

Description

E-T-A's proven type 3120 in a new attractive styling (S-type TO CBE to EN 60934 with trip free mechanism) offering the choice of single pole, double pole with single pole protection, and double pole with protection on both poles. Designed for snap-in panel mounting with illumination as an option. Under overload conditions the rocker returns to the OFF position.

Any one of the following additional function modules can be supplied factory fitted to the rear of the switch/circuit breaker.

- Under voltage release coil (for double pole versions only).
- Magnetic trip coil for short circuit protection.
- Magnetic trip coil for remote relay trip.
- Auxiliary contacts for status signalling.
- Mechanical slide interlock.

Approved to CBE standard EN 60934 (IEC 60934).

Available accessories: water splash protection and actuator guard to prevent inadvertent operation.

Typical applications

Motors, transformers, solenoids, extra low voltage wiring systems, office machines, electro-medical equipment, power supplies, communications systems, boating.

Standard current ratings and typical internal resistance values

Current rating (A)	Internal resistance per pole (Ω)	Current rating (A)	Internal resistance per pole (Ω)
0.1	94	3.5	0.0565
0.2	24	4	0.0435
0.3	12	4.5	0.0435
0.4	5.30	5	0.0325
0.5	4.20	6	0.0215
0.6	2.90	7	0.0165
0.8	1.50	8	0.0165
1	0.9	10	<0.02
1.2	0.80	12	<0.02
1.5	0.45	14	<0.02
2	0.27	16	<0.02
2.5	0.0785	18	< 0.02
3	0.0595	20	< 0.02

Approvals

Authority	Voltage ratings	Current ratings
VDE, Semko (EN 60934)	AC 240 V, DC 28 V DC 50 V DC 50 V	0.1...20 A 0.1...20 A double pole 0.1...10 A single pole
LRoS, BV	AC 250 V, DC 28 V	0.1...20 A
UL, CSA	AC 250 V, DC 50 V	0.1...20 A

Illumination voltage/power consumption

operating voltage	power consumption	
	filament/neon	LED
6 V	60 mA	9 mA
12 V	20 mA	9 mA
24 V	20 mA	9 mA
48 V	20 mA	1,5 mA
115 V	< 1 mA	< 1 mA*
230 V	< 1 mA	< 1 mA*
415 V	< 1 mA	***

* single pole version only

*** not available

NEW



3120-F7..

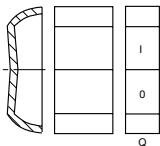
Technical data

Voltage rating	AC 240 V; DC 50 V (AC 250 V UL/CSA) (AC 415 V to special order)		
Current ratings	0.1...20 A (up to 30 A to special order, single pole only)		
Typical life	50,000 operations for $I_N \leq 16$ A double pole 30,000 operations for $I_N \leq 16$ A single pole, 10,000 operations for $I_N > 16$ A		
Ambient temperature	-30...+60 °C (-22...+140 °F)		
Insulation co-ordination (IEC 60664 and 60664 A)	Rated impulse withstand voltage 2.5 kV reinforced insulation in operating area	Pollution degree 2	
Dielectric strength (IEC 60664 and 60664 A) operating area between poles (2 pole)	Test voltage AC 3,000 V AC 1,500 V		
Insulation resistance	>100 MΩ (DC 500 V)		
Interrupting capacity I_{cn}	0.1...2 A 2.5...20 A	10 x I_N 250 A 2 pole, or 150 A 1 pole	
Interrupting capacity (UL 1077)	I_N 0.1... 2 A 2.5... 3 A 3.5... 8 A 9 ... 16 A 18... 20 A 0.1...20 A	U_N AC 250 V AC 250 V AC 250 V AC 250 V AC 250 V DC 50 V	2 pole 200 A 1,000 A 2,000 A 3,500 A 5,000 A 1,000 A
Degree of protection (IEC 60529/DIN 40050)	operating area IP 40 (IP 54 with water splash protection) terminal area IP 00		
Vibration	8 g (57-500 Hz), ±0.61 mm (10-57 Hz) to IEC 60068-2-6, Test Fc 10 frequency cycles/axis		
Shock	30 g (11 ms) to IEC 60068-2-27, Test Ea		
Corrosion	96 hours at 5 % salt mist, to IEC 60068-2-11, Test Ka		
Humidity	240 hours at 95 % RH, to IEC 60068-2-3, Test Ca		
Mass	approx. 33 g (double pole) approx. 27 g (single pole)		

Packaging quantities: 20, 25, 35, 50 or 60 pcs depending on the version

All dimensions without tolerances are for reference only. In the interest of improved design, performance and cost effectiveness the right to make changes in these specifications without notice is reserved. Product markings may not be exactly as the ordering codes. Errors and omissions excepted.

