

E-T-A circuit breaker and switch combinations - all in one package!





What is a circuit breaker switch combination?



One of the major goals of design engineers today is to have only a reduced number of components for a product. This is one of the keys to a cost-saving design. In addition less components normally also allow a space-saving and thus more compact design of products.

In order to support design engineers in reducing components E-T-A has been offering circuit breakers with additional functionalities. These are thermal overcurrent circuit breakers for equipment protection which at the same time serve as ON/OFF-switches for apparatus, machinery and systems.



Example:
double pole protection in medical equipment

As a world leader in design and manufacturing of circuit breakers E-T-A offers a comprehensive range of thermal circuit breakers with additional functionalities.

The following models are available:

- different sizes and design models
- various types of actuation - rocker, push button or momentary switch - with a choice of different colours and markings and optional illumination
- single pole, double pole, three pole or four pole versions
- add-on modules for undervoltage release, remote trip, interlock and auxiliary contacts



Benefits for you and your customers

Benefit 1

No fuse replacement required

E-T-A circuit breaker switch combinations are easily and quickly resettable when tripped due to overload.

Benefit 2

Reduced installation and wiring time

You only have to mount one single component. Additional wiring between switches and fuses is obviated.

Benefit 3

Less space required

E-T-A circuit breakers combine switching and overload protection in one device. This leaves room to manoeuvre with regard to space design.

Benefit 4

Reduced material planning and stock taking

E-T-A circuit breakers with add-on functionalities replace switches, fuses and fuse blocks all in one go. This saves time for your purchasing department.

Benefit 5

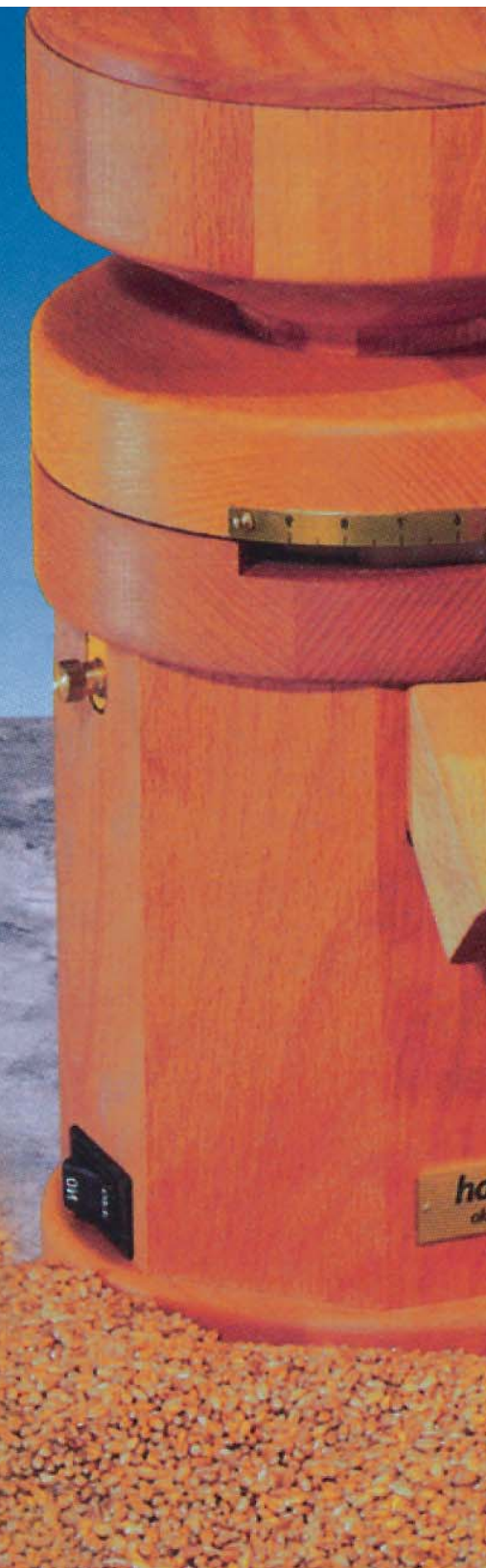
Enhanced reliability

Less single parts always reduce possible sources of errors. Thus E-T-A circuit breaker switch combinations help to consistently increase the overall reliability of your equipment.





