

## 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

- According to IEC/EN 61 812-1
- 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

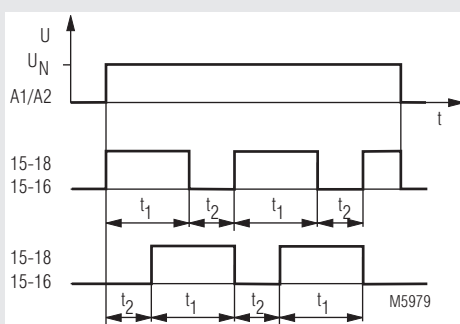
Red LED: On when operating voltage applied  
Green LED: On when output relay activated

### Notes

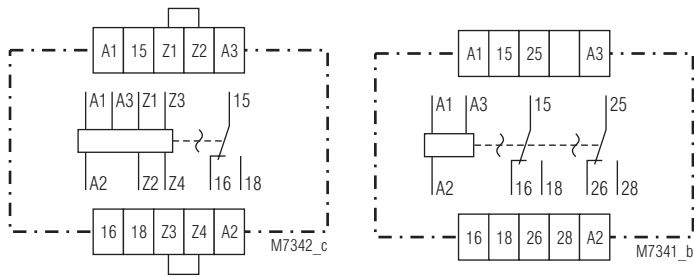
By an external bridge via terminals 6-7 of the plug-in-socket the EO 7864 can be programmed for the start with space.

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

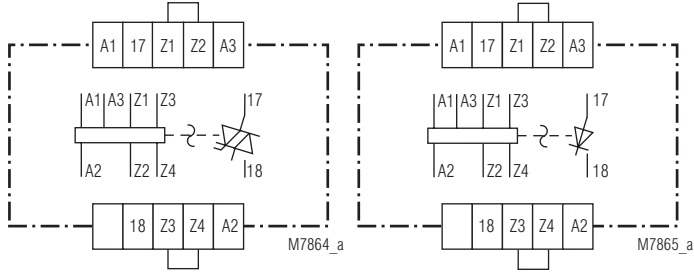


## Circuit Diagrams



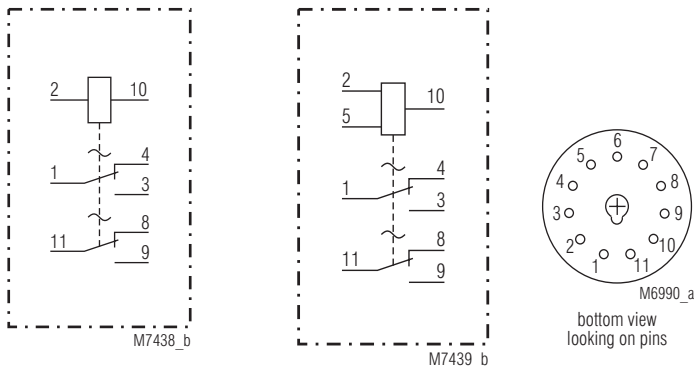
BA 7864.81

BA 7864.82



BA 7864.91

BA 7864.95



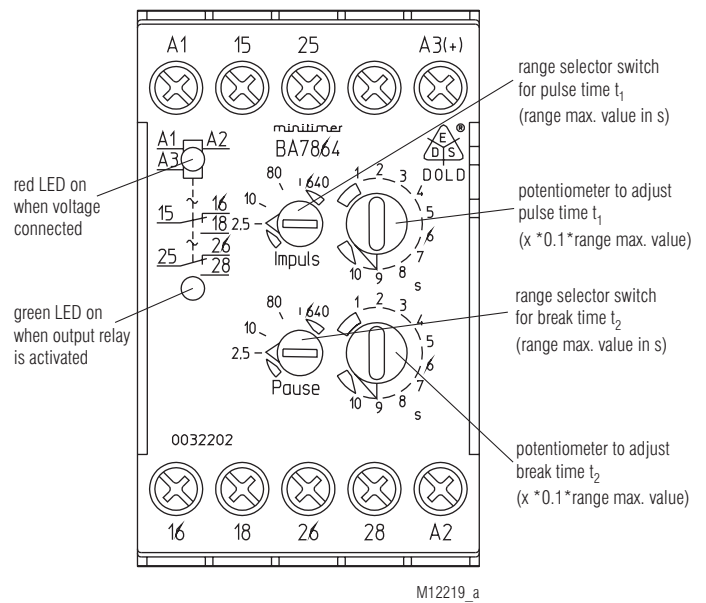
EO 7864.82  
(single-voltage version)

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 MΩ

(2 pieces, for impulse- and space time)

### Repeat accuracy:

< ± 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 24<sup>1)</sup> + AC 110 ... 127 V<sup>2)</sup>

