02/2023

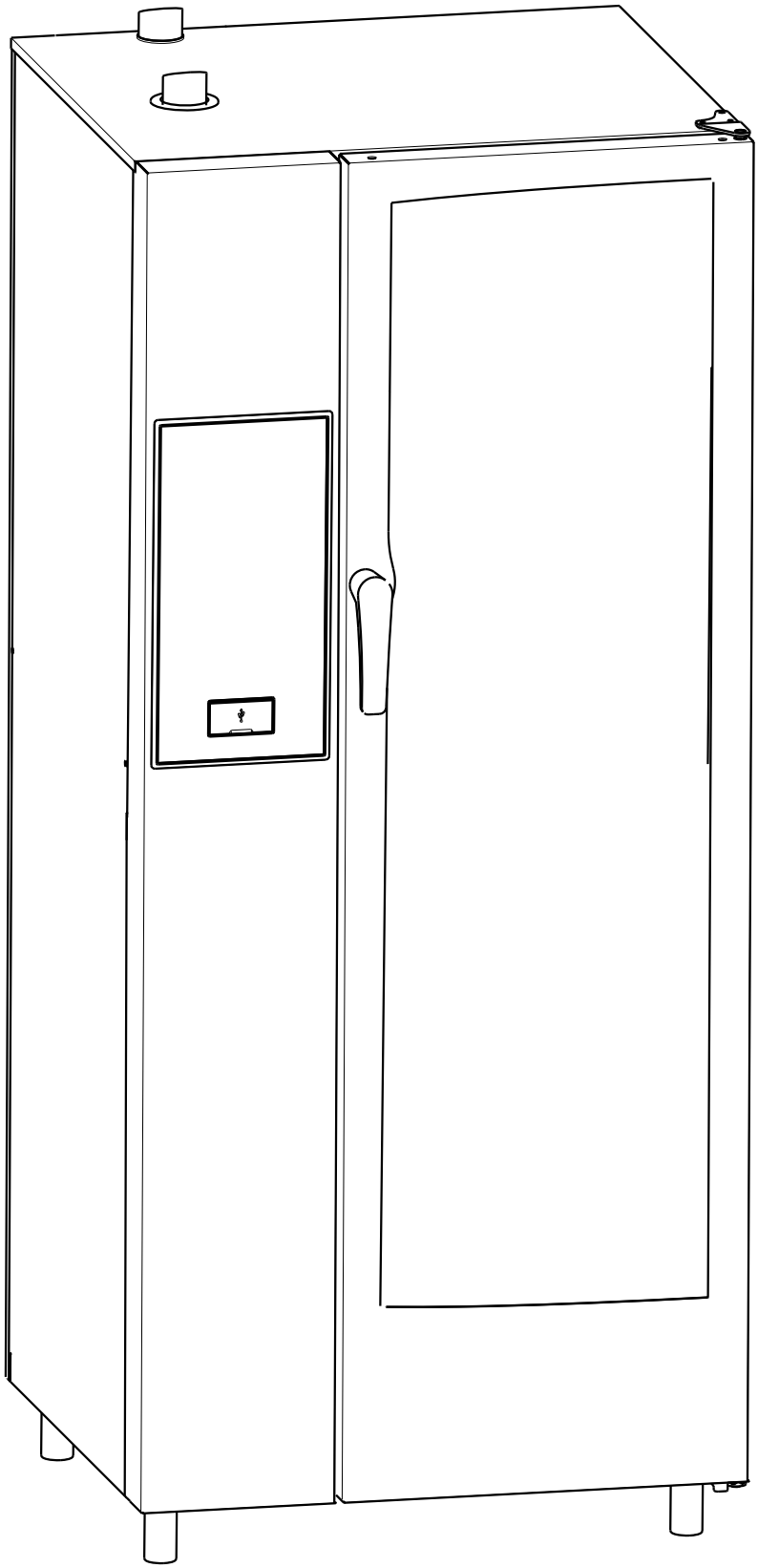
Mod: SDE/XC-22

Production code: 228965-SPECIALE

Diamond

ELECTRIC OVENS

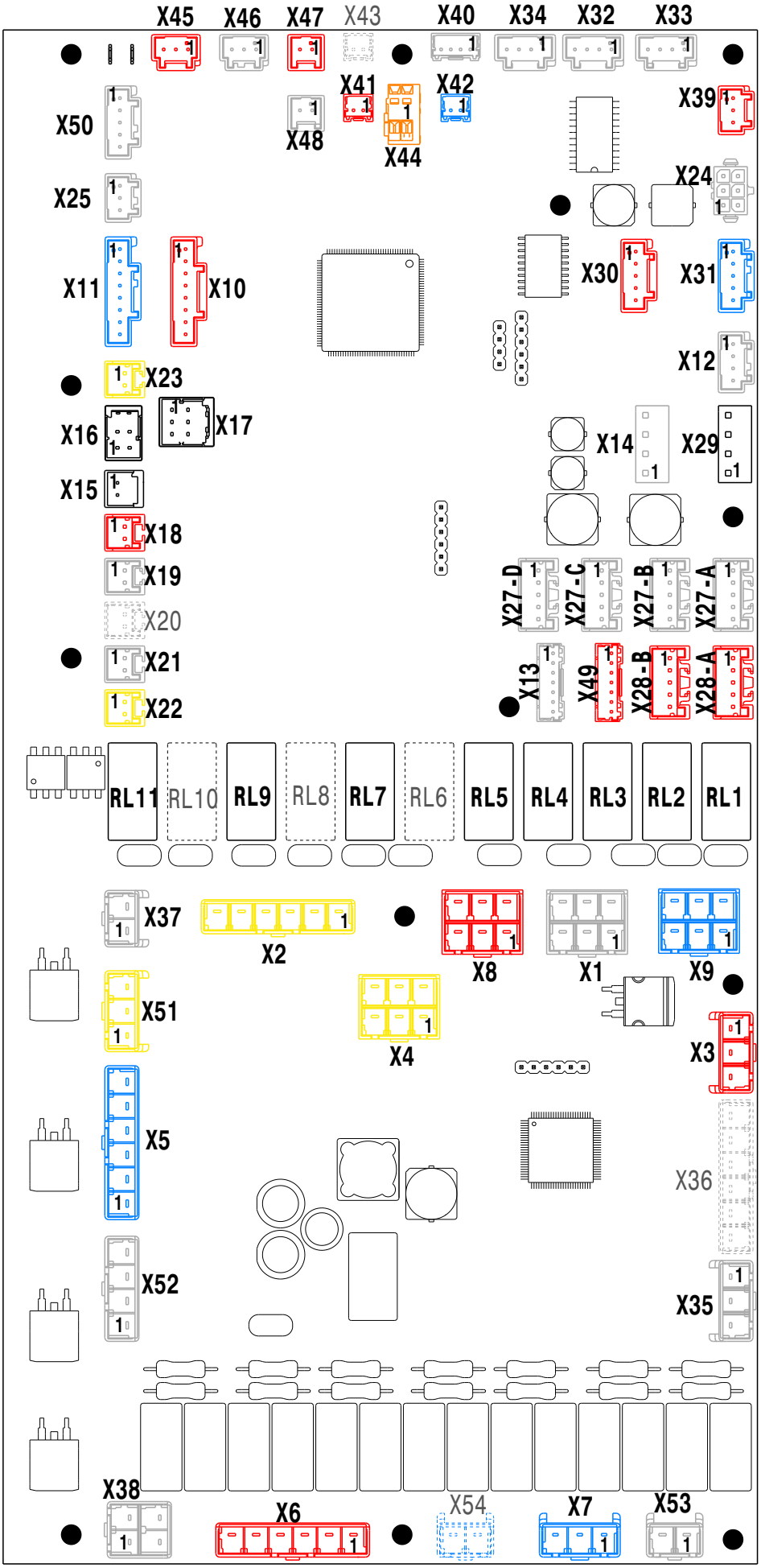
Electrical Documentation



20 1/1
&
20 2/1

COD 602402L01	ELECTRIC DIAGRAM 20 "ELT" 380-480V 3-3N CKM	From S/N :

MAIN BOARD ACU



COD 602402L01	ELECTRIC DIAGRAM 20 "ELT" 380-480V 3-3N CKM	From S/N :

