

## MINITIMER Timer, On-delay AA 7610, EC 7610, EF 7610

Translation  
of the original instructions



### Your advantages

- Higher safety when connecting system parts during the start-up phase
- High repeat accuracy
- Large setting range
- Simple unit setting
- Purely mechanical timing

### Features

- 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

### Approvals and Markings



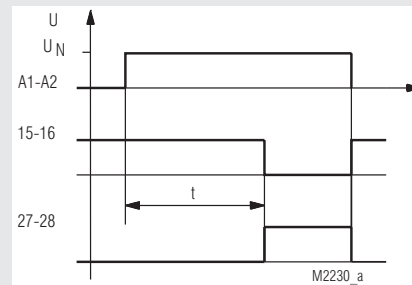
### Applications

Time dependent controls

### Indicators

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

### Function Diagram

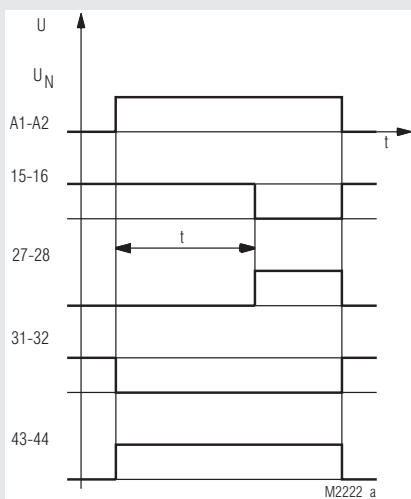


AA 7610.21

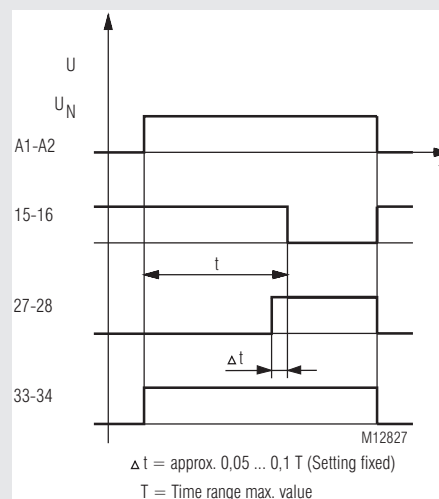
### Product Description

The AA 7610, EC 7610 and EF 7610 time relays are suitable for switching devices and controls with a pre-programmed response delay. These time relays can be used, for example, to take into account the individual start-up behaviour of system components such as the starting of motors. The delay times can be set easily and over large setting ranges via the infinitely variable rotary switches.

### Function Diagram

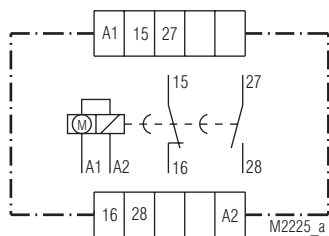


EF 7610.24

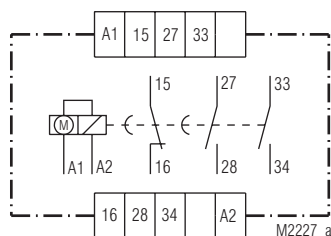


AA 7610.22/034

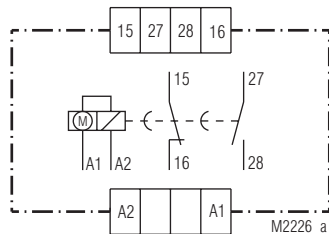
## Circuit Diagrams



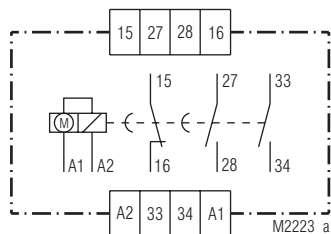
AA 7610.21



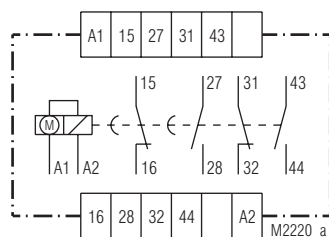
AA 7610.22/034



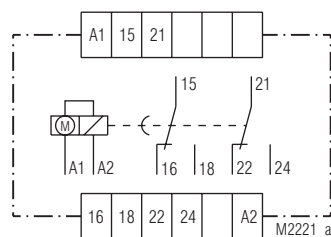
EC 7610.21



EC 7610.22/034



EF 7610.24



EF 7610.32

## 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: 1 NC contact, delayed  
 1 NO contact, delayed

AA 7610.22, EC 7610.22, EF 7610.22: 1 NC contact, delayed  
 1 NO contact, delayed  
 1 NO contact, instantaneous

AA 7610.24, EF 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  $\mu\text{m}$  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 10<sup>5</sup> switching cycles

To AC 15 at 1 A, AC 230 V: 5 x 10<sup>5</sup> 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 10<sup>6</sup> 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

<b>Degree of protection:</b> EC 7610, EF 7610:	IEC/EN 60529
Housing -front side:	IP 40
Housing:	IP 30
Terminals:	IP 10
AA 7610:	
Housing:	IP 40
Terminals:	IP 20
<b>Housing:</b>	Thermoplast with V0-behaviour according to UL Subject 94
<b>Vibration resistance:</b>	Amplitude 0.35 mm frequency 10...55Hz, IEC/EN 60068-2-6 20 / 055 / 04; A/B/C IEC/EN 60068-1 EN 50005
<b>Climate resistance:</b>	
<b>Terminal designation:</b>	EN 50005
<b>Wire connection:</b>	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
<b>Wire fixing:</b>	Flat terminals with self-lifting clamping piece IEC/EN 60999-1 0.8 Nm
<b>Fixing torque:</b>	
<b>Mounting</b>	
AA 7610:	DIN rail IEC/EN 60715
<b>Flush mounting</b>	
EC 7610, EF 7610:	2 clamps with screws
<b>Weight:</b>	
AA 7610:	320 g
EC 7610:	320 g
EF 7610:	400 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

### Front panel cut-out

EC 7610:	44 x 67 mm
EF 7610:	67 x 67 mm

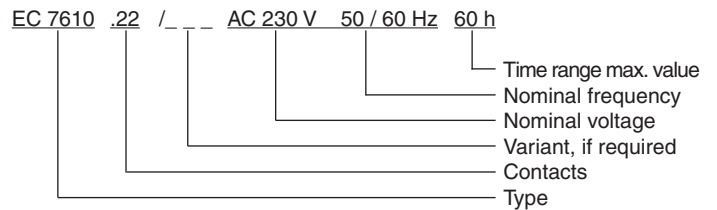
## Standard Type

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

## Ordering example for variants



## Accessories

### For EC 7610:

ZS 700.06:	Lockable cover Article number: 0004057
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ET 7001.407.034:	Plug-in-socket for EC 7610.21 Article number: 0004072
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### For EF 7610:

ZS 700.07:	Lockable cover Article number: 0004058
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ET 7616-0-22:	Sealing ring for sealing at the front side Article number: 0045909
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