amps: 2,000 amps @ 120 VAC, 400 Hz
Vibration Resistance**	10G minimum, 50 - 500 Hz
Mechanical Shock Resistance**	Exceeds 50G's
Insulation Resistance	100 MΩ min @500VDC
Endurance	*120VAC 400Hz* 2,500 cycles inductive 5,000 resistive load *28VDC* 5,000 resistive load 10,000 cycles mechanical no load
Overload Cycling	Minimum 100 cycles @ 200% rated current
Acceleration	Exceeds 10G's
Weight	3TC27 - 36 gm max

ORDERING INFORMATION

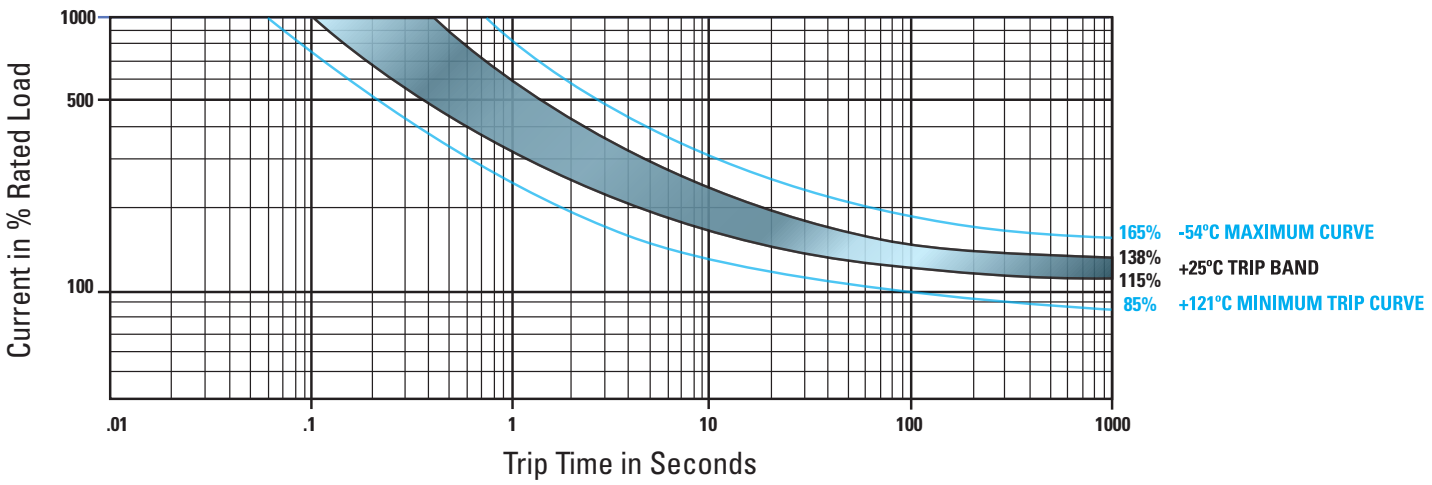
3TC X – X

3TC Style
2 = MS14105 Standard
14 = Commercial Version
27 = MS14105L, Long Push Button

Amp Rating§
(15, 20, **25**, **30**, **35**)

‡ Part Number 14500-1 Fits 15/32 Bushing
§ Amperage ratings of 25 to 35 amps are MS approved
* Other vibration levels available, contact factory for details

TRIP CURVE - Approximate Time, Current Characteristics at 77°F (25°C)



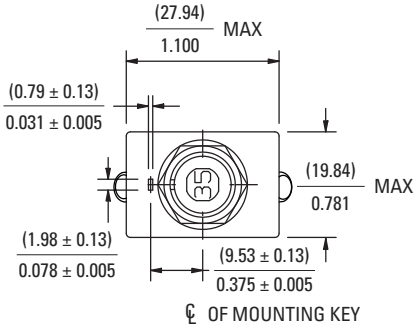
MAX VOLTAGE DROP @ NOMINAL RATED CURRENT

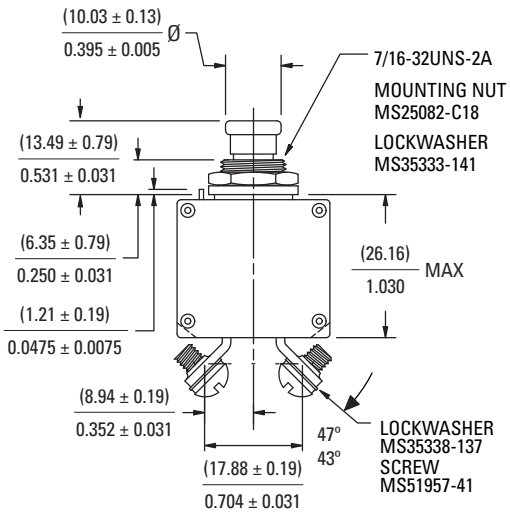
Amp Rating	Max Drop
15	0.25
20	0.25
25	0.25
30	0.25
35	0.25

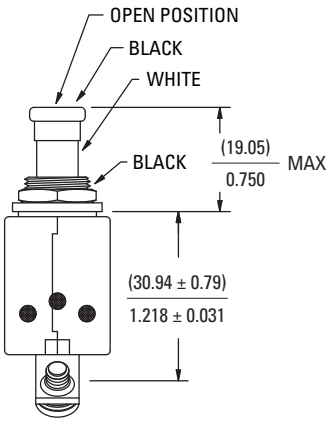
CALIBRATION

TEMP °C / °F	MIN ULT TRIP	MAX ULT TRIP	Trip Time in Seconds		
			200%	500%	1000%
+25 / +77	115%	138%	4 to 20	.4 to 1.7	.10 to .40
-54 / -65	115%	160%	6 to 35	.55 to 3.0	.15 to .70
+121 / 250	85%	138%	2 to 15	.25 to 1.0	.06 to .25

