



IPTE Mexico S. de R.L. de C.V.

Alambiques 975-09
Parque Industrial El Alamo
Guadalajara, Jalisco CP 44490 Mexico
Phone : +52 (33) 3675 5597
mexico@ipte.com

CUSTOMER:  **BorgWarner**

PROJECT NAME: **Texturing Laser Marking**

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PROJECT NUMBER: **G19-07-BRG**

STATION NUMBER: **PO 40016**

MANAGER ENGINEER: **Alexis Murrillo**

ELECTRICAL ENGINEER: **Emmanuel Cervantes**

PLACE OF INSTALLATION: **El Salto, Jal. Mexico 45680**

GENERAL VOLTAGE: **440VAC**

CONTROL VOLTAGE: **24VDC**

CURRIENT NOMINAL: **12Amp**

AIR SUPPLY: **6 BAR**

TOTAL OF PAGES: **45**

CREADOR DATE: **11/26/2018**

LAST MODIFICATION: **3/29/2019**

REVISIONS: **A**

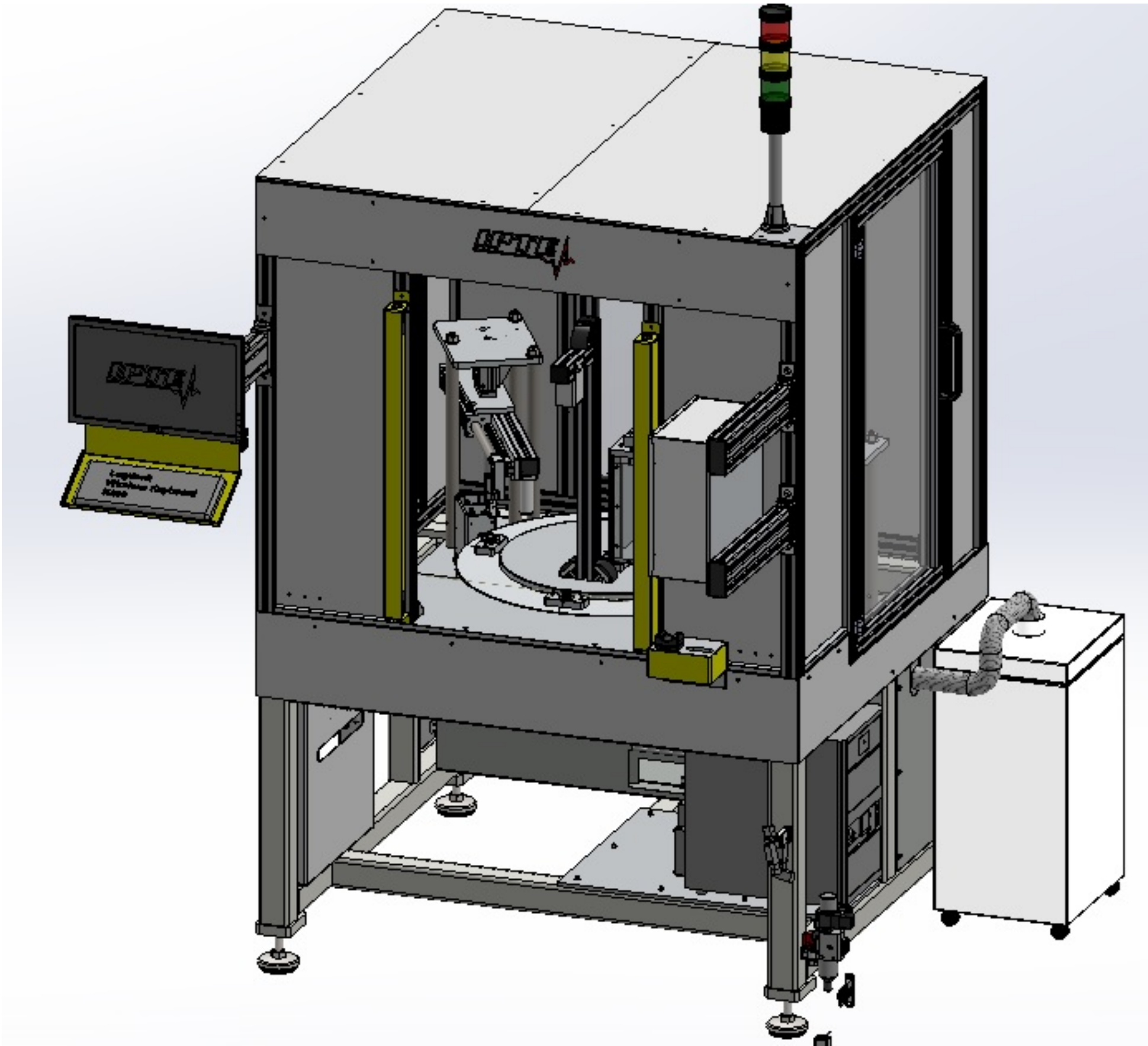
Index

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2	Índice de páginas : =LEVEL_HIGHT/1 - =LEVEL_HIGHT+MAIN_ENCLOSURE/63	22/03/2019	ECE1402
2.1	Índice de páginas : =LEVEL_HIGHT+MAIN_ENCLOSURE/80 - =LEVEL_HIGHT+MAIN_HMI/5	22/03/2019	ECE1402
3	Station	08/03/2019	USUARIO
4	Arquitectura Control	22/03/2019	ECE1402
5	Índice de páginas : =LEVEL_HIGHT/1 - =LEVEL_HIGHT+MAIN_ENCLOSURE/80	22/03/2019	ECE1402
5.1	Índice de páginas : =LEVEL_HIGHT+MAIN_ENCLOSURE/81 - =LEVEL_HIGHT+MAIN_HMI/5	22/03/2019	ECE1402
6	Wire Color Standard BORNWARNER	22/03/2019	ECE1402
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22	440VAC Conveyor Power	20/03/2019	ECE1402
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33	120VAC Power Phase L2	20/03/2019	ECE1402
36	120VAC Power Phase L3	21/03/2019	ECE1402
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53	Safety Relay Main	20/03/2019	ECE1402
55	Safety Relay Doors	21/03/2019	RNU1703
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62	Relay Curtain Safety	19/03/2019	RNU1703
63	Terminal block Safety	21/03/2019	RNU1703

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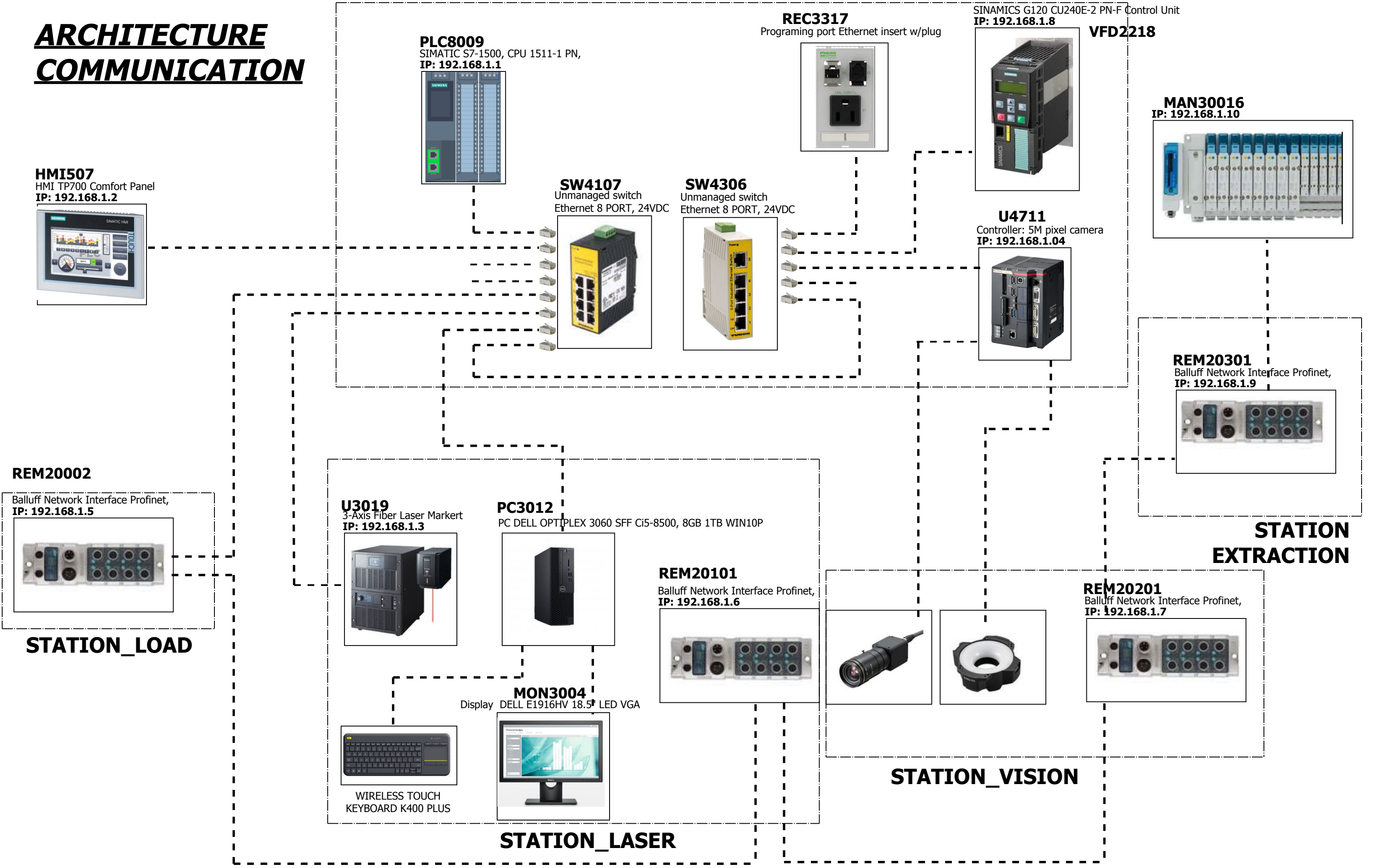
[illegible]

Texturing Laser Marking



0123456789

ARCHITECTURE COMMUNICATION



WIRE COLOR STANDARD

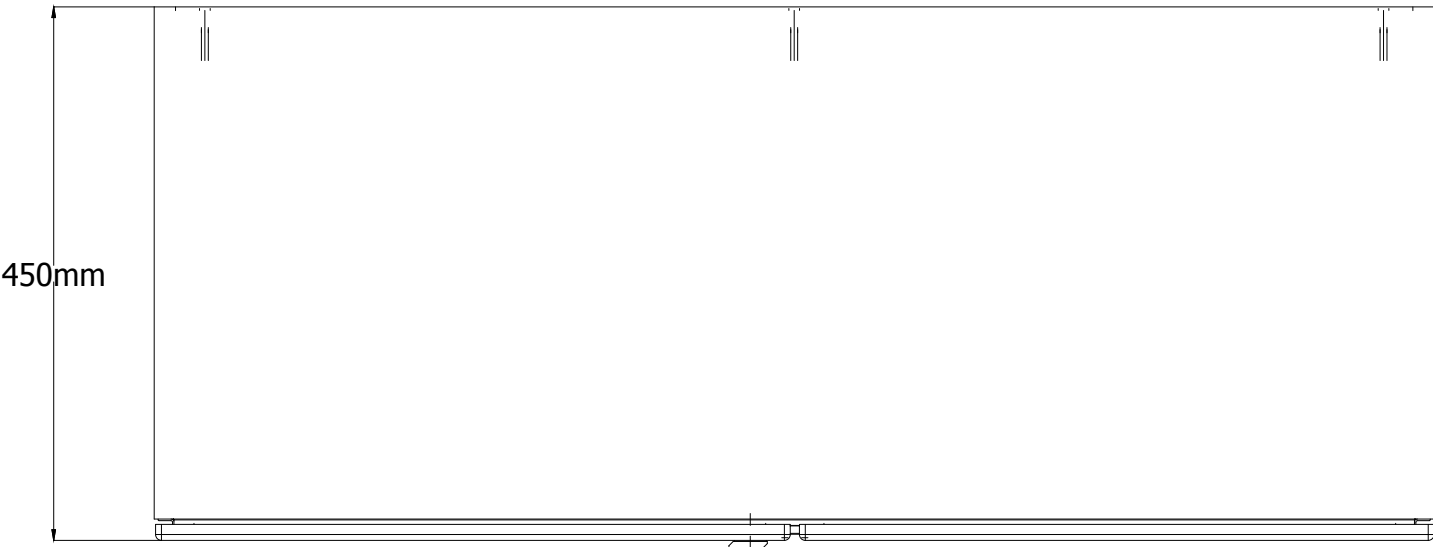
BLACK (BK)	440VAC MAIN POWER WIRING
RED (RD)	120VAC CONTROL WIRING
WHITE (WH)	120VAC NEUTRAL
GREEN (GN)	CHASSIS GROUND
BLUE (BL)	+24VDC VOLTAGE LESS THAN 30 VOLTS
WHITE/BLUE (WT/BL)	-0VDC

DEVICE ABBREVIATIONS LEGEND

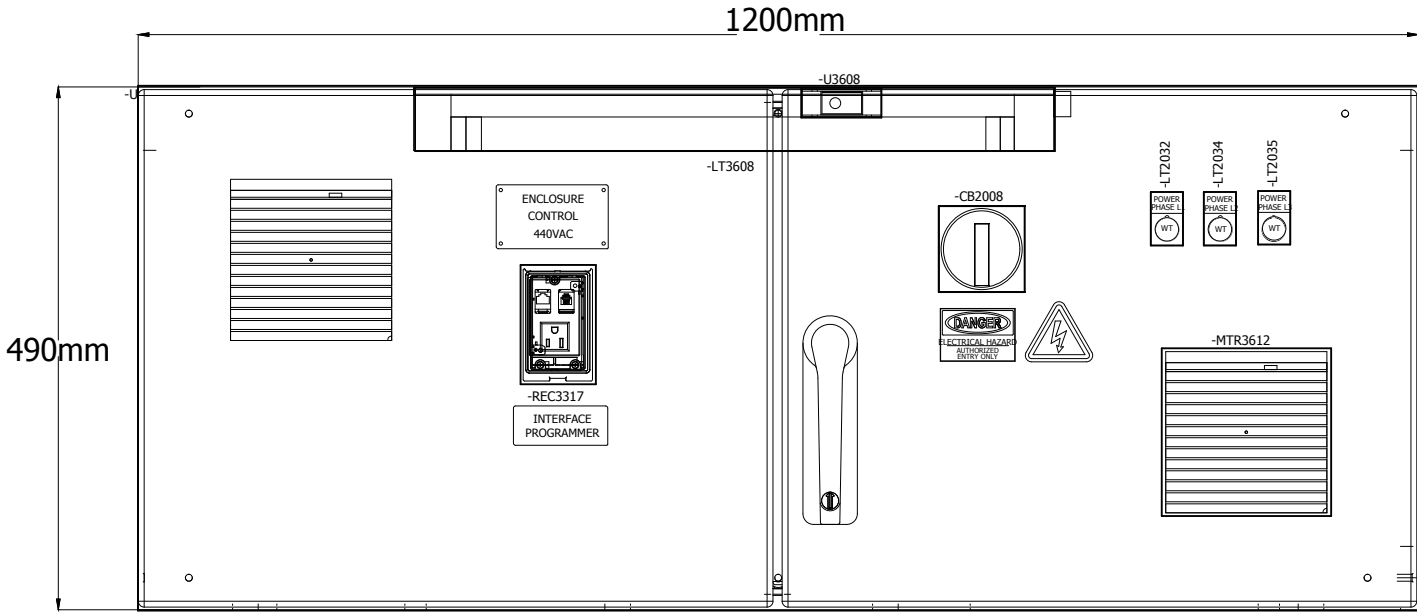
AB = ALARM BEACON
AH = ALARM HORN (AUDIBLE CHIRP)
AMP = AMPLIFIER
AS = AREA SCANNER
BCR = BARCODE READER
BF = BOWL FEEDER
BLO = BLOW-OFF
BRK = BRAKE
CAB = CABINET
CAM = CAMERA
CBL= CABLE
CHL = CHILLER
CHR = CHOKE REACTOR
CB = CIRCUIT BREAKER
CON = CONTACTOR
CR = CONTROL RELAY
CLR = COLOUR SENSOR
CNS = CONTACT SENSOR
CS = CURRENT SENSOR
CT = CURRENT TRANSMITTER
CTR = COUNTER
CYL = CYLINDER
CXF = CURRENT TRANSFORMER
DCT = DUCT
DIN = DIN RAIL
DS = DOOR SWITCH
DISC = DISCONNECT SWITCH
DRP = DRIP LEG
DRV = DRIVE
ENC = ENCLOSURE
END = END STOPS
ENG = ENGRAVER
FC = FLOW CONTROLLER
FIB = FIBER OPTIC SENSOR
FSC = FIELD SENSOR CONNECTOR
FT = FLOW TRANSMITTER
FTB = FUSED TERMINAL BLOCK
FTR = FILTER (PNEUMATICS)
FU= FUSE
GAU = GAUGE
GRP = GRIPPER
GS = GATE SWITCH
HMI = HUMAN MACHINE INTERFACE
HTR = HEATER
IND = OPERATOR INDICATION LIGHT
KS = KEY SWITCH
LAS = LASER SENSOR

LC = LIGHT CURTAIN
LKT = LEAK TESTER
LTD = LINEAR TRANSDUCER
LR = LINE REACTOR
LS = LIMIT SWITCH
LT = LIGHT
LUG = GROUND LUG
LUM = LUMINESCENCE SENSOR
M = MAGNETIC STARTER (MOTOR STARTER)
MAG = MAGNETIC SENSOR
MAN = MANIFOLD
MCR = MASTER CONTROL RELAY
MON = MONITOR
MTR = MOTOR
NET = NETWORK SWITCH/ROUTER/TAP
NUT = NUT RUNNER
OL = OVERLOAD
OPT = OPTICAL TOUCH BUTTON
PB = PUSH BUTTON
PBL = ILLUMINATED PUSH BUTTON
PC = PERSONAL COMPUTER
PDB = POWER DISTRIBUTION BLOCK
PE = PHOTOELECTRIC SENSOR
PL = PILOT LIGHT
PLC = PROGRAMMABLE LOGIC CONTROLLER
PNL = PANEL
POT = POTENTIOMETER
PRB = PRINTED BOARD
PRG = PROGRAMMING PORT
PRT = PRINTER
PRS = PRESSURE SWITCH
PT = PRESSURE TRANSDUCER
PV = PROPORTIONAL VALVE
PS = POWER SUPPLY
PXI = PROXIMITY SWITCH INDUCTIVE
PXC = PROXIMITY SWITCH CAPACITIVE
QC = (QUICK) CONNECTOR/FITTING
QE = QUICK EXHAUST
RC = ROBOT CONTROLLER
REC = RECEPTACLE
REG = REGULATOR
REM = REMOTE NODE
RES = RESISTOR
RS = REED SWITCH
ROB = ROBOT
SC = SAFETY CORD
SD = SERVO DRIVE

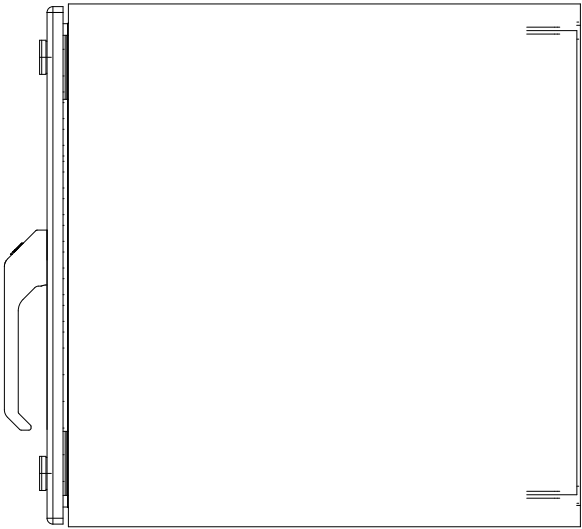
SFR = SAFETY RELAY
SL = SEAL
SLT = STACK LIGHT
SIL = SILENCER
SM = SAFETY MAT
SP = SAFETY PLUG
SPL = SPLITTER
SS = SELECTOR SWITCH
SSR = SOLID STATE RELAY
SOL = SOLENOID
SRV = SERVO
STP = STEPPER DRIVE
SUP = SURGE SUPPRESSOR
SW = GENERAL SWITCH
TB - TERMINAL BLOCK
TC = THERMOCOUPLE
TCG = TOOL CHANGER
TEC = TEMPERATURE CONTROLLER
THB = THRU-BEAM SENSOR
TNK = SURGE TANK
TP = ROBOT TEACH PENDANT
TR = TIMED RELAY
TS = TEMPERATURE SWITCH
TT = TEMPERATURE TRANSMITTER
UPS = UNINTERRUPTED POWER SUPPLY
USS = ULTRASONIC SENSOR
VAC = VACUUM UNIT
VAL = VALVE
VB = VALVE BANK
VCP = VACUUM CUP
VGN = VACUUM GENERATOR
VFD = VARIABLE FREQUENCY DRIVE
WH = WELD HORN
XFMR = TRANSFORMER
U=COMPONENT
LOC=LOAD CELL



