E-mail: info@masevon.com

Customer Project	:	
name Drawing	:	FILLING UNIT
number Client	:	
	:	
Firm	:	
Manufacture	:	
Type	:	FILLING UNIT
Installation place	:	
Particulars	:	
Environmental aspects	:	
Location	:	
Regulation Protection	:	
class	:	
Creation Date	:	
Project leader Last	:	
modification Last	:	
modification by	:	

Cabinet	:	
Power supply	:	480VAC / 120VAC
Supply	:	
Control voltage	:	24VDC
Construction year	:	2016
Highest page number	:	120
Number of pages	:	38

Project name

FILLING UNIT

Page description

COVER

Copyright reserved

Checked by

Table of contents

Group	Place	Page	Description
		1	COVER
		2	INDEX
		3	INDEX
		4	CABINET LAYOUT
		4.a	CABINET LAYOUT
		4.b	CABINET LAYOUT
		5	BUTTON CABINET LAYOUT
		6	WIRE COLORS
		10	MAIN CURRENT
		11	MAIN CURRENT
		12	FREQUENCY CONVERTER
		13	FREQUENCY CONVERTER
		14	TURBO CONTROLER
		15	RELAYS
		20	EMERGENCY STOP
		25	CONNECTOR
		30	PLC
		31	INPUTPLC
		32	Input PLC
		33	Input PLC
		34	Input PLC
		35	Input PLC
		36	POWER
		40	Output PLC
		41	Output PLC
		42	Output PLC
		43	Output PLC
		50	Communication
		51	Communication
		52	POWER

Copyright reserved

Table of contents

Group	Place	Page	Description
		60	TOUCH SCREEN
		70	AIR
		100	ARTICLE LIST
		101	ARTICLE LIST
		102	ARTICLE LIST
		110	CABLE OVERVIEW
		111	CABLE OVERVIEW
		120	TERMINAL STRIP OVERVIEW

Project name

FILLING UNIT

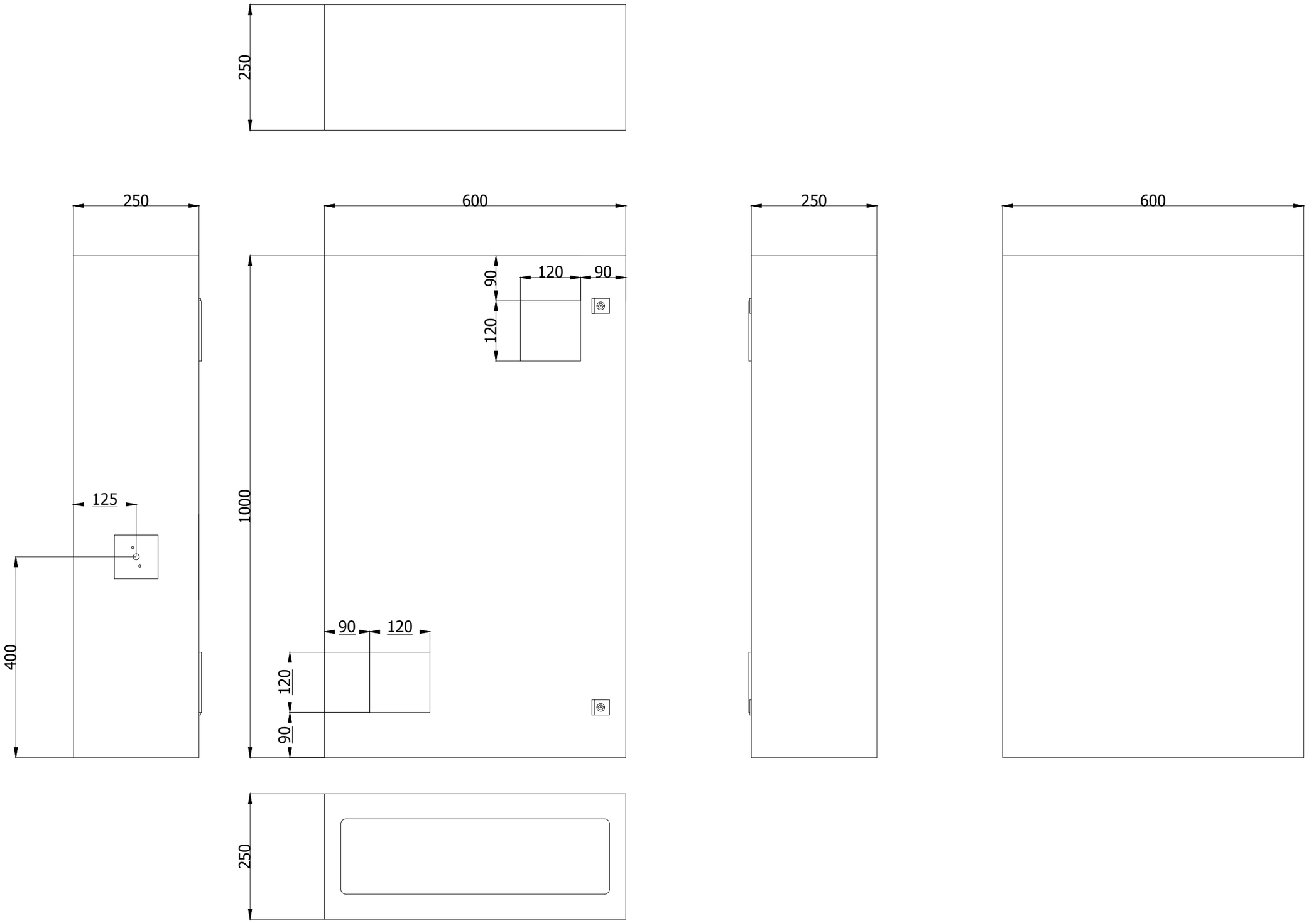
Rev.