DIMENSIONAL DRAWINGS







*** 3TC27 dimension is 1.125" (28.57mm) Max

KLIXON® | 5TC SERIES

20 to 50 Amp, Aircraft Circuit Breakers

FEATURES

- 28VDC or 120VAC, 20 to 50 Amps
- High vibration resistance and interrupt capacity
- Ambient temperature compensation and trip-free design
- European & SAE standards
- All U.S. and most European aircraft OEM's qualifications

ADDITIONAL OPTIONS*

- Longer push buttons
- Terminal barriers

DESCRIPTION

The Klixon® single-phase TC devices are the smallest, lightest aircraft circuit breakers available today. Their light-weight and small size make them especially well suited for aircraft, avionics and electronic systems. Despite the small size, the TC series offers the endurance and reliability required by exacting military specifications.

The single-phase 5TC breaker rating is coordinated so that in the event of a fault of up to 600 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.

PERFORMANCE CHARACTERISTICS

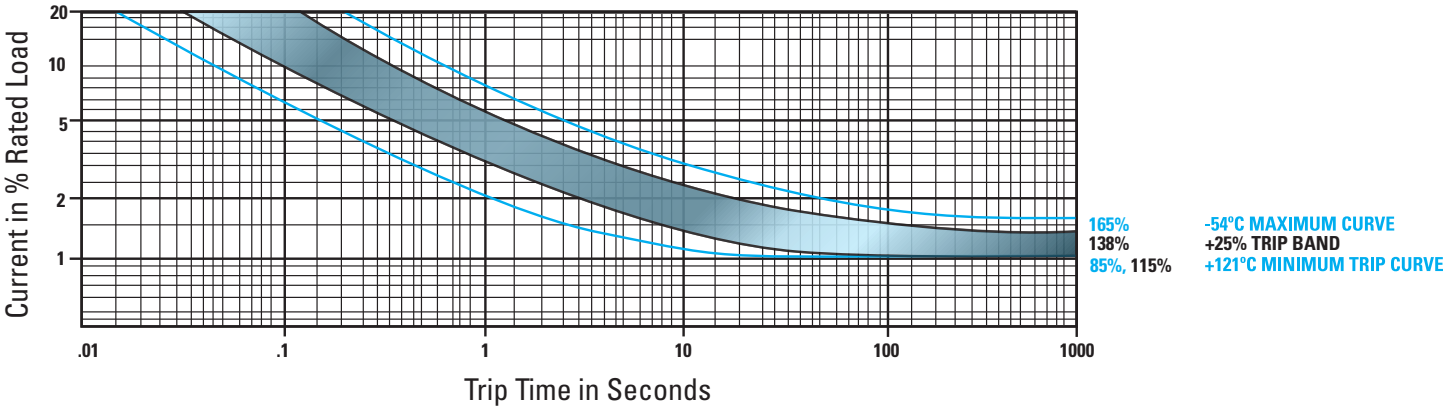
Calibration : 200% rated current, 73°F (23°C)	5TC: 20A to 50A for 2 to 18 seconds
Ultimate Trip at 77°F (25°C)	Must hold : 110% Must trip : 145%
Endurance	2,500 cycles : 115 VAC, 400 Hz Inductive 2,500 cycles : 28 VDC, Inductive 2,500 cycles : 28 VDC, Resistive 5,000 cycles : Mechanical, no load
Interrupt Current Capacity	20 to 50 amps: 4000 amps at 28 VDC 20 to 50 amps: 2000 amps at 115 VAC, 400 Hz
Vibration Resistance**	10G minimum, 80 - 500 Hz
Mechanical Shock Resistance	50G
Insulation Resistance	100 MΩ min
Acceleration	10G
Weight	5TC - 58 gm max 5TC with auxiliary switch - 59 gm max

** Other vibration levels available, contact factory for details

ORDERING INFORMATION

Sensata PN	Qualifications PN
5TC50-XX 5TC65-XX 5TC66-XX	ASNE0732-005 NSA93121 EN3361-006

TRIP CURVE - Approximate Time, Current Characteristics at 73°F (23°C)



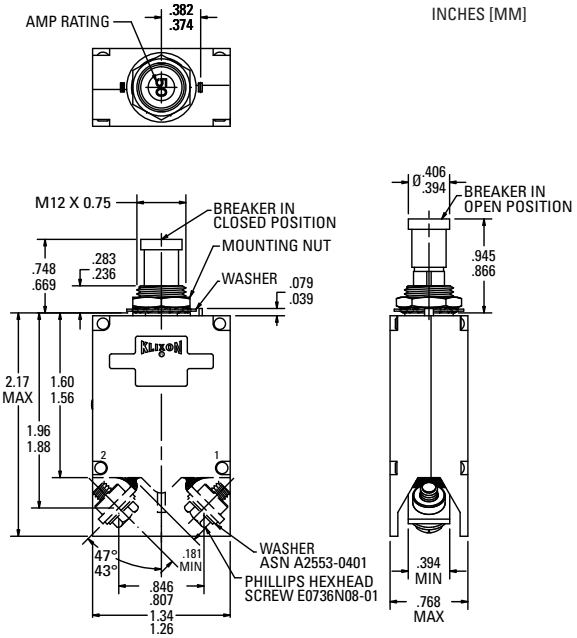
MAX VOLTAGE DROP @ NOMINAL RATED CURRENT