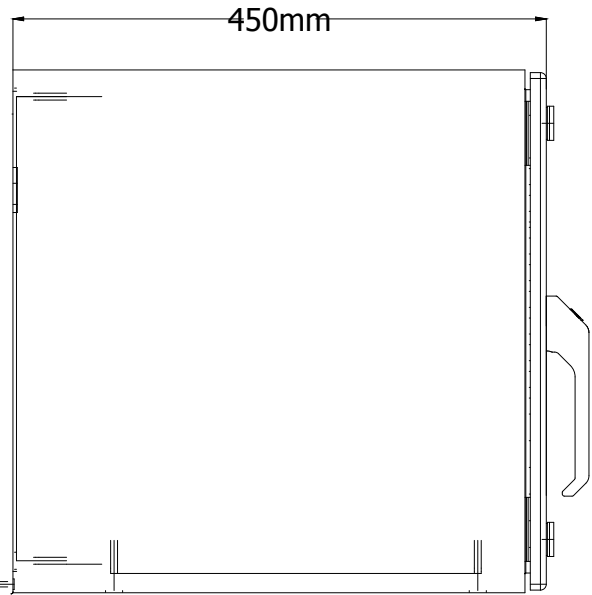
TOP VIEW



FRONT VIEW



LEFT VIEW

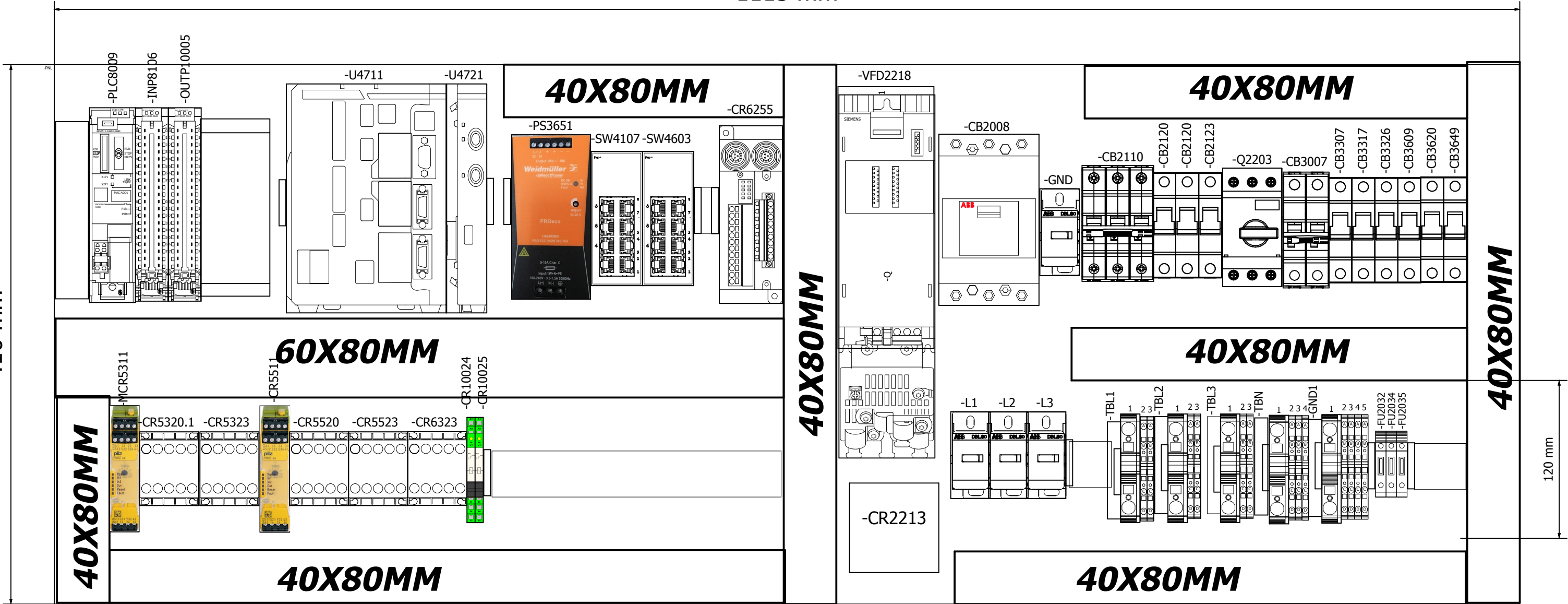


RIGHT VIEW

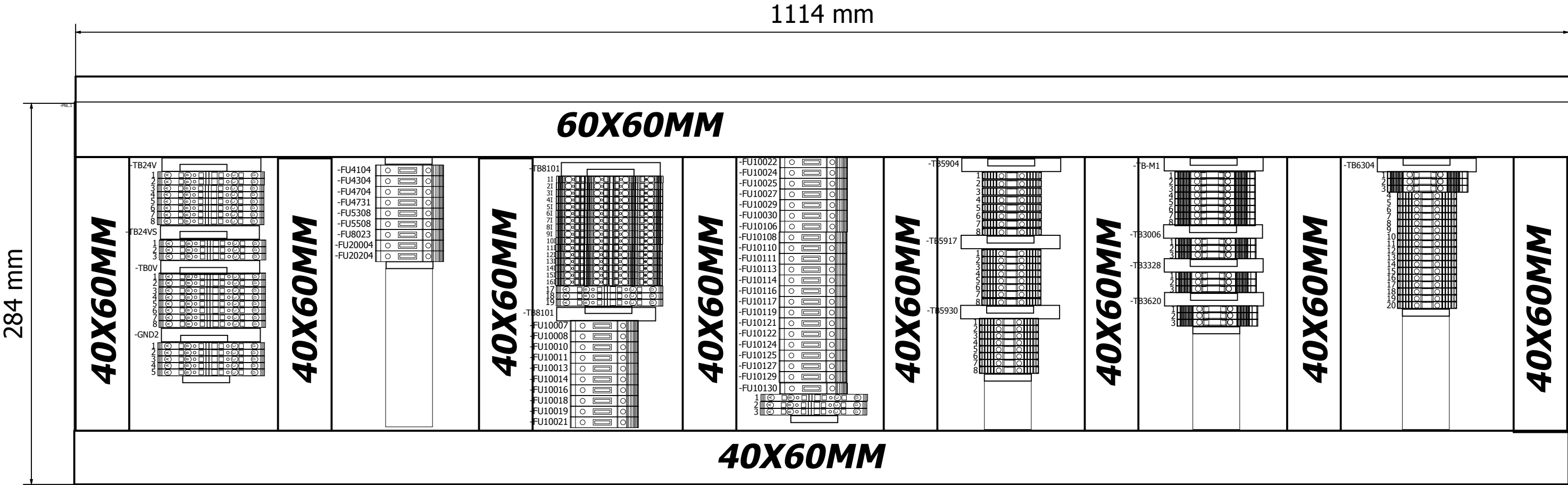
SUPERIOR PANEL

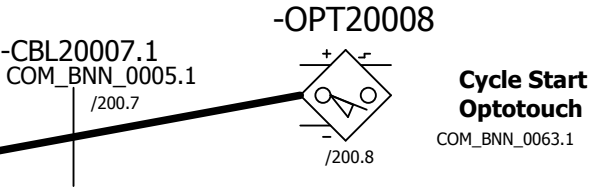
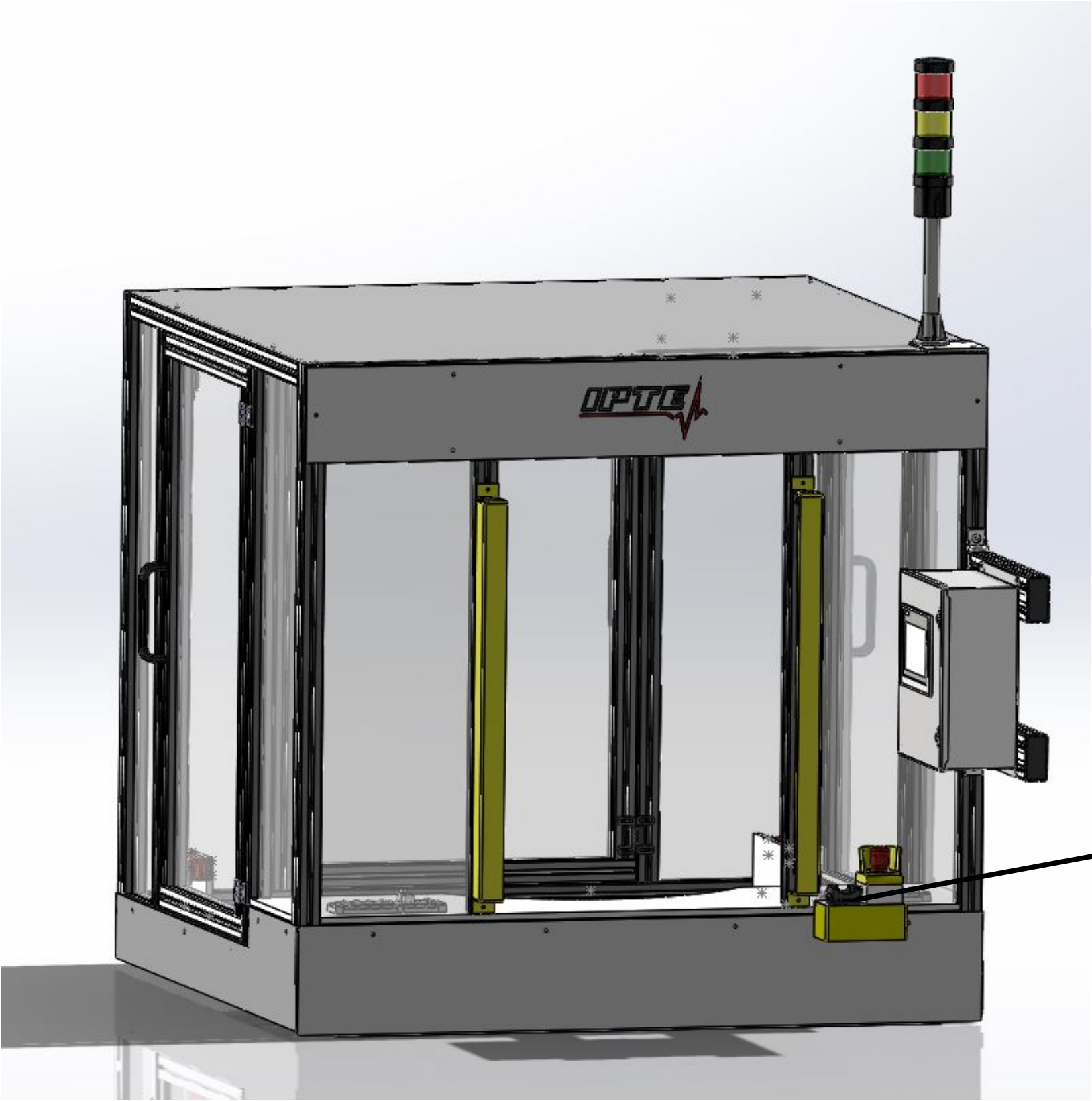
1115 mm