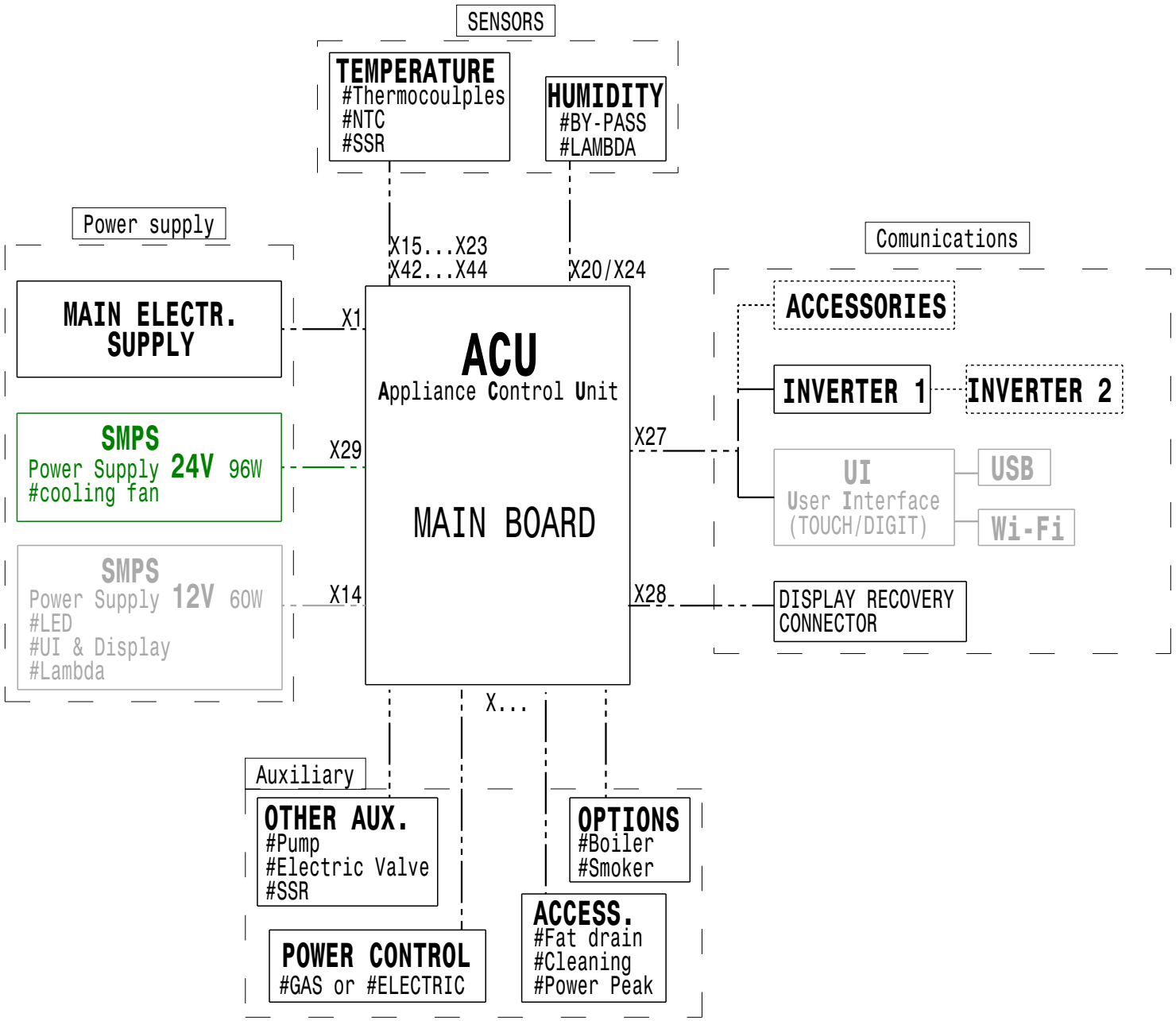
ACU LEGENDA

Ref.	Group	Pin	Direct.	Function
X1	Power Supply	1	IN	**L** Power Supply
		2	IN	**N** Power Supply
		3	IN	**L** Power Supply
		4	IN	**N** Power Supply
		5	IN	**SW-OFF** Auto switch off
		6	OUT	
X2	Water Service	1	OUT	**EV1** Instant steam solenoid valve
		2	OUT	**EV2** Quenching solenoid valve
		3	OUT	**EV4** Spray unit solenoid valve
		4	OUT	**BV3** Cavity drain ball valve OPEN
		5	OUT	**BV3** Cavity drain ball valve CLOSE
		6	OUT	**N**
X3	Clean. Syst. Basic	1	OUT	**EV7** Cleaning water fill solenoid valve
		2	OUT	**M8** Cleaning pump
		3	OUT	**N**
X4	Cleaning System Drawer Rinse	1	OUT	**EV11** Drawer fill solenoid valve
		2	OUT	**EV12** Drawer drain solenoid valve
		3	OUT	
		4	OUT	
		5	OUT	
		6	OUT	**N**
X5	Boiler Fill & Clean	1	OUT	**EV5** Boiler fill solenoid valve
		2	OUT	
		3	OUT	**BV6** Boiler drain ball valve OPEN
		4	OUT	**BV6** Boiler drain ball valve CLOSE
		5	OUT	
		6	OUT	**N**
X6	Sensing	1	IN	**TSC** Cavity safety thermostat
		2	IN	**BBC1** Cavity gas blower burner **UP**
		3	IN	**BBC2** Cavity gas blower burner **DOWN**
		4	IN	**HVI4** Motor drive fuse **UP**
		5	IN	**HVI5** Motor drive fuse **DOWN**
		6	IN	
X7	Sensing	1	IN	**TSB** Boiler safety thermostat
		2	IN	**BBB1** Boiler gas blower burner
		3	IN	
X8	Cavity GAS **burner**	1	OUT	**N**
		2	OUT	**FCU** Cavity flame control unit reset **UP**
		3	OUT	**FCU** Cavity flame control unit reset **DOWN**
		4	IN	**FCU** Cavity flame control units power supply IN
		5	OUT	**FCU** Cavity flame control unit power supply **UP**
		6	OUT	**FCU** Cavity flame control unit power supply **DOWN**
X9	Boiler GAS **burner**	1	OUT	**N**
		2	OUT	**FBU** Boiler flame control unit reset
		3	OUT	
		4	IN	**FBU** Boiler flame control unit power supply IN
		5	OUT	**FBU** Boiler flame control unit power supply OUT
		6	OUT	
X10	Cavity GAS **blower**	1	OUT	**VTCU** Cavity blower control Power supply
		2	IN	**VTCU** Cavity blower control Tachometer **UP**
		3	IN	
		4	OUT	**VTCU** Cavity blower control Speed **UP**
		5	IN	**VTCU** Cavity blower control Tachometer **DOWN**
		6	IN	
		7	OUT	**VTCU** Cavity blower control Speed **DOWN**
		8	OUT	**VTCU** Boiler blower control GND
X11	Boiler GAS **blower**	1	OUT	**VTBU** Boiler blower control Power supply
		2	IN	**VTBU** Boiler blower control Tachometer
		3	IN	
		4	OUT	**VTBU** Boiler blower control Speed control
		5	IN	
		6	IN	
		7	OUT	
		8	OUT	**VTBU** Boiler blower control GND

