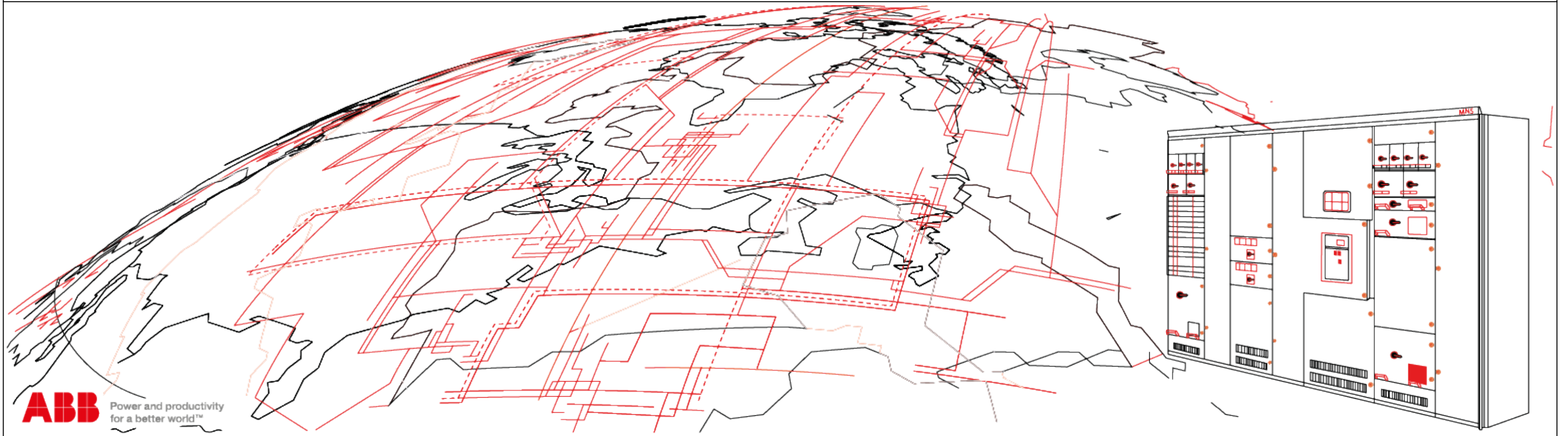




Elektrik Sanayi A.Ş.

Low Voltage Systems

Customer : RMG COPPER JSC
Contract Number : -
Project Description : TREL-DEU-RMG MOTOR CONTROL CENTRE MNS-GEORGIA
Switchgear Name : BE01-WC-004 400V LV MOTOR CONTROL CENTER









Phone:(+90) 262 326 1500
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Dilovasi OSB 4.Kısım D-4009 No:11
Dilovasi / Kocaeli / TURKEY

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R3V3	08.07.2021	Last Revision Date		SCALE 1	DESIGNED BY : VINEETHA CHECKED BY : O.TOPAL APPROVED BY : O.YILMAZ							Project No. K21001		PAGE No.	1		
R0V0	01.02.2021	Creation Date												CONT.	2		REV.
Rev.	Date	Description	SIGN														
1						2				3				4		5	

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A
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TECHNICAL PARAMETERS



SWITCHGEAR PARAMETERS

SYSTEM MNS	MNS 3.0
STANDARD	IEC61439-2
INTERNAL ARC TEST STANDARD	Not Applicable
SWITCHBOARD ARRANGEMENT	Single Front
MODULE CO-ORDINATION	TYPE-2, Icc= 65 kA, IE2
DIVERSITY FACTOR	Module Level
COLOUR (SWITCHGEAR)	RAL 7035
COLOUR (W-MODULES)	RAL 7035
DOOR LOCK	Double Bit Lock 5mm
INGRESS OF PROTECTION (EXTERNAL)	IP41
INGRESS OF PROTECTION (INTERNAL)	IP 2X (including IPXXB)
ROOF PLATE TYPE	Raised Roof
INTERNAL FORM OF SEPERATION	
WITHDRAWABLE MODULE COMPARTMENT	4b
PLUG-IN MODULE COMPARTMENT	2b
ACB/MCCB SECTION	4b
OTHER SECTION/COMPARTMENT	2b
SWITCHGEAR DIMENSIONS	
TOTAL SWITCHGEAR WIDTH [mm]	4840.0
SWITCHGEAR DEPTH [mm]	600.0
SWITCHGEAR HEIGHT [mm]	2200
SWITCHGEAR WEIGHT APPROX. [kg]	2281

VOLTAGE PARAMETERS

EARTHING SYSTEM	TN-S
SERVICE OPERATIONAL VOLTAGE	Ue = 400VAC
SERVICE FREQUENCY	fn = 50 Hz
RATED INSULATION VOLTAGE	Ui = 1000VAC
RATED IMPULSE WITHSTAND VOLTAGE	Uimp = 8kV

MAIN BUSBAR PARAMETERS

RATED CURRENT	Ie = 2000A
MAIN BUSBAR SIZE PER PHASE [mm]	2x60x10/50
RATED SHORT-TIME WITHSTAND CURRENT	Icw = 68 kA, 1s
RATED PEAK WITHSTAND CURRENT	Ipk = 165 kA ^③
MATERIAL	Tinned Cu.

NEUTRAL BUSBAR PARAMETERS (HORIZONTAL)

NEUTRAL BUSBAR SIZE [mm]	2x30x10
RATING OF NEUTRAL CONDUCTOR [%]	50%
MATERIAL	Tinned Cu.

PE BUSBAR PARAMETERS (HORIZONTAL)

PE BUSBAR SIZE [mm]	60x10
MATERIAL	Tinned Cu.
VERTICAL BARS IN POWER CABLE AREA	
N / PEN BUSBAR SIZE [mm]	--
PE BUSBAR SIZE [mm]	--
PE BUSBAR SIZE IN RE-INFORCED [mm]	40x10

DISTRIBUTION BUSBAR PARAMETERS

RATED CURRENT	Ie =1500.0A ^④
BUSBAR SIZE PER PHASE [mm]	50x30x5+1x30x10
RATED SHORT-TIME WITHSTAND CURRENT	Icw = 100 kA, 1s
RATED PEAK WITHSTAND CURRENT	Ipk = 220 kA
MATERIAL	Silver Plated Copper (Ag)

ADDITIONAL TREATMENT ON COPPER BARS

MAIN BUSBAR	Tin Plated Copper ^②
PEN/N (HORIZONTAL)	Tin Plated Copper ^②
PE (HORIZONTAL)	Tin Plated Copper ^②
N-BAR (VERTICAL, IN CABLE COMPARTMENT)	Tin Plated Copper ^②
PE/PEN (VERTICAL, IN CABLE COMPARTMENT)	Tin Plated Copper ^②
CONNECTIONS BARS (SECTIONS)	Tin Plated Copper ^②
CONNECTIONS BARS (MODULES)	Tin Plated Copper ^②

SERVICE CONDITIONS

ALTITUDE	< 2000 m.a.s.l
TEMPERATURE AVERAGE DURING 24HRS	35°C
TEMPERATURE RANGE	-5°...+40°
HUMIDITY	<=50%
POLLUTION DEGREE	3
OVERVOLTAGE CATAGORY	III
SEISMIC ZONE	Zone-I

TERMINALS




CUSTOMER SIGNALS	PUSH-IN TYPE
CONTROL / AUXILIARY POWER SUPPLY	PUSH-IN TYPE
DRAWER INSIDE	PUSH-IN TYPE
DRAWER OUTSIDE	SCREW TYPE
CT-VT TERMINAL BLOCK SIZE	4mm²
SIGNAL TERMINAL BLOCK SIZE	2.5mm²
CONTROL TERMINAL BLOCK SIZE	2.5/4mm²