410 mm

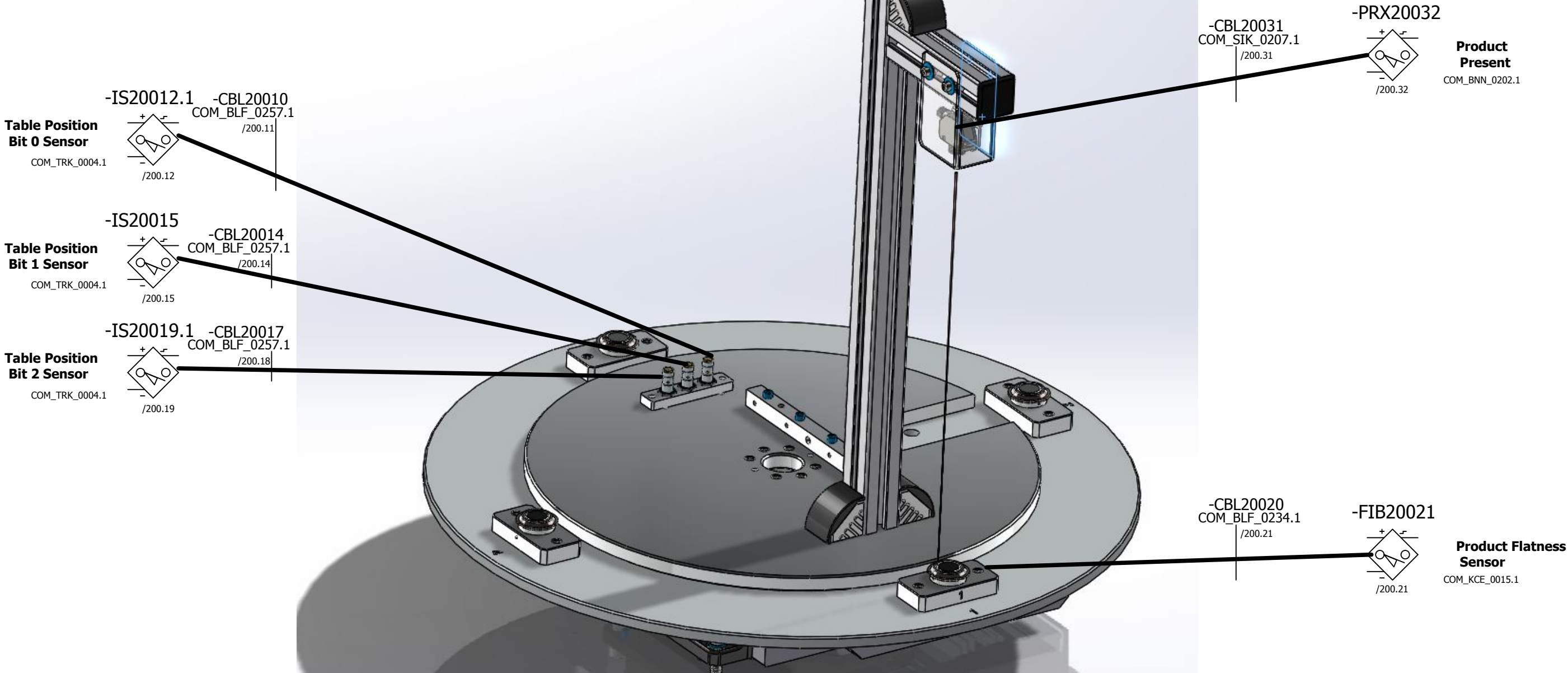


INFERIOR PANEL

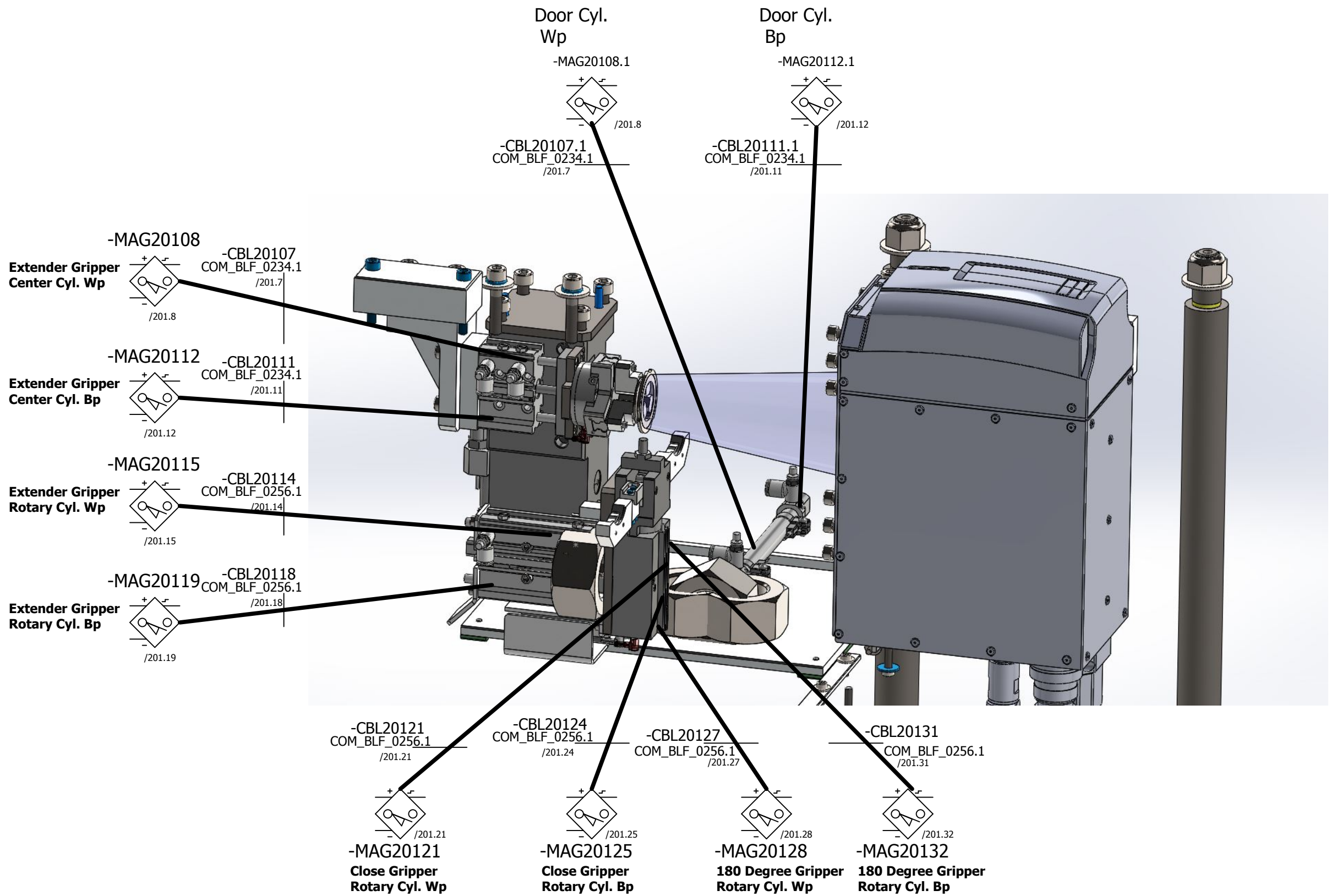




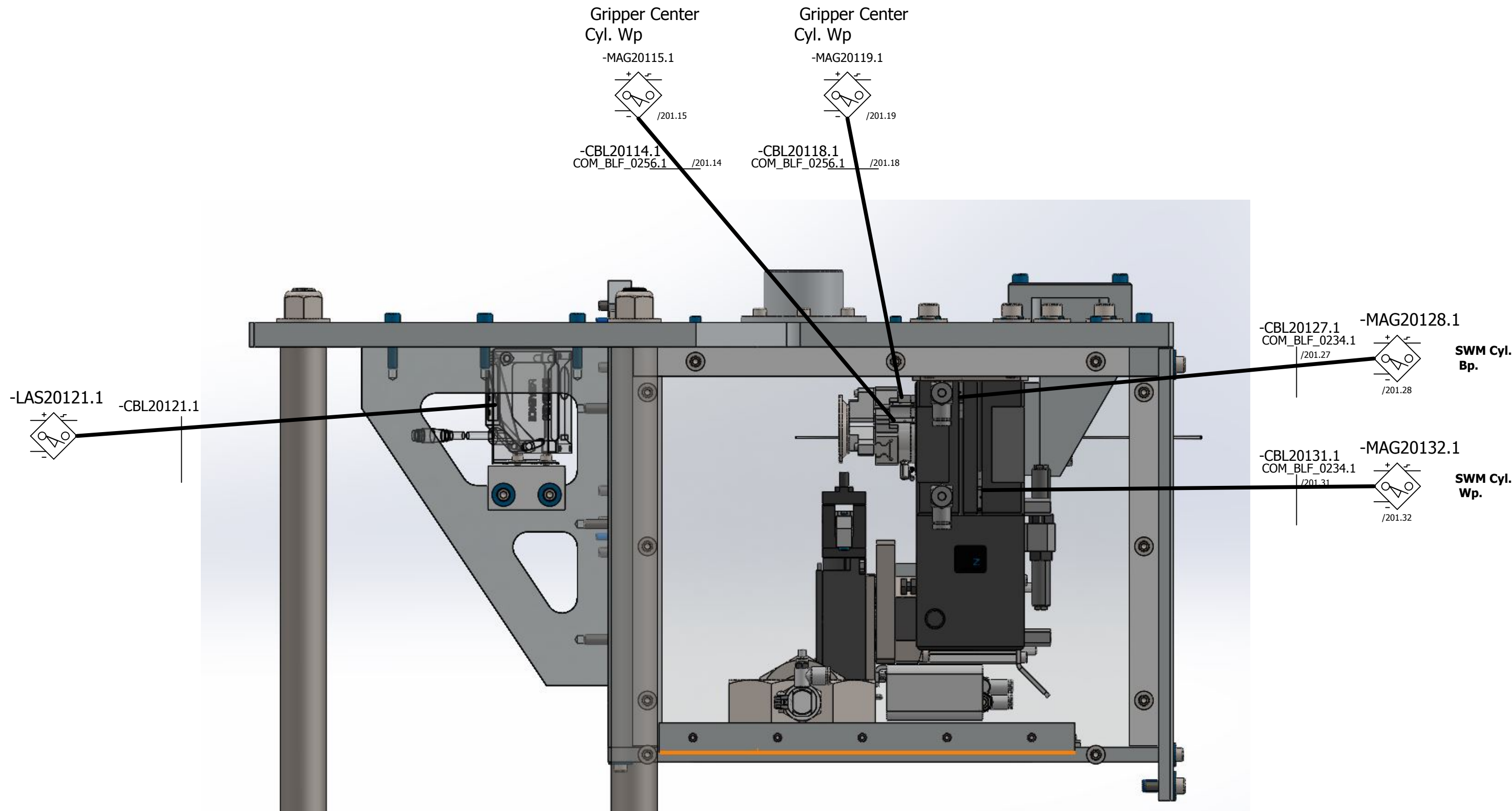
LOAD STATION



LASER STATION



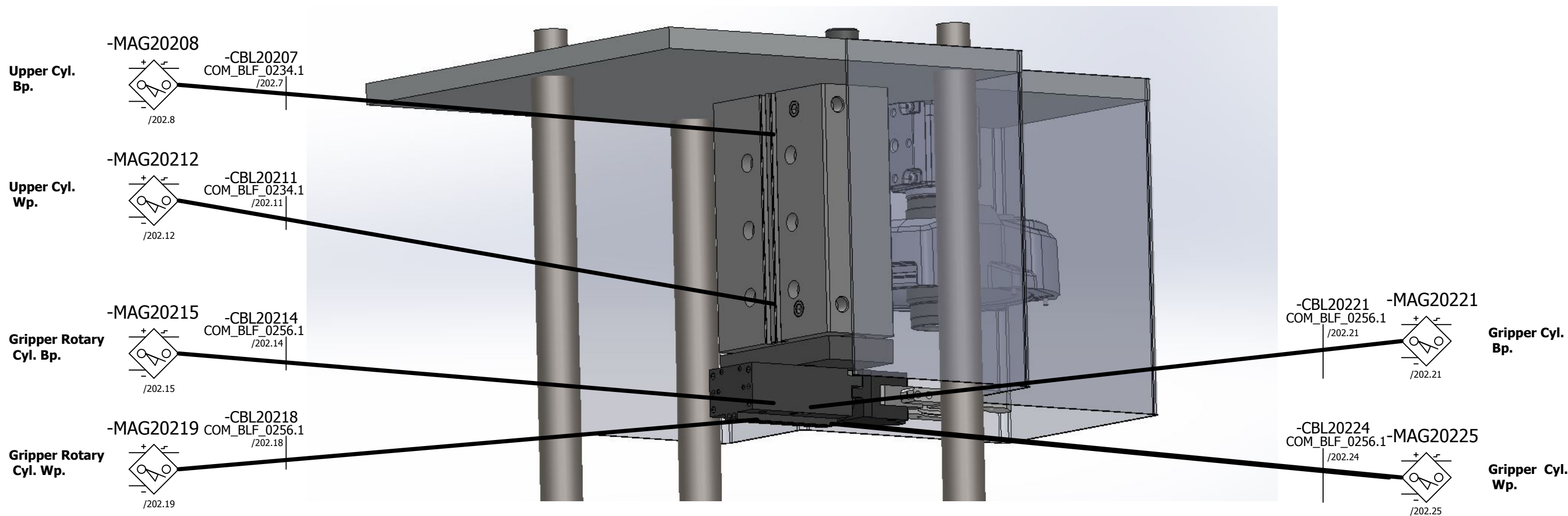
LASER STATION



Total 45

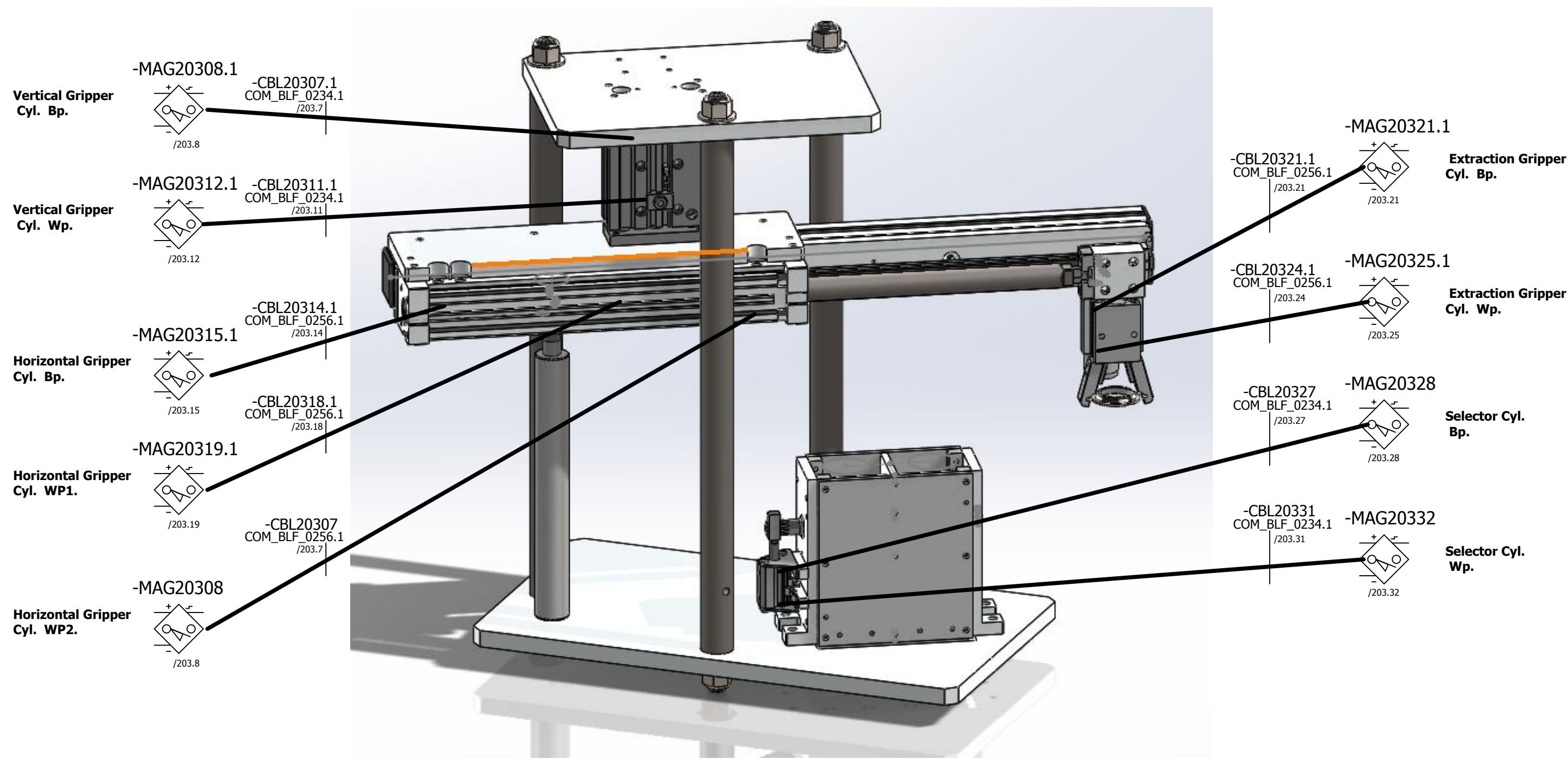
 IPTE EXPERTS IN FACTORY AUTOMATION	IPTE Mexico S. de R.L. de C.V. Alambiques. 975-09 Parque Industrial El Alamo Guadalajara, Jalisco Mexico C.P. 45593 T: +52 (33) 36755597, F: +52 (33) 12534965 E-mail: mexico@ipte.com	Electrical Engineer	RNU1703	Project Name	Title Page			Before	15
		Date of Creation	3/15/2019	Texturing Laser Marking				Next	17
		Last Modification	3/22/2019	Project Number	Company Name	= LEVEL_HIGHT	+ MAIN_ENCLOSURE	Page	
				G19-07-BRG	BORGWARNER				

VISION STATION

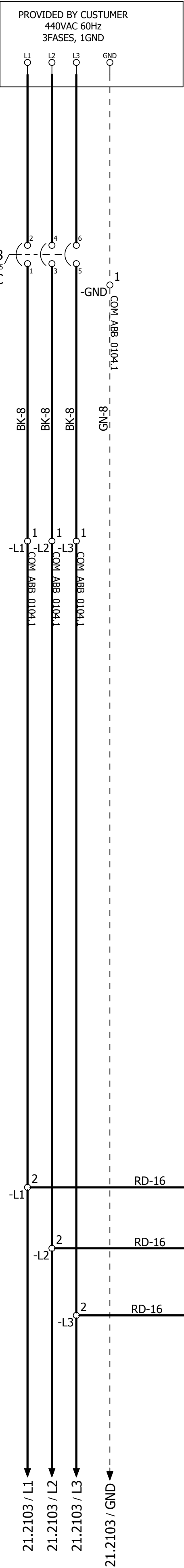


Total 45

Extraction Station



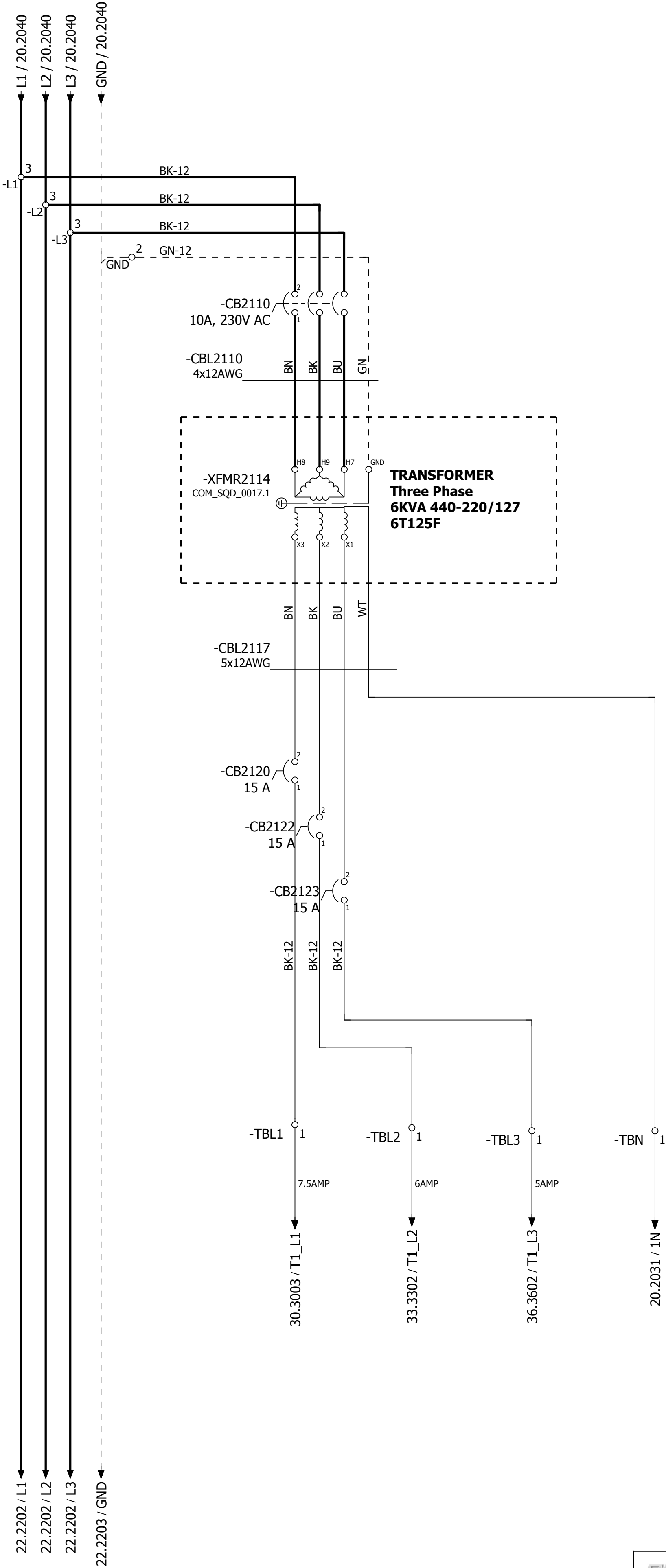
2001
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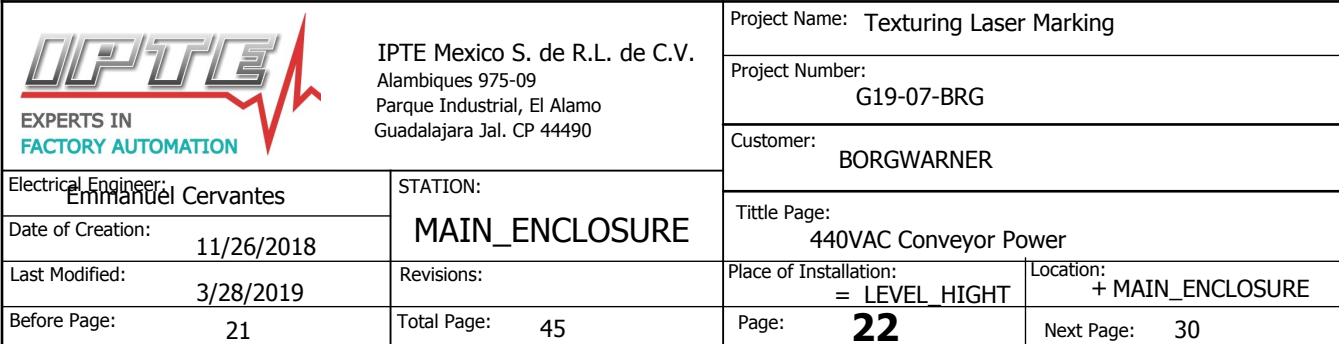


IN / 21.2132

<div><div><div>IPTE</div><div>EXPERTS IN FACTORY AUTOMATION</div></div><div><div>IPTE Mexico S. de R.L. de C.V.</div><div>Alambiques 975-09</div><div>Parque Industrial, El Alamo</div><div>Guadalajara Jal. CP 44490</div></div></div>		Project Name: Texturing Laser Marking	
		Project Number: G19-07-BRG	
		Customer: BORGWARNER	
Electrical Engineer: Emmanuel Cervantes	STATION:	Title Page:	
Date of Creation: 11/26/2018	MAIN_ENCLOSURE	440VAC Main Power	
Last Modified: 3/27/2019		Place of Installation: = LEVEL_HIGHT	Location: + MAIN_ENCLOSURE
Before Page: 18		Page: 20	Next Page: 21

2101
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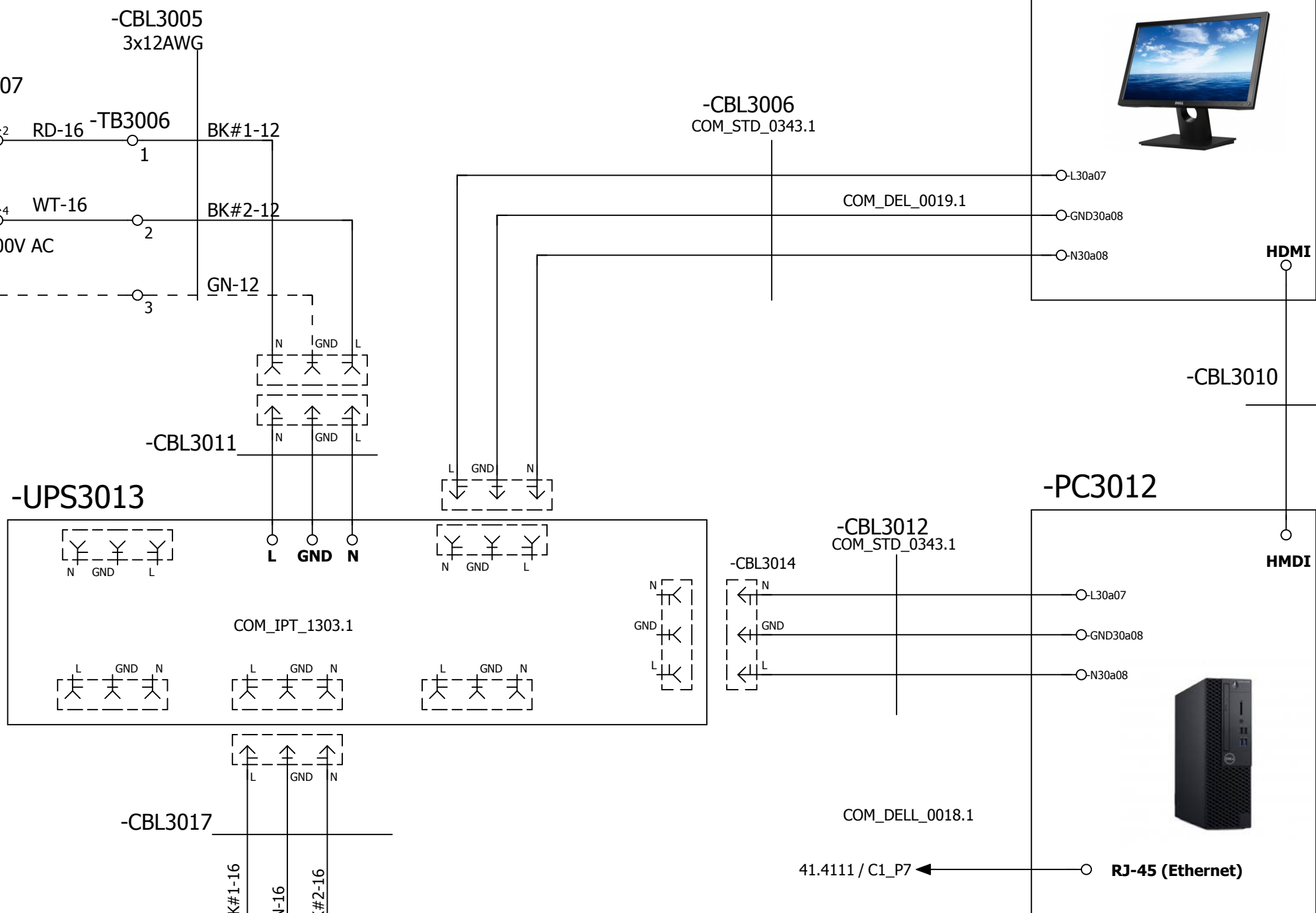




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T1_L1 / 21.2132
1N / 30.3039
GND / 22.2239

