

## OPTIMA Compact Actuators

SA-series with 230 V and 4-20 mA module



### Installation, Operation & Maintenance instruction

This document describes the process of connecting power (230 VAC) and calibration of 4-20mA module for OPTIMA Compact actuators SA-series.

Part numbers: 53-1299-230F, 53-1954-230F, 53-1955-230F, 53-1956-230F, 53-1957-230F

FIG 1



FIG 1 - Frese branded actuator

FIG 2

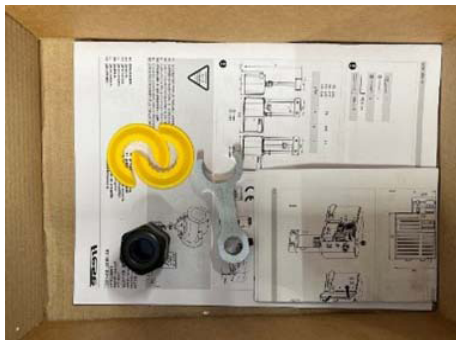


FIG 2 - Items in actuator box:

- 2 x Cable glands
- 2 x Stroke indicators (Yellow discs)
- 1 x Bracket (To secure from rotation of valve spindle)
- 2 x Mounting Instructions (Actuator & 230 V Module)

FIG 3

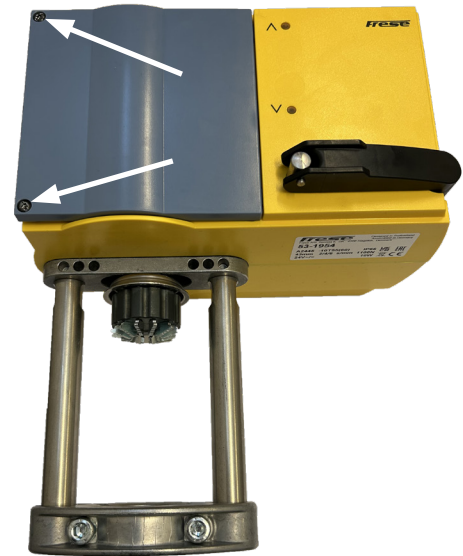


FIG 3 - Actuator cover:

Remove the 2 screws from the cover, to get access to the module with wiring terminals.

FIG 4

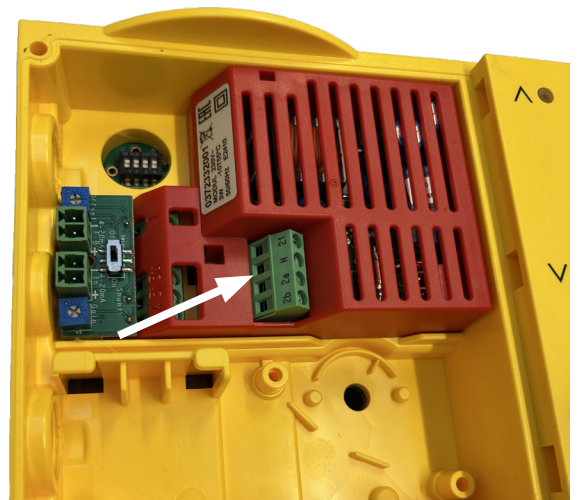


FIG 4 - 230 V module:

Connect the cables for the 230 V power supply in the green terminals  
See FIG 5 for wiring

