

Time Control Technique

MINITIMER

Timer, Off-delay

AA 7666, EC 7666, EF 7666, EH 7666

Translation
of the original instructions



- OFF-delay relay with control signal according to EN 61812-1
- Delay up to 60 h
- 6 time ranges on one unit, adjustable at front side
- Repeat accuracy $\leq \pm 0.5\%$
- ($\leq \pm 1\%$ for the range 3 and 6 s)
- Time lapse display
- Switching position display (except for EH 7666)
- With instantaneous contact
- No voltage safe
- EF 7666: Front side protected against beam water, IP 65
- AA 7666: Width 45 mm
- EC 7666: Front size 48 x 72 mm
- EF 7666: Front size 72 x 72 mm
- EH 7666: Front size 96 x 96 mm

Approvals and Markings



Applications

Time dependent controls

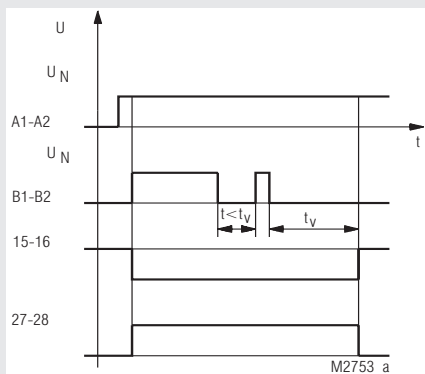
Indicators

- | | |
|---------------------|--|
| Time display: | Via red pointer at scale of the device |
| Switching position: | Red sign when NO contacts are closed (not for EH 7666) |
| Time range display: | Final scale value in a window |

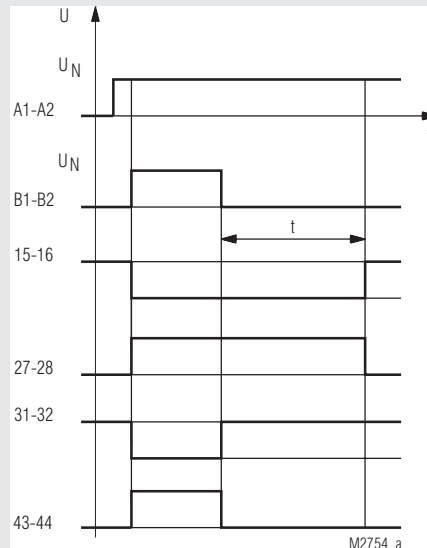
Notes

The frequency changing switch 50 / 60 Hz is located on the bottom side of the unit.

Function Diagrams

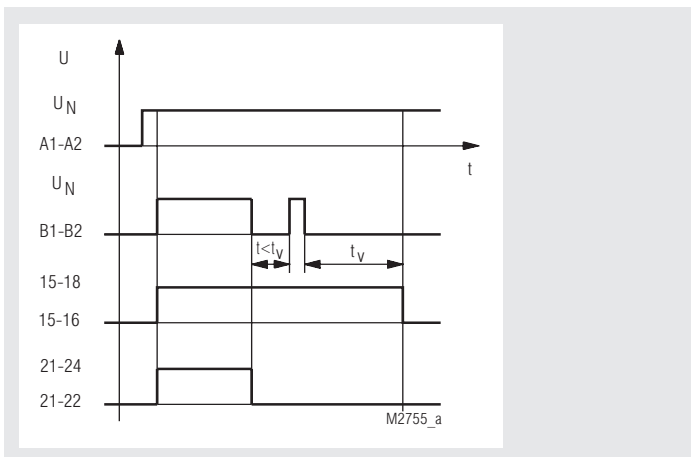


AA 7666.21, EC 7666.21, EH 7666.21



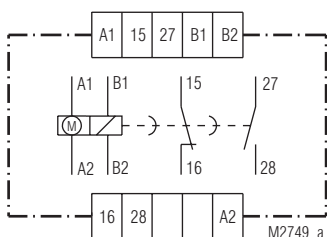
EF 7666.24

Function Diagram

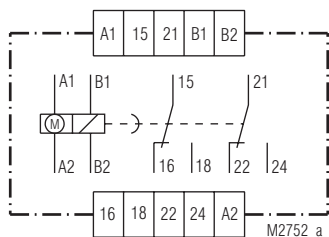


AA 7666.32, EF 7666.32

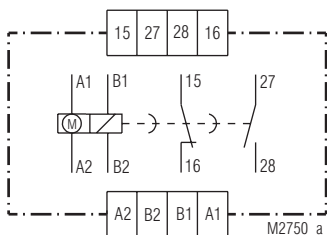
Circuit Diagrams



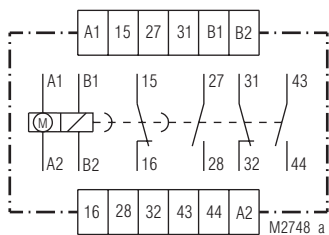
AA 7666.21



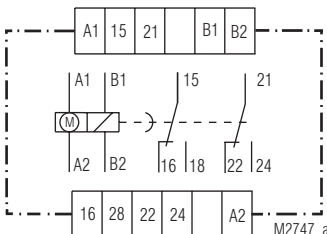
AA 7666.32



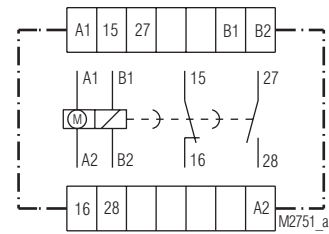
EC 7666.21



EF 7666.24



EF 7666.32



EH 7666.21

Connection Terminals

Terminal designation	Signal description
A1, A2	Operating voltage U_N
B1, B2	Control voltage U_N
15, 16	NC contact, delayed
27, 28	NO contact, delayed
31, 32	NC contact, instantaneous
33, 34; 43, 44	NO contact, instantaneous
15, 16, 18	C/O delayed
21, 22, 24	C/O contact instantaneous