AC/DC 24<sup>1)</sup> + AC 220 ... 240 V<sup>2)</sup>

<sup>1)</sup> to terminals A3-A2 or terminals 5-10

<sup>2)</sup> to terminals A1-A2 or terminals 2-10

### Voltage range

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

AC and DC (residual ripple ≤ 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:	1 changeover contact
BA 7864.82:	2 changeover contacts
EO 7864.81:	1 changeover contact
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: 5 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: 1.5 x 10<sup>5</sup> switching cycles

#### Short circuit strength

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

**Mechanical life:** > 30 x 10<sup>6</sup> switching cycles

### Solid state output

#### BA 7864.91:

Switching voltage: AC 12 ... 275 V

Switching current: 4 A

#### BA 7864.95:

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

**Climate resistance:** 20 / 060 / 04 IEC/EN 60068-1

#### Wire connection:

BA 7864: 2 x 2.5 mm<sup>2</sup> solid or 2 x 1.5 mm<sup>2</sup> 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

#### Fixing torque:

0.8 Nm

#### 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<sup>+0.6</sup> x 45<sup>+0.6</sup> 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

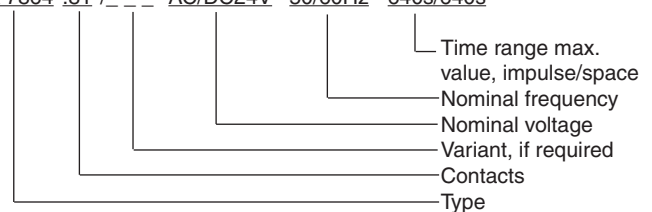
## Variants

BA 7864. \_\_ /010: Start with space

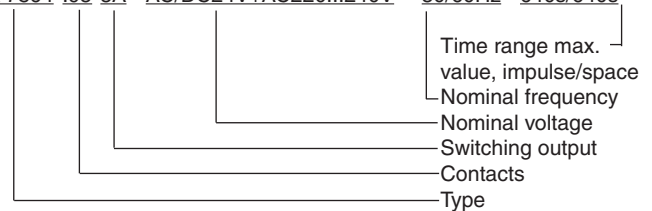
BA 7864.81/100: Programmable, start with space, when X3, X4 bridged

## 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

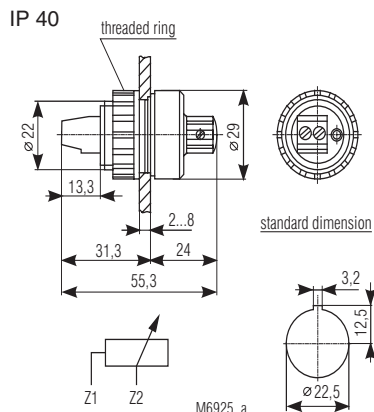


## Accessories

For BA 7864.81:  
AD 3:

Remote potentiometer 1 M $\Omega$   
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:

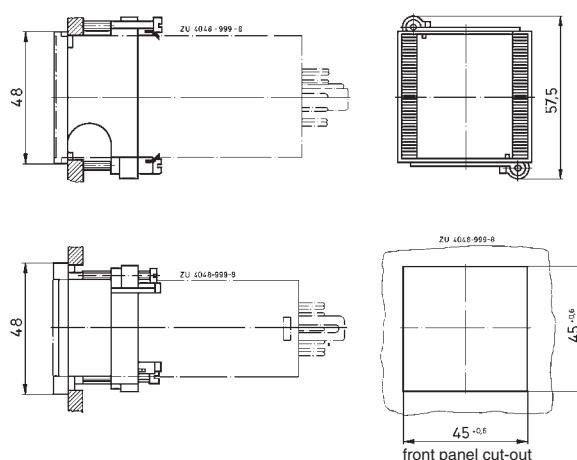
Front frame  
Article number: 0004979

## 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<sup>+0,6</sup> mm panel cut-out from the front. Insert the time relay also from up to the detend. Then tighten the clamping screws from behind.

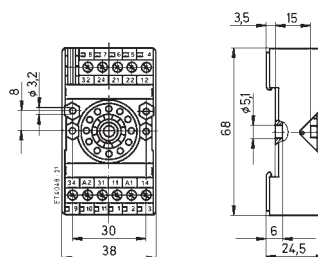
To disassemble, first loosen the clamping screws, then unscrew the latching fields with a screwdriver and simultaneously push the relay forward.



## Accessories - Plug-in-sockets -

ET 4048-21: without safety stirrup  
ET 4048-22: with safety stirrup

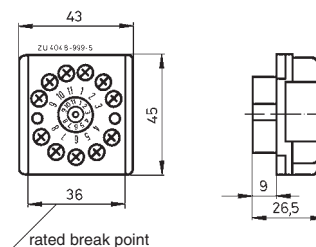
For surface mounting 11-pole acc. to IEC 67-1-18a with box terminals and captive screws suitable for connecting 2 conductors 2.5 mm<sup>2</sup> solid or 1.5 mm<sup>2</sup> stranded wire with sleeve. Large-area contact with the part is prevented in accordance with the requirements of the health and safety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