

3.2.2 Soft Starters in Standard Circuits

The SIRIUS 3RW44 soft starter is connected in the motor branch between the disconnecter or circuit breaker and the motor. The 3RW44 soft starter automatically detects the type of connection of the soft starter, meaning that this does not have to be explicitly set on the device. The detected connection type can be read on the starter under the menu item "Status display/Type of connection". In this case, the display reads "Star/delta". If the circuitry is faulty or the motor is not connected, the display shows "Unknown".

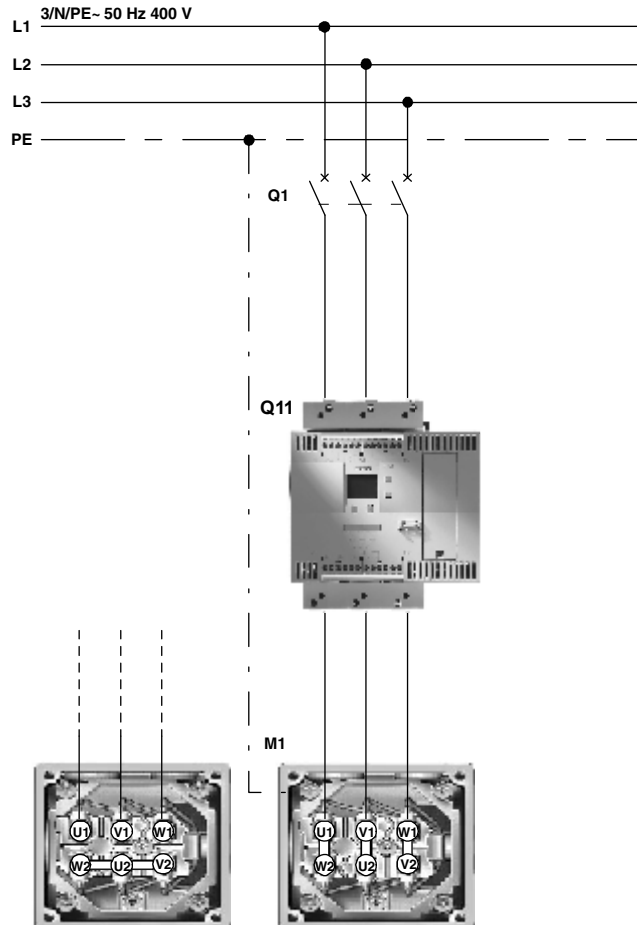


Figure 3-3: Schematic circuit diagrams for 3RW44 soft starters in standard circuits

Notice

If a main or line contactor is used, this contactor must not be connected between the soft starter and the motor or in the return line between the motor and the soft starter. The soft starter would otherwise not recognize the current circuit version (standard circuit or inside delta circuit) and would output the error message: "Missing load phase 1-3", or ensure that the circuit is closed before the 3RW44 is activated.

3.2.3 Soft Starters in Inside Delta Circuits

Prerequisite

A motor whose windings can be connected in a delta circuit where a line voltage prevails.

Example

Line voltage:	400 V
Rated motor current:	40.5 A
Current via soft starter in an inside delta circuit:	approx. 24 A
Selected soft starter in an inside delta circuit:	3RW44 22



Figure 3-4: Name plate of a 22 kW motor

The SIRIUS 3RW44 soft starter can be dimensioned to match the current flowing in the motor section (58 % of the conductor current) by connecting it to the delta winding of the motor. This requires at least 6 motor lines.

The 3RW44 soft starter automatically detects how it is connected, meaning that the connection type does not have to be explicitly set on the device. The detected connection type can be read on the starter under the menu item "Status display/Type of connection". In this case, the display reads "Inside delta circuit". If the circuitry is faulty or the motor is not connected, the display shows "Unknown".

Notice

The rated motor current given on the name plate must always be set in the quick start menu or in the motor adjustment menu item. This setting is independent of the type of connection of the soft starter.

Value to be set in the above example for a line voltage of 400 V, e.g. 40.5 A.

Notice

The DC braking and combined braking device functions are no longer available for inside delta circuits.

In order to ensure proper functioning of the soft starter, the electrical connection of the main voltage (line and motor side) must be made according to the given circuit examples (refer to Section Chapter 9.1 "Connection Examples for Main and Control Circuits").