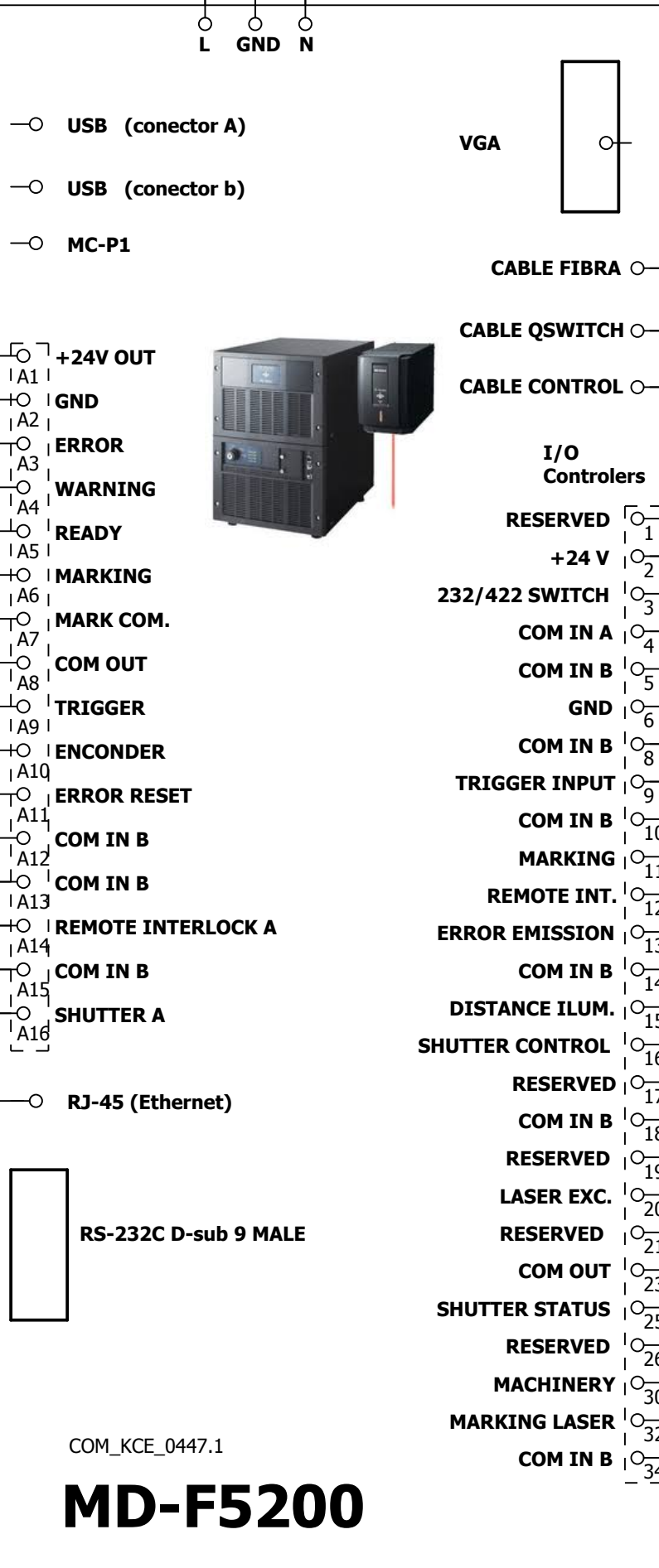
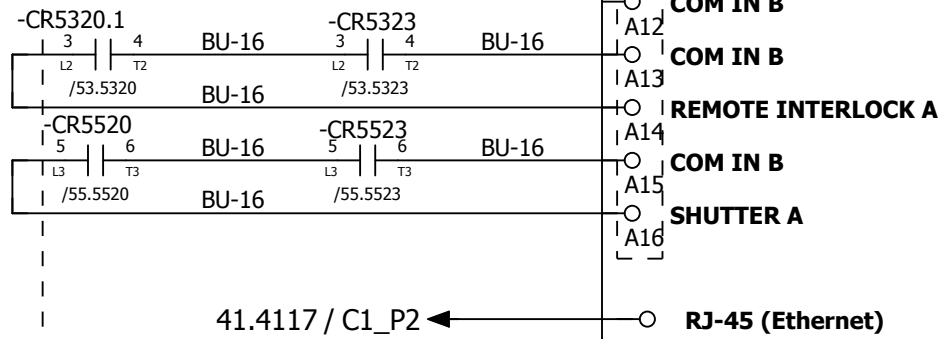
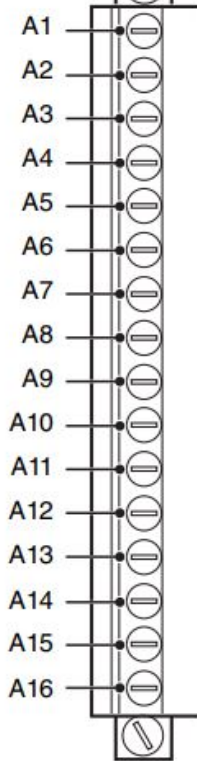
/ T1_L1.END
30.3003 / IN
33.3303 / GND



-U3019
IP: 192.168.1.3

3-AXIS HYBRID
LASER MARKER

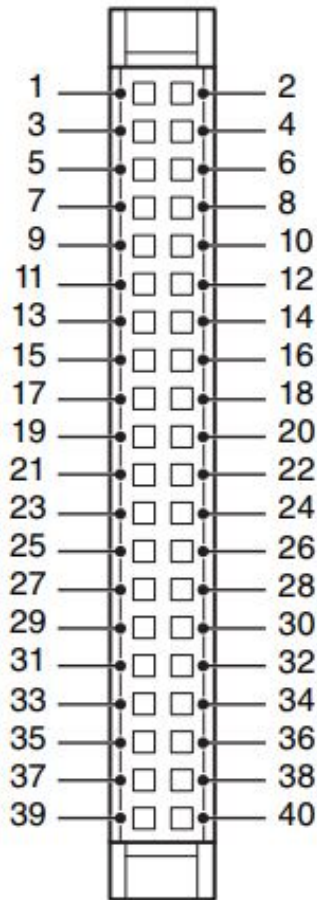
Terminal Block
(16-pin)

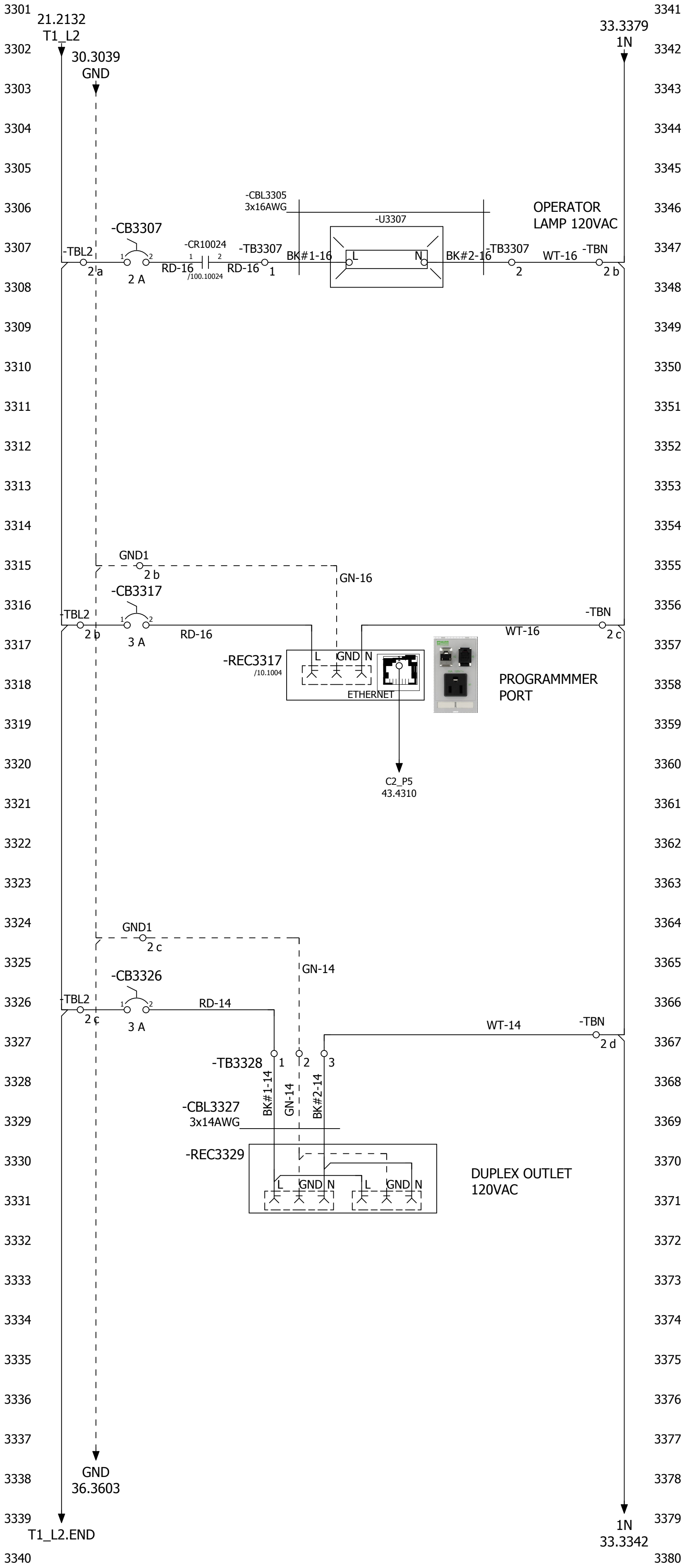


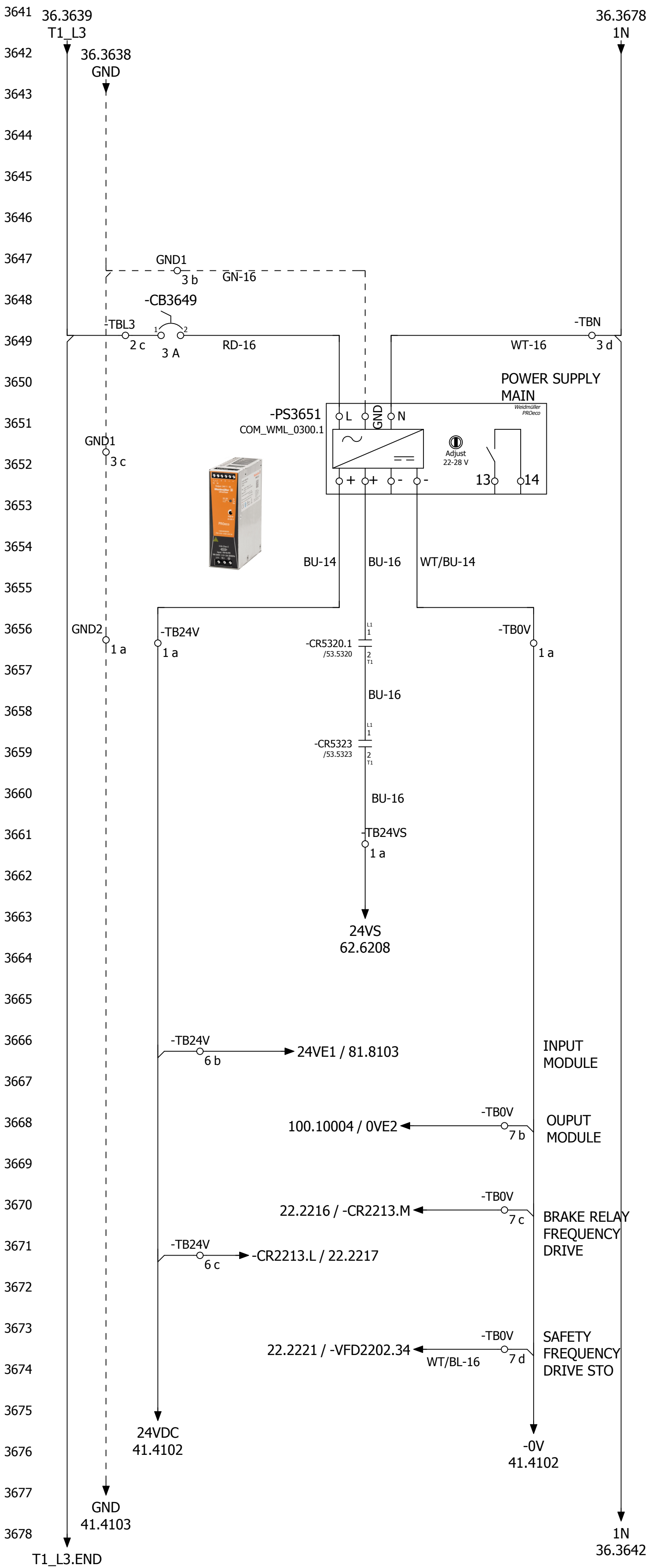
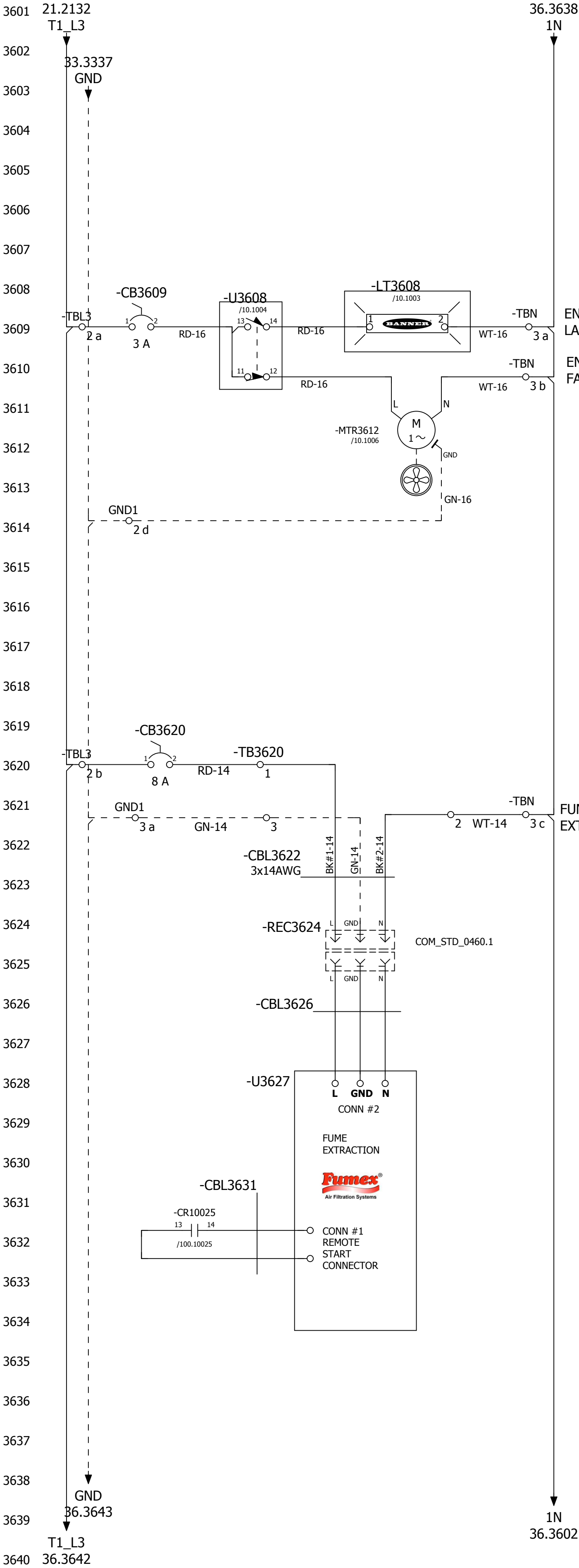
LASER MARKING
HEAD



MIL connector
(40-pin)



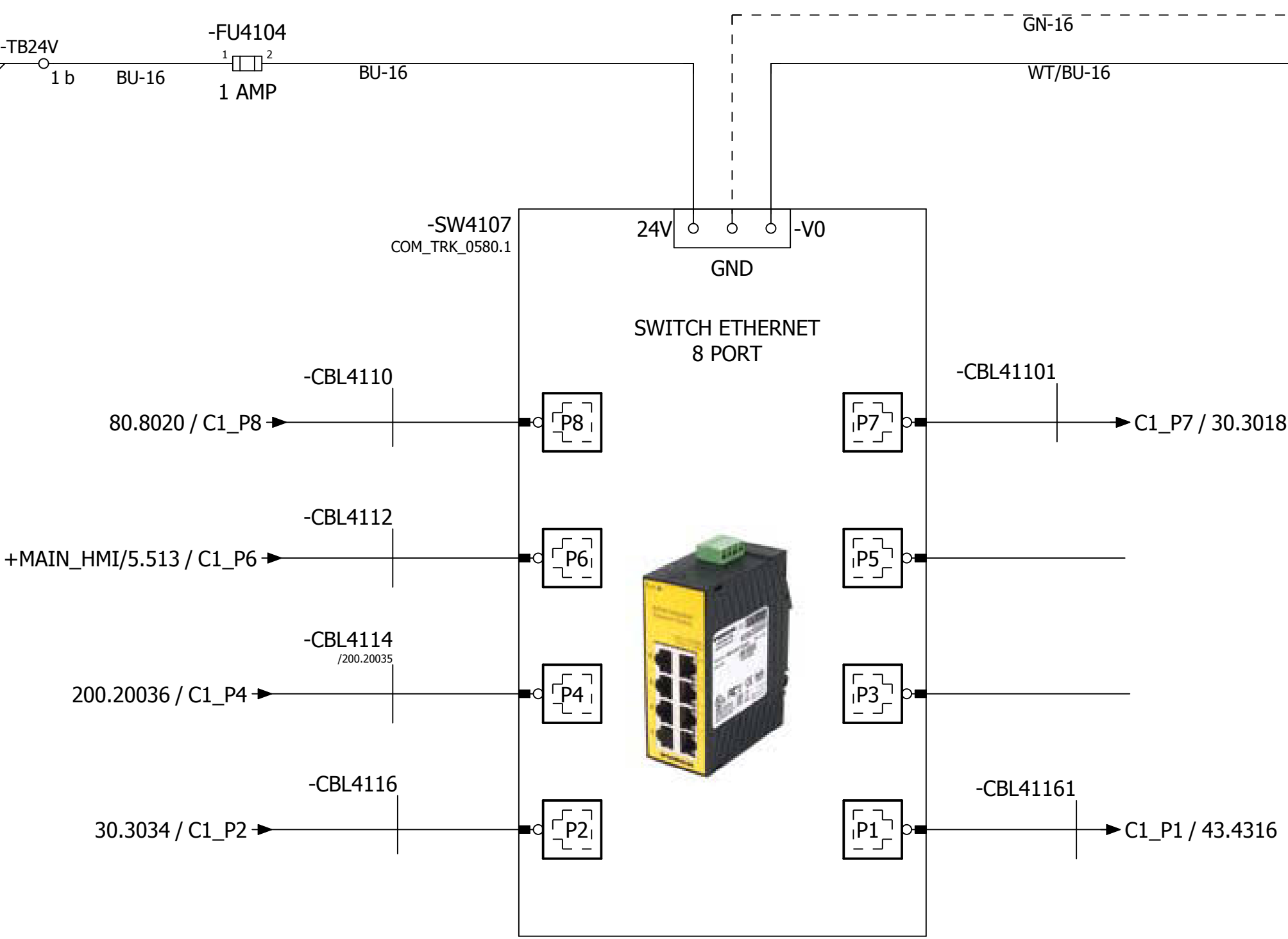





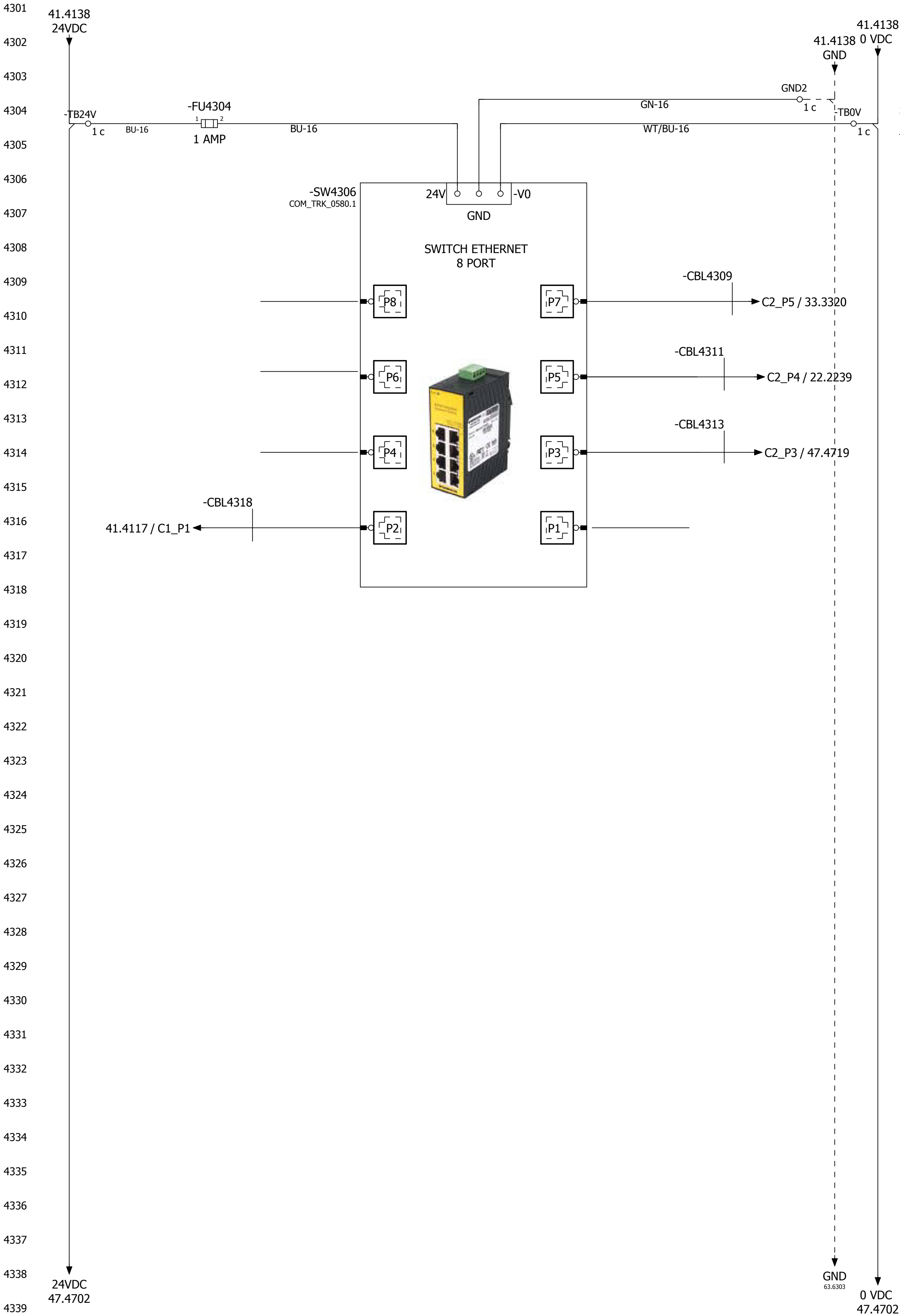
4101 36.3675
24VDC
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4137
4138 24VDC
43.4302
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4140