0

Page description

INDEX

Copyright reserved



3

4
.
a

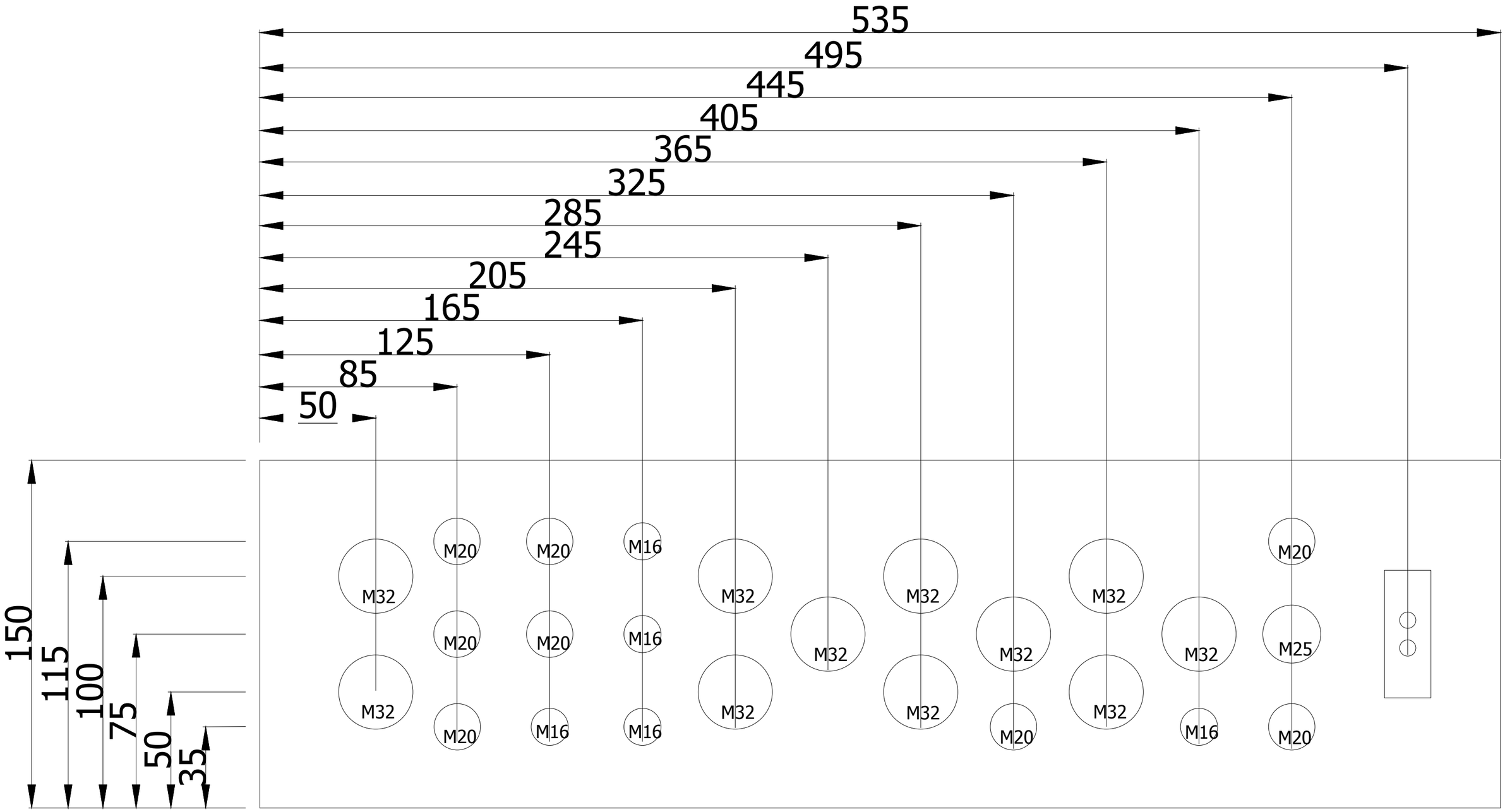
Project name

FILLING UNIT

Page description

CABINET LAYOUT

Copyright reserved



4

MASÉVON TECHNOLOGY

Project name

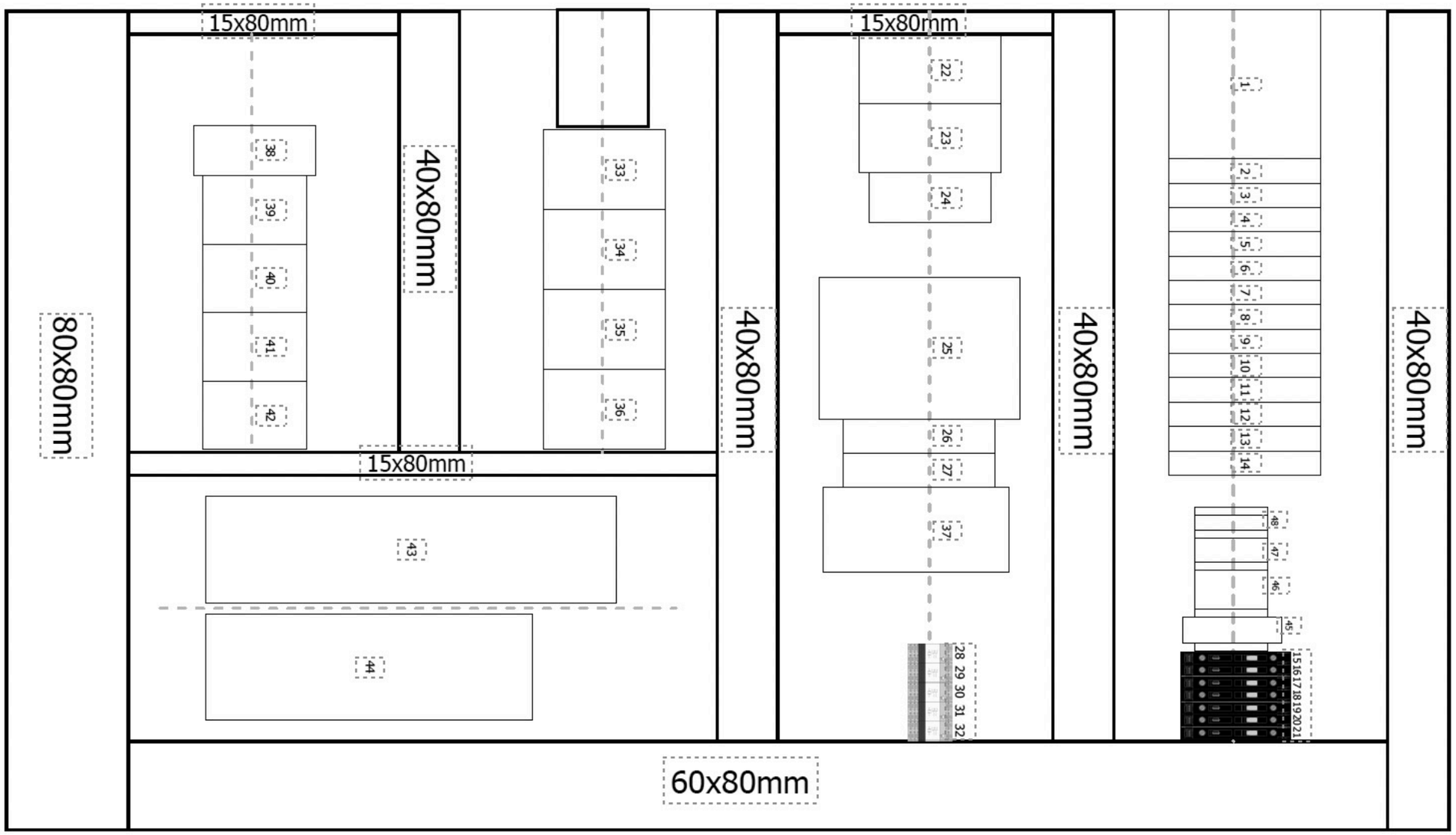
FILLING UNIT

Page description

CABINET LAYOUT

4
.
b

Copyright reserved



4.a

MASÉVON TECHNOLOGY

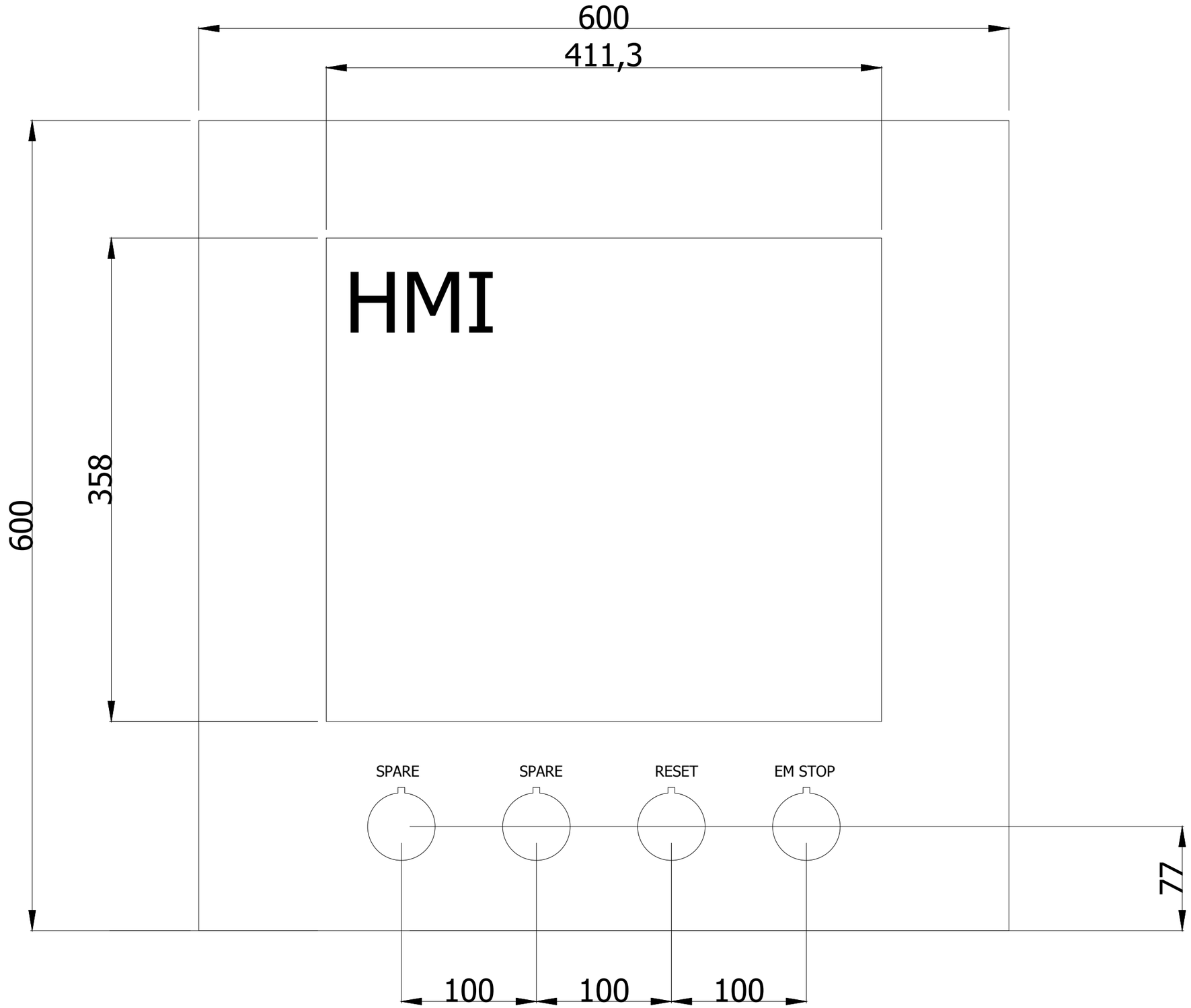
Project name

FILLING UNIT

Page description

CABINET LAYOUT

Copyright reserved



4.b

Project name

FILLING UNIT

Page description

BUTTON CABINET LAYOUT

Copyright reserved

Wire colors

After the main switch	
minimal 1.5mm	
400VAC	Black
PE	Green

minimal 1.5mm			minimal 2.5mm	
230VAC	Red		230VAC	Red
0VAC	White		0VAC	White

minimal 0.5mm	
48VDC	Dark Blue
0VDC	White/Blue

			minimal 0.5mm	
24VDC	Dark Blue		24VAC	Red
0VDC	White/Blue		0VAC	White

12VDC	Dark Blue
0VDC	White/Blue

5VDC	Dark Blue
0VDC	White/Blue

Diameter wires	Current
Max ambient temperature 55C°	Max temperature wire 90C°
1,5mm²	13 A
2,5mm²	16 A
4mm²	23 A
6mm²	29 A
10mm²	39 A
16mm²	53 A
25mm²	70 A
35mm²	87 A
50mm²	105 A
70mm²	134 A
95mm²	164 A
120mm²	190 A

MASÉVON TECHNOLOGY

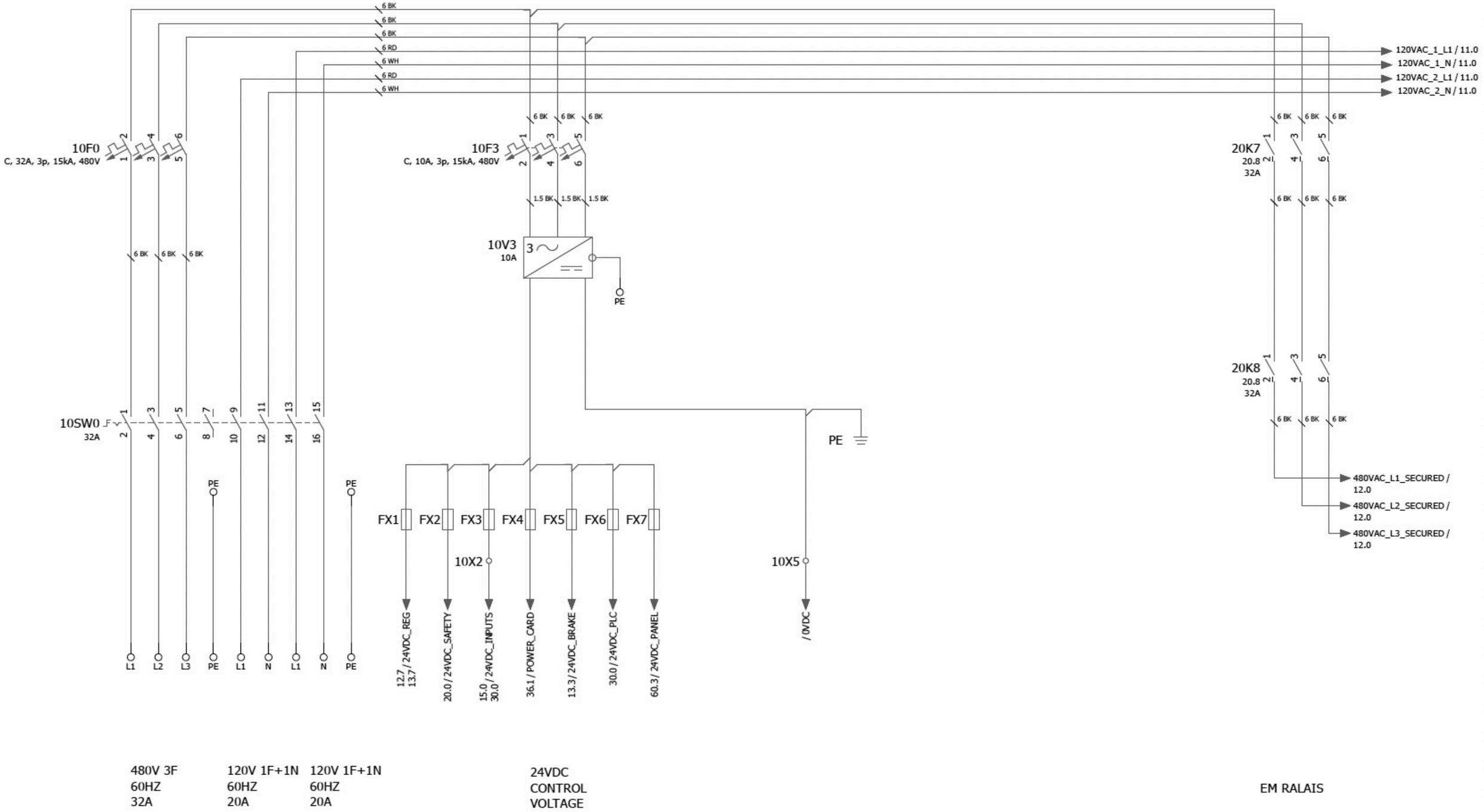
Project name

FILLING UNIT

Page description

WIRE COLORS

Copyright reserved



MASÉVON TECHNOLOGY

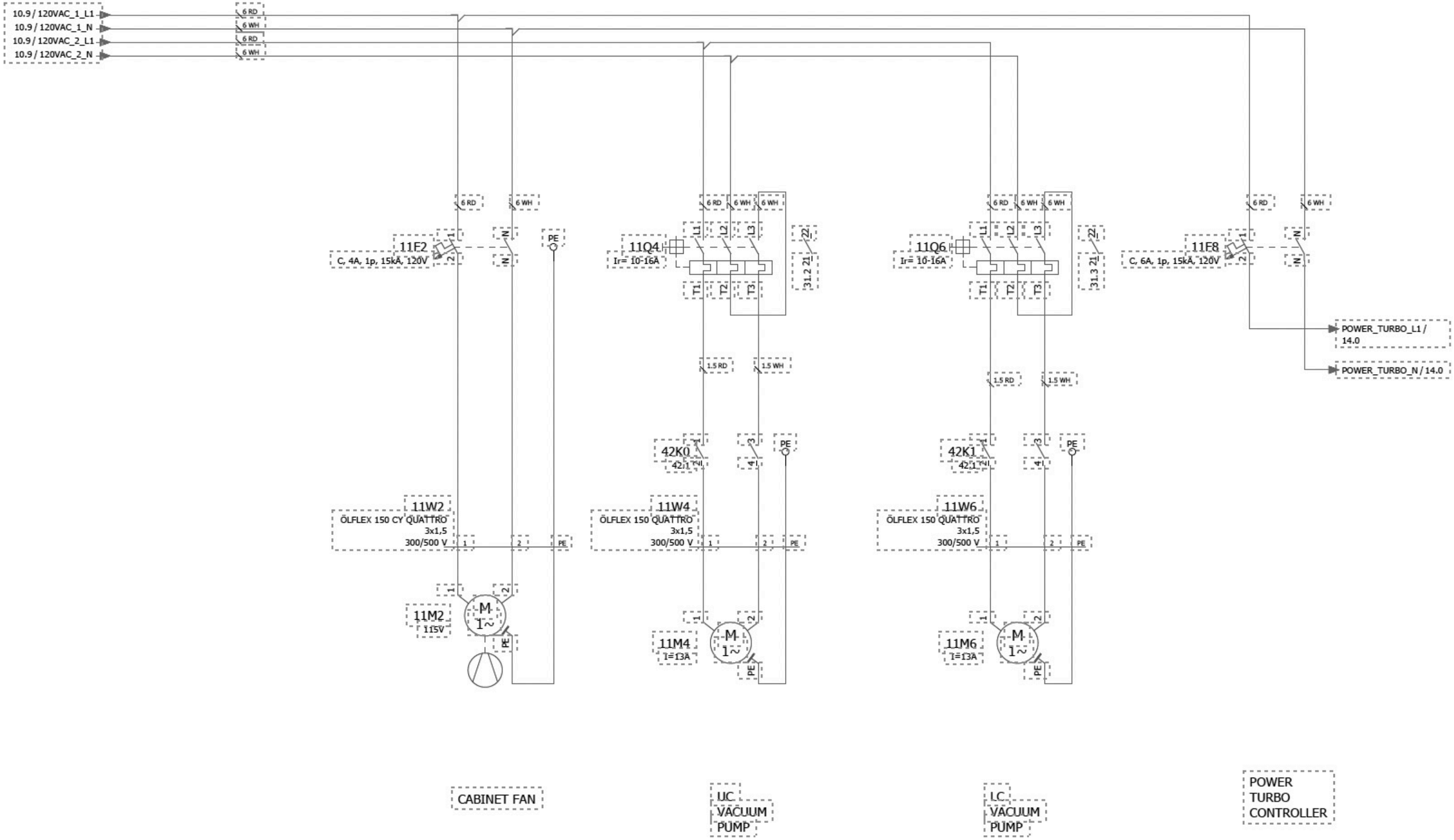
Project name

FILLING UNIT

Page description

MAIN CURRENT

Copyright reserved



Project name

FILLING UNIT

Page description

MAIN CURRENT

Copyright reserved

10.9 / 480VAC_L1_SECURED

10.9 / 480VAC_L2_SECURED

10.9 / 480VAC_L3_SECURED

480VAC_L1_SECURED / 13.0

480VAC_L2_SECURED / 13.0

480VAC_L3_SECURED / 13.0

6 BK 6 BK 6 BK

12F2
C, 6A, 3p, 15kA, 480V

1 3 5 2 4 6

PE

1.5 BK 1.5 BK 1.5 BK

24VDC_REG / 10.2

U.C._DRIVE START_UP / 40.3

U.C.DRIVE SLOW_SPEED / 40.5

U.C.DRIVE START_DOWN / 40.6

0VDC / 10.5

10X5

12U1
32.3

X100 +UG -UG L1 L2 L3 PE

X107 24B GB
24VDC 0VDC

X101 NC NO
COM

FE X5 24E 24L 24E RFR DI1 DI2 DI3 DI4 DI5 DI6 DI7 GI

Lenze
L-force
Inverter drives 8400 TopLine C
E84AVTCE5514SB0
☐ varnished
Built-in unit
3X400/500V; 1,5KW