Ordering information

Type No.	
3120	rocker switch/circuit breaker
Mounting	
F	snap in frame
Size of frame	
7	to fit mounting cut-out 44.5x2mm(1.75x.866 in) 1-4 mm(.039-.157 in) panel thickness
Number of poles	
0	2 pole, unprotected, switch only
1	1 pole, thermally protected
2	2 pole, thermally protected
5	2 pole, thermally protected on one pole only (terminals 11, 12k, 12i)
6	1 pole, unprotected, switch only
Mounting frame design	
N	grey frame
P	snap-on actuator guard
Q	snap-on water splash cover
Terminal configuration	
P7	blade terminals 2x2.8x0.8 mm (QC 2x.110) (terminals 12(k), 22(k), 11, 21), not for under voltage module, not for switch
H7	12(k), 22(k): blade terminals 2x2.8-0.8 (QC 2x.110) 11, 21: terminal screws, not for switch
N7	as P7, but including shunt terminals 12(i) and 22 (i) as blade terminals 2x2.8x0.8 mm(QC 2x.110) not for under voltage module
G7	as H7, but including shunt terminals 12(i) and 22 (i) as blade terminals 2x2.8x0.8 mm(QC 2x.110)
Characteristic curve	
T1	thermal, 1.01-1.4 x I _N
Q1	switch only
Actuator style	
A	rocker
Switch colour designation	
20	blue opaque
30	blue translucent
Rocker markings	
	
Q	"I" and "0" moulded in
Push button illumination	
B	filament, AC/DC
Illumination voltage range	
0	4 - 7 V
1	10 - 14 V
2	20 - 28 V
3	90 - 140 V
4	185 - 275 V
5	42 - 54 V
Current ratings	
0.1...20 A	

3120 - F 7 2 N - N7 T1 - A 20 Q B 4 - 10 A ordering example
 3120 - F . 0 N - N7 Q1 - A 20 Q B 4 - 20 A (switch only)

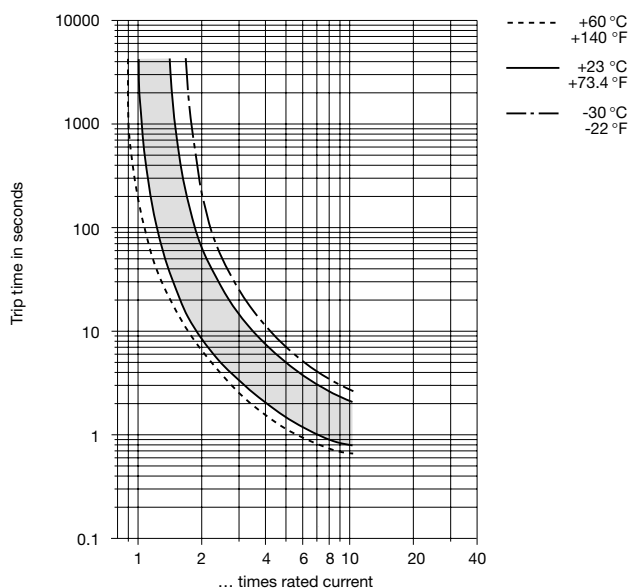
N.B.

Switch only versions must be specified with -N7 or -G7 terminals.
 Terminals 12(k) and 22(k) are not fitted.

