



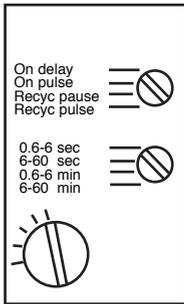
Multi-Function Timers

Instruction Leaflet

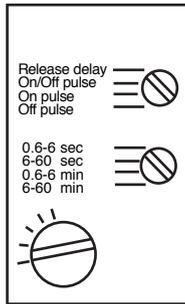
RS stock no. 329-137, 329-200 to 329-238

A range of multi-function timers for control applications. The timers fit into 11 pole plug-in bases and may be housed in enclosures for modular equipment (DIN 43 880)

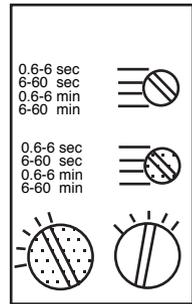
Figure 1



329-137
329-222



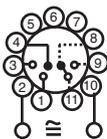
329-200
329-238



329-216

Figure 2

Alternative 1 Alternative 2



Supply

FUNCTIONS

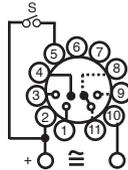
- * On delay.
- * On pulse. (1)
- * Symmetrical. recycler-Pause or pulse start.



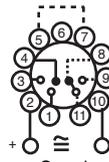
Supply

FUNCTIONS

- * Release delay
- * On pulse. (2)
- * Off pulse
- * On-Off pulse.



Supply



Supply

FUNCTIONS

- * Asymmetrical recycler-Pause start
- * Asymmetrical recycler-Pulse start

Notes:

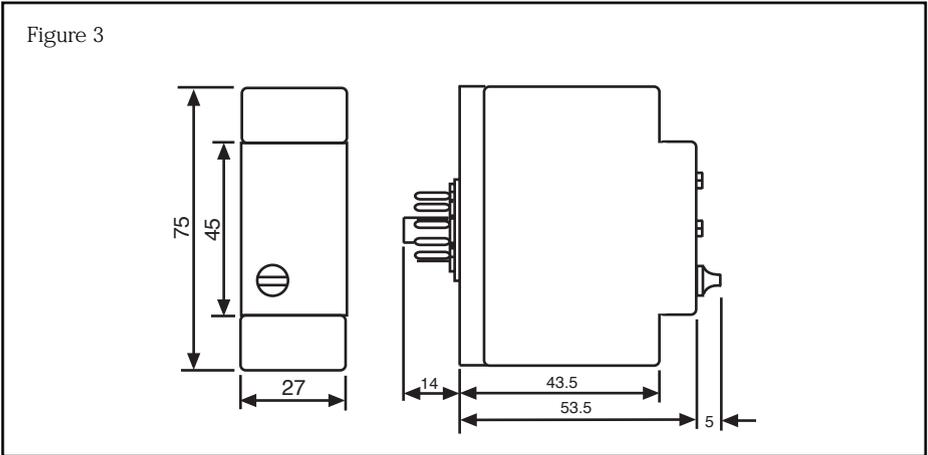
Terminals 5 and 7 are not galvanically separated from the supply input 2 and 10.

Terminals 2 and 7 are internally connected.

'On pulse (2)' is also known as 'On pulse (constant supply)'.

'Release delay' is also known as 'Off delay (constant supply)'

See overleaf for full descriptions.



Function Diagrams for 329-137, 329-222

on delay



The timing period starts when the supply is connected. After elapse of time set, the output relay 'R' is energised. When the supply is interrupted 'R' is de-energised. If this occurs before the time set has elapsed, the timer resets.

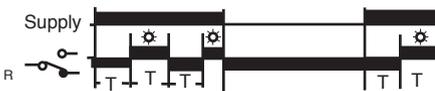
on pulse (1)



When the supply is connected the output relay 'R' is energised and the timing period starts. After elapse of time set, 'R' is de-energised. If the supply is interrupted before the set time has elapsed, 'R' is de-energised.

