Innovation
trifft Technik
HMI

Maschinenbau - Elektrotechnik
Projektierung und Fertigung aus einer Hand

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Company / customer	-
Project description	Mini NF / RO Controller
Job number	Mini 001-MK
Commission	Mini NF/RO

HEYDKAMP
MEMBRANE TECHNOLOGY

end customer

Path	-
Project name	OS Mini
make	-
Type	-
Place of installation	-
Responsible for project	Uwe Heydkamp
Part feature	All-in-One HMI

Created on	03.03.2023			
Edit date	14.05.2023	by (short name)	Christian Werner	Number of pages 22

Customer	-
Commission	Mini reverse osmosis

end customer

Higher-level function	AG
Mounting location	all-pole representation of the circuit diagram

Created on	03.03.2023		
Edit date	14.05.2023	by (short name) Christian Werner	11

L1 / 3.0

Terminal strip definition

-X1 = Infeed and power outlets

-X20 = Sensors and collective fault 24VDC

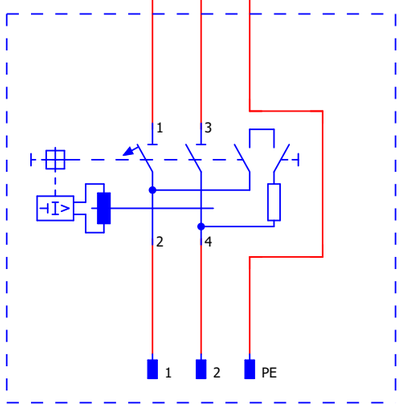
N / 3.0

PE / 3.0

-X1 1 2 3

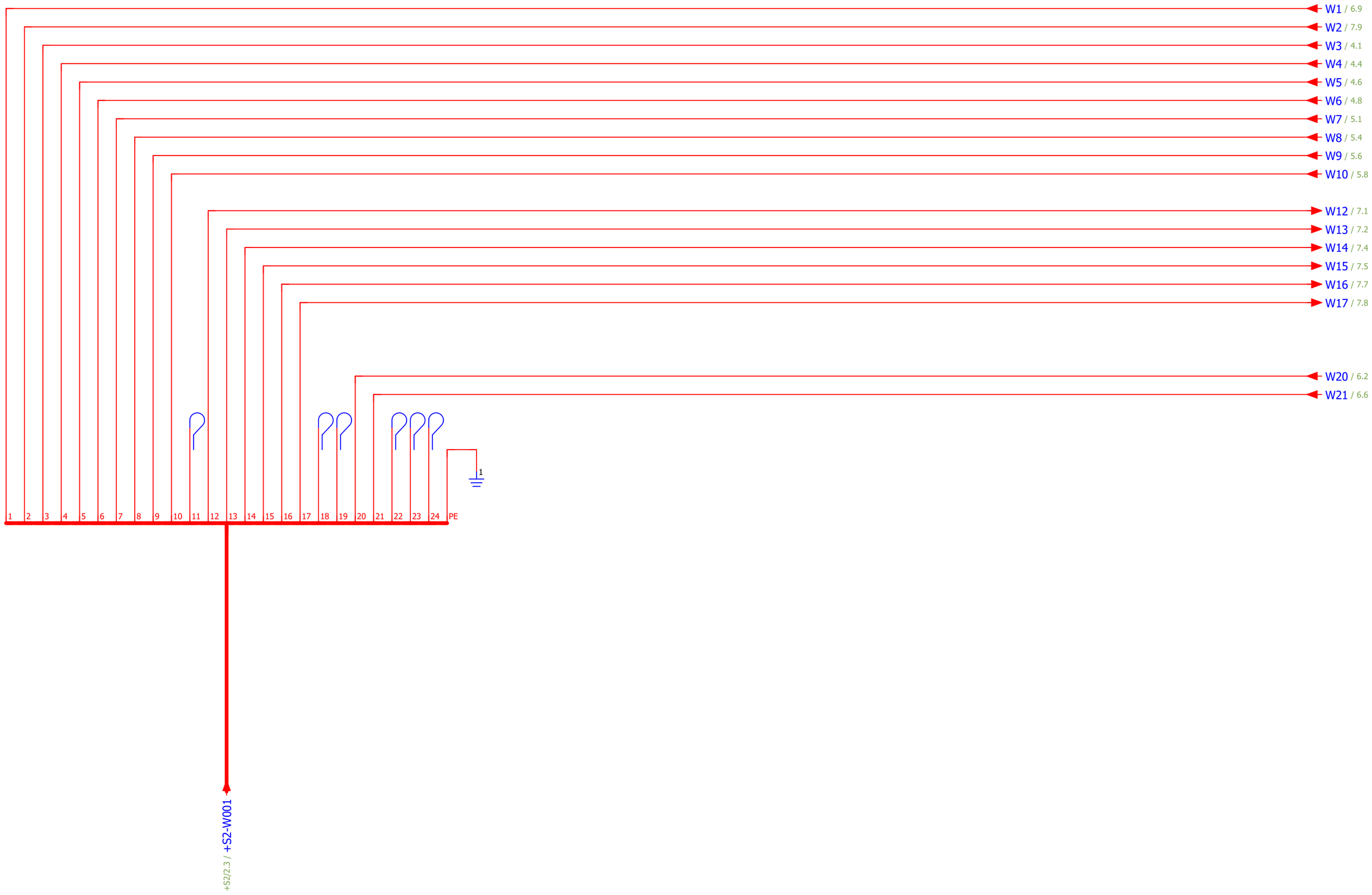
-XS1

220-250VAC / 3500W / 16A
30mA / -25°C...40°C / IP55
Residual current protection plug
BDI-S 2 30



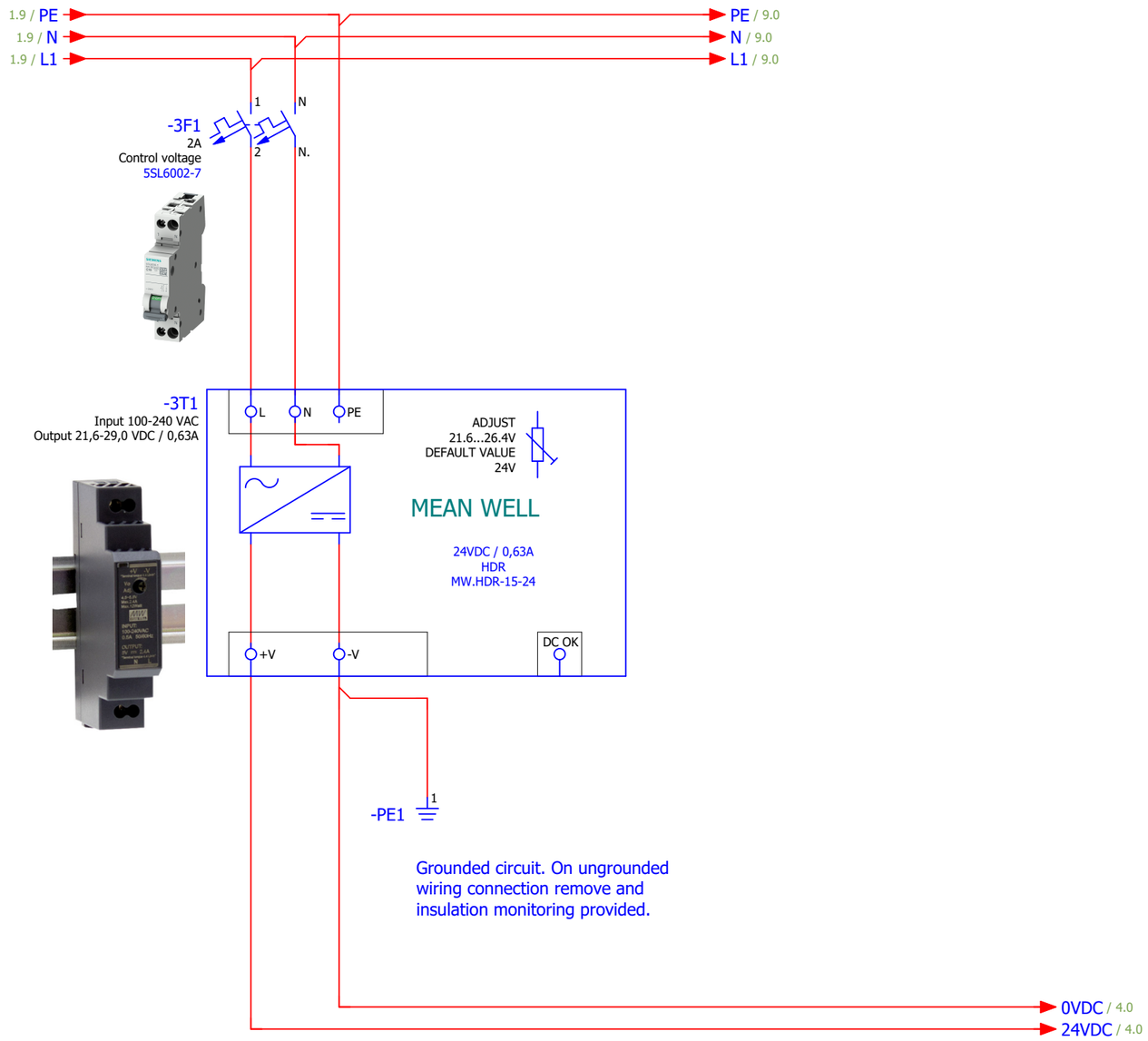
Overcurrent protective device is required in the supply line according to IEC 204 / VDE 01130

