



### Standard Motor Starters EEx d Flameproof Encapsulation

- Explosion protection to
  - CENELEC
  - IEC
- Can be used in Zone 1 and Zone 2
- Enclosures with EEx d protection and connection chambers with EEx e protection
- Available standard motor starters:
  - Single contactors
  - Star-delta contactor starters
  - Reversing protection combinations
  - Pole-changing contactor starters

D4715p

STAHN

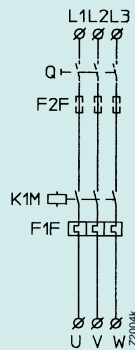
The standard motor starters described on the next page are fitted in flameproof enclosures.

As standard the starters are supplied without main switch, starting transformer, main and starter fuses and without control and monitoring devices; these parts can however be fitted to order. Further details on request.

# Zone 1 and Zone 2

**Single contactors**

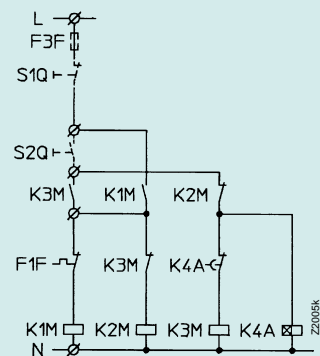
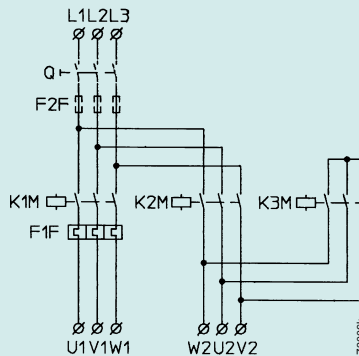
are intended to switch motor circuits or ohmic loads. They can be produced with or without motor protection relay.



**Star-delta contactor starters**

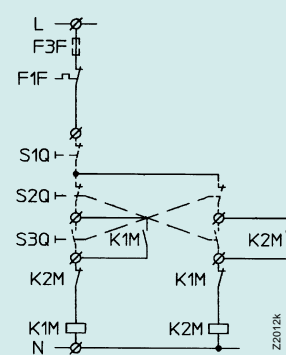
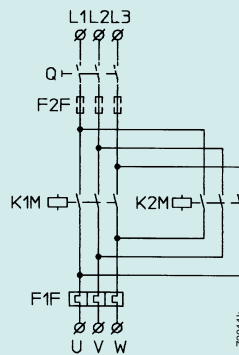
are used where it is necessary to avoid a high motor run-up current. By having the run-up in star connection the motor current is limited to  $\frac{1}{3}$  of the current which can flow with direct run-up; motor torque is reduced relative to run-up current.

The motor protection relay is connected in the main circuit such that the winding current passes through it. For this reason motor protection relay triggering current must be set at 0,58 times the rated motor current. Thus, motor thermal overload protection is ensured during both star-connection run-up phase and delta operating phase.



**Reversing protection combinations**

are used if direction reversals required by motor operation.



**Pole-changing contactor starters**

are used to control motors intended for several speeds. Pole-changing protection combinations can be supplied for motors with Dahlander winding (see schematic) and for motors with 2 separate windings.

