

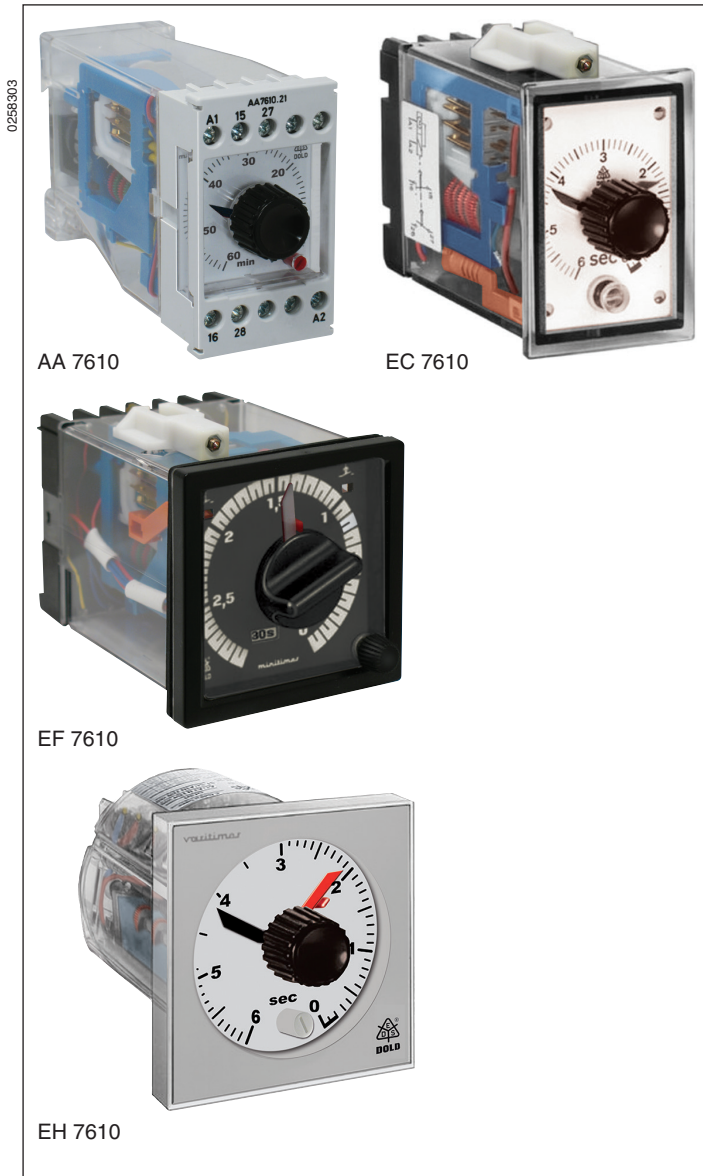
Time Control Technique

MINITIMER

Timer, On-delay

AA 7610, EC 7610, EF 7610, EH 7610

Translation
of the original instructions



- Power ON-delay relay according to EN 61812-1
- Delay up to 60 h
- Repeat accuracy $\leq \pm 0.5\%$
($\leq \pm 1\%$ at range 6 s)
- Time display
- Delayed and instantaneous contact
- As option no-voltage safe version
- AA 7610: 45 mm
- EC 7610: front surface 48 x 72 mm
- EF 7610: front surface 72 x 72 mm
- EH 7610: front surface 96 x 96 mm

