

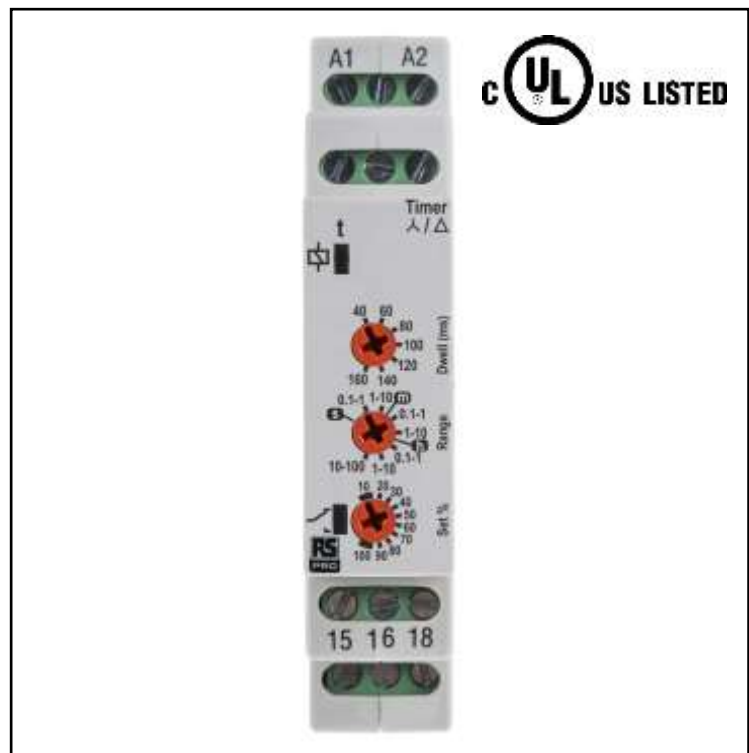
Time Delay Relays

FEATURES

- Star/Delta timing function
- 7 Selectable Dwell time settings (40 – 160mS)
- 7 Selectable time ranges (0.1 seconds – 100 hours)
- Fine adjustment of selected time range
- Multi-voltage (24 – 230VAC/12 – 230VDC)
- 1 x SPDT relay output 8A
- Green LED indication for supply / timing status
- Red LED indication for relay status
- Conforms to IEC 61812
- UL Listed

RS PRO Star/Delta Start Timer

RS Stock No.: 2228178



RS Professionally Approved Products bring to you professional quality parts across all product categories. Our product range has been tested by engineers and provides a comparable quality to the leading brands without paying a premium price.

Time Delay Relays

Product Description

A Star/Delta Start timer used in conjunction with external contactors and limit the duration a 3-phase motor runs in Star configuration before switching over to Delta. When power is applied, the output relay remains de-energised for the set time delay period. After the delay has elapsed, the contacts “break” for the set Dwell time, then changeover to the energised state. Power must be removed and re-applied to restart the function over again.

General Specifications

Timing function:	Star/Delta		
Selectable Dwell (t_{dwell}) time settings (7):	40, 60, 80, 100, 120, 140, 160ms		
Timing ranges (7):	Seconds:	Minutes:	Hours:
	0.1 – 1	0.1 – 1	0.1 – 1
	1 – 10	1 – 10	1 - 10
			10 - 100
Reset time²:	< 100ms		
Accuracy:	± 1% of maximum full scale		
Adjustment accuracy:	< 5% of maximum full scale		
Repeat accuracy:	± 0.5% at constant conditions (IEC 61812)		
Drift with temperature:	± 0.05% / °C		
Drift with voltage:	± 0.2% / V		
Accuracy:	± 1% of maximum full scale		
Power on indication / Timing¹:	Green LED		
Relay status	Red LED		

Note:

¹ In accordance with IEC 61812, the green LED is permitted to extinguish during a voltage dip or momentary interruption of the power supply providing the state of the output relay does not change. The dip / interruption duration and levels are defined in the product standard.

² The dip / interruption (reset) duration and levels are defined in the product standard, however; the standard allows for these to be different from the levels actually specified.

Mechanical Specifications

Housing:	Grey flame retardant UL94
Dimensions:	To DIN 43880. Width 17.5mm
Weight:	70g
Mounting option:	On to 35mm symmetric DIN rail to BS EN 60715 or direct surface mounting via 2 x M3.5 or 4BA screws using the black clips provided on the rear of the unit.

