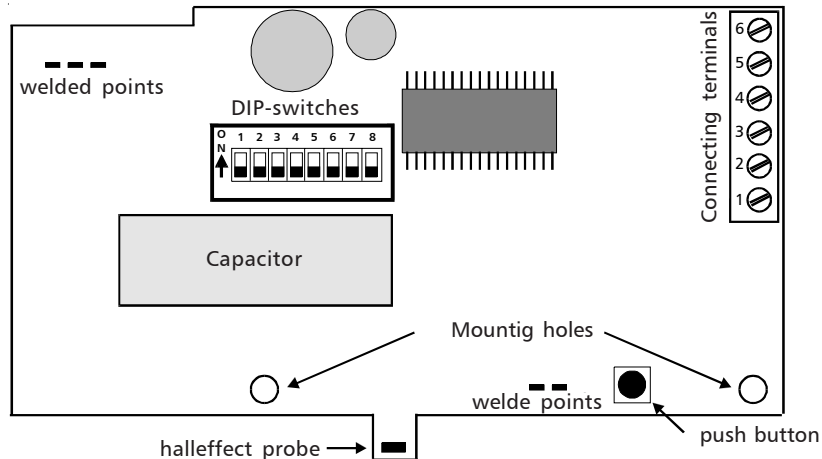


Operating manual for actuators with positioning electronic and feedback
Type AHS106A24Y / AHS110A24Y/ AHS006F04Y / AHS009F.Y / AHS012F.Y
AHS20F.Y / ASKF12..Y / ASKF22..Y / ASMF04..Y / ASMF14..Y / ASLF04..Y

General Description

The positioning electronic is a separate microprocessor board, located underneath the covering hood. This board can be accessed after removing the hood.

Front view of the positioning electronic

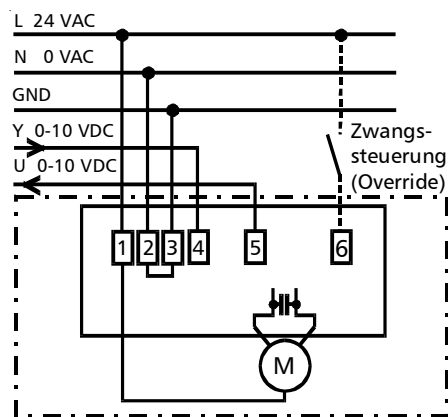


Mounting / Set-up

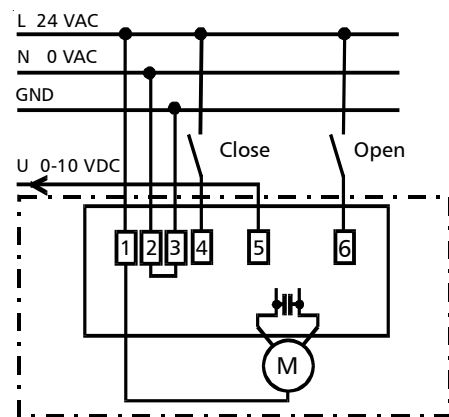
- 1) The actuator has to be mounted to the valve.
- 2) Connect the actuator according to the cabling diagram and in accordance to local regulations.
- 3) Set the DIP-switches according to the use of the actuator.
- 4) Power up (24 VAC) the actuator.

Electrical wiring

Control signal analog (0...10VDC)



Control signal tri-state (Open-stay in place-Close)



This positioning electronic can be used for both control signals, analog as well as tri-state. The default setting is set to drive a 3-way mixing valve with a analog control signal. The position feedback is activated.

Automatic set-up

When powered up, the actuator starts its so called initialisation routine regardless of the control signal (except DIP-switch #8 is set to the ON position). During this routine, the actuator's spindle is driven until the end position is reached. On its way, the quick connection mechanism establishes a solid connection between the stem of the actuator and the shaft of the valve. Thereafter the spindle is returned until it reaches the other end position. While traveling to both end positions, the hall effect probe measures exactly the length of the stroke. These values are stored unerasable in the microprocessors memory. According to the size of the valve, this routine can take up to 5 minutes time. When reaching an end position, a buzzy noise can be heard.

