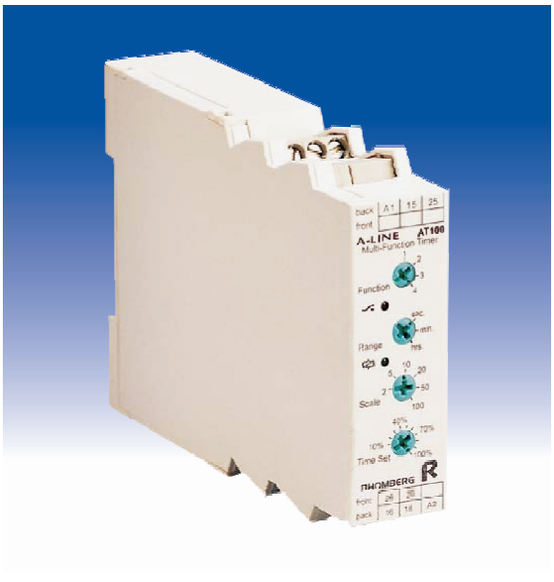
AT-100

Multi-Function Timer

A-LINE
MONITORING RELAYS



ORDERING CODE

TYPE	MODEL	VOLTAGE	POWER SUPPLY	RELAY CONTACTS
AT	100	230	A	D

SEE PAGE 60 FOR ORDERING OPTIONS

Application Examples

- Delayed energisation of loads on power-up.
- Energisation of loads for a set period of time.
- Switching loads on and off repetitively in equal intervals.
- Alternating operation of two loads in equal intervals.
- Sequential switching of loads.

Features

- Failsafe feature.
- 4 programmable functions: Delayed ON, Interval (one shot) or Symmetrical recycling (OFF first or ON first).
- 18 overlapping programmable time ranges from 0,2 seconds to 100 hours, achieved by:
  - 3 programmable time ranges: seconds, minutes, hours.
  - 6 programmable time scales for each of 3 time ranges.
- Time Setting on calibrated scale (10% to 100%).
- High repetitive accuracy.
- Power ON and Relay ON LEDs.
- Flashing Power ON LED when unit is timing (flash rate increases when relay is about to switch).
- Microprocessor technology incorporated.
- 5A SPDT or DPDT relay output.

Description of Operation

The **AT-100** is fully programmable, microprocessor based Multi-Function Timer. The unit has 18 overlapping time ranges within 0,2 seconds and 100 hours.

The unit can be programmed to operate in any of the following modes:

1. Delayed ON Operation: At power-up the relay is De-energised. After the set time expires, the relay energises. The relay remains energised until the power supply is interrupted for at least 0,5 seconds.

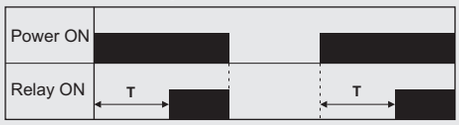
2. Internal Operation: At power-up the relay energises immediately. After the set time expires the relay de-energises. The relay remains de-energised until the power supply is interrupted (for at least 0,5 seconds) and re-applied to start another cycle.

3. Symmetrical Recycling, First Cycle OFF Operation: After applying power, the relay will switch on and off repetitively, starting with the OFF cycle first. The relay de-energises and/or remains de-energised if the power supply is interrupted for at least 0,5 seconds. The duration of the ON cycle and the OFF cycle are both equal to the set time.

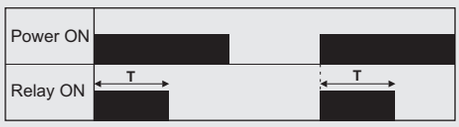
4. Symmetrical Recycle, First Cycle ON Operation: After apply power, the relay will switch on and off repetitively, starting with the ON cycle first. The relay de-energises and/or remains de-energised if the power supply is interrupted for at least 0,5 seconds. The duration of the ON cycle and the OFF cycle are both equal to the set time.