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Electrical Specifications

Input:	A1, A2			
Supply voltage U:	24 – 230V AC/12 – 230V DC			
Frequency range:	48 – 63Hz			
Overvoltage category:	III (IEC 60664)			
Rated impulse withstand voltage:	4kV (1.2/50µS)			
Power consumption (max.):	12V	24V	110V	230V
AC:	-	0.8VA	2.6VA	6.8VA
DC:	0.52W	0.48W	0.94W	1.9W
Output:	15, 16, 18			
Relay configuration:	SPDT			
Output rating:	AC1 – 250V 6A, DC1 – 30V 6A			
Electrical life:	≥ 150,000 ops at rated load			
Dielectric voltage:	2kV AC (rms) IEC 60947-1			
Rated impulse withstand voltage:	4kV (1.2/50µS) IEC 60664			

Protection Category

IP Rating	IP20 (Terminal Protection)
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Additional Information

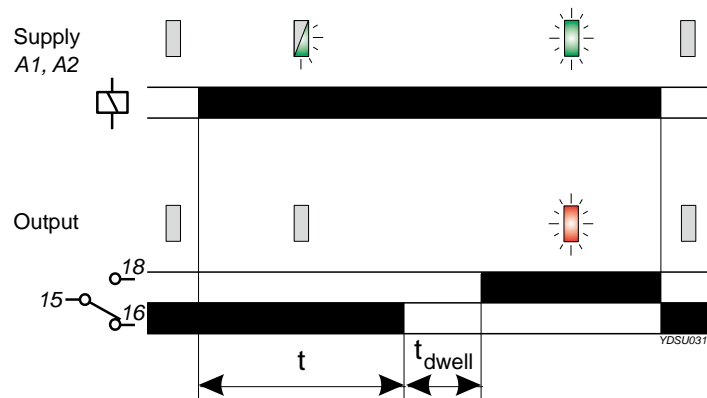
Custom Tariff Number	85394900
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Approvals

Declarations	CE, RoHS and C-tick compliant CUL Listed
Standards Met	Conforms to IEC 61812. EMC: Immunity EN 61000-6-2 (EN 61000-4-3 10V/m 80MHz - 2.7GHz), Emissions: EN 61000-6-4

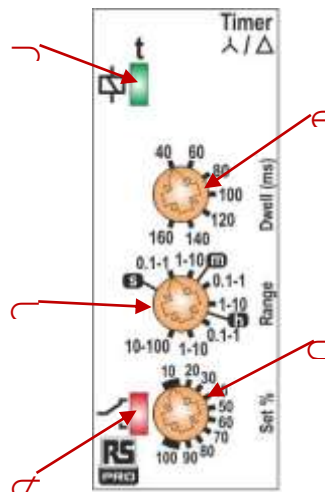
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Function Diagram



Setting Details

1. Power supply status / Timing (Green) LED
2. Relay output status (Red) LED
3. "Set %" adjustment selector
4. Time delay "Range" selector
5. "Dwell" time adjustment



Setting Up

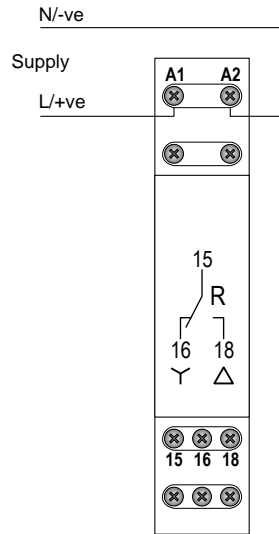
Setting the unit.

- Set the "Dwell (ms)" selector ϵ to the required position.
- Set the "Range" ζ to the required position (depending on whether seconds, minutes or hours are required), then set the "Set %" adjustment ζ as required. The "Set %" is a % of the selected range, so 60% of the 1 – 10 hour range will give 6 hours.

Applying power.

- Apply power and the green LED \ni will start flashing to indicate timing is in progress. Contacts 15 and 16 will remain closed during this period.
- At the end of the delay period "t", contacts 15 and 16 will open for the period set by the Dwell time.
- After the Dwell time, contacts 15 and 18 will close and the red relay LED $\not\propto$ will illuminate to indicate the relay is in the energised state.
- The relay will remain in the energised state until power is removed. Re-applying power will repeat the whole process again.

Connection Diagram



Dimensions