PROTOCOLS OF COMMUNICATIONS

IED (INTELLIGENT ELECTRONIC DEVICE)	-
ETHERNET SWITCH	IEC 61850
MCCB	Modbus RTU
MOTOR CONTROLLER	Modbus RTU
PROTOCOL CONVERTOR	Modbus RTU to Ethernet IP

CONNECTIONS

INCOMING	CABLE	TOP
OUTGOING	CABLE	TOP
BOTTOM PLATES	YES	
CABLE GLANDS	NO	

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R3V3	13.07.2021	Last Revision Date		SCALE 1	DESIGNED BY : VINEETHA														Project No. K21001	PAGE No.	3		
ROV0	01.02.2021	Creation Date			CHECKED BY : O.TOPAL															CONT.	4		REV.
Rev.	Date	Description	SIGN		APPROVED BY : O.YILMAZ																		

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TECHNICAL PARAMETERS



CABLE COLOURS, CROSS SECTIONS AND TYPES

CABLE TYPES

Control circuit	H07Z-K (450/750V, halogen-free single core, harmonised, for wiring in control cabinets, acc. to EN 50525-2-31)
Power circuit	NSHXAFÖ (1.3/3kV, Flame retardance, Halogen free, Self-extinguishing)
Maximum operating temperature	90° Celcius
Halogen-free	YES
Tin Coating	NO

MAIN CIRCUIT

L1 - BK^①
L2 - BK^①
L3 - BK^①
N - BK ^①
PE - GNYE

MISCELLENEOUS ELECTRICAL INFORMATION

SURGE ARRESTORS	NO
SPACE HEATER	YES
THERMOSTAT	YES
PANEL LAMP	YES
POWER SOCKET	NO

INSTRUMENT SIZE

WITHDRAWABLE MODULE	48x48mm
DC2BB MODULE	72x72mm

AC AUXILIARY CIRCUITS

AUXILIARY VOLTAGE 1 (L, N, PE) 230VAC	BK, BK, GNYE	min. 1.5 mm²
AUXILIARY VOLTAGE 2 (L, N, PE) 230VAC	BK, BK, GNYE	min. 1.5 mm²

DC AUXILIARY CIRCUITS

AUXILIARY VOLTAGE 1 (L+, L-) 24VDC	RD, WH	min. 1.5 mm²
AUXILIARY VOLTAGE 2	N/A	N/A
CT SECONDARY SIDE	L - BK	min. 2.5 mm²
VT SECONDARY SIDE	L - BK	min. 2.5 mm²
POTENTIAL FREE SIGNALS	L - BK	min. 1.5 mm²

* Cross-Section of wires mentioned here are for general use.
Higher Cross-Section of wires shall be used according to current requirment.

INTERCONNECTION CABLES

CUBICLE TO CUBICLE (L, N) 230V AC	BK	2.5 mm²
CUBICLE TO CUBICLE (+, -) 24V DC	RD, WH	4 mm²
MODULE TO MODULE (L, N) 230V AC	BK	2.5 mm²
MODULE TO MODULE (+, -) 24V DC	RD, WH	4 mm²
HEATER AND LIHGTING	BK	2.5 mm²

COMMUNICATION CABLE

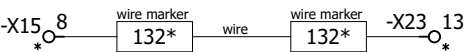
PROFIBUS DP	N/A
MODBUS RTU	BELDEN 9841NH (BU,WH)
MODBUS TCP/IP	CAT6 RJ45 CABLE
IEC61850	N/A

LABELING

MIMIC DIAGRAM	N/A
ENGRAVED LABELS FIXATION	CLENCHED (RIVET)
SWITCHGEAR MAIN TECHNICAL LABEL	PAPER LABEL
ENGRAVED LANGUAGE 1	ENGLISH
ENGRAVED LANGUAGE 2	N/A
LABEL WILL BE BLACK LETTER WHITE BACKGROUND	

WIRE MARKER

MOUNTING TYPE
MARKER TYPE
COLOUR



*wire marker text will be black colour according to control schematic.

SLEEVE TYPE
KG1
YELLOW

R3V2

COLOUR LEGEND - ACC. IEC 60757


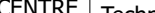
BK Black	BN Brown	RD Red	OG Orange
YE Yellow	GN Green	BU Light blue	VT Violet
GY Grey	WH White	PK Pink	GD Gold
SR Silver	TQ Turquoise	GNYE Green-yellow	TR Transparent
DB Dark blue			

NOTES:





- Power cable shall be in black color while at both ends colored heat shrinkable tube (L1-BN, L2-BK, L3-GY, N-BU) shall be provided.
- Coloured label will be provided at regular intervals for phase identification.
- According to standard MNS busbar system there are constant values for Icp. For example 4x40x10 Icp value is 176kA, 4x60x10 Icp value is 220kA
- This rating just indicates the MCC column minimum rating. DC2BB cubicle distribution busbar rating varies according to CB Rating.

ADDITIONAL REQUIREMENT

STEEL BASE FRAME	NO
REAR C PROFILES ANTIMAGNETICS	false
REAR WALL ANTIMAGNETICS	false
MAXIMUM SHIPPING SECTION LENGTH	

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R3V3	08.07.2021	Last Revision Date		SCALE 1										Project No. K21001		PAGE No.		4													
R0V0	01.02.2021	Creation Date														CONT.		5													
Rev.	Date	Description														SIGN		REV.													
1				2				3				4				5				6				7				8			

ACB	Air Circuit Breaker
ATS	Automatic Transfer Switch
BA	Busbar Arrangement
CCA	Control Cable Area
CT	Current Transformer
DBB	Distribution BusBar
DCS	Distributed Control System
DC2BB	Direct Connection to BusBar
DTM	Device Type Manager
EDS	Electronic Data Sheets
EOL	Electronic Overload
ELDS	Electrification Business Line, Distribution Solution
FBP	Field Bus Plug
GA	General Arrangement
GPS	Global Positioning System
GSD File	GeräteStammDaten
HGF	Halogen-Free
HMI	Human Machine Interface
I/O	Input/Output
IIP	Ingress of Protection
Icc	Rated conditional-short circuit current
LED	Light-Emitting Diode
LVS	Low Voltage System
MBB	Main BusBar
MCB	Miniature Circuit Breaker
MCC	Motor Control Center
MCCB	Moulded-Case Circuit Breaker
MCT	Measuring Current Transformer
MNS	Das Modulare Niederspannungs-schaltanlagen-Sy
NS	NonStandard
OLE	Object Linking and Embedding
OPC	OLE for Process Control
PCA	Power Cable Area
PCS	Process Control System
PCT	Protection Current Transformer
PLC	Programmable Logic Controller
PMU	Power Monitoring Unit
RCU	Remote Control Unit
SCADA	Supervisory Control And Data Acquisition
SNTP	Simple Network Time Protocol
TOL	Thermal OverLoad relay
UMC	Universal Motor Controller
UPS	Uninterruptible Power Supply
UTC	Coordinated Universal Time
VSD	Variable Speed Drive
VT	Voltage Transformer

