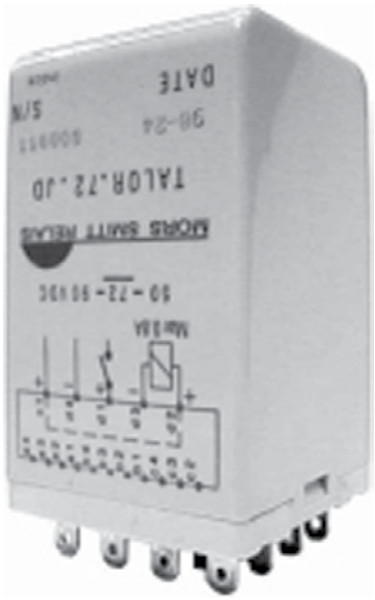
TALAO relay - Electronic timer, delay on pull-in

Datasheet



Features

- Delay on pull-in 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

Description

The electronic timer TALAO is a delay on pull-in 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 TALAO 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.

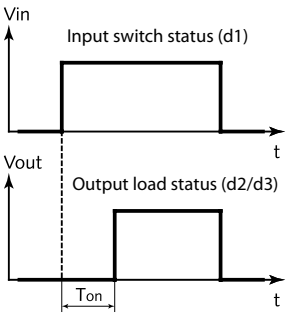
Application

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

TALAO relay
Technical specifications

Functional and connection diagrams

Timing diagram

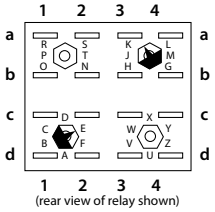


Type AO (delay on pull-in)
(also called delay on Energization, delay ON or delay on make)

Operation:
With power supply ON and connected to timer input terminals d1-d4, when switch is closed, the time interval programmed by wiring from tables below begins.
At end of interval, an output signal appears across terminals d2-d3 to actuate load.

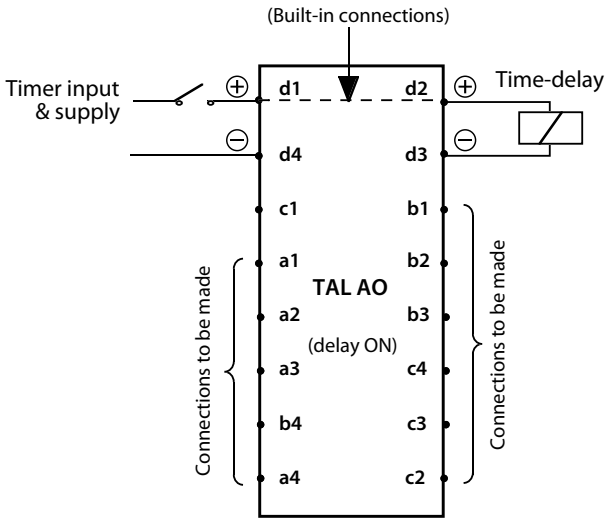
Relay pin correspondence

Relay pin correspondence



Example: **KE keying**

Connection diagram



Connections	Function
d1	timer input (+)
d4	timer input and supply (–)
d2	timer delayed load output (+)
d3	timer delayed load output (–)
c1	not connected

Time Delay Input Polarity:
d1 can be connected to – (d2 becomes –)

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

Note: b3 - x connections are additives.
Example: To make 5 min delay, connect b3 - a4 - c4

TALAO relay
Technical specifications

Time characteristics

Time function	Delay on pull-in
Total time delay range	0.25 s...63.75 min
Time delay adjustment	Fixed after connecting the terminals
Adjustment / repeatability accuracy	± 2 % / ± 2 % (adjustment with power off)

Input data

Keying	Unom (VDC)	Uoperating (VDC)
KE	24	16 / 33
OW	36	25 / 45
PW	48	33 / 60
HD	72	50 / 90
SW	110	77 / 138