			Date	17.03.2023	Mini reverse osmosis	Heydkamp GmbH & Co. KG	OS-Mini - Infeed control cabinet		= AG	
			Ed.	Christian Werner					+ S1	
			Appr		Mini reverse osmosis			Mini 001-MK	Page	1
Modification	Date	Name	Original		Replacement of	Replaced by			Page	3 / 22

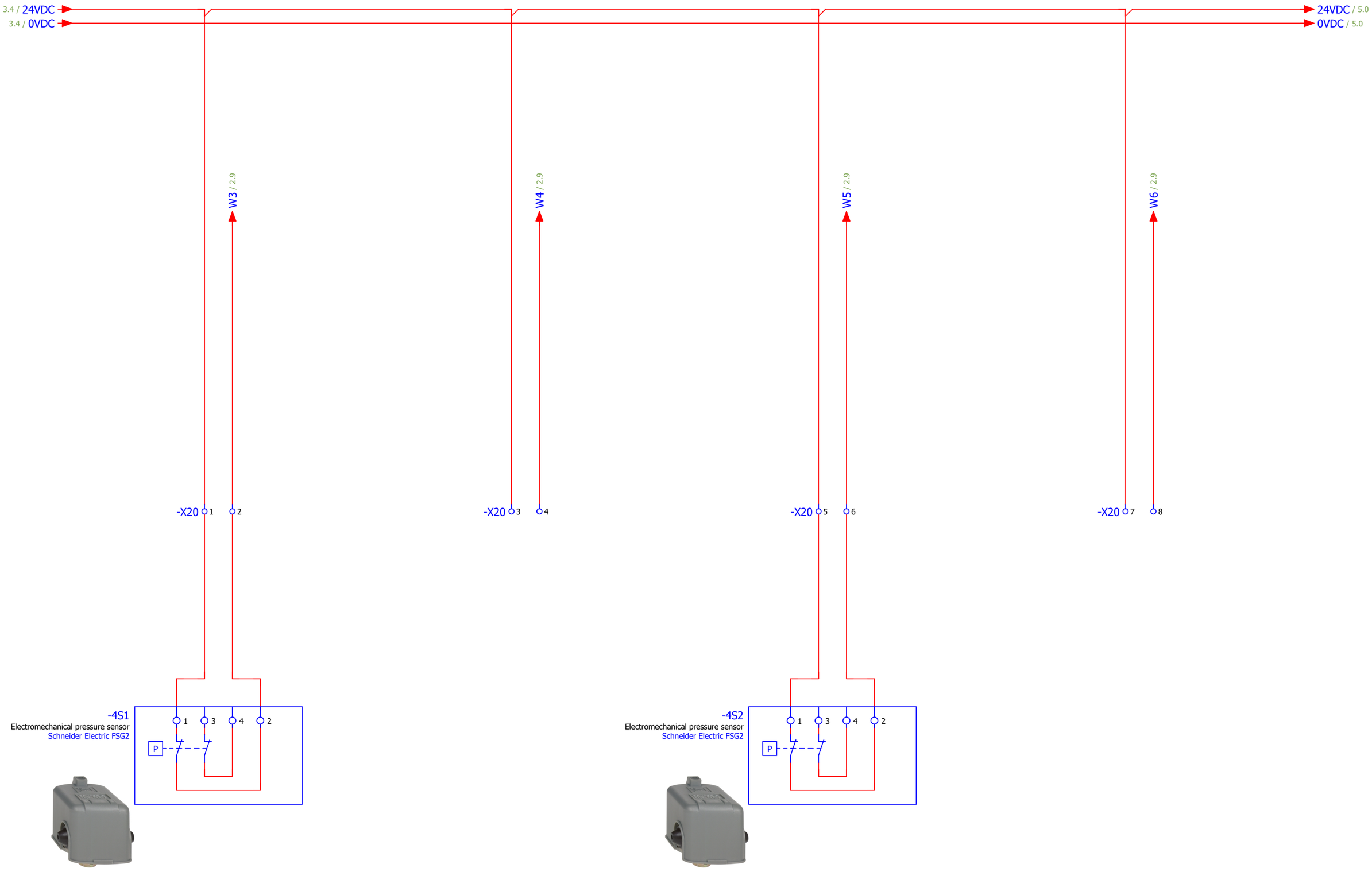


1 3

			Date	17.03.2023	Mini reverse osmosis	Heydkamp GmbH & Co. KG	OS-Mini - Control cable HMI-PLC device		= AG	
			Ed.	Christian Werner					+ S1	
			Appr		Mini reverse osmosis			Mini 001-MK	Page	2
Modification	Date	Name	Original		Replacement of	Replaced by			Page	4 / 22