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R3V3		08.07.2021		Last Revision Date				SCALE		1		DESIGNED BY : VINEETHA		PAGE No.		5					
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Rev.		Date		Description		SIGN						APPROVED BY : O.YILMAZ									
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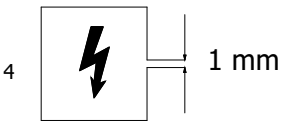
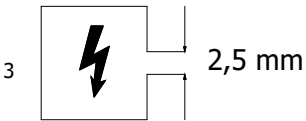
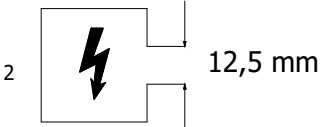
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IP legends

acc. IEC 60529

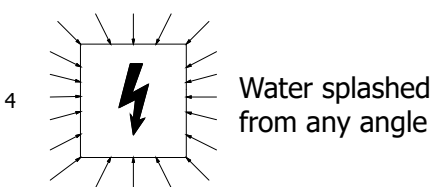
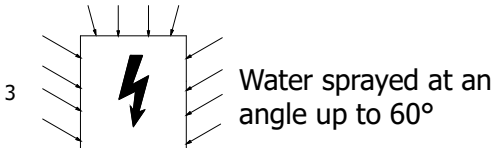
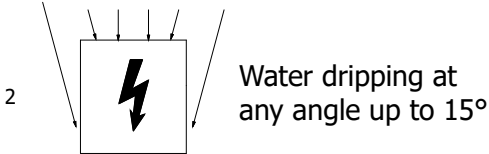
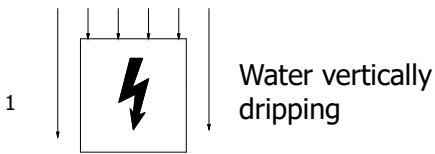
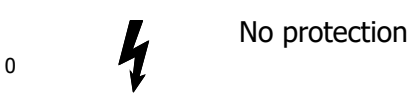
1.

Protection against penetration
by foreign bodies and dust



2.

Protection against ingress
of water with harmful effects



Additional letter

Protection against access
hazardous parts with:

A Back of the hand > 50 mm diameter

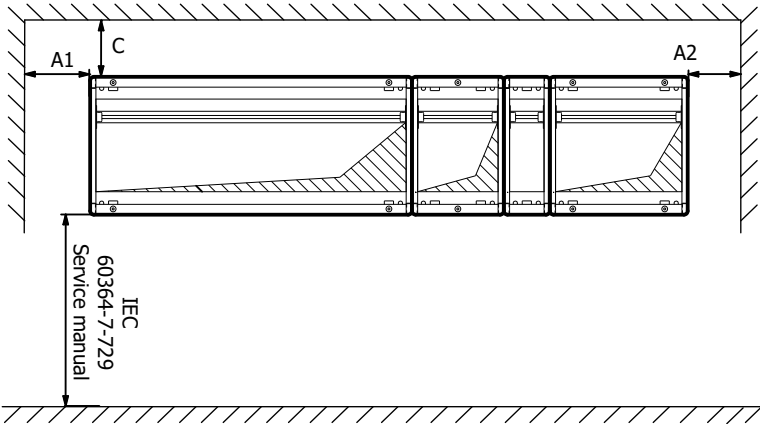
B Finger/tool > 12.5 diameter, 80 mm length

C Tool/Wire > 2.5 diameter, 100 mm length

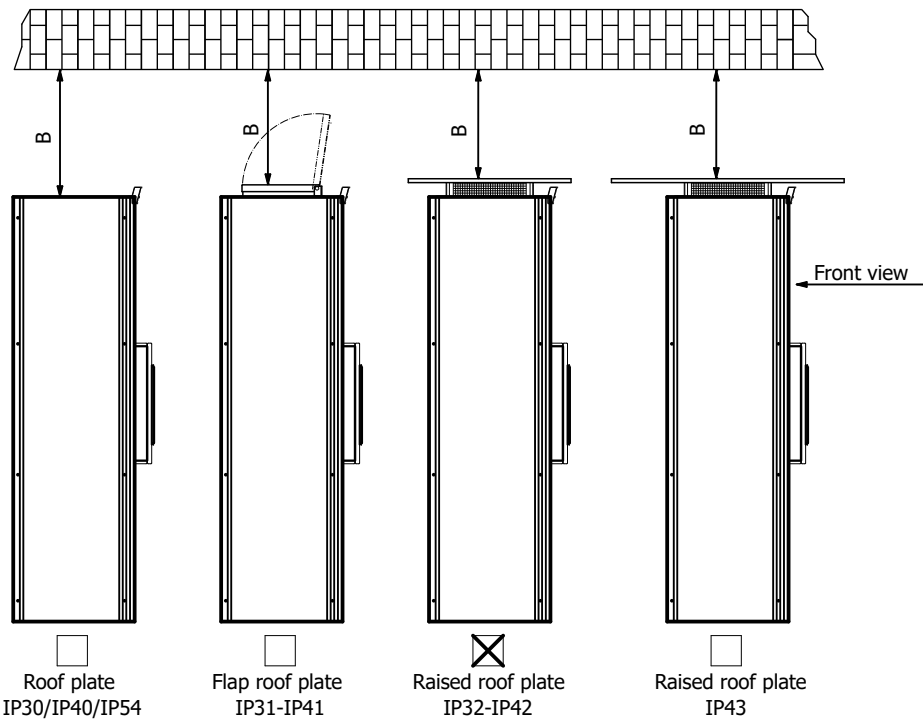
D Tool/Wire > 1.0 mm diameter, 100 mm length

Wall distances

Floor View



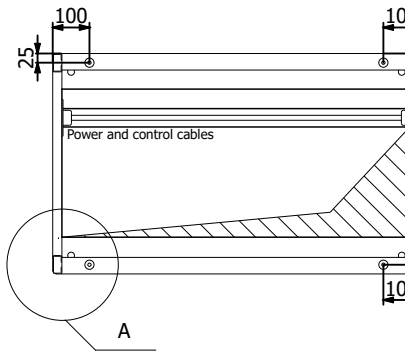
Side view



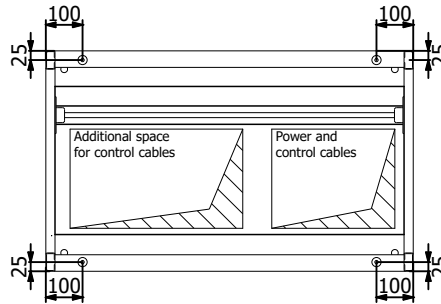
Internal protection	A1 (right mounted doors)	A1 (left mounted doors)	A2	B (Section to ceiling)	C (Section to back wall)
IP30-IP40	100 mm	170 mm	170 mm	500 mm	105 mm
IP54	100 mm	170 mm	170 mm	500 mm	105 mm
Raised roof plate (RRP)					
IP31-IP41	135 mm	170 mm	170 mm	500 mm	205 mm
IP32-IP42	135 mm	170 mm	170 mm	500 mm	205 mm
IP43	400 mm	400 mm	400 mm	500 mm	405 mm
Flap roof plate					
IP31-IP41	100 mm	170 mm	170 mm	500 mm	105 mm
IP32-IP42	100 mm	170 mm	170 mm	500 mm	105 mm
IP43	100 mm	170 mm	170 mm	500 mm	105 mm

Bottom plates

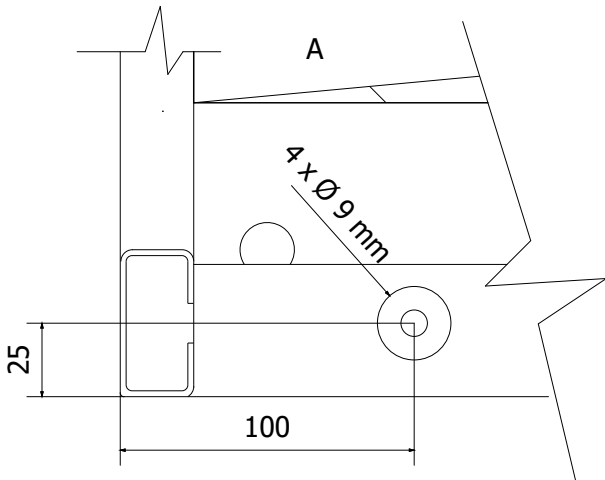
MNS 3.0 without bottom plate



MNS 3.0 with bottom plate



Anchor hole



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As Tested <input type="checkbox"/>	As Build <input type="checkbox"/>
R3V3 08.07.2021	Last Revision Date
R0V0 01.02.2021	Creation Date
Rev.	Date
	DESCRIPTION
	SIGN