Symmetrical recycler

Pause Start:



When the supply is connected the timer starts working with pause and pulse intervals of equal length, starting with a pause or pulse dependent on timer setting.

Pulse Start



Function diagrams for 329-200, 329-238

release delay



The supply is connected permanently to the timer. A switch 'S' is used to control the timer function (refer to wiring diagram). When 'S' is closed the output relay 'R' is energised. The timing period is initiated when 'S' is opened. 'R' remains energised until the time set has elapsed.

on pulse (2)



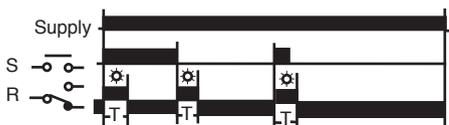
The supply is connected permanently to the timer. A switch 'S' is used to control the timer function (refer to wiring diagram). When 'S' is closed, the output relay 'R' will energise and time out irrespective of whether 'S' is opened before or after the set time has elapsed. To re-energise 'R', switch 'S' must be opened and then re-closed.

off pulse



The supply is connected permanently to the timer. A switch 'S' is used to control the timer function (refer to wiring diagram). Closing 'S' has no effect on the output relay 'R'. This relay energises and times out when 'S' is opened. If 'S' is pulsed during the time-out period it will have no effect on 'R'.

on-off pulse



The supply is connected permanently to the timer. A switch 'S' is used to control the timer function (refer to wiring diagram). The output relay 'R' is triggered by opening or closing 'S'. Once 'R' triggered the time-out period cannot be interrupted by changing the state of 'S'.

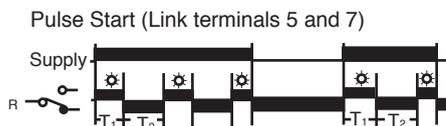
Functional diagrams for 329-216

asymmetrical recycler



When the supply is connected and the set pause time has elapsed the output relay 'R' is energised. 'R' remains energised for the set pulse time period. The sequence repeats until the supply is interrupted.

T_1 = pause time, T_2 = pulse time.



When the supply is connected the output relay 'R' is energised for the set pulse time period. 'R' then de-energises for the set pause time period. The sequence repeats until the supply is interrupted.

T_1 = pulse time, T_2 = pause time.

Time setting

A 4-position selector switch on the front of the timer enables any one of the time ranges to be selected. Exact adjustment is made using the larger adjustment knob, scaled 1-6. On timer RS stock number 329-159 a separate set of controls is provided for 'pulse' and 'pause'.

Linearity between individual time ranges permits accurate setting of long time periods (6-60 min.range) by initially setting up a shorter time period, eg 30 minutes setting may be achieved by selecting the 6-60 sec. range, adjusting to 30 seconds using a stopwatch and finally re-setting the time range to 6-60min. leaving the adjustment knob at the same set point.

Technical specifications

Supply voltage	
nominal:	12.0-24V \sim or $\overline{\sim}$
max/min. limits:	10.5-265V \sim or $\overline{\sim}$
DC supply voltage	
rise time:	Max 20ms (1.2-10.8V $\overline{\sim}$).
Timer accuracy	
(constant conditions):	0.5% of full range.
Temperature effect:	0.15% / °C.
Ambient temperature	
range:	-20°C to + 60°C.
Reset time:	100 ms max.
Setting accuracy:	+/- 10%.
Relay contacts:	S.P.D.T.
Material:	Silver cadmium oxide.
Maximum current ratings.	S.P.D.T D.P.D.T.
at 240V \sim (cos ϕ = 1) \sim	8A 5A
	at 240V (cos ϕ

Electrical life output relay

S.P.D.T. 8A, 220V \sim (resistive) 100.000 operations.

D.P.D.T. 5A, 220V \sim (resistive) 200.000 operations

Duty cycle:

100% to IEC 255-0-20 class 1c.

LED indication

Indication on front of timer for output relay energised.
(shown as in function diagrams).

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