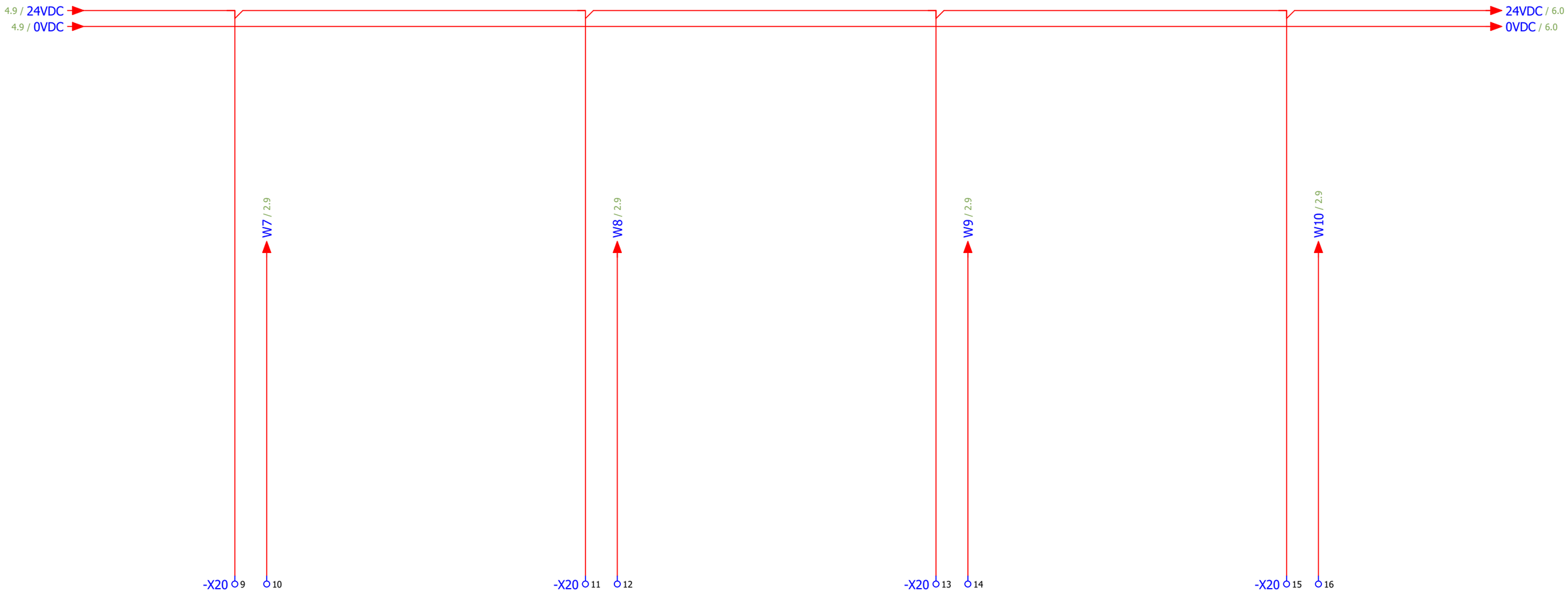


			Date	17.03.2023	Mini reverse osmosis	Heydkamp GmbH & Co. KG	OS-Mini - Control voltage 24VDC		= AG	
			Ed.	Christian Werner					+ S1	
			Appr		Mini reverse osmosis			Mini 001-MK		Page 3
Modification	Date	Name	Original		Replacement of	Replaced by				Page 5 / 22



3 5

			Date	14.05.2023	Mini reverse osmosis	Heydkamp GmbH & Co. KG	OS-Mini - Digital sensors		= AG	
			Ed.	Christian Werner					+ S1	
			Appr		Mini reverse osmosis			Mini 001-MK	Page	4
Modification	Date	Name	Original		Replacement of	Replaced by			Page	6 / 22