Supplier	Customer
ABB ELEKTRİK SAN. A.Ş.	RMG COPPER JSC
DESIGNED BY : VINEETHA	
CHECKED BY : O.TOPAL	
APPROVED BY : O.YILMAZ	

End User	Project
RMG COPPER JSC	TREL-DEU-RMG MOTOR CONTROL CENTRE
	MNS-GEORGIA
	BE01-WC-004
	400V LV MOTOR CONTROL CENTER

End User	Project
RMG COPPER JSC	TREL-DEU-RMG MOTOR CONTROL CENTRE
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	BE01-WC-004
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Title	Drawing No.
Legend Sheet	4TRD021001T9004
	Project No.
	K21001

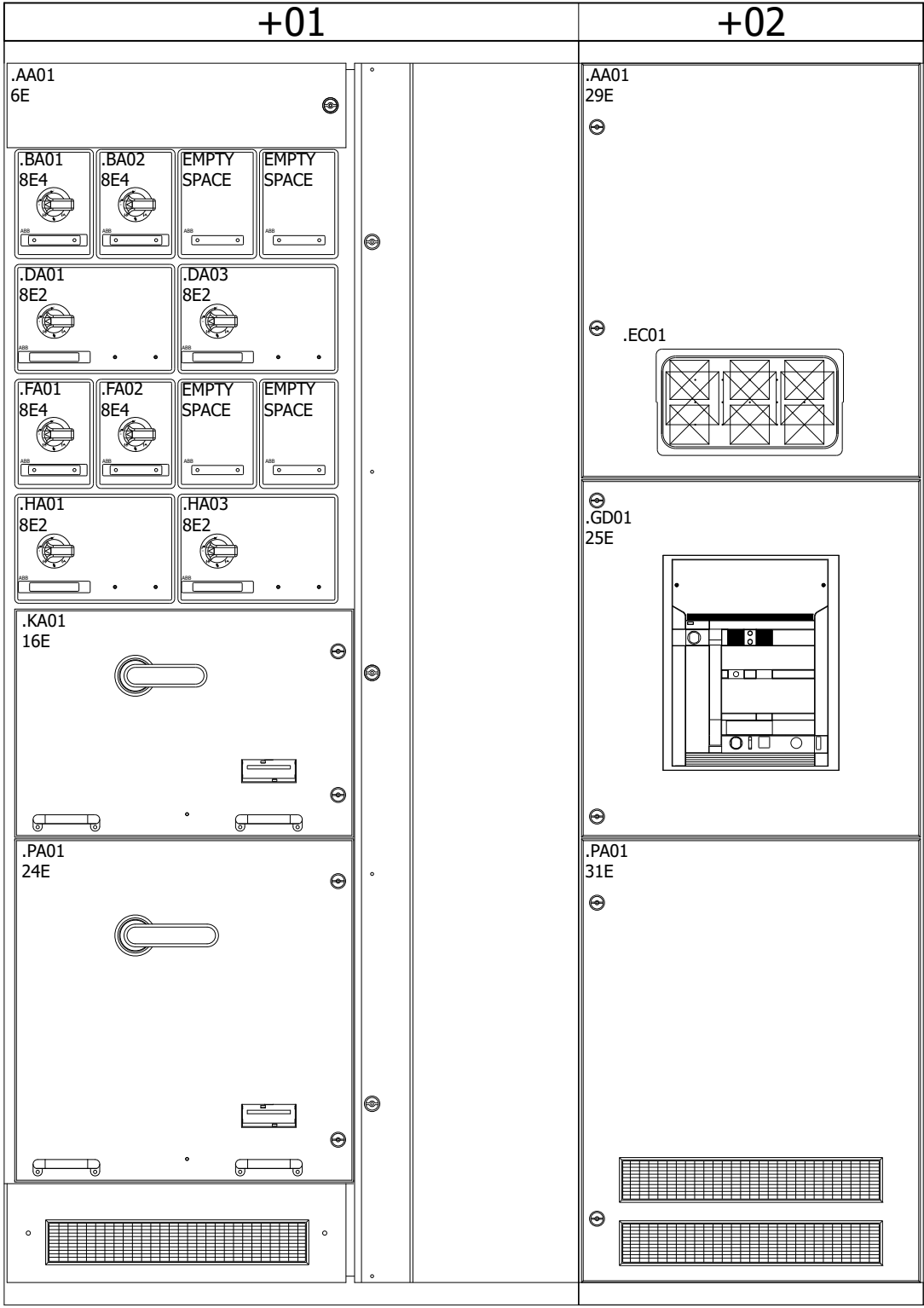
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PAGE No.	A3
CONT.	REV.

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* Example
LOCATION CODING OF MNS 3.0

Section height				
mm	E	alphabetical classification		MNS IS
2200 mm		A	A	
2000 mm	72 E	B	A B C D	1
	68 E	C	A B C D	2
			A B C D	3
			A B C D	4
1800 mm	64 E	D	A B C D	5
			A B C D	6
	60 E	E	A B C D	7
			A B C D	8
1600 mm	56 E	F	A B C D	9
			A B C D	10
	52 E	G	A B C D	11
			A B C D	12
1400 mm	48 E	H	A B C D	13
			A B C D	14
	44 E	J	A B C D	15
			A B C D	16
1200 mm	40 E	K	A B C D	17
			A B C D	18
	36 E	L	A B C D	19
			A B C D	20
1000 mm	32 E	M	A B C D	21
			A B C D	22
	28 E	N	A B C D	23
			A B C D	24
800 mm	24 E	P	A B C D	25
			A B C D	26
	20 E	Q	A B C D	27
			A B C D	28
600 mm	16 E	R	A B C D	29
			A B C D	30
	12 E	S	A B C D	31
			A B C D	32
400 mm	8 E	T	A B C D	33
			A B C D	34
	4 E	U	A B C D	35
			A B C D	36
200 mm				
0 mm	0 E	W		

Equipment compartment				Power cable area	Incoming section
Position in compartment					Position in compartment
01	02	03	04	05	01



Location coding of functional withdrawable unit in sections of MNS 3.0
Location coding of functional withdrawable units diagrammed below in 2E modular dimensions
TOTAL 72E = 1800mm / 1E = 25mm
The withdrawable section is subdivided in:
- perpendicularly in alphabetical classification and MNS 3.0 clasification
- horizontal in numbers from 01 to 05

Example:

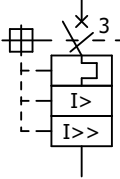
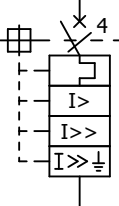
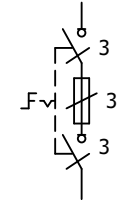
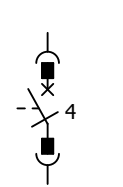
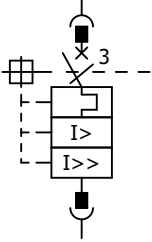
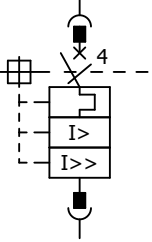
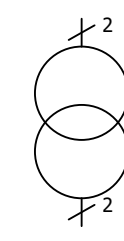
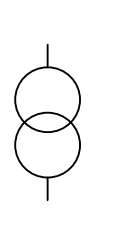
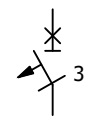

