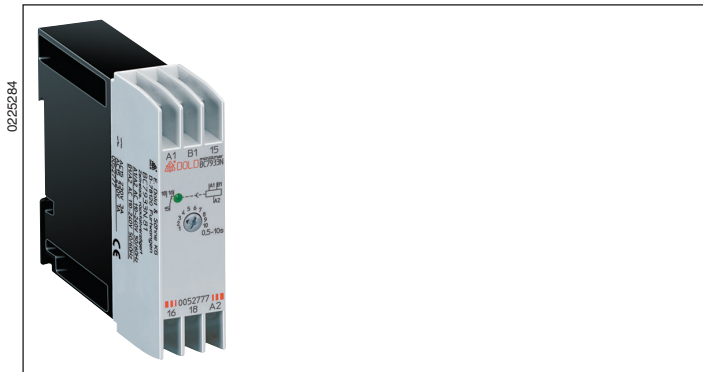


Time Control Technique

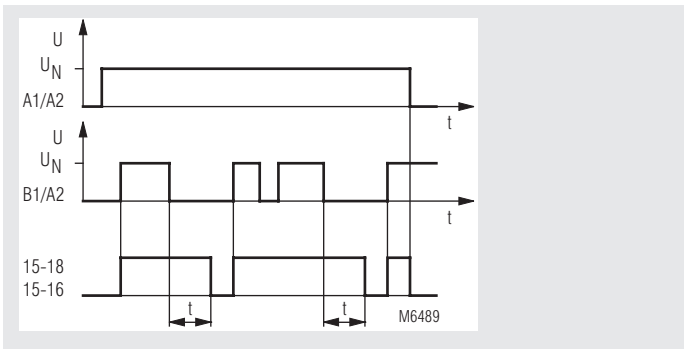
MINITIMER
Timer, Off-delay
BC 7933N

Translation
of the original instructions



- OFF-delay relay with control signal according to EN 61812-1
- 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 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



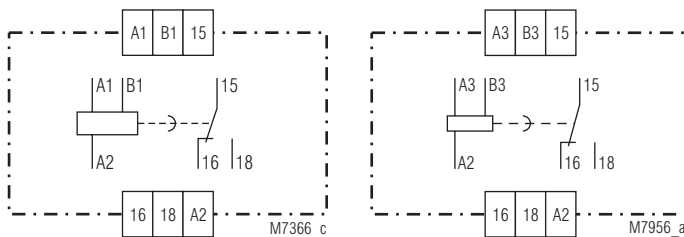
Applications

Time-dependent 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 60947-5-1 |
| NC contact: | 1 A / AC 230 V IEC/EN 60947-5-1 |
| Electrical contact life To AC 15 at 1 A, AC 230 V: | 1.5 x 10 ⁵ switching cycles IEC/EN 60947-5-1 |
| Permissible switching frequency: | 36000 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: | 4 kV (contact) IEC/EN 61000-4-2 8 kV (air) IEC/EN 61000-4-2 |
| HF irradiation | |
| 80 MHz ... 1 GHz: | 10 V / m IEC/EN 61000-4-3 |
| 1 GHz ... 2.5 GHz: | 3 V / m IEC/EN 61000-4-3 |
| 2.5 GHz ... 2.7 GHz: | 1 V / m IEC/EN 61000-4-3 |
| Fast transients: | 2 kV IEC/EN 61000-4-4 |
| Surge voltages | |
| Between A1/A2: | 1 kV IEC/EN 61000-4-5 |
| Between B1/A2: | 1 kV IEC/EN 61000-4-5 |
| Between A1, A2/PE: | 2 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 | |
| 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 |
| 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 60715 |
| 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 |

