MINITIMER
Timer, Release Delayed
AA 7666, EC 7666, EF 7666, EH 7666

0227770



AA 7666



EC 7666



EF 7666



EH 7666

- According to IEC/EN 61 812-1
- Delay up to 60 h
- 6 time ranges on one unit, adjustable at front side
- Repeat accuracy ≤ ± 0.5 %
  (≤ ± 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

CE

Applications

Time dependent controls

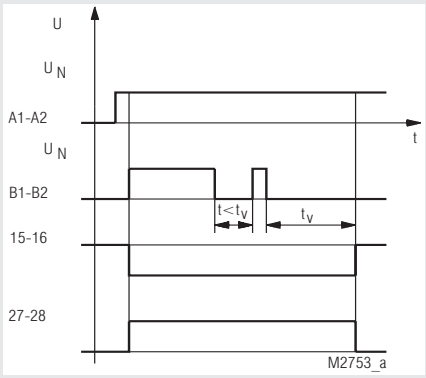
Indicators

Time display:	via red pointer at scale of the device
Switching position:	red sign when NO contacts are closed (not for EH 76669
Time range display:	final scale value in a window

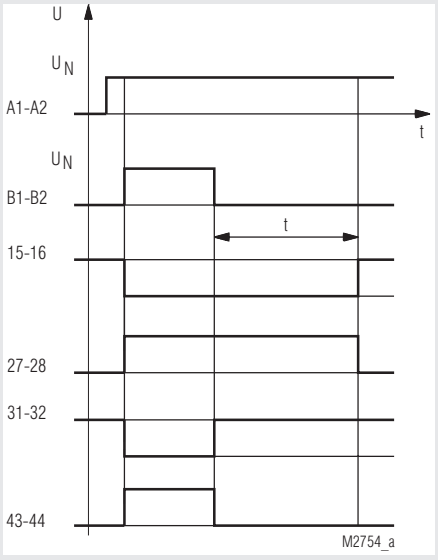
Notes

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

Function Diagrams

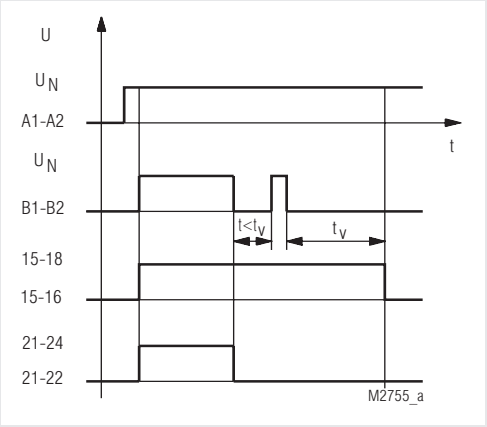


AA 7666.21, EC 7666.21, EH 7666.21



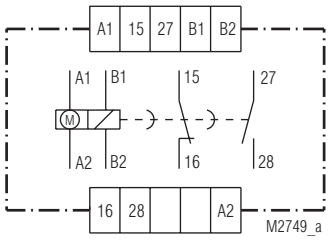
EF 7666.24

Function Diagram

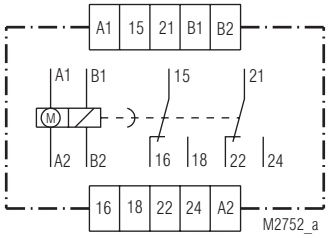


AA 7666.32, EF 7666.32

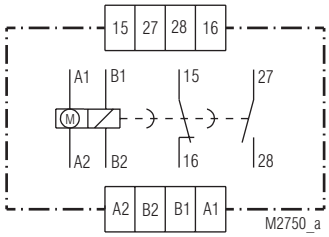
Circuit Diagrams



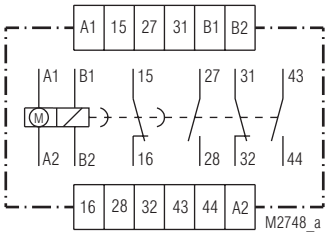
AA 7666.21



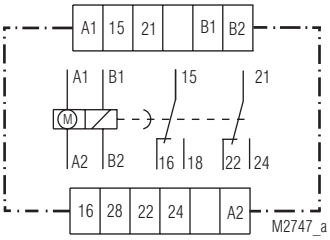
AA 7666.32



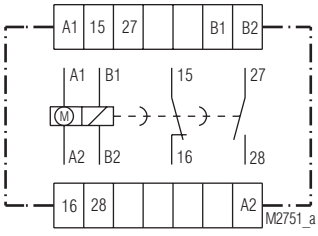
EC 7666.21



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:	≤ ± 0.5 % of max. scale value (at 3 and 6 s ≤ ± 1 %)
EH 7666, DC-version:	≤ ± 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:	± 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 µm 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 60 947-5-1
Electrical life	IEC/EN 60 947-5-1
to AC 15 at 3 A, AC 230 V:	1 x 10^5 switching cycles
to AC 15 at 1 A, AC 230 V:	5 x 10^5 switching cycles
Permissible switching frequency:	3 000 switching cycles / h
Short circuit strength max. fuse rating:	10 A gG / gL IEC/EN 60 947-5-1
Mechanical life:	> 30 x 10^6 switching cycles or > 15 000 h

Technical Data

General Data

Operating mode:	Continuous operation	
Temperature range		
Operation:	- 20 ... + 55 °C	
Storage:	- 20 ... + 65 °C	
Altitude:	< 2,000 m	
Clearance and creepage distances		
rated impulse voltage / pollution degree		
inputs:	4 kV / 2	IEC 60 664-1
in-/output:	4 kV / 2	IEC 60 664-1
EMC		
Electrostatic discharge:	8 kV (air)	IEC/EN 61 000-4-2
HF irradiation:	10 V/m	IEC/EN 61 000-4-3
Fast transients:	4 kV	IEC/EN 61 000-4-4
Surge voltages between		
wires for power supply:	2 kV	IEC/EN 61 000-4-5
between wire and ground:	4 kV	IEC/EN 61 000-4-5
HF-wire guided:	10 V	IEC/EN 61 000-4-6
Interference suppression:	Limit value class B	EN 55 011
Degree of protection:		IEC/EN 60 529
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 60 068-2-6
Climate resistance:	20 / 055 / 04; A/B/C	IEC/EN 60 068-1
Terminal arrangement:	DIN 46 199-5	
Terminal designation:	EN 50 005	
Wire connection:	2 x 2.5 mm^2 solid or 2 x 1.5 mm^2 stranded wire with sleeve DIN 46 228-1/-2/-3/-4	
Wire fixing:	Flat terminals with self-lifting clamping piece	IEC/EN 60 999-1
Fixing torque:	0.8 Nm	
Mounting		
AA 7666:	DIN rail	IEC/EN 60 715
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

- 30 h — Time-range max. value
- 50 / 60 Hz — Nominal frequency
- AC 230 V — Nominal voltage
- .32 — Contact
- AA 7666 — Type

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