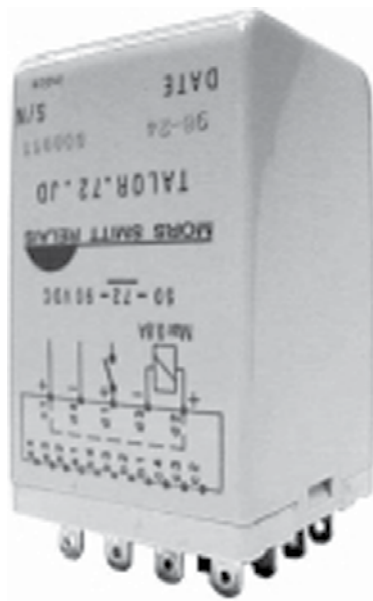


TALOR relay - Electronic timer, Datasheet delay on drop-out



Description

The electronic timer TALOR is a delay on drop-out timing module. It offers an extended range duration (0.25 seconds to 63.75 minutes) and controls an external load from a common source. The time delay with programmable lag is specified by external connections

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 TALOR 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 TALOR timing relay is designed for applications with a programmable timing function used for example in HVAC and lighting.

Features

- Delay on drop-out timing module
- Extended time delay range with additive time combination
- Delay range from 0.25 s up to 63.75 min
- Time delay programmable by external connections
- 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 On board railway relays
- 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



TALOR relay

Technical specifications



Functional and connection diagrams

Timing diagram	Relay pin correspondence
<p>Type OR (delay on drop-out) (also called delay on de-Energization, delay OFF or delay on break).</p> <p>Operation: With permanent power supply ON and connected to terminals c1-d4 and timer input ON and connected to terminals d1-d4, the time delay devices operate as follows: When switch is closed, an output signal appears across terminals d2-d3 to actuate load. When switch is opened, the time interval programmed by wiring from tables below begins. At end of interval, the output signal disappears across terminals d2-d3 shutting off the load.</p>	<p>Relay pin correspondence</p> <p>1 2 3 4 a a b b c c d d 1 2 3 4 (rear view of relay shown)</p> <p>Example: OX keying</p>

Connection diagram																																											
	<table border="1"> <thead> <tr> <th>Connections</th> <th>Function</th> </tr> </thead> <tbody> <tr> <td>d1</td> <td>timer input (+)</td> </tr> <tr> <td>d4</td> <td>timer input and supply (-)</td> </tr> <tr> <td>d2</td> <td>timer delayed load output (+)</td> </tr> <tr> <td>d3</td> <td>timer delayed load output (-)</td> </tr> <tr> <td>c1</td> <td>timer permanent power (+)</td> </tr> </tbody> </table> <p>Time Delay Input Polarity: d1 must be connected to +</p> <table border="1"> <thead> <tr> <th>Time delay</th> <th>Short 0,25 to 63,75 s</th> <th>Long 0,25 to 63,75 min</th> </tr> </thead> <tbody> <tr> <td>Connections</td> <td>a1 - b1</td> <td>-</td> </tr> <tr> <td>b3 - a2</td> <td>0,25 s</td> <td>0,25 min</td> </tr> <tr> <td>b3 - a3</td> <td>0,5 s</td> <td>0,5 min</td> </tr> <tr> <td>b3 - a4</td> <td>1 s</td> <td>1 min</td> </tr> <tr> <td>b3 - b4</td> <td>2 s</td> <td>2 min</td> </tr> <tr> <td>b3 - c4</td> <td>4 s</td> <td>4 min</td> </tr> <tr> <td>b3 - c3</td> <td>8 s</td> <td>8 min</td> </tr> <tr> <td>b3 - c2</td> <td>16 s</td> <td>16 min</td> </tr> <tr> <td>b3 - b2</td> <td>32 s</td> <td>32 min</td> </tr> </tbody> </table> <p>Note: b3 - x connections are additives. Example: To make 5 min delay, connect b3 - a4 - c4</p>	Connections	Function	d1	timer input (+)	d4	timer input and supply (-)	d2	timer delayed load output (+)	d3	timer delayed load output (-)	c1	timer permanent power (+)	Time delay	Short 0,25 to 63,75 s	Long 0,25 to 63,75 min	Connections	a1 - b1	-	b3 - a2	0,25 s	0,25 min	b3 - a3	0,5 s	0,5 min	b3 - a4	1 s	1 min	b3 - b4	2 s	2 min	b3 - c4	4 s	4 min	b3 - c3	8 s	8 min	b3 - c2	16 s	16 min	b3 - b2	32 s	32 min
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TALOR relay