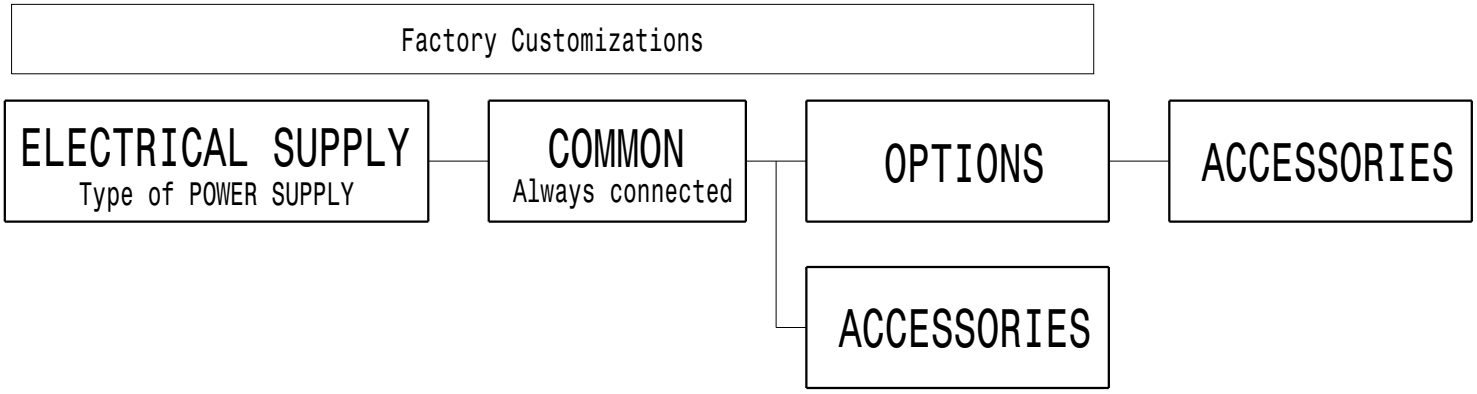
Ref.	Group	Pin	Direct.	Function
X12	Led	1	OUT	**H1** LED lighting 1 anode
		2	IN	**H1** LED lighting 1 catode
		3	IN	**H2** LED lighting 2 catode
		4	OUT	**H2** LED lighting 2 anode
X13				Adress
X14	12V	1	IN	**+12V** dc
		2	IN	
		3	IN	**0V** dc
		4	IN	
X15	Food probe temperature	A1	IN	**TFP** 1st point food probe temperature
		A2	IN	
X16		A1	IN	**TFP** 2nd point food probe temperature
		B1	IN	
		A2	IN	**TFP** 3rd point food probe temperature
		B2	IN	
X17		A1	IN	**TFP** 4th point food probe temperature
		B1	IN	
		A2	IN	**TFP** 5th point food probe temperature
		B2	IN	
		A3	IN	**TFP** 6th point food probe temperature
		B3	IN	
X18	Temper.	1	IN	**TCAV** Cavity Thermocouple **UP**
		2	IN	
X19	Temper.	1	IN	**TBOI** Boiler Thermocouple
		2	IN	
X20	Temper.	-- NOT USE --		
X21	Temper.	1	IN	**TCAV** Cavity Thermocouple **DOWN**
		2	IN	
X22	Temper.	1	IN	**TQS** Quenching System Thermocouple
		2	IN	
X23	Temper.	1	IN	**TAR** Aromatizer Thermocouple
		2	IN	
X24				Lambda sensor
X25	Boiler level	1	IN/OUT	**SL** Boiler safety level dection probe
		2	IN/OUT	**WL** Boiler working level dection probe
		3	IN	**REF** Boiler level detection probes reference
X27-A			IN/OUT	**PMACS** comunication BUS
X27-B			IN/OUT	**PMACS** comunication BUS
X27-C			IN/OUT	**PMACS** comunication BUS
X27-D			IN/OUT	**PMACS** comunication BUS
X28-A			IN/OUT	**PMACS** Recovery comunication BUS
X28-B			IN/OUT	**PMACS** Recovery comunication BUS
X29	24V	1	IN	**+24V** dc
		2	IN	
		3	IN	**0V** dc
		4	IN	
X30	Cavity SSR	1	OUT	**KC1** Cavity 1 solid state relay **UP**
		2	OUT	**KC2** Cavity 2 solid state relay **UP**
		3	OUT	**KC3** Cavity 1 solid state relay **DOWN**
		4	OUT	**KC4** Cavity 2 solid state relay **DOWN**
		5	OUT	**0V** dc
X31	Boiler SSR	1	OUT	**KB1** Boiler 1 solid state relay **UP**
		2	OUT	**KB2** Boiler 2 solid state relay **UP**
		3	OUT	**KB3** Boiler 1 solid state relay **DOWN**
		4	OUT	**KB4** Boiler 2 solid state relay **DOWN**
		5	OUT	**0V** dc

