

Swivel angle sensor, installation and calibration of SYHDFE. systems with integrated electronics

Type ASSEMBLY KIT VT-SWA-LIN

RE 30263-R

Edition: 2016-10



H7175

General

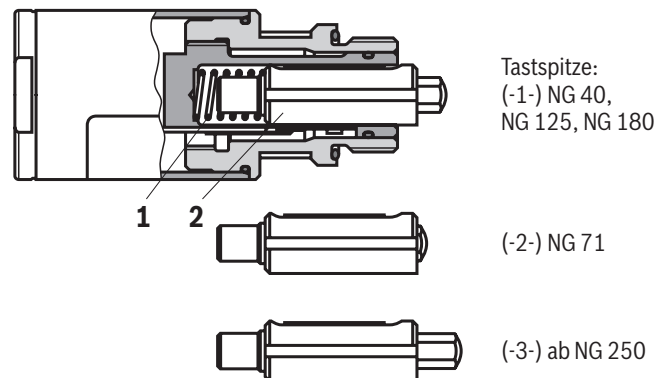
The probe tip is a sensitive component and must therefore be handled with care. The probe tip must not be subjected to hard shocks and must be kept at a distance from metal parts, particularly on account of its magnetic characteristics. The original packaging is the safest storage place until the probe tip is installed in the pump housing.

Installation of the swivel angle sensor

Prior to installation of the sensor, the spring (1) and the probe tip (2) included in the assembly kit have to be installed in the sensor as illustrated by the drawing. Please ensure, that the side with the hardened probe head has to point from the sensor into the pump. Afterwards, screw-in the sensor into the pump and tighten it with a torque of 25 +5 Nm (SW27).

Notice:

The sensor to be installed has to be selected according to the pump size due to the different lengths of the sensor probe tips (see ordering code in data sheet 30263). Installation of an incorrect probe tip leads to malfunction of the swivel angle sensor.



Check "zero" swivel angle (while system is on)

1. Close all directional valves
2. Set a swivel angle command value >5 V and/or >50%
3. Set a pressure command value of 20 bar (if this is technically impossible, set 0 V)

Notice:

If an external pilot oil supply is used, the pressure command value must be > 2 bar.

4. Switch on hydraulics and let pump warm up (approx. 5 min.)
5. Verify whether the actual swivel angle value (α_{actual}) is 0 V \pm 0.01 V and/or 0 % \pm 0.1%. (With analog electronics at the central connector of the pilot valve, pin 6, violet; with digital electronics via WIN-PED and/or IndraWorks)

Analog systems:

In case of variations, use potentiometer (1) to calibrate; the potentiometer is marked with "O" (=Offset) on the swivel angle sensor

Digital systems:

Start swivel angle - zero point / swivel angle - offset calibration via the WIN-PED software or IndraWorks.

Check "100%" swivel angle (while system is on)

1. Swivel angle command value greater than 10.5 V and/or 105%, pressure command value approx. 100 bar (With SYHDFED valve command value >50% via the valve direct control)
2. Let the full volume flow via the actuator, e.g. activate hydraulic motor or set pressure relief valve to approx. 20 bar; this causes a deliberate error message by the pilot valve (control deviation too high)
3. Verify whether the actual swivel angle value (α_{actual}) is 10.05 V \pm 0.01 V (+100.5% \pm 0.1%). (With analog electronics at the central connector of the pilot valve, pin 6, violet; with digital electronics via WIN-PED and/or IndraWorks)

Analog systems:

In case of variation, use potentiometer (2) to calibrate; the potentiometer is marked with "G" (= Gain) on the swivel angle sensor

Digital systems:

Start swivel angle - factor calibration via the WIN-PED software or IndraWorks.

Check "100 %" swivel angle (while drive motor is off)

1. Switch off the hydraulics and wait for approx. 5 min. until the pump is mechanically swiveled out (wait until pressure is completely reduced).
2. Verify whether the actual swivel angle value (α_{actual}) is $10.05 \text{ V} \pm 0.01 \text{ V}$ and/or $+100.5\% \pm 0.1\%$. (With analog electronics at the central connector of the pilot valve, pin 6, violet; with digital electronics via WIN-PED and/or IndraWorks)

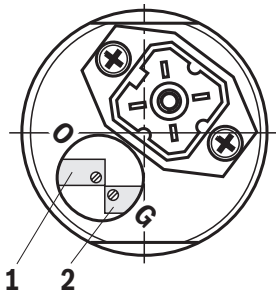
Analog systems:

In case of variation, use potentiometer (2) to calibrate; the potentiometer is marked with "G" (= Gain) on the swivel angle sensor

Digital systems:

Start swivel angle - factor calibration via the WIN-PED software or IndraWorks.

3. The pump sometimes does not swivel to the stop. Thus, shortly switch on the motor, switch off the motor again, wait until the pump is swiveled out and measure the actual swivel angle value. If a higher voltage is measured, correct the value.
4. Repeat this process several times.



Lage der Potentiometer
bei Sensoren des Typs
VT-SWA-LIN...K44

Notice:

With the digital systems SY(H)DFEC and SY(H)DFEn, zero point and gain can be calibrated in a digital and analog manner at the potentiometers of the swivel angle sensor.

Notice:

- If the swivel angle sensor fails, the SYHDFE. system cannot be properly operated.

For the safety instructions and more information regarding the calibration refer to the operating instructions of the corresponding control system:

Control system	Operating instructions
SY(H)DFEE	30012-B
SY(H)DFEC	30027-B
SY(H)DFEn	30014-B
SY(H)DFED	30017-B

Data sheet for swivel angle sensor: 30263

Notes

Bosch Rexroth AG
Hydraulics
Zum Eisengießer 1
97816 Lohr am Main, Germany
Phone +49 (0) 93 52/18-0
documentation@boschrexroth.de
www.boschrexroth.de

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