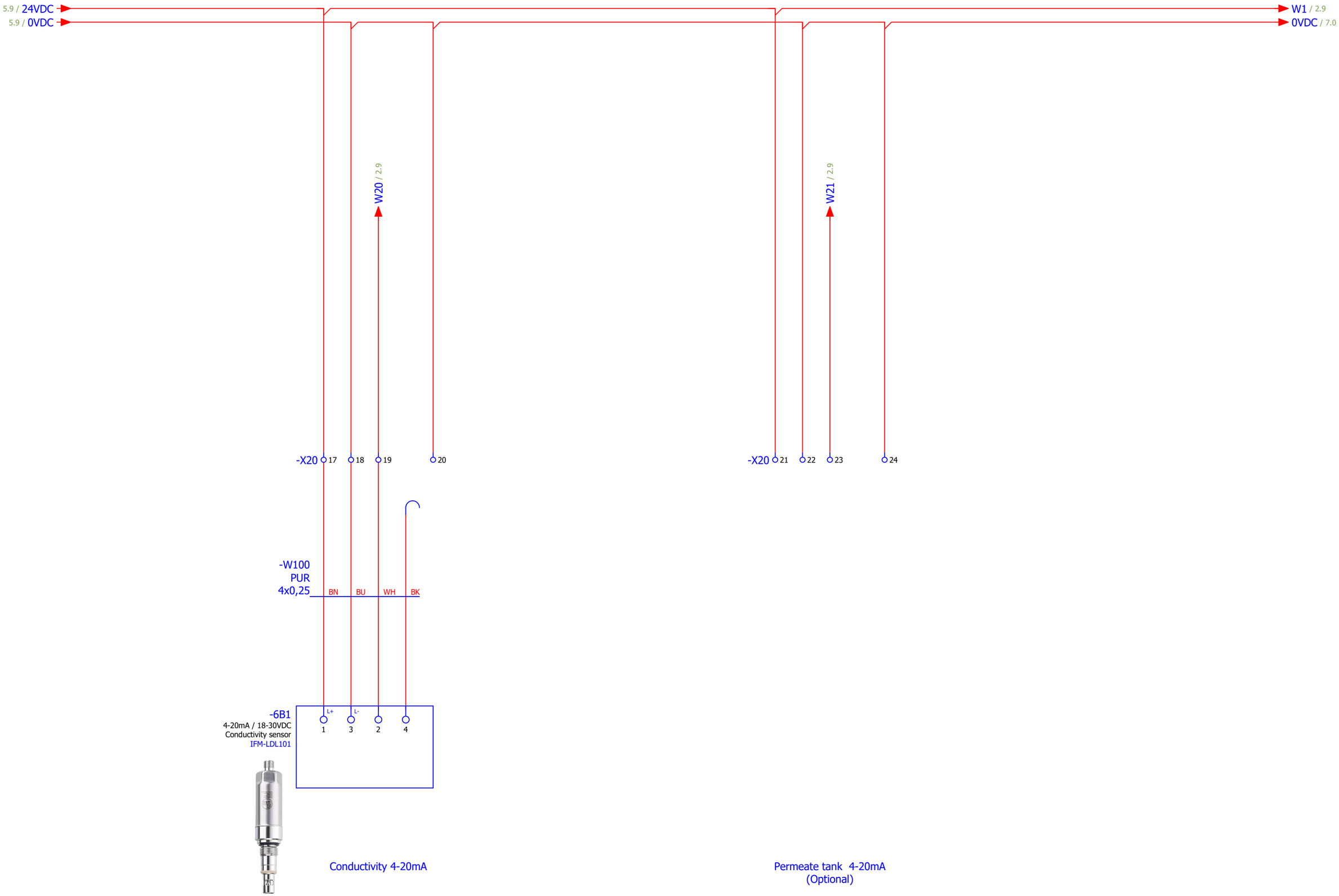


Level switch LS01
Permeate tank empty

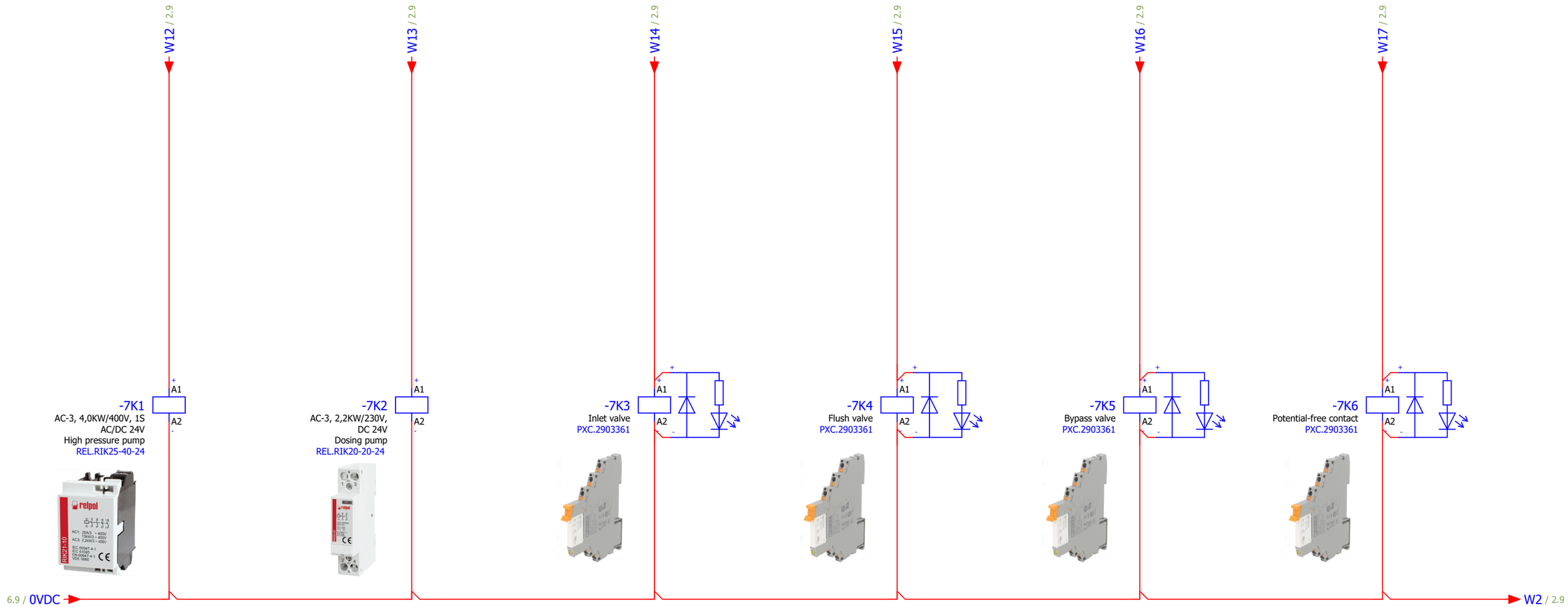
Level switch LS03
Dosing tank pre-alarm

Level switch LS04
Dosing tank alarm

Remote control Potential-free contact
external start and stop



			Date	14.05.2023	Mini reverse osmosis	Heydkamp GmbH & Co. KG	OS-Mini - Analog sensors		= AG	
			Ed.	Christian Werner					+ S1	
			Appr		Mini reverse osmosis			Mini 001-MK	Page	6
Modification	Date	Name	Original		Replacement of	Replaced by			Page	8 / 22



1 2 /10.4
3 4 /10.5
5 6
7 8

1 2 /9.7
3 4 /9.7

13 14 /9.2

13 14 /9.4

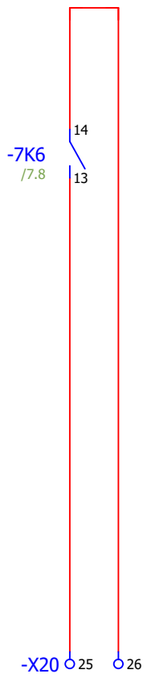
13 14 /9.5

13 14 /8.2

6

8

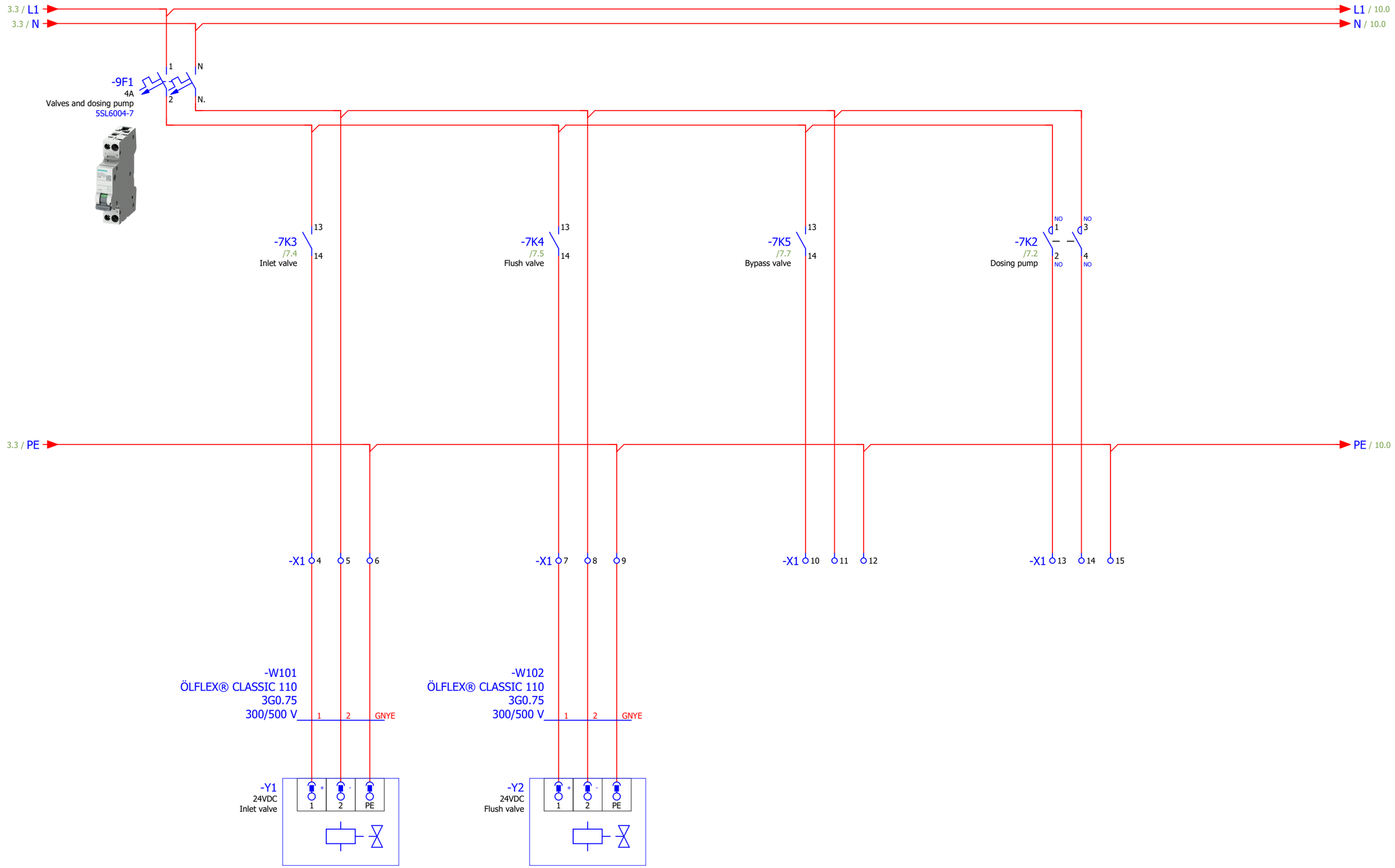
			Date	17.03.2023	Mini reverse osmosis		Heydkamp GmbH & Co. KG	OS-Mini - Actuators		= AG
			Ed.	Christian Werner						+ S1
			Appr		Mini reverse osmosis				Mini 001-MK	Page 7
Modification	Date	Name	Original		Replacement of	Replaced by				Page 9 / 22



Potential-free contact
Multiple functions
Depends on the configuration

7 9

			Date	17.03.2023	Mini reverse osmosis	Heydkamp GmbH & Co. KG	OS-Mini - Potential-free contact		= AG	
			Ed.	Christian Werner					+ S1	
			Appr		Mini reverse osmosis			Mini 001-MK	Page	8
Modification	Date	Name	Original		Replacement of	Replaced by			Page	10 / 22



