

Time Control Technique

MULTITIMER Multifunction Relay BA 7811

Translation
of the original instructions



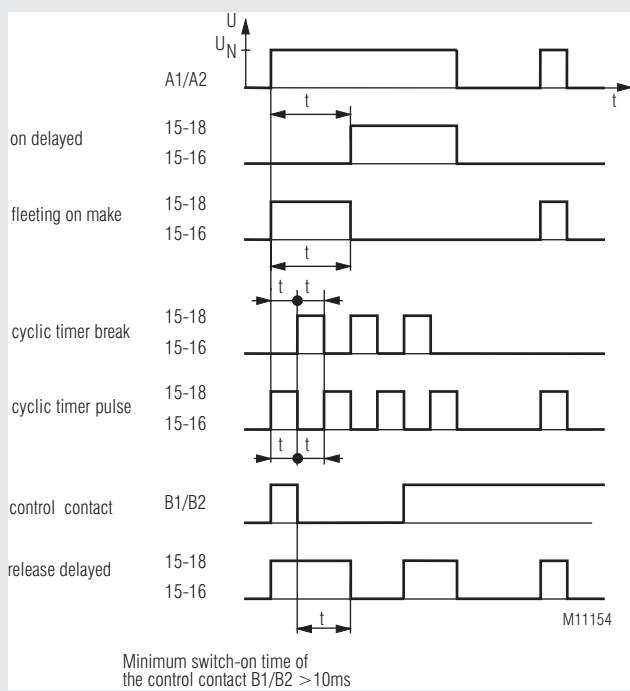
Your Advantage

- Adjustable on front side via absolute scale
- High switching capacity

Features

- According to IEC/EN 61812-1
- Programmable via rotary switch for
 - On delay (AV)
 - Release delay (RV)
 - Fleeting on make (EW)
 - Cyclic timer / start with break (TP)
 - Cyclic timer / start with pulse (TI)
- 4 time ranges from 0.05 ... 1000 s or 0.05 ... 1000 min
- Decadic time ranges
- 1 or 2 changeover contacts
- LED indicators for power supply and state of contact
- Width: 45 mm

Function Diagram



Approvals and Markings



Applications

Time dependent controls, process controls

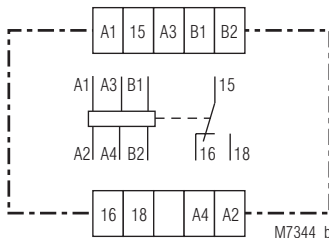
Indicators

- Red LED: On, when supply connected
- Green LED: On, when corresponding output relay is active

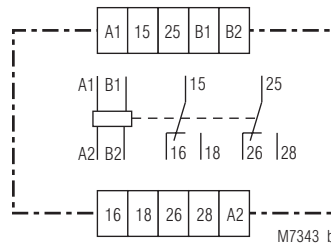
Notes

A voltage free control contact is required for the release delay. The device switches as a cyclic timer with a pulse/pause ratio of 1:1 and can also be used as a flasher relay with a short time setting.

Circuit Diagrams



BA 7811.81
A1/A2: AC 110 - 220 V
A3/A4: AC/DC 24 - 60 V
B1/B2: Control contacts for release delay



BA 7811.82
A1/A2: Operation voltage
B1/B2: Control contacts for release delay

Connection Terminals

Terminal designation	Signal description
A1, A2	Power supply AC
A3, A4	Power supply AC/DC
B1, B2	Control contacts for release delay
15, 16, 18	Changeover contacts (output relay)
25, 26, 28	Changeover contacts (2. output relay)

Technical Data

Time Circuit

Time ranges:	0.05 ... 1 s or 0.05 ... 1 min
	0.5 ... 10 s or 0.5 ... 10 min
	5 ... 100 s or 5 ... 100 min
	50 ... 1000 s or 50 ... 1000 min
Time setting:	Infinite
Recovery time:	≤ 20 ms
Repeat accuracy:	≤ ± 1 % of setting value ± 10 ms
Voltage influence:	< 0.5 %
Temperature influence:	± 0.1 % / K

