

# product specification

## motor motion controller: MSM3



- Standstill recognition without tacho alternator
- Suitable for the most AC and DC motors
- Continuous monitoring by running motor
- High input sensitivity
- Digital analysis logic
- Utilizable as voltage detector
- Suitable for the tropics
- Operating status shown by LED
- Safety acc. to VDE, EN, UL, CSA

### Application

Every electric motor generates a voltage when switched off, which depends on the residual magnetism in the motor and its rotational speed at that point in time.

This induced generator voltage is related to the rate of change of speed of the magnetic field surrounding the stator and rotor windings and to the actual number of turns on the coils.

This induced voltage, which can originate from a 3-phase, AC or DC motor, is analysed by the standstill monitor.

That is, the deceleration generator voltage of an electric motor is monitored to indicate, for example, that the motor is stationary. This analysis can be performed continuously or with a delay. In order to achieve this, the voltage level is measured using an analogue input circuit with adjustable differential amplifier. The indicators and monitor relays are then activated by means of a digital analysis logic, depending on the user's settings.

### Functional principle

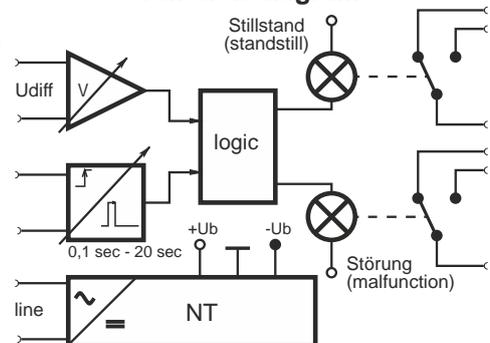
If, for example, the switching voltage falls below a certain value, relay 'K1' will be activated to signal that the motor is stationary ("Stillstand"). In parallel to this, it is possible to preset a deceleration time for the motor of between 0.1 sec. and 20 sec. on the 'Zeit'-potentiometer. This timing circuitry can be triggered by a contact of the motor contactor, for example. If the motor has not come to a halt within this period of time, then a fault ("Störung") will be signaled. This signal is not reset, even when the motor finally stands still, but additionally the relay K1 is activated and signals the standstill.

All operating statuses are shown by LEDs.

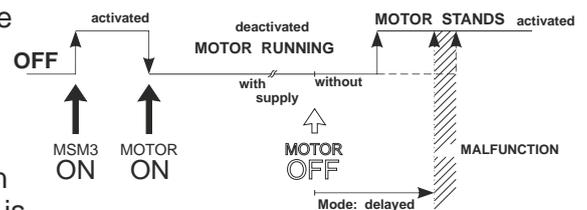
### Design

Completely embedded with resin in a plastics housing for mounting on a rail or wall mounting with screws.

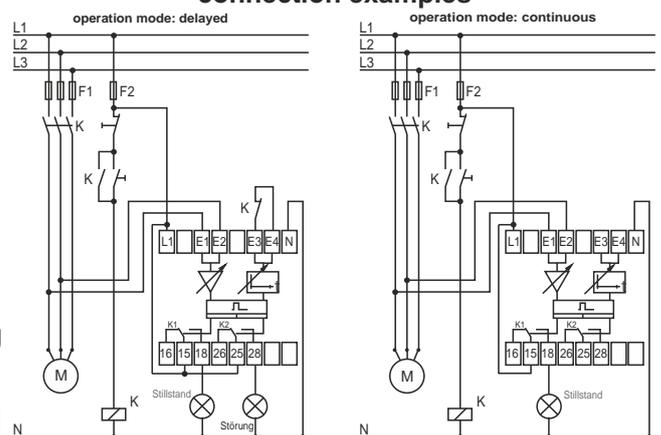
### function diagram



### flow chart



### connection examples



Please read the data sheets and the user manual for further information