

# UTC relay - Voltage monitoring & off delay

## Datasheet



### Description

The time delay relay UTC incorporates also a voltage control function. The time delay is initiated by an impulse on the relay command which also closes the contact. The time delay relay can be initiated if the input voltage  $d_0$  is higher than the voltage control threshold. If the input voltage  $d_0$  is lower than the voltage control threshold, then the time delay is reset to 0, the contact is open and the relay is in the origin state.

The contact is a solid state switch and is insulated of the part of relay control. The plug-in design offers secure locking feature for maximum ease of maintenance (no wires need to be disconnected or other hardware removed for relay inspection or replacement). The resistance to impact and vibration is conform to standards in force for Railway Transported Equipment.

Positive mechanical keying of relay to socket is built into relay and socket during manufacture and terminal identifications are clearly marked on identification plate that is permanently attached to the relay.

### Application

The UTC relay is designed for voltage level sensing and used for example to monitor the battery load shedding.

#### Features

- Voltage control time delay relay
- Total time delay range from 4 min to 60 min, fixed in factory
- 1 N/O solid state contact, 3 A
- Plug-in design with secure locking feature for maximum ease of maintenance
- $-40\text{ }^{\circ}\text{C} \dots +85\text{ }^{\circ}\text{C}$  operating temperature

#### Benefits

- Proven reliable
- Long life cycle
- Easy to maintain and replace
- Low life cycle cost
- No maintenance

#### Railway compliancy

- NF F 62-002 Rolling stock - Instantaneous relays contacts and sockets
- NF F 16-101/102 Fire behaviour - Railway rolling stock
- EN 50155 Railway application - Electronic equipment used on rolling stock
- IEC 61373 Railway application - shock and vibration tests



