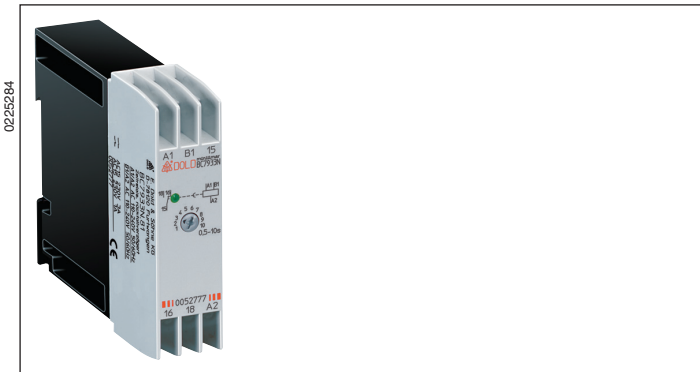


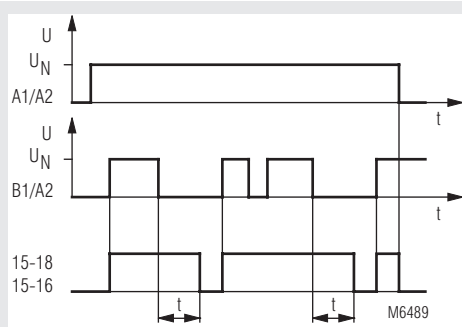
Time Control Technique

MINITIMER Timer, Release Delay BC 7933N



- According to IEC/EN 61 812-1
- Release delay with control signal
- Settable release delay between 0.05 s and 10 h
- With auxiliary voltage
- Wide voltage range AC 110 ... 240 V
- Control input operated with nominal voltage, No voltage free contact necessary
- LED indicator for status of contact
- 1 changeover contact
- Wire connection: also 2 x 1.5 mm² stranded ferruled (isolated), DIN 46 228-1/-2/-3/-4 or 2 x 2.5 mm² stranded ferruled DIN 46 228-1/-2/-3
- Width 22.5 mm

Function Diagram



Approvals and Markings



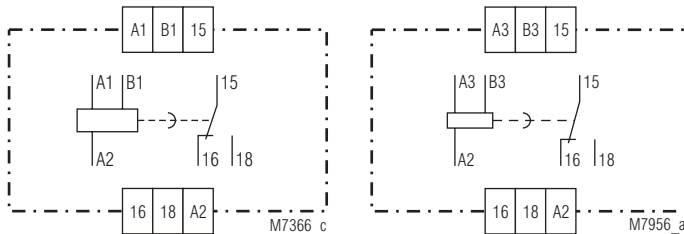
Applications

Time-dependent control circuits

Indicators

yellow LED: on, when output relay activated (contact 15 - 18 closed)

Circuit Diagrams



Notes

The relay needs a supply voltage continuously connected to A1-A2. At relays with auxiliary supply < AC 180 V the control input must not be operated before the auxiliary supply is present for at least 150 ms. In this case also the recovery time after time delay is 150 ms.

BC 7933N

BC 7933N/200

Connection Terminals

Terminal designation	Signal description
A1, A3, A2	Operating voltage
B1, B3	Control input
15, 16, 18	Changeover contact

Technical Data	
Time Circuit	
Time ranges:	0.05 ... 1 s 0.5 ... 10 m 0.15 ... 3 s 1.5 ... 30 m 0.5 ... 10 s 0.15 ... 3 h 1.5 ... 30 s 0.5 ... 10 h 5 ... 100 s 15 ... 300 s
Time setting:	infinitely variable 1:20
Min. closing time:	(Control input B1) AC: 15 ms DC: 5 ms
Recovery time:	< 50 ms
Repeat accuracy:	≤ 0.5 % + 10 ms
Voltage influence:	≤ 1 %
Temperature influence:	≤ 0.25 % / K
Input	
Nominal voltage U_N (Operating voltage):	(A1/A2 and B1/A2) AC 110 ... 240 V AC 42 ... 48 V / DC 48 V AC/DC 24 V
Voltage range:	AC: 0.8 ... 1.1 U_N DC: 0.9 ... 1.25 U_N
Nominal consumption:	AC: 4 VA DC: 0.4 W
Nominal frequency:	AC: 50 / 60 Hz
Frequency range:	AC: 45 ... 65 Hz
Reset voltage:	(Control input B1) ≥ 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	
NO contact:	3 A / AC 230 V IEC/EN 60 947-5-1
NC contact:	1 A / AC 230 V IEC/EN 60 947-5-1
Electrical contact 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 60 947-5-1
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:	< 2.000 m
Clearance and creepage distances	
overvoltage category / pollution degree:	4 kV / 2 (basis insulation) IEC 60 664-1
Overvoltage category:	III
Insulation test voltage, type test:	2.5 kV; 1 min
EMC	
Electrostatic discharge:	4 kV (contact) IEC/EN 61 000-4-2 8 kV (air) IEC/EN 61 000-4-2
HF irradiation	
80 MHz ... 1 GHz:	10 V / m IEC/EN 61 000-4-3
1 GHz ... 2.5 GHz:	3 V / m IEC/EN 61 000-4-3
2.5 GHz ... 2.7 GHz:	1 V / m IEC/EN 61 000-4-3
Fast transients:	2 kV IEC/EN 61 000-4-4
Surge voltages	
between A1/A2:	1 kV IEC/EN 61 000-4-5
between B1/A2:	1 kV IEC/EN 61 000-4-5
between A1, A2/PE:	2 kV IEC/EN 61 000-4-5
HF-wire guided:	10 V IEC/EN 61 000-4-6
Interference suppression:	Limit value class B EN 55 011

Technical Data	
Degree of protection	
Housing:	IP 40 IEC/EN 60 529
Terminals:	IP 20 IEC/EN 60 529
Housing:	Thermoplastic with V0 behaviour according to UL subject 94
Vibration resistance:	Amplitude 0.35 mm IEC/EN 60 068-2-6 frequency 10 ... 55 Hz
Climate resistance:	20 / 060 / 04 IEC/EN 60 068-1
Terminal designation:	EN 50 005
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 46 228-1/-2/-3/-4 or 2 x 2.5 mm ² stranded ferruled DIN 46 228-1/-2/-3
Insulation of wires or sleeve length:	10 mm
Wire fixing:	Terminal screws M 3.5 Box terminal with wire protection
Fixing torque:	0.8 Nm
Mounting:	DIN rail IEC/EN 60 715
Weight:	80 g

Dimensions	
Width x height x depth:	22.5 x 84 x 97 mm

Standard Type	
BC 7933N.81	AC 110 ... 240 V 50/60 Hz 0.5 ... 10 s
Article number:	0052777
• Front colour grey, with box terminals	
• Output:	1 changeover contact
• Nominal voltage U_N :	AC 110 ... 240 V
• Time range:	0.5 ... 10 s
• Width:	22.5 mm

Variant	
BC 7933N.81/200:	Special terminal designation: A3 corresponds A1, B3 corresponds B1

