Application Note

FESTO

Usage of SDAS with the YHBP system

Mounting and commissioning of the SDAS sensor to a VAOH handle used in the YHBP system

YHBP

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1 Components/Software used

Type/Name	Version Software/Firmware	Date of manufacture
CECC-LK-BA	Min. 1.0.0	
YHBP Balancer system	-	
SDAS-MHS-M40-1L-PNLK-PN-E-0.3-M8	-	

Table 1.1: Components/Software used

2 Installation and commissioning

2.1 Introduction

The SDAS position transmitter brings a significant improvement to YHBP balancer installations when used together with the VAOH pneumatic handle. The standard pneumatic position signalling relies on air pressure changes to communicate the handle position. In some applications, this approach is susceptible to leakage, pressure drift, and variable response caused by tubing length, fittings, and environmental conditions. By contrast, the SDAS provides a direct electrical position signal that eliminates these pneumatic limitations and increases system robustness.

Key benefits of using the SDAS position transmitter with the VAOH handle include:

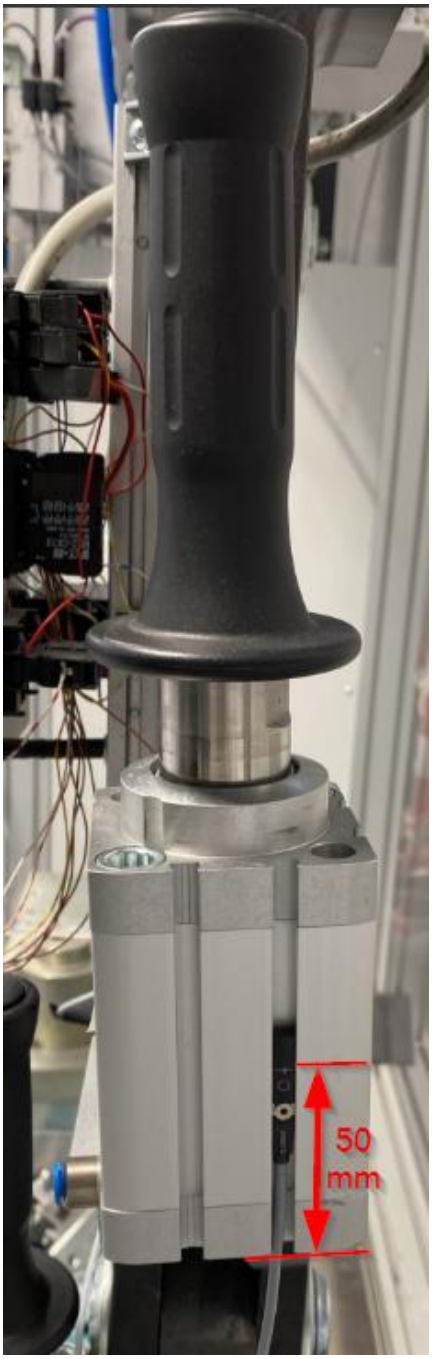
- Improved reliability: electrical position feedback is not affected by air leaks or slow pressure changes, so signal fidelity is higher over time and under varying conditions.
- Elimination of leakage risk: removing the need for a pneumatic signal path avoids potential leak points in the system and reduces maintenance related to seals, tubing and fittings.
- Stable, drift-free output: the SDAS produces a consistent electrical signal that does not drift with changes in supply pressure or wear of pneumatic components, improving control accuracy and repeatability.
- Easy integration: There is a standard input on the CECC-LK used for the connection to the SDAS IO-Link connection.

2.2 Installation

2.2.1 Mechanical installation

Mount the SDAS position transmitter in the middle position of the VAOH handle. The cable must point downward. Check mechanical alignment so that the SDAS sensing element is approximately 50 mm from the handle bottom position (see reference picture).

Make sure that the cable is pointing in the bottom direction, otherwise the handle will react in the opposite way.



