

MINITIMER Pulse Control Timer BA 7864, EO 7864

Translation
of the original instructions



0227773



BA 7864



EO 7864



EO 7864 with
front frame
ET 4048-3

- Asymmetrical flasher relay according to IEC/EN 61812-1
- Time range up to 32 h
- Separate setting of impulse- and space time
- For impulse- and space time 4 time ranges each
- Repeat accuracy $< \pm 0.5\%$
- Setting on relative scale
- Dual-voltage-version
- Programmable for start with impulse or space
- LED indication for operation and contact position
- BA 7864 available with remote potentiometer contact Z1-Z2, Z3-Z4
- EO 7864 with 11-pole socket
- Available with 1 or 2 changeover contacts, or semiconductor output (BA 7864)
- BA 7864: Width 45 mm
- EO 7864: Front size 35 x 48 mm

Approvals and Markings



Applications

Time dependent controls

Indicators

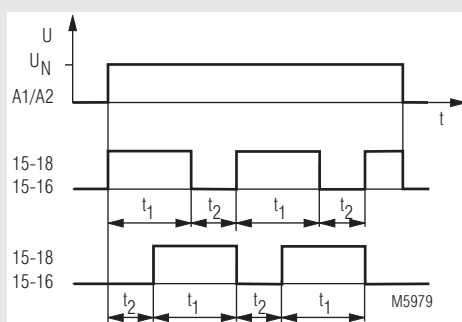
Red LED: On when operating voltage applied
Green LED: On when output relay activated

Notes

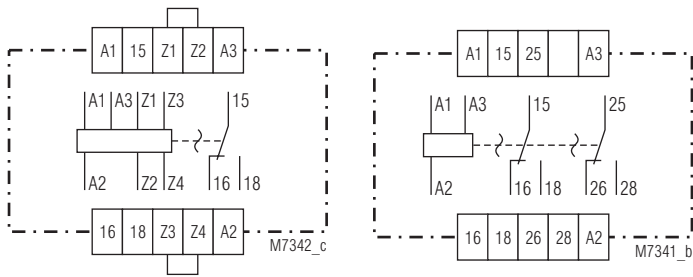
By an external bridge via terminals 6-7 of the plug-in-socket the EO 7864 can be programmed for the start with space.

The pulse control timer BA 7864.___ starts with impulse, whereas the special version of the device BA 7864.___/010 starts with space. For the variants BA 7864.81 and BA 7864.81/010 a remote setting of the impulse- or space time is possible via two external variable resistors.

