E-T-A High Performance Thermal Circuit Breaker 583-...

Description

Three pole, miniaturised, aircraft style thermal circuit breaker with tease-free, trip-free, snap action mechanism and push/pull on/off manual actuation (M-type TO CBE to EN 60934). An indicator band on the push button clearly shows the tripped/off position. Threadneck panel mounted, available in metric and US (AS 14154) configurations. Advanced two-chamber design minimises contact contamination to provide fail-safe operation. Temperature compensated with optional auxiliary contacts, and fully approved for use on a wide range of aircraft and equipment.
Various dummies are available without protective function, allowing connection of pre-installed wiring without loads.

Typical applications

Aircraft systems and equipment (fixed wing and helicopters); other extra low voltage wiring applications; defence equipment; communications systems.

Standard current ratings and typical volt drop values

Current rating (A)	Volt drop per pole (mV)	Current rating (A)	Volt drop per pole (mV)
1	750	7.5	230
2	520	10	190
2.5	400	15	190
3	360	20	200
4	350	25	170
5	260	30	160

Approvals

Authority	Standard	Voltage ratings	Current ratings
Bw	VG 95345, part 11	AC 115/200 V, 400 Hz DC 28 V	1 A...25 A 1 A...25 A
Bw	LN 29887	AC 115/200 V, 400 Hz	5 A...25 A
Dep. of the Navy	AS14154	AC 115/200 V, 400 Hz	1 A...20 A
QPL Canada Dep. of National Defence	VG 95345, part 11	AC 115/200 V, 400 Hz DC 28 V	1 A...25 A 1 A...25 A
QPL Sweden Defence Material Admin.	LN 29887 MS 14154	AC 115/200 V, 400 Hz DC 28 V	1 A...25 A 1 A...25 A
QPL UK Ministery of Defence	LN 29887	AC 115/200 V, 400 Hz	5 A...25 A
Airbus	EN 2996-004	AC 115/200 V, 400 Hz	1 A...25 A
Airbus	EN 2996-005	AC 115/200 V, 400 Hz	1 A...25 A

without auxiliary contact **583-...** with auxiliary contact

Technical data

For further details please see: www.e-t-a.de/ti_e

Voltage rating	3 AC 200 V (300 Hz to 800 Hz); DC 28 V
Current rating range	1...30 A
Auxiliary circuit	0.5 A, DC 28 V
Typical life	20,000 operations mechanical 10,000 operations at I_N (≤ 25 A) 4,000 operations at I_N (30 A)
Ambient temperature	-55...+125 °C (-67...+257 °F) ≤ 15 A -55...+90 °C (-67...+194 °F) > 15 A
Insulation co-ordination (IEC 60664 and 60664A)	rated impulse withstand voltage 1.5 kV; pollution degree 3
Dielectric strength (IEC 60664 and 60664A) operating area pole/pole main to aux. circuit	test voltage AC 1,500 V AC 1,500 V AC 1,500 V
Insulation resistance	> 100 MΩ (DC 500 V)
Interrupting capacity I_{cn} 3 AC 200 V (400 Hz): DC 28 V: 	≤ 4 A 1,000 A 5 A 2,000 A 7.5...25 A 2,500 A 30 A 1,500 A 1...25 A 6,000 A 30 A 4,000 A
Degree of protection (IEC 60529/DIN 40050)	operating area IP40 terminal area IP00
Vibration (sinusoidal)	10 g (57-2000 Hz), ± 0.76 mm (5-57 Hz) to VG 95210, sheet 19, IEC 60068-2-6, test Fc, ISO 7137
Vibration (random)	16.4 g rms, 0.2 g^2Hz ± 1.5 dB, to VG 95210, sheet 29, IEC 60068-2-6, test Fc, ISO 7137
Acceleration	17 g, to ISO 2669
Shock	50 g (11 ms), to VG 95210, sheet 28, IEC 60068-2-27, test Ea, ISO 7137
Corrosion	96 hours at 5 % salt mist 48 hours at 20 % salt mist to VG 95210, sheet 2, IEC 60068-2-11, test Ka, ISO 7137
Humidity	240 hours at 95 % RH, to VG 95210, sheet 7, IEC 60068-2-3, test C/ISO 7137
Explosion	to VG 95210, sheet 10, MIL-STD-202, meth. 109
Altitude	≤ 25,000 m above sea level
Mass	max. 67 g with auxiliary contact max. 63 g without auxiliary contact

Mass reduction through aluminium threadneck approx. 3 g

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Ordering information

Type No.