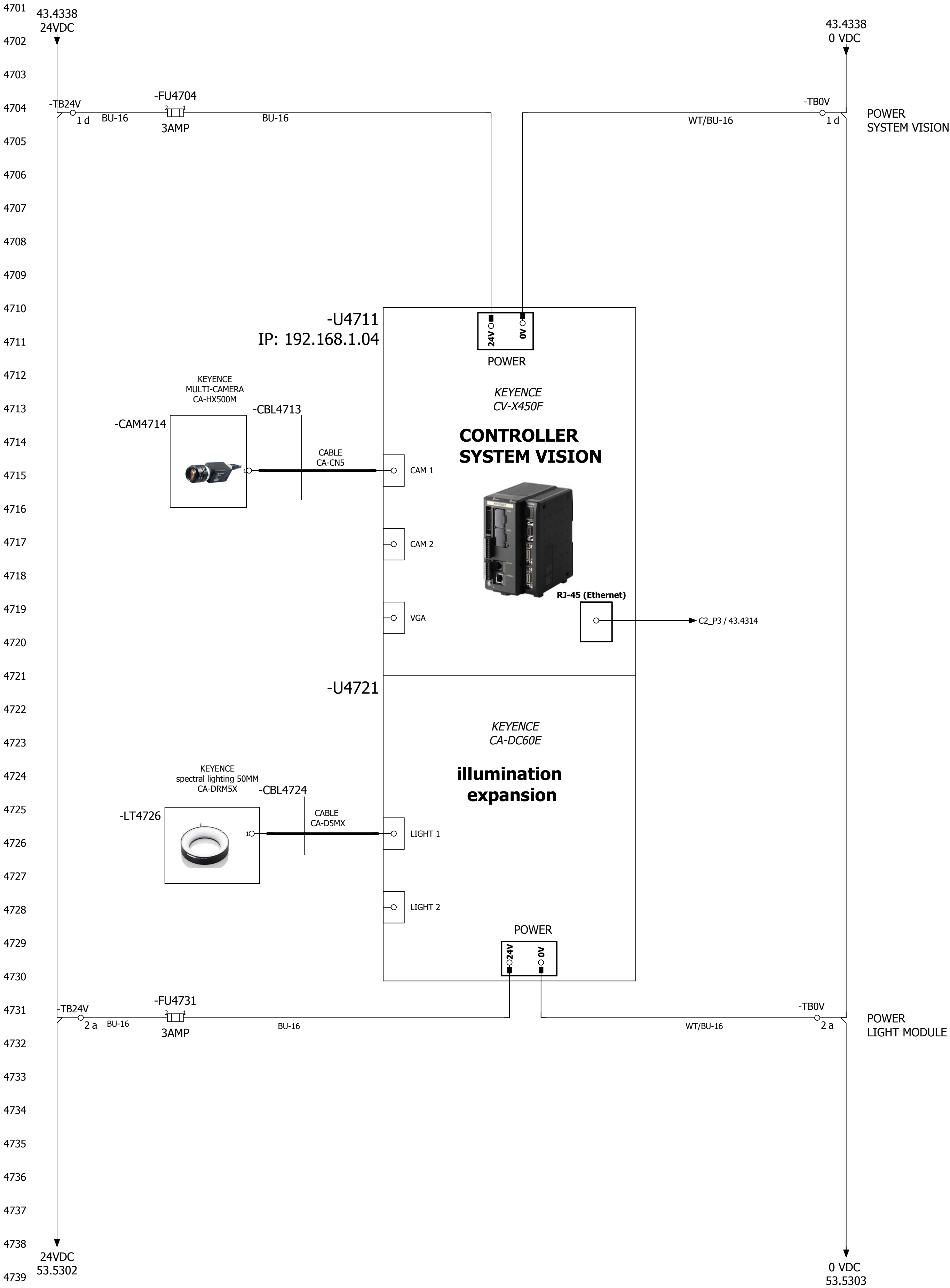
36.3675
-0V
36.3677
GND
GND2
1 b
TB0V
1 b
36.3675
-0V
GND
43.4303
0 VDC
43.4302


POWER
SWITCH ETHERNET
8 PORT
TURCK

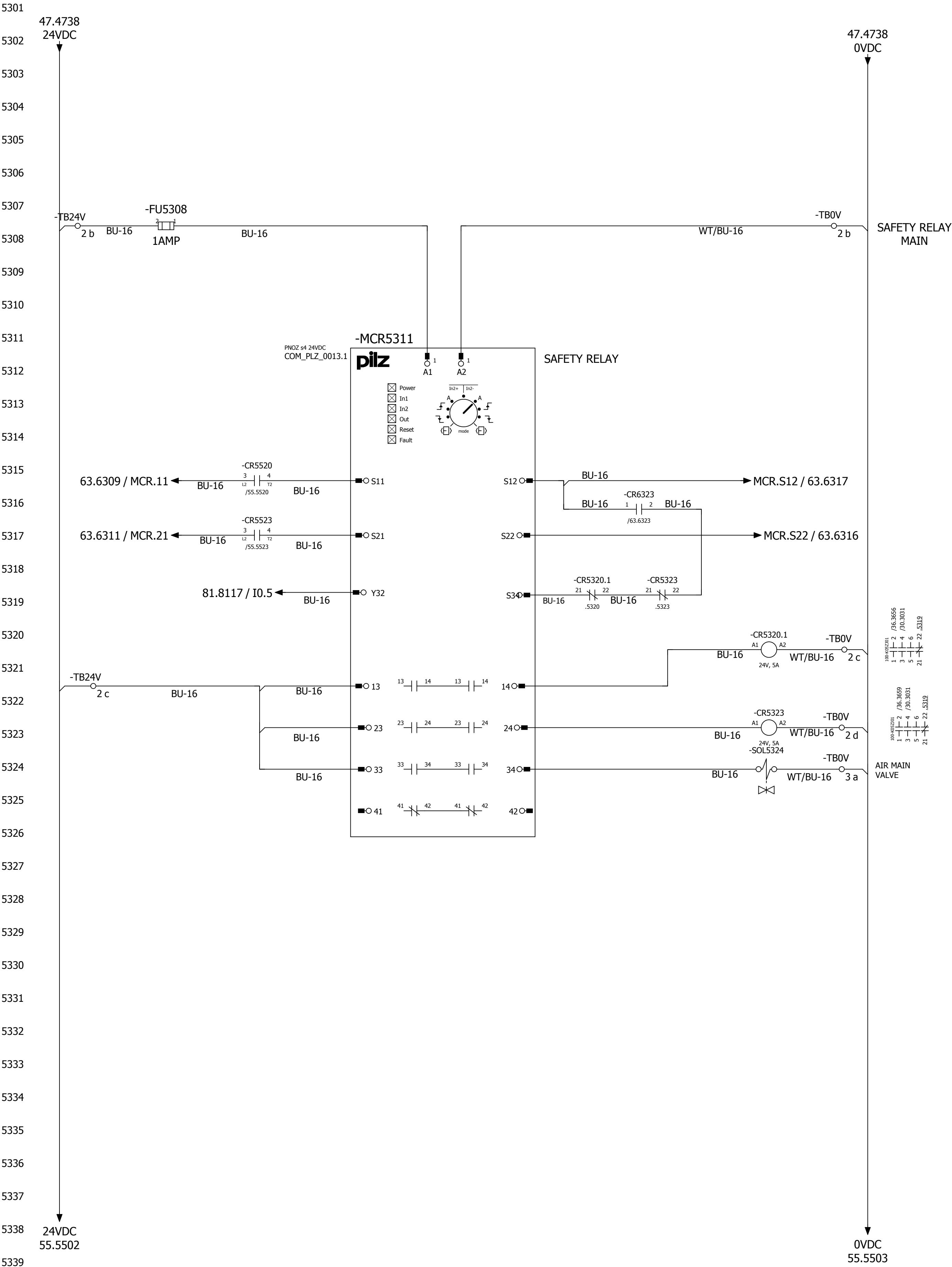


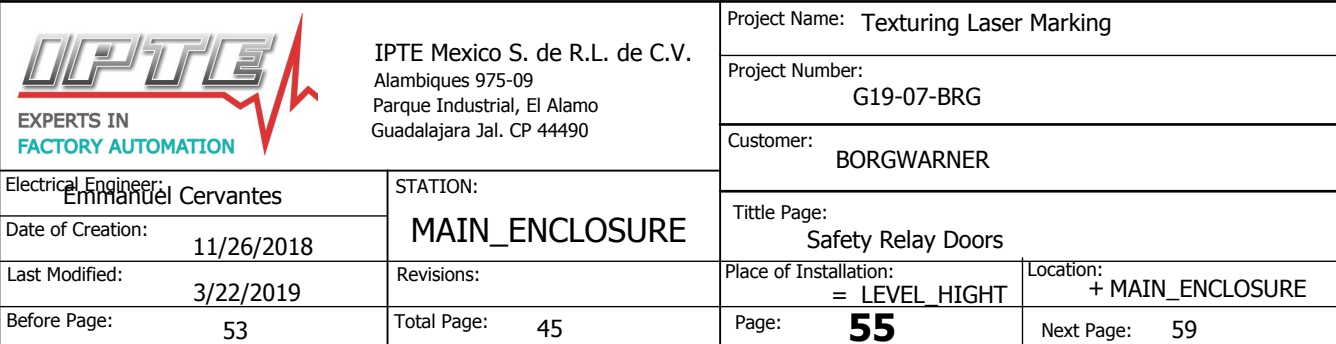
 EXPERTS IN FACTORY AUTOMATION		IPTE Mexico S. de R.L. de C.V. Alambiques 975-09 Parque Industrial, El Alamo Guadalajara Jal. CP 44490		Project Name: Texturing Laser Marking	
		Electrical Engineer: Emmanuel Cervantes		Project Number: G19-07-BRG	
Date of Creation: 11/26/2018		STATION: MAIN_ENCLOSURE		Customer: BORGWARNER	
Last Modified: 3/28/2019		Revisions:		Title Page: Switch Ethernet 8 Port	
Before Page: 36		Total Page: 45		Place of Installation: = LEVEL_HIGHT	
				Location: + MAIN_ENCLOSURE	
				Page: 41	
				Next Page: 43	

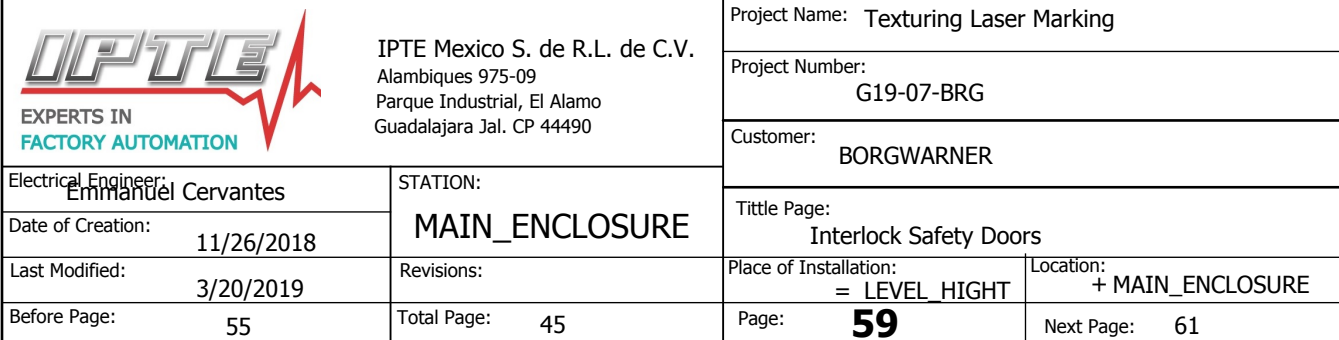




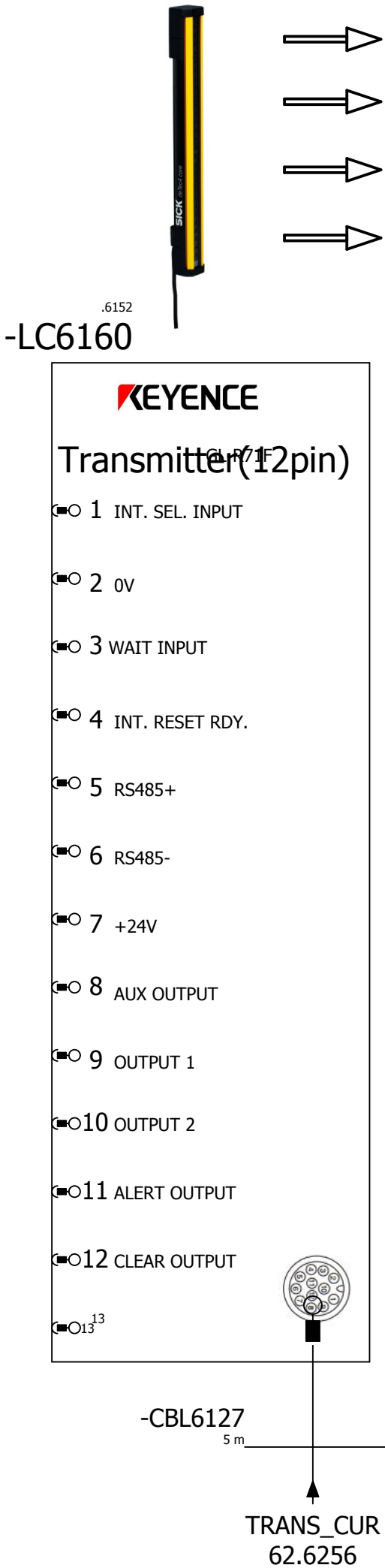
 EXPERTS IN FACTORY AUTOMATION		IPTE Mexico S. de R.L. de C.V. Alambiques 975-09 Parque Industrial, El Alamo Guadalajara Jal. CP 44490		Project Name: Texturing Laser Marking	
Electrical Engineer: Emmanuel Cervantes		STATION:		Project Number: G19-07-BRG	
Date of Creation: 11/26/2018		MAIN_ENCLOSURE		Customer: BORGWARNER	
Last Modified: 3/28/2019				Title Page: System Vision	
Before Page: 43		Revisions:		Place of Installation: = LEVEL_HIGHT	
Total Page: 45		Page: 47		Location: + MAIN_ENCLOSURE	
				Next Page: 53	



