

# ETA® Thermal Overcurrent Circuit Breaker 3140

## Description

Four pole switch or three pole switch/thermal circuit breaker (S-type TO CBE to EN 60934) with trip-free, snap action mechanism and red/green two button operation. Designed for snap-in panel mounting. Integral splash water protection to meet protection degree IP 66 in the operating area (option).

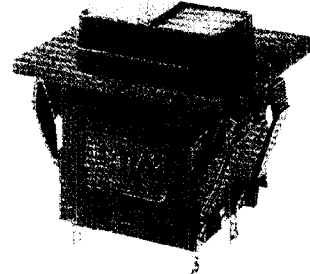
Optional with under voltage release module.

Please enquire for versions with auxiliary contact module, mechanical slide interlock, or magnetic trip coil.

Complies with CBE standard EN 60934 (IEC 934).

## Typical applications

High-pressure cleaners, shredders, pumps, power saws, electric tools, motors, processing systems



3140

## Ordering information

<b>Type No.</b>	
3140	four pole switch or three pole switch/circuit breaker
<b>Mounting</b>	
F	snap in frame
<b>Frame</b>	
1	standard
2	splash water protected version
<b>Number of poles</b>	
3	3 pole, thermally protected
7	4 pole, thermally protected on 3 poles only
C	3 pole, unprotected
D	4 pole, unprotected
<b>Frame mounting</b>	
0	panel thickness 1-6.35 mm
<b>Terminal design</b>	
P7	blade terminals 2x2.8x0.8mm, DIN 46244-C
N7	as P7, but for switch only
H7	as P7, but for terminals x.1 terminal screws M3.5
G7	as H7, but for switch only
<b>Characteristic curve</b>	
T1	thermal, 1.01-1.4 I <sub>N</sub>
Q1	switch only
<b>Switch style</b>	
S	2 push buttons (ON/OFF)
<b>Switch colour</b>	
GRX	green/red
<b>Current rating range</b>	
	0.1...16 A

3140 - F 1 3 0 - P7 T1 - S GRX - 10 A

## Technical data

Voltage rating	AC 240/415 V	
Current rating range	0.1...16 A	
Typical life	10,000 operations	
Ambient temperature	-30...+60 °C	
Insulation co-ordination (IEC 664 and 664A)	Rated impulse withstand voltage 2.5 kV	Pollution degree 2 reinforced insulation in operating area
Dielectric strength (IEC 664 and 664A) operating area between poles (3 pole)	Test voltage AC 3000 V	AC 1500 V
Insulation resistance	> 100 MΩ (DC 500 V)	
Interrupting capacity I <sub>cr</sub>	0.1... 2 A	10 x I <sub>N</sub> 2.5...16 A 150 A
Interrupting capacity (UL 1077)	I <sub>N</sub> 0.1...16 A	U <sub>N</sub> 3 AC 250 V 3 pole 3500 A
Degree of protection (IEC 529/DIN 40050)	operating area IP 40 (IP 66 with water splash protection) terminal area IP 00	
Vibration	5 g (57-500 Hz), ±0.38 mm (10-57 Hz) to IEC 68-2-6, test Fc, 10 frequency cycles/axis	
Shock	20 g (11 ms) to IEC 68-2-27, test Ea	
Corrosion	96 hours at 5 % salt mist, to IEC 68-2-11, test Ka	
Humidity	240 hours at 95 % RH, to IEC 68-2-3, test Ca	
Mass	approx. 68 g	

## Standard current ratings and typical internal resistance values

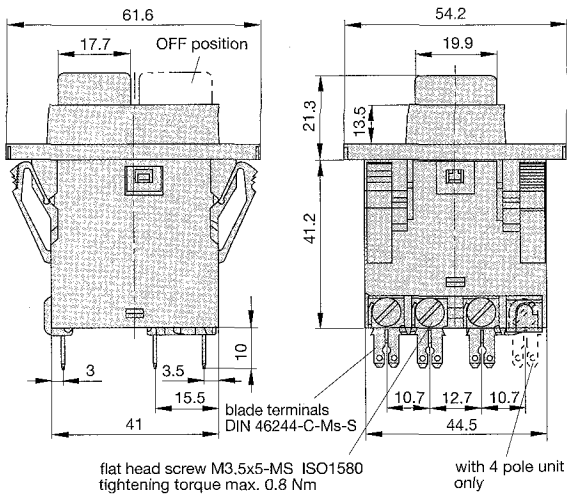
Current rating (A)	Internal resistance per pole (Ω)	Current rating (A)	Internal resistance per pole (Ω)
0.1	94	3	0.0595
0.2	24	3.5	0.0565
0.3	12	4	0.0435
0.4	5.30	4.5	0.0435
0.5	4.20	5	0.0325
0.6	2.90	6	0.0215
0.8	1.50	7	0.0165
1	0.9	8	0.0165
1.2	0.80	10	<0.02
1.5	0.45	12	<0.02
2	0.27	14	<0.02
2.5	0.0785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