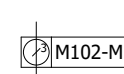
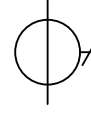


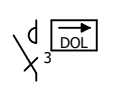
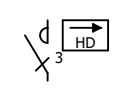
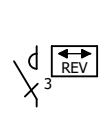
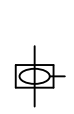

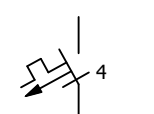


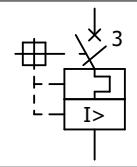
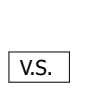


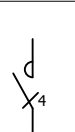
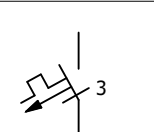
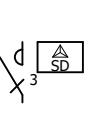


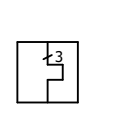
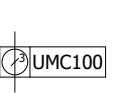


Quantity	Module size	Location in section
4	8E/4	BA01, BA02, FA01, FA02
4	8E/2	DA01, DA03, HA01, HA03
1	16E	KA01
1	24E	PA01




The withdrawable modules have five modes (operating handle schematised):

Mode	Position of switch			Mechanical / Electrical Status
	8E/4 and 8E/2	4E...24E	Designation	
1			ON position I	ON position-Main and control circuits are closed. Module is locked.
2			OFF position O	OFF position- Main circuit are disconnected, the control circuits are closed. Module is locked. Can be locked with 3 padlocks.
3			Test position 	TEST position-Main circuit are disconnected, the control circuits are closed. Module is locked. Can be locked with 3 padlocks.
4			Moving position (Withdrawn mode)	MOVE postion-Main and control circuits are disconnected.
5			Disconnected position (Isolated mode)	ISOLATED position-The module is 30 mm drawn out of the section.Main and control circuits are disconnected and the isolating distance is fulfilled. Can be locked with 3 padlocks.

Example for coding of location for withdrawable modules

SYMBOL OVERVIEW

	Fixed Circuit Breaker three-pole (L-S-I characteristic)		Fixed Circuit Breaker four-pole (L-S-I-G characteristic)		Fixed Switch Disconnecter with fuse element three-pole		Withdrawable Switch Disconnecter four-pole
	Withdrawable Circuit Breaker three-pole (L-S-I characteristic)		Withdrawable Circuit Breaker four-pole (L-S-I characteristic)		Control Power Transformer (MKT)		Potential Transformer
	Power Circuit Breaker three-pole		Motor Operator of Circuit Breaker		Motor/Heater Control Unit (with Modbus-RTU communication)		Bar or Cable Type Current Transformer
	Analog Ammeter		Analog Voltmeter		Motor Direct On Line Starter without reversing motion		Motor Direct On Line Starter without reversing motion, Heavy Duty
	Motor Direct On Line Starter with reversing motion		Toroidal Transformer		Miniature circuit-breaker (Double Pole)		Miniature circuit-breaker (Four Pole)
	KORC Current Transformer		Earth Leakage Relay		Fixed Circuit Breaker three-pole (L-I characteristic)		Voltmeter Selector switch
	Ammeter Selector switch		Residual Current Monitor		Power Contactor four-pole		Miniature circuit-breaker (Three Pole)
	Motor Star-Delta Starter		Power Terminal / Cable Connection Unit		Male and Female Pin		Thermal Over Load Relay
	Motor Control Unit (with Profibus DP communication)		Network Analyzer		Numerical Feeder Protection Relay		

For Approval <input type="checkbox"/> Approved For Construction <input checked="" type="checkbox"/> As Tested <input type="checkbox"/> As Build <input type="checkbox"/>				Supplier  ELEKTRİK SAN. A.Ş.		Customer RMG COPPER JSC 		End User RMG COPPER JSC 		Project TREL-DEU-RMG MOTOR CONTROL CENTRE MNS-GEORGIA BE01-WC-004 400V LV MOTOR CONTROL CENTER		Title Symbol Overview		Drawing No. 4TRD021001T9004		+DOCUMENTS PAGE No. 8		SIZE A3													
R3V3	08.07.2021	Last Revision Date		SCALE 1	DESIGNED BY : VINEETHA								Project No. K21001		CONT. 9		REV.														
R0V0	01.02.2021	Creation Date			CHECKED BY : O.TOPAL																										
Rev.	Date	Description	SIGN		APPROVED BY : O.YILMAZ																										
1				2				3				4				5				6				7				8			

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1	2	3	4	5	6	7	8
A							A
B							B
C							C
D							D
E							E
F							F

Manufacturers Name and Type

ABB MNS 3.0

Manufacturers Serial Number

4TRS021001X9004

Switchgear Tag Number

BE01-WC-004

Switchgear Title

400V LV MOTOR CONTROL CENTER

System Rated Voltage and Phases

400 VAC, ~3P+N+PE

System Wires and Frequency

4, 50 Hz

Rated Power Widtstand Voltage

2,2kV

Rated Lightening Imp. Withstand Voltage

8 kV

Rated Fault Current

68 kA

Rated RMS Short-Circuit Current, (s)