Part Number	Max Voltage Drop
5TCXX-20	0.15
5TCXX-25	0.15
5TCXX-35	0.15
5TCXX-50	0.12

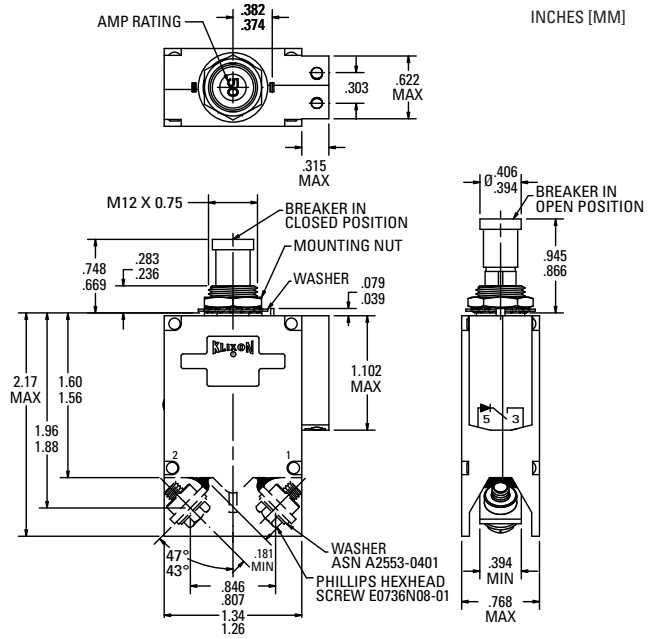
CALIBRATION : 20 TO 50 AMPS

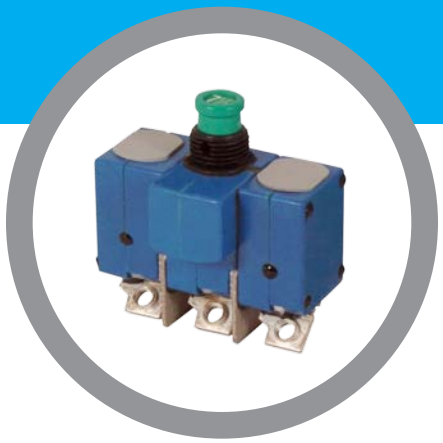
TEMP °C	MIN ULT TRIP	MAX ULT TRIP	Trip Time in Seconds		
			200%	500%	1000%
+25	110%	145%	2 to 18	.4 to 1.6	.10 to .40
-54	110%	165%	70 max	.6 to 3.0	.15 to .70
+70	105%	145%	7 to 35	.6 to 3.0	.15 to .70
+121	90%	145%	2 to 13	.25 to 1.0	.06 to .25

DIMENSIONAL DRAWINGS - 5TC50



DIMENSIONAL DRAWINGS - 5TC65





KLIXON® | 6TC & 9TC SERIES

1 to 35 Amp, Three-Phase Aircraft Circuit Breakers

FEATURES

- 28VDC or 120VAC, 1 to 35 Amps
- High vibration resistance and interrupt capacity
- Ambient temperature compensation and trip-free design
- Mil-qualifications
- European & SAE standards
- All U.S. and most European aircraft OEM's qualifications

ADDITIONAL OPTIONS*

- Longer push buttons
- High vibration
- Metric mounting or terminal thread
- Dust boot ‡
- Auxiliary switch ‡‡

DESCRIPTION

The Klixon® three-phase 6TC & 9TC circuit breakers provide ambient compensated circuit protection in a lightweight, subminiature package size. The three phase design integrates each individual phase to provide overcurrent protection in the event of simultaneous or unbalanced overloads, including short circuit conditions.

The 6TC series is compatible with the single–phase 2TC and 3TC. The 6TC is available in ratings from 2 to 20 amps, with military and various commercial approvals on most styles.

PERFORMANCE CHARACTERISTICS

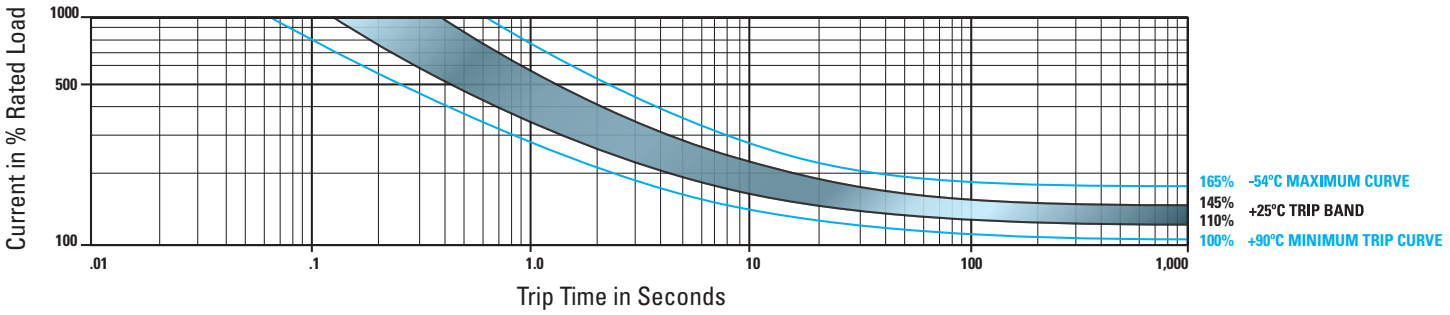
Calibration : 200% rated current, 77°F (25°C)	6TC: 2A to 25A for 4 to 20 seconds 9TC: 2A to 35A for 4 to 20 seconds
Ultimate Trip at 77°F (25°C)	Must hold : 145% Must trip : 110%
Endurance	2,500 cycles : 120 VAC, 400 Hz Inductive 5,000 cycles : 120 VAC, 400 Hz Resistive 5,000 cycles : Mechanical, no load
Interrupt Current Capacity	2-20 amps : 2,000 amps @ 120 VAC, 400 Hz 1, 15-35 amps : 2,000 amps @ 120 VAC, 400Hz
Vibration Resistance**	10G minimum, 50 - 500 Hz
Mechanical Shock Resistance	50G
Insulation Resistance	100 MΩ min
Acceleration	10G
Weight	6TC14 - 65 gm max 9TC14 - 110 gm max

