

# TY372/GRP01-02 - QTD5

## Datasheet

### Slow to operate relays



### Description

The TY372 is used in applications where an operate delay longer than that achievable by slugging is required.

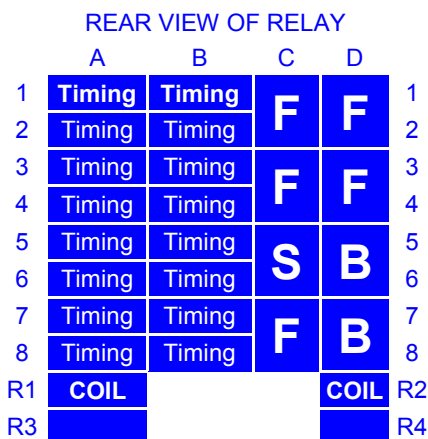
### Mors Smitt Relays

- Modular plug in design
- Non weld contacts
- Silver and carbon impregnated with silver contact tips
- Proven reliability
- Low life cycle cost

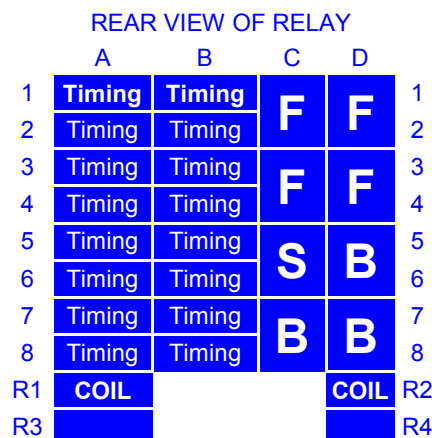
Mors Smitt Catalogue Number	Mors Smitt Reference (Westinghouse Reference)	Rated Voltage	Contacts	Pin Code (Pins)	Network Rail Acceptance Number	Specification
TY372/GRP01	STD5 (QTD5)	50 V D.C.	5F 2B	(B, D, F, H, X)	N/A	N/A
TY372/GRP02	STD5 (QTD5)	50 V D.C.	4F 3B	(B, E, G, H, X)	N/A	N/A

Mors Smitt Catalogue Number	Coil Resistance	Power Consumption	Full Operate	Release	Full Release	Contact Rating	Contact Resistance	Weight (Kg)
TY372/GRP01 TY372/GRP02	1750 Ω	1.43 W	40 V	7.5 V	4.0 V	3 A	0.2 Ω	1.0 kg

## Contact Arrangements.



**5F 2B**  
TY372/GRP01



**4F 3B**  
TY372/GRP02

**F = Front contact**, which is made when the relay is energised. This is a normally open contact.

**B = Back contact**, which is made when the relay is de-energised and the armature has completed its maximum travel. This is a normally closed contact.

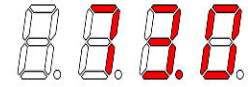
**S = Stick contact**, This contact is for factory use only and should not be connected by the user.

## TY372 Display Information

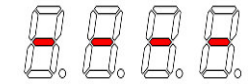
On applying power to the relay the display illuminates all segments for 0.5 seconds to allow the engineer to identify any dead segments.



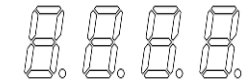
For the next 5 seconds total delay time is displayed. For the remaining delay the display will count down the remaining delay.



Once the relay has timed out the display shows - - - -. This will interrupt the above sequence as necessary



When no power is applied to the relay no segments are illuminated.



**Always re-adjust the potentiometer when the relay is replaced**

**The display is for indication only. On setting the relay the actual time delay should be manually checked as it would be on a relay without a display.**

Units are shipped with the potentiometer turned all the way down.

As shipped the time delays are set to the levels below by fixing the strapping detailed between the plugboard connectors. Replacing the relay will therefore automatically set the new relay to the same time range.

A potentiometer accessed through a hole in the cover can increase the time delay from nominal by up to 9.4 seconds in 0.1 second increments. Once adjusted the hole in the cover must be re-sealed by a tamperproof 'CALIBRATION VOID IF BROKEN' label provided.