GND LOW HIGH GND LOW HIGH
CAN
c b a 64 32 16 8 4 2 1
ON
OFF
R R
ON
OFF
CA AB

Resolver
1 2

Baud Encoder Address
3 4

X105 U V W PE X107 BD1 BD2 X105 Rb1 Rb2 X106 T1 T2

12W2
ÖLFLEX 150 CY QUATTRO
4x1,5
300/500 V
1 3 2 PE

PE

12M2
U V W
M
3~
PE
x1
x2
Resolver

UPPER CHAMPER

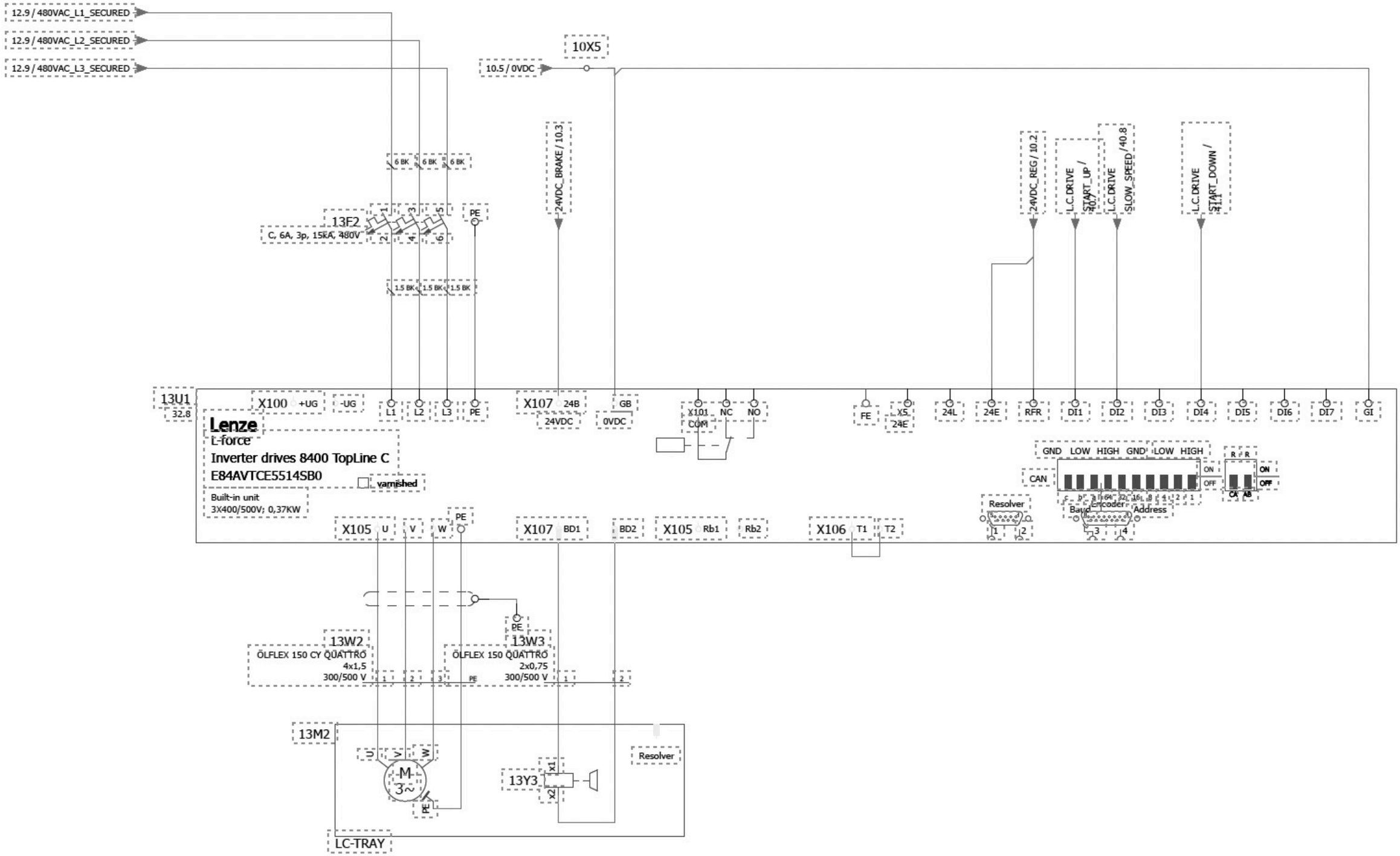
Project name

FILLING UNIT

Page description

FREQUENCY CONVERTER

Copyright reserved



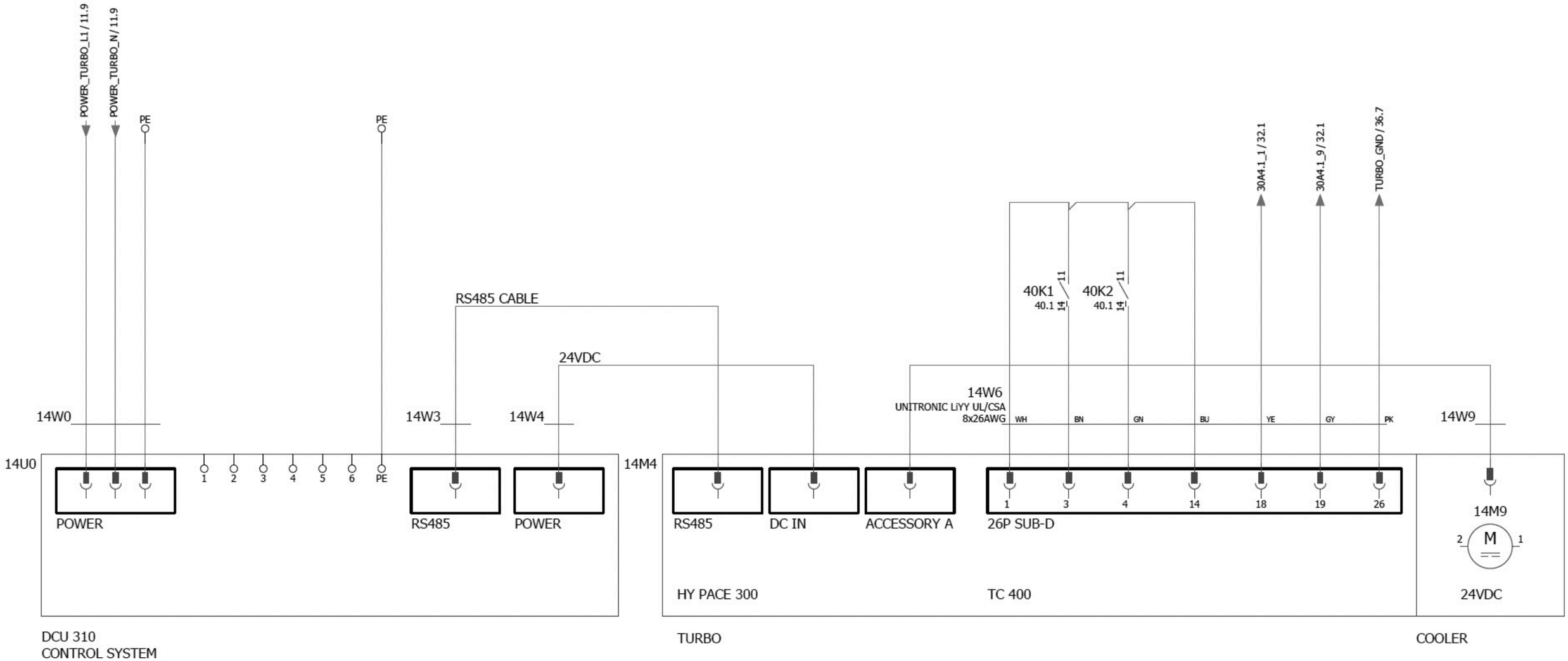
Project name

FILLING UNIT

Page description

FREQUENCY CONVERTER