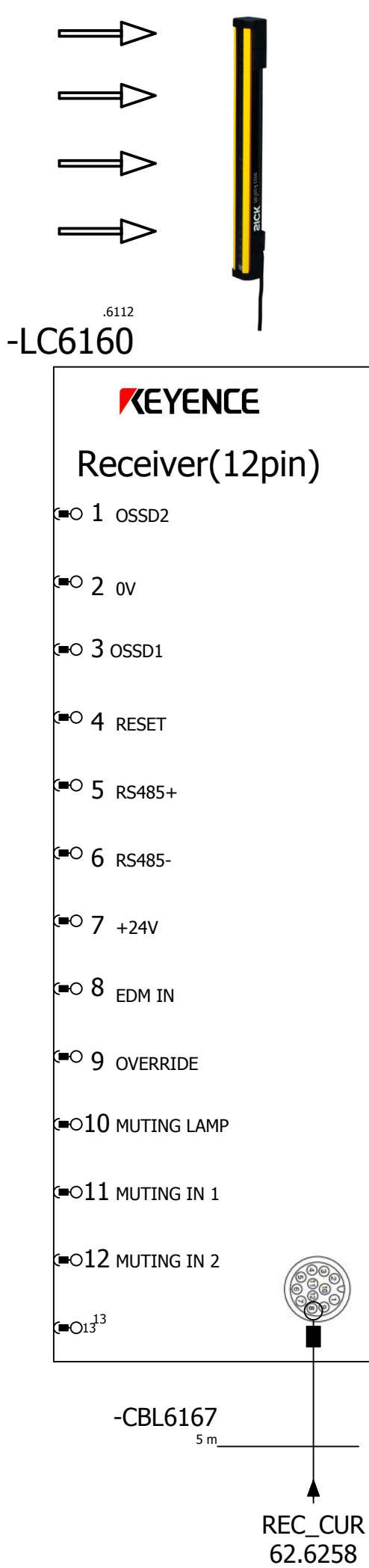




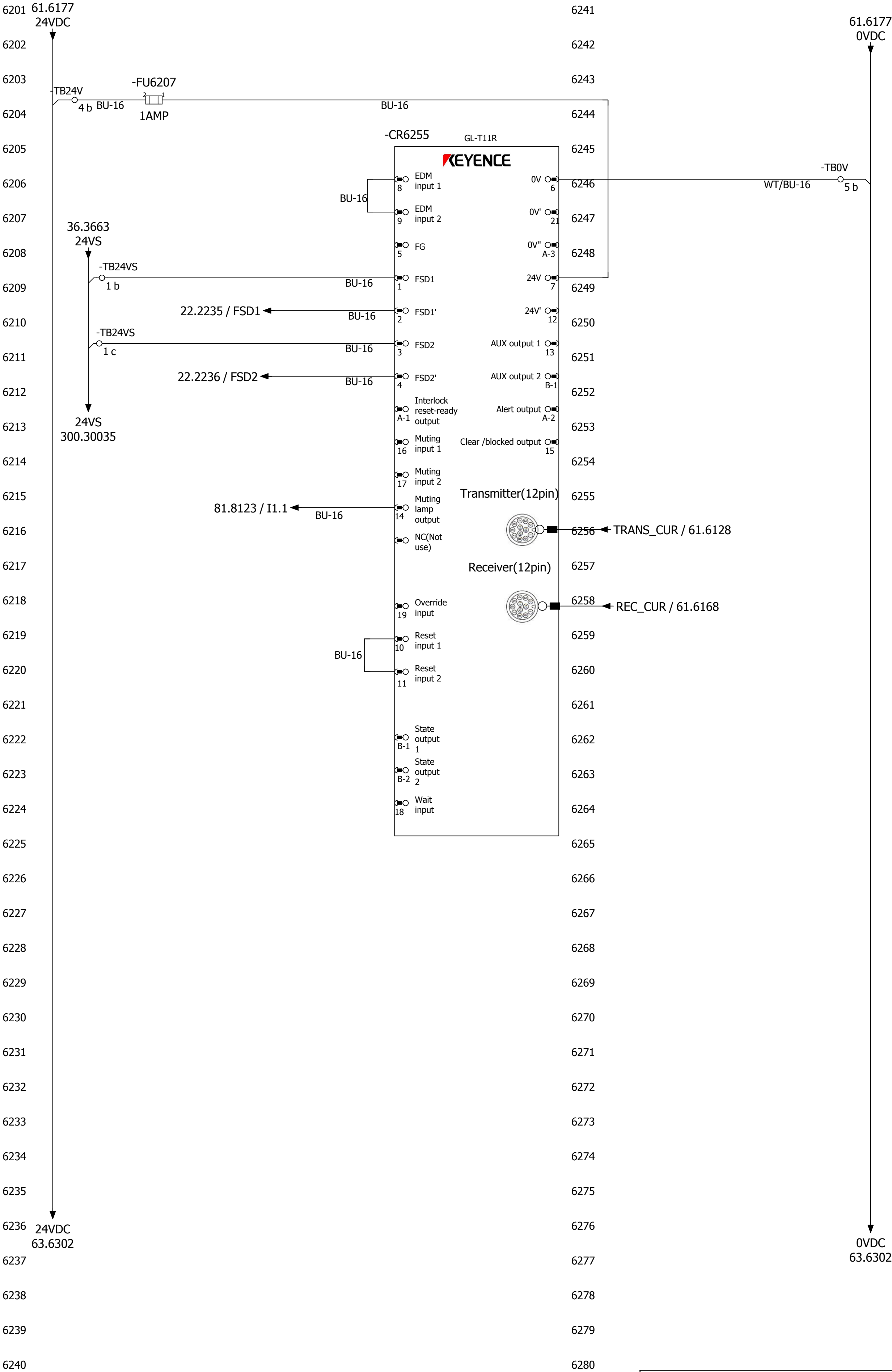
6101
6102 59.5938 24VDC
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6137 24VDC 61.6143
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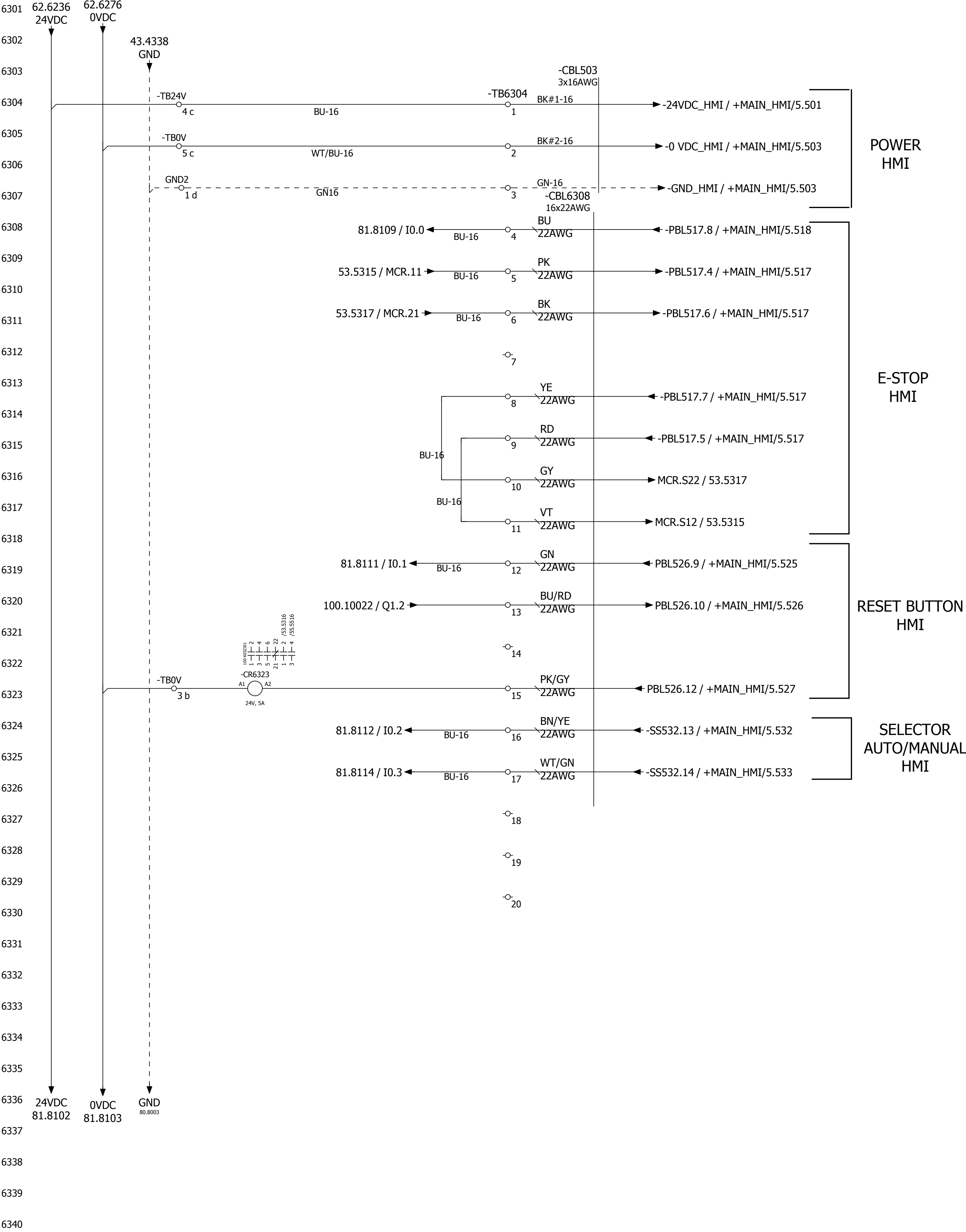



59.5939 0VDC
6141
6142 61.6137 24VDC
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6177 24VDC 62.6202
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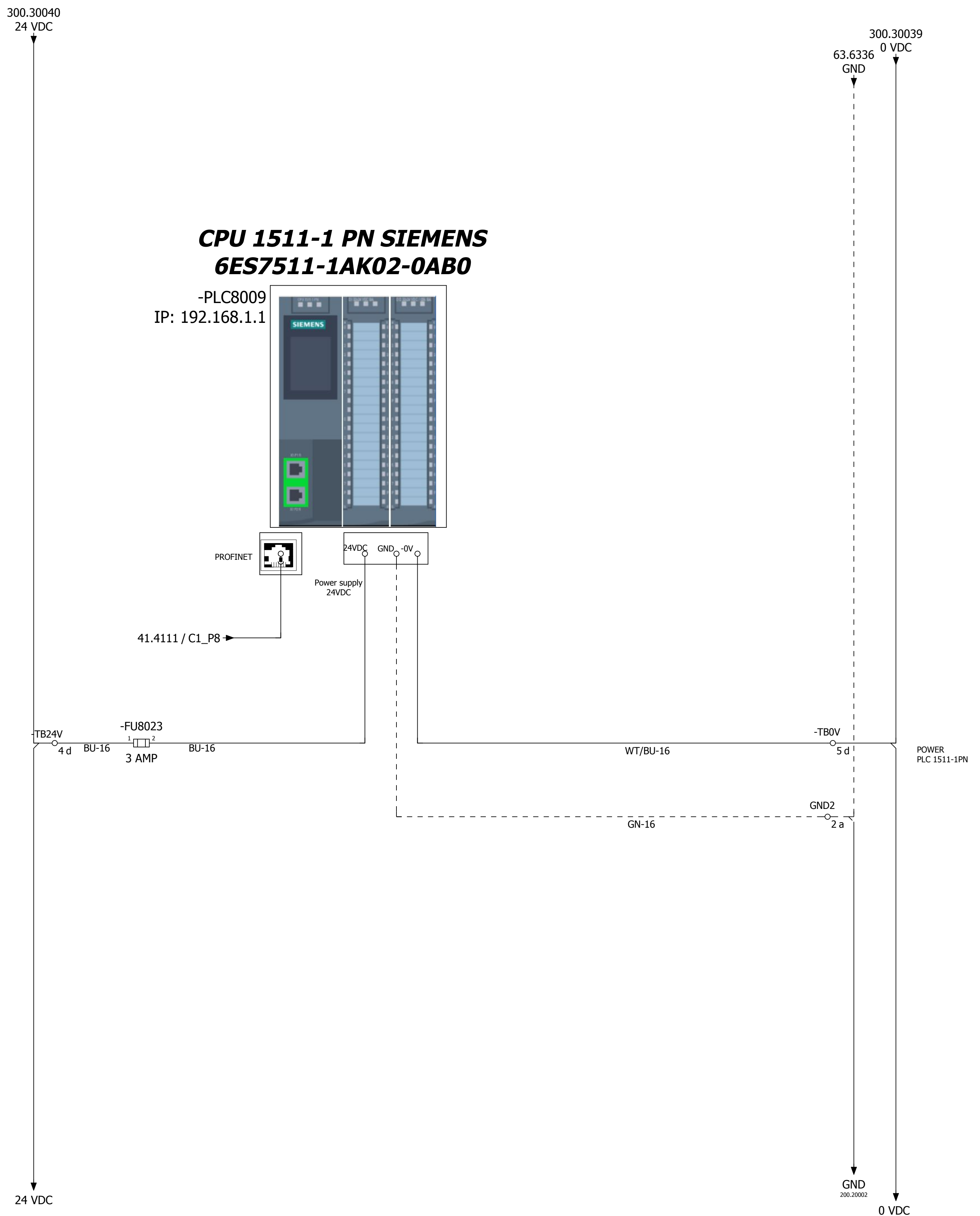


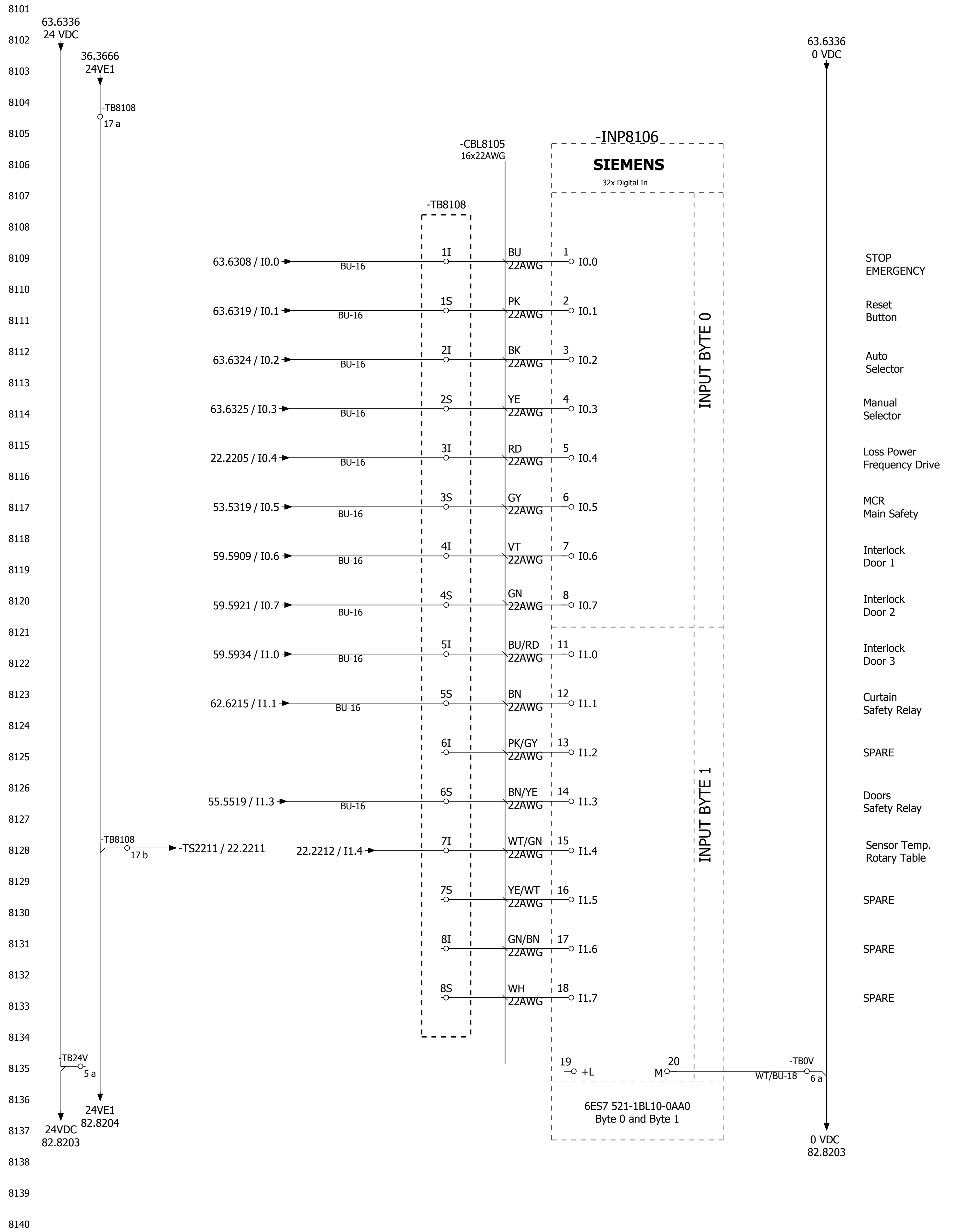
61.6137 0VDC
61.6137 0VDC






 <div>IPTE Mexico S. de R.L. de C.V. Alambiques 975-09 Parque Industrial, El Alamo Guadalajara Jal. CP 44490</div>		Project Name: Texturing Laser Marking	
		Project Number: G19-07-BRG	
Electrical Engineer: Emmanuel Cervantes		Customer: BORGWARNER	
Date of Creation: 11/26/2018		Title Page: Terminal block Safety	
Last Modified: 3/28/2019		Place of Installation: = LEVEL_HIGHT	Location: + MAIN_ENCLOSURE
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<div><div>IPTE Mexico S. de R.L. de C.V. Alambiques 975-09 Parque Industrial, El Alamo Guadalajara Jal. CP 44490</div></div>		Project Name: Texturing Laser Marking	
		Project Number: G19-07-BRG	
		Customer: BORGWARNER	
Electrical Engineer: Emmanuel Cervantes		STATION: MAIN_ENCLOSURE	
Date of Creation: 11/26/2018		Title Page: 32 Input Digital 1/2 Byte 0 AND 1	
Last Modified: 3/28/2019		Place of Installation: = LEVEL HIGHT Location: + MAIN_ENCLOSURE	
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8201

8202 81.8137
24VDC

8203 81.8136
24VE1

8204

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8235 -TB24V 5 b

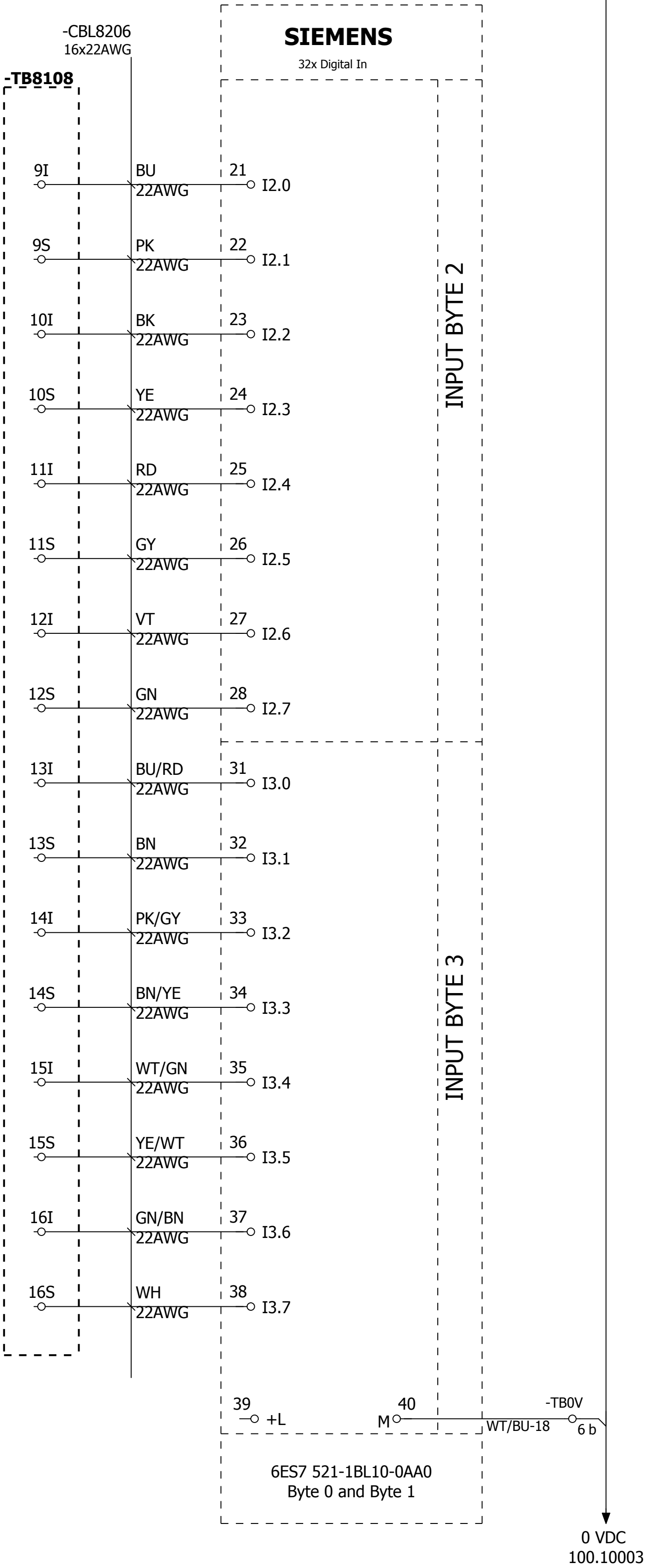
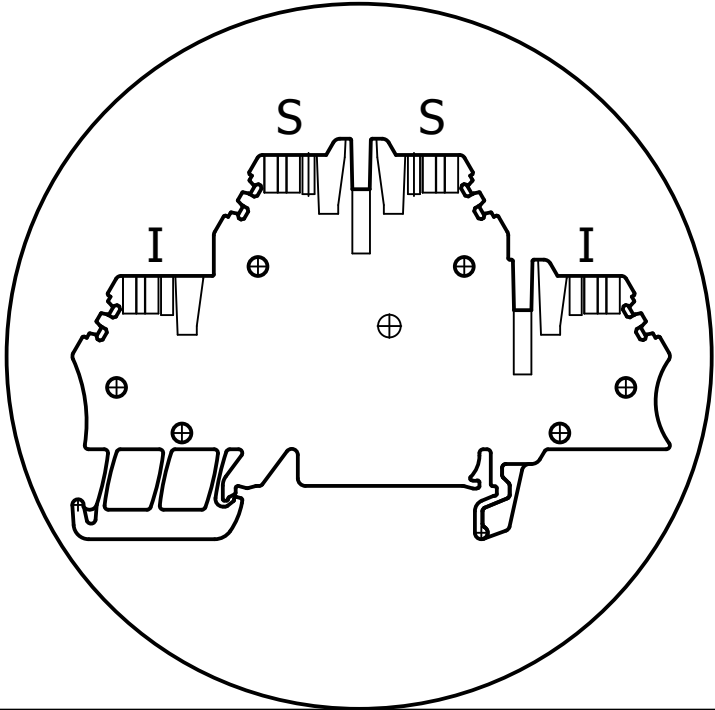
8236 24VE1