Technical specifications

Time characteristics

Time function	Delay on drop-out
Total time delay range	0.25 s...63.75 min
Time delay adjustment	Fixed after connecting the terminals
Adjustment / repeatability accuracy	$\pm 2\%$ / $\pm 2\%$ (adjustment with power off)

Input data

Keying	U _{nom} (VDC)	U _{operating} (VDC)
LE	24	16 / 33
OX	36	25 / 45
PX	48	33 / 60
JD	72	50 / 90
EM	110	77 / 138

Electrical characteristics

Operating voltage	24 VDC...110 VDC
Load voltage drop	< 0.1 V
Operating current	< 20 mA
Maximum load current	0.8 A
Dielectric strength	2000 VAC, 1 min between housing and tabs
Insulation resistance	$\geq 1000\text{ M}\Omega$ at 500 VDC



TALOR relay

Technical specifications

Mechanical & environmental characteristics

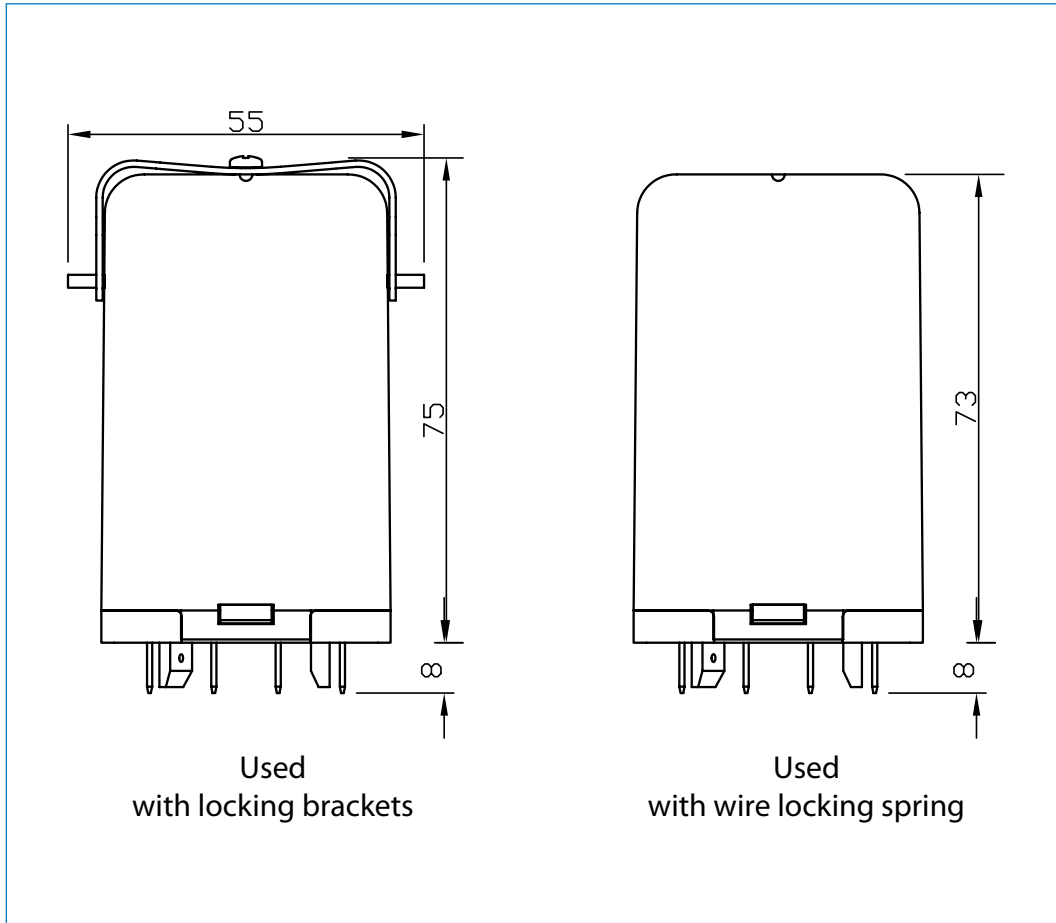
Vibration	NF F62-002 The tests are conducted in the X, Y , Z planes at frequency between 10 & 150 cycles (sinusoidal) at 2 g
Shock	NF F62-002 Tests are applied in both directions in the X, Y & Z planes. Then successive shocks are administered consisting of the positive component of sinusoidal with a value of 30 g, 18 ms Other vibration and shock tests can be performed on request
Life	MTBF > 500.000 h
Weight	79.5 g (2.8 ounces)
Temperature	-40 °C...+85 °C
Humidity	93% RH, 40° C for 4 days
Salt mist	5% NaCl, 35° C for 4 days
Protection	IP40 (timing relay 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. And have been approved to be used on the English/French train channel shuttle.