583 three pole, with temperature compensation

Mounting

G threadneck panel mounting

Threadneck design

1 M12x1x6.4x8.8 dia. with mounting plate (aux. contact version)
3 MJ12x1x6.4x8.8 dia. (only without aux. contact)
4 M12x1x6.4x8.8 dia. (only without aux. contact)
5 7/16-32UNx6.4x7.8 (only without aux. contact)
7 7/16-32 UNx6.4x7.8 dia. with mounting plate (aux.contact version)
8 M12x1x6.4xø8.8 with mounting plate, aluminium threadneck
9 M12x1x6.4xø8.8, aluminium threadneck

Hardware for threadneck (washers)

0 without hardware
1 corrugated washer 12/15, fitted
2 serrated lock washer 12.1/17.2, fitted
3 toothed washer 11.3/14.9, fitted
5 serrated lock washer 12.1/17.2, bulk shipped

Hardware for threadneck (nuts)

0 without hardware
1 hex nut M12x1
3 hex nut 7/16-32UN
5 hex nut MJ12x1 (only with threadneck design 3)
7 hex nut M12x1, aluminium, bulk shipped

Terminal design (main terminals)

K screw terminals with metric thread
1 K14 (M4, MJ4)
J screw terminals with inch thread
1 J14 (8-32UNC-2B)

Characteristic curve

M1 thermal, 1.15-1.38 I_N

Terminal screws

A Phillips screw M4x6
B Phillips screw 8-32UNC-2Ax6 (MS 51957-41)
K hex screw with Phillips head 8-32UNC-3Ax7.6
L Phillips screw MJ4x6
Z without accessories

Terminal washers

0 without lock washer
1 lock washer B4
2 lock washer 4.3 (MS 35338-137)
5 lock washer 4.3/9

Auxiliary contact

S0 without auxiliary contact
S1 with auxiliary contact (N/C) (connector to EN 3155-016M2018, size 20)
S5 with polarized auxiliary contact (N/C)

Barrier

T barrier 25.5 mm wide, 37.7 mm long (-S0 only)
U barrier 19.5 mm wide, 37.7 mm long
X barrier 19.5 mm wide, 34.1 mm long

Colour of the push button

(blank) black (standard) (e.g. 7.5)
G green to EN (e.g. 7 1/2)
N black to EN (e.g. 7 1/2)

Current ratings

1...30 A

583	-	**G**	**4**	**1**	**1**	-	**K**	**1**	**M1**	-	**A**	**1**	**S0**	**T**	.	-	**5 A**	ordering example

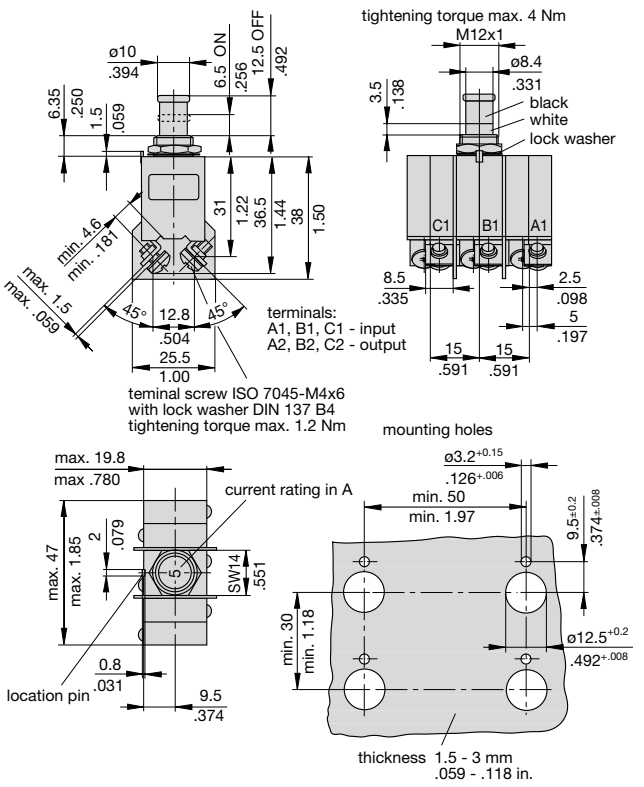
Please be informed that we have minimum ordering quantities to be observed.