68 kA ,1s

Rated Peak Short-Circuit Current

165 kA

Busbar Rating

2000A

Protection Class

IP41

Year of Manufacture

2021

Standard

IEC61439-2

Purchaser's Name

RMG COPPER JSC

Order Item No

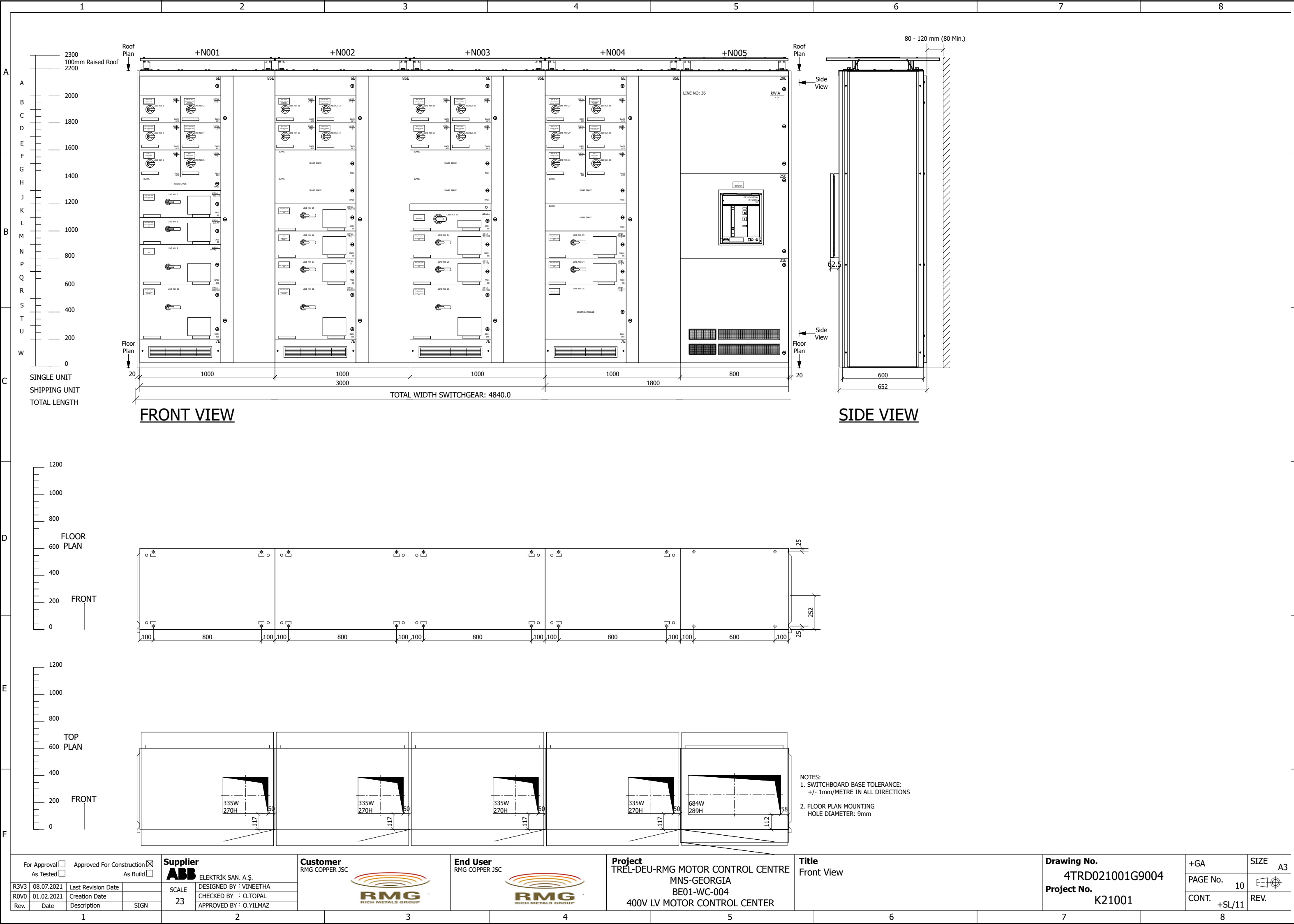
K21001

ABB ELEKTRİK SANAYİ A.Ş.

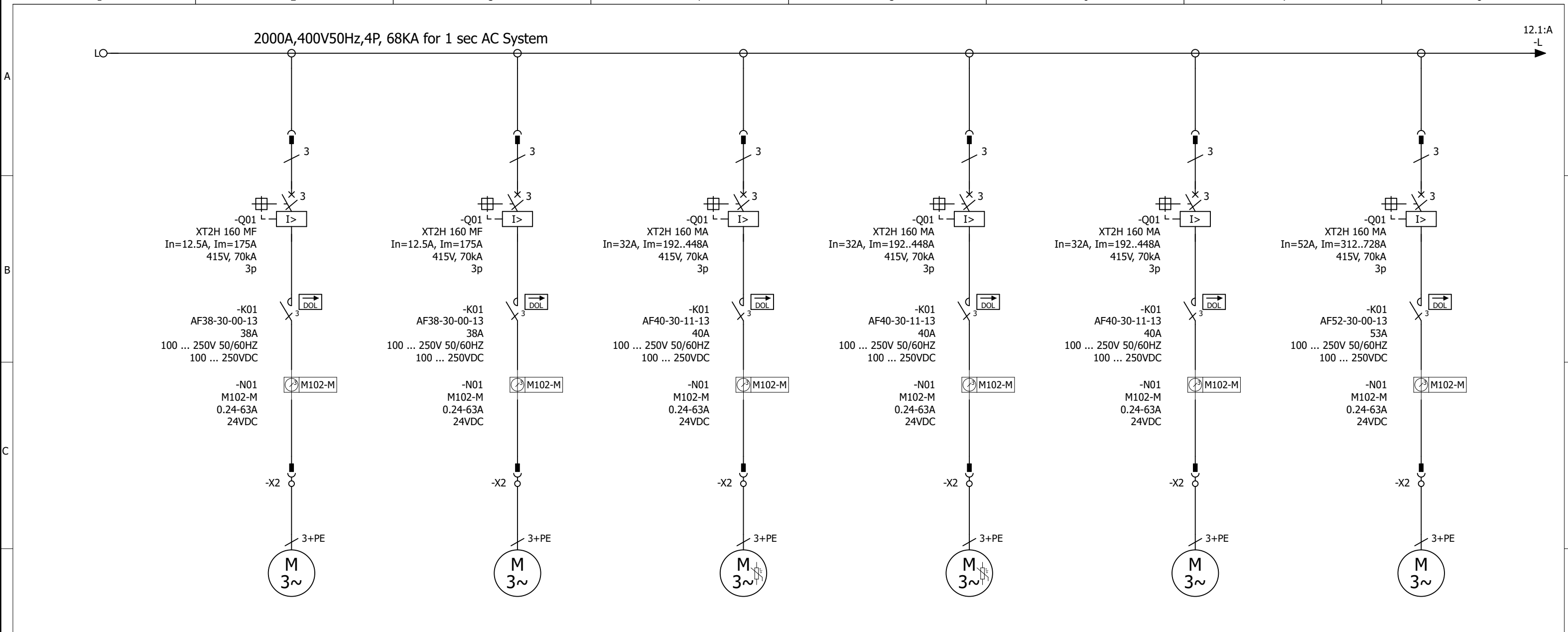
Alçak Gerilim Sistemleri

Dilovasi OSB, 4.Kısım, D-4009 Sk. 41455, Kocaeli/TURKEY

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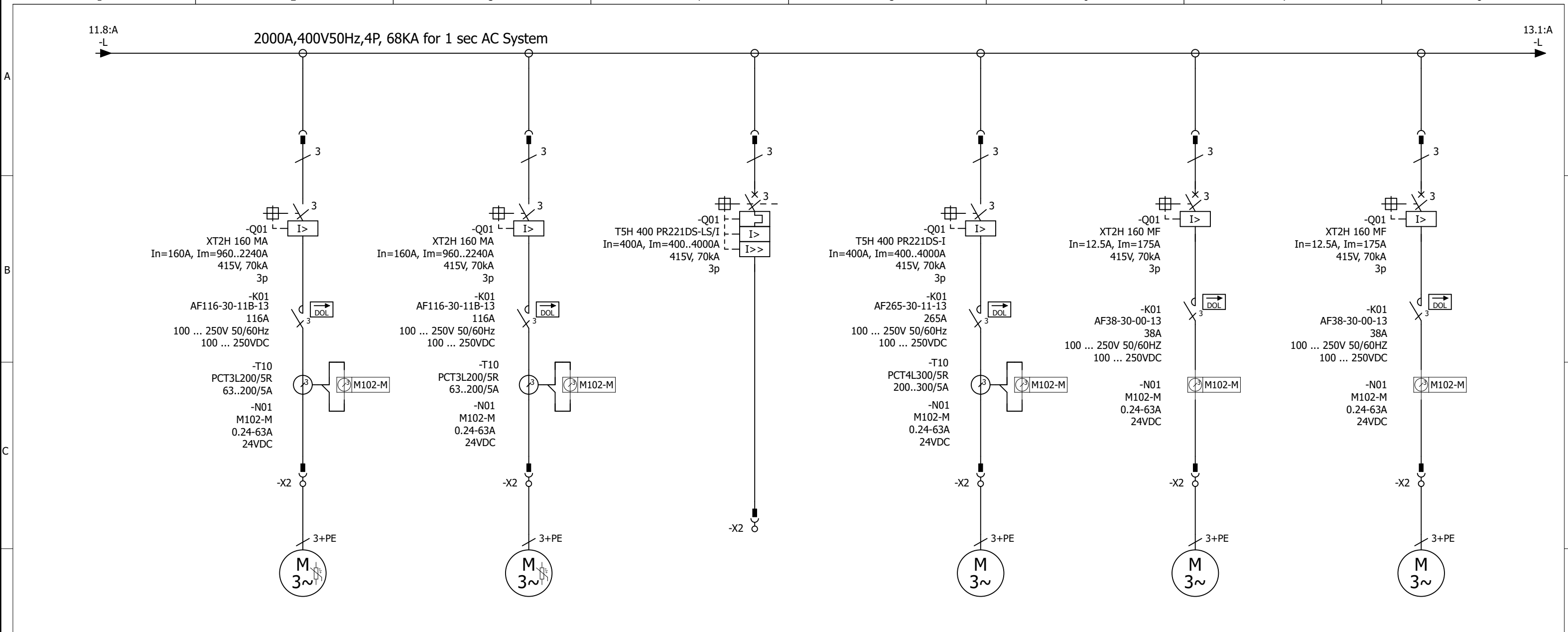