Ref.	Group	Pin	Direct.	Function
X32	Cooling Fan 1	1	OUT	**FAN1** Cooling fan 1 power supply 24Vdc
		2	IN	**FAN1** Cooling fan 1 tachometer sensor
		3	OUT	**FAN1** Cooling fan 1 speed control
		4	OUT	**FAN1** Cooling fan 1 power supply 0Vdc
X33	Cooling Fan 2	1	OUT	**FAN2** Cooling fan 2 power supply 24Vdc
		2	IN	**FAN2** Cooling fan 2 tachometer sensor
		3	OUT	**FAN2** Cooling fan 2 speed control
		4	OUT	**FAN2** Cooling fan 2 power supply 0Vdc
X34	Cooling Fan 3	1	OUT	**FAN3** Cooling fan 3 power supply 24Vdc
		2	IN	**FAN3** Cooling fan 3 tachometer sensor
		3	OUT	**FAN3** Cooling fan 3 speed control
		4	OUT	**FAN3** Cooling fan 3 power supply 0Vdc
X35	Vent. Valve	1	OUT	**VV1** Venting valve 1 cw rotation
		2	OUT	**N**
		3	OUT	**VV1** Venting valve 1 ccw rotation
X36		-- NOT USE --		
X37	KS	1	OUT	**KS** Safety contactor
		2		
X38	Smoker	1	OUT	**N**
		2	OUT	**R1** (Smoker heating element)
		3	OUT	
		4	IN	
X39	Flow meter	1		
		2	OUT	**FM** Flow meter reference
		3	IN	**FM** Flow meter feedback
X40	Temper.	1	OUT	**NCC** NTC cabinet components
		2	IN	
		3	OUT	**NM8** NTC pump M8
		4	IN	
X41	Temper.	1	OUT	**NHSC** NTC Cavity SSR heatsink
		2	IN	
X42	Temper.	1	OUT	**NHSB** NTC Boiler SSR heatsink
		2	IN	
X43	Temper.	-- NOT USE --		
X44	Softner	1	OUT	**SSW1** Softner interface
		2	IN	
X45	Switch	1	OUT	**24V** Reference
		2	IN	**DS** Door switch
		3	IN	**AFS** Air filter switch
X46	switch	1	OUT	**24V** Reference
		2	IN	**SVV1** Venting valve CLOSE switch
		3	IN	**SVV1** Venting valve OPEN switch
X47		1	OUT	**24V** Reference
		2	IN	**SF** Fat drain valve status switch
X48	Switch	1	OUT	**24V** Reference
		2	IN	**DRS** Cleaning drawer switch
X49				Recovery Adress
X50		1	OUT	**24V** Reference
		2	IN	**HER** Hood error
		3	IN	
		4	IN	
		5	IN	
X51	Liquid Clean Syst.	1	OUT	**P1** Liquid dergent pump
		2	OUT	**P2** Liquid rinse pump
		3	OUT	**N**
X52		1	OUT	**HS2** Hood speed 2
		2	OUT	**HS1** Hood speed 1
		3	OUT	**HON** Hood ON
		4	OUT	**N** Neutral
X53		1	IN	**PPM1** Peak power managment 1
		2	IN	**PPM2** Peak power managment 2
X54		-- NOT USE --		

