

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

Translation
of the original instructions



Your advantages

- 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

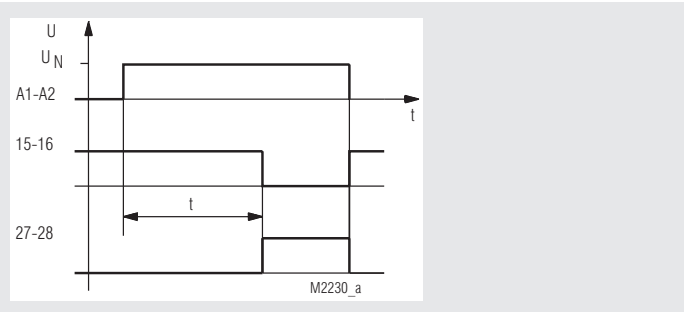
Time display: Via red pointer at device-scale
Switch position display: Via sign



Product Description

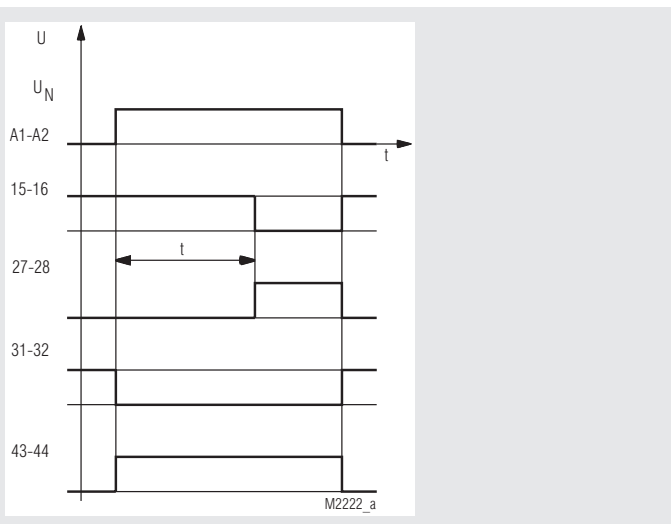
The AA 7610, EC 7610 and EF 7610 time relays from the MINITIMER series are suitable for switching devices and controls with a pre-programmed response delay. These time relays can be used, for example, to take into account the individual start-up behaviour of system components such as the starting of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

Function Diagram

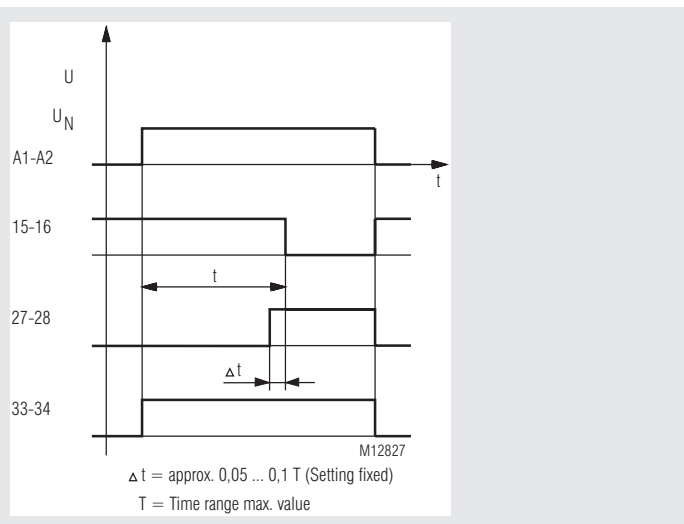


AA 7610.21

Function Diagram

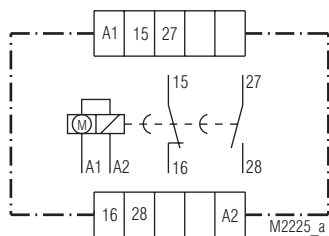


EF 7610.24

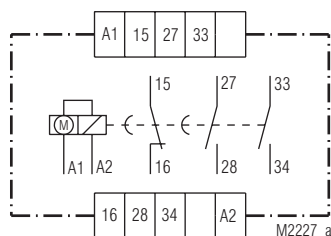


AA 7610.22/034

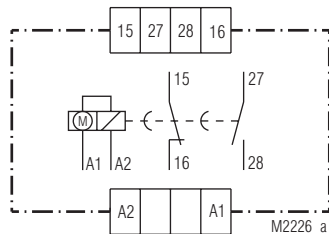
Circuit Diagrams



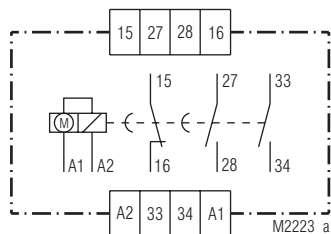
AA 7610.21



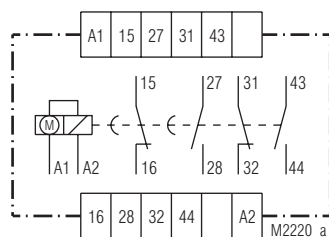
AA 7610.22/034



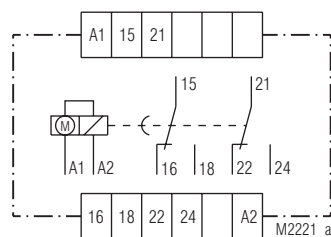
EC 7610.21



EC 7610.22/034



EF 7610.24



EF 7610.32

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 μm 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 ⁵ switching cycles
To AC 15 at 1 A, AC 230 V:	5 x 10 ⁵ 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 ⁶ 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:	
Housing -front side:	IP 40
Housing:	IP 30
Terminals:	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 EN 50005
Climate resistance:	
Terminal designation:	EN 50005
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 0.8 Nm
Fixing torque:	
Mounting	
AA 7610:	DIN rail IEC/EN 60715
Flush mounting	
EC 7610, EF 7610:	2 clamps with screws
Weight:	
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

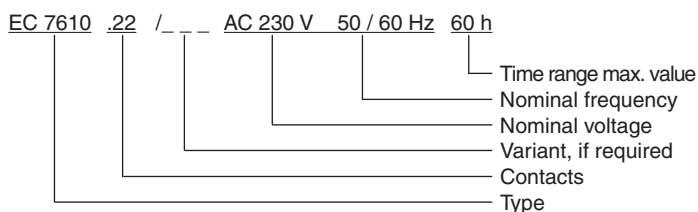
Standard Type

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
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

Safety Notes



Risk of electrocution! Danger to life or risk of serious injuries.

- Disconnect the system and device from the power supply and ensure they remain disconnected during electrical installation.
- The device may only be used for the applications described in the mutually applicable operating instructions / data sheet. The notes in the respective documentation must be heeded. The permissible ambient conditions must be observed.
- Note the VDE and local regulations, particularly those related to protective measures.



Risk of fire or other thermal hazards! Danger to life, risk of serious injuries or property damage.

- The device may only be used for the applications described in the mutually applicable operating instructions / data sheet. The notes in the respective documentation must be heeded. The permissible ambient conditions must be observed. In particular, the current limit curve must be heeded.
- The device may only be installed and put into operation by experts who are familiar with this technical documentation and the applicable health and safety and accident prevention regulations.



Functional error! Danger to life, risk of serious injuries or property damage.

- The device may only be used for the applications described in the mutually applicable operating instructions / data sheet. The notes in the respective documentation must be heeded. The permissible ambient conditions must be observed.
- The device may only be installed and put into operation by experts who are familiar with this technical documentation and the applicable health and safety and accident prevention regulations.



Attention!

- Disposal!
The device must be disposed of in compliance with nationally applicable rules and requirements.