Operational Diagrams

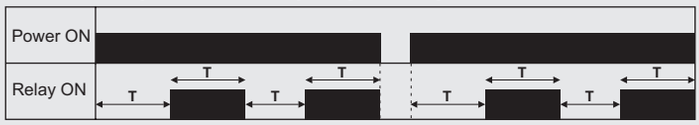
Function 1: Delayed ON Operation



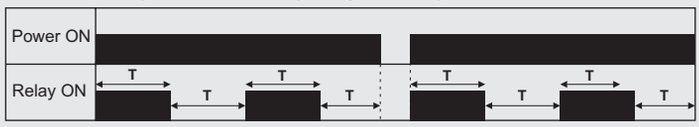
Function 2: Interval Operation



Function 3: Symmetrical Recycling, First Cycle OFF Operation

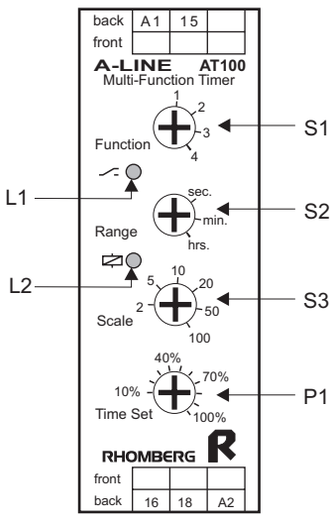


Function 4: Symmetrical Recycling, First Cycle ON Operation



T = Set time

Description of Controls



L1: The red **"Relay ON"** LED marked illuminates when the relay is energised.

L2: The green **"Power ON"** LED marked illuminates when power is supplied to the unit. The LED flashes when the unit is timing. Before the relay switches (in the last 10% of the timed interval), the flash rate increases.

S1: The **Timing Function** is set on S1.
Position 1: Delayed ON Operation
Position 2: Interval Operation
Position 3: Symmetrical recycling, first cycle OFF Cycle First
Position 4: Symmetrical Recycling, ON Cycle First

S2: The **Time Range** is set on S2.
Sec: Seconds
Min: Minutes
Hrs: Hours

S3: The **Time Scale** is set on S3. The time scale are 2, 5, 10, 20, 50 & 100.

P1: The **Time Setting** is adjusted on P1. The time setting can be adjusted from 10% to 100% of the selected time.

EXAMPLES OF TIME SETTINGS			
Required Time	**Time Scale**	**Time Range**	**Time Setting**
8 seconds	10	Sec	80%
25 minutes	50	Min	50%
4,5 hours	5	Hrs	90%

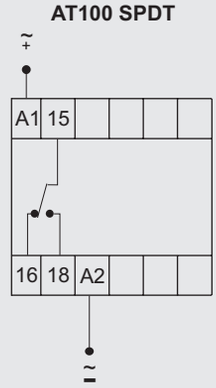
Wiring and Connection

Power Supply	
Phase/Positive	A1
Neutral/Negative	A2

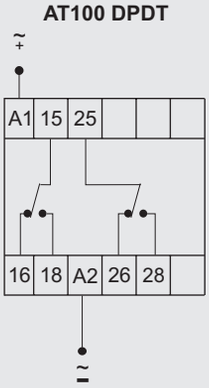
Relay Contacts - SPDT	
Normally Open	15 + 18
Normally Closed	15 + 16

Relay Contacts - DPDT		
CONTACT 1	Normally Open	15 + 18
	Normally Closed	15 + 16
CONTACT 2	Normally Open	25 + 28
	Normally Closed	25 + 26

AT100 SPDT



AT100 DPDT



Technical Specifications

POWER SUPPLY			
Type	**Voltage**	**Tolerance**	**Consumption**
AC Transformer (2kV galvanic isolation)	12, 24, 115, 230 (220-240), 400 (380-415), 525V	±15%	2VA (approx.)
AC Reactive	250 (90-250)V	-	2VA (approx.)
DC	48, 60, 110V	±15%	30mA (approx.)
AC/DC	12/24V	±15%	100mA (approx.)

RELAY			
Relay Options (250V, 5A)	SPDT	DPDT	SPDT & Instantaneous

HOUSING		
Voltage	250V and below	Above 250V
Housing Width	22.5mm	45mm

TIME RANGES (STANDARD)		
Time Scale Selection	**Time Setting: 10 to 100%**	**Time Range Selection: Seconds, minutes, hours**
2	0.2 to 2	Sec, min or hrs
5	0.5 to 5	Sec, min or hrs
10	1 to 10	Sec, min or hrs
20	2 to 20	Sec, min or hrs
50	5 to 50	Sec, min or hrs
100	10 to 100	Sec, min or hrs

TIME SPECIFICATION	
Setting Accuracy	5%
Repeatability	0.5%

Additional information in Section J, page 131.