**Always re-adjust the potentiometer when the relay is replaced.**

Nominal Time (S)	Coarse Strapping	Fine Strapping	Nominal Time (S)	Coarse Strapping	Fine Strapping
2.5	A1-B7	B7-B8	167	A1-A4	B7-B8
7.5		B7-A8	173		B7-A8
13.5		A8-B8	178		A8-B8
18.5		No Strap	184		No Strap
26	A1-A7	B7-B8	191	A1-B3	B7-B8
31		B7-A8	196		B7-A8
37		A8-B8	202		A8-B8
42		No Strap	207		No Strap
50	A1-B6	B7-B8	214	A1-A3	B7-B8
55		B7-A8	220		B7-A8
61		A8-B8	226		A8-B8
66		No Strap	231		No Strap
73	A1-A6	B7-B8	238	A1-B2	B7-B8
78		B7-A8	243		B7-A8
84		A8-B8	249		A8-B8
89		No Strap	254		No Strap
97	A1-B5	B7-B8	262	A1-A2	B7-B8
102		B7-A8	267		B7-A8
108		A8-B8	273		A8-B8
113		No Strap	278		No Strap
120	A1-A5	B7-B8	285	A1-B1	B7-B8
125		B7-A8	290		B7-A8
131		A8-B8	296		A8-B8
136		No Strap	301		No Strap
144	A1-B4	B7-B8	309	No Strap	B7-B8
149		B7-A8	314		B7-A8
155		A8-B8	320		A8-B8
160		No Strap	325		No Strap

**Strapping should be as short as practical and made using appropriate signalling cable.**

## Procedure for setting up the time delay on the relay plugboard.

The required OPERATE delay is obtained by a combination of hard wired links on the plugboard for coarse setting, and adjustable potentiometer for fine adjustment.

Using the table on page 4, select the nearest time below that required. For a 52 seconds delay for example 50 seconds is the nearest time below the time required. On the plugboard, links between connections A1 and B6 and B7 and B8 would be required for the coarse setting. Fine adjustment is described below. Note that replacing a failed relay will automatically set the new relay to the same time range.

Unspecified time connections will default the time delay range to 325 seconds. Time connections being removed or broken will increase the delay range (see table). Based on the above example if the link between B7 and B8 was broken the time range would increase to 66 seconds.

## Procedure for setting up the timer delay on the installed relay.

Apply power to the relay and check that the display shows '8.8.8.8.' for 0.5 seconds. The display will then show the selected time for five seconds (which in the example above is 50.0 seconds). After that the display will count down the remaining delay.

With the timer running, turn the potentiometer clockwise by accessing the screw through the potentiometer access hole. This will increase the displayed time in 0.1 second steps. Continue turning the adjustment screw until the required value (52 seconds) is set.

When the electronic delay countdown is completed the relay will operate and the display will show '— . — . — . — .'.

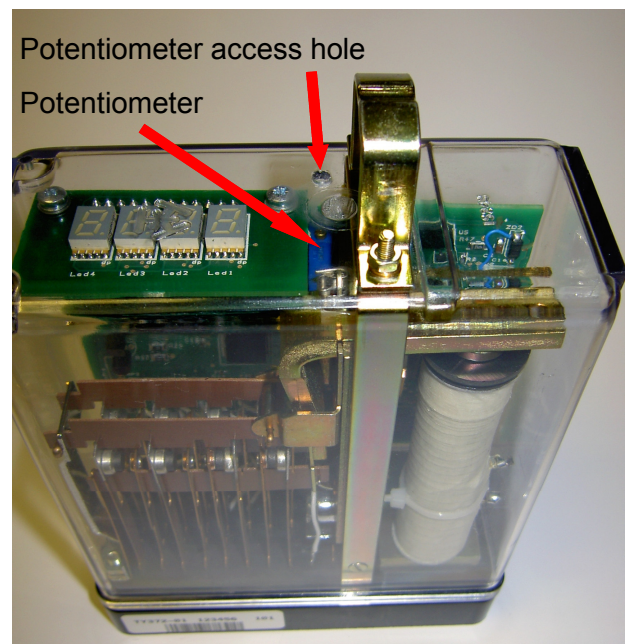
If the display starts counting down before the delay time is set, disconnect the power from the relay. The display will not now be illuminated. Power can then be re-connected to the relay and timing will start again and the adjustment can then be completed.

**Caution - Turning the potentiometer whilst no power is applied to the relay will still change the delay time.**

Once the required time has been set, external confirmation is recommended as required on other QTD5 designs.

When the timing and operation checks have been confirmed, fix the calibration seal label provided over the potentiometer access hole.

When re-using a relay, always reset the timing in the following manner. Firstly turn the potentiometer fully anti-clockwise (minimum of 15 turns) then follow the above procedure to set the new delay. New relays are always delivered with the potentiometer set fully anti-clockwise. Unless clearly labelled otherwise.





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