## Approvals

Authority	Voltage ratings	Current ratings
VDE (EN 60934)	AC 240/415 V	0.1...16 A

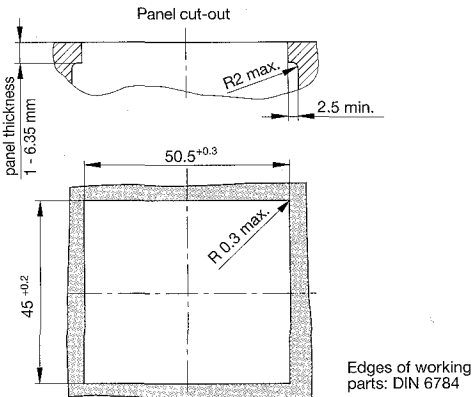
# ETA<sup>®</sup> Thermal Overcurrent Circuit Breaker 3140

## Dimensions

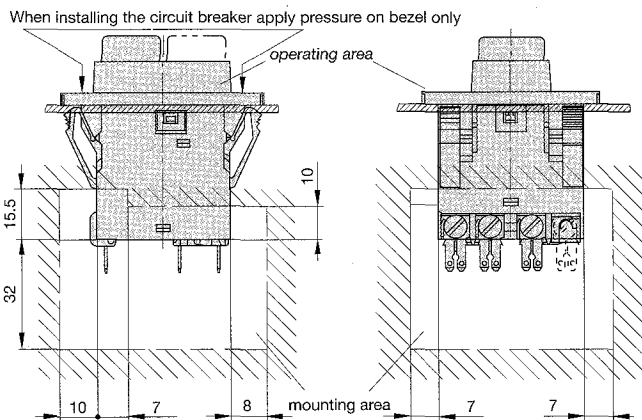


flat head screw M3,5x5-MS ISO1580  
tightening torque max. 0.8 Nm

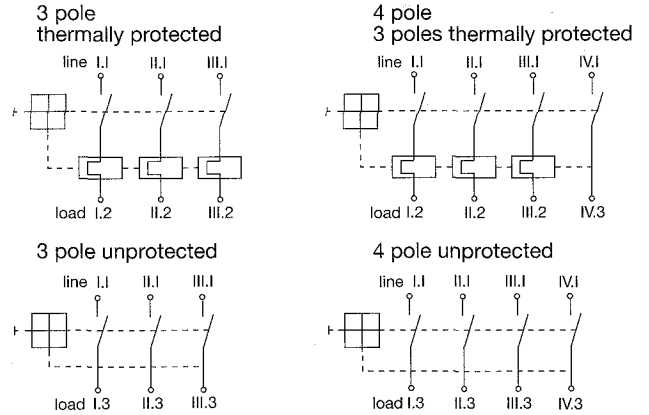
with 4 pole unit  
only



## Installation drawing

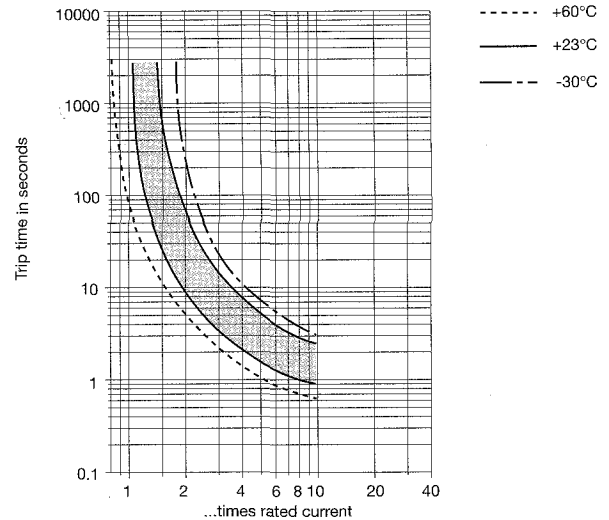


## Internal connection diagram

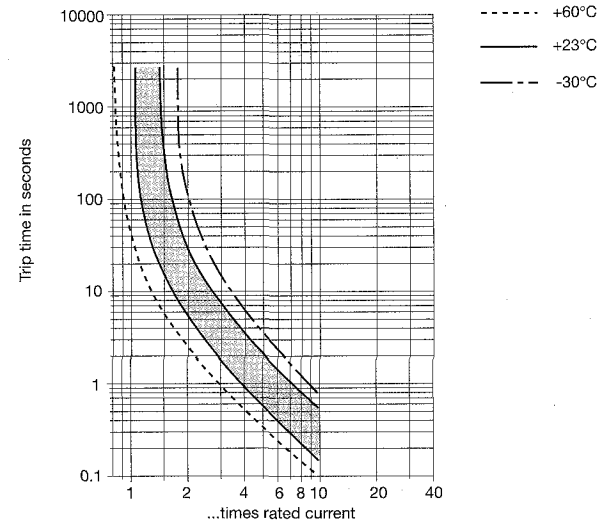


## Typical time/current characteristics

### 0.1...2 A



### 2.5...16 A



# ETA® Undervoltage Release Module X3140-U...for circuit breaker 3140-F...

## Description

A module suitable for all versions of type 3140-F to trip the main switch/circuit breaker mechanism in the event of loss of voltage. When the voltage is restored the rocker switch must be reset to reconnect the load, thereby avoiding the safety hazards associated with automatic re-starting of machinery.

**Note:** Basic unit 3140-... must be fitted with -H7 or -G7 screw terminals.

## Typical applications

Machines such as power tools, industrial equipment and domestic appliances where automatic restart after restoration of power could be dangerous (EU Machinery Directive)

## Ordering information

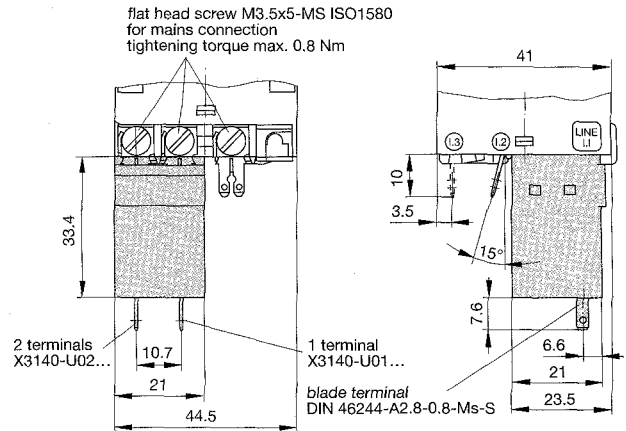
Type No.	
X3140	Module for type 3140
Function	
