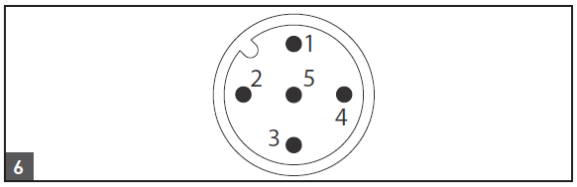
1, Set up the system according to the electrical sketch.

2, Configure the valve system with the help of the manuals:

- BUS node: https://www.emerson.com/documents/automation/instruction-manual-bus-coupler-aes-valve-driver-av-profinet-io-aventics-en-6897242.pdf
- Configuration files: https://www.emerson.com/documents/automation/configuration-files-for-profinet-io-aes-aventics-en-7428818.zip
- 2AI2M12 https://www.emerson.com/documents/automation/manuals-guides-i-o-modules-aes-analog-2ai2m12-e-4ai4m12-e-2ai2ao2m12-ae-2ao2m12-e-4p4d4-4vp4d4-aventics-en-7593642.pdf
    - note: you need to switch the parameter setting for the 2AI2M12 to 4…20mA!
- 8DI8M8: https://www.emerson.com/documents/automation/instruction-manual-i-o-modules-aes-digital-aventics-en-6897250.pdf
-

3, Set up the AF2 flow sensor with the help of the manual:

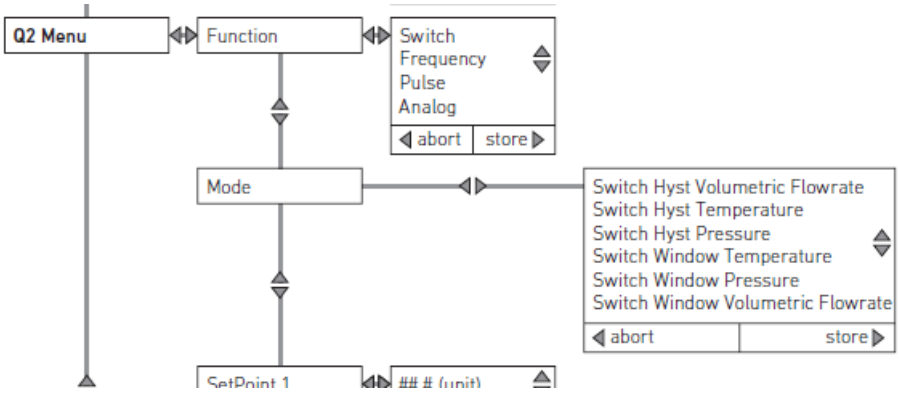
- AF2: https://www.emerson.com/documents/automation/operating-instructions-flow-rate-sensor-series-af2-aventics-en-6899510.pdf
- Note: you need set up the Q2 output to analoge pressure, Qa should be the flow by factory default:



M12x1 connection, 5-pin (A-coded) IO-Link

Tab. 1 Pin assignment, M12 plug connector, 5-pin (only IO-Link version, see 6)

Contact (M12)	Identification	Wire color	Description
1	L_+	Brown	Supply voltage
2	QA	White	Analog current output 4 … 20 mA (scalable)
3	M	Blue	Ground, reference ground for current output
4	C/Q_1	Black	Digital output 1 (switch output) or IO-Link communication
5	Q_2/QB	Yellow	Digital output 2 (switch output) or pulse/ frequency output/analog output 4 … 20 mA (scalable)



4, Write the inital program to the PLC, in order to have a cylinders moving etc.