Function Diagram

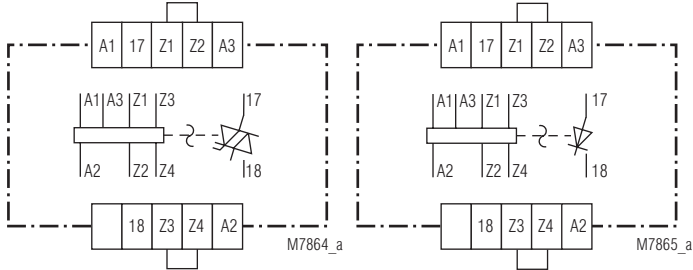


Circuit Diagrams



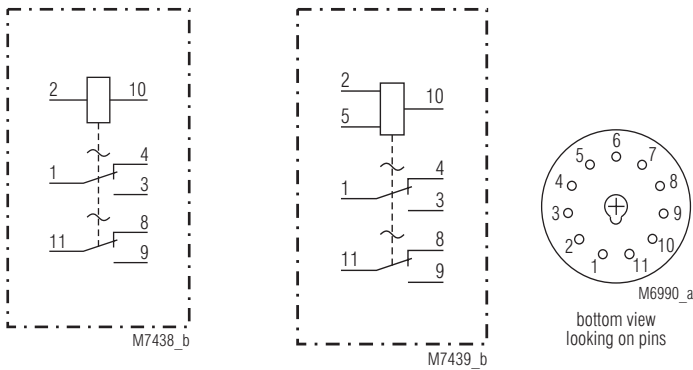
BA 7864.81

BA 7864.82



BA 7864.91

BA 7864.95



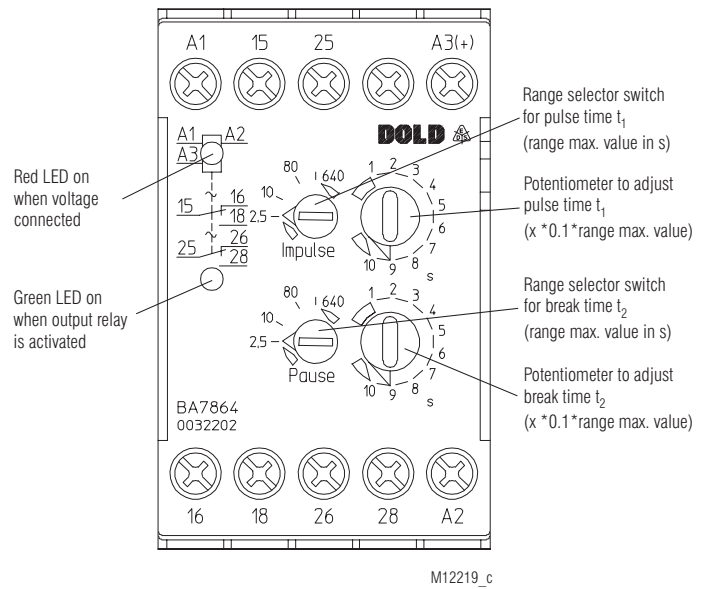
EO 7864.82
(single-voltage version)

EO 7864.82
(dual-voltage version)

Connection Terminals

Terminal designation	Signal description
A1, A2	Auxiliary voltage AC
A3(+), A2(-)	Auxiliary voltage AC/DC
Z1, Z2	Remote potentiometer connection (see accessories)
Z3, Z4	Remote potentiometer connection (see accessories)
15, 16, 18	Changeover contacts (output relay)
25, 26, 28	Changeover contacts (2. output relay)

Setting



Technical Data

Time circuit

Time range:

Impulse and space separately adjustable in 4 steps:

0.25 ... 2.5 s	or	0.25 ... 2.5 min	or	0.75 ... 7.5 min
1 ... 10 s		1 ... 10 min		3 ... 30 min
8 ... 80 s		8 ... 80 min		24 ... 240 min
64 ... 640 s		64 ... 640 min		3,2 ... 32 h

Other combinations of these time ranges for impulse or space, on demand.

Time setting:

For impulse and space separately infinite on relative scale (1:10)

Recovery time:

< 30 ms

Operate time:

< 25 ms

Release time:

Approx. 12 ms

Remote setting

BA 7864.81:

AD 3 1 M Ω

(2 pieces, for impulse- and space time)

Repeat accuracy:

< $\pm 0.5\%$ of the scale max. value

Voltage influence:

< 1% over the whole voltage range

Temperature range:

< 0.1% / K

Input

Nominal voltage U_N :

AC/DC 24, 42 V

AC/DC 24¹⁾ + AC 110 ... 127 V²⁾

AC/DC 24¹⁾ + AC 220 ... 240 V²⁾

¹⁾ to terminals A3-A2 or terminals 5-10

²⁾ to terminals A1-A2 or terminals 2-10

Voltage range

AC/DC 24 V and AC/DC 42 V:

AC and DC (residual ripple $\leq 20\%$)

0.8 ... 1.2 U_N

DC (residual ripple = 48%)

0.8 ... 1.1 U_N

AC 110 ... 127 V and

AC 220 ... 240 V:

0.8 ... 1.1 U_N

Nominal consumption:

AC 24 V

0.7 VA

AC 42 V

1.2 VA

AC 110 V

2.5 VA

AC 230 V

5 VA

DC 24 V

0.6 W

DC 42 V

1.2 W

Nominal frequency:

50 / 60 Hz

Technical Data

Relay Output

Contacts

BA 7864.81, EO 7864.81: 1 changeover contact
 BA 7864.82, EO 7864.82: 2 changeover contacts