U	undervoltage release module
Terminal design	
00	standard (without separate connections)
01	one blade terminal 2.8x0.8
02	two blade terminals 2.8x0.8
Voltage ratings	
00	400 V AC 50/60 Hz
M	module mounted to the circuit breaker

X3140 - U 00 00 M ordering example

## Technical data

Voltage ratings	AC 400 V 50/60 Hz
Voltage tolerance	+10%/-15%
Current consumption	approx. 2.0 mA
Release values	20 to 70 % $U_N$ (at a rated voltage of AC 400 V the device may release at 280 V and must release at 80 V)
Release delay	$t < 20$ ms
Latch-in values	$\geq 85$ % $U_N$
Ambient temperature	-30...+60 °C
Vibration	5 g (57-500 Hz) $\pm 0.38$ mm (10-57 Hz) to IEC 68-2-6, test Fc 10 frequency cycles/axis
Shock	20 g (11 ms) to IEC 68-2-27, test Ea
Corrosion	48 hours at 5 % salt mist, to IEC 68-2-11, test Ka
Humidity	240 hours at 95% RH to IEC 68-2-30, test Ca
Mass	approx. 90 g (complete assembly)

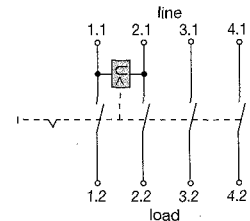
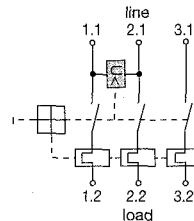
## Dimensions



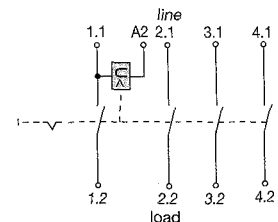
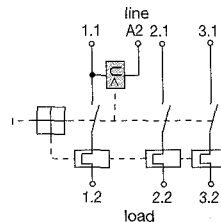
Without terminal(s): X3140-U00...

## Internal connection diagrams

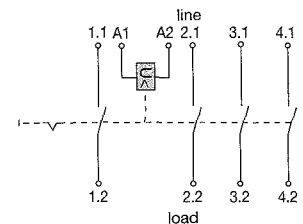
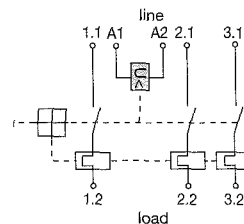
### X3140-U00



### X3140-U01



### X3140-U02



## Approvals (complete circuit breaker/module assembly)

Authority	Voltage ratings
VDE (EN 60934)	AC400 V pending