## MOTOR-SWITCH



## Application

With the MOT-S Card DC-Motors with 24 V supply voltage can be operated.
The motor can turn forward or backward by driving the signals on terminal 3.
The time of changing orientation can be set with two jumpers. Two LEDs show the actual rotation direction of the motor. If neither the forward nor backward dirving signals are asserted the motor acts as a break. The driving signals are galvanically seperated. The motor supply is protected with a 10A fuse. The motor card is sized for 10A continuous operating. Peak currents of 30 A are allowd for short time.

## Technical data

- 24 V direct current motor
- 10A continuous operating
- forward/backward rotation
- variable changeover time (35,19.5 8,75ms)
- rotation directory showed by LEDs
- galvanically seperated
- driving signals: 24V DC

Order-No.
93140b

INDEL AG
Tüfiwis 26
CH-8332 Russikon
Tel. 01 / 9562000
Fax. 01 / 9562009
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Terminal 2


Terminal 3


## Supply

+24V DC, 75 mA (without motor)

## Stock/operating temperature

$-20 \ldots+80 / 0 . . .+60{ }^{\circ} \mathrm{C}$

## Wiring

The supply of the card or the motor can be wired to the protected supply clamp K24V (protected with a 10A fuse) or to the unprotected clamp M24V. K24V and M 24 V are located on terminal $1 . \mathrm{V}, \mathrm{R}$, and COM are used to change the rotation direction. $V=$ forward; $R=$ backward. The optocoupler inputs of $V$ and $R$ are bidirectional. That means $V$, and $R$ can be operated with PNP or NPN outputs (COM $=$ Gnd or $C O M=+24 V$ ).

## Changeover time

The changeover time to change the rotation directory can be set to three different times. The times can be set by the two jumpers $\mathrm{J} 1, \mathrm{~J} 2$ or by the driving signals $\mathrm{J} 1, \mathrm{~J} 2$ at terminal 3.
The following times can be set
J 1 , J2 not wired, not set 35.00 ms
J1 wired, set $\quad 19.50 \mathrm{~ms}$
J2 wired, set $\quad 8.75 \mathrm{~ms}$

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| :--- | :--- | :--- |
| 1 | IC1 | IP34063N |
| 1 | IC2 | LM555 |
| 1 | IC3 | GAL 6001-30 |
| 1 | IC4 | DS0026 |
| 1 | OC1 | TLP620-4 |
| 1 | OC2 | TLP521-4 /PC847-4 |
| 4 | F1-F4 | IRF540 |
| 5 | D1-D5 | D RGP10D |
| 2 | D6,D7 | D 1N4148 |
| 1 | D8 | D BZX85C39 |
| 1 | C3 | C 10nF |
| 6 | C4,5,6,11-13 | C 100nF |
| 1 | C2 | C 220 pF |
| 1 | C1 | C 470uF/50V |
| 4 | C7-C10 | C 100uF/25V |
| 1 | R1 | R 0.22 Ohm |
| 5 | R2,R6-R9 | R 4.7 K'Ohm |
| 1 | R3 | R 68 Ohm |
| 1 | R4 | R 1.2 K'Ohm |
| 1 | R5 | R 3.6 K'Ohm |
| 2 | R10,R12 | R 12 K'Ohm |
| 1 | R11 | R 2.2 K'Ohm |
| 1 | RN1 | Rn 5x4.7 K 6P |
| 1 | RN2 | Rn 4x470 8P |
| 1 | RN3 | Rn 4x1 K 8P |
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| ---: | :--- | :--- |
| 1 | RN4 | Rn 4x4.7k 8P |
| 2 | L1,L2 | TLS124 |
| 1 | TR1 | Trafo Mot-S |
| 2 | S1 | Sicherungshalter |
| 1 |  | 10 A träge |
| 2 | J1,J2 | Stifteiste 2R |
| 10 | KL1,2,3 | Phoenix Klemme KDS 2,5 |
| 1 |  | PR138/94/SE/M3 Kühlkörper |
| 1 |  | Gehäuse EXT |
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