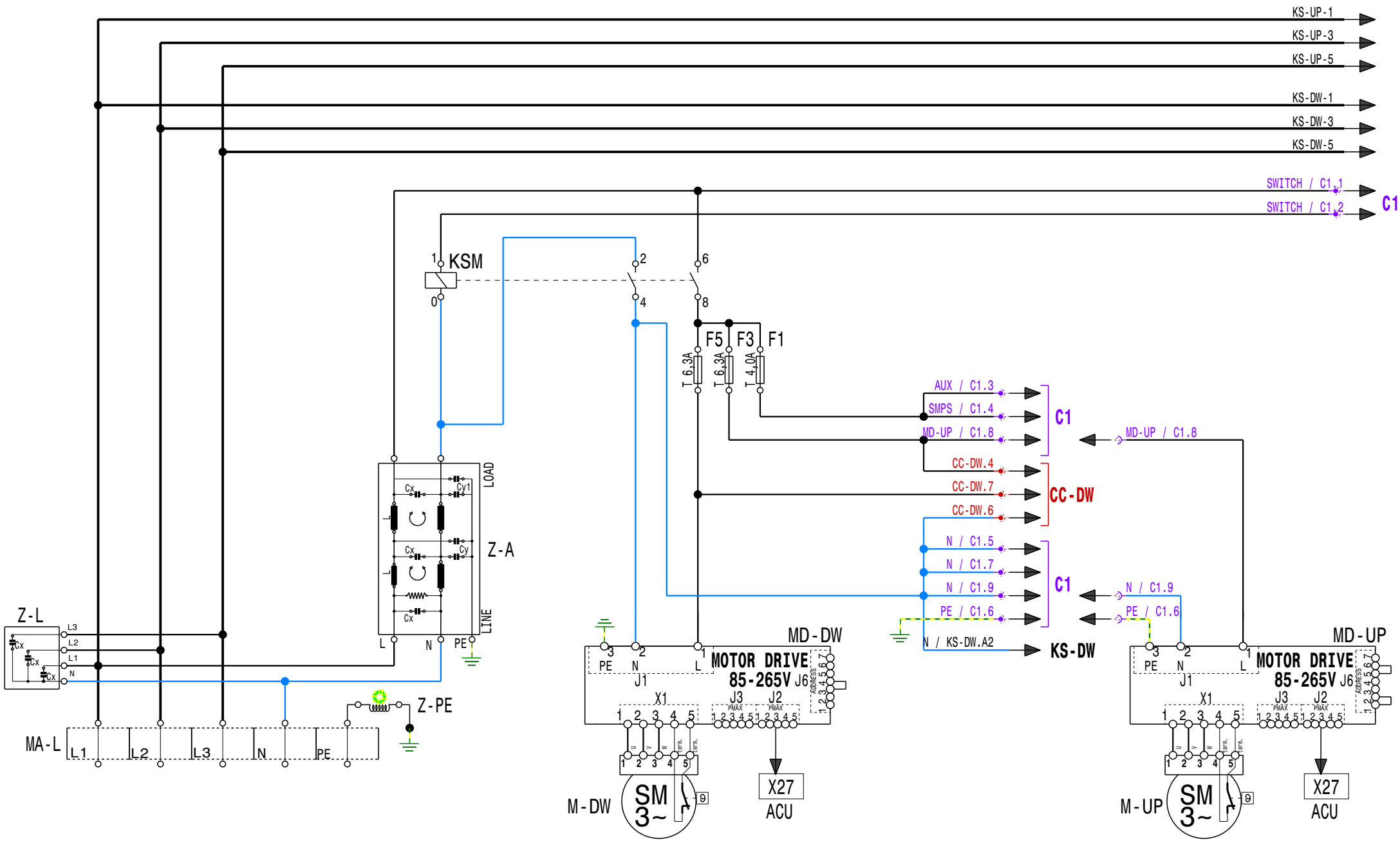
LOGIC DIAGRAM



HARNESS DIAGRAM



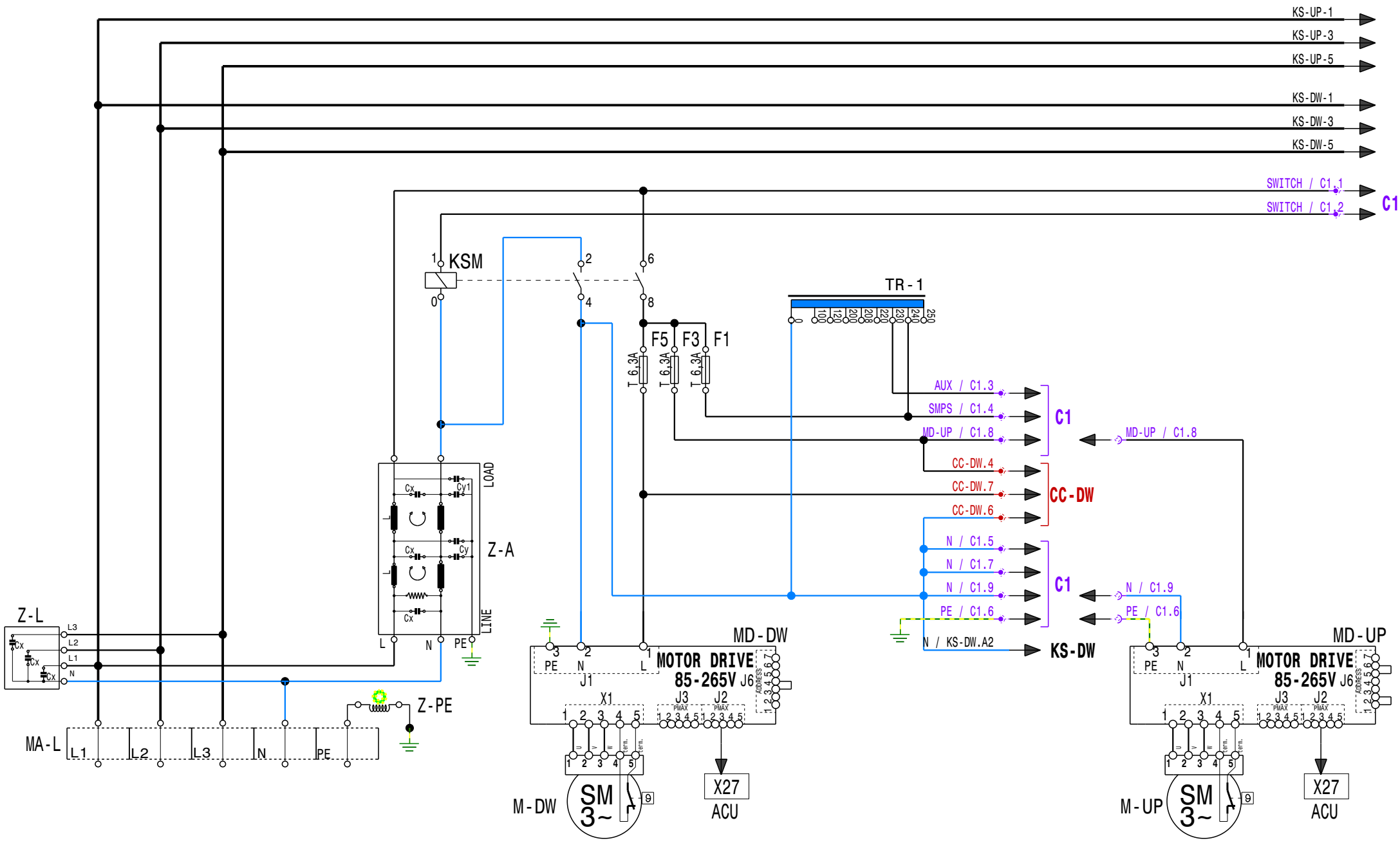
ELECTRICAL SUPPLY 380/400/415V - 3N - 50/60Hz **"ELECTRIC"**