ORDERING INFORMATION

Sensata PN	Qualifications PN
6TC2	MS14154
6TC37	MS14154L
6TC63	MS14154V
9TC2	MS14153

** Other vibration levels available, contact factory for details
‡‡ Available on 6TC device only
6TC 2, 2.5, 3, 4, 5, 7.5, 10, 15, 20 military approved
9TC 1, 15,20,25,30,35 military approved

TRIP CURVE - Approximate Time, Current Characteristics at 77°F (25°C)



MAX VOLTAGE DROP @ NOMINAL RATED CURRENT

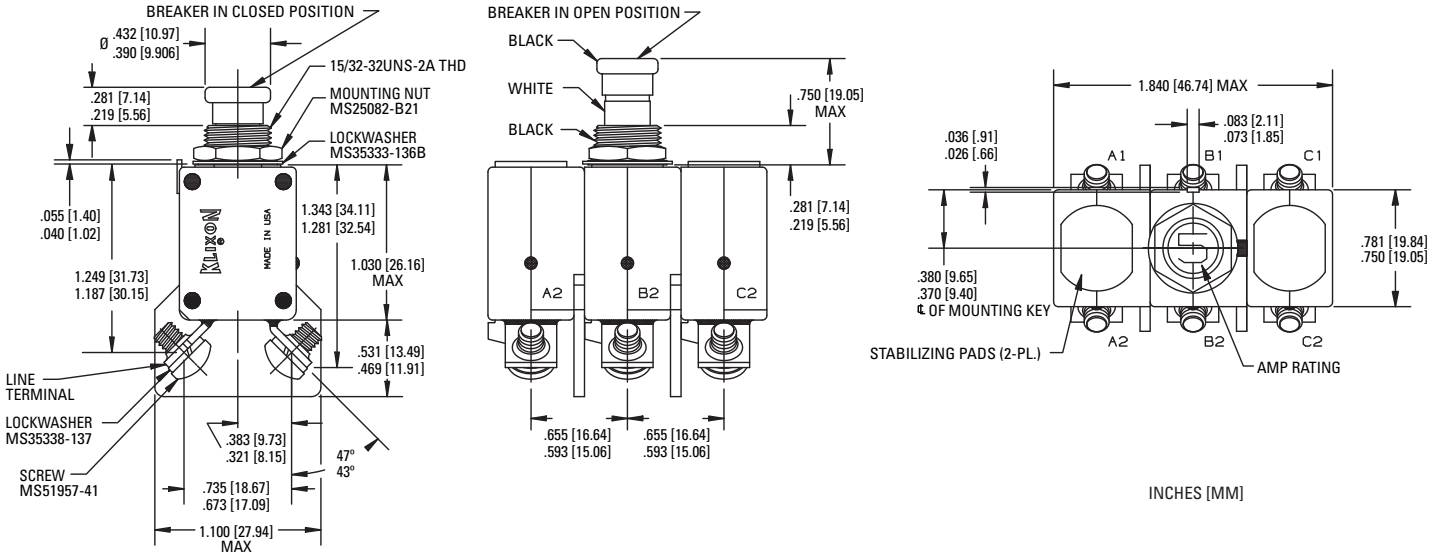
Part Number	***Max Voltage Drop	Part Number	***Max Voltage Drop
6TC14-2	0.70	6TC14-20	0.176
6TC14-2½	0.50	6TC14-25, 30, 35	0.20
6TC14-3	0.40		
6TC14-4	0.37		
6TC14-5	0.35		
6TC14-7½	0.182	9TC14-1	1.1
6TC14-10	0.176	9TC14-15, 20, 25, 30, 35	0.25
6TC14-15	0.176		

CALIBRATION : 1 TO 35 AMPS

TEMP °C	MIN ULT TRIP	MAX ULT TRIP	Trip Time in Seconds		
			200%	500%	1000%
+25	110%	145%	4 to 20	.4 to 2.0	.10 to .53
-54	110%	165%	6 to 40	.55 to 3.5	.15 to .80
+71	100%	145%	3 to 20	.33 to 1.7	.08 to .40

*** Maximum voltage drop at 100%, nominal rated current

DIMENSIONAL DRAWINGS - 6TC14



KLIXON® | 7274 & 7277 SERIES

½ to 20 Amp, Single-Phase Aircraft Circuit Breakers

FEATURES

- 30VDC or 120VAC, ½ to 20 Amps
- High vibration resistance and interrupt capacity
- Non-ambient temperature compensated
- MIL-C-5809 qualified