Contact material: AgNi + 0.2 µm Au

Measured nominal voltage: AC 250 V

Thermal current I_{th} : 5 A

Switching capacity

To AC 15

BA 7864.81, EO 7864.81: 5 A / AC 230 V IEC/EN 60947-5-1

BA 7864.82, EO 7864.82: 2 A / AC 230 V IEC/EN 60947-5-1

Electrical life

To AC 15 at 3 A, AC 230 V

BA 7864.81, EO 7864.81: 1.5 x 10⁵ switch. cycl. IEC/EN 60947-5-1

To AC 15 at 2 A, AC 230 V

BA 7864.82, EO 7864.82: 1.5 x 10⁵ switch. cycl. IEC/EN 60947-5-1

Short circuit strength

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

Mechanical life: > 30 x 10⁵ switching cycles

Solid state output

BA 7864.91:

Triac
 Switching voltage: AC 12 ... 275 V
 Switching current: 4 A

BA 7864.95:

Transistor
 Switching voltage: DC 15 ... 30 V
 Switching current: 5 A

General Data

Operating mode: Continuous operation

Temperature range

Operation: - 25 ... + 60 °C

Storage: - 25 ... + 60 °C

Relative air humidity: 93% at 40 °C

Altitude: ≤ 2000 m

Clearance and creepage distances

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

EMC

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

HF irradiation

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

1 GHz ... 2 GHz: 12 V / m IEC/EN 61000-4-3

2 GHz ... 2.7 GHz: 12 V / m IEC/EN 61000-4-3

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

Surge voltages: 1 kV IEC/EN 61000-4-5

Interference suppression: Limit value class B EN 55011

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...55 Hz, IEC/EN 60068-2-6
 20 / 060 / 04 IEC/EN 60068-1

Climate resistance:

Wire connection:

BA 7864: 2 x 2.5 mm² solid or
 2 x 1.5 mm² stranded wire with sleeve
 DIN 46228-1/-2/-3/-4

EO 7864: Via plug-in-socket suitable to the
 11-pole socket according to
 IEC 67-1-18 a

Wire fixing:

Flat terminals with self-lifting
 clamping piece IEC/EN 60999-1
 0.8 Nm

Fixing torque:

Weight

BA 7864: 200 g

EO 7864: 110 g

Dimensions

Width x height x depth

BA 7864: 45 x 73 x 133 mm

EO 7864: 35 x 48 x 109 mm

Front-panel cut-out

EO 7864: 45^{+0.6} x 45^{+0.6} mm

Standard Types

BA 7864.81 AC/DC 24 V + AC 220 ... 240 V 640 s On / 640 s Off

Article number: 0032194

• Output: 1 changeover contact

• Nominal voltage U_N : AC/DC 24 V + AC 220 ... 240 V

• Time setting for impulse and space: 0.25 ... 640 s

• Width: 45 mm

EO 7864.82 AC/DC 24 V + AC 220 ... 240 V 640 m On / 640 m Off

Article number: 0032222

• Output: 2 changeover contacts

• Nominal voltage U_N : AC/DC 24 V + AC 220 ... 240 V

• Time setting for impulse and space: 0.25 ... 640 m

• Front size: 35 x 48 mm

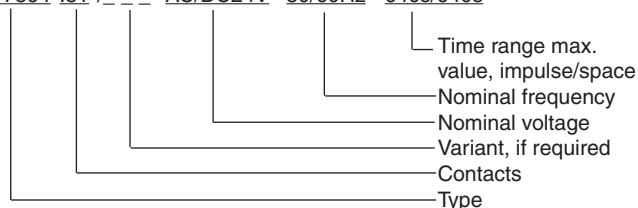
Variants

BA 7864. __ / 010: Start with space

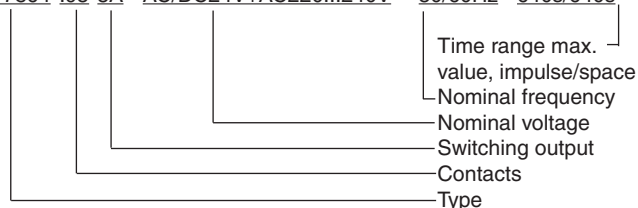
BA 7864.81/100: Programmable,
 start with space, when X3, X4 bridged