MA-L	TERMINAL BLOCK	**Z-A**	AUXILIARY FILTER	**F1**	AUXILIARY FUSE	**MD-UP**	MOTOR DRIVE UP	**MD-DW**	MOTOR DRIVE DW
Z-L	CAPACITIVE FILTER	**KSM**	ON/OFF RELAY	**F3**	MD-UP FUSE	**M-UP**	MOTOR UP	**M-DW**	MOTOR DW
Z-PE	GROUND FILTER	**KS**	SAFETY CONTACTOR	**F5**	MD-DW FUSE				

COD 602402L01	ELECTRIC DIAGRAM 20 "ELT" 380-480V 3-3N CKM	From S/N :

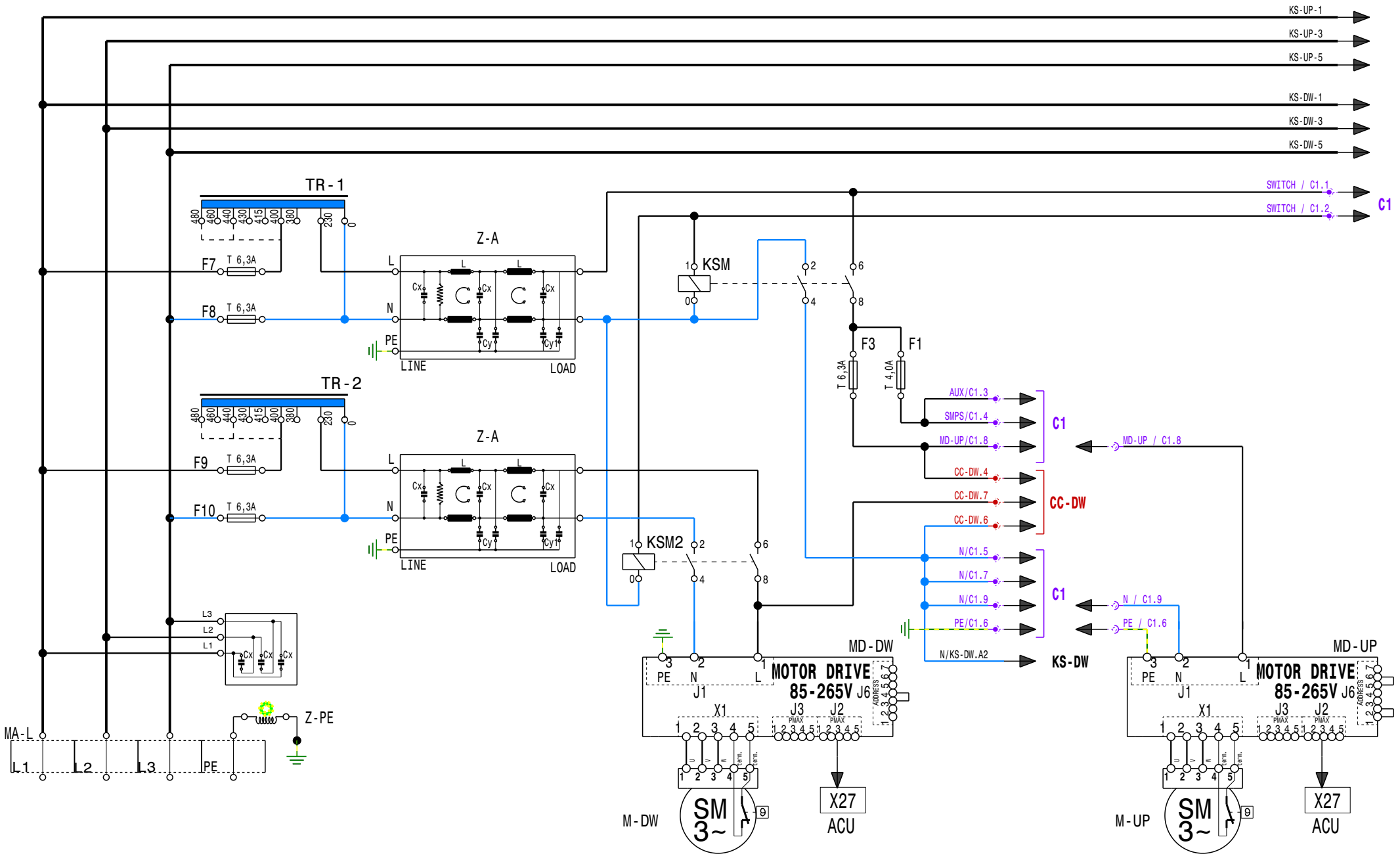
ELECTRICAL SUPPLY 400/415/430V - 3N - 50/60Hz **"ELECTRIC"**