Input

Nominal voltage U_N	At devices with 1 changeover contact: AC/DC 24 ... 60 V and AC 110 ... 230 V
	At devices with 2 changeover contacts: AC/DC 24 ... 60 V or AC 110 ... 230 V
Voltage range:	0.8 ... 1.1 U_N
Minimum switch-on time of the control contact B1 / B2:	≥ 10 ms
Nominal consumption:	≤ 4 VA
Nominal frequency:	50 / 60 Hz
Frequency range:	± 5 % f_N

Output

Contacts

BA 7811.81:	1 changeover contact, delayed
BA 7811.82:	2 changeover contacts, delayed
Contact material:	AgNi + 0.2 µm Au
Measured nominal voltage:	AC 250 V
Thermal current I_{th}:	10 A
Switching capacity	
To AC 15	
BA 7811.81	
NO contact:	10 A / AC 230 V IEC/EN 60947-5-1
NC contact:	5 A / AC 230 V IEC/EN 60947-5-1
BA 7811.82	
NO contact:	2 A / AC 230 V IEC/EN 60947-5-1
NC contact:	1 A / AC 230 V IEC/EN 60947-5-1
Electrical life	IEC/EN 60947-5-1
To AC 15 at 3 A, AC 230 V	
BA 7811.81:	3 x 10 ⁵ switching cycles
BA 7811.82:	1.5 x 10 ⁵ switching cycles

Permissible switching frequency:

6000 switching cycles / h

Short circuit strength

Max. fuse rating: 4 A gG / gL IEC/EN 60947-5-1

Mechanical life:

BA 7811.81:	30 x 10 ⁶ switching cycles
BA 7811.82:	50 x 10 ⁶ switching cycles

General Data

Nominal operating mode: Continuous operation

Temperature range:

Operation: - 20 ... + 60 °C

Storage: - 20 ... + 60 °C

Altitude: < 2000 m

Clearance and creepage distance

Rated impulse voltage / pollution degree: 4 kV / 2 IEC 60664-1

EMC

Electrostatic discharge (ESD): 8 kV (air) IEC/EN 61000-4-2

HF irradiation: 10 V/m IEC/EN 61000-4-3

Fast transients

On wires for power supply: 4 kV IEC/EN 61000-4-4

On control input: 2 kV IEC/EN 61000-4-4

Surge voltage

Between wires for power supply: 2 kV IEC/EN 61000-4-5

Between wire and ground: 4 kV IEC/EN 61000-4-5

HF-wire guided: 10 V IEC/EN 61000-4-6

Interference suppression: Limit value class B EN 55011

Technical Data

Degree of protection

Housing: IP 40 IEC/EN 60529

Terminals: IP 20 IEC/EN 60529

Housing: Thermoplastic with V0 behaviour acc. to UL subject 94

Vibration resistance: Amplitude 0.35 mm, frequency 10 ... 55 Hz, IEC/EN 60068-2-6

20 / 060 / 04 IEC/EN 60068-1

Climate resistance:

Terminal arrangement:

DIN 46199-5

Terminal designation: EN 50005

Wire connection: 2 x 2.5 mm² solid or 2 x 1.5 mm² stranded wire with sleeve

DIN 46228-1/-2/-3/-4 Flat terminals with self-lifting clamping piece IEC/EN 60999-1

Wire fixing: 0.8 Nm

Mounting: DIN rail IEC/EN 60715

Weight: 320 g

Dimensions

Width x height x depth: 45 x 73 x 133 mm

Standard Type

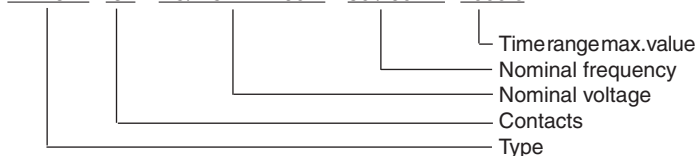
BA 7811.81 AC/DC 24 ... 60 V + AC 110 ... 230 V 50 / 60 Hz 1000 s

Article number: 0022010

- 4 time ranges from 0.05 ... 1000 s
- Nominal voltage U_N : AC/DC 24 ... 60 V + AC 110 ... 230 V
- Output: 1 Wechsler, verzögert
- Width: 45 mm

Ordering Example

BA 7811 .82 AC/DC 24 ... 60 V 50 / 60 Hz 1000 s



Accessories

ET 4762-5 Adapter for screw fixing
Article number: 0023119