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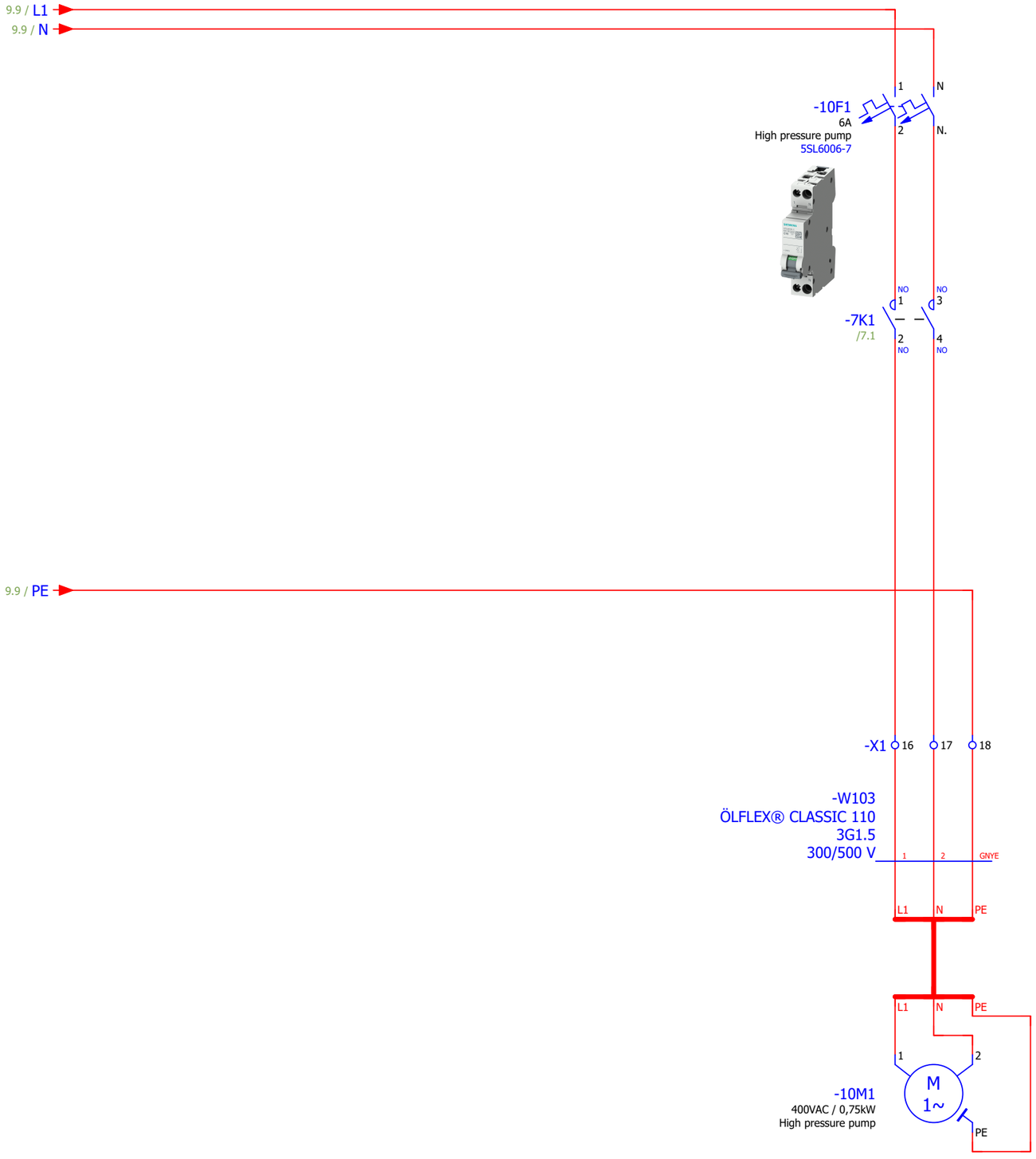
10

			Date	14.05.2023	Mini reverse osmosis	Heydkamp GmbH & Co. KG	OS-Mini - Solenoid valves and dosing pump		= AG
			Ed.	Christian Werner					+ S1
			Appr		Mini reverse osmosis			Mini 001-MK	Page 9
Modification	Date	Name	Original		Replacement of	Replaced by			Page 11 / 22



+SM1/0

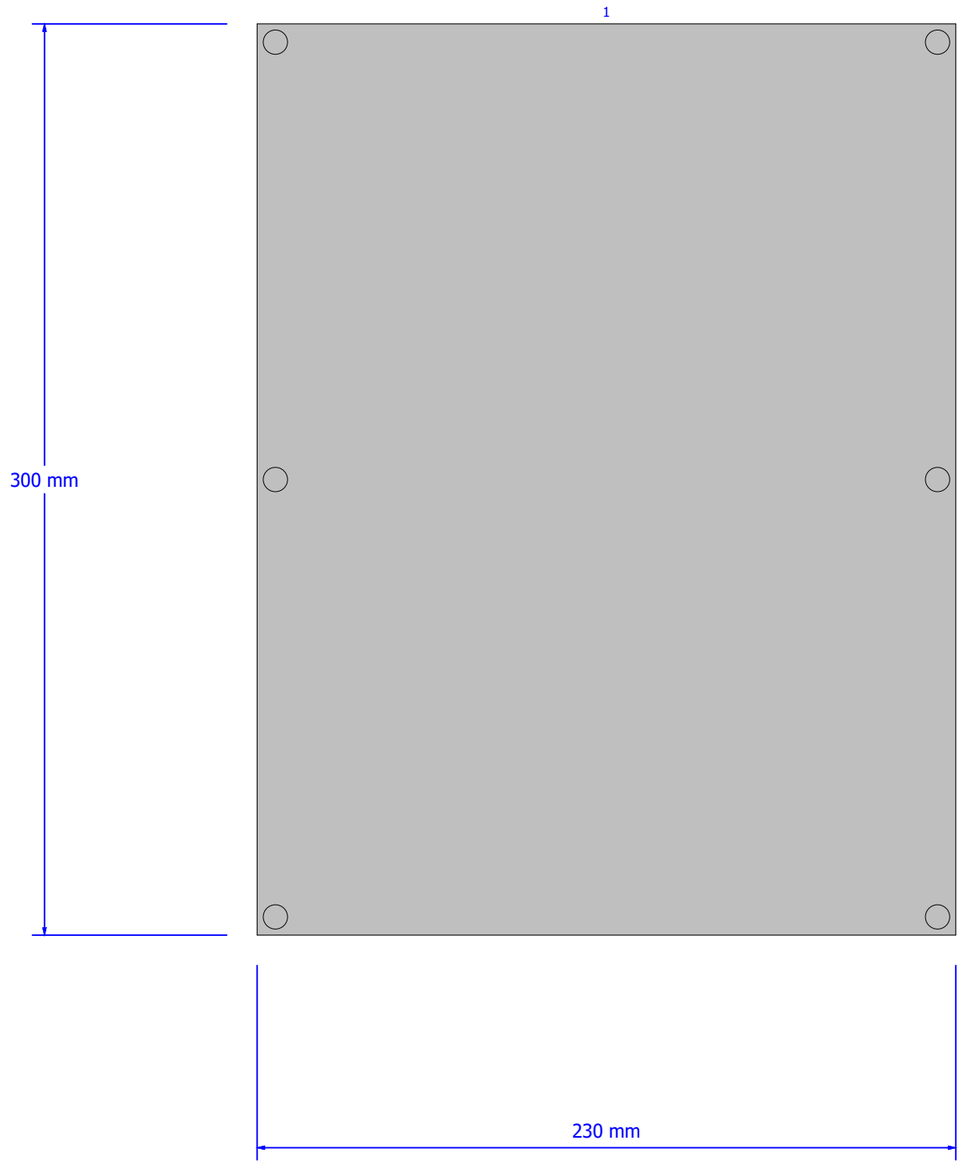
			Date	14.05.2023	Mini reverse osmosis	Heydkamp GmbH & Co. KG	OS-Mini - High pressure pump		= AG	
			Ed.	Christian Werner					+ S1	
			Appr		Mini reverse osmosis			Mini 001-MK	Page	10
Modification	Date	Name	Original		Replacement of	Replaced by			Page	12 / 22

