

Time Control Technique

MINITIMER Timer, On-delay BA 7905

Translation
of the original instructions



Your Advantages

- Higher safety at connection of machine parts during start up
- High repeat accuracy
- Wide setting range
- Easy setting

Features

- Power ON-delay according to EN 61812-1
- Delay up to 300 s
- Repeat accuracy $< \pm 1\%$
- Voltage up to DC 220 V without series resistor
- With remote potentiometer connection
- With LED indication for operation and contact position
- 1 or 2 changeover contacts
- Width 45 mm

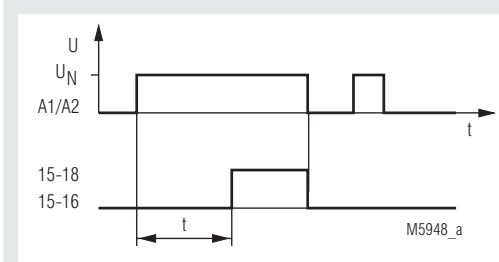
Product Description

The timer BA 7905 can be used to switch devices and controls with an adjustable on delay. With these timer the start behaviour of machine parts e. g. the starting of motors can be influenced. With a potentiometer the time delay can be adjusted simply over a large setting range.

Approvals and Markings



Function Diagram



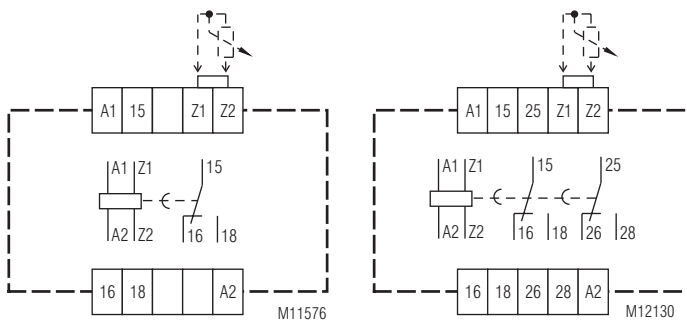
Application

Time dependent control

Indication

Upper LED: On when operating voltage applied
Lower LED: On when output relay activated

Circuit Diagrams



BA 7905.81

BA 7905.82

Connection Terminals

Terminal designation	Signal description
A1(+), A2(-)	Voltage supply AC/DC
Z1, Z2	External potentiometers
15, 16, 18	C/O contacts (output relays)
25, 26, 28	C/O contacts (2nd output relays)

Technical Data

Time circuit

Time ranges:	0.05 ... 1 s	1.5 ... 30 s
	0.15 ... 3 s	5 ... 100 s
	0.5 ... 10 s	15 ... 300 s

Setting: Stepless, setting on absolute scale.
Connection possibility for external variable resistor on terminal Z1-Z2 (5-6).
Variable resistor in the device to be set to the minimum value and bridge Z1-Z2 (5-6) is to be removed.

Recovery time

tw 50 / 100: 100/50 ms

Repeat accuracy: $\leq \pm 1\%$ of max. scale value

Voltage influence: 0.5 %

Temperature influence: 0.2 % / K

Input

Nominal voltage U_N : AC 24, 42, 110 ... 127, 230, 240 V
DC 24, 42, 60, 110 ... 127, 220 V

Voltage range: 0.8 ... 1.1 U_N

Nominal consumption:	AC 24	230	V
		1.9	18 VA
	DC 24	220	V
		0.8	2.6 W

Nominal frequency: 50 / 60 Hz

Frequency range: $\pm 5\%$ f_N

Output

Contacts

BA 7905.81: 1 changeover contact, delayed

BA 7905.82: 2 changeover contacts, delayed

Contact material: AgNi

Measured nominal voltage: AC 250 V

Release time: 10 ms

Thermal current I_{th} : 5 A

Switching capacity

To AC 15

BA 7905.81: 3 A / AC 230 V IEC/EN 60947-5-1

BA 7905.82: 2 A / AC 230 V IEC/EN 60947-5-1

To DC 13: 2 A / DC 24 V IEC/EN 60947-5-1

Electrical life IEC/EN 60947-5-1

To AC 15 at 3 A, AC 230 V

BA 7905.81: 2.5 x 10⁵ switching cycles

To AC 15 at 2 A, AC 230 V

BA 7905.82: 0.5 x 10⁵ 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: 50 x 10⁶ switching cycles

General Data

Operating mode: Continuous operation

Temperature range:

Operation: -20 ... +60 °C

Storage: -20 ... +60 °C

Altitude: ≤ 2000 m

Clearance and creepage distances

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

EMC

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

HF irradiation: IEC/EN 61000-4-3

80 MHz ... 1 GHz: 12 V / m IEC/EN 61000-4-3

1 GHz ... 2.7 GHz: 10 V / m IEC/EN 61000-4-3

Fast transients: 2 kV IEC/EN 61000-4-4

Surge voltages

Between wires for power supply: 1 kV IEC/EN 61000-4-5

Between wire and ground: 2 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: Thermoplast with V0 behaviour according to UL subject 94

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

20 / 050 / 04 IEC/EN 60068-1

Climate resistance: EN 50005

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

Wire fixing: Flat terminals with self-lifting clamping piece IEC/EN 60999-1

Fixing torque: 0.8 Nm

Mounting: DIN rail IEC/EN 60715

Weight: 170 g

Dimensions

Width x height x depth: 45 x 74 x 133 mm

Standard Type

BA 7905.81 AC 230 V 50/60 Hz 0.5 ... 10 s

Article number: 0021737

• Output: 1 changeover contact, delayed

• Nominal voltage U_N : AC 230 V

• Time range: 0.5 ... 10 s

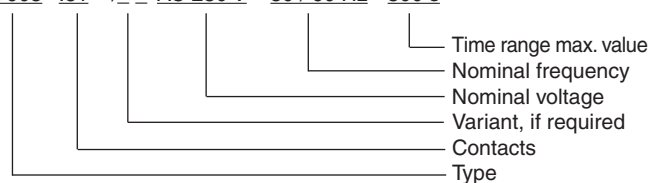
• Width: 45 mm

Varianten

BA 7905.82/200 With guided contacts

Ordering example for variants

BA 7905 .81 / _ _ AC 230 V 50 / 60 Hz 300 s



Accessories

AD 3:

External variable resistor

0,05 ... 1 s 1 M Ω Article number: 0004082

0,15 ... 3 s 2,2 M Ω Article number: 0006154

0,5 ... 10 s 10 M Ω Article number: 0004084

1,5 ... 30 s 10 M Ω Article number: 0004084

5 ... 100 s 10 M Ω Article number: 0004084

15 ... 300 s 20 M Ω Article number: 0004085

Degree of protection front side: IP 40