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Module No.	K2803_NRDOL-M102_5.5kW_65kA_XT2H 160 MF 12.5_8E2_3P_WM_IE2	K2803_NRDOL-M102_5.5kW_65kA_XT2H 160 MF 12.5_8E2_3P_WM_IE2	K2805_NRDOL-M102_11kW_65kA_XT2H 160 MA 32_8E2_3P_WM_IE2	K2805_NRDOL-M102_11kW_65kA_XT2H 160 MA 32_8E2_3P_WM_IE2	K2806_NRDOL-M102_15kW_65kA_XT2H 160 MA 32_8E2_3P_WM_IE2	K2808_NRDOL-M102_22kW_65kA_XT2H 160 MA 52_8E2_3P_WM_IE2	
Control Diagram	K21001K8801	K21001K8801	K21001K8801	K21001K8801	K21001K8801	K21001K8801	
Customer Control Diagram	DOL	DOL	DOL	DOL	DOL	DOL	
Line No	1	2	3	4	5	6	
Power (kW)	5.5	5.5	11	11	15	20	
Voltage (V)	400	400	400	400	400	400	
Current (A)	-	-	23	23	-	-	
Cable Cross Section mm²	-	-	-	-	-	-	
Incoming / Outgoing	TOP	TOP	TOP	TOP	TOP	TOP	
Tag No	ZG03_PU_110	ZF01_PU_012	ZF03_FT004_MA01	ZF03_FT005_MA01	SMF_3	SMF_4	
Description	SAMPLE PUMP REGRINDING HC OF	SAMPLE PUMP FOR ROUGHER CONCENTRATE	3RD CLEANER TANK CELL	3RD CLEANER TANK CELL	SPARE MOTOR FEEDER-3	SPARE MOTOR FEEDER-4	
Location	+N001.BA01	+N001.BA03	+N001.DA01	+N001.DA03	+N001.FA01	+N001.FA03	

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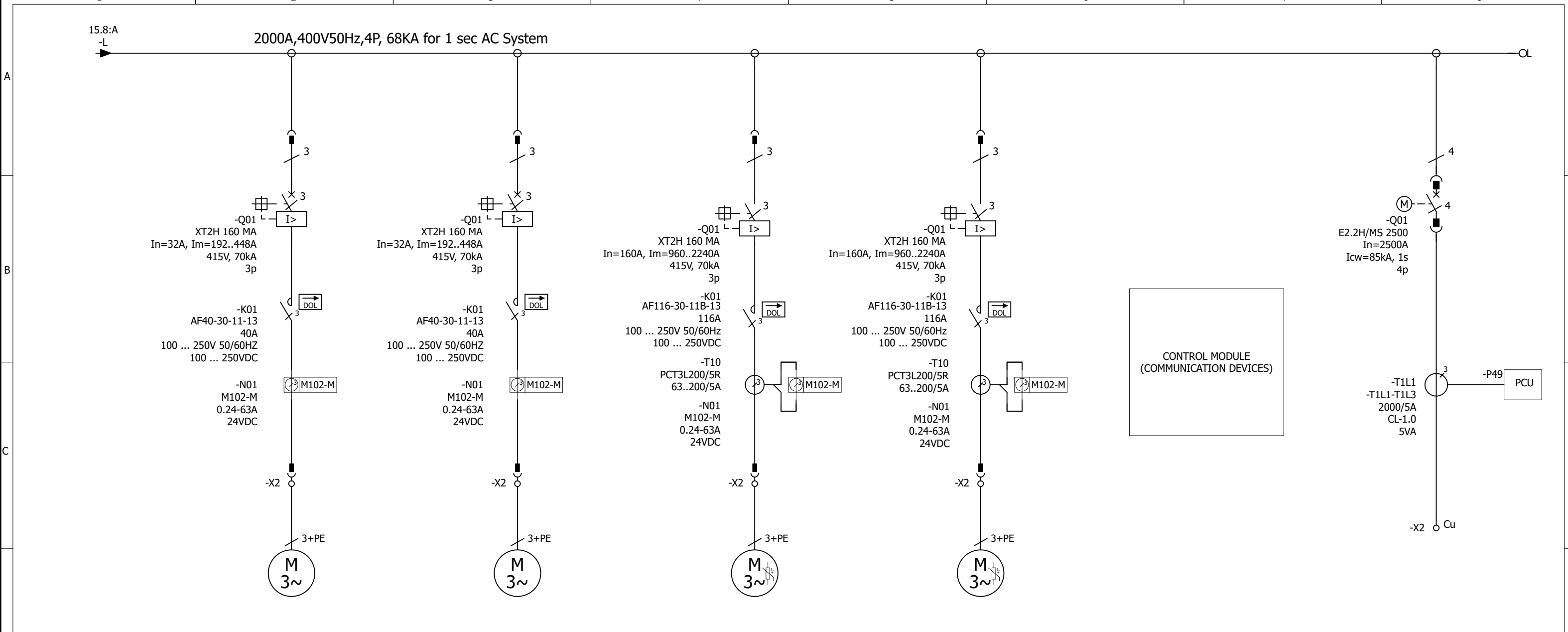
Module No.	K2811_NRDOL-M102_55kW_65kA_XT2H 160 MA 160_8E_3P_WM_IE2	K2809_NRDOL-M102_37kW_65kA_XT2H 160 MA 160_8E_3P_WM_IE2	K2604_ED_400A_Icu_70kA_T5H 400_PR221DS_LS_I_360A_12E_3P_WM	K2812_NRDOL-M102_110kW_65kA_T5H 400_PR221DS-I In 400_16E_3P_WM_IE2	K2803_NRDOL-M102_5.5kW_65kA_XT2H 160 MF 12.5_8E2_3P_WM_IE2	K2803_NRDOL-M102_5.5kW_65kA_XT2H 160 MF 12.5_8E2_3P_WM_IE2	
Control Diagram	K21001K8802	K21001K8802	K21001K8604	K21001K8803	K21001K8801	K21001K8801	
Customer Control Diagram	DOL	DOL	ED	DOL	DOL	DOL	
Line No	7	8	9	10	11	12	
Power (kW)	55	37	30kVA	110	5.5	5.5	
Voltage (V)	400	400	400	400	400	400	
Current (A)	112	79	-	201	-	-	
Cable Cross Section mm²	-	-	-	-	-	-	
Incoming / Outgoing	TOP	TOP	TOP	TOP	TOP	TOP	
Tag No	ZF02_FT001_MA01	ZF03_FT001_MA01	-	ZF01_FA001_MA01	ZF01_PU_014	ZF01_PU_100	
Description	1ST CLEANER TANK CELL	2ND CLEANER TANK CELL	UPS	FLOTATION AIR BLOWER-1	SAMPLE PUMP FOR SCAVENGER CONCENTRATE	SAMPLE PUMP FOR FINAL TAILINGS	
Location	+N001.JA01	+N001.LA01	+N001.NA01	+N001.RA01	+N002.BA01	+N002.BA03	