8237 24VDC
100.10003

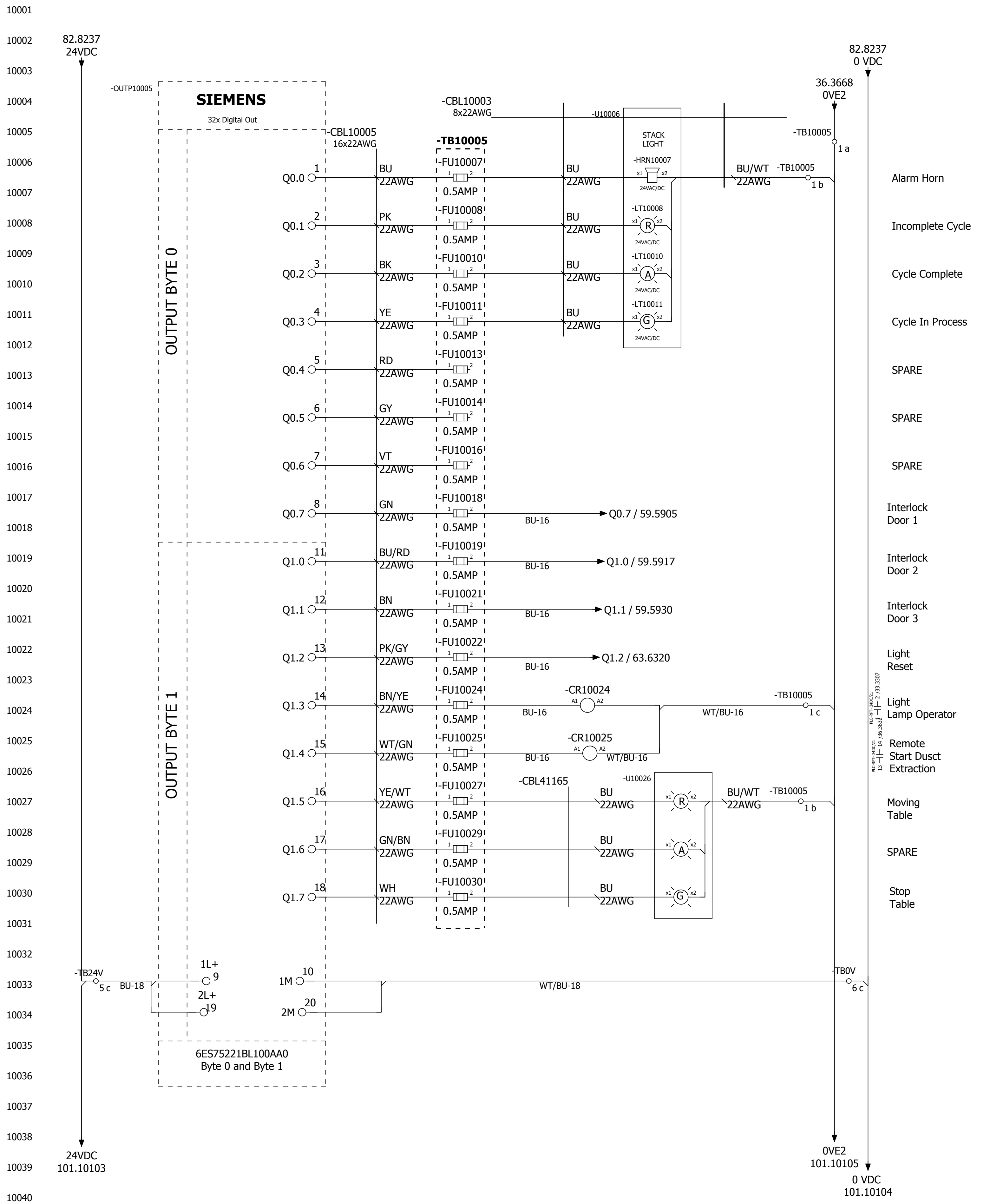
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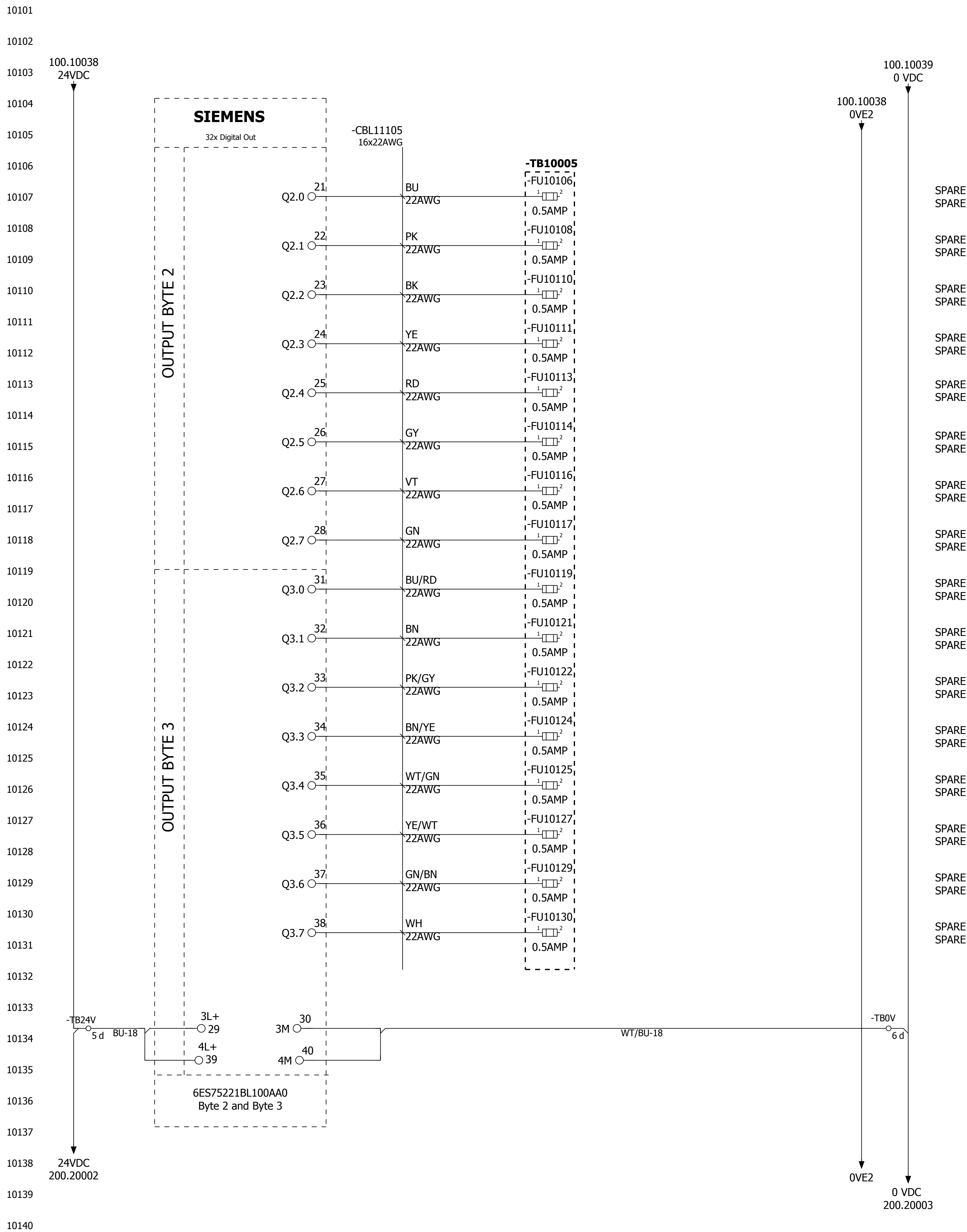
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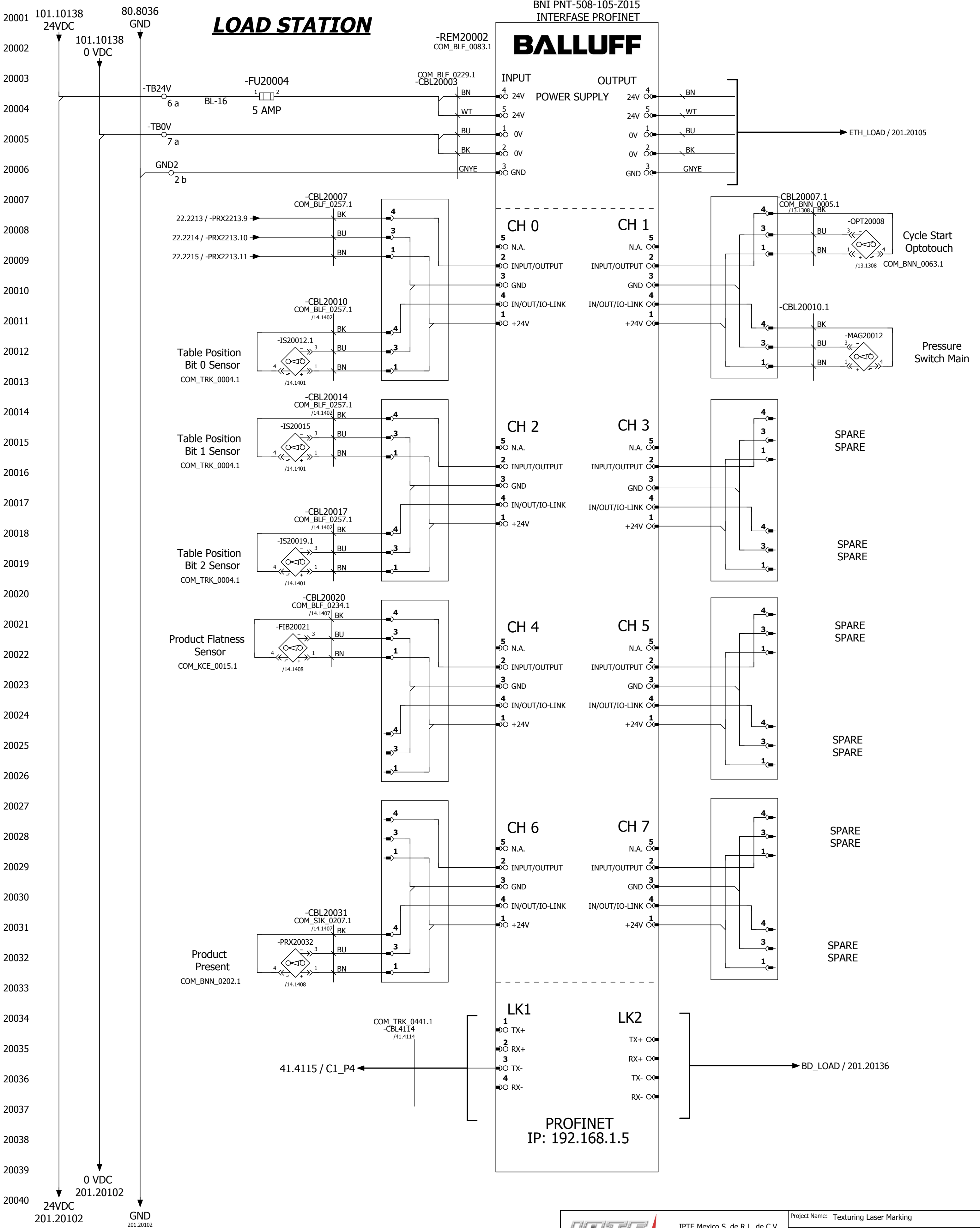
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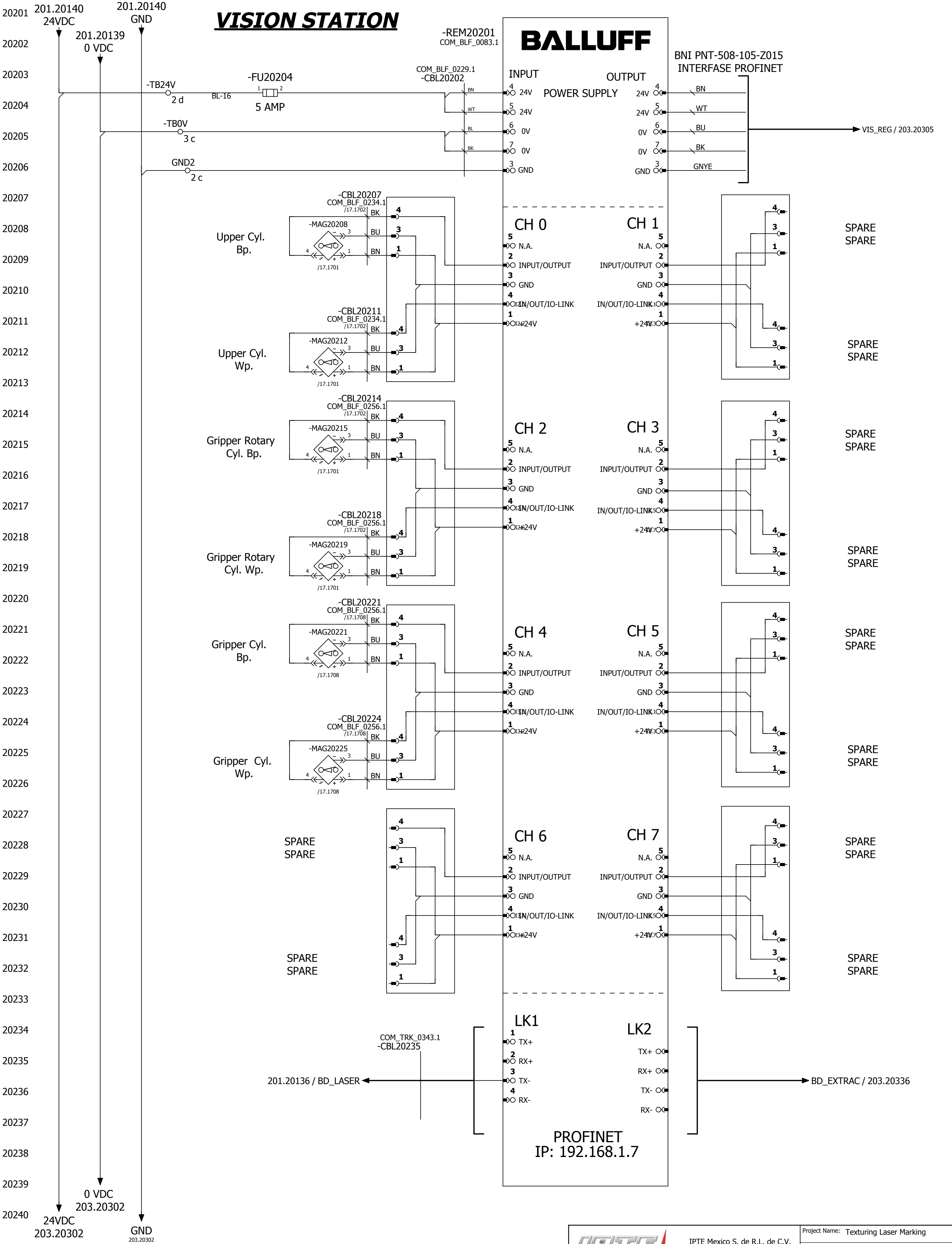


 <div>IPTE Mexico S. de R.L. de C.V. Alambiques 975-09 Parque Industrial, El Alamo Guadalajara Jal. CP 44490</div>		Project Name: Texturing Laser Marking	
		Project Number: G19-07-BRG	
Electrical Engineer: Emmanuel Cervantes		Customer: BORGWARNER	
Date of Creation: 11/26/2018		Title Page: 32 Input Digital 2/2 Byte 2 AND 3	
Last Modified: 3/19/2019		Place of Installation: = LEVEL_HIGHT	Location: + MAIN_ENCLOSURE
Before Page: 81		Page: 82	Next Page: 100









203.20340
30001 24VDC

203.20339
0 VDC

203.20340
GND

30002

30003

30004

30005

30006

30007

30008

30009

30010

30011

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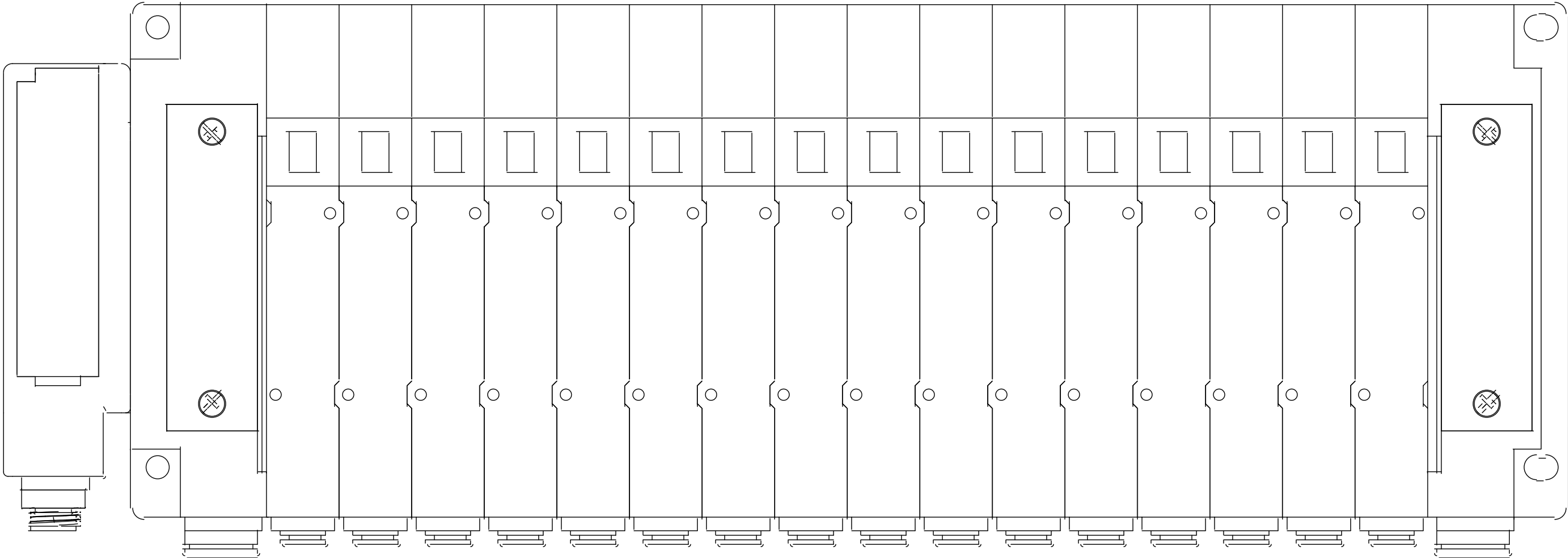
30040 24VDC
80.8002

0 VDC
80.8003

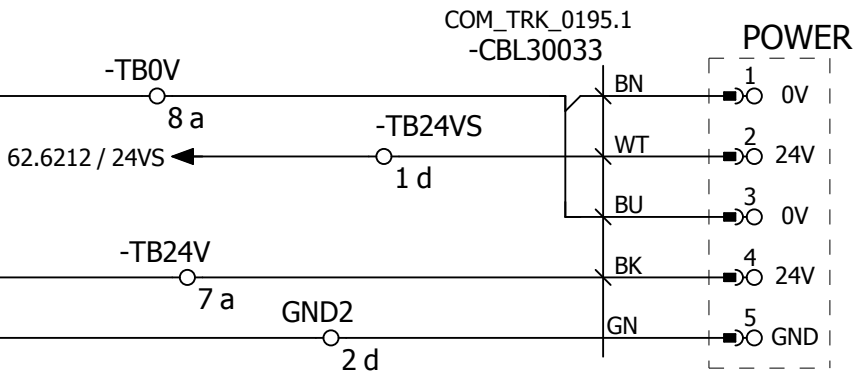
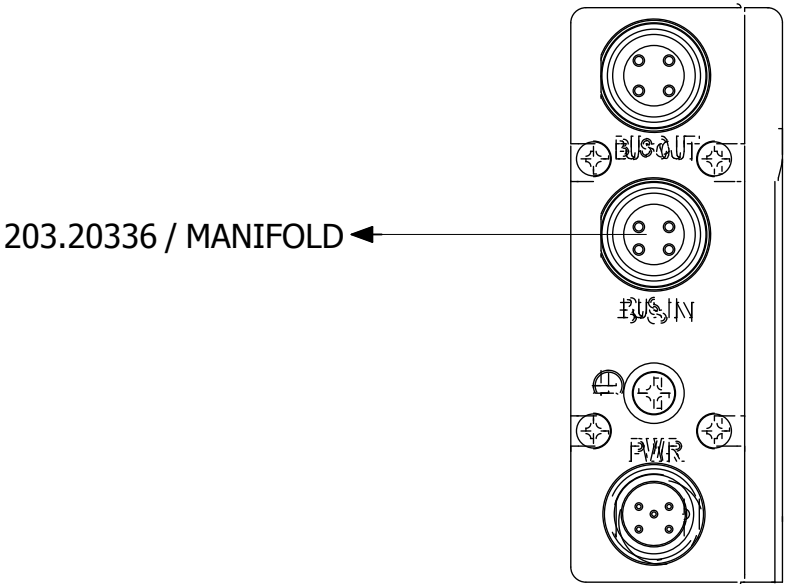
GND