Copyright reserved



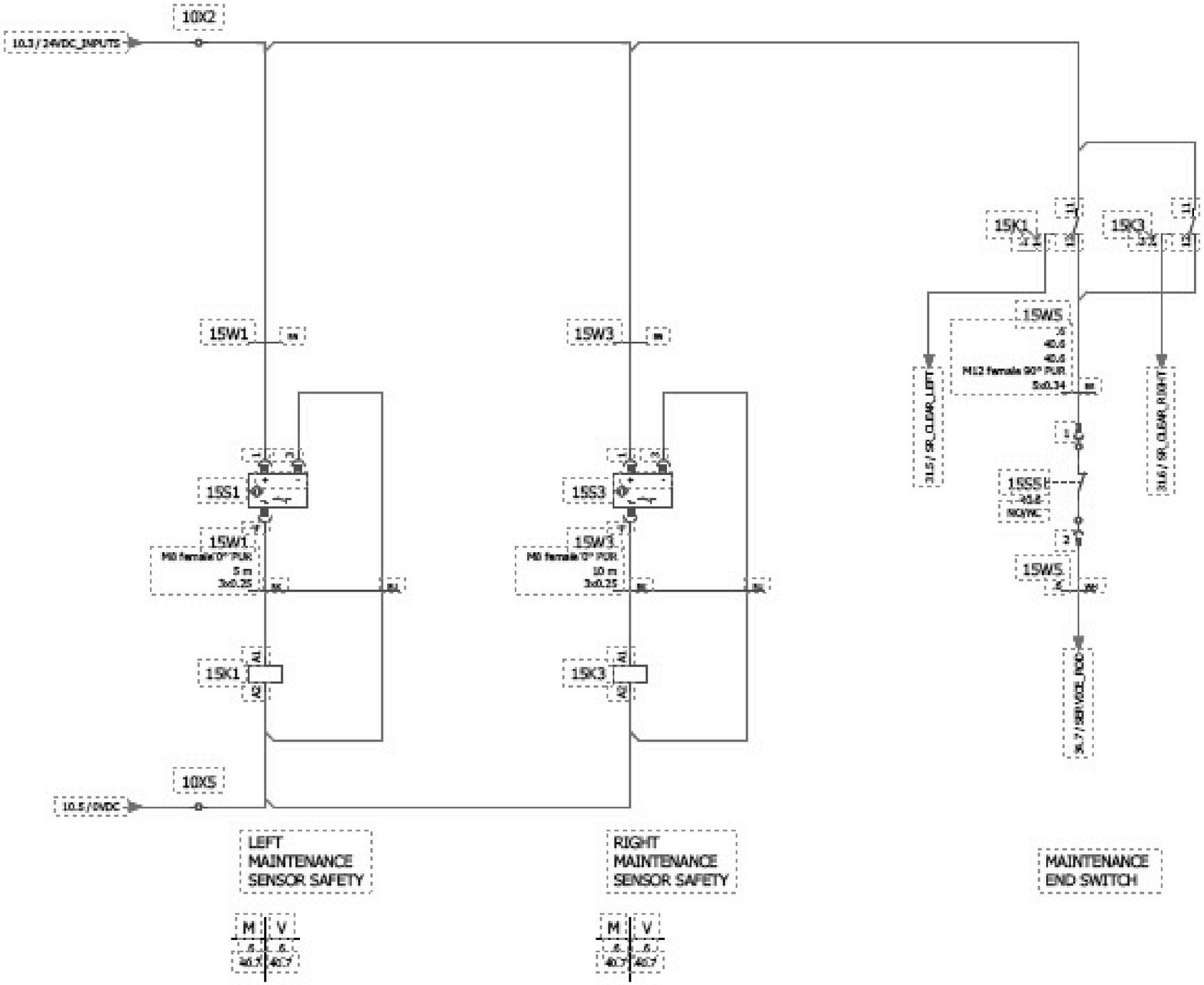
Project name

FILLING UNIT

Page description

TURBO CONTROLER

Copyright reserved



MASÉVON TECHNOLOGY

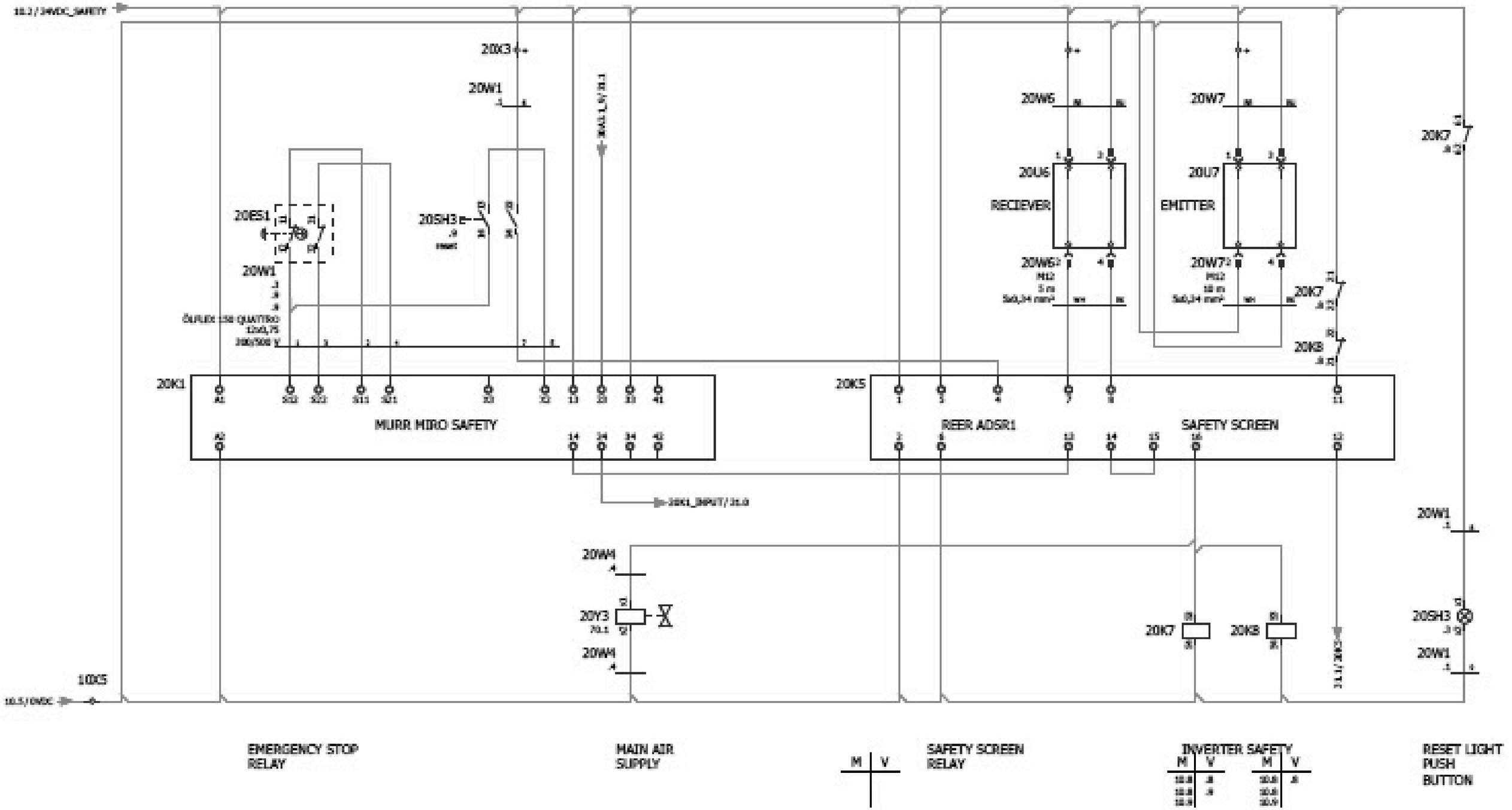
Project name

FILLING UNIT

Page description

RELAYS

Copyright reserved



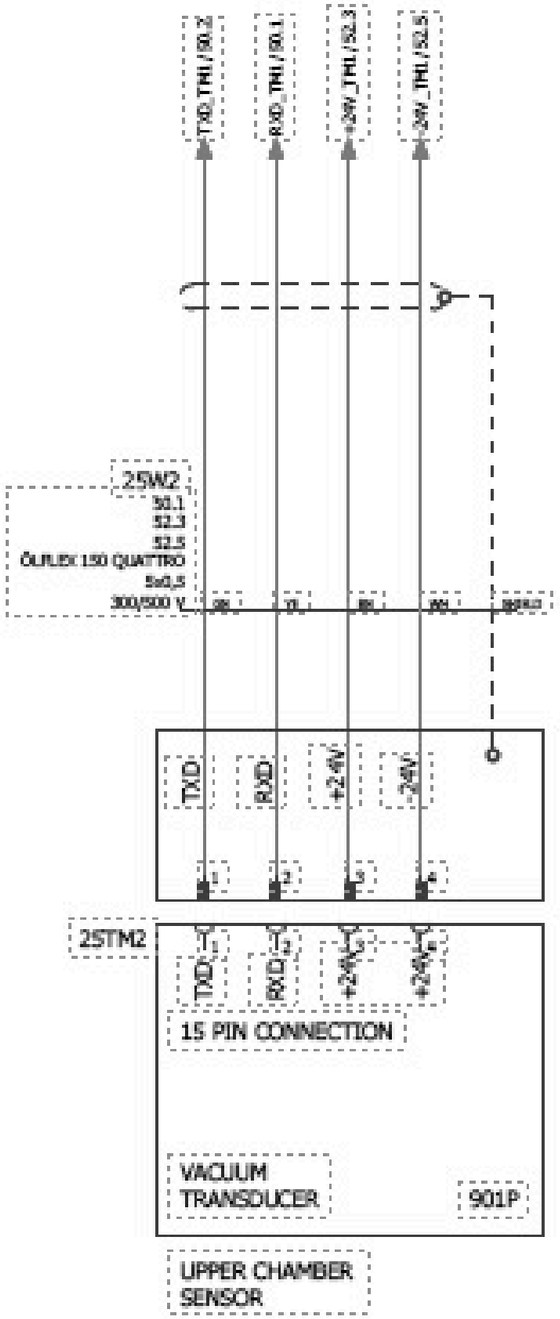
Project name

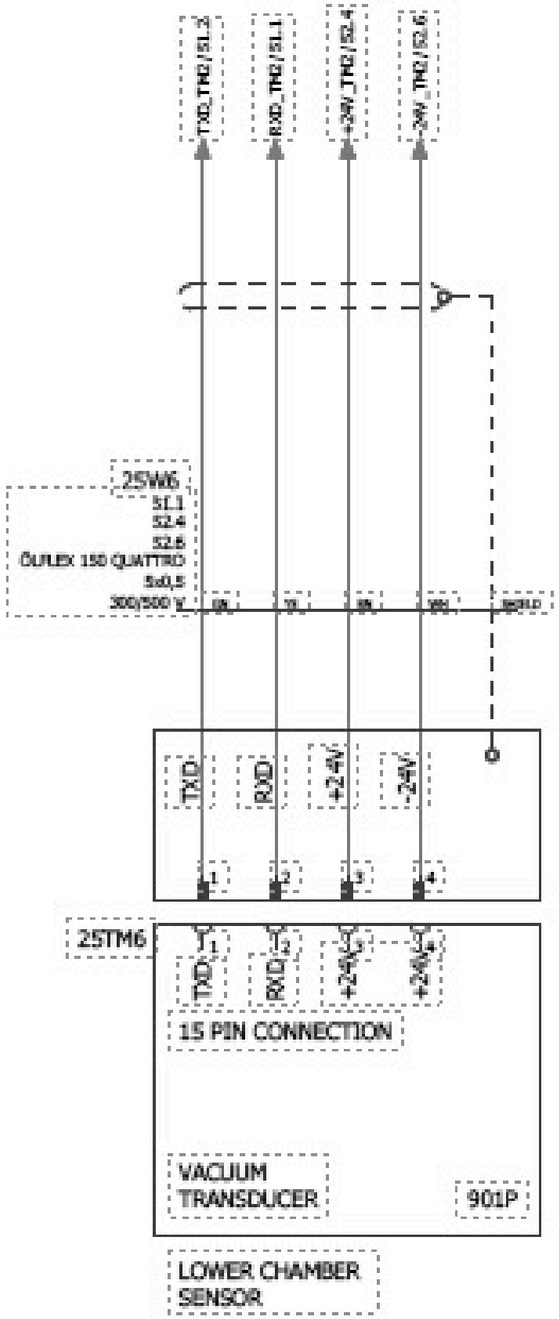
FILLING UNIT

Page description

EMERGENCY STOP

Copyright reserved





2

3
0

Project name

FILLING UNIT

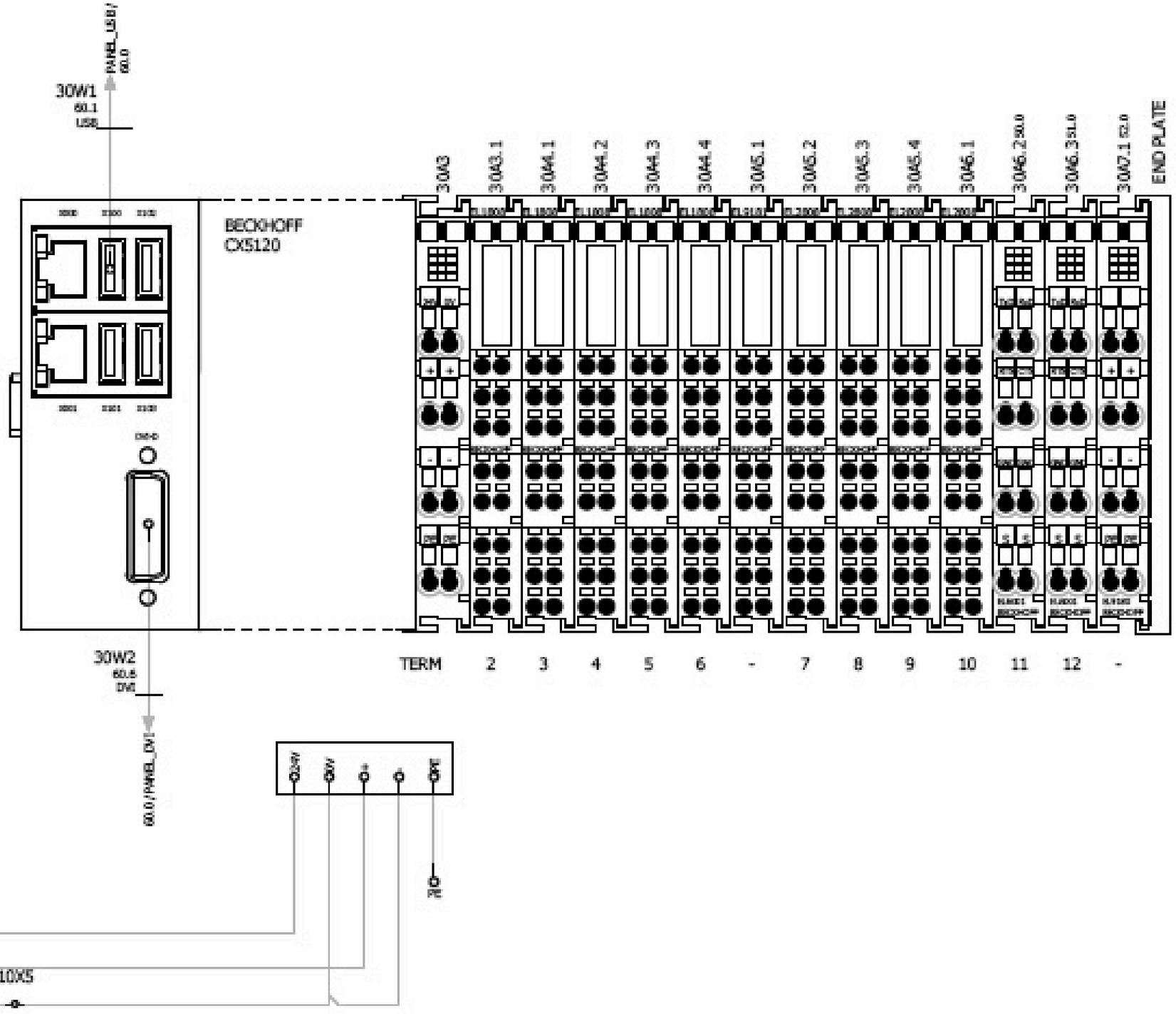
Rev.