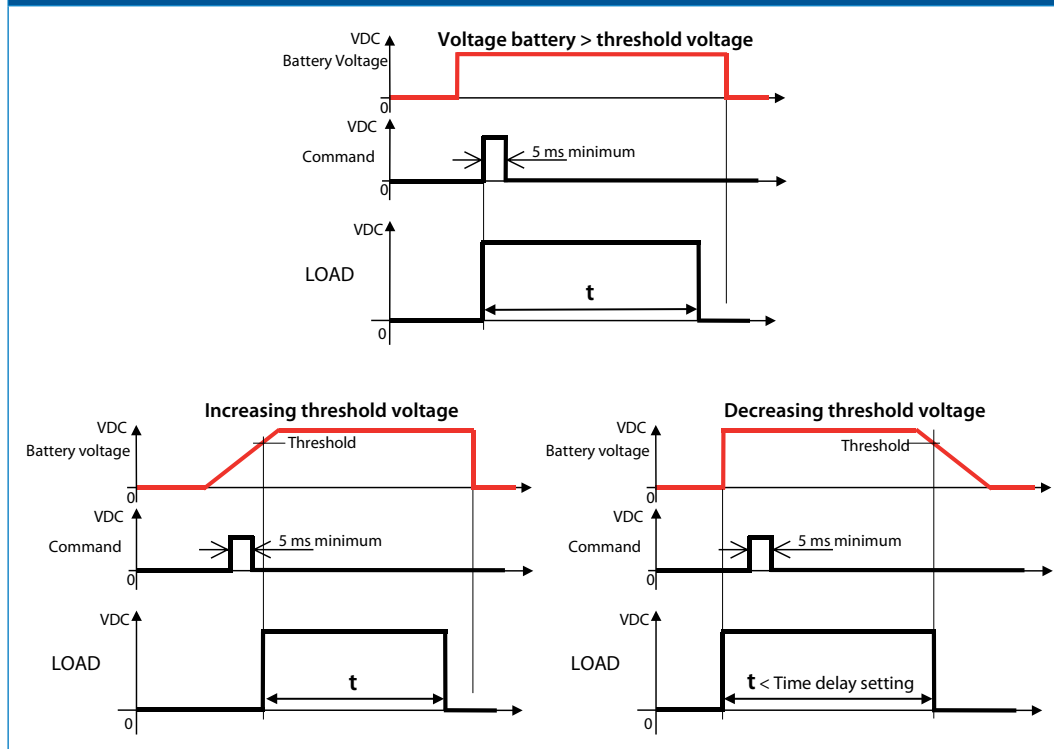
# UTC relay

## Technical specifications

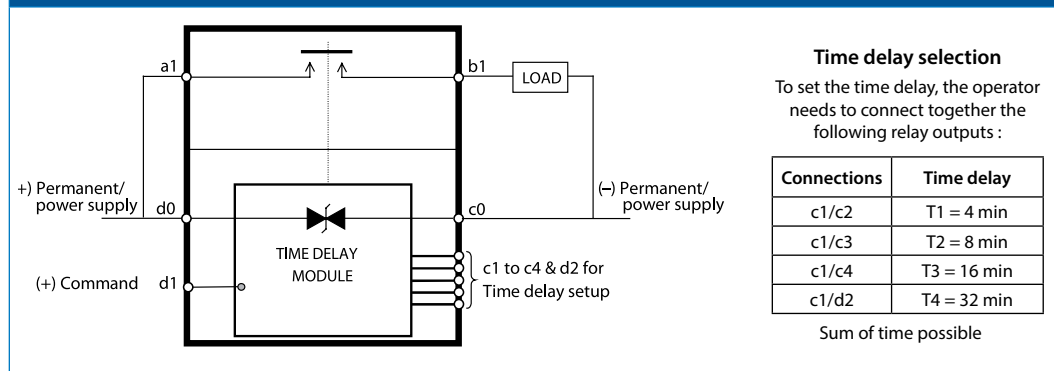


### Functional and connection diagrams

#### Timing diagram



#### Connection diagram



# UTC relay

## Technical specifications

### Input data

Keying	U <sub>nom</sub> (VDC)	U <sub>operating</sub> (VDC)	Level 1 (drop/increase) VDC
TBD <sup>(1)</sup>	24	16 / 330	TBD <sup>(1)</sup>
TBD <sup>(1)</sup>	36	25 / 45	TBD <sup>(1)</sup>
TBD <sup>(1)</sup>	48	33 / 60	TBD <sup>(1)</sup>
5A	72	50 / 90	61 / 64
1E	110	88 / 138	TBD <sup>(1)</sup>

(1) to be defined

### Electrical characteristics

Operating voltage	24 VDC...110 VDC
Rated current	3 A
Nominal power	2 W
Output configuration	1 N/O polarised solid state contact
Contact material	Hard silver overlay laminated to copper
Contact resistance	< 250 mΩ
Contact life	72 VDC, 3 A, L/R = 0 mA > 5 x 10 <sup>6</sup> operations 72 VDC, 3 A, L/R = 30 mA > 5 x 10 <sup>6</sup> operations 72 VDC, 200 W (lamp filament circuit) > 5 x 10 <sup>6</sup> operations
Dielectric strength	1000 VAC, 1 min

### Time delay characteristics

Total time delay range	4 min... 60 min, fixed in factory
Accuracy	2 %
Recovery time	Negligible because of digital technologies

### Threshold voltage

Threshold voltage* tolerance	± 1 V
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(1) The threshold voltage is defined as a function of the nominal voltage according customer requirement. Most of the time, the threshold corresponds to 85% of the nominal voltage.



