

Time Control Technique

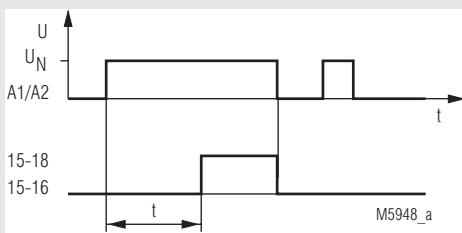
MINITIMER
Timer, On-delay
BC 7930N

Translation
of the original instructions



- Power ON-delay relay according to EN 61812-1
- Time delay between 0.05 s ... 10 h
- Repeat accuracy $\leq 0.5\% + 10\text{ ms}$
- Dual voltage supply
- LED indicator for contact position
- 1 changeover contact
- Wire connection: Also 2 x 1.5 mm² stranded ferruled (isolated), DIN 46228-1/-2/-3/-4 or 2 x 2.5 mm² stranded ferruled DIN 46228-1/-2/-3
- Width 22.5 mm

Function Diagram



Approvals and Markings



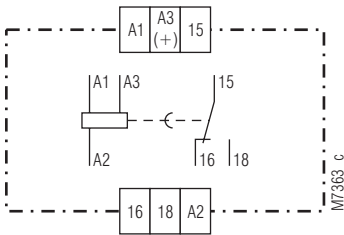
Applications

Time dependent controllers

Indicators

LED: On when output relay activated (contacts 15-18 are closed)

Circuit Diagram



Connection Terminals

Terminal designation	Signal description
A1, A3(+), A2	Operating voltage
15, 16, 18	Changeover contact

Technical Data

Time Circuit

Time ranges:	0.05 ... 1 s	0.5 ... 10 min.
	0.15 ... 3 s	1.5 ... 30 min.
	0.5 ... 10 s	3 ... 60 min.
	1.5 ... 30 s	0.15 ... 3 h
	5 ... 100 s	0.5 ... 10 h
	15 ... 300 s	
Time setting:	Stepless 1:20	
Recovery time:	≤ 100 ms	
Repeat accuracy:	≤ 0.5 % + 10 ms	
Voltage influence:	≤ 1 %	
Temperature influence:	≤ 0.25 % / K	

Input

Nominal voltage U_N (Operating voltage):	AC/DC 24 V ¹⁾ + AC 230 V ²⁾ AC/DC 24 V ¹⁾ + AC 110 ... 127 V ²⁾ AC/DC 24 V ¹⁾ + AC 42 V ²⁾ AC/DC 12 V ¹⁾ at terminals A3-A2 ²⁾ at terminals A1-A2
Voltage range:	0.8 ... 1.1 U_N at AC 0.9 ... 1.25 U_N at DC
Nominal consumption:	AC: 4 VA DC: 0.4 W
Nominal frequency:	50 / 60 Hz
Frequency range:	± 5 % f_N
Release voltage:	15 % U_N

Output

Contacts:	1 changeover contact	
Contact material:	AgNi	
Measured nominal voltage:	AC 250 V	
Thermal current I_{th}:	4 A	
Switching capacity To AC 15	3 A / AC 230 V	IEC/EN 60947-5-1
NO contact:	1 A / AC 230 V	IEC/EN 60947-5-1
NC contact:		IEC/EN 60947-5-1
Electrical life To AC 15 at 1 A, AC 230 V:	1.5 x 10 ⁵ switching cycles	
Permissible switching frequency:	36 000 switching cycles / h	
Short circuit strength		
Max. fuse rating:	4 A gG / gL	IEC/EN 60947-5-1
Mechanical life:	10 ⁸ switching cycles	

General Data

Operating mode:	Continuous operation	
Temperature range		
Operation:	- 20 ... + 60 °C	
Storage:	- 25 ... + 70 °C	
Relative air humidity:	95 % at 40 °C	
Altitude:	≤ 2000 m	
Clearance and creepage distances		
Overvoltage category / pollution degree:	4 kV / 2 (basis insulation)	IEC 60664-1
Overvoltage category:	III	
Insulation test voltage, type test:	2.5 kV; 1 min	
EMC		
Electrostatic discharge:	6 kV (contact) 8 kV (air)	IEC/EN 61000-4-2 IEC/EN 61000-4-2
HF irradiation		
80 MHz ... 2.7 GHz:	20 V / m	IEC/EN 61000-4-3
Fast transients:	4 kV	IEC/EN 61000-4-4
Surge voltages		
Between A1/A2:	2 kV	IEC/EN 61000-4-5
Between A3(+)/A2:	0.5 kV	IEC/EN 61000-4-5
Between A1, A2/PE:	4 kV	IEC/EN 61000-4-5
HF-wire guided:	20 V	IEC/EN 61000-4-6
Interference suppression:	Limit value class B	EN 55011

Technical Data

Degree of protection

Housing:	IP 40	IEC/EN 60529
Terminals:	IP 20	IEC/EN 60529
Housing:	Thermoplastic with V0 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:

Cross section:	1 x 4 mm ² solid or 1 x 2.5 mm ² stranded ferruled (isolated) or 2 x 1.5 mm ² stranded ferruled (isolated) DIN 46228-1/-2/-3/-4 or 2 x 2.5 mm ² stranded ferruled DIN 46228-1/-2/-3
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Insulation of wires or sleeve length:

Insulation of wires or sleeve length:	10 mm
Wire fixing:	Terminal screws M 3.5 Box terminal with wire protection

Fixing torque:

Fixing torque:	0.8 Nm
Mounting:	DIN rail
Weight:	80 g

Dimensions

Width x height x depth:	22.5 x 84 x 97 mm
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Standard Type

BC 7930N.81	AC/DC 24 V + AC 230 V	5 ... 100 s
Article number:	0052652	
• Front colour grey, with box terminals		
• Output:	1 changeover contact	
• Nominal voltage U_N :	AC/DC 24 V + AC 230 V	
• Time range:	5 ... 100 s	
• Width:	22.5 mm	

Ordering Example

BC 7930N	.81	AC/DC 24 + AC 230 V	50 / 60 Hz	10 s
			Time range end value	
			Nominal frequency	
			Nominal voltage	
			Contacts	
			Type	