0

Page description

CONNECTOR

Copyright reserved



2
-

3
1

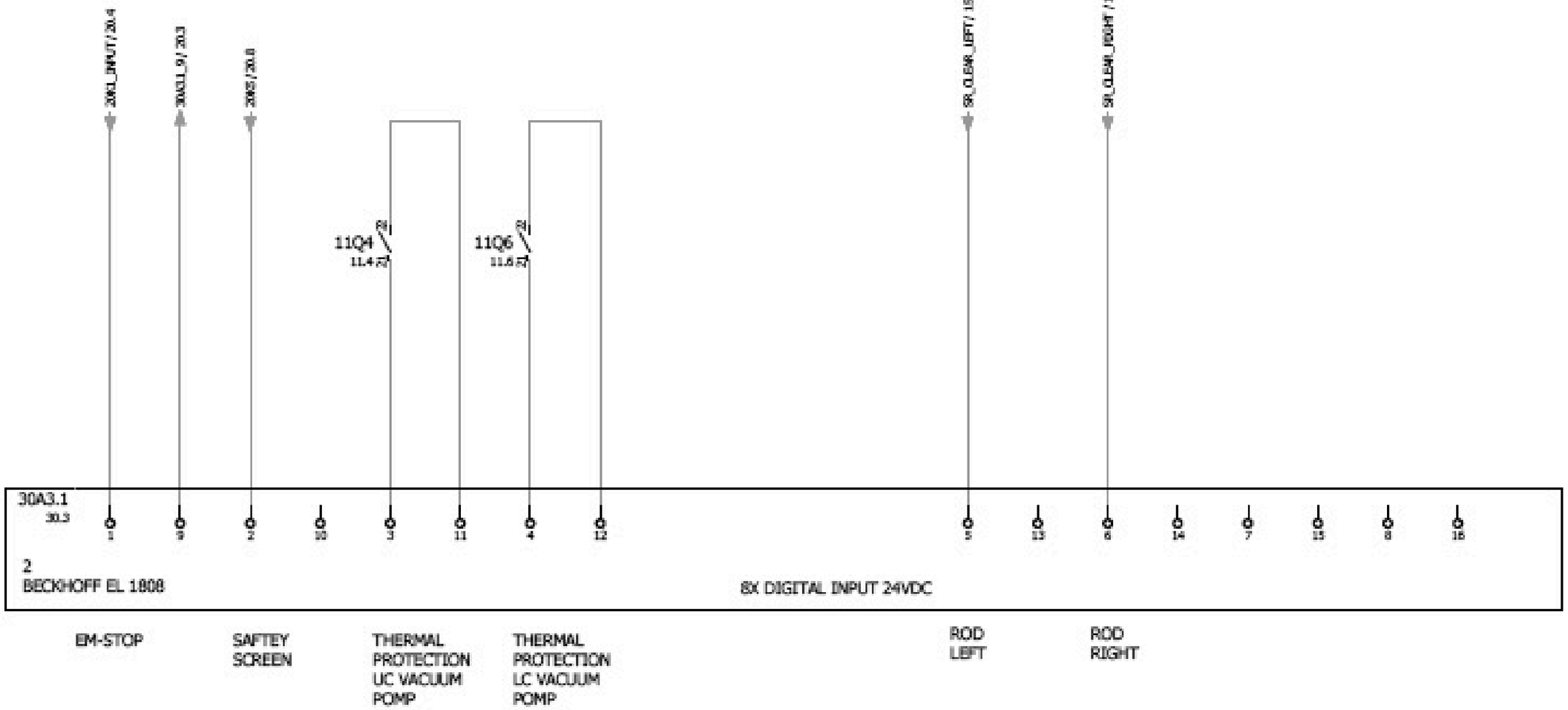
Project name

FILLING UNIT

Page description

PLC

Copyright reserved



3

3
2

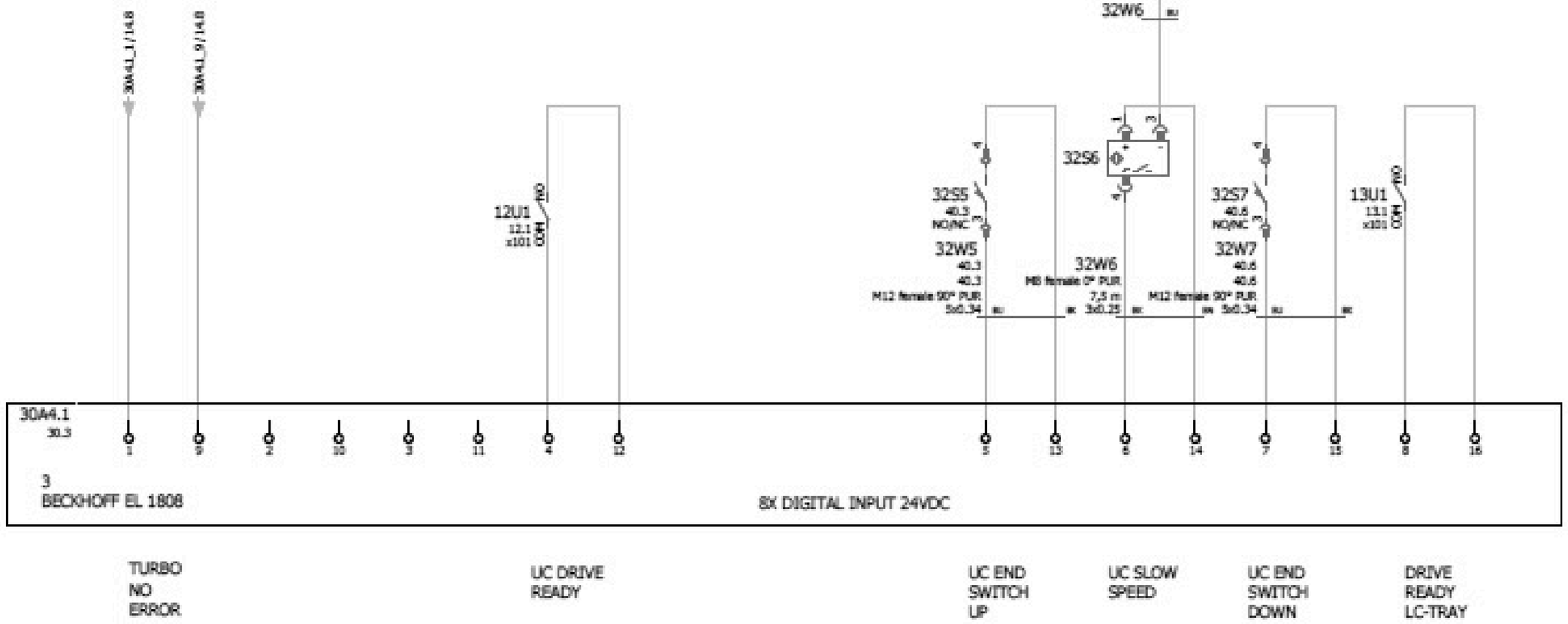
Project name

FILLING UNIT

Page description

INPUTPLC

Copyright reserved



3

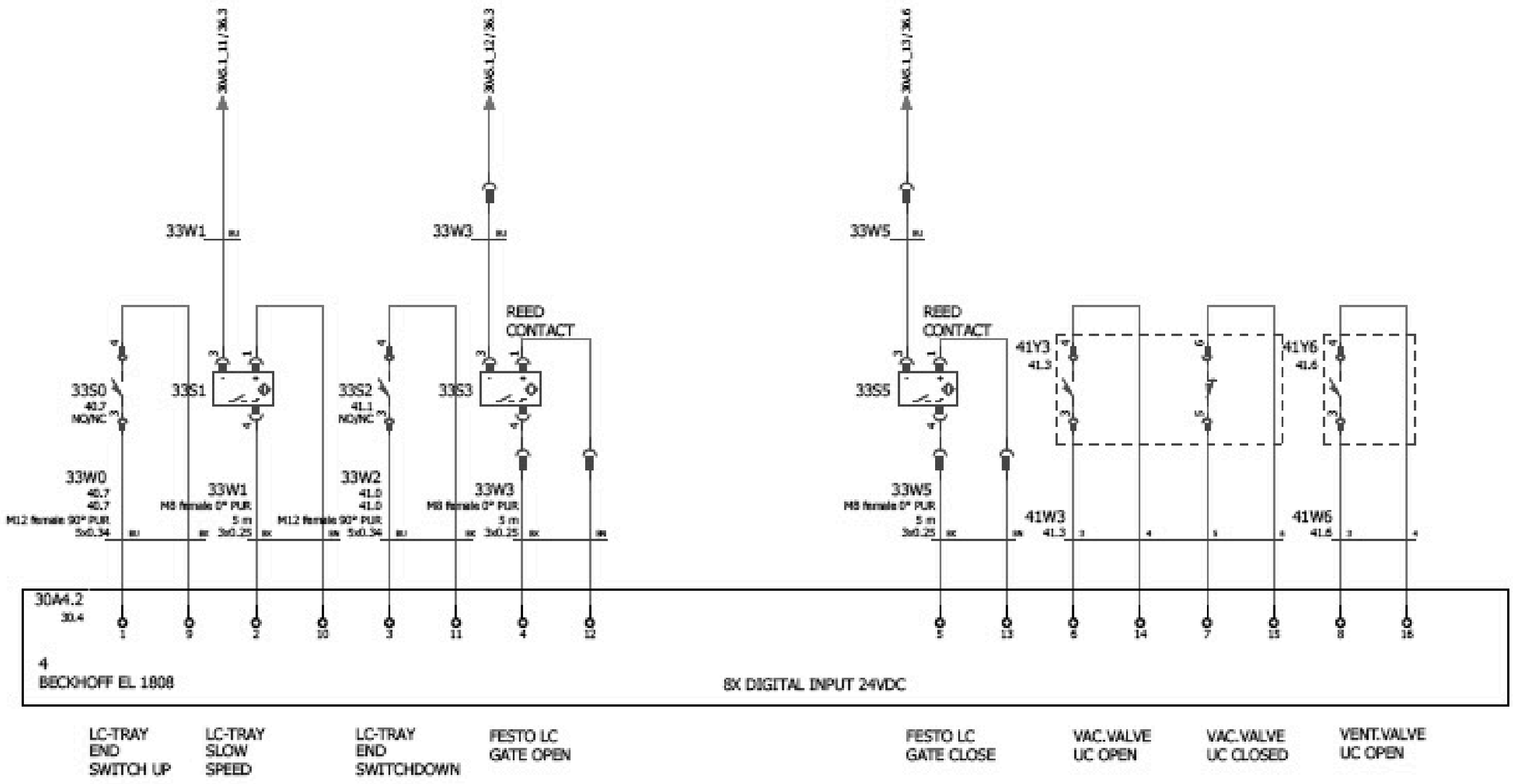
3

MASEVON TECHNOLOGY

Project name: FILLING UNIT

Page description: Input PLC

Copyright reserved



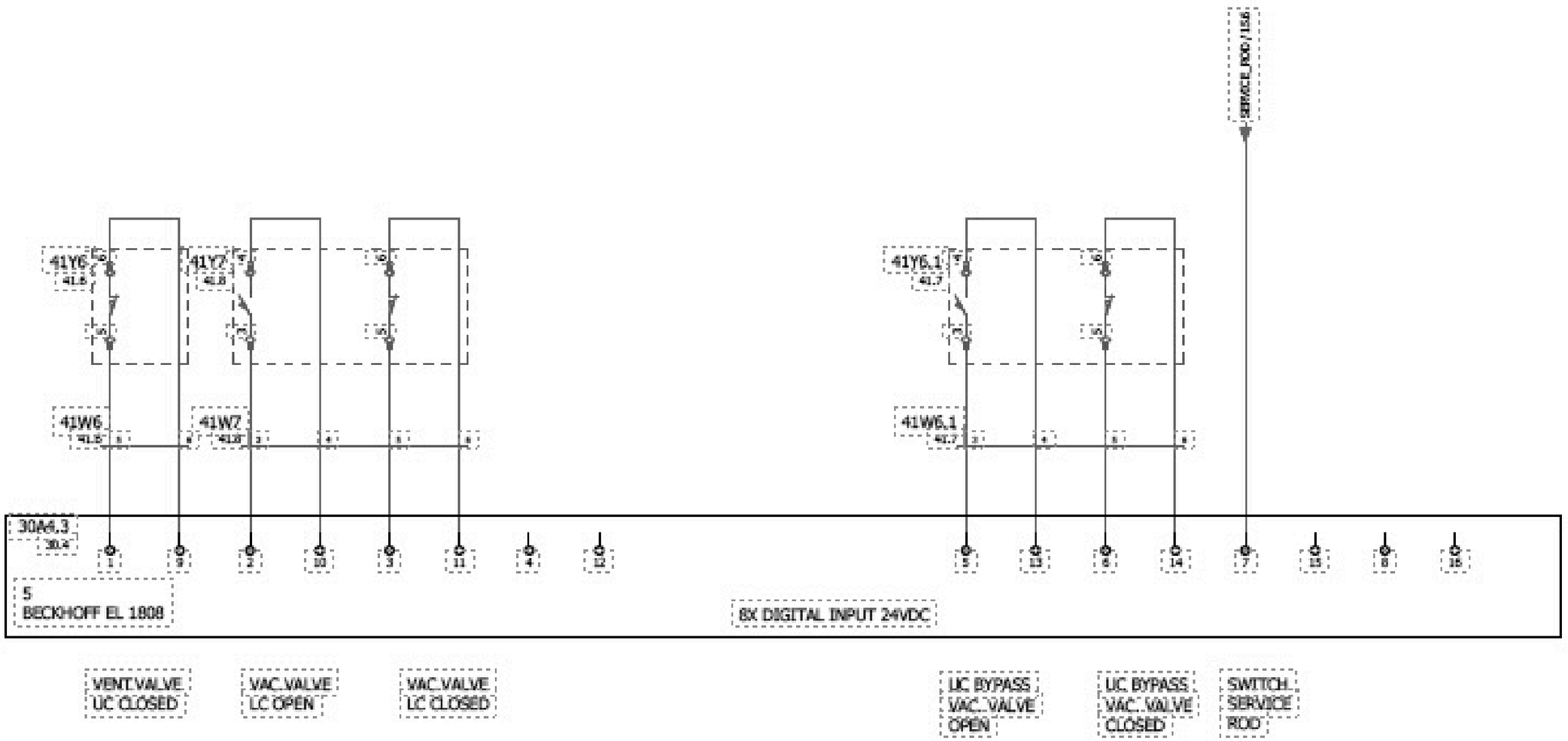
MASEVON TECHNOLOGY

Copyright reserved

Project name: FILLING UNIT

Page description: Input PLC

Checked by



3

MASÉVON TECHNOLOGY

Project name: FILLING UNIT

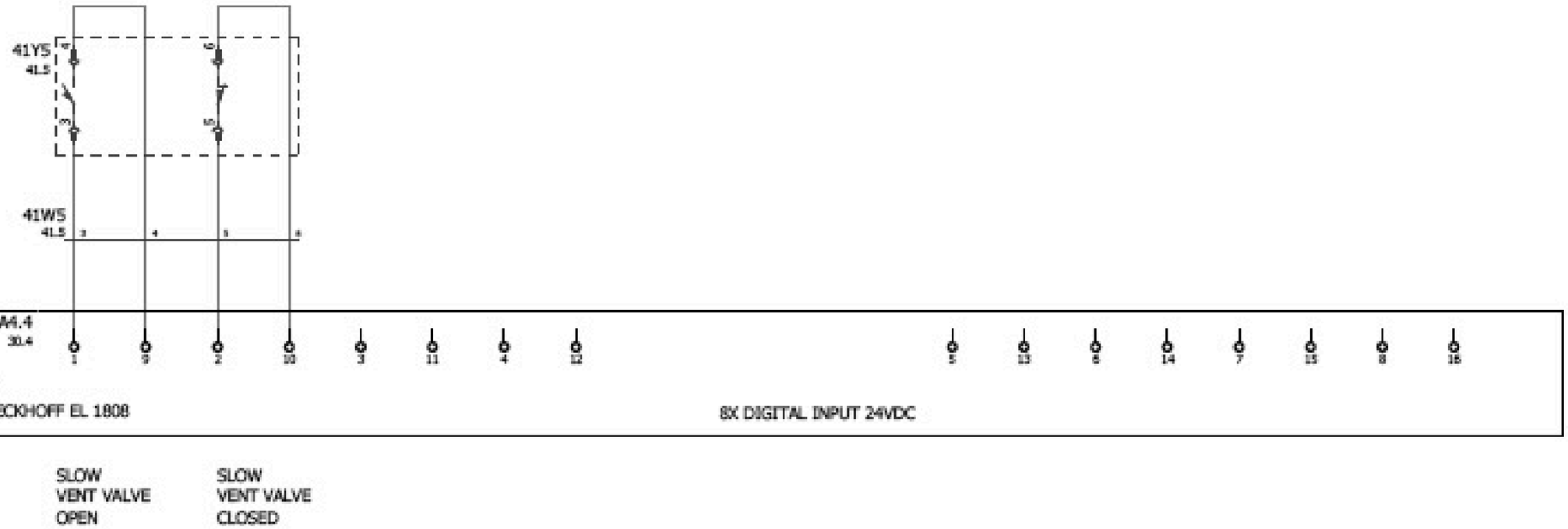
Page description: Input PLC

3
5

Checked by

Page 34 Of 1

Copyright reserved



SLOW VENT VALVE OPEN

SLOW VENT VALVE CLOSED

MASEVON TECHNOLOGY

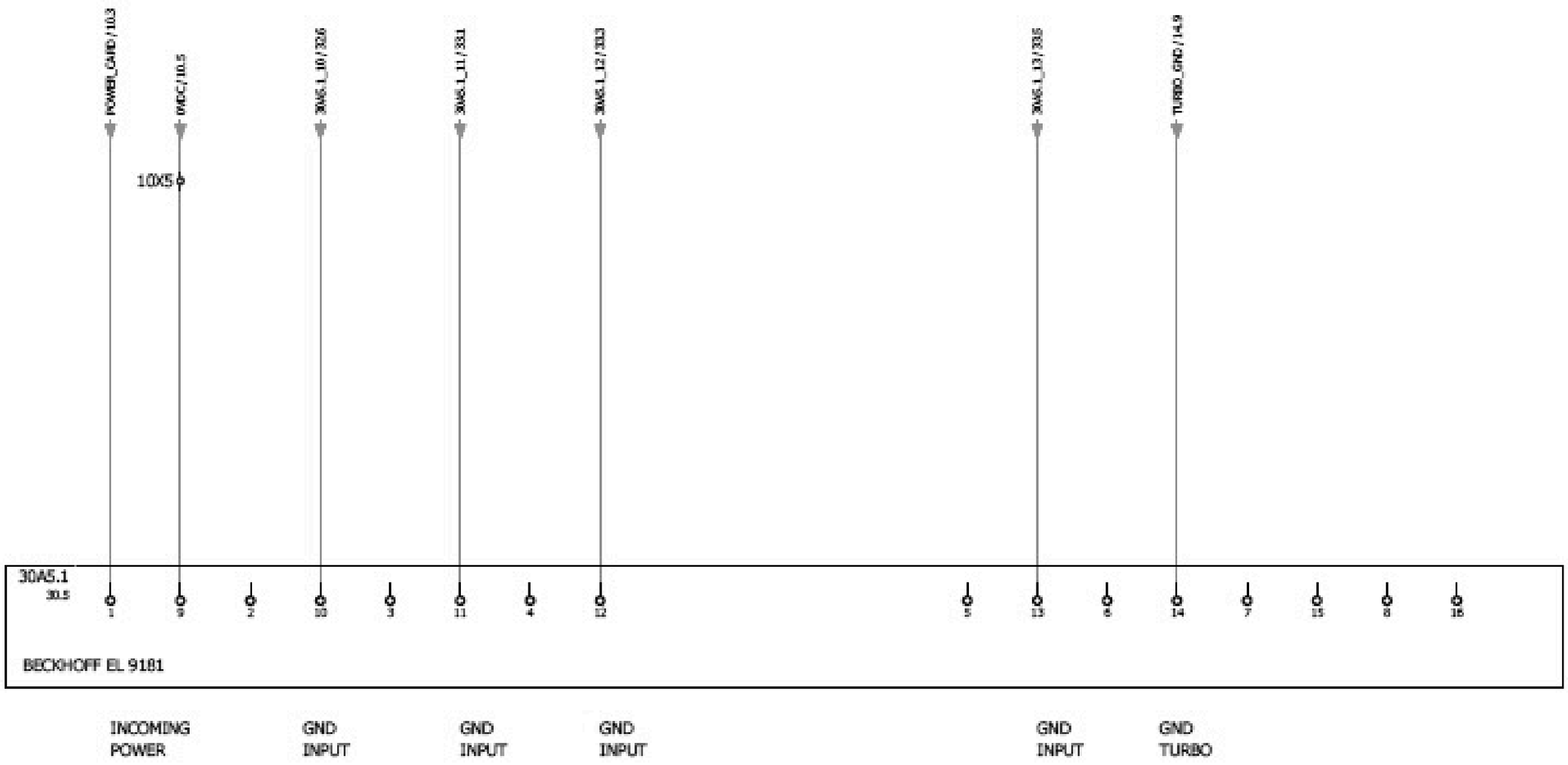
Project name: FILLING UNIT

Page description: Input PLC

Copyright reserved