ADDITIONAL OPTIONS*

- Longer push buttons
- Dust boot
- Auxiliary switch, waterproof panel seal

DESCRIPTION

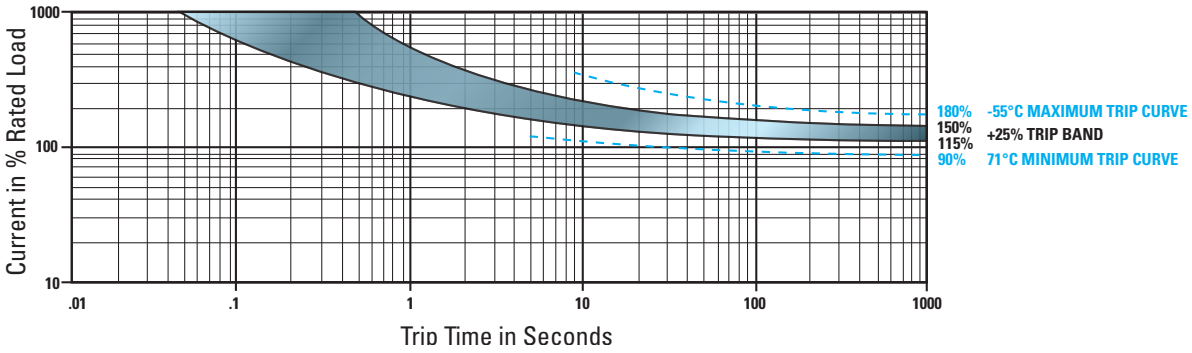
The Klixon® 7274 & 7277 series are small, lightweight, low amperage devices that are specifically designed to protect aircraft / aerospace cable and components in airborne vehicles and equipment. The 7274/7277 series are small, light weight, low amperage devices that are specically designed to protect aircraft / aerospace cable such as at ribbon, fused multi-conductor tape and printed circuit conductors now being used in lighter weight power distribution systems and components in airborne vehicles and equipment. The 7274 series features a tripfree indicating-type reset button. Also, a "wiping action" contact design assures low voltage drop, faster trip time and high reliability in low voltage applications. They are available in standard ratings from 0.5 to 20 amps.

PERFORMANCE CHARACTERISTICS	
Calibration : 200% rated current, 77°F (25°C)	0.5A to 20A for 2 to 35 seconds
Ultimate Trip at 77°F (25°C)	Must hold : 110% Must trip : 150%
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
Interrupt Current Capacity	½ to 5 amps: unlimited at 28 VDC 7½ to 15 amps: 2,000 amps at 28 VDC ½ to 1½ amps: unlimited at 120 VAC, 400 Hz 2 to 5 amps: 800 amps at 120 VAC, 400 Hz 7½ to 20 amps: 500 amps at 120 VAC, 400 Hz
Vibration Resistance**	10G minimum, 50 - 500 Hz
Mechanical Shock Resistance	35G
Insulation Resistance	100 MΩ min
Acceleration	10G
Weight	7274 & 7277 - 33 gm max

** Other vibration levels available, contact factory for details

ORDERING INFORMATION	
Sensata PN	Qualifications PN
7274-2-XX 7274-4-XX 7274-11-XX 7274-69-XX 7274-70-XX 7271-1-XX	MS26574-XX MS26574-XXA MS22073-XX MS22073-XXV MS26574-XXL others same format available amp ratings 1/2, 3/4, 1, 11/2, 2, 21/2, 3, 4, 5, 71/2, 10, 15, 20. Not mil approved on 15 and 20

TRIP CURVE - Approximate Time, Current Characteristics at 77°F (25°C)



MAX VOLTAGE DROP @ NOMINAL RATED CURRENT

Part Number	***Max Voltage Drop	Part Number	***Max Voltage Drop
7274-XX-½	2.00	7274-XX-4	0.45
7274-XX-¾	1.45	7274-XX-5	0.35
7274-XX-1	1.10	7274-XX-7	0.30
7274-XX-1½	0.75	7274-XX-10	0.28
7274-XX-2	0.75	7274-XX-15	0.25
7274-XX-2½	0.70	7274-XX-20	0.25
7274-XX-3	0.55		