Approvals and Markings



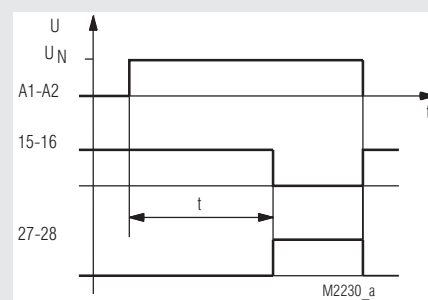
Applications

Time dependent controls

Indicators

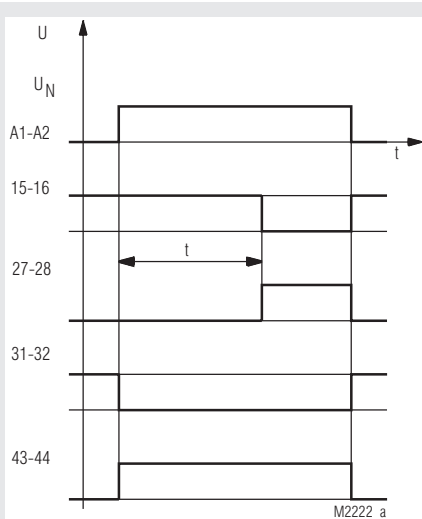
Time display: via red pointer at device-scale
Switch position display: via sign

Function Diagram

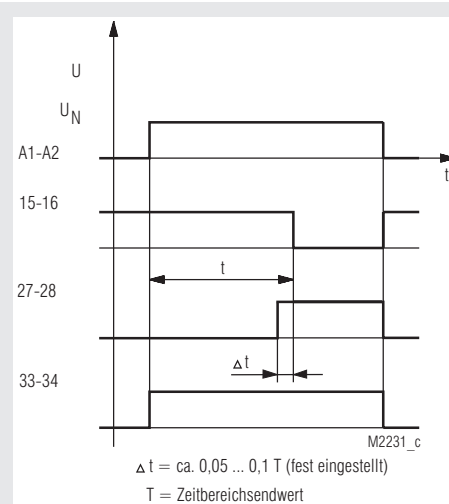


AA 7610.21

Function Diagram

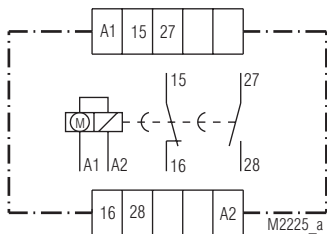


EF 7610.24

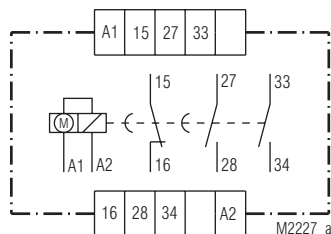


AA 7610.22/034

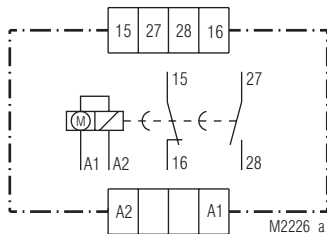
Circuit Diagrams



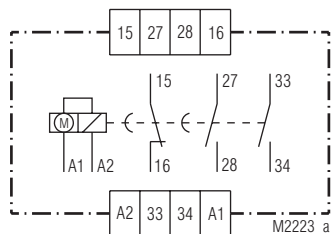
AA 7610.21



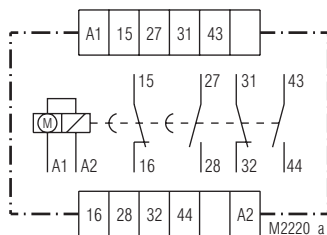
AA 7610.22/034



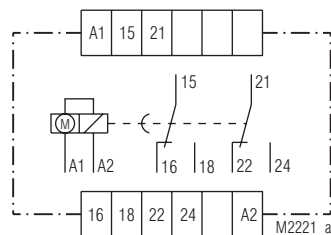
EC 7610.21



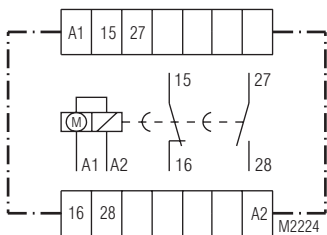
EC 7610.22/034



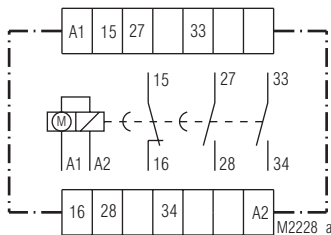
EF 7610.24



EF 7610.32



EH 7610.21



EH 7610.22/034

Connection Terminals

Terminal designation	Signal description
A1, A2	Control- / operating 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:

