

# TA3 relay - Electronic timer, delay on drop-out (parallel wiring)

## Datasheet



### Description

The electronic timer TA3 is a delay on drop-out timing module wired in parallel. It maintains power on load during a specific time when load power is off. The delay time is set in factory between 0.125 s and 90 min. Longer times are possible upon request.

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.

The TA3 relays is pluggable in the following sockets: EA 102 A, EA 102 AF, EA 103 AF, EA 104 A, EA 104 AF, EA 105 AF, EA 112 AF.

### Application

The TA3 electronic timing module is designed for applications with a factory set timing function used for example in HVAC and lighting.

#### Features

- Delay on drop-out timing module wired in parallel
- Duration range from 0.125 s to 90 min (setting in factory)
- Longer times possible upon request
- Plug-in design with secure locking feature for maximum ease of maintenance
- -40 °C...+85 °C operating temperature

#### Benefits

- Proven reliable
- Long life cycle
- Accurate timing selection finger safe
- Easy to maintain and replace
- Low life cycle cost
- No maintenance

#### Railway compliancy

- CF 62-003 European railway standard
- 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

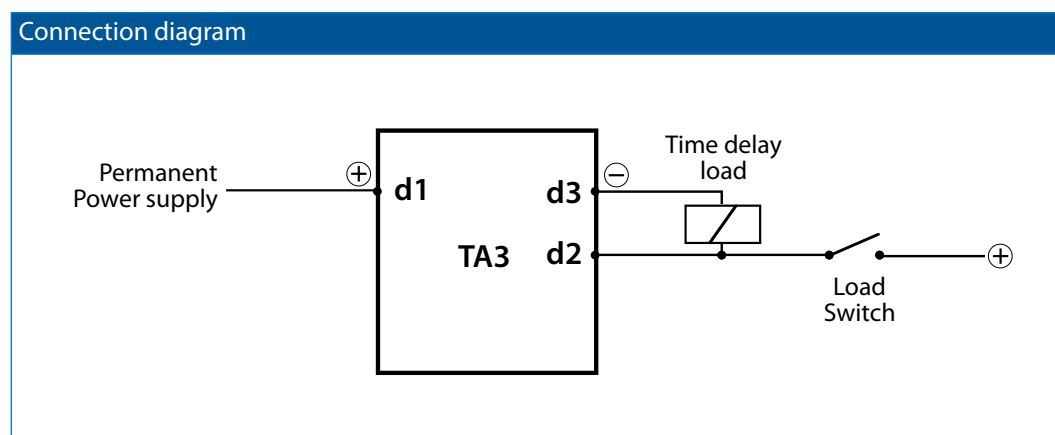
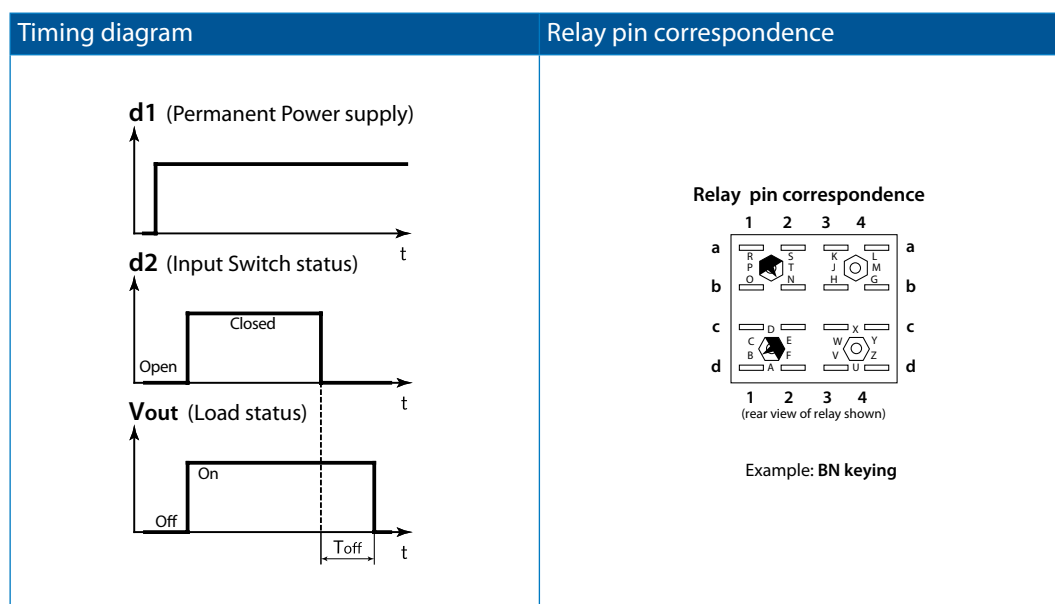


# TA3 relay

## Technical specifications



### Functional and connection diagrams



# TA3 relay

## Technical specifications

### Timing specifications

Time delay function	Delay on drop-out - wired in parallel
Time delay range	0.125 s...90 min*
Time delay range selection	Fixed (setting in factory)
Adjustment / repeatability	$\pm 2\%$ / $\pm 2\%$