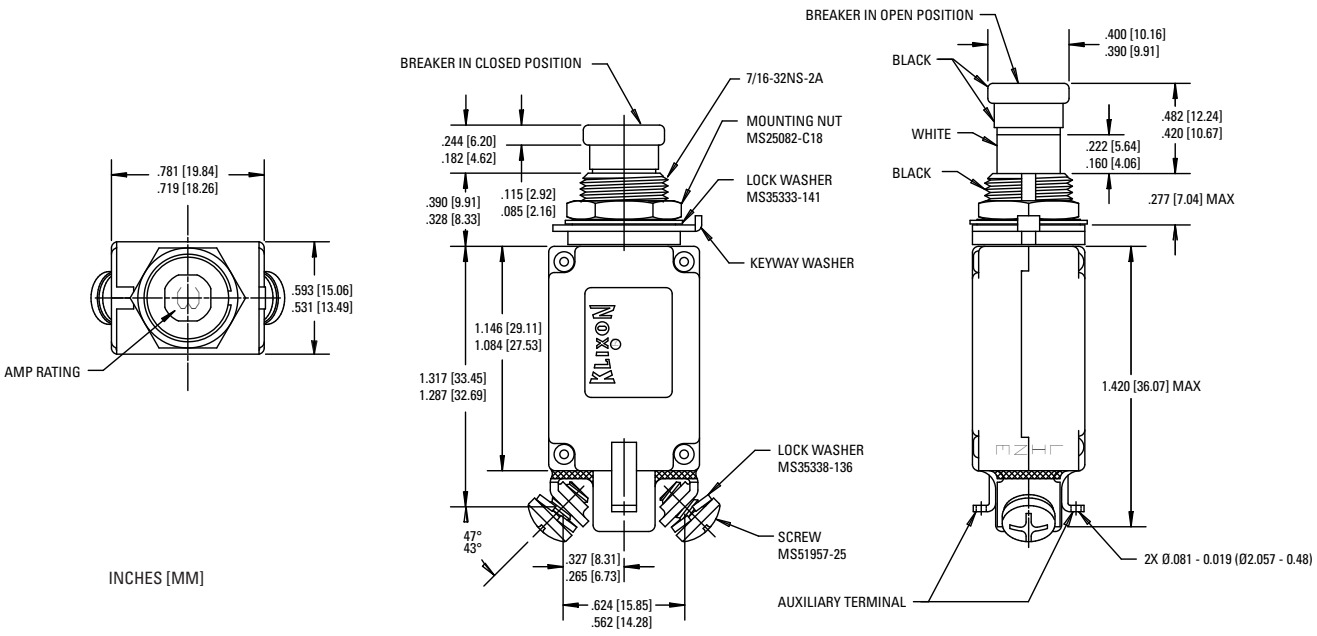
CALIBRATION : 1 TO 35 AMPS

TEMP °C	MIN ULT TRIP	MAX ULT TRIP	Trip Time in Seconds		
			200%	500%	1000%
+25	115%	150%	2 to 20	.16 to 1.2	.046 to .8
-55	135%	180%	—	—	—
+71	90%	130%	—	—	—

*** Maximum voltage drop at 100%, nominal rated current

DIMENSIONAL DRAWINGS - 7274-4

INCHES [MM]



KLIXON® | 15TC SERIES

20 to 50 Amp, Three-Phase Aircraft Circuit Breakers

FEATURES

- 28VDC or 120VAC, 20 to 50 Amps
- High vibration resistance and interrupt capacity
- Non-ambient temperature compensated
- Trip-free design

ADDITIONAL OPTIONS*

- Longer push buttons
- Auxiliary switch - male or female contacts available
- Terminal barriers

DESCRIPTION

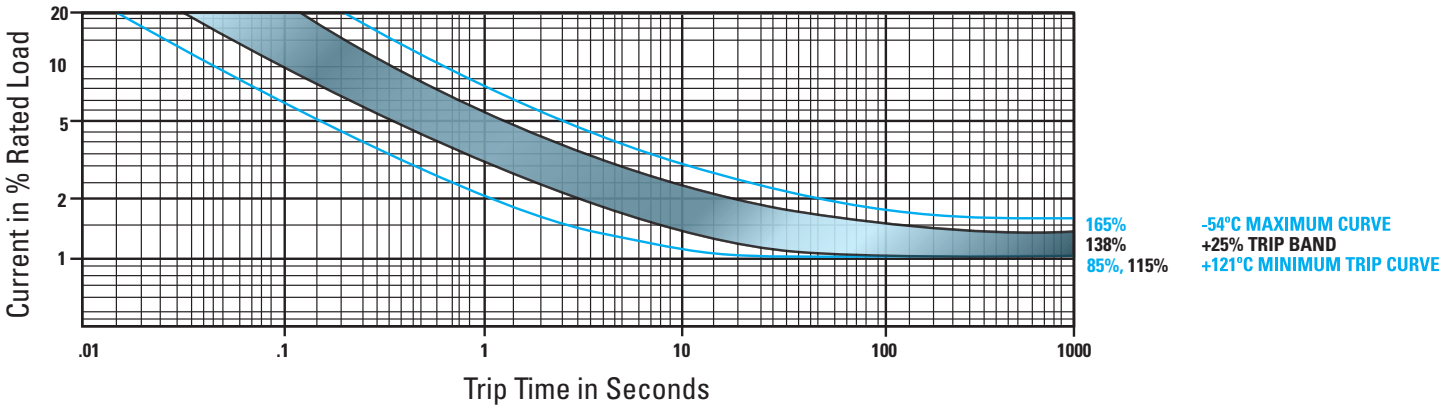
The Klixon® three-phase 15TC series circuit breaker was designed to meet the package size and performance requirements of inactive military standard MS90351 in the 20 to 50 amp range. This lightweight, high performance, non-ambient temperature compensated circuit breaker is well suited for aircraft, avionics and electrical systems.