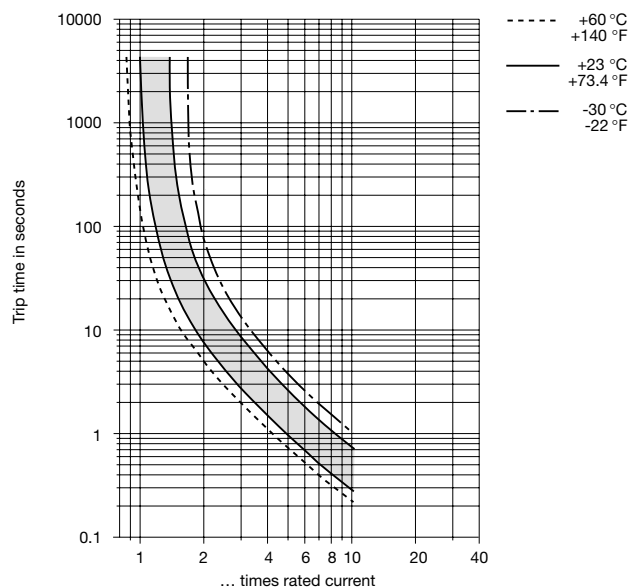
Typical time/current characteristics

Single or double pole load

0.1...2 A



2.5...20 A

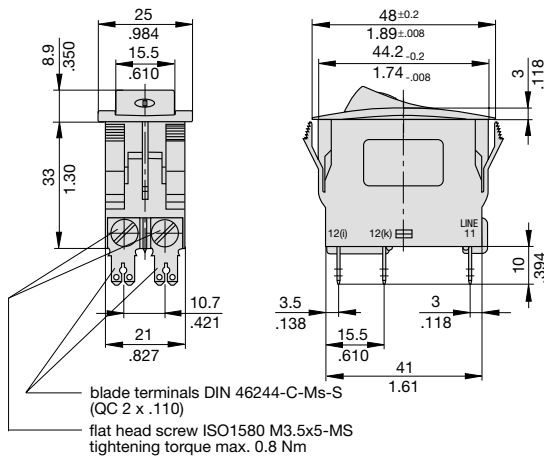


The time/current characteristic curve depends on the ambient temperature prevailing. In order to eliminate nuisance tripping, please multiply the circuit breaker current ratings by the derating factor shown below. See also section 9 - Technical information.

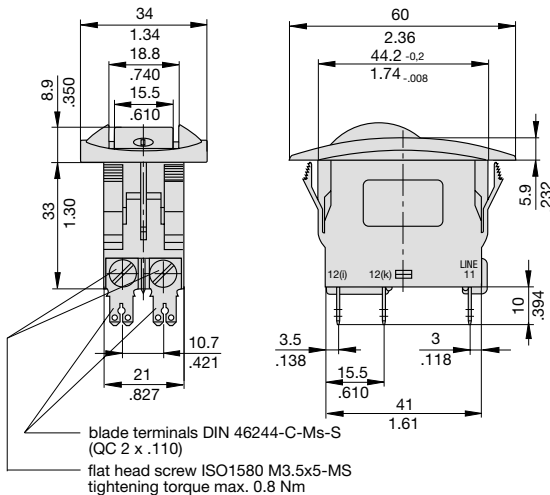
Ambient temperature °F	-22	-4	+14	+32	+73.4	+104	+122	+140
°C	-30	-20	-10	0	+23	+40	+50	+60
Multiplication factor	0.8	0.76	0.84	0.92	1	1.08	1.16	1.24