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FIG 5

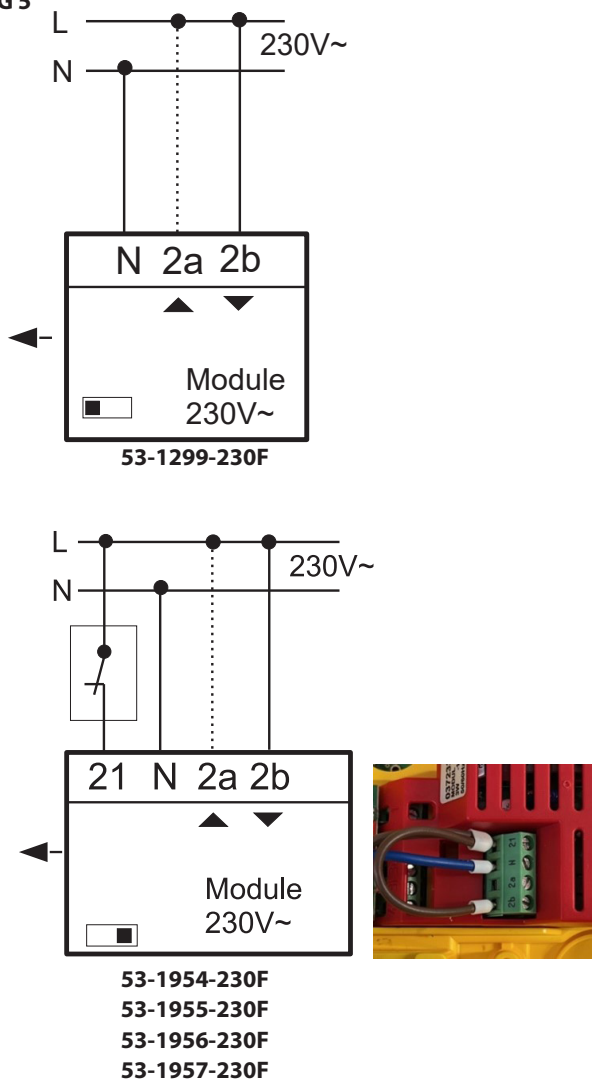


FIG 5 - Wiring 230 V power supply

FIG 6

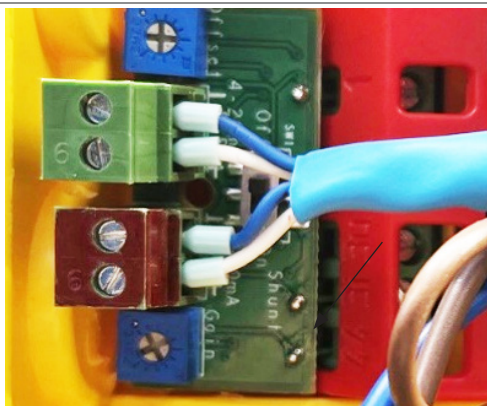


FIG 6 - Wiring 4-20 mA module

Connect the two 4-20 mA control signals  
Upper 2-pin connector is the feedback connector

FIG 7

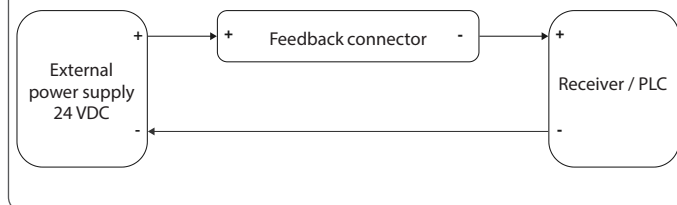


FIG 7 - 4-20mA Feedback connector

The 4-20 mA input signal is connected directly to the source.

The 4-20 mA feed-back signal needs a power supply in the closed loop.

The "Feedback connector" shown in the schematic is the top 2 pin connector (see picture). The silk screen write: "4 - 20 mA F - B"

FIG 8

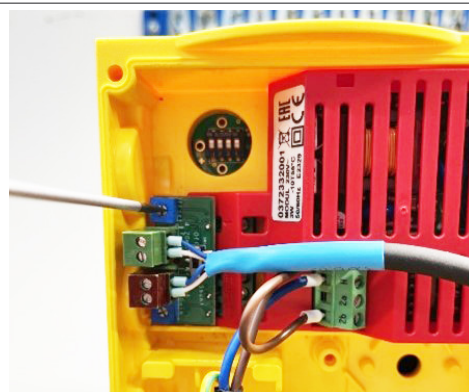


FIG 8 - Adjust the OFFSET

Confirm the mA feedback signal is calibrated correctly from Factory.  
Set the input control signal to 20mA and wait until the valve is fully open.

Adjust the **OFFSET** potentiometer by turning it clockwise / anticlockwise until the feedback signal shows precisely 4.0mA.

FIG 9

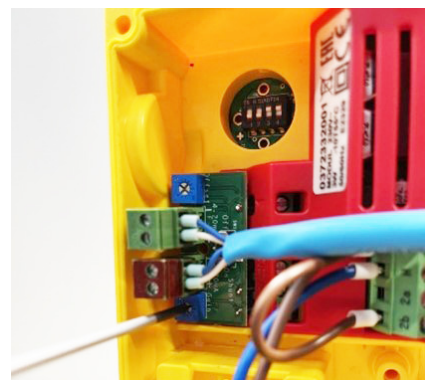


FIG 9 - Adjust the GAIN

Set the input control signal to 4 mA and wait until the valve is fully closed.

Adjust the **GAIN** potentiometer just below 20.0mA and back up to 20.0 mA precisely.