\* Longer times possible upon request

### Electrical characteristics

Operating voltage	24 VDC...110 VDC
Operating current	< 10 mA for 36 VDC
Maximum load current	0.25 A (max 4.5 W)
Dielectric strength	2000 VAC, 1 min
Insulation resistance	$\geq 1000 \text{ M}\Omega$ at 500 VDC
Transient protection	0.1 $\mu\text{s}$ / 45 $\mu\text{s}$ , 1500 V
Micro-openings immunity (operating voltage)	up to 2 ms



# TA3 relay

## Technical specifications

### Mechanical and environmental specifications

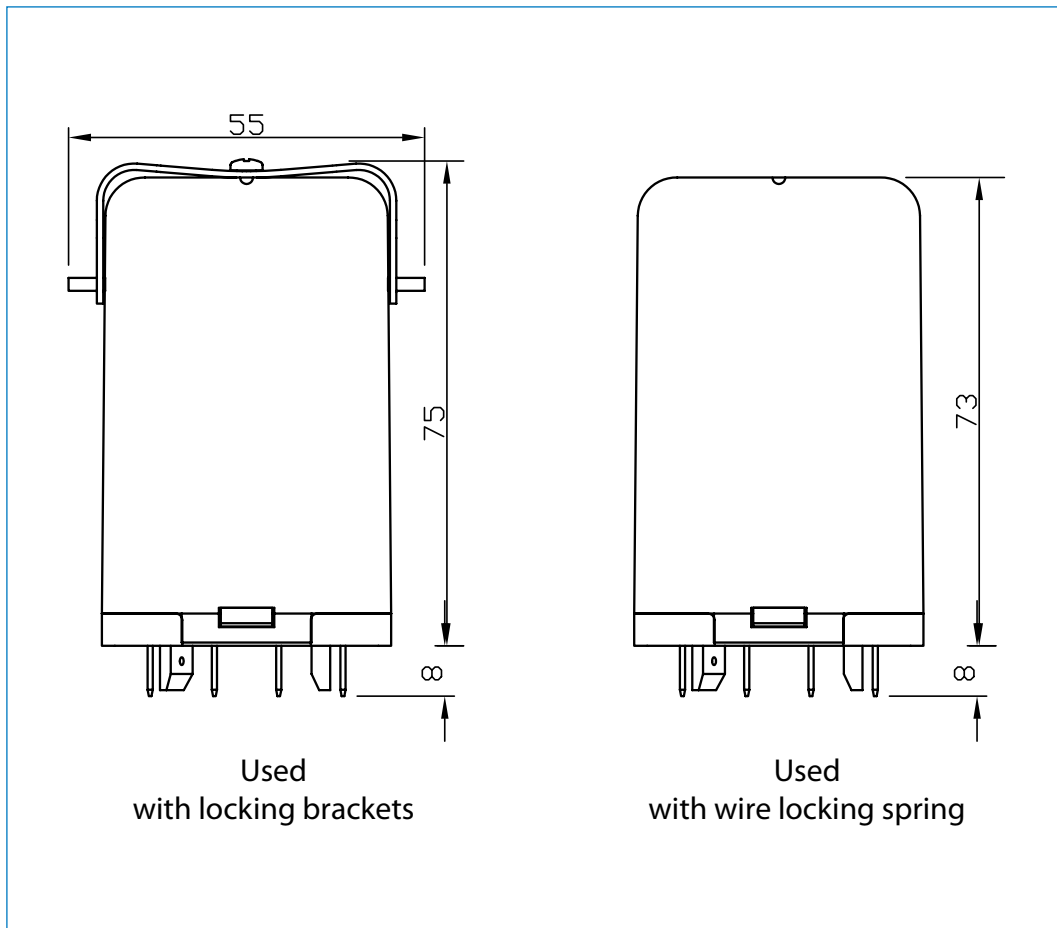
Vibration	NF F 62-002 The tests are conducted in the X, Y, Z planes at frequency between 10 & 150 cycles (sinusoidal) at 2 g
Shock	NF F 62-002 Tests are applied in both directions in the X, Y & Z planes. Then successive shocks are administered consisting of the positive component of sinusoidal with a value of 30 g, 18 ms Other vibration and shock tests can be performed on request
Mechanical life	MTBF > 400.000 hours
Weight	70.9 g
Temperature	-40 °C...+85 °C
Humidity	93% RH, 40° C for 4 days
Salt mist	5% NaCl, 35° C for 4 days
Protection	IP40 (electronic timer on socket)
Fire & smoke	Materials: Polycarbonate (cover) / polyester melamine (base) Note: These materials have been tested for fire propagation and smoke emission according standards NF F 16-101, NF F 16-102.