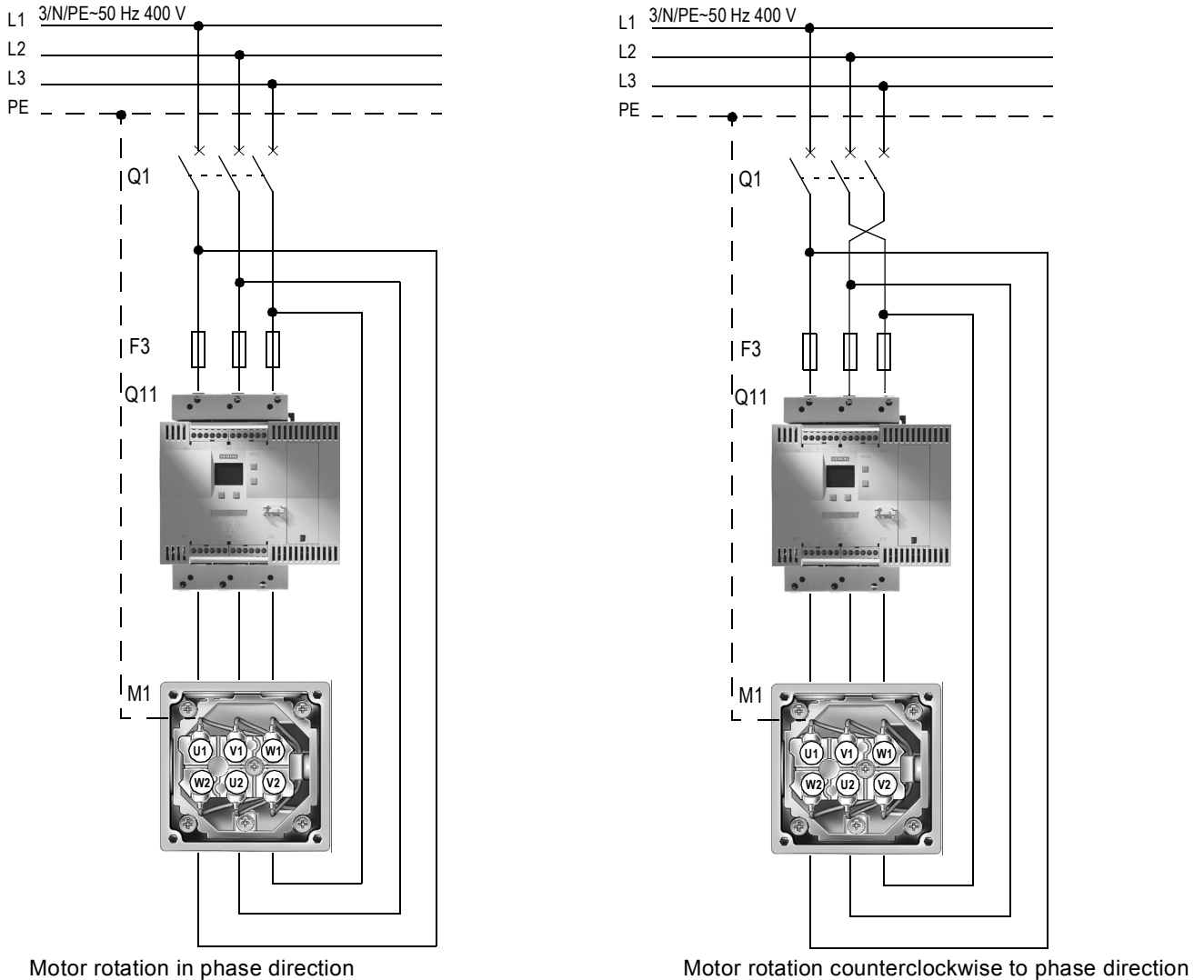


Figure 3-5: Schematic circuit diagram of a 3RW44 soft starter in an inside delta circuit

Notice

If a main or line contactor is used, this contactor must not be connected between the soft starter and the motor or in the return line between the motor and the soft starter. The soft starter would otherwise not recognize the current circuit version (standard circuit or inside delta circuit) and would output the error message: "Load phases 1-3 missing".