6

Checked by



3 4

MASEVON TECHNOLOGY

Project name: FILLING UNIT

Page description: POWER

Copyright reserved

TURBO ON

TURBO ERROR ACKNOWLEDGE

UC DRIVE START_UP

UC DRIVE SLOW_SPEED

UC DRIVE START_DOWN

LC DRIVE START_UP

LC DRIVE SLOW_SPEED

30A5.2
30.5

BECKHOFF EL 2808

7

8X DIGITAL OUTPUT 24VDC

40K1

40K2

40X3

32W5
32.5

32S5
32.5

32W5
32.5

40X3

32W7
32.7

32S7
32.7

32W7
32.7

40X3

15W5
15.6

15K1
15.1

1555
15.6

15K3
15.3

15W5
15.6

40X3

33W0
33.0

33S0
33.1

33W0
33.0

10.5 / 0VDC

10.5 / 0VDC

12.7 / U.C.DRIVE START_UP

12.7 / U.C.DRIVE SLOW_SPEED

12.8 / U.C.DRIVE START_DOWN

13.7 / L.C.DRIVE START_UP

13.7 / L.C.DRIVE SLOW_SPEED

M V
14.6

M V
14.7

3

4

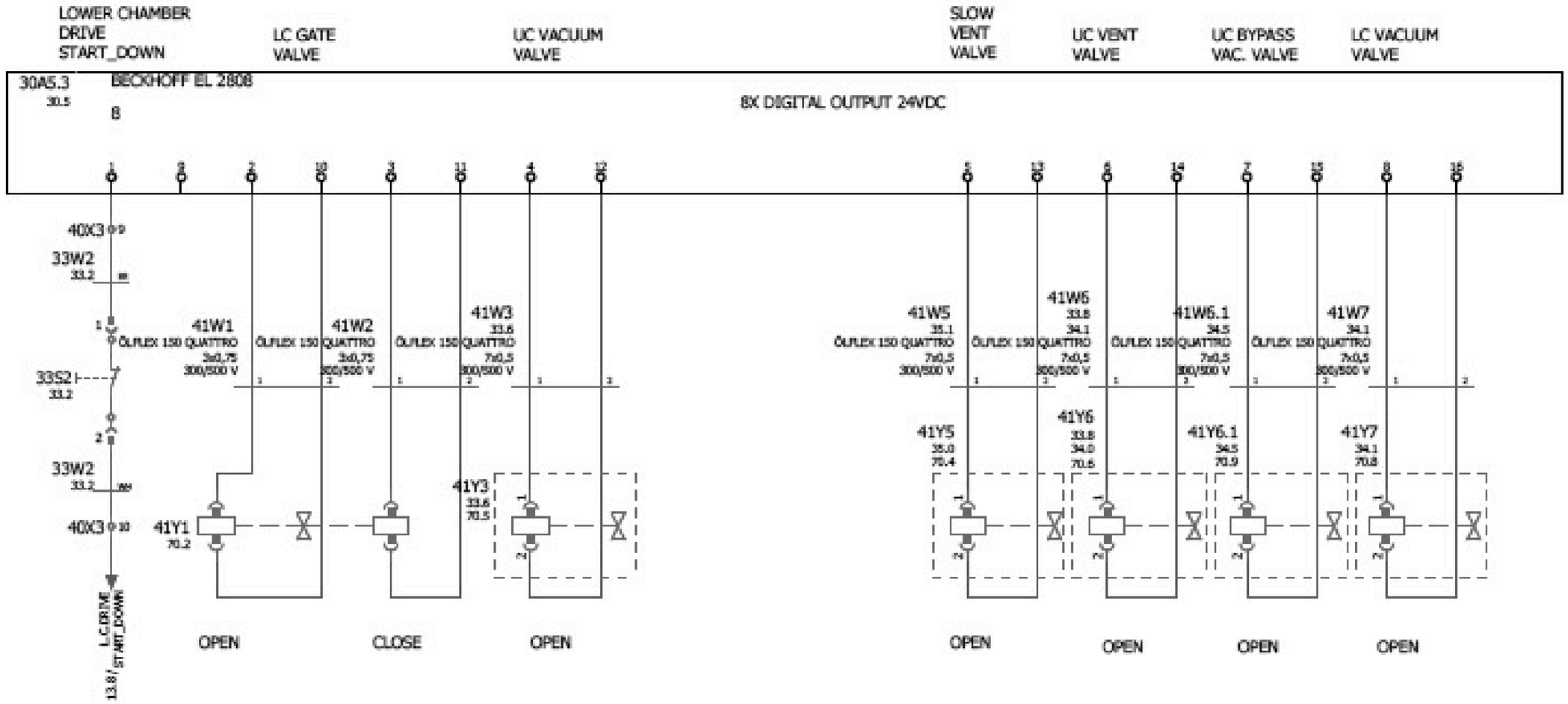
1

MASEVON TECHNOLOGY

Copyright reserved

Project name: FILLING UNIT

Page description: Output PLC



MASEVON TECHNOLOGY

Copyright reserved

Project name: FILLING UNIT

Page description: Output PLC

UC VACUUM PUMP

LC VACUUM PUMP