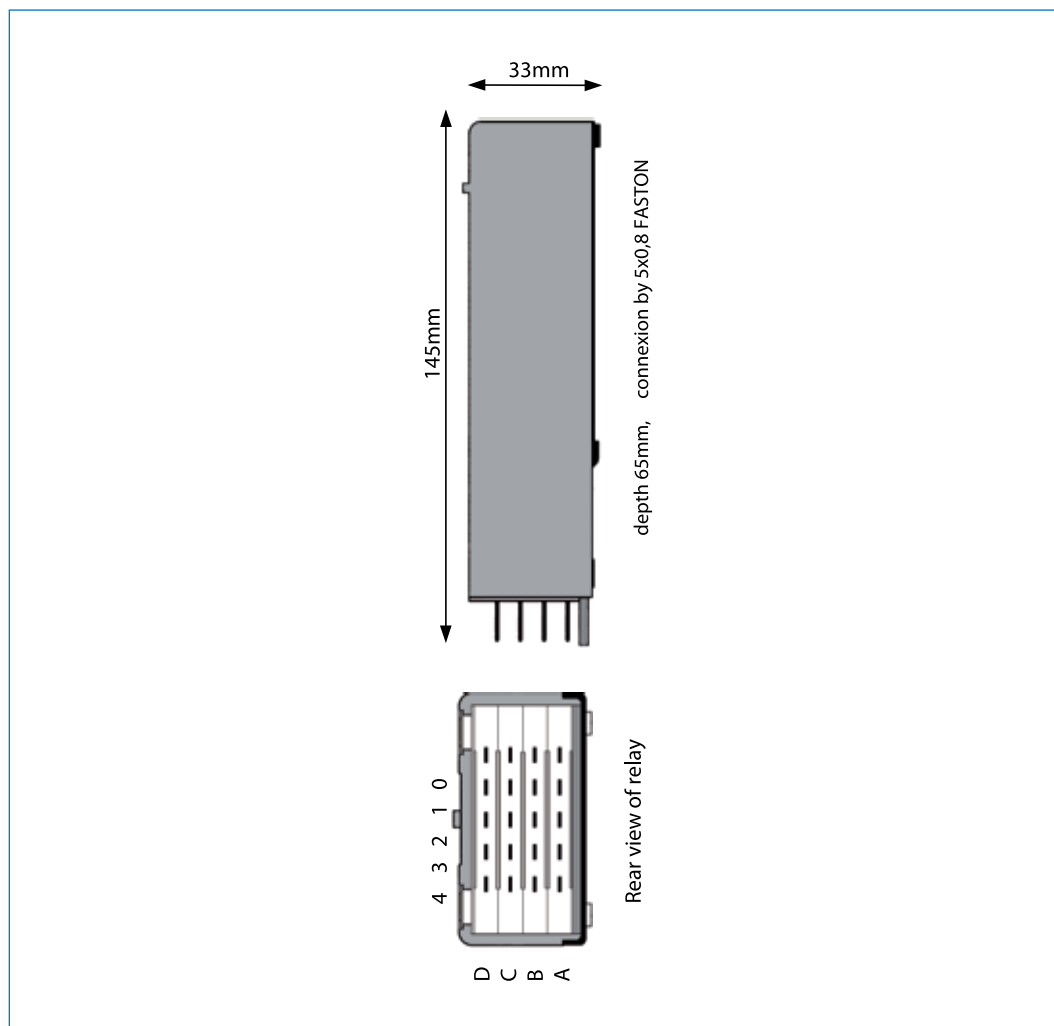
# UTC relay

## Technical specifications

### Mechanical and environmental specifications

Operating temperature	-40 °C...+85 °C, IP50 (relay on socket)
Vibrations 3 axis	2 g / 10...120 Hz
Shocks	15 g / 11 ms
Operating position	Any attitude
Environment	NF F 20-600
Weight	450 g
Material	Polycarbonat (cover) / Polyester Melamine (base)
Fire and smoke	NF F 16-101/102

### Dimensions (mm)



# UTC relay

## Mounting possibilities / sockets



COR NJ

### Panel mounting

COR NJ X*	15379	Socket (Alkyde compound) with locking spring
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\* X indicates keying code from relay table



# UTC relay

## Instructions

### Installation

Install socket and connect wiring correctly according identification to terminals. Plug relay into socket. Reverse installation into socket not possible due to mechanical blocking by snap-lock.

Don't reverse polarity of coil connection. Relays can be mounted (tightly) next to each other and in any attitude.

**Warning!** Never use silicon near by relays

### Operation

Before operating always apply voltage to coil to check correct operation.

Long term storage may corrode the silver on the relay pins. Just by plugging the relay into the socket, the female bifurcated receivers will automatically clean the corrosion on the pins and guarantee a good connection.

Do not use the relay in places with flammable gas as the arc generated from switching could ignite gasses.

### Maintenance

Correct operation of relay can easily be checked as transparent cover gives good visibility on the moving contacts. When the relay doesn't seem to operate correct, please check presence of coil voltage. Use a multimeter. If LED is used, coil presence should be indicated. If coil voltage is present, but the relay doesn't work, a short circuit of suppression diode is possible (The coil connection was reversed). If relay doesn't work after inspection, please replace relay unit by a similar model. Send defective relay back to manufacturer. Normal wear and tear excluded.



# UTC relay

## Ordering scheme

Configuration:



1. Relay model      2. No. of contacts      3. Nominal voltage      4. Keying      5. Language (test report)

This example represents a **UTC 001 72 5A 1**.

**Description:** UTC 001 relay,  $U_{nom}$ : 72 VDC, keying 5A, test report in English

### 1. Relay model

UTC

### 2. Number of contacts

001      1 N/O contact

### 3 & 4. Nominal voltage and keying

24 xx	24 VDC
36 xx	36 VDC
48 xx	48 VDC
72 5A	72 VDC
110 1E	110 VDC

xx = to be defined

### 5. Language on test report

-	French
1	English
2	Spanish





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Mors Smitt France SAS

Tour Rosny 2, Avenue du Général de Gaulle,

F - 93118 Rosny-sous-Bois Cedex, FRANCE

T +33 (0)1 4812 1440, F +33 (0)1 4855 9001

E [sales@msrelais.com](mailto:sales@msrelais.com)

Mors Smitt Asia Ltd.

# 807, Billion Trade Centre, 31 Hung To Road

Kwun Tong, Kowloon, HONG KONG SAR

T +852 2343 5555, F +852 2343 6555

E [info@morssmitt.hk](mailto:info@morssmitt.hk)

Mors Smitt B.V.

Vrieslantlaan 6, 3526 AA Utrecht,

NETHERLANDS

T +31 (0)30 288 1311, F +31 (0)30 289 8816

E [sales@nieaf-smitt.nl](mailto:sales@nieaf-smitt.nl)

Mors Smitt Technologies Inc.

420 Sackett Point Road

North Haven, CT 06473, USA

T +1 (203) 287 8858, F +1 (888) 287 8852

E [mstechnologies@msrelais.com](mailto:mstechnologies@msrelais.com)

Mors Smitt UK Ltd.

Doulton Road, Cradley Heath

West Midlands, B64 5QB, UK

T +44 (0)1384 567 755, F +44 (0)1384 567 710

E [info@morssmitt.co.uk](mailto:info@morssmitt.co.uk)