Technical Data

Time circuit

Time ranges:

6-range models
 0.15 ... 3 s 1.5 ... 30 s 15 ... 300 s
 0.4 ... 10 s 4 ... 100 s 40 ... 1000 s
 or
 0.15 ... 3 s 0.15 ... 3 min 0.15 ... 3 h
 1.5 ... 30 s 1.5 ... 30 min 1.5 ... 30 h
 or
 0.2 ... 6 s 0.2 ... 6 min 0.2 ... 6 h
 2 ... 60 s 2 ... 60 min 2 ... 60 h

Time setting:

Infinite with black (white) setting pointer on absolute scale

Recovery time:

< 150 ms

Repeat accuracy:

$\leq \pm 0.5\%$ of max. scale value
 (at 3 and 6 s $\pm 1\%$)

EH 7666, DC-version:

$\leq \pm 3\%$ of the max. scale value

Input

Nominal voltage U_N :

AC 24, 110, 230, 240 V

Special voltages

AA 7666:

AC 12, 400, 415 V

EH 7666:

DC 12, 24, 48, 60 V

Voltage range:

0.8 ... 1.1 U_N

Nominal consumption:

AC 7 VA

DC 12 V 5 W

DC 24 V 5 W

DC 48 V 7 W

Nominal frequency:

50 / 60 Hz to e selected

Frequency range:

$\pm 5\%$ f_N

Frequency influence:

Reverse proportional

Output

Contacts

AA 7666.21,

EC 7666.21,

EF 7666.21,

EH 7666.21:

1 NC contact, delayed

1 NO contact, delayed

EF 7666.24:

1 NO contact, instantaneous

1 NC contact, instantaneous

1 NC contact, delayed

1 NO contact, delayed

EF 7666.32:

1 changeover contact, delayed

1 changeover contact, instantaneous

Contact material:

AgNi + 0.2 μ m Au

Measured nominal voltage:

AC 250 V

Operate time of contacts:

< 35 ms

Release time:

< 60 ms

Thermal current I_{th} :

4 A

Switching capacity

To AC 15:

3 A / AC 230 V

IEC/EN 60947-5-1

Electrical life

To AC 15 at 3 A, AC 230 V:

1 x 10⁵ switching cycles

To AC 15 at 1 A, AC 230 V:

5 x 10⁵ switching cycles

IEC/EN 60947-5-1

Permissible switching frequency:

3000 switching cycles / h

Short circuit strength

Max. fuse rating:

10 A gG / gL IEC/EN 60947-5-1

Mechanical life:

> 30 x 10⁶ switching cycles or

> 15000 h

Technical Data

General Data

Operating mode: Continuous operation

Temperature range

Operation: - 20 ... + 55 °C

Storage: - 20 ... + 65 °C

Altitude: ≤ 2000 m

Clearance and creepage distances

Rated impulse voltage /
pollution degree

Inputs: 4 kV / 2 IEC 60664-1

In-/output: 4 kV / 2 IEC 60664-1

EMC

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

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

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

Surge voltages

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

Degree of protection: IEC/EN 60529

AA 7666:

Housing: IP 40

Terminals: IP 20

EC 7666, EH 7666:

Housing-front: IP 40

Housing: IP 30

Terminals: IP 10

EF 7666:

Housing-front: IP 65

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 / 055 / 04; A/B/C IEC/EN 60068-1

Climate resistance: DIN 46199-5

Terminal arrangement: 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

AA 7666: DIN rail IEC/EN 60715

EC 7666, EF 7666, EH 7666: Flush mounting

Weight

AA 7666: 320 g

EC 7666: 320 g

EF 7666: 400 g

EH 7666: 450 g

Dimensions

Width x height x depth

AA 7666: 45 x 77 x 127 mm

EC 7666: 48 x 72 x 120 mm

EF 7666: 72 x 72 x 128 mm

EH 7666: 96 x 96 x 138 mm

Front panel cut-out

EC 7666: 44 x 67 mm

EF 7666: 67 x 67 mm

EH 7666: ø 91⁺¹ mm

Front surface

EC 7666: 48 x 72 mm

EH 7666: 72 x 72 mm

EH 7666: 96 x 96 mm

Standard Type

AA 7666.32 AC 230 V 50/60 Hz 0.15 s ... 30 h

Article number: 0025127

• Time range: 0.15 s ... 30 h

• Nominal voltage U_N: AC 230 V

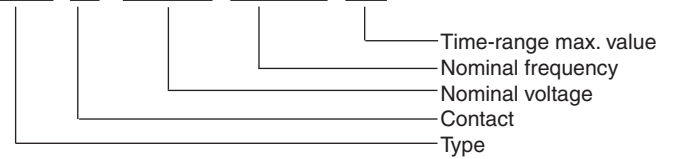
• Output: 1 changeover contact, delayed

1 changeover contact, instantaneous

• Width: 45 mm

Ordering Example

AA 7666 .32 AC 230 V 50 / 60 Hz 30 h



Accessories

For EC 7666:

ZS 700.06: Lockable cover
Article number: 0004057

ET 7001.407.034: Plug-in-socket for EC 7666.21
Article number: 0004072

For EF 7666:

ZS 700.07: Lockable cover
Article number: 0004058

ET 7616-0-22: Sealing ring for sealing
at the front side
Article number: 0045909