Customer	-
Commission	Mini reverse osmosis

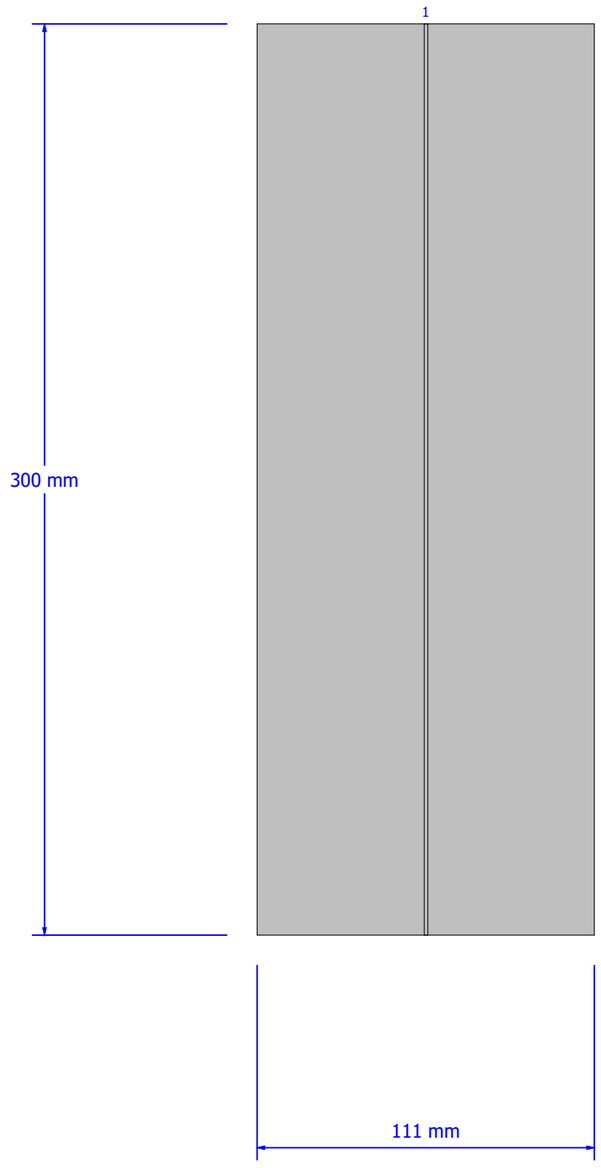
end customer

Higher-level function	AG
Mounting location	Mechanical design of the devices in the control cabinet

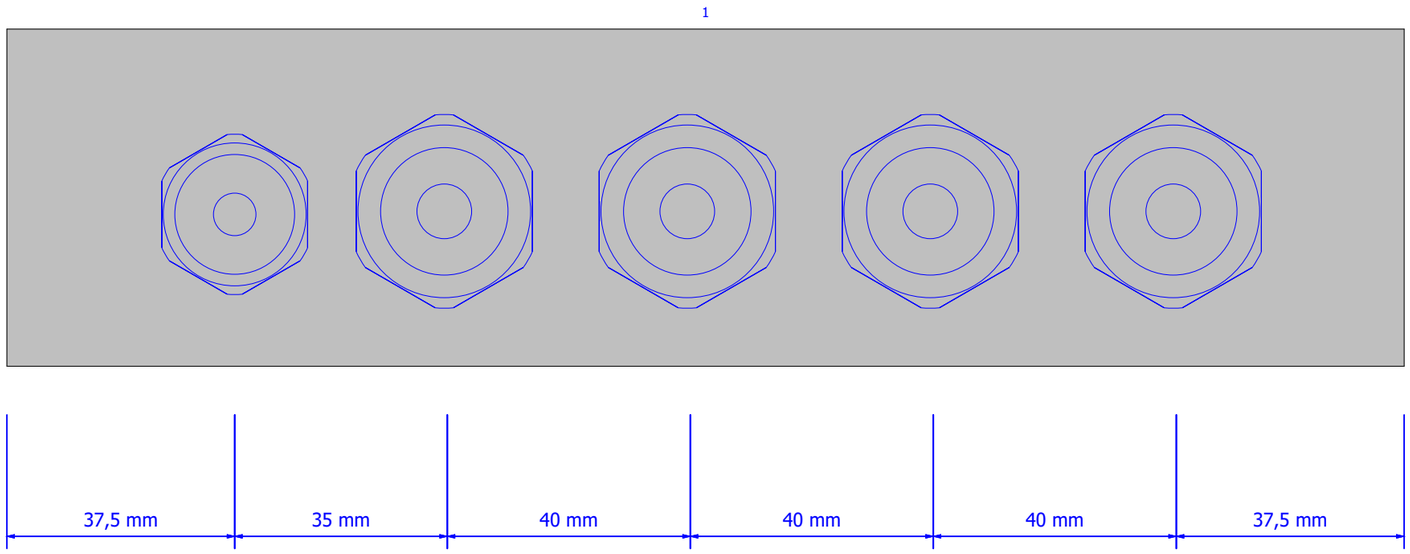
Created on	03.03.2023		
Edit date	14.05.2023	by (short name) Christian Werner	5



			Date	17.03.2023	Mini reverse osmosis	Heydkamp GmbH & Co. KG	OS-Mini - Front view		= AG
			Ed.	Christian Werner					+ SM1
			Appr		Mini reverse osmosis			Mini 001-MK	Page 1
Modification	Date	Name	Original		Replacement of	Replaced by			Page 14 / 22

