



- According to IEC/EN 61812-1
- Time delay up to 100 s
- Repeat accuracy $< \pm 0.5 \%$
- Wire connection: also 2 x 1.5 mm² stranded ferruled, or 2 x 2.5 mm² solid DIN 46228-1/-2/-3/-4
- As option with pluggable terminal blocks for easy exchange of devices
 - with screw terminals
 - or with cage clamp terminals
- Width 22.5 mm

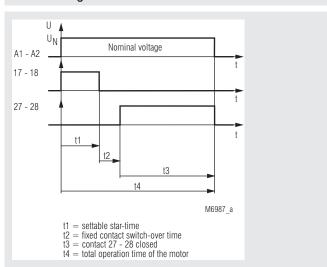
Product Description

The MK 7853N is a static star-delta-timer with 2 separate output relays. As soon as the operating voltage is applied, relay 1 will be energized and falls back after time delay. After elapse of the contact changeover time, the second relay switches on and remains in active position, as long as the star-delta-timer is energized.

Approvals and Markings



Function Diagram



Applications

Star-delta-starting circuit for squirrel cage motors

Connection Terminals

Terminal designation	Signal description
A1, A2	Voltage supply AC/DC
117 18	NO contacts for star contactor
197 98	NO contacts for delta contactor

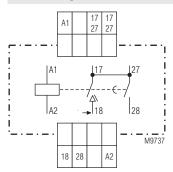
Indicators

1 yellow LED each:

On, when Υ -Rel1 e.g. Δ -Rel2

energized

Circuit Diagram



Technical Data Time circuit Time ranges: 0.5 ... 10 s 1.5 ... 30 s 3.0 ... 60 s 5.0 ... 100 s Contact changeover time: Approx. 100 ms approx. 35 ms please state when ordering Time setting: Stepless on absolute scale Recovery time tw 50 / 100: 40 ms

Repeat accuracy: $\leq \pm 0.5$ % of the max. scale value

Voltage influence: ≤ 1 % Temperature influence: 0.1 % / K

Nominal voltage U,: AC/DC 24 V; AC/DC 42 V; AC/DC 48 V

AC 110 ... 127 V; AC 220 ... 240 V;

AC 380 ... 400 V 0.8 ... 1,1 U_N Voltage range:

AC/DC 24 V Nominal consumption: AC 230 V

0.6 W 7 VA

50 / 60 Hz Nominal frequency: Frequency range: ± 5 % f_N

Output

Contacts: 1 fleeting on make 1 NO contact delay on AgSnO₂ + 0,2 µm Au Contact material:

AC 250 V Measured nominal voltage: Release time: 40 ms Thermal current I :: 5 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 life IEC/EN 60947-5-1

5 x 105 switching cycles

6 000 switching cycles / h

to AC 15 at 3 A, AC 230 V:

Permissible switching

frequency:

Short-cirucit strength

max. fuse rating: 6 A gG/gL IEC/EN 60947-5-1

Mechanical life: 20 x 106 switching cycles

General Data

Operating mode Continuous operation Temperature range

Operation: - 20 ... + 60 °C - 45 ... + 60 °C Storage: 93 % at 40 °C Relative air humidity:

Altitude: < 2000 m

Clearance and creepage

distances

rated impulse voltage /

4 kV / 2 IEC 60664-1 pollution degree: **EMC**

Electrostatic discharge: IEC/EN 61000-4-2 8 kV (air) HF irradiation

80 MHz ... 1 GHz: 10 V / m IEC/EN 61000-4-3 1 GHz ... 2 GHz: 3 V / m IEC/EN 61000-4-3 2 GHz ... 2.7 GHz: 1 V / m IEC/EN 61000-4-3 Fast transients: 2 kV IEC/EN 61000-4-4

Surge voltages

between

wires for power supply: 1 kV IEC/EN 61000-4-5 between wire and ground: IEC/EN 61000-4-5 2 kV HF-wire guided: 10 V IEC/EN 61000-4-6 Interference suppression: Limit value class B EN 55011

Degree of protection

Climate resistance:

Housing: IP 40 IEC/EN 60529 Terminals: IP 20 IEC/EN 60529

Housing: Thermoplastic with V0 behaviour according with UL Subj. 94

Vibration resistance: Amplitude 0.35 mm

frequency 10 ... 55 Hz IEC/EN 60068-2-6 20 / 060 / 04 IEC/EN 60068-1

2

Technical Data

Terminal designation: EN 50005

Wire connection Screw terminals

(integrated): 1 x 4 mm² solid or

1 x 2.5 mm² stranded ferruled or 2 x 1.5 mm² stranded ferruled or

DIN 46228-1/-2/-3/-4

2 x 2.5 mm² solid

Insulation of wires or sleeve length:

Plug in with screw terminals

max. cross section for connection:

1 x 2.5 mm² solid or

1 x 2.5 mm² stranded ferruled

Insulation of wires

or sleeve length: 8 mm

Plug in with cage clamp terminals max. cross section

for connection: 1 x 4 mm² solid or

1 x 2.5 mm² stranded ferruled

min, cross section

for connection: Insulation of wires 0.5 mm²

12 ±0.5 mm or sleeve length:

Plus-minus terminal screws M 3.5 Wire fixing: box terminals with wire protection or

cage clamp terminals

0.4 Nm

Mounting: DIN rail IEC/EN 60715

Weight: 140 g

Dimensions

Fixing torque:

Width x height x depth:

22.5 x 90 x 97 mm MK 7853N: MK 7853N PC: 22.5 x 111 x 97 mm MK 7853N PS: 22.5 x 104 x 97 mm

Standard Type

MK 7853N AC 220 ... 240 V 30 s / 35 ms

Article number: 0061017

Output: 1 fleeting on make

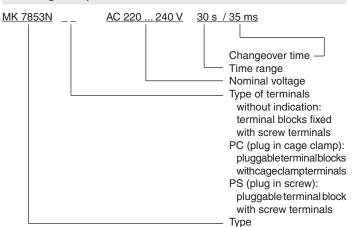
1 NO contact delay on

AC 220 ... 240 V Nominal voltage U_N:

Time range / changeover time: 1.5 ... 30 s / 35 ms

Width: 22.5 mm

Ordering Example



02.03.20 en / 196A

Options with Pluggable Terminal Blocks





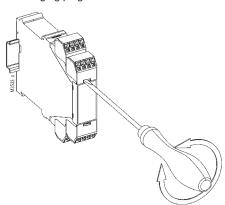
Screw terminal (PS/plugin screw)

Cage clamp (PC/plugin cage clamp)

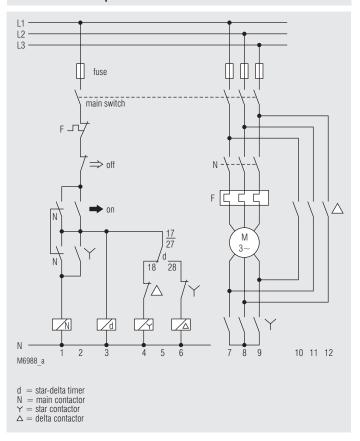
Notes

Removing the terminal blocks with cage clamp terminals

- 1. The unit has to be disconnected.
- 2. Insert a screwdriver in the side recess of the front plate.
- 3. Turn the screwdriver to the right and left.
- 4. Please note that the terminal blocks have to be mounted on the belonging plug in terminations.



Connection Examples



3

E. DOLD & SÖHNE KG • D-78114 Furtwangen •	PO Box 1251 • Telephone (+49) 77 23 / 654-0 • Telefax (+49) 77 23 / 654-356