Electrical characteristics

Operating voltage	24 VDC...110 VDC
Load voltage drop	< 0.1 V
Operating current	< 20 mA
Maximum laod current	0.8 A
Dielectric strength	2000 VAC, 1 min
Insulation resistance	≥ 1000 MΩ at 500 VDC

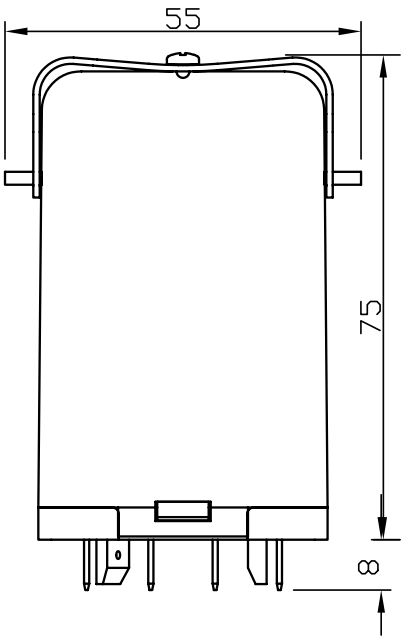
TALAO relay
Technical specifications

Mechanical & environmental characteristics

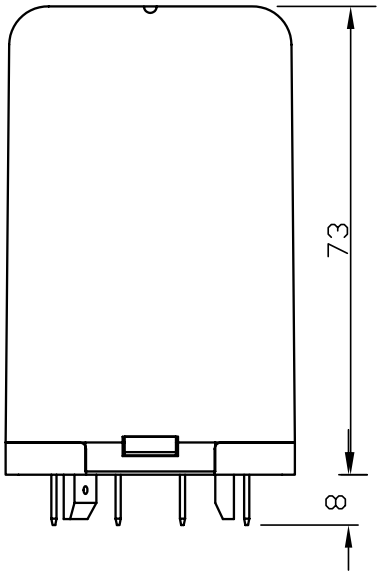
Vibration	NF F 62-002 The tests are conducted in the X, Y , Z planes at frequency between 10 & 150 cycles (sinusoidal) at 2 g
Shock	NF F 62-002 Tests are applied in both directions in the X, Y & Z planes. Then successive shocks are administered consisting of the positive component of sinusoidal with a value of 30 g, 18 ms Other vibration and shock tests can be performed on request
Life	MTBF > 500.000 h
Weight	79.5 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 (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.

TALAO relay
Technical specifications

Dimensions (mm)



Used
with locking brackets



Used
with wire locking spring

TALAO relay
Mounting possiblities / sockets

EA 102 A

EA 103 AF

EA 104 A

EA 112 AF

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 0.8mm
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.

TALAO relay
Spare parts

Spare parts - order part numbers

(1)

LOCKING BRACKET

905843

(1)

SCREW FOR BRACKET

C927210

(1)

METAL STRAP (2)

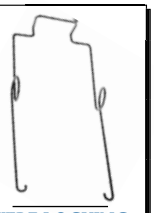
P928060

(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

TALAO 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.

TALAO relay
Ordering scheme

Configuration:

TAL	AO	24	KE	F	1
1. Relay model	2. Delay mode	3. Nominal oltage	4. Keying	5. Cover type	6. Language (test report)

This example represents a **TALAO 24 KE F 1**
Description: TALAO relay, Unom: 24 VDC, Keying KE, relay cover for wire locking spring, test report in English

1. Relay model

TAL

2. Delay model

AO	Time delay on pull-in

3 & 4. Nominal voltage and keying

24 KE	24 VDC
36 OW	36 VDC
48 PW	48 VDC
72 HD	72 VDC
110 SW	110 VDC

5. Relay cover type

–	Relay cover with lock pins
F	Relay cover forwire locking spring

6. Language on test report

–	French
1	English
2	Spanish

Mors Smitt
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SERVING SAFETY

DS-TALAO relay-V2.0 May 2013

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