

Time Control Technique

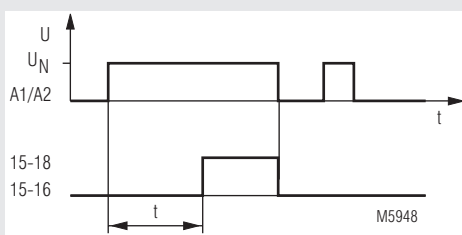
MINITIMER

Digital Time Relay, on delayed
EC 9621



- According to IEC/EN 61812-1
- For delay up to 99.99 h
- Repeat accuracy $< \pm 0.5\%$
- LED indicators for power supply and state of contact
- As option with time progression indication
- As option 1 or 2 changeover contacts or semiconductor outputs
- 48 x 72 mm front surface

Function Diagram



Approvals and Markings



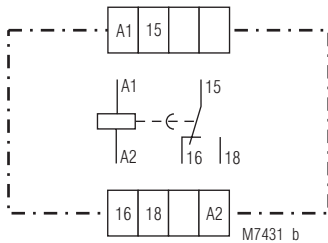
Applications

Time dependent controls

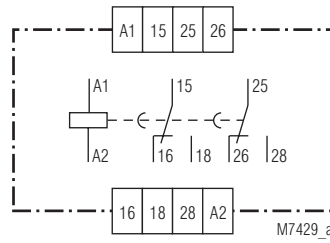
Indicators

LED left: On when supply connected
LED right: On, when corresponding output relay is active

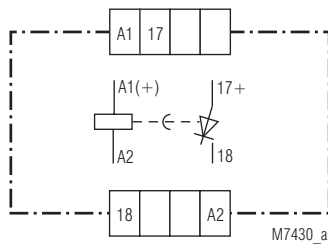
Circuit Diagrams



EC 9621.81



EC 9621.82



EC 9621.95

Connection Terminals

Terminal designation	Signal description
A1	Auxiliary voltage AC/DC (+)
A2	Auxiliary voltage AC/DC (0 V)
15, 16, 18	Relay output 1
25, 26, 28	Relay output 2
17, 18	Semiconductor output

Technical Data

Time circuit

Time range:	2 decades
	0.01 ... 0.99 s
	0.1 ... 9.9 s
	1 ... 99 s
	0.1 ... 9.9 min
	1 ... 99 min
	0.1 ... 9.9 h
	1 ... 99 h
	4 decades
	0.001 ... 9.999 s
	0.01 ... 99.99 s
	0.1 ... 999.9 s
	0.01 ... 99.99 min
	0.1 ... 999.9 min
	0.01 ... 99.99 h
Time setting:	Digital on decaded pre-selection switch
Recovery time:	20 ms
Repeat accuracy:	≤ ± 0.5 % of full scale value
Temperature and voltage influence:	Max. ± 0.025 % of the pre-selected time over the complete temperature and voltage range

Auxiliary voltage

Nominal voltage U_N:	AC 24, 42, 110, 127, 230, 240 V
	DC 24 V
Voltage range:	0.8 ... 1.1 U_N
Nominal consumption:	AC 3 VA
	DC 1.5 W
Nominal frequency:	50 / 60 Hz
Frequency range:	± 5 %

Output

Contacts	1 changeover contact
EC 9621.81:	1 changeover contact
Thermal current I_{th}:	10 A
Switching capacity	
to AC 15	
NO contact:	3 A / AC 230 V IEC/EN 60947-5-1
NC contact:	3 A / AC 230 V IEC/EN 60947-5-1
Electrical life	
to AC 15:	2 x 10 ⁵ switching cycles
Mechanical life:	30 x 10 ⁶ switching cycles
Permissible switching frequency:	20 switching cycles / 5

Contacts	2 changeover contacts
EC 9621.82:	2 changeover contacts
Thermal current I_{th}:	5 A
Switching capacity	
to AC 15	
NO contact:	2 A / AC 230 V IEC/EN 60947-5-1
NC contact:	1 A / AC 230 V IEC/EN 60947-5-1
Electrical life	
to AC 15:	1.5 x 10 ⁵ switching cycles
Mechanical life:	50 x 10 ⁶ switching cycles
Permissible switching frequency:	20 switching cycles / 5

Contacts	Semiconductor
EC 9621.95:	Semiconductor
Max. switching voltage:	DC 14 ... 31.2 V
Thermal current I_{th}:	DC 130 mA
Voltage drop:	DC 1.5 V
Max. residual current:	< 0.1 mA
Permissible switching frequency:	6000 switching cycles / h
Short circuit strength max. fuse rating:	4 A gG / gL IEC/EN 60947-5-1

Technical Data

General Data

Nominal operating mode:	Continuous operation
Temperaturre range	
Operation:	- 20 ... + 60 °C
Storage:	- 25 ... + 75 °C
Clearance and creepage distance	
rated impulse voltage / pollution degree:	4 kV / 2 IEC 60664-1
EMC	
Electrostatic discharge (ESD):	6 kV (air) IEC/EN 61000-4-2
HF irradiation	
80 MHz ... 1.0 GHz	12 V / m IEC/EN 61000-4-3
1.0 GHz ... 2.5 GHz	10 V / m IEC/EN 61000-4-3
2.5 GHz ... 2.7 GHz	10 V / m IEC/EN 61000-4-3
Fast transients:	4 kV IEC/EN 61000-4-4
Surge voltage	
between	
wires for power supply:	2 kV IEC/EN 61000-4-5
between wire and ground:	4 kV IEC/EN 61000-4-5
Interference suppression:	Limit value class B EN 55011
Degree of protection:	
Housing:	IP 40 IEC/EN 60529
Terminals:	IP 20 IEC/EN 60529
Enclosure:	Thermoplastic with VO behaviour according to UL Subject 94
Vibration resistance:	Amplitude 0.35 mm IEC/EN 60068-2-6
	Frequency: 10 ... 55 Hz
Climate resistance:	20 / 060 / 04 IEC/EN 60068-1
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 46288-1/-2/-3/-4
Wire fixing:	Flat terminals with self-lifting clamping piece IEC/EN 60999-1
Weight:	260 g

Dimensions

Width x height x depth:	48 x 72 x 120 mm
Front panel cut-out:	44 x 67 mm

Standard Type

EC 9621.81/03	AC 230 V	50 / 60 Hz	99 h
Article number:	0006477		
• Output:	1 changeover contact		
• Nominal voltage U_N :	AC 230 V		
• Set time delay:	99 h		
• Front surface:	48 x 72 mm		

Variants

EC 9621. __ /03:	Time progression indication with 10-level LED chain
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Ordering example for variants

EC 9621 .81 / _ _ AC 230 V 50 / 60 Hz 99 h	
	Set time delay
	Nominal frequency
	Nominal voltage
	Variant, if required
	Contacts
	Type

Accessories

ET 7001.404.034:	Plug-in-socket for digital-time-relays EC 9621.81, EC 9621.82 Article number: 007000
ET 9620-11:	Plug-in-socket for digital-time-relays EC 9621.95 Article number: 0020444
ZS 700.06:	Cover Article number: 0004057