Dimensions

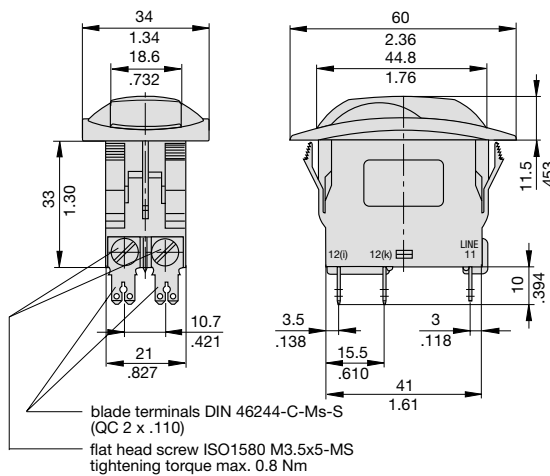
Style -F7.N



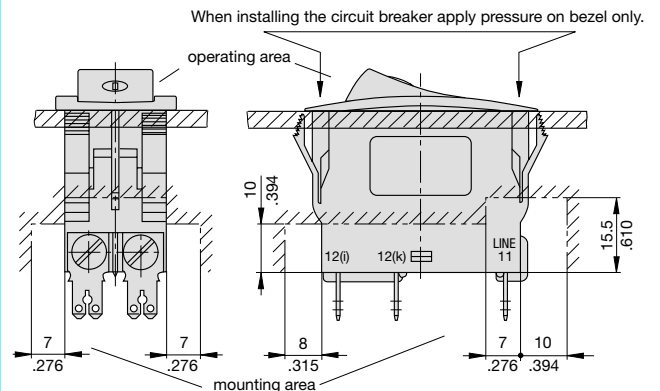
Style -F7.P with actuator guard



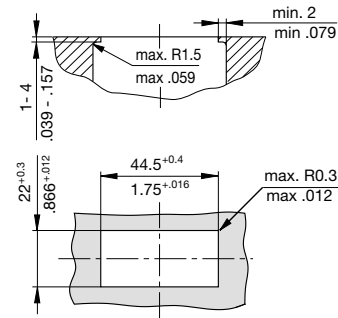
Style -F7.Q with water splash cover



Installation drawing



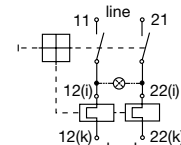
Panel cut-out



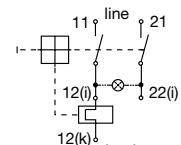
Edges of working parts: DIN 6784

Internal connection diagrams

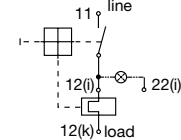
2 pole,
thermally protected on both poles



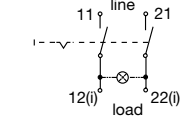
2 pole,
thermally protected on one pole only



1 pole,
thermally protected



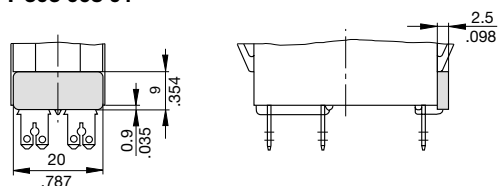
2 pole,
unprotected



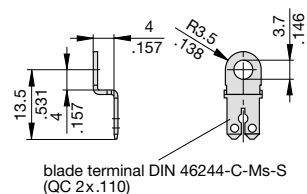
This is a metric design and millimeter dimensions take precedence ($\frac{\text{mm}}{\text{inch}}$)

Accessories

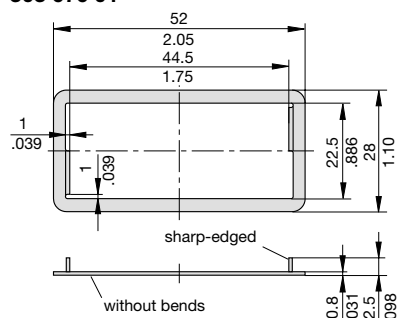
Insulated cover
Y 303 068 01



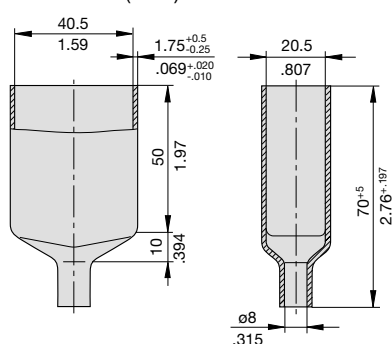
Terminal adapter
Y 303 862 01



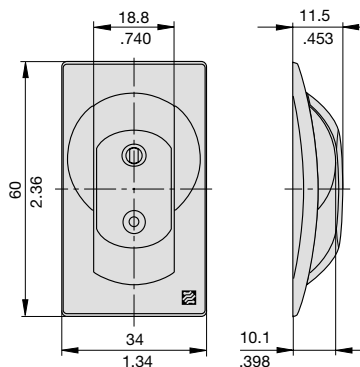
Retaining clip for 3120-F3...
Y 303 676 01



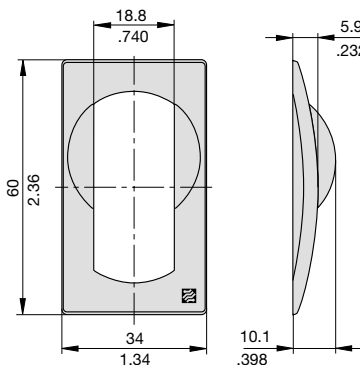
Rear terminal shroud black
Y 304 275 01 (IP64)



Translucent water splash cover with frame with actuator guard (IP 54)
X 222 143 01



Frame with actuator guard
Y 307 097 01



This is a metric design and millimeter dimensions take precedence ($\frac{\text{mm}}{\text{inch}}$)