

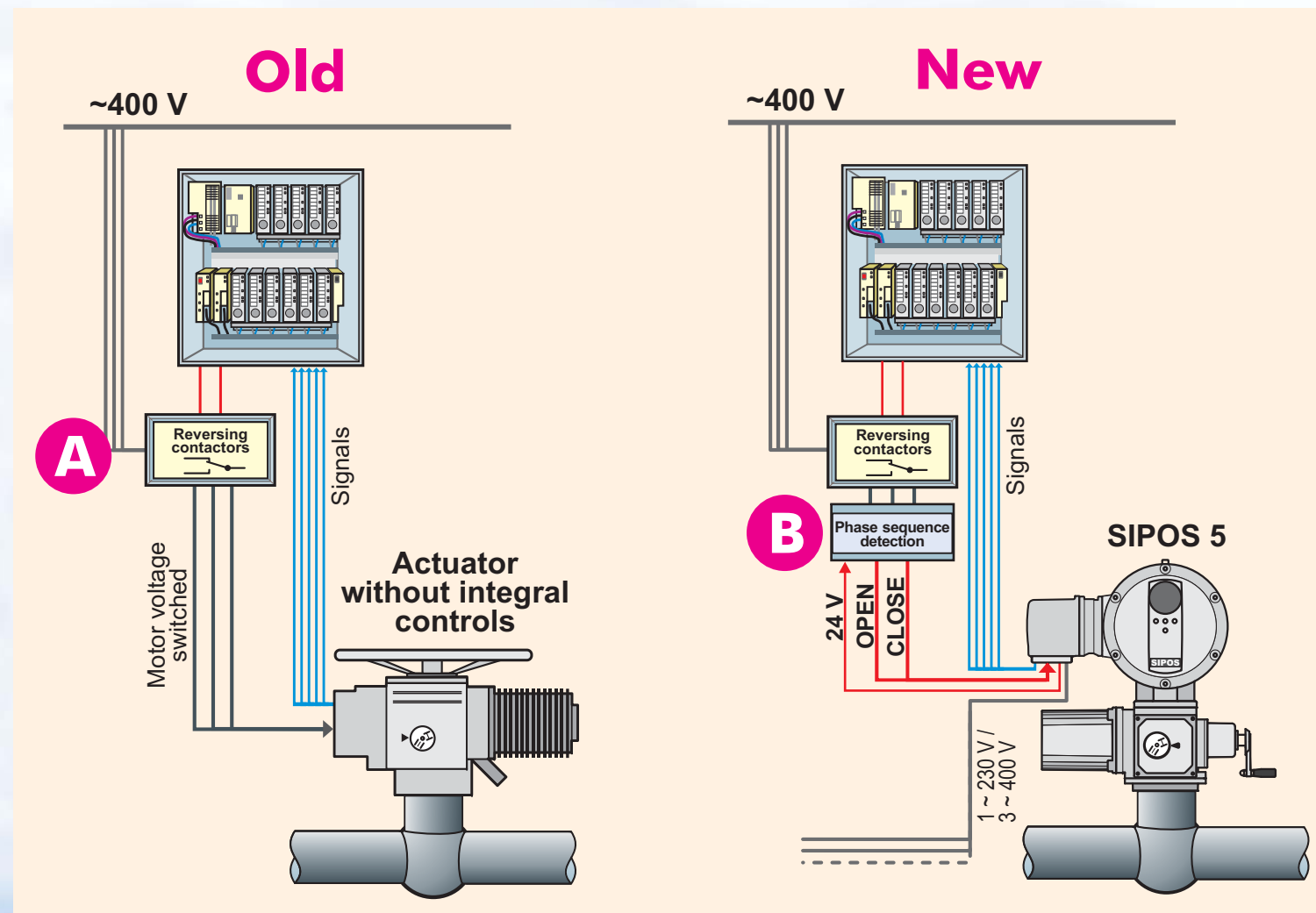
Replacing actuators without integral controls by SIPOS 5

Reduced efforts: Retrofitting with phase sequence detection

SIPOS 5 actuators can replace most electric actuators without integral controls. When replacing actuators in existing plants, the new technology has to be considered, as control of SIPOS 5 actuators with integral controls slightly differs from that of actuators without integral controls:

While for conventional actuators motor control is performed via phase sequence resp. reversing contactors, SIPOS 5 actuators are controlled via electronics, which only requires control commands.

Automatic phase detection ensures that controls adaptation is kept to a minimum when replacing old actuators by SIPOS 5, as only minor wiring changes are necessary.



A Control of electric actuators without integral controls

Electric actuators without integral controls are controlled via power controllers (reversing contactors or thyristors) in switching cabinets for clockwise, counterclockwise rotation. This means field actuators are operated with a switched motor voltage.

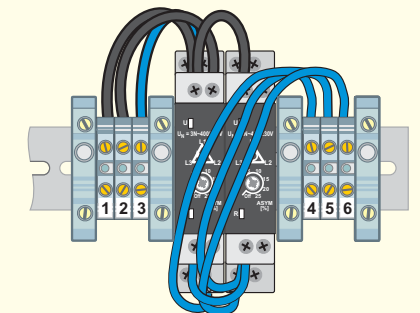
B Simple: Phase detection makes time-consuming retrofitting obsolete

The automatic phase detection converts the definition of the direction of rotation via the phase sequence of L1-L2-L3 (U-V-W) into binary 24 V OPEN-CLOSE signals. These signals are suitable for direct connection to the binary inputs of the SIPOS 5 actuator: Costly and labor-consuming, additional control cables to the DCS or PLC are not required.