TALOR relay

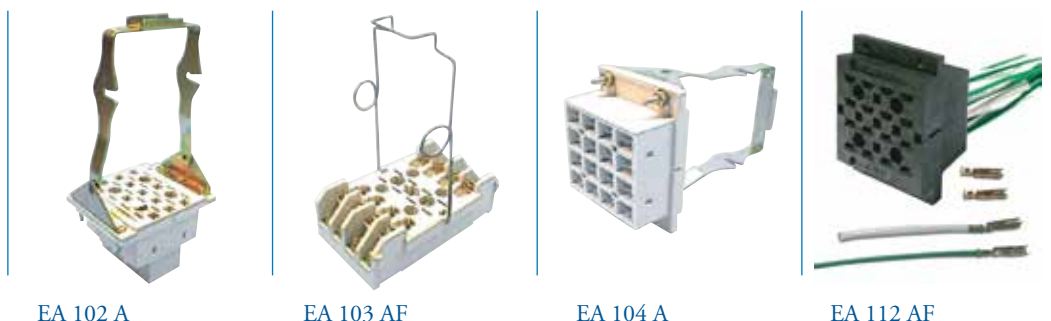
Technical specifications

Dimensions (mm)



TALOR 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 ²)
EA 105 AF*	Wire locking spring (926853), front connection, single Faston 5 mm





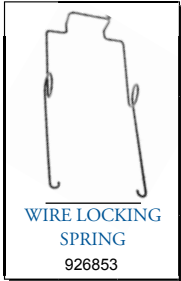



* Mounting possibility on 35 mm rail EN 50022 by adding suffix D to the part number (see socket datasheet)

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.

TALOR relay

Spare parts

Spare parts - order part numbers

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

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



TALOR 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.



TALOR relay

Ordering scheme

Configuration:



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

This example represents a **TALOR 36 OX F 1**

Description: TALOR relay, U_{nom} : 36 VDC, Keying OX, relay cover for wire locking spring, test report in English

1. Relay model

TAL

2. Delay model

OR Time delay on drop-out

3 & 4. Nominal voltage and keying

24 LE	24 VDC
36 OX	36 VDC
48 PX	48 VDC
72 JD	72 VDC
110 EM	110 VDC

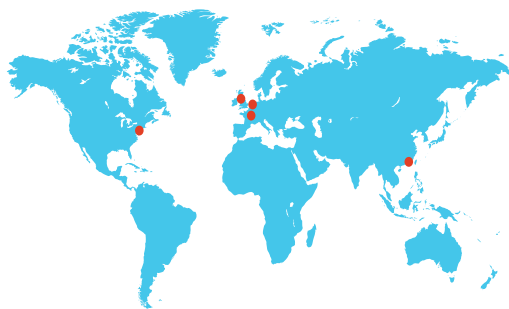
5. Relay cover type

-	Relay cover with lock pins
F	Relay cover for wire locking spring

6. Language on test report

-	French
1	English
2	Spanish





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