GROUP CONTROL OF MOTORS

OPERATE several drives IN PARALLEL at one control output

If several windows or several shades are to react to the same operation command and move in parallel, they can be operated together at one drive output of a control system. Therefore, it must be noted that not all drives are suitable for being connected in parallel to one clamp.

ARE THE DRIVES SUITABLE FOR PARALLEL CONNECTION?

It must first be checked whether the motors that are to be used are intended for parallel connection by the manufacturer. This information can be found in the data sheet of the motors, in case of doubt ask the manufacturer.

If the motors are suitable for direct parallel operation, they can be connected together at the control output. For motors that are not approved for parallel operation, an external group control relay is required.

WHAT DOES A GROUP CONTROL RELAY DO?

A group control relay prevents disruptive back and forth movement during positioning and rapid wear of the motors. The technical background for this is the following:

Drives which are not intended for parallel operation by the manufacturer usually have four connections: PE (protective earth), N (neutral conductor), Up and Down. During the „up“ movement, 230 V AC voltage is now applied to the „down“ connection (opposite direction). This leads to the following behavior:

If two motors connected in parallel move in one direction, they will never reach their end position exactly at the same time. Motor 1, which first reaches its end position, switches off. However, if motor 2 is connected in parallel, then motor 1 receives current from motor 2 in the opposite direction of movement. This means that motor 1 returns in the opposite direction.

As a result, the motors drive up and down shortly before the end position until both have reached their end position. This is not only annoying because the positioning of windows or shades may take a long time - the service life of the motors is also considerably shortened.

The group control relay solves the problem by disconnecting the connection of the opposite direction to the parallel motor. Therefore these useful helpers are also called isolating relays. The motor that reaches the end position first stops and is no longer influenced by the motor connected in parallel.