The E-T-A all-in-one models



Circuit breaker type

1110

1120

1410-F

Options

illumination of actuator		●	●
Water splash protection	●	●	
Add-on modules available			
Multipole versions available		●	
VDE and UL approval	●	●	●
Technical data	<p>Rated voltage AC 250 V, DC 28 V</p> <p>Current rating range 0.05...16 A</p>	<p>Rated voltage AC 240 V, DC 32 V, DC 50 V (only double pole)</p> <p>Current rating range 3.0...16 A</p>	<p>Rated voltage AC 240 V, DC 28 V</p> <p>Current rating range 0.63...10 A</p>



3120

3130

3131

3140

	●	●	●	
	●	●	●	●
	●			●
	●	●		●
	●	●	●	●
	Rated voltage AC 240 V, DC 50 V	Rated voltage AC 240 V, 3 AC 415 V, DC 50 V	Rated voltage AC 240 V, DC 28 V	Rated voltage 3 AC 415 V
	Current rating range 0.1...20 A	Current rating range 0.1...20 A (single pole) 0.1...16 A (double and three pole)	Current rating range 0.1...20 A	Current rating range 0.1...16 A





**Suitable
for a wide range of
applications**



Health care

e.g. dentists' chairs, sterilisers, incubators



Office machines

e.g. paper shredders, binding machines, CD/DVD crushers



Professional tools

e.g. core drilling machines, cross cut and mitre saws, stone cutters



Household appliances

e.g. coffee grinders, flour mills, vacuum cleaners, hand mixers



Garden tools

e.g. shredders, wood cutters, high pressure cleaners



Boating

e.g. motor and sailing boats, yachts



Electrical equipment, tools and machines have to be protected reliably against damages through overheating in the event of overcurrents.

E-T-A circuit breakers for equipment protection are the ideal solution for this task. However, choosing the proper size and rating of the circuit breaker is of the essence. This may sound easy, but in practice often turns out to be a tricky problem. Let's take garden shredders as an example: On the one hand the circuit breaker should feature a delayed trip curve so that only light or momentary obstructions would not cause the breaker to trip. On the other hand it has to be ensured that the circuit breaker trips reliably and in time in the event of a total jam to prevent the motor from getting damaged through overheating. In addition the breaker has to cope with changing operating temperatures and reduced power consumption of the motor when using cable extensions. It is quite obvious that such an application

requires a number of measurements and tests so as to identify the best possible circuit breaker configuration.

We can offer you the excellent services of our accredited test laboratory. Upon request we will determine the heat-up and current characteristics of your motor and subsequently we will be able to determine the requirements which have to be met by the circuit breaker to be used. Together with our test report you will receive a recommendation which circuit breaker type to use for optimum protection of your product.

Our experts working in our laboratory have a profound knowledge and many years of experience regarding industrial requirements of many kinds. They work with ultramodern test equipment and apparatus. Our laboratory has been accredited to DIN EN ISO/IEC 17025 and working processes are based on a modern quality management system.

The E-T-A test laboratory - our special service



E-T-A

Worldwide Service Network



Europe

- Austria
- Belgium
- Bosnia-Herzegovina
- Bulgaria
- Croatia
- Czech Republic
- Denmark
- Finland
- France
- Germany
- Hungary
- Ireland
- Italy
- Luxembourg
- Macedonia
- Montenegro
- Netherlands
- Norway
- Poland
- Portugal
- Russia
- Serbia
- Slovakian Republic
- Slovenia
- Spain
- Sweden
- Switzerland
- Turkey
- United Kingdom

America

- Argentina
- Brazil
- Canada
- Chile
- Mexico
- USA

Asia

- Brunei
- China
- Hong Kong
- India
- Indonesia
- Japan
- Korea
- Malaysia
- Philippines
- Singapore
- Taiwan
- Thailand

Africa

- South Africa
- Tunisia

Oceania

- Australia
- New Zealand



ENGINEERING TECHNOLOGY

E-T-A Elektrotechnische Apparate GmbH
Industriestraße 2-8 · 90518 ALTDORF
GERMANY

Phone: +49 9187 10-0 · Fax: +49 9187 10-397
E-Mail: info@e-t-a.de · www.e-t-a.de