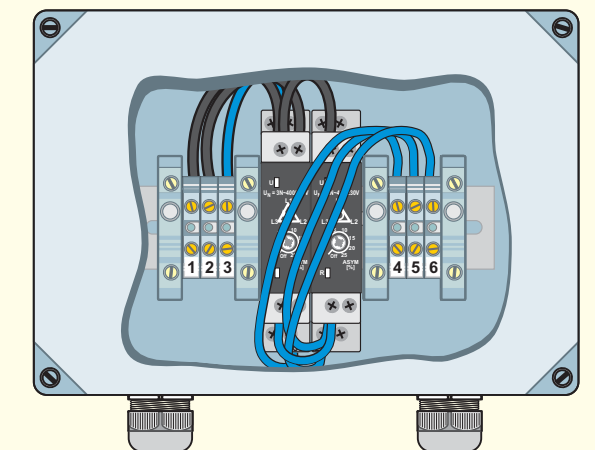
Flexible: Installation of phase sequence detection within control cabinet or separately

The phase sequence detection is available in two versions, complete with wiring:

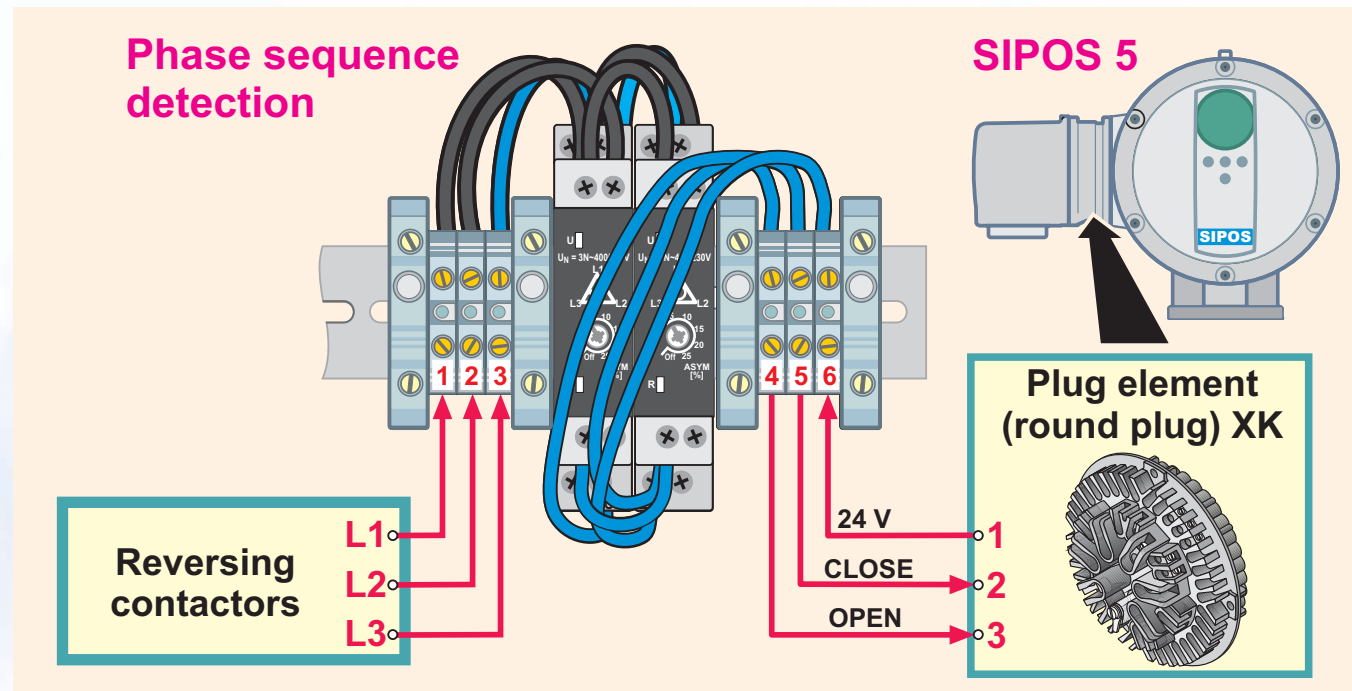
Phase sequence detection on mounting rails (2SX5306-0PF00)



Phase sequence detection in closed housing (2SX5306-0PF66)



Simple: Phase sequence detection wiring



Signal cable wiring

The signal cables of the actuators without integral controls can often still be used with the SIPOS 5 actuator.

SIPOS 5 actuators generally supply feedback signals as 24 V DC binary signals. They are generally galvanically separated via opto-couplers.

Binary signals of SIPOS 5 actuators can be directly connected to the inputs of the DCS.

If voltages exceeding 24 V DC or currents exceeding approx. 100 mA are to be switched with the status signals, relay sub-assemblies can be used.

Power supply wiring

SIPOS 5 actuators require continuous voltage:
220 V -10 % to 230 V +15 %, or
380 V -10 % to 460 V +15 %
within a frequency range of 40 to 70 Hz.

In both cases, the SIPOS 5 will obtain the direction of rotation from the phase detection as binary OPEN/CLOSE signal.

24 V DC auxiliary power supply

The electronics unit of the SIPOS 5, which supplies the actuator feedback in particular, is internally supplied with 24 V DC. In order to have actuator signals available in the event of mains power failure, the SIPOS 5 can be supplied via an external 24 V DC auxiliary voltage.

The cables used for actuator signals can also be used as power cables for the external 24 V DC auxiliary voltage as long as the number of leads is sufficient.

Actuators and Solutions

SIPOS phase sequence detection

Simple replacement of
electric actuators without
integral controls
by SIPOS 5 actuators