SIGNALBEACON

30A5.4
30.5

BECKHOFF EL 2808

9

8X DIGITAL OUTPUT 24VDC



42W2
ÖLFLEX 150 QUATTRO
7x0,5
300/500 V

42K0

42K1

A1
A2

42H2

X4
X3
X8
X1

10.5 / 0VDC

BLUE
GREEN
RED

M	V
11.4	
11.5	

M	V
11.6	
11.7	

4

4

MASEVON TECHNOLOGY

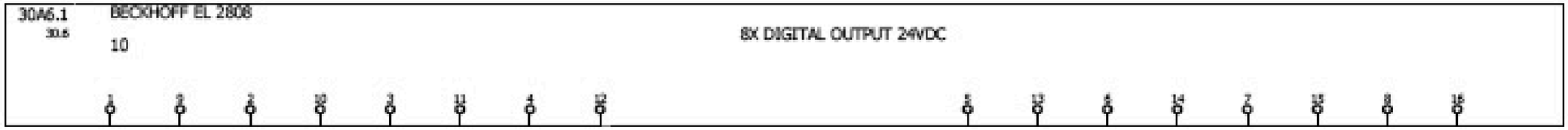
Copyright reserved

Project name: FILLING UNIT

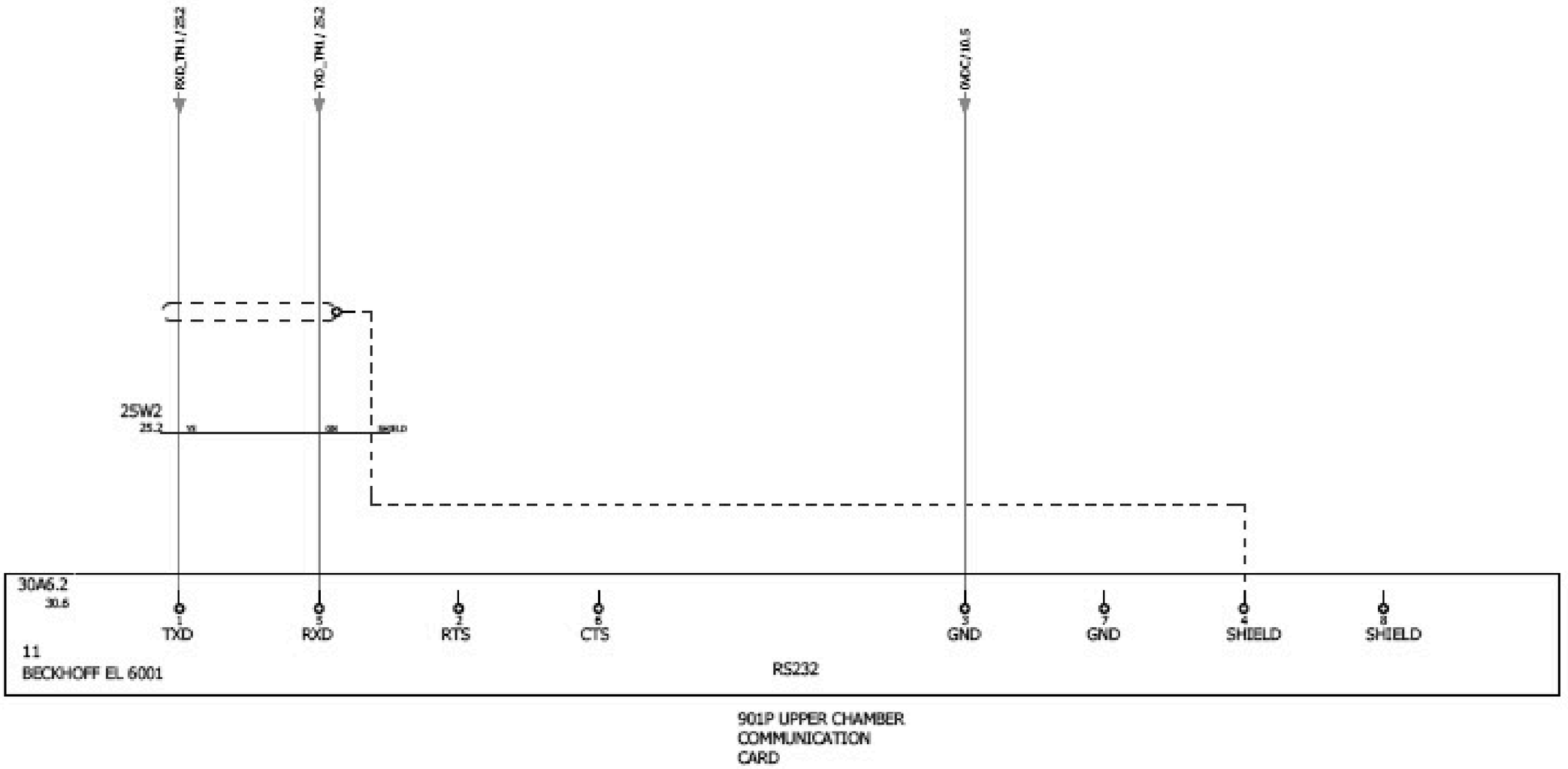
Page description: Output PLC

3

SPARE



Copyright reserved



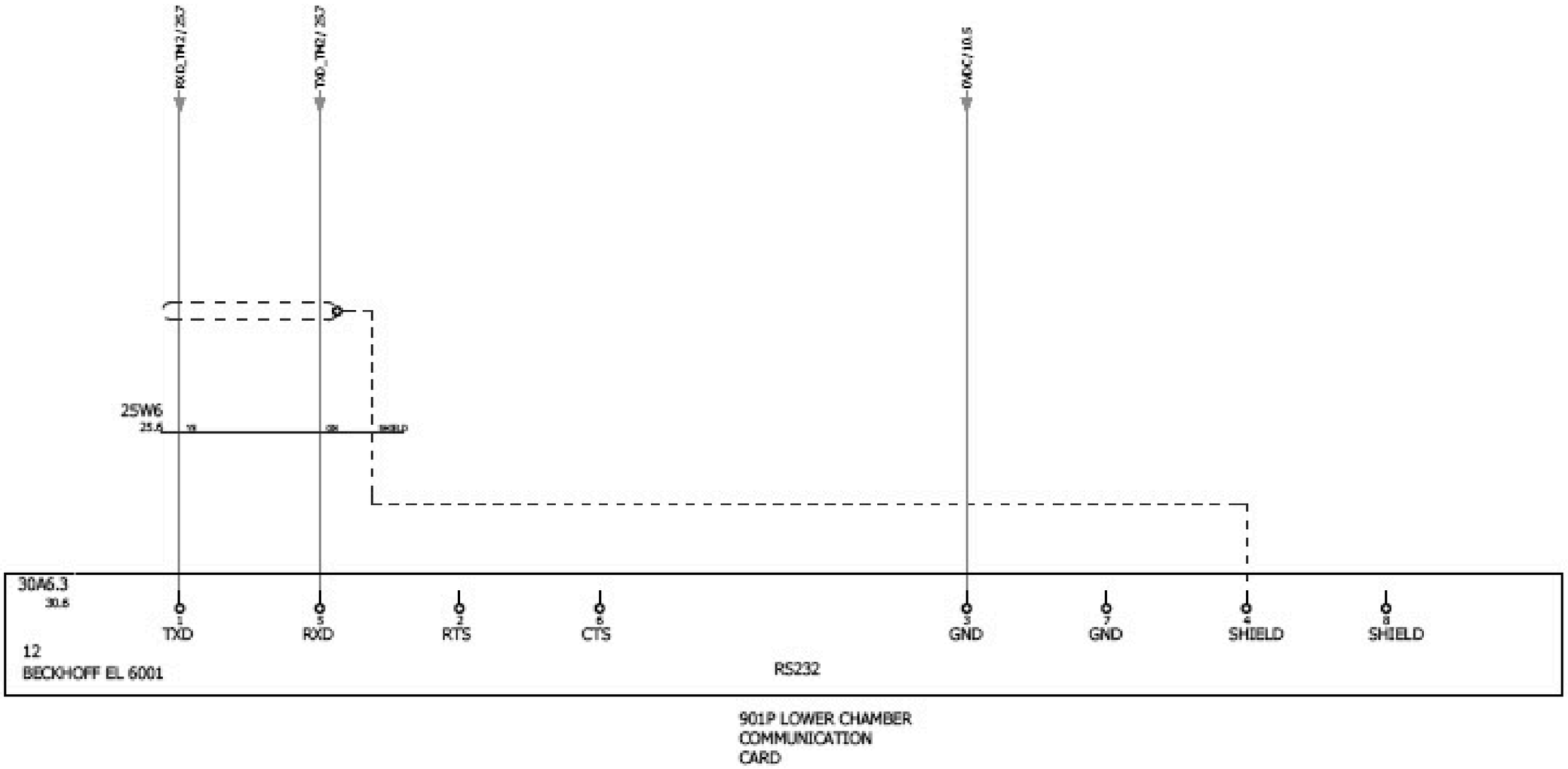
MASEVON TECHNOLOGY

Project name: FILLING UNIT

Page description: Communication

1

Copyright reserved



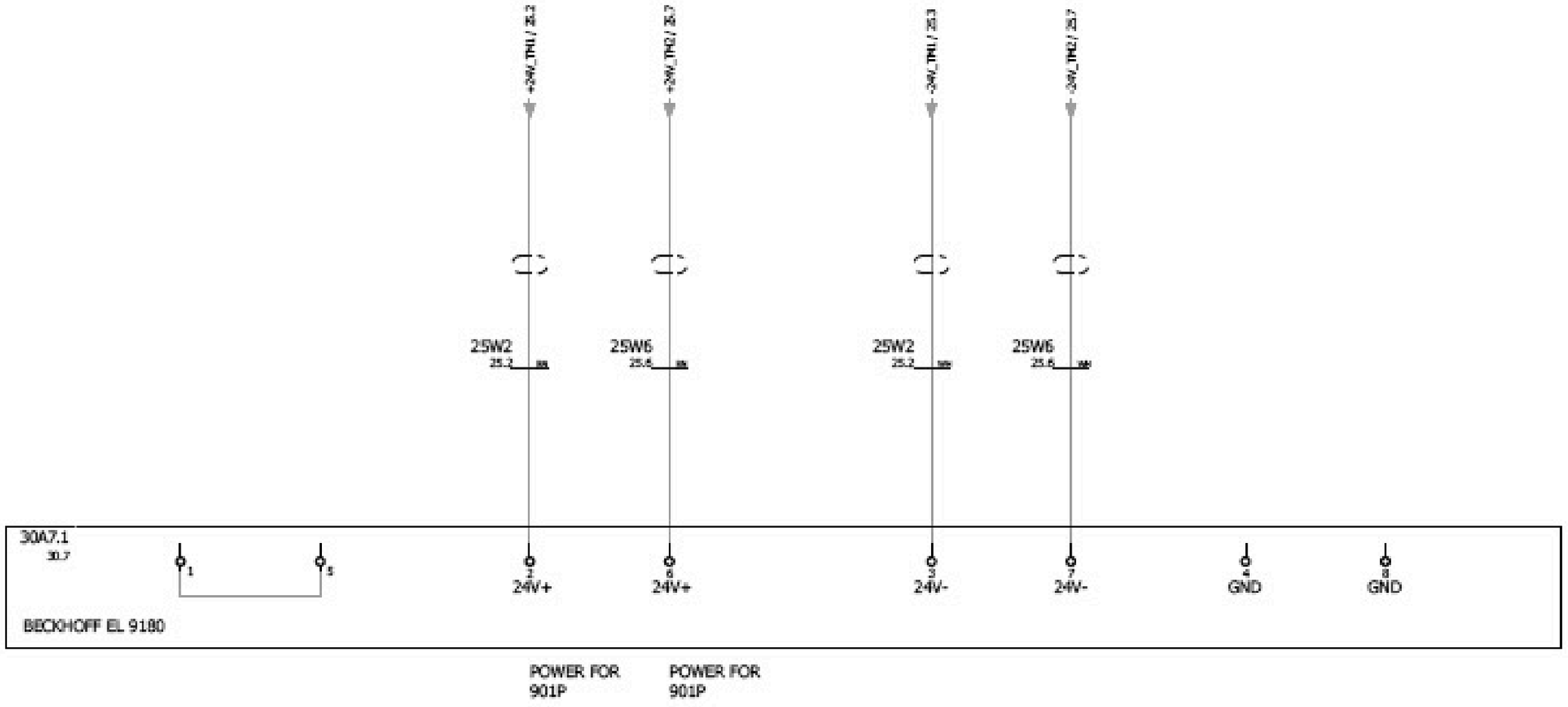
5

5

MASEVON TECHNOLOGY

Copyright reserved

Project name: FILLING UNIT			
Page description: Communication			Page 51 Of 1

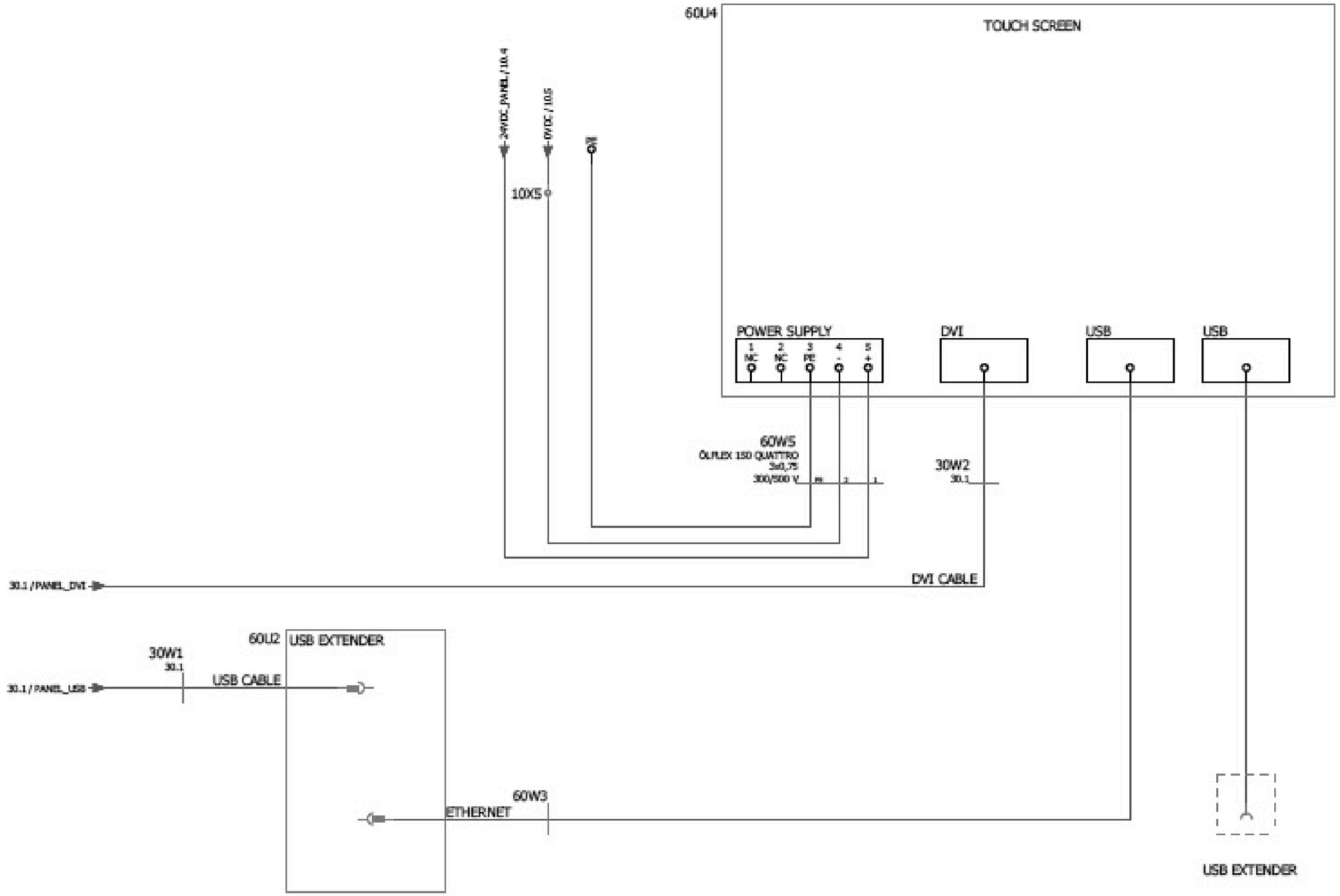


5 6

MASÉVON TECHNOLOGY

Copyright reserved

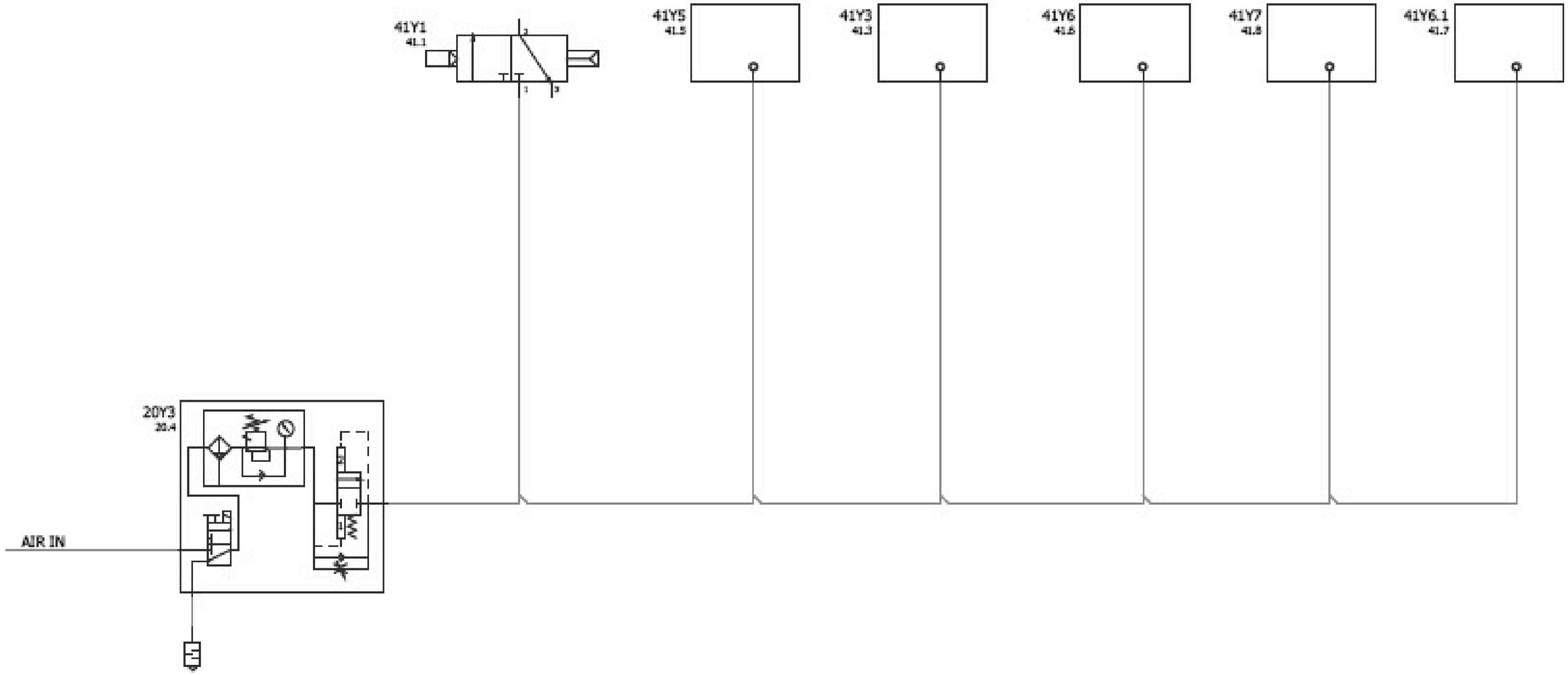
Project name: FILLING UNIT			0
Page description: POWER			
			Page 52 Of 1



