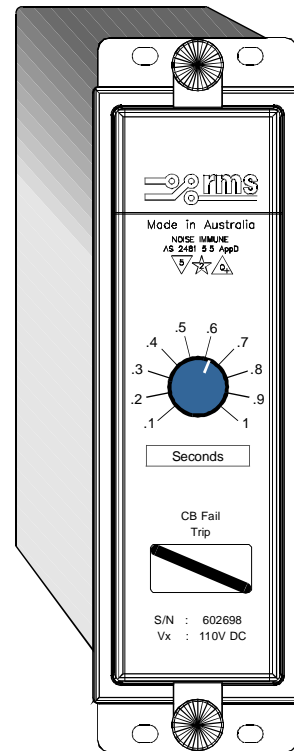


# Analogue Definite Time Delay Relay

## Features

- Wide time range settings with continuous analogue adjustment
- Accurate time delay setting & repeatability
- Optional fast reset characteristic
- Optional visual operation indicator
- Wide range of supply voltages including AC available
- Optional magnetic blowouts to enhance contact switching performance
- Heavy duty output contacts
- Noise immune
- Wide range of case styles
- Made in Australia



2T649 depicted in a size 2 rack mount case

## Application

The Series 2T649 time delay on energisation relays are widely used by power authorities in protection & control schemes where accurate & consistent time delays are required.

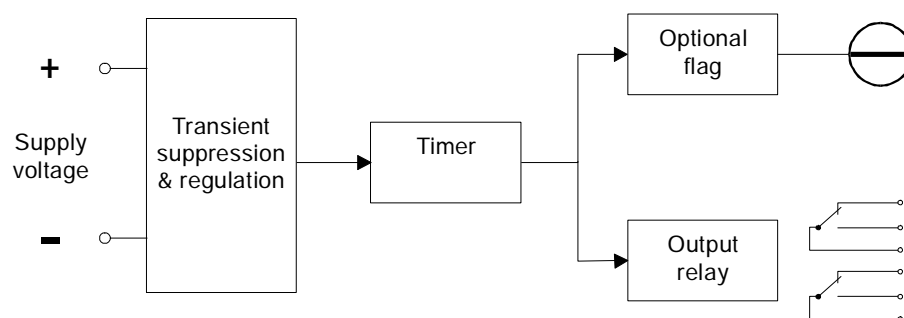
## Operation

Made in Australia

This series offers the proven rugged reliability of an electromechanical relay driven from an electronic ripple count type timer.

Pulses from an on-chip oscillator are fed into a ripple counter which is programmed to give an output after a pre-set (binary) count is reached. Time setting is achieved by a dial mounted potentiometer located on the front panel which adjusts the oscillator frequency. The output of the ripple counter drives a heavy duty electromechanical relay via a transistor switch.

This technique gives good repeatability & fast reset characteristics, although delays are provided which prevent spurious resetting for short term supply dips. Power failures of less than 20 milliseconds duration will not affect the operation of the timer which will continue timing out.





## Technical Data

### ACCURACY

+/-5% of maximum setting

### REPEATABILITY

+/-2% of setting **Note:** Repeat accuracy in particular is greatly improved when ambient conditions & supply voltages are stable.

### SUPPLY VOLTAGE

12, 24, 31, 48, 110, 125, or 250V DC nominal with allowable variation of 75-120% of nominal.

### BURDEN (110V AC unit)

3VA (approx.) during timing  
5VA (approx.) whilst output relay is energised.

### INSULATION WITHSTAND

In accordance with AS2481-1981 (clause 5-4), IEC 255-5:  
2KV RMS between input & frame, output & frame, & output & input.  
1.2/50 5KV impulse between each terminal & earth, between circuits not normally connected together & between terminals of the same circuit.

### NOISE IMMUNITY

Withstands the high frequency interference test detailed in AS2481-1981 (clause 5-5 App. D), IEC 255-22-1.

### OUTPUT CONTACTS

Standard: 2 C/O self reset fine silver.  
Optional: 2 C/O self reset heavy duty 6R type.

### 6R RELAY CONTACT RATINGS

#### Make & Carry Continuously

3,000 VA AC resistive with maximums of 660V & 12A  
3,000 VA DC resistive with maximums of 660V & 12A

#### Make & Carry for 0.5 Seconds

7,500 VA AC resistive with maximums of 660V & 30A  
7,500 VA DC resistive with maximums of 660V & 30A

### AC Break Capacity

3,000 VA AC resistive with maximums of 660V & 12A

### DC Break Capacity (Amps)

Voltage			24V	48V	125V	250V
Resistive rating		a	12	1.5	0.5	0.25
		b	12	12	10	5
L/R=40ms	Maximum break *	a	12	1	0.4	0.2
		b	30	15	5.5	3.5
	1K operations (N3 Rating)	b	12	12	5	2.5

a = Without magnetic blowouts b = With magnetic blowouts  
As tested by Powernet Yarraville laboratories in Victoria.

## 2T649 Options

Check the appropriate box under each section to accurately specify the relay configuration required & return with request for quotation:

2T649 Type Number if known: **K**\_\_\_\_\_

### TIME RANGES

- 0.1 to 1s  0.3 to 3s  
 1 to 10s  3 to 30s  
 10 to 100s

### OUTPUT RELAY

- Heavy duty 6R direct tripping contacts  
 Magnetic blowouts

### CONTACT ARRANGEMENT

- No. N/O (M) \_\_\_\_\_  No. N/C (B) \_\_\_\_\_  
 No. C/O \_\_\_\_\_

### FLAG INDICATOR

- Required with hand reset  
 Required with self reset  
 Not required

### FLAG OPERATION

- 2F Type - Flag drops on energisation  
 3F Type - Flag drops on de-energisation

### AUXILIARY SUPPLY (-25% to + 20%)

- 12V DC  24V DC  
 32V DC  48V DC  
 110V DC  125V Dc  
 250V DC  Other \_\_\_\_\_

### ENCLOSURE STYLE (Refer Part B Section 6 for details)

- Size 2 Case for rack mounting (4u high, 1/4 width)  
 Size 2 Case for flush mounting in vertical format  
 Size 4 Case for flush mounting in horizontal format  
 Module only to suit GEC 1D case  
 FSB flush mounting case

### CASE FUNCTION

- Draw out  
 Non-draw out

### CONNECTION TERMINALS

- Phoenix compression screw terminals  
 2BA studs  
 2BA screws

### SPECIAL CUSTOMER LABELLING (\* SPECIFY ANY 2)

- Not Required (Standard labelling)  
 \* Type No. \_\_\_\_\_  
 \* Order No. \_\_\_\_\_  
 \* Name: \_\_\_\_\_  
 \* Other: \_\_\_\_\_

### OTHER REQUIREMENTS

\_\_\_\_\_  
\_\_\_\_\_



AS/NZS ISO9001-94  
REGISTRATION  
6869