PERFORMANCE CHARACTERISTICS	
Calibration : 200% rated current, 73°F (23°C)	15TC: 20A to 50A for 10 to 70 seconds
Ultimate Trip at 73°F (23°C)	Must hold : 110% Must trip : 145%
Endurance	2,500 cycles : 115 VAC, 400 Hz Inductive 5,000 cycles : Mechanical, no load
Interrupt Current Capacity	20 to 50 amps: 4000 amps at 28 VDC 20 to 50 amps: 2000 amps at 115 VAC, 400 Hz
Vibration Resistance**	3G minimum, 2000 Hz
Mechanical Shock Resistance	50G
Weight	127 grams (std) 132 grams (auxiliary)

** Other vibration levels available, contact factory for details

ORDERING INFORMATION
Sensata PN
15TC20-XX 15TC30-XX 15TC35-XX 15TC40-XX 15TC45-XX 15TC50-XX

TRIP CURVE - Approximate Time, Current Characteristics at 73°F (23°C)



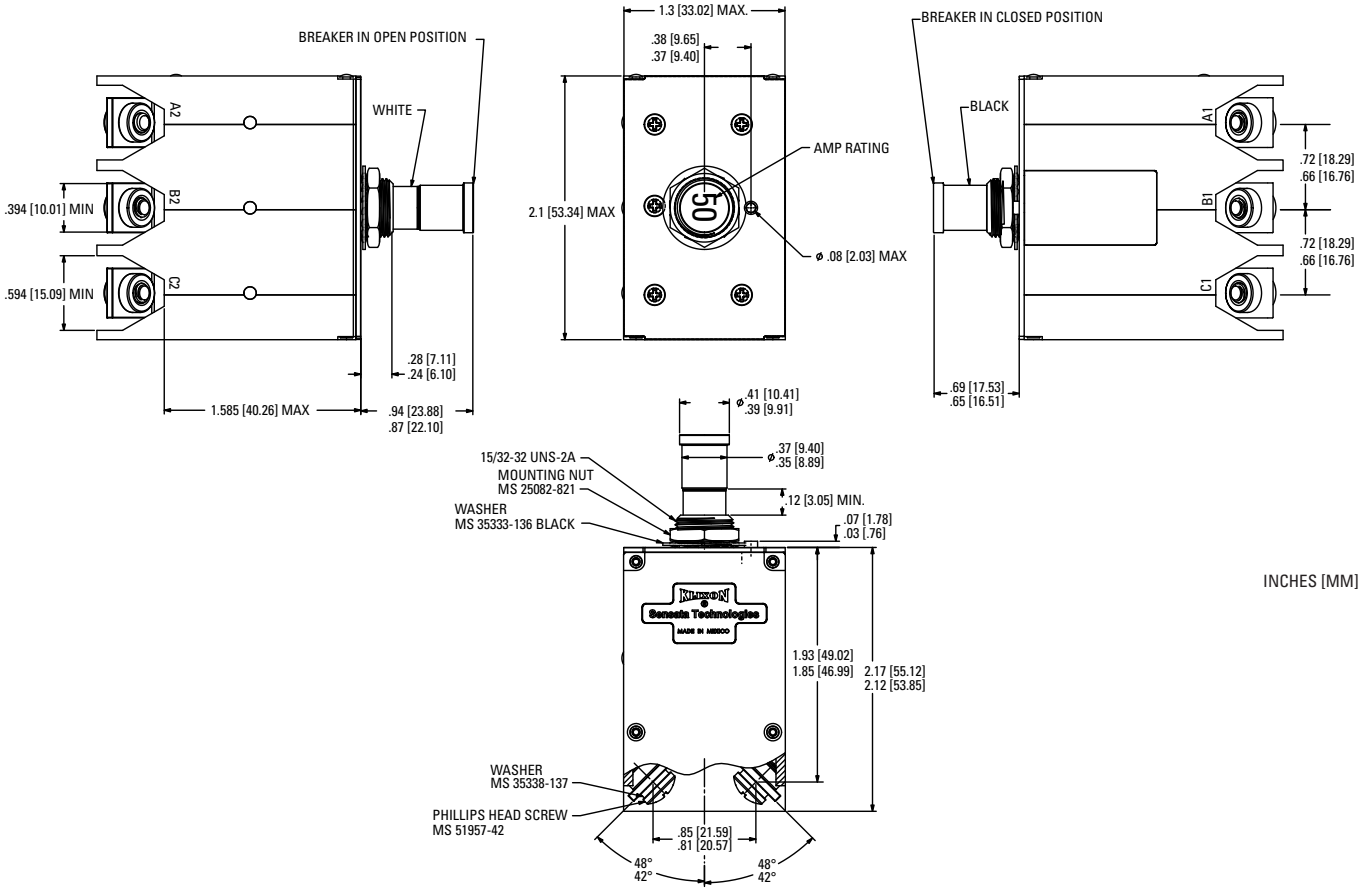
MAX VOLTAGE DROP @ NOMINAL RATED CURRENT

Part Number	Max Voltage Drop
15TCXX	0.30

CALIBRATION : 20 TO 50 AMPS

TEMP °C	MIN ULT TRIP	MAX ULT TRIP	Trip Time in Seconds		
			200%	500%	1000%
+23	110%	145%	10 to 70	.15 to 5.2	.05 to 1.3
-55	105%	145%	10 to 70	.15 to 5.2	.05 to 1.3
+70	110%	165%	10 to 70	.15 to 5.2	.05 to 1.3

DIMENSIONAL DRAWINGS - 15TC30



KLIXON® | 6752 SERIES

2.5 to 100 Amp, Single & Three-Phase Circuit Breakers

FEATURES

- 28VDC or 120VAC, 2.5 to 100 Amps
- Usable on large electrical systems : 6000 amps interrupting capacity
- Ambient temperature compensation and trip-free design
- Mil-qualifications
- Long trouble-free operation: 20,000 operating cycles
- Military approved

ADDITIONAL OPTIONS

- Auxiliary switch available
- Terminal barriers

DESCRIPTION

The Klixon® 6752 series are thermal-magnetic circuit breakers designed and manufactured to meet the more stringent military standards of today's jet aircraft, specifically MIL-DTL-22715. The higher short circuit capacity, vibration resistance and longer cycling life of the 6752 series exceed previous military standards.