Does 24 VAC power fail during the initialisation routine, the complete routine starts again when powered up the next time.

Once the "automatic set-up" is done, no further manual adjusting is necessary.

Reinitialisation

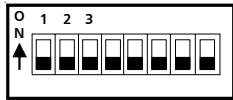
To start the initialisation routine again, you only have to push the reset pushbutton for 3 seconds. Right after that, the actuator will start to execute the initialisation routine

In case of a power fail (24 VAC)

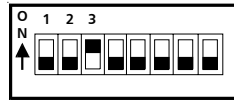
When a power fail occurs, the actuator will move to the minimum position of the control signal according to the setting of Dip-switch #4. After reaching this position, the actuator will move to the actual position of the control signal (according to DIP-switches # 1-3). This procedure is the same, whenever the main switch of the actuator is moved from the OFF-position back to automatic mode.

Setting of the DIP-switches

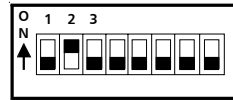
DIP-switches S1-3 (Configuration of the control signal Y - Terminals 3+4)



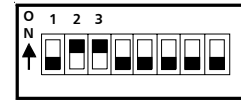
0...10 VDC (default set.)



0...5 VDC



5...10 VDC



2...10 VDC



0...20 mA



0...10 mA

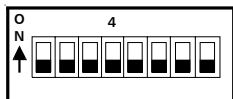


10...20 mA

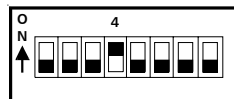


4...20 mA

DIP-switch S4 (Inverting control signal Y)



Minimum signal causes spindle to reach the closest point to the actuator. (e.g. 0/5/2 VDC or 0/10/4 mA) default setting: #4 OFF



Minimum signal causes spindle to reach the most remote point to the actuator. (e.g. 0/5/2 VDC or 0/10/4 mA)

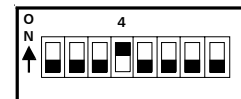
DIP-switch S4 (when used with 2- or 3-way valves)



3-way mixing valve



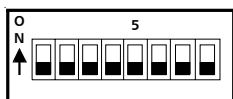
3-way valve used as 2-way



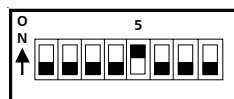
2-way valve



DIP-switch S5 (Inverting feedback signal)

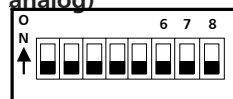


Feedback signal is 0V when spindle reaches the closes point to the actuator (default setting)

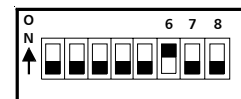


Feedback signal is 0V when spindle reaches the most remote point to the actuator

DIP-switches S6-8 (Override control Term.6 when control signal is analog)



Override control moves actuator to max. pos. of the control signal (e.g. 0/5/2 VDC or 0/10/4 mA)

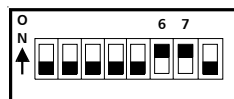


Override control moves actuator to minimum pos. of the control signal (e.g. 0/5/2 VDC or 0/10/4 mA)

DIP-switches S6-7 (Tri-state mode / with or without feedback signal)

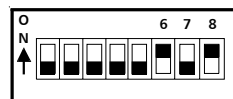


tri-state mode including positioning feedback

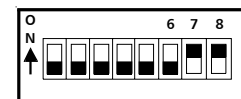


tri-state mode without positioning feedback

DIP-switches S6-8 (Moving the actuator spindle manually)



Actuator spindle runs to its end



Actuator spindle reaches closest point to the actuator

states of actuator indicated by LED

- LED off (more than 5 seconds) > no positioning electronic unpowered or faulty
- LED on steadily > actuator moves to On or OFF position
- LED blinks at 0,5Hz (1 sec on / 1 sec off) > actuator does not move
- LED blinks at 2,5Hz (0,2 sec on / 0,2 sec off) > Error state indicating state of failure

DIP-Schalter S6-8 (Actuator manually set OFF)



actuator OFF



Actuator OFF