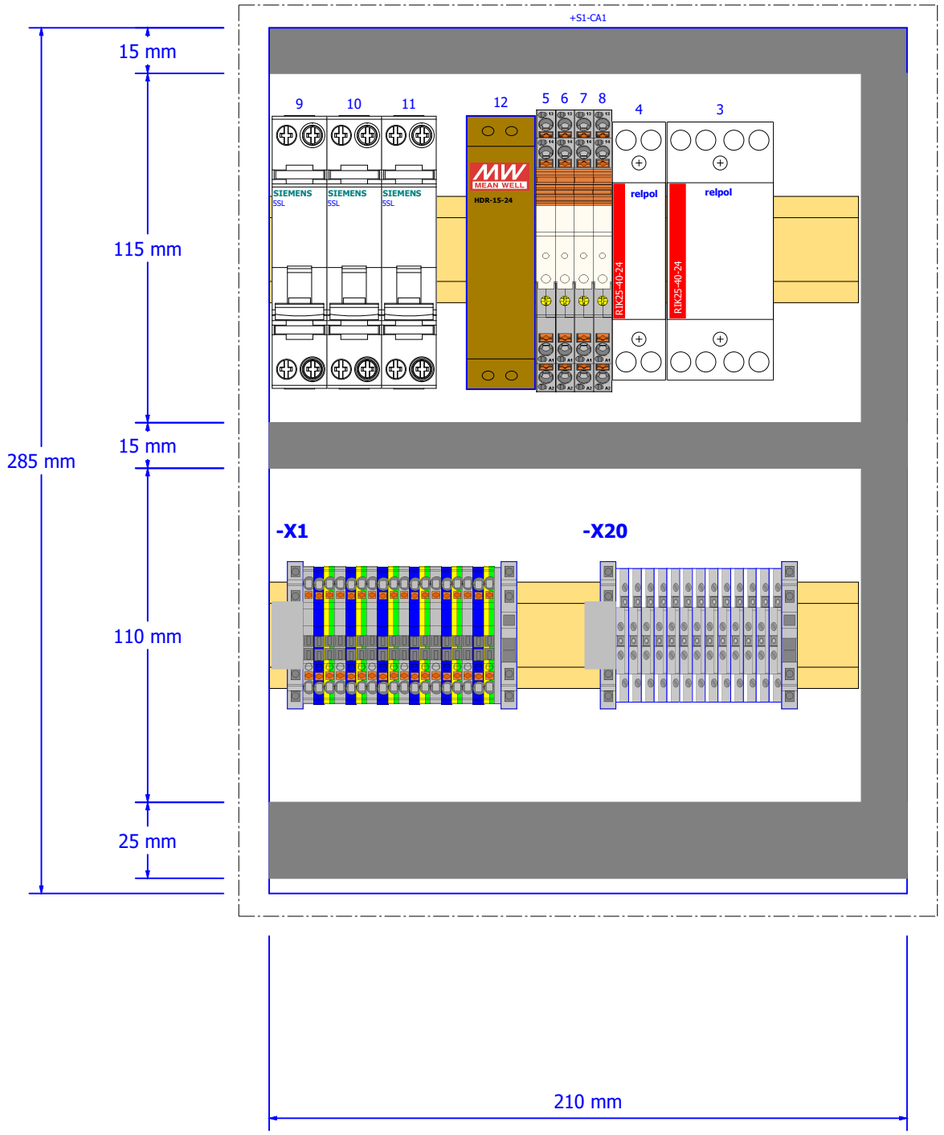


			Date	17.03.2023	Mini reverse osmosis		Heydkamp GmbH & Co. KG	OS-Mini - Side view		= AG
			Ed.	Christian Werner						+ SM1
			Appr		Mini reverse osmosis				Mini 001-MK	Page 2
Modification	Date	Name	Original		Replacement of	Replaced by				Page 15 / 22



2 4

			Date	17.03.2023	Mini reverse osmosis		Heydkamp GmbH & Co. KG	OS-Mini - Bottom view		= AG	
			Ed.	Christian Werner						+ SM1	
			Appr		Mini reverse osmosis				Mini 001-MK		Page 3
Modification	Date	Name	Original		Replacement of	Replaced by					Page 16 / 22



3

+S2/0

			Date	17.03.2023	Mini reverse osmosis	Heydkamp GmbH & Co. KG	OS-Mini - Mounting plate		= AG	
			Ed.	Christian Werner					+ SM1	
			Appr		Mini reverse osmosis			Mini 001-MK		Page 4
Modification	Date	Name	Original		Replacement of	Replaced by				Page 17 / 22

Customer	-
Commission	Mini reverse osmosis

end customer

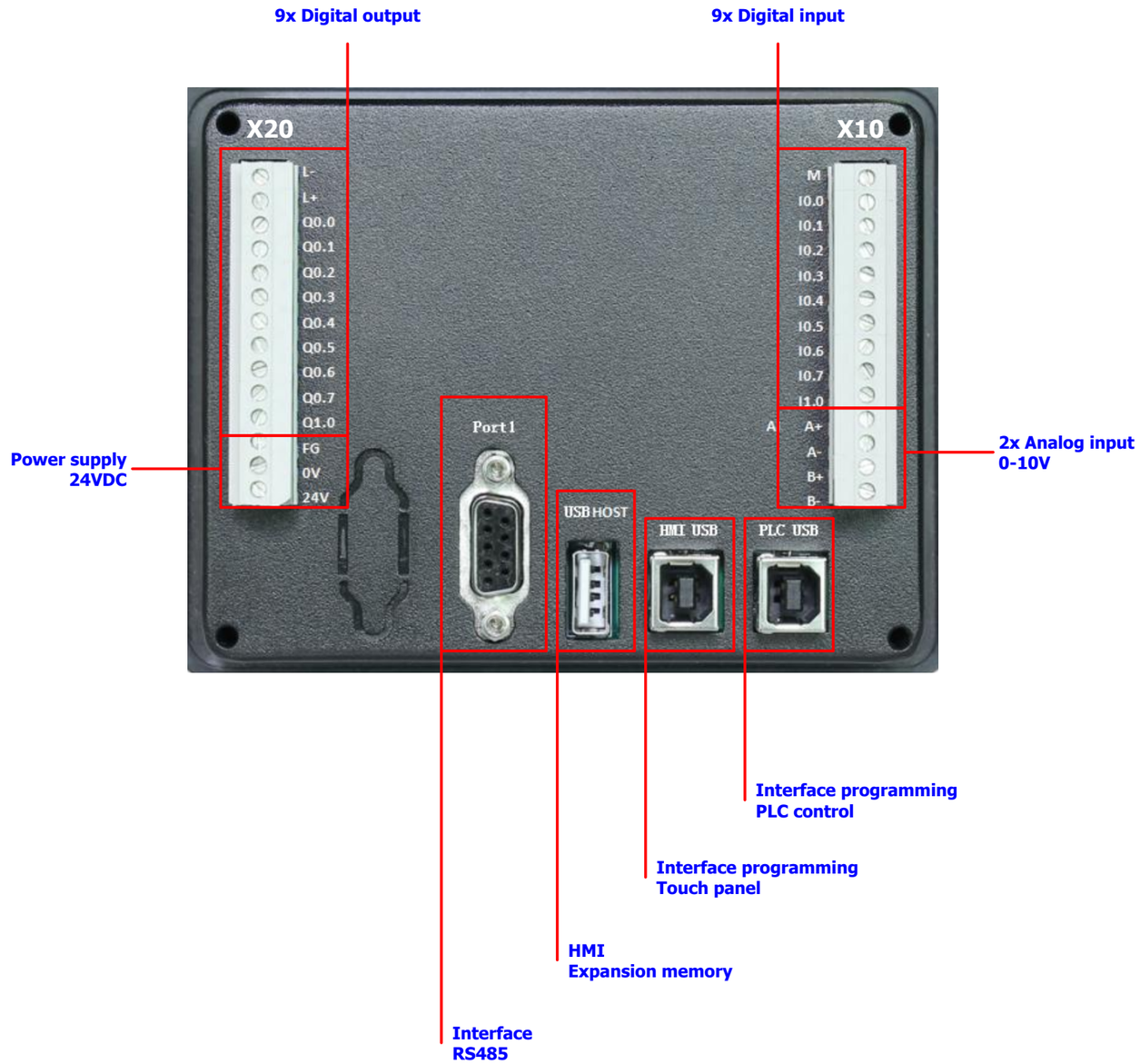
Higher-level function	AG
Mounting location	all-pole representation of the circuit diagram