5

7
0

MASEVON TECHNOLOGY	Project name: FILLING UNIT			
	Page description: TOUCH SCREEN			
Copyright reserved				Page 60 Of 1



6

1
0
0

MASEVON TECHNOLOGY

Project name: FILLING UNIT

Page description: AIR

Copyright reserved

Material List

Part Coding	Number	Description	Type number
	0		
30A3	1	Embedded PC, Windows Embedded Standard 7 P 32 bit, TwinCAT 2 PLC runtime	[redacted]40-0121
30A3.1	1	Beckhoff 8-channel digital input module	EL2808
30A4.1	1	Beckhoff 8-channel digital input module	EL2808
30A4.2	1	Beckhoff 8-channel digital input module	EL2808
30A4.3	1	Beckhoff 8-channel digital input module	EL2808
30A4.4	1	Beckhoff 8-channel digital input module	EL2808
30A5.1	1	Beckhoff 8-channel digital input module	EL2808
30A5.2	1	Beckhoff 8-channel digital input module	EL2808
30A5.3	1	Beckhoff 8-channel digital input module	EL2808
30A5.4	1	Beckhoff 8-channel digital input module	EL2808
30A6.1	1	Beckhoff 8-channel digital input module	EL2808
30A6.2	1	1-channel serial interfaces RS232	EL6001
30A6.3	1	1-channel serial interfaces RS232	EL6001
30A7.1	1	Potentiële distributie terminal, 2 aansluiting punten per kracht contact	EL9180
60U2	1	USB EXTENDER	CU 8801-0000
60U4	1	19" TOUCH SCREEN	CP2919-0000
11F2	1	FAZ-C2/1 N	278663
41Y1	1	Solenoid valve	VUWS-20
20Y2	1	Filter regulator 12 bar maximum pressure	MSR-LFR-1/2-D7-E-R-M
12M2	1		88015220
13M2	1		88015220
12U1	1	Regulator 8400 Highline C	E84AVHCE1524SXD
13U1	1	Regulator 8400 Highline C	E84AVHCE3714SXD
25TM2	1	Loadlock Vacuum Transducer	901P
25TM6	1	Loadlock Vacuum Transducer	901P
10F0	1	Circuit breaker C-32A 3f	FAZ-C32/3
42K0	1	Contactor, 3p+1N/C, 4kW/400V/AC3	DILM9-01(230V50HZ,240V60HZ)
42K1	1	Contactor, 3p+1N/C, 4kW/400V/AC3	DILM9-01(230V50HZ,240V60HZ)
11Q4	1	Motor overload switch	PKZM0-16
11Q4	1	MCB, C-Curve, 8A, 1p	MHI11-PKZ0
11Q4	1	Motor overload switch	PKZM0-10
11Q6	1	Motor overload switch	PKZM0-16
11Q6	1	MCB, C-Curve, 8A, 1p	MHI11-PKZ0
11Q6	1	Motor overload switch	PKZM0-10
10SW0	1	EA/SVB main switch	T3-4-8344/EA/SVB-SW
30ES1	1	EM-stop button	216876
30ES1	1	Fixing Adaptor, M22, Three Elements	M22-A
30ES1	2	Contact Element 1NC	216378
30ES1	1	Emergency stop tekst plaatje 33x50mm	M22-XZK-GB99
10F3	1	Circuit breaker 3P 10A	278889
11F2	1	Circuit breaker 1P+N 4A	278666
11F8	1	Circuit breaker 1P+N 6A	FAZ-C6/1N
12F2	1	Circuit breaker 3P	FAZ-C6/3
13F2	1	Circuit breaker 3P	FAZ-C6/3
30K7	1	Contactor 32A	277306
30K7	1		DILA-XHI22
30K8	1	Contactor 32A	277306
30SH3	1	Pilot pushbutton switch blue	M22-DL-B
30SH3	1	Led Lamp with spring clips	M22-CLED-B

Copyright reserved

Project name: FILLING UNIT

Page description: ARTICLE LIST

Material List

Part Coding	Number	Description	Type number
20SH3	1	Fixing Adaptor, M22, Three Elements	M22-A
20SH3	2	Contact Element, 1NO, Cage clamp, Front fixin	M22-CK10
20SH3	1	Text Plate Holder	216392
20SH3	1	Text Plate "Emergency Stop Active", 3row, 3mm	216492
42H2	1	Signal lamp base	Murr 4000-75070-110-0002
42H2	1	Signal lamp red	Murr 4000-75070-101-1000
42H2	1	Signal lamp green	Murr 4000-75070-101-3000
42H2	1	Signal lamp blue	4000-75070-101-4000
42H2	1	Adapter hooks	4000-75070-0000903
20K1	1	Safety relay 3NO + 1NC	3000-33113-3020012
10V3	1	Voeding 3x500Vac/24Vdc 10A	85001
32S6	1	Limitswitch	E2A-M08LN04-M1B1
33S1	1	Limitswitch	E2A-M08LN04-M1B1
33S3	1	Limitswitch	E2A-M08LN04-M1B1
33S5	1	Limitswitch	E2A-M08LN04-M1B1
11M4	1	DUO 20 M Vacuum pump	8414 10 25
11M5	1	DUO 20 M Vacuum pump	8414 10 25
14M4	1	TURBO TC 400	74107567
14M9	1	Air cooling 24VDC	PM 201 302
41Y3	1	DN 16 Electropneumatically operated valve	8481 40 90
41Y5	1	DN 16 Electropneumatically operated valve	8481 40 90
41Y6	1	DN 16 Electropneumatically operated valve	8481 40 90
41Y6.1	1	DN 25 Electropneumatically operated valve	7307 29 80
41Y7	1	DN 25 Electropneumatically operated valve	7307 29 80
FX1	1		UK 5-HESILED 24
FX2	1		UK 5-HESILED 24
FX3	1		UK 5-HESILED 24
FX4	1		UK 5-HESILED 24
FX5	1		UK 5-HESILED 24
FX6	1		UK 5-HESILED 24
FX7	1		UK 5-HESILED 24
15K1	1	Contactor	REL-MR- 24DC/21-21
15K1	1	Solid-state relay terminal block	RIF-1-BPT/2X21
15K3	1	Contactor	REL-MR- 24DC/21-21
15K3	1	Solid-state relay terminal block	RIF-1-BPT/2X21
40K1	1	Contactor	REL-MR- 24DC/21-21
40K1	1	Solid-state relay terminal block	RIF-1-BPT/2X21
40K2	1	Contactor	REL-MR- 24DC/21-21
40K2	1	Solid-state relay terminal block	RIF-1-BPT/2X21
41KS	1	Contactor	REL-MR- 24DC/21-21
10X2	1	Feed-through terminal block	PT 1,5/S
10X5	1	Feed-through terminal block	PT 1,5/S
20X3	1	Feed-through terminal block	PT 1,5/S
40X3	1	Feed-through terminal block	PT 1,5/S
20KS	1	ADSR1 24VDC	RM401896
20U6	1	Safety Screen	EOS4-1203A
11M2	1	Rittal fan	SK 3238.110
15S1	1	Proximity switch M8	IME08-02BPOZT0S
15S3	1	Proximity switch M8	IME08-02BPOZT0S
15S5	1	End Switch	XCMD2102C12

MASEVON TECHNOLOGY

Copyright reserved

Project name: FILLING UNIT

Page description: ARTICLE LIST

Material List

Part Coding	Number	Description	Type number		
3265	1	End Switch	XCMD2102C12		
3267	1	End Switch	XCMD2102C12		
3268	1	End Switch	XCMD2102C12		
3269	1	End Switch	XCMD2102C12		
4173	1	Hr Angle Valve,	28408-6540		
4177	1	Hr Angle Valve,	28408-6540		

MASEVON TECHNOLOGY

Project name: FILLING UNIT

Page description: ARTICLE LIST

Copyright reserved

CABLE OVERVIEW

CABLE CODING	SOURCE FROM	TARGET TO	CABLE TYPE	TOTAL CORES	USED CORES	INTERSECTION mm²	LENGTH m	VOLTAGE VOLT	COMMENT	Graf. PAGE
11W2	11F2;PE	11M2	ÖLFLEX 150 CY QUATTRO	3	3	1,5		300/500 V		
11W4	11M4	42K0;PE	ÖLFLEX 150 QUATTRO	3	3	1,5		300/500 V		
11W6	11M6	42K1;PE	ÖLFLEX 150 QUATTRO	3	3	1,5		300/500 V		
12W2	X10S	12M2	ÖLFLEX 150 CY QUATTRO	4	4	1,5		300/500 V		
13W2	X10S	13M2	ÖLFLEX 150 CY QUATTRO	4	4	1,5		300/500 V		
13W3	13U1	13Y3	ÖLFLEX 150 QUATTRO	2	2	0,75		300/500 V		
14W0	14U0	11F8;PE			3					
14W3	14M4	14U0			1					
14W4	14M4	14U0			1					
14W6	14M4	40K1;40K2;1;9;14	UNITRONIC LiYY UL/CSA	8	7	26AWG				
14W9	14M4	14M4			1					
15W1	15K1	15S1	M8 female 0° PUR	3	2	0.25	5			
15W3	15K3	15S3	M8 female 0° PUR	3	2	0.25	10			
15W5	1;2;3;4	15K1;15K3;7;40X3	M12 female 90° PUR	5	6	0.34				
20W1	20ES1;20SH3	20K1;20X3;20K5;20KB;20KE	ÖLFLEX 150 QUATTRO	12	10	0,75		300/500 V		
20W4	20K1;20K5	20Y3			3					
20W6	1;3;20K5	20X3;10X5;20K1;4;2	M12	5	6	0,34 mm²	5			
20W7	1;2;3	20X3;4	M12	5	4	0,34 mm²	10			
25W2	4	5;1;2;3	ÖLFLEX 150 QUATTRO	5	6	0,5		300/500 V		
25W6	4	5;1;6;7	ÖLFLEX 150 QUATTRO	5	6	0,5		300/500 V		
30W1	60U2		USB		1					
30W2			DVI		1					
32W5	1;2	13;5;40X3	M12 female 90° PUR	5	4	0.34				
32W6	32S6	14;6;10	M8 female 0° PUR	3	3	0.25	7,5			
32W7	32S6;1;2	7;15;40X3	M12 female 90° PUR	5	4	0.34				
33W0	9;1;2	40X3	M12 female 90° PUR	5	4	0.34				
33W1	33S1	11;10;2	M8 female 0° PUR	3	3	0.25	5			
33W2	1;2	11;3;40X3	M12 female 90° PUR	5	4	0.34				
33W3		33S3;4;12	M8 female 0° PUR	3	3	0.25	5			
33W5		33S5;5;13	M8 female 0° PUR	3	3	0.25	5			
41W1	41Y1	2;10	ÖLFLEX 150 QUATTRO	3	2	0,75		300/500 V		
41W2	41Y1	3;11	ÖLFLEX 150 QUATTRO	3	2	0,75		300/500 V		
41W3	41Y3	6;14;7;15;4;12	ÖLFLEX 150 QUATTRO	7	6	0,5		300/500 V		
41W5	41Y5	1;9;2;10;5;13	ÖLFLEX 150 QUATTRO	7	6	0,5		300/500 V		

Copyright reserved

CABLE OVERVIEW

CABLE CODING	SOURCE FROM	TARGET TO	CABLE TYPE	TOTAL CORES	USED CORES	INTERSECTION mm²	LENGTH m	VOLTAGE VOLT	COMMENT	Graf. PAGE
41W6	41Y6	8;16;1;9;6;14	ÖLFLEX 150 QUATTRO	7	6	0,5		300/500 V		
41W6.1	41Y6.1	5;13;6;14;7;15	ÖLFLEX 150 QUATTRO	7	6	0,5		300/500 V		
41W7	41Y7	2;10;3;11;8;16	ÖLFLEX 150 QUATTRO	7	6	0,5		300/500 V		
42W2	42H2	5;4;3;12	ÖLFLEX 150 QUATTRO	7	6	0,5		300/500 V		
60W3	60U2				1					
60W5	10X5;FX7;PE	-;+;PE	ÖLFLEX 150 QUATTRO	3	3	0,75		300/500 V		

MASEVON TECHNOLOGY

Project name: FILLING UNIT

Page description: CABLE OVERVIEW

Copyright reserved

TERMINAL STRIP OVERVIEW

TERMINAL BLOCK	TERMINAL STRIP DEFINITION TEXT	CLIPS					GRAPHIC PAGE OF THE TERMINAL DIAGRAM
		FIRST	LAST	TOTAL PE	TOTAL N	TOTAL AMOUNT	
1				0	0	7	
2				0	0	7	
3				0	0	3	
4				0	0	3	
10X2				0	0	4	
10X5				0	0	16	
20X3		+	+	0	0	6	
40X3		1	10	0	0	20	