Picture 1: Mechanical installation

2.2.2 Electrical wiring

The SDAS position transmitter is connected directly to the CECC-LK controller via connector X12. The X12 connector provides the terminals L+, C/Q and L-. The controller electronics must be supplied via connector X11.

1. Controller supply (X11)

Supply the CECC-LK with 24 V DC on connector X11:

X11 L+ → +24 V DC

X11 L- → 0 V DC

This supply is required for the controller to operate and to process the input signal at X12.

2. SDAS connection to X12 (example with 3-core SDAS cable)

Brown = supply +24 V (sensor L+)

Blue = 0 V (sensor L-)

Black = signal output (sensor C/Q)

Wire as follows:

SDAS brown wire (supply +) → CECC-LK X12 L+

This provides +24 V DC from the controller to the SDAS.

SDAS blue wire (0 V) → CECC-LK X12 L-

Common reference for both supply and signal.

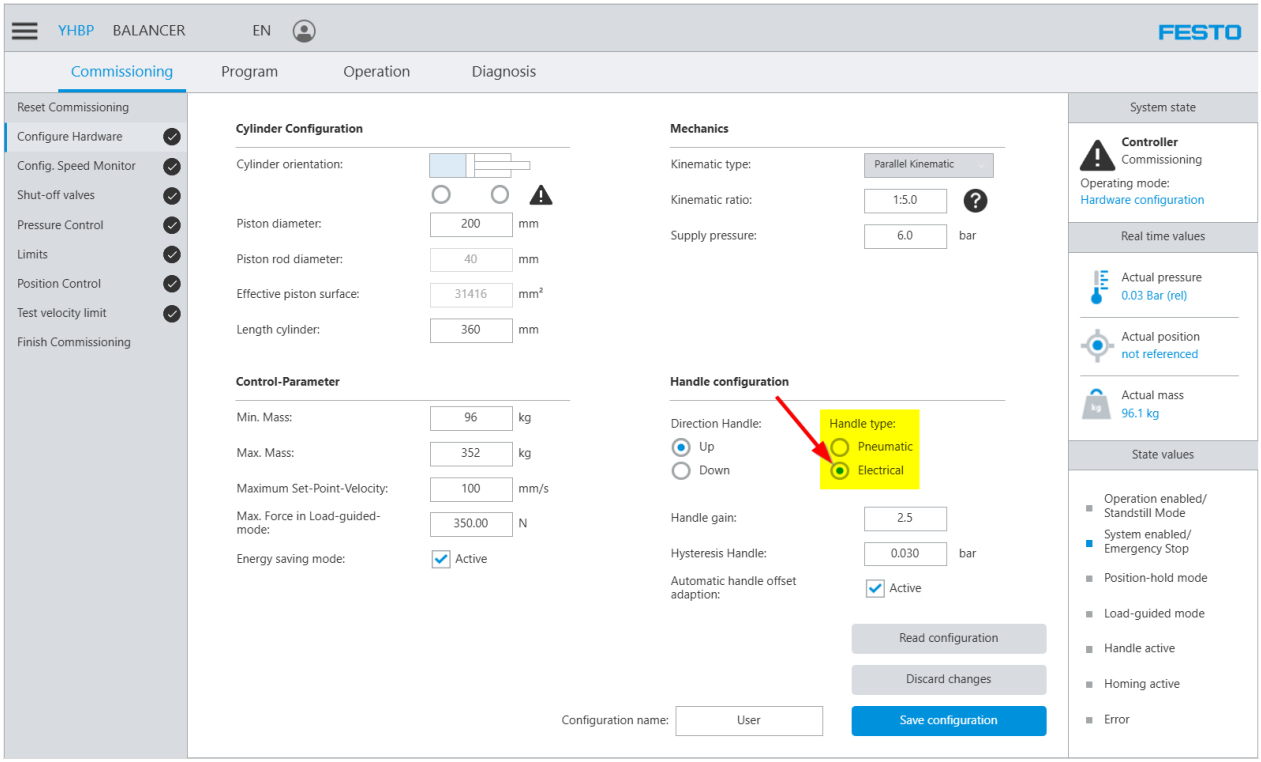
SDAS black wire (signal) → CECC-LK X12 C/Q