Ordering information for approved devices

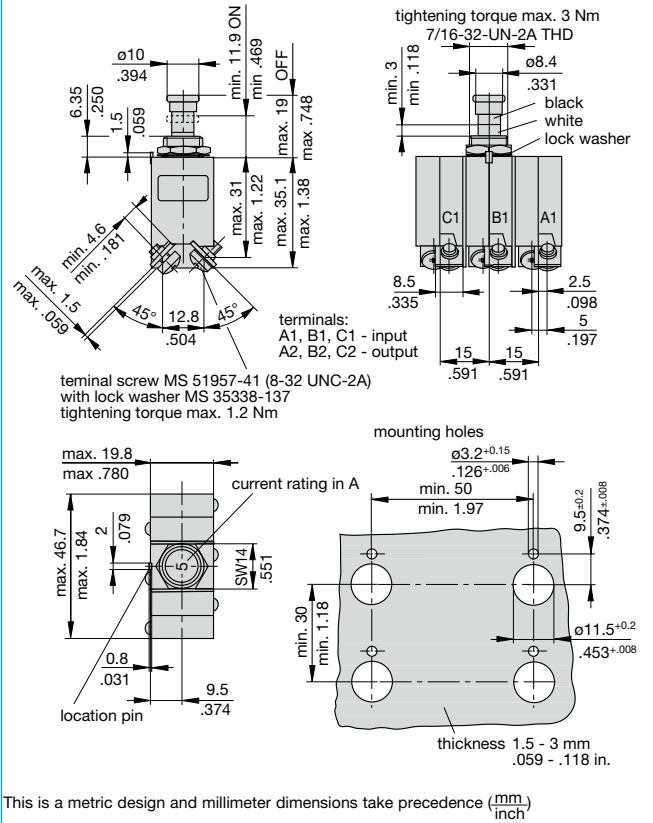
583-G411-K1M1-A1S0TN (583-96-TC-K14)
Metric threadneck M12x1 and terminal design -K14 (M4x6), listed by the German Materialamt der Bundeswehr to VG 95345 T11.

583-G533-J1M1-B2S0XN (AS 14154)
Threadneck size 7/16-32UNSx6.4 and terminal design -J14 (inch thread 8-32), approved to AS 14154.

Dimensions 583-G411-K1M1-A1S0TN (VG 95345 T11)

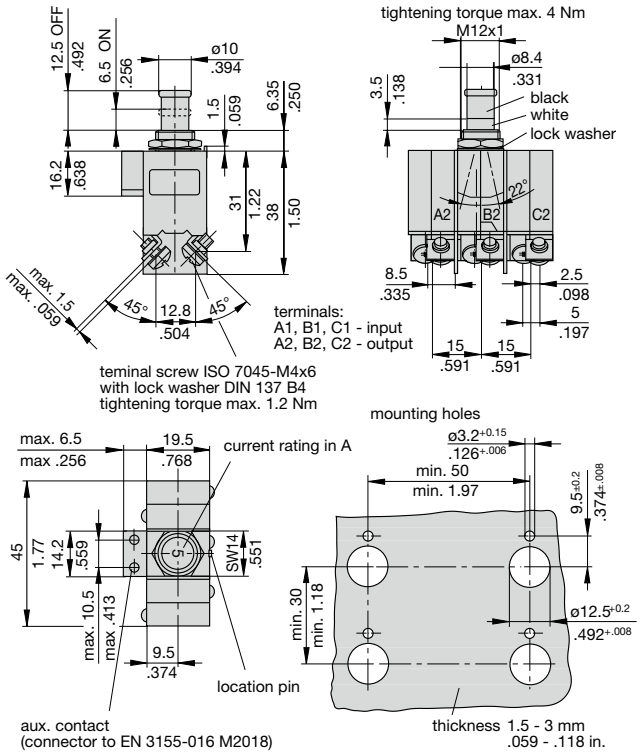


Dimensions 583-G533-J1M1-B2S0XN (AS14154)

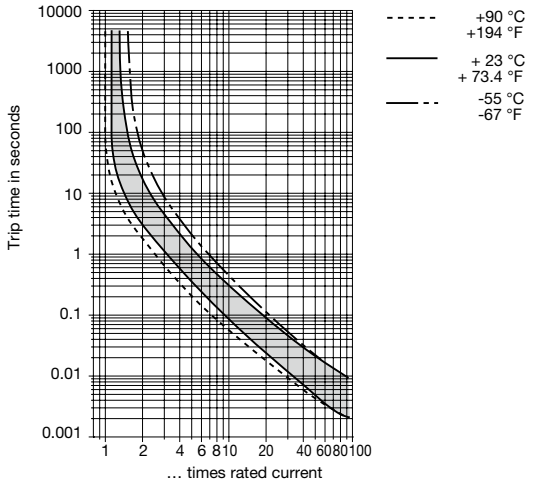


This is a metric design and millimeter dimensions take precedence (mm/inch)

Dimensions 583-G111-K1M1-A1S1UN (VG 95345 T11)



Typical time/current characteristics



Internal connection diagrams