0.2 ... 6 s
2 ... 60 s
0.2 ... 6 min
2 ... 60 min
0.2 ... 6 h
2 ... 60 h

Time setting:

infinite via black setting pointer on absolute scale

Recovery time:

< 150 ms

Repeat accuracy:

< $\pm 0.5\%$ of the max. scale value
($\pm 1\%$ at range 6 s)

Input

Nominal voltage U_N :

AC 24, 110, 230, 240 V

Voltage range:

0.8 ... 1.1 U_N

Nominal consumption:

5 VA

Nominal frequency:

50 / 60 Hz

Frequency range:

$\pm 5\%$

Output

Contacts

AA 7610.21, EC 7610.21,
EH 7610.21:

1 NC contact, delayed
1 NO contact, delayed

AA 7610.22, EC 7610.22,
EF 7610.22, EH 7610.22:

1 NC contact, delayed
1 NO contact, delayed
1 NO contact, instantaneous

AA 7610.24, EF 7610.24,
EH 7610.24:

1 NC contact, delayed
1 NO contact, delayed
1 NC contact, instantaneous
1 NO contact, instantaneous

EC 7610.32, EF 7610.32:

1 C/O contact, delayed
1 C/O 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
(10 A at 20°C and U_N)

Switching capacity

to AC 15:

3 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 x 10⁵ switching cycles

to AC 15 at 1 A, AC 230 V:

5 x 10⁵ switching cycles

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

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:

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

Technical Data	
Degree of protection:	IEC/EN 60529
EC 7610, EF 7610, EH 7610:	
Housing -front side:	IP 40
Housing:	IP 30
Klemmen:	IP 10
AA 7610:	
Housing:	IP 40
Terminals:	IP 20
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:	EN 50005
Terminal designation:	
Wire connection:	2 x 2.5 mm ² solid or 2 x 1.5 mm ² 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 7610:	DIN rail IEC/EN 60715
Flush mounting	
EC 7610, EF 7610, EH 7610:	2 clamps with screws
Weight:	
AA 7610:	320 g
EC 7610:	320 g
EF 7610:	400 g
EH 7610:	460 g

Dimensions

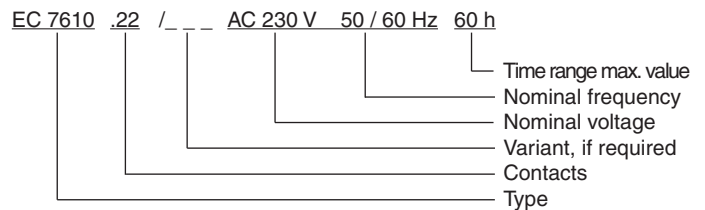
Width x height x depth	
AA 7610:	45 x 77 x 125 mm
EC 7610:	48 x 72 x 120 mm
EF 7610:	72 x 72 x 128 mm
EH 7610:	96 x 96 x 138 mm
Front panel cut-out	
EC 7610:	44 x 67 mm
EF 7610:	67 x 67 mm
EH 7610:	ø 91 ⁺¹ mm

Standard Type	
AA 7610.21 AC 230 V 50/60 Hz 60 min	
Article number:	0000661
• Output:	1 NC contact, delayed 1 NO contact, delayed
• Nominal voltage U _N :	AC 230 V
• Time range:	2 ... 60 min
• Width:	45 mm

Variants

AA 7610.22/034:	With pre contact: delayed, closing
EC 7610.22/034:	With pre contact: delayed, closing
EF 7610.32/100:	No-voltage safe
EH 7610.22/034:	With pre contact: delayed, closing

Ordering example for variants



Accessories

for EC 7610:	
ZS 700.06:	Lockable cover Article number: 0004057
ET 7001.407.034:	Plug-in-socket for EC 7610.21 Article number: 0004072
for EF 7610:	
ZS 700.07:	Lockable cover Article number: 0004058
ET 7616-0-22:	Sealing ring for sealing at the front side Article number: 0045909