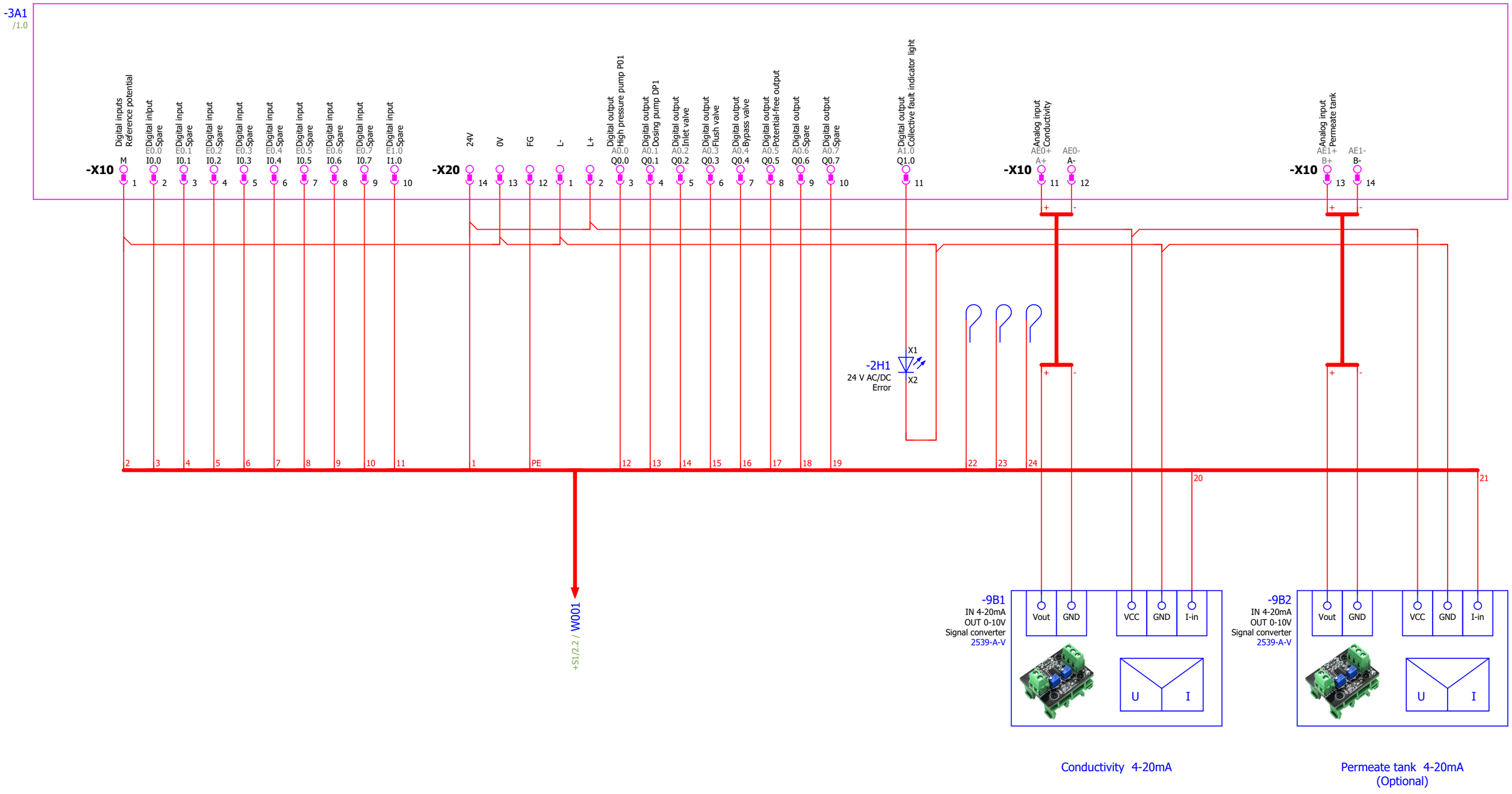
Created on	03.03.2023		
Edit date	14.05.2023	by (short name) Christian Werner	3

Front view with the control area

-3A1
/2.0
2,4W,24VDC
HMI with central processor unit

Rear view with connection points and interfaces





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+SM2/0

			Date	17.03.2023	Mini reverse osmosis	Heydkamp GmbH & Co. KG	OS-Mini - Touch panel with PLC control	= AG	
			Ed.	Christian Werner				+ S2	
			Appr		Mini reverse osmosis			Mini 001-MK	Page 2
Modification	Date	Name	Original		Replacement of	Replaced by			Page 20 / 22

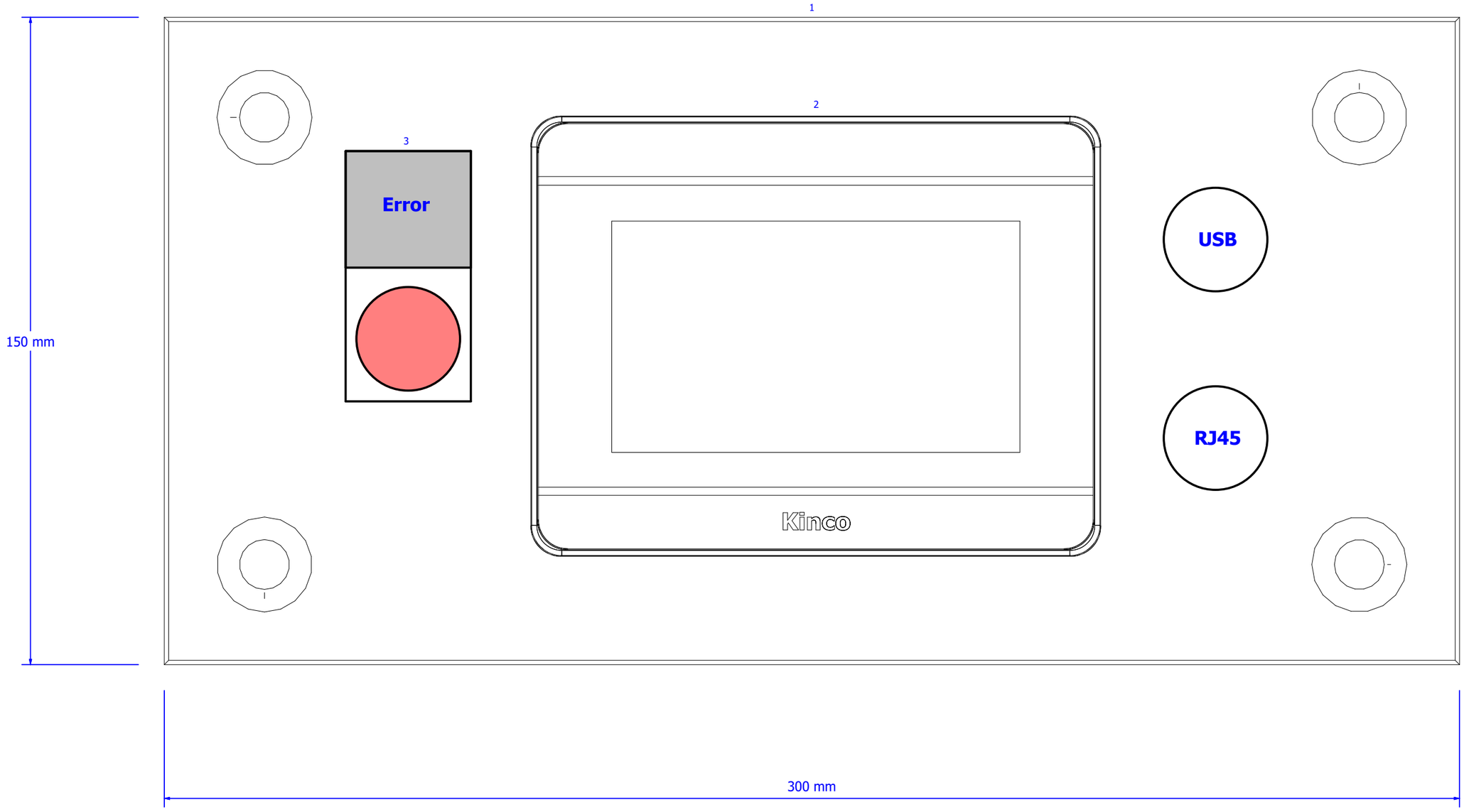
Customer	-
Commission	Mini reverse osmosis

end customer

Higher-level function	AG
Mounting location	Mechanical design of the devices in the control cabinet

Created on	03.03.2023		
Edit date	14.05.2023	by (short name)	Christian Werner

2



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			Date	17.03.2023	Mini reverse osmosis		Heydkamp GmbH & Co. KG	OS-Mini - Front view		= AG
			Ed.	Christian Werner						+ SM2
			Appr		Mini reverse osmosis				Mini 001-MK	Page 1
Modification	Date	Name	Original		Replacement of	Replaced by				Page 22 / 22