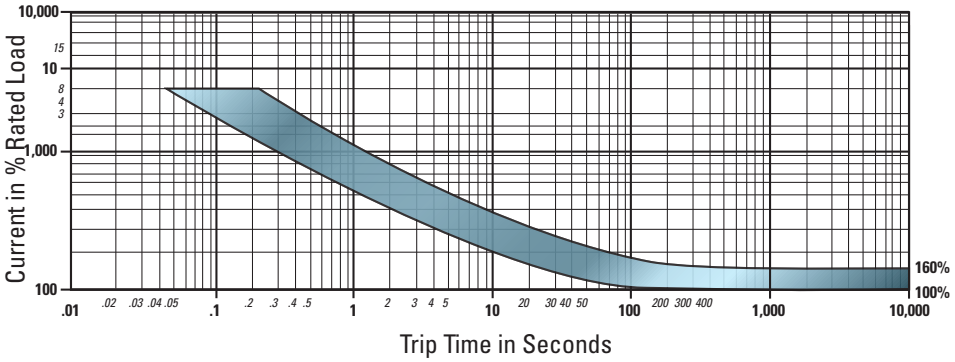
PERFORMANCE CHARACTERISTICS

Calibration : 200% rated current, 77°F (25°C)	6752-12, 6752-300: 2.5A to 50A 6752-100: 2.5A to 100A
Ultimate Trip at 77°F (25°C)	Must hold : 145% Must trip : 110%
Endurance	5,000 cycles : 120 VAC, 400 Hz Inductive 5,000 cycles : 120 VAC, 400 Hz Resistive 5,000 cycles : 28 VDC, 400 Hz Resistive 5,000 cycles : 28 VDC, 400 Hz Inductive 5,000 cycles : Mechanical, no load (-100's) 10,000 cycles : Mechanical, no load
Interrupt Current Capacity	2.5 - 50 amps : 6,000 amps @ 30 VDC (-12's) 2.5 - 50 amps : 6,000 amps @ 120 VA, 400 Hz 2.5 - 50 amps : 4,200 amps @ 205 VA, 400 Hz 50 - 100 amps : 3,500 amps @ 120 VAC, 400Hz 50 - 100 amps : 6,000 amps @ 28 VDC
Vibration Resistance**	10G minimum, 50 - 500 Hz
Mechanical Shock Resistance	30G
Acceleration	10G
Weight	6752-12 - 91 gm max 6752-100 - 114 gm max 6752-305 - 292 gm max

ORDERING INFORMATION

Sensata PN	Qualifications PNs	
6752-12-2½	MS24571-2	MS24571-2V
6752-12-5	MS24571-5	MS24571-5V
6752-12-7½	MS24571-7	MS24571-7V
6752-12-10	MS24571-10	MS24571-10V
6752-12-15	MS24571-15	MS24571-15V
6752-12-20	MS24571-20	MS24571-20V
6752-12-25	MS24571-25	MS24571-25V
6752-12-35	MS24571-35	MS24571-35V
6752-12-50	MS24571-50	MS24571-50V
6752-100-50	MS25361-50	
6752-100-60	MS25361-60	
6752-100-70	MS25361-70	
6752-100-75	MS25361-75	
6752-100-80	MS25361-80	
6752-100-90	MS25361-90	
6752-100-100	MS25361-100	
6752-102-50	MS25361-50V	
6752-102-60	MS25361-60V	
6752-102-70	MS25361-70V	
6752-102-75	MS25361-75V	
6752-102-80	MS25361-80V	
6752-102-90	MS25361-90V	
6752-102-100	MS25361-100V	

TRIP CURVE - Approximate Time, Current Characteristics at 77°F (25°C)



MAX VOLTAGE DROP @ NOMINAL RATED CURRENT

Part Number	***Max Voltage Drop	Part Number	***Max Voltage Drop
6752-12-2½	0.60	6752-300-2½	0.60
6752-12-5	0.40	6752-300-5	0.40
6752-12-7½	0.30	6752-300-7½	0.30
6752-12-10	0.25	6752-300-10	0.25
6752-12-15	0.25	6752-300-15	0.25
6752-12-20	0.25	6752-300-20	0.25
6752-12-25	0.25	6752-300-25	0.25
6752-12-35	0.25	6752-300-35	0.25
6752-12-50	0.25	6752-300-50	0.25

CALIBRATION : 2.5 TO 50 AMPS (6752-12, -300)

TEMP °C	MIN ULT TRIP	MAX ULT TRIP	Trip Time in Seconds		
			200%	500%	1000%
+25	110%	138%	12 to 65	2.3 to 10	.33 to 1.40
-54	110%	160%	12 to 65	2.3 to 10	.33 to 1.40
+93	105%	138%	12 to 65	2.3 to 10	.33 to 1.40
+121	105%	138%	12 to 65	2.3 to 10	.33 to 1.40

CALIBRATION : 50 TO 100 AMPS (6752-100)

TEMP °C	MIN ULT TRIP	MAX ULT TRIP	Trip Time in Seconds		
			200%	500%	1000%
+25	105%	138%	15 to 65	2 to 10	1.40
-54	125%	165%	15 to 65	2 to 10	1.40
+71	100%	145%	15 to 65	2 to 10	1.40

DIMENSIONAL DRAWINGS - 6752-12