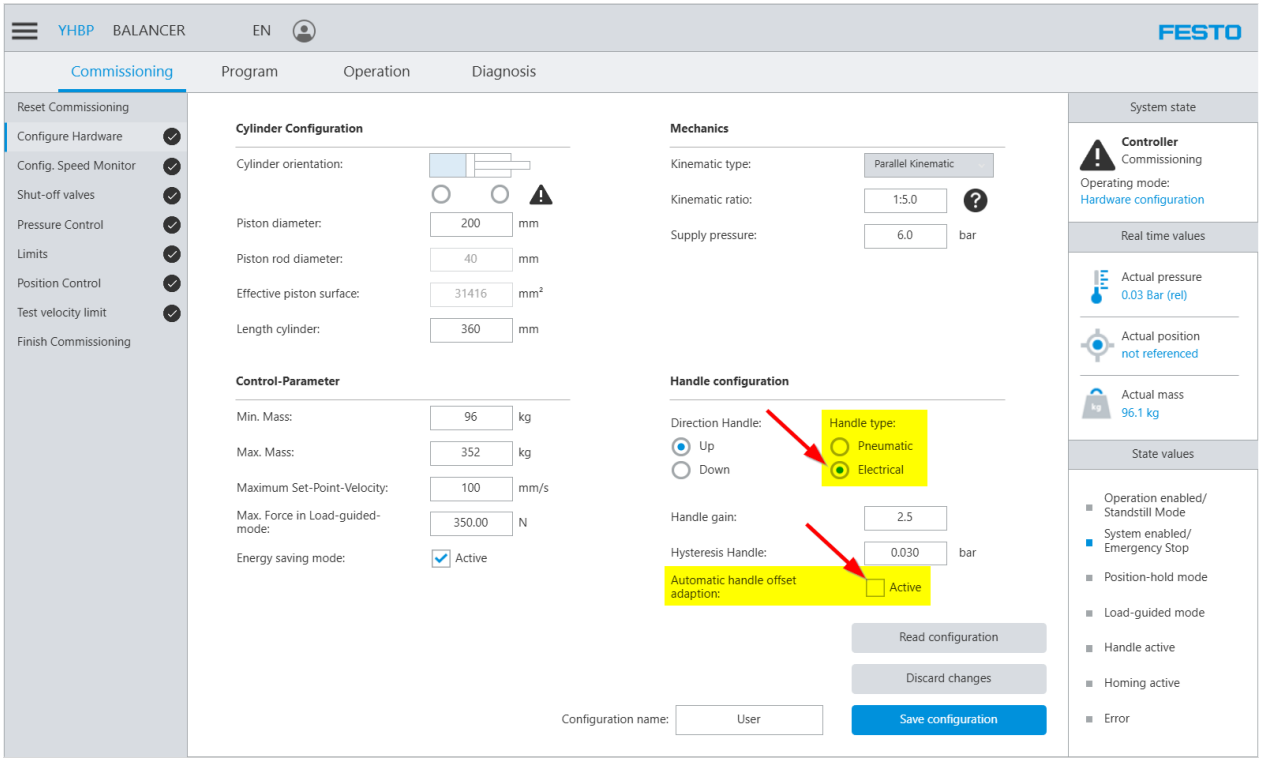
This is the IO-Link signal from the SDAS to the controller input.

2.3 Commissioning

To change from pneumatic to electric handle, change the following setting in “Commissioning->Configure Hardware”:

Usually “Automatic handle offset adaption” can be disabled as well, as no drift should appear, compared to the pneumatic signal.





Afterwards no new commissioning is necessary. Depending on the previous settings, the handle gain or hysteresis might need to be adjusted. This can be either done in the step seen above, or alternatively live during runtime in “Program -> Velocity Configuration” (handle gain) and “Program -> Monitoring Configuration” (hysteresis).