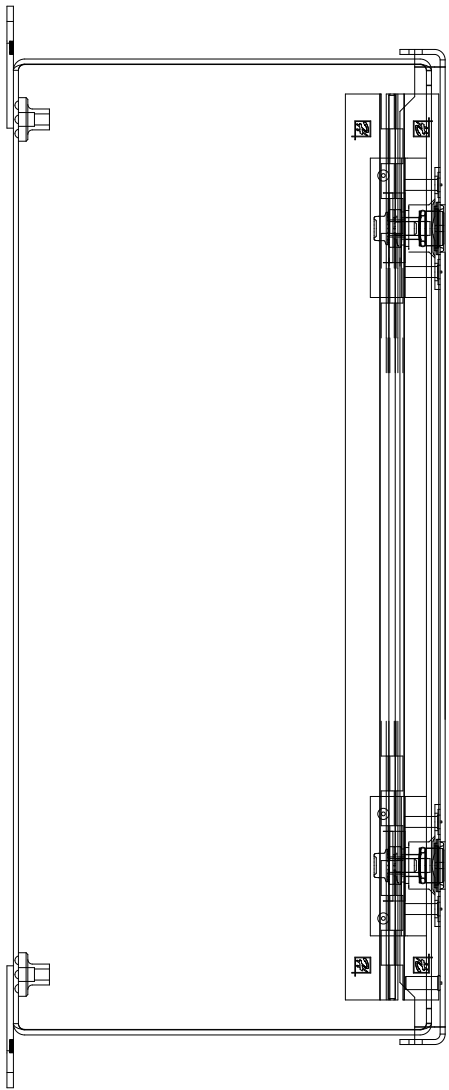
MANIFOD SMC

SS5Y5-10SFAN-16B-C6

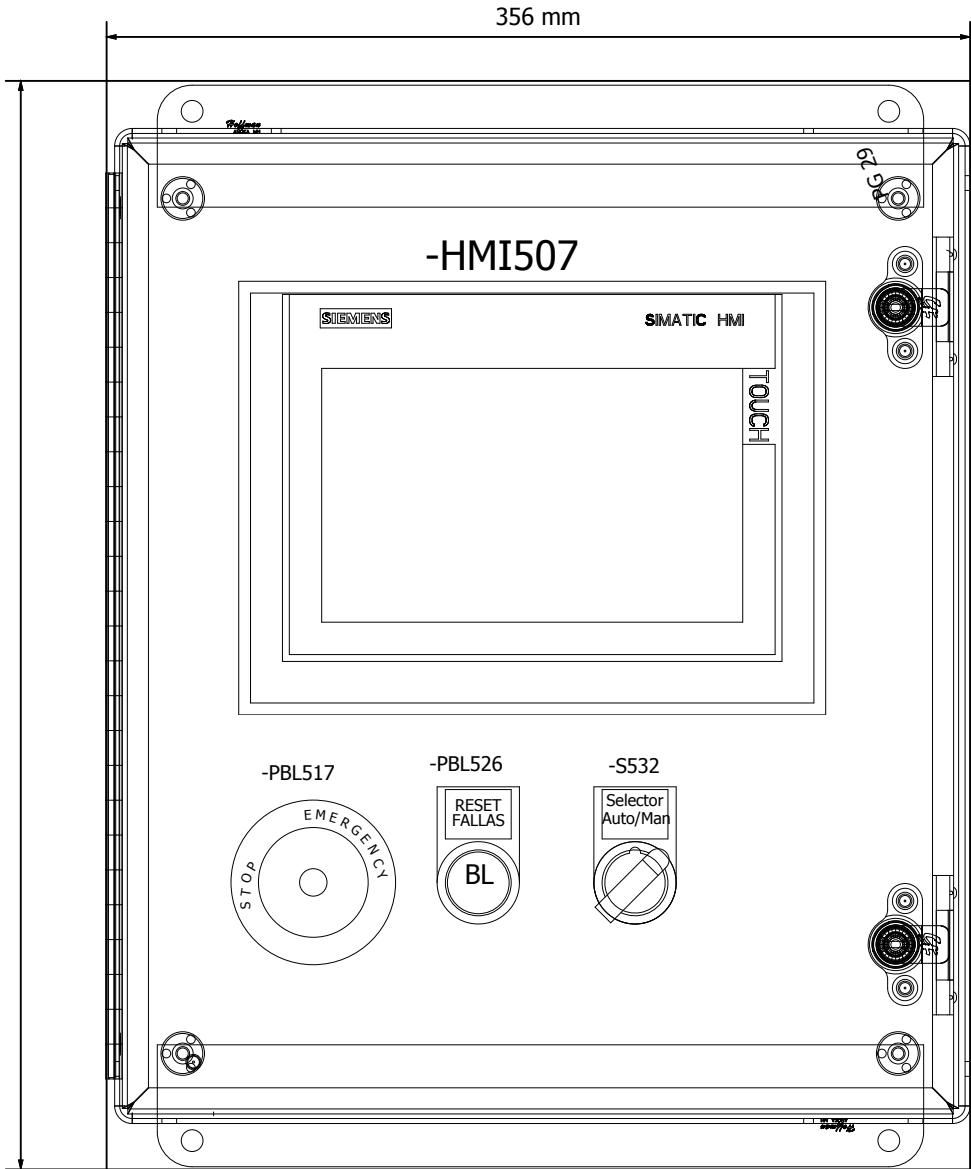


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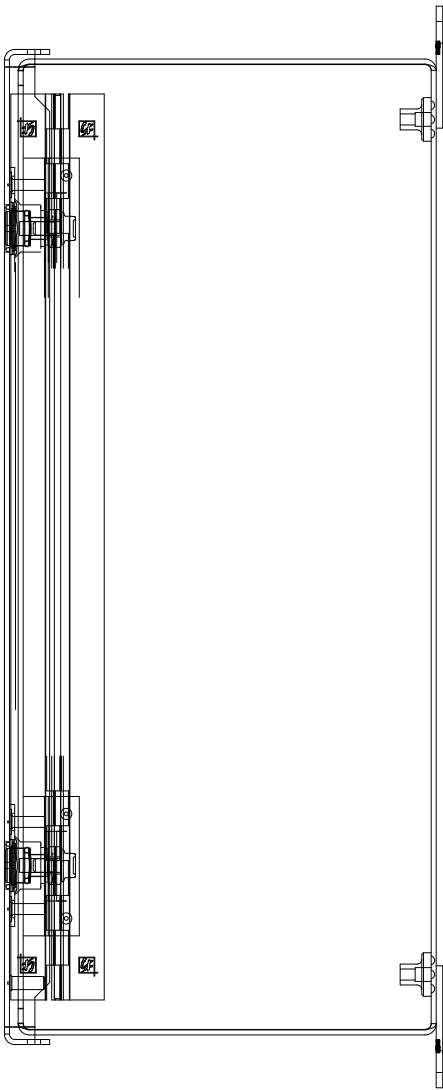




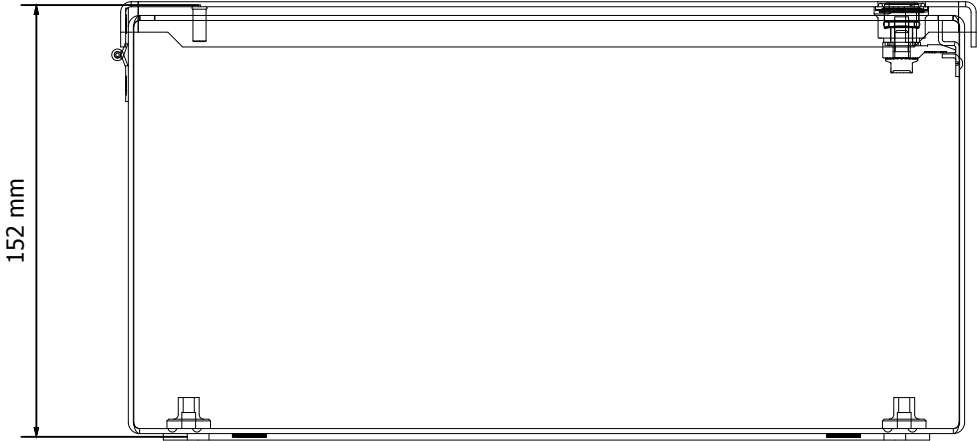
LEFT VIEW



FRONT VIEW

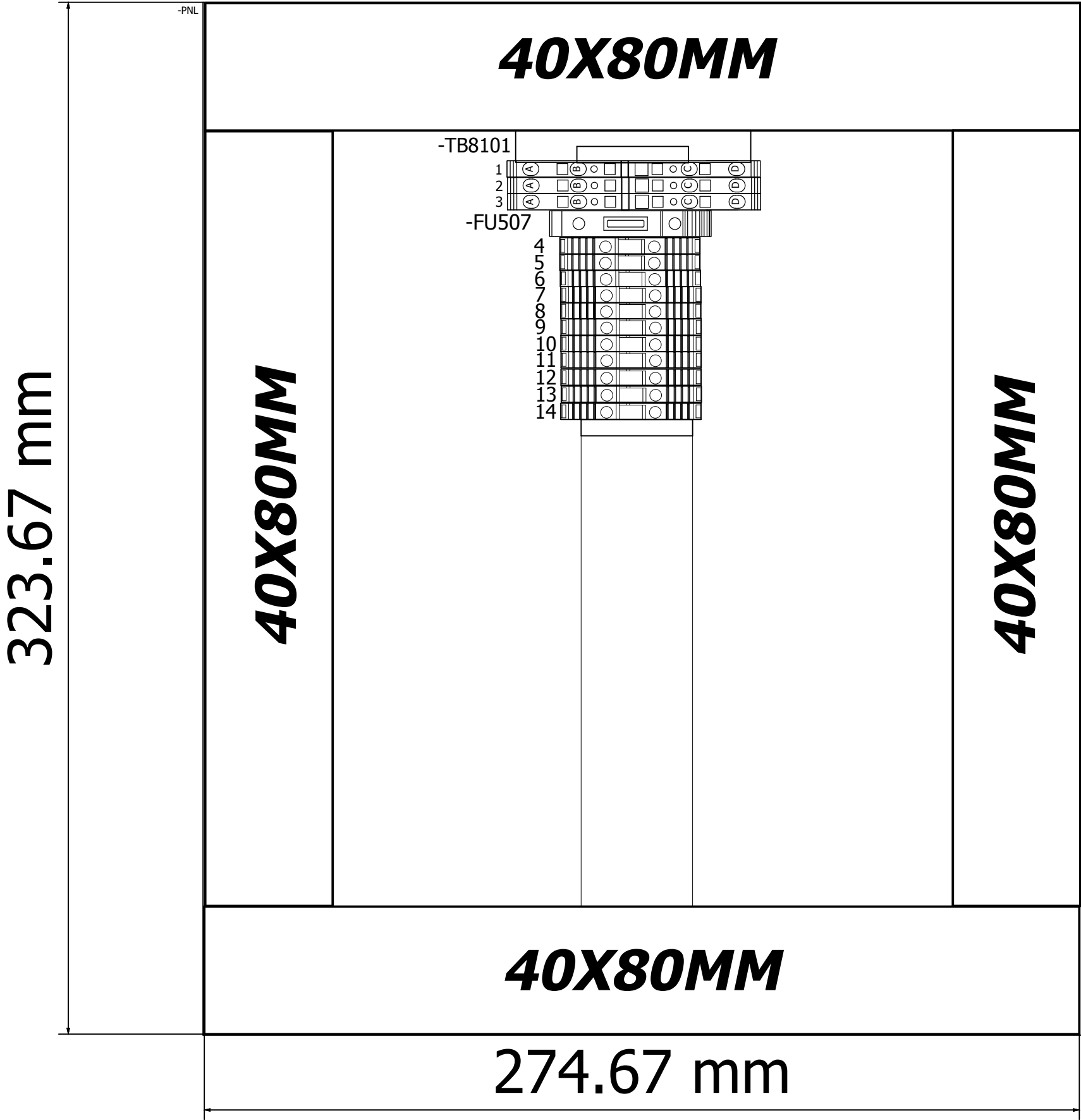


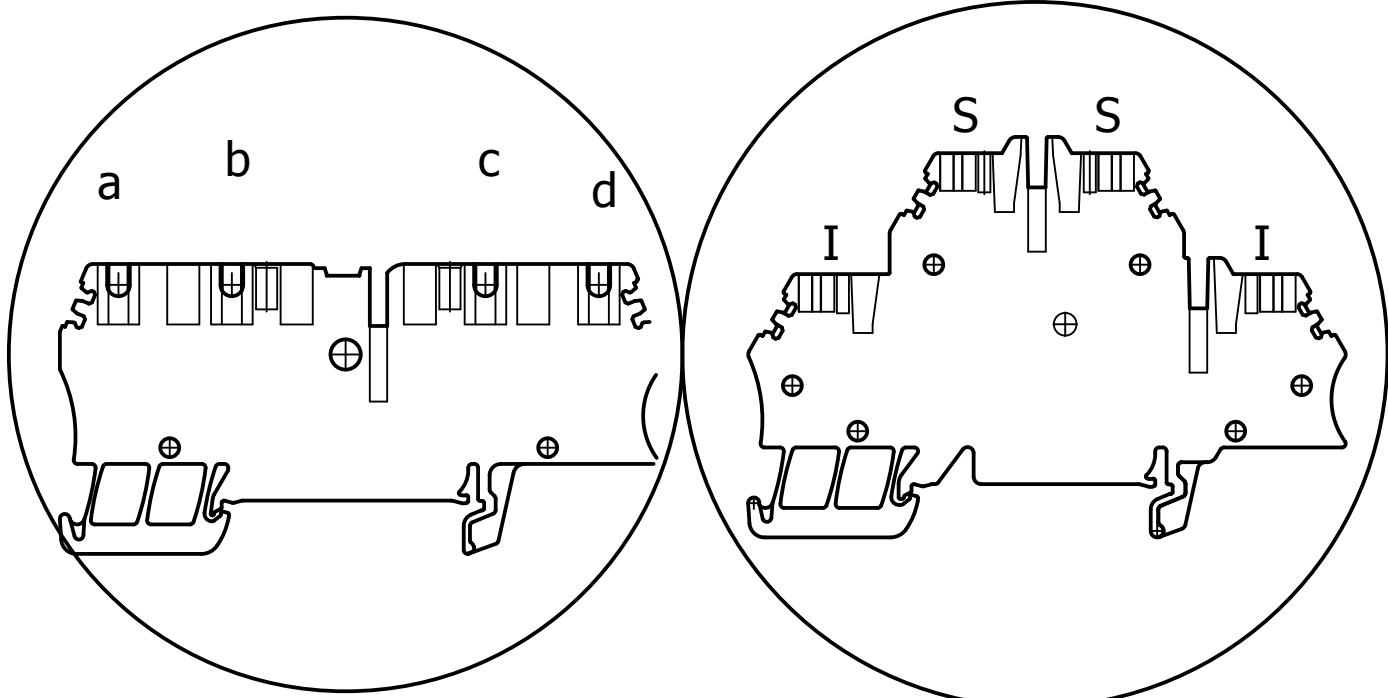
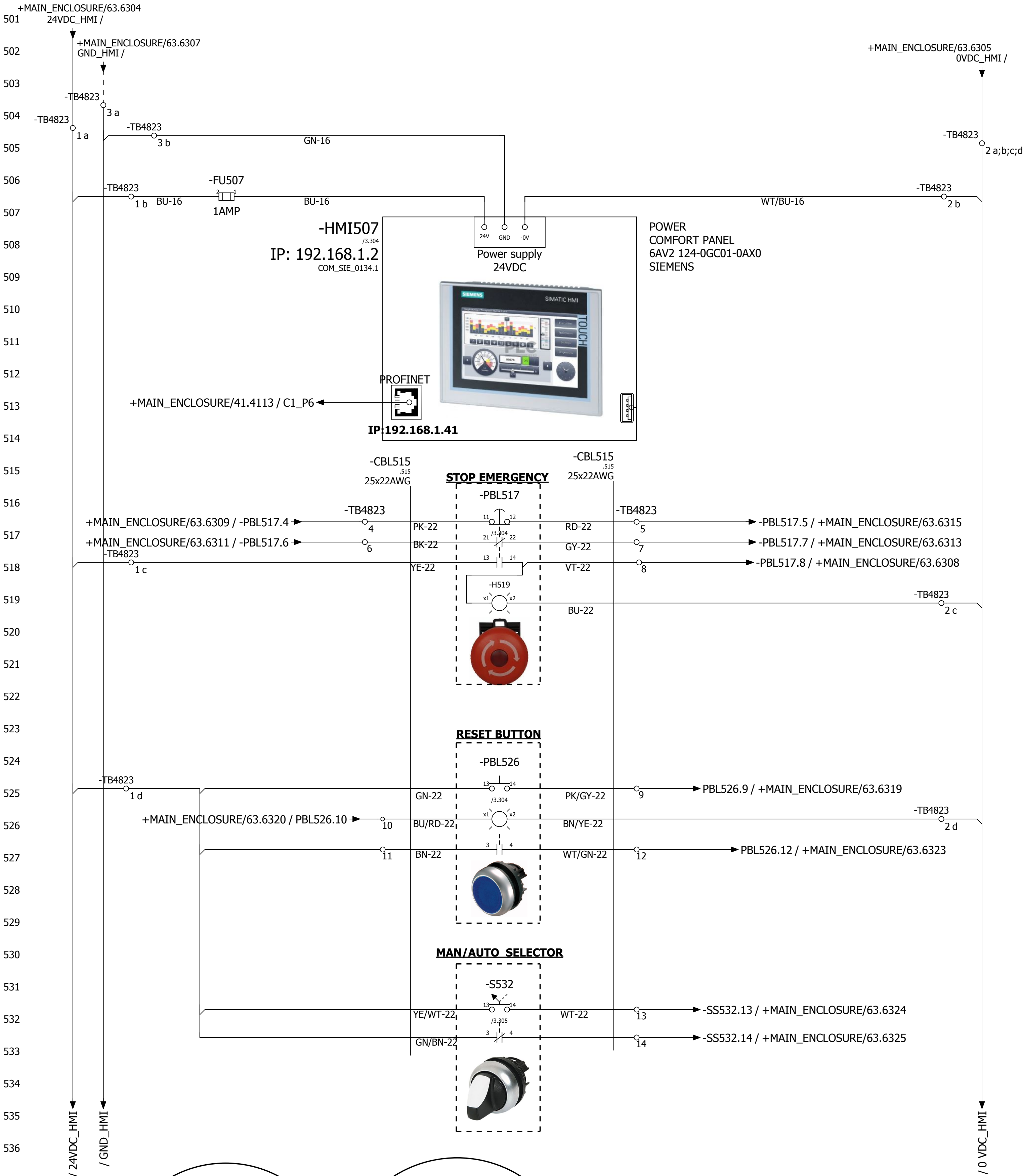
RIGHT VIEW




BOTTOM VIEW

HMI PANEL





 OPTC EXPERTS IN FACTORY AUTOMATION		IPTE Mexico S. de R.L. de C.V. Alambiques 975-09 Parque Industrial, El Alamo Guadalajara Jal. CP 44490		Project Name: Texturing Laser Marking	
		Electrical Engineer: Emmanuel Cervantes		Project Number: G19-07-BRG	
Date of Creation: 11/26/2018		STATION: MAIN_HMI		Customer: BORGWARNER	
Last Modified: 3/29/2019		Revisions:		Title Page: Power HMI	
Before Page: 4		Total Page: 45		Place of Installation: = LEVEL_HIGHT	
				Location: + MAIN_HMI	
				Page: 5	
				Next Page:	