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R3V3	08.07.2021	Last Revision Date		SCALE 1	DESIGNED BY : VINEETHA	<div></div>	<div></div>					<div>Project No.</div> <div>K21001</div>		<div>CONT.</div> <div>14</div>		<div>REV.</div> <div><div><div></div><div></div></div></div>			
R0V0	01.02.2021	Creation Date			CHECKED BY : O.TOPAL														
Rev.	Date	Description	SIGN		APPROVED BY : O.YILMAZ														

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R0V0	01.02.2021	Creation Date			CHECKED BY : O.TOPAL							<div>CONT.</div> <div>15</div>					
Rev.	Date	Description	SIGN		APPROVED BY : O.YILMAZ												

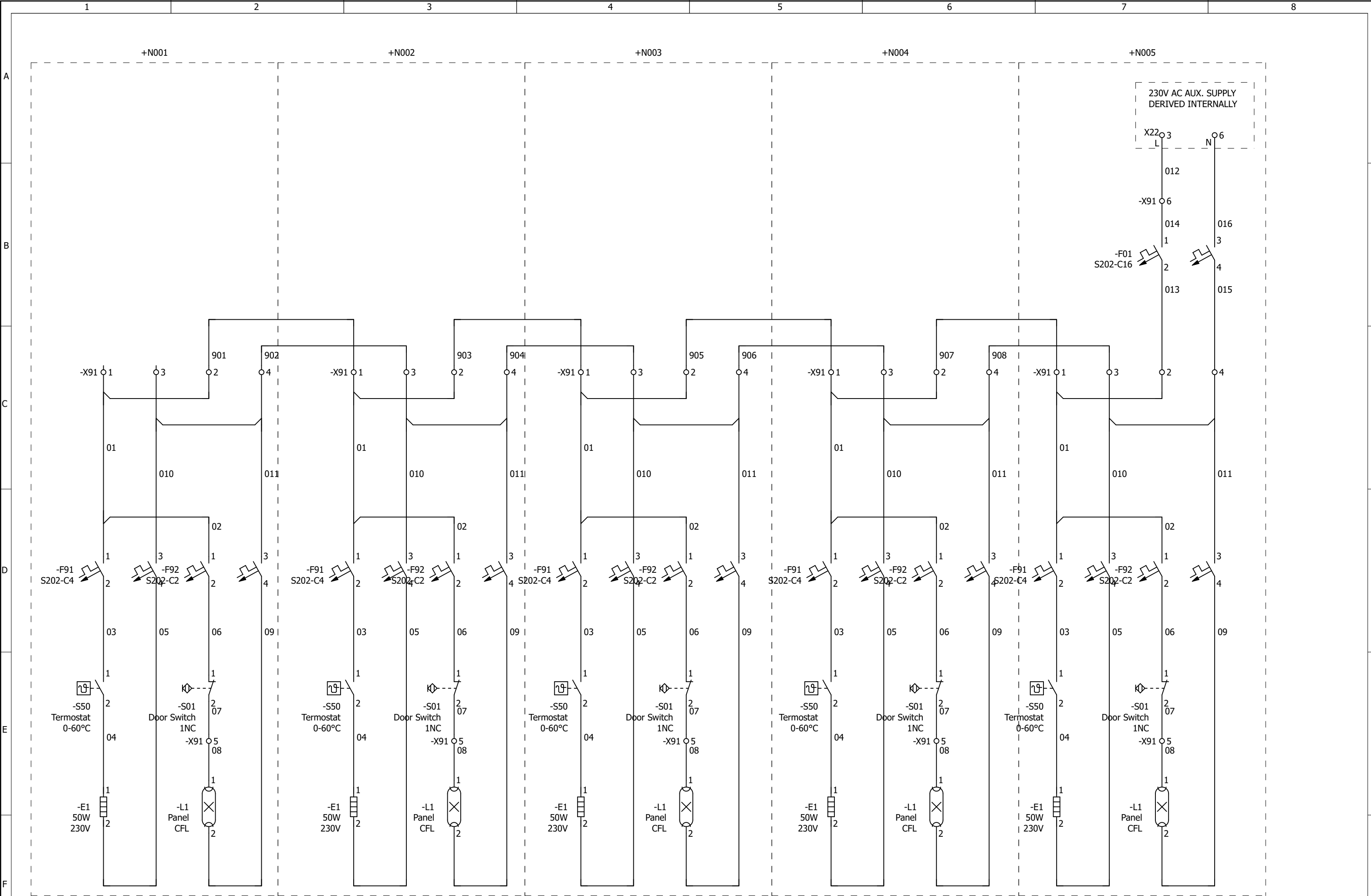
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R3V3	08.07.2021	Last Revision Date		SCALE 1	DESIGNED BY : VINEETHA	<div><div></div><div>RMG</div><div>RICH METALS GROUP</div></div>	<div><div></div><div>RMG</div><div>RICH METALS GROUP</div></div>					<div>Project No.</div> <div>K21001</div>		PAGE No.		15	<div><div></div><div></div></div>
R0V0	01.02.2021	Creation Date			CHECKED BY : O.TOPAL									CONT.		16	
Rev.	Date	Description	SIGN		APPROVED BY : O.YILMAZ												




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Module No.	K2805_NRDOL-M102_11kW_65kA_XT2H	K2805_NRDOL-M102_11kW_65kA_XT2H	K2811_NRDOL-M102_55kW_65kA_XT2H 160 MA 160_8E_3P_WM_IE2	K2809_NRDOL-M102_37kW_65kA_XT2H 160 MA 160_8E_3P_WM_IE2	K2554_CONTROL PLUG-IN MODULE_ FOR COMMUNICATION COMPONENTS_16E	K2504_INC_2500A_Icu_100kA_E2.2H_MS_4P_Icw_85kA_BBT_IOT_CABLE_2150A_DC2BB
Control Diagram	K21001K8801	K21001K8801	K21001K8802	K21001K8802	K21001K8554	K21001K8504
Customer Control Diagram	DOL	DOL	DOL	DOL	CM	INC
Line No	31	32	33	34	35	36
Power (kW)	11	11	55	37	-	-
Voltage (V)	400	400	400	400	400	400
Current (A)	-	-	112	79	-	-
Cable Cross Section mm ²	-	-	-	-	-	4Rx1Cx240 mm2/Phase
Incoming / Outgoing	TOP	TOP	TOP	TOP	TOP	TOP
Tag No	BA01_PU_007	SMF_2	ZF02_FT002_MA01	ZF03_FT003_MA01	-	-
Description	SAMPLES RETURN PUMP	SPARE MOTOR FEEDER-2	1ST CLEANER TANK CELL	2ND CLEANER TANK CELL	CONTROL MODULE FOR COMMUNICATION DEVICES	INCOMER FROM BE01-WB-002
Location	+N004.FA01	+N004.FA03	+N004.MA01	+N004.PA01	+N004.RA01	+N005.AA01

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R3V3	08.07.2021	Last Revision Date		SCALE 1	DESIGNED BY : VINEETHA												Project No. K21001	PAGE No. 17		CONT. 18	REV.		
R0V0	01.02.2021	Creation Date			CHECKED BY : O.TOPAL																		
Rev.	Date	Description	SIGN		APPROVED BY: O.YILMAZ																		
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R3V3	08.07.2021	Last Revision Date		SCALE 1	DESIGNED BY : VINEETHA							<div>Project No.</div> <div>K21001</div>		<div>PAGE No.</div> <div>18</div>			
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