



**SAM TRIP RELAY**  
**Type ETA042**  
**(Heavy-duty self reset relay , 5contacts )**

Figure 1

**Features**

DC voltage electric operated

Stable self reset positions heavy-duty contact

Make or break as shown in figure 2 and 3

NO or NC

Position indication only for operation the relay

Operation time : 4 msec

Disconnection current : 1 amps

## **Application**

The ETA042 relay is used in Trip application (e.g. on transformers) and also in inductive and general control where high breaking capacity bi-stable contacts are desired. The relay is also applied where multiple switching of current transformer secondary and trip circuits is required ( e.g. from primary backup breakers, or for zone selection in bus differential protection ). The coil cutoff contacts need continuous power consumption by using Auxiliary supply load. Because of the coil cut off contacts, this relay is also applied where the upper limit of the supply voltage can exceed the continuous voltage rating.

## **Description**

The ETA042 is a 5 contact heavy duty, relay having stable positions. When coil is energized with the correct polarity, a repulsion occurs and the armature switches to the other side, magnetically. The relay can be specified for DC.

The coils are wired directly energized. There is shown the rear terminals of relay in fig 1. as you can see it is accessible NO and NC contacts.

## **Function type ETA042**

**high burden self reset**

**disconnection current, 1Amps**

**operation time, 4 msec**

High burden self- resetting relay

This relay uses a contactor the main contact stack to energize a separate rear mounted element.

After operation, it automatically self resets the relay by losing of power signal that is force to from protection relay, notice that after resting the relay red LED stay on and indicate the relay had been operated.

Using of this relay as interface help you for high heavy contacts In less than 5.5 msec the normally operation time in 4 msec and disconnect current normally one Amps.

## IEC STANDARD COMPLINACE

### Immunity test

1. Radiated electromagnetic field immunity test  
Port : Enclosure  
IEC255-22-3  
Test level : class2 - 3V/M  
24-500 MHZ  
The relay place under above criteria and no fail in operation appear .
2. voltage interruption and alternating ripple  
IEC255-11  
Test level : 125 ms-41 Vac  
The power supply of relay interrupted as above and no fail in operation appear.
3. electrostatic discharge immunity test  
Enclosure  
IEC255-22-2  
Test level : class 4  
Contact discharge : 8 KV  
Air discharge : 15 KV  
Electrostatic charge discharge on enclosure under above criteria and no fail in operation appear.
4. fast transient ( Burst ) immunity test  
Port : power supply –signal line  
IEC255-22-4  
Test level : class 4-2KV-common mode  
In this test 5Khz signal under above criteria applied on power supply and inputs, no fail in operation appears.

5. 1 MHz burst disturbance test  
Port : power supply-signal line  
IEC255-22-1  
Test level : class 3  
2.5 KV common mode – 1 KV differential mode

### Insulation test

1. insulation resistance  
port : input / output – Enclosure  
IEC 255-5 IEC255-6  
Test level 500 Vdc  
The impedance between relay contacts, inputs and enclosure measured above 1 GΩ
2. Dielectric test  
port : input / output – Enclosure  
IEC 255-5 IEC255-6  
Test level : series G  
1.5 KVrms  
The relay contacts and enclosure put under above criteria for 1 minute and no fail in operation appear.

### Atmospheric environment

#### Temperature IEC 255-6

Storage and transit -25°C to 70°C  
operating -25°C to +55°C

IEC 68-2-1 : 1 Cold  
IEC 68-2-2 : 1 Dry heat

#### Humidity

IEC 68-2-3 : 1  
56 days at 93% RH and + 40°C

**Enclosure protection**

IEC 529                    IP50

**Mechanical environment**

Vibration

IEC 255-21-1

0.5g between 10Hz and 150 Hz

Mechanical durability

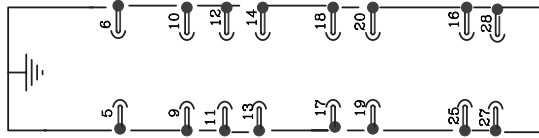
Loaded contact

10,000 operation minimum

Unloaded contact

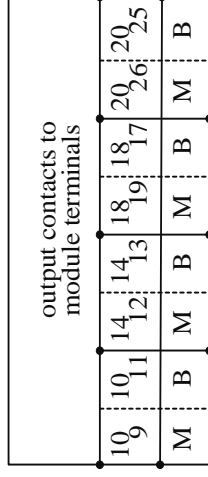
100,000 operation minimum

**Case earth**



**Module terminal blocks viewed from rear**

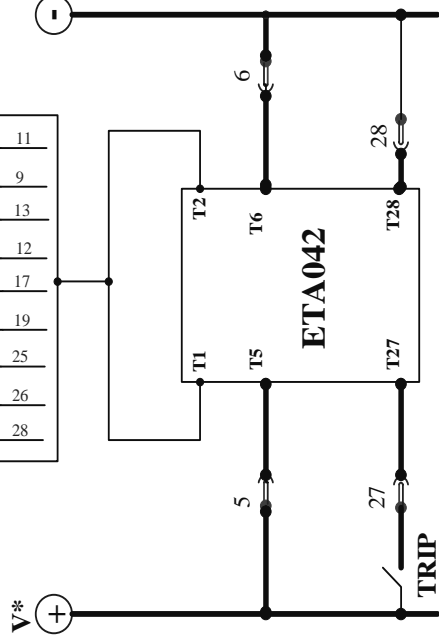
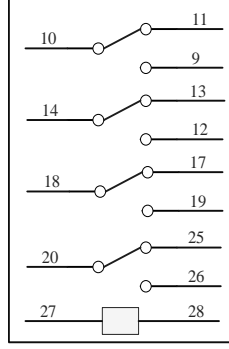
**V\* : 110 Vdc**



**Contact description**

**M:Make**

**B:Break**

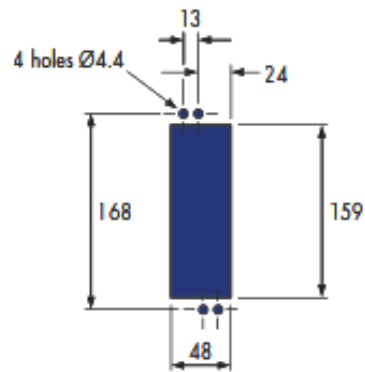


**Viewed from inside**

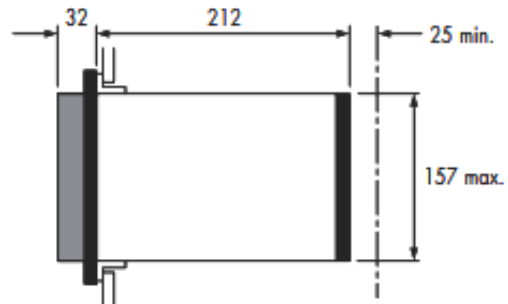
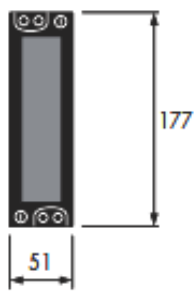
Title		<b>ETA042</b>
Size	Number	Revision
A4		
Date:	8/18/2014	Sheet of
File:	C:\Documents and Settings\...\ETA042.Scl	Drawn By:



All dimensions in mm.



Panel cut-out:  
Flush mounting fixing details.



Flush mounting.