Ordering examples for variants

BA 7864 .81 / _ _ _ AC/DC24V 50/60Hz 640s/640s



BA 7864 .95 5A AC/DC24V+AC220...240V 50/60Hz 640s/640s

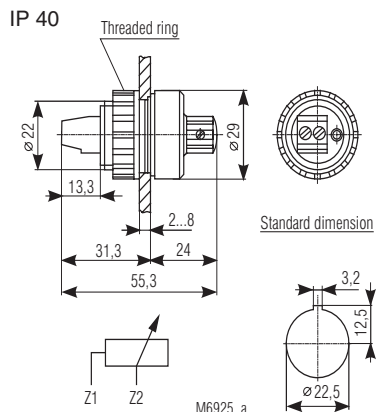


Accessories

For BA 7864.81:
AD 3:

Remote potentiometer 1 M Ω
Article number: 0004082

Degree of protection
Front side:



For EO-version:
For DIN rail mounting:
ET 4048-21:

Plug-in socket without fixing clamp
Article number: 0028049

ET 4048-22:

Plug-in socket with fixing clamp
Article number: 0028050

For flush mounting:
ET 4048-13:

Plug-in adapter
Article number: 0010784

ET 4048-3:

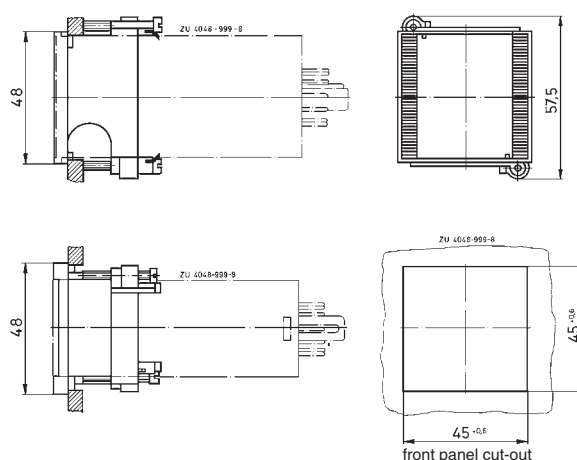
Front frame
Article number: 0004979

Accessories - Front frame ET 4048-3 -

48 x 48 mm with clamp screws.

Installation note: Insert the front frame without relay (acc. to DIN 43700) into the prepared 45 x 45^{+0,6} mm panel cut-out from the front. Insert the time relay also from up to the detend. Then tighten the clamping screws from behind.

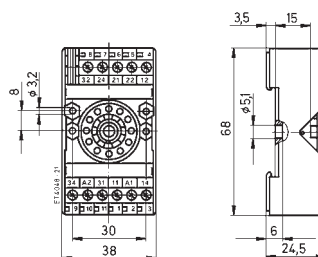
To disassemble, first loosen the clamping screws, then unscrew the latching fields with a screwdriver and simultaneously push the relay forward.



Accessories - Plug-in-sockets -

ET 4048-21: Without safety stirrup
ET 4048-22: With safety stirrup

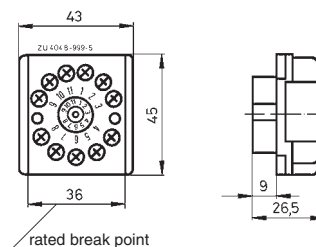
For surface mounting 11-pole acc. to IEC 67-1-18a with box terminals and captive screws suitable for connecting 2 conductors 2.5 mm² solid or 1.5 mm² stranded wire with sleeve. Large-area contact with the part is prevented in accordance with the requirements of the health and safety authorities VBG 4.



Accessories - Plug in adaptor ET 4048-13 -

11-pole, from PC

For installation into control panel. The plug-in adaptor is pushed onto the relay from the plug side and then enables wiring from the rear of the device.



Version with flat plugs on request.