# TA3 relay

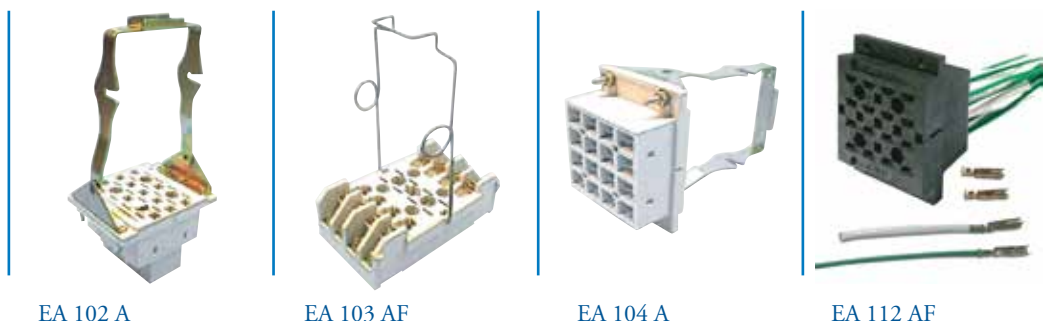
## Technical specifications

### Dimensions (mm)



# TA3 relay

## Mounting possibilities / sockets



### Panel/flush mounting

EA 102 A	Locking bracket (905843), rear connection, double Faston 5 mm
EA 102 AF	Wire locking spring (926853), rear connection, single Faston 5 mm
EA 104 A	Locking bracket (905843), rear connection, single Faston 5 x 0.8 mm
EA 104 AF	Wire locking spring (926853), rear connection, single Faston 5 x 0.8 mm
EA 112 AF	Wire locking spring (926853), rear connection, crimp contact

### Surface/wall mounting

EA 103 AF*	Wire locking spring (926853), front connection, M3 screw 6.5 mm ring terminals (2,5 mm <sup>2</sup> )
EA 105 AF*	Wire locking spring (926853), front connection, single Faston 5 mm





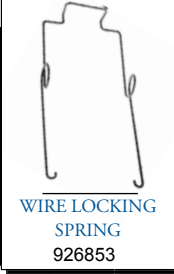


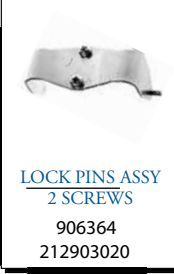
\* Mounting possibility on 35 mm rail EN 50022 by adding suffix D to the part number (see socket datasheet)

Note: Keying of relay to socket can be specified by adding the keying letters in the part number. See all details in the related socket datasheet.

# TA3 relay

## Spare parts

### Spare parts - order part numbers

<p>(1)</p>  <p>LOCKING BRACKET 905843</p>	<p>(1)</p>  <p>SCREW FOR BRACKET C927210</p>	<p>(1)</p>  <p>METAL STRAP (2) P928060</p>	<p>(1)</p>  <p>METAL STRAP (4) P928061</p>
<p>(1)</p>  <p>WIRE LOCKING SPRING 926853</p>	<p>(1)</p>  <p>ROUND PLASTIC PLUGS 414928005</p>	<p>(2)</p>  <p>HEX. PLASTIC KEYS 414905678</p>	<p>(3)</p>  <p>LOCK PINS ASSY 2 SCREWS 906364 212903020</p>

(1) Parts only for socket  
 (2) Parts for relay and socket  
 (3) Parts only for relay



# TA3 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.





# TA3 relay

## Ordering scheme

Configuration:



1. Relay model   2. Time range   3. Delay mode   4. Nominal voltage   5. Keying   6 Time delay   7. Cover type   8. Language (test report)

This example represents a **TA3C OR 36 BN 16 F 1**

**Description:** TA3 relay, time delay 1 s...90s, delay mode on drop-out,  $U_{nom}$ : 36 VDC, keying BN, time delay 16 s, relay cover for wire locking spring, test report in English

### 1. Relay model

<b>TA3</b>
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### 2. Time range

-	Time delay 0.1...0.9 s
<b>C</b>	Time delay 1...90 s
<b>L</b>	Time delay 1... 90 min

### 3. Delay mode

<b>OR</b>	Time delay on drop-out
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### 4 & 5. Nominal voltage and keying

--	for TA3
<b>36 BN</b>	36 VDC for TA3C only
<b>36 BR</b>	36 VDC for TA3L only

### 6. Time delay

<b>0 x</b>	Time delay for TA3 (0.1...0.9 s)
<b>x x</b>	Time delay for TA3C (1... 90 s)
<b>x x</b>	Time delay for TA3L (1...90 min)

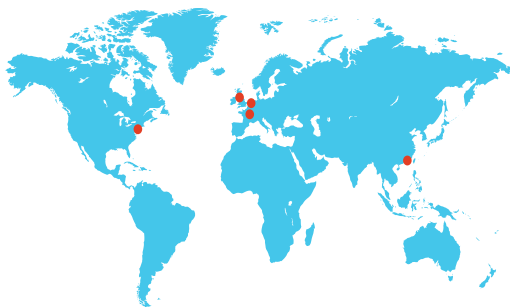
### 7. Relay cover type

-	Relay cover with lock pins
<b>F</b>	Relay cover for wire locking spring

### 8. Language on test report

-	French
<b>1</b>	English
<b>2</b>	Spanish





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