MA-L	TERMINAL BLOCK	**Z-A**	AUXILIARY FILTER	**F1**	AUXILIARY FUSE	**MD-UP**	MOTOR DRIVE UP	**MD-DW**	MOTOR DRIVE DW	**TR-1**	TRANSFORMER
Z-L	CAPACITIVE FILTER	**KSM**	ON/OFF RELAY	**F3**	MD-UP FUSE	**M-UP**	MOTOR UP	**M-DW**	MOTOR DW		
Z-PE	GROUND FILTER	**KS**	SAFETY CONTACTOR	**F5**	MD-DW FUSE						

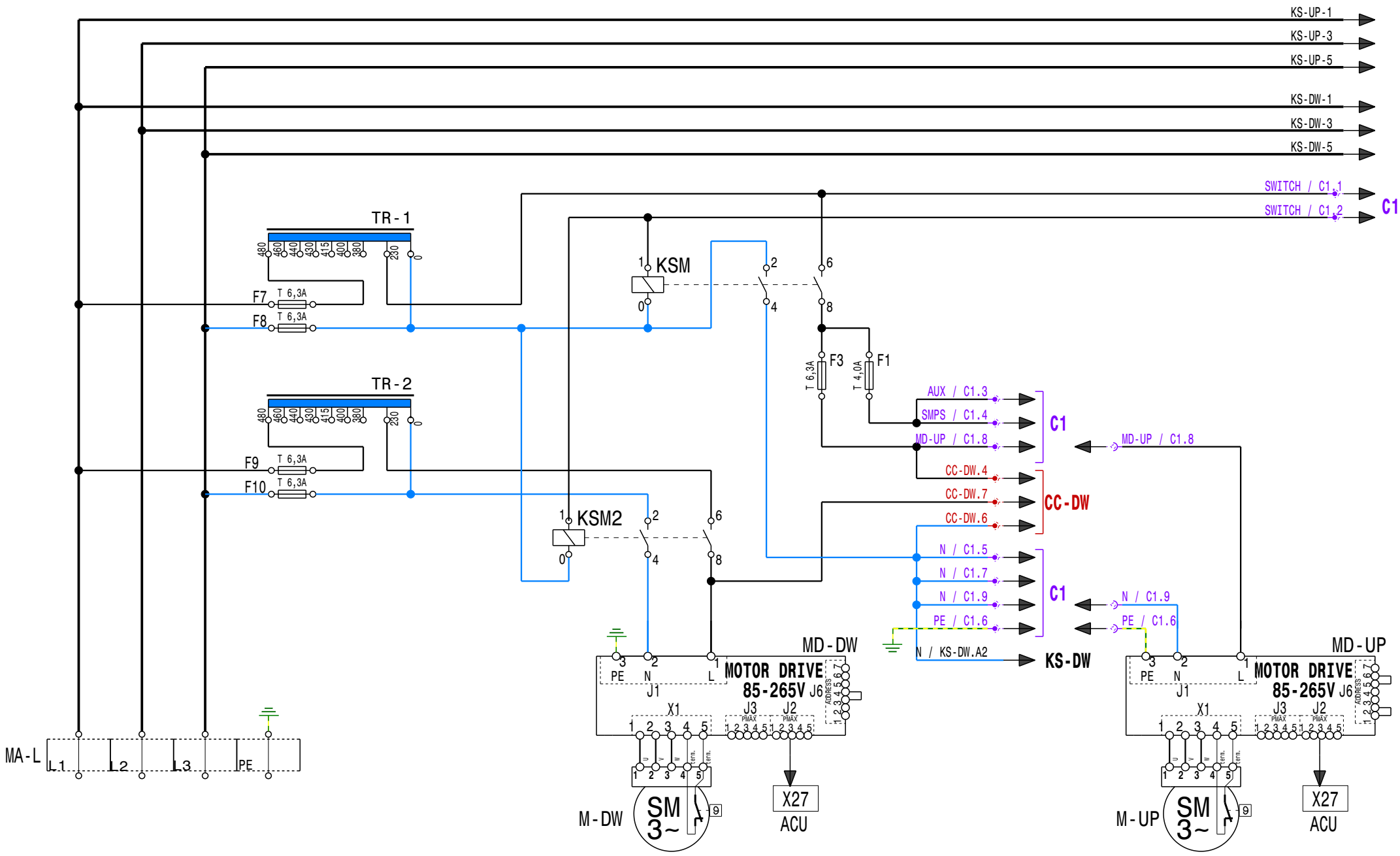
COD 602402L01	ELECTRIC DIAGRAM 20 "ELT" 380-480V 3-3N CKM	From S/N :

ELECTRICAL SUPPLY 400/440/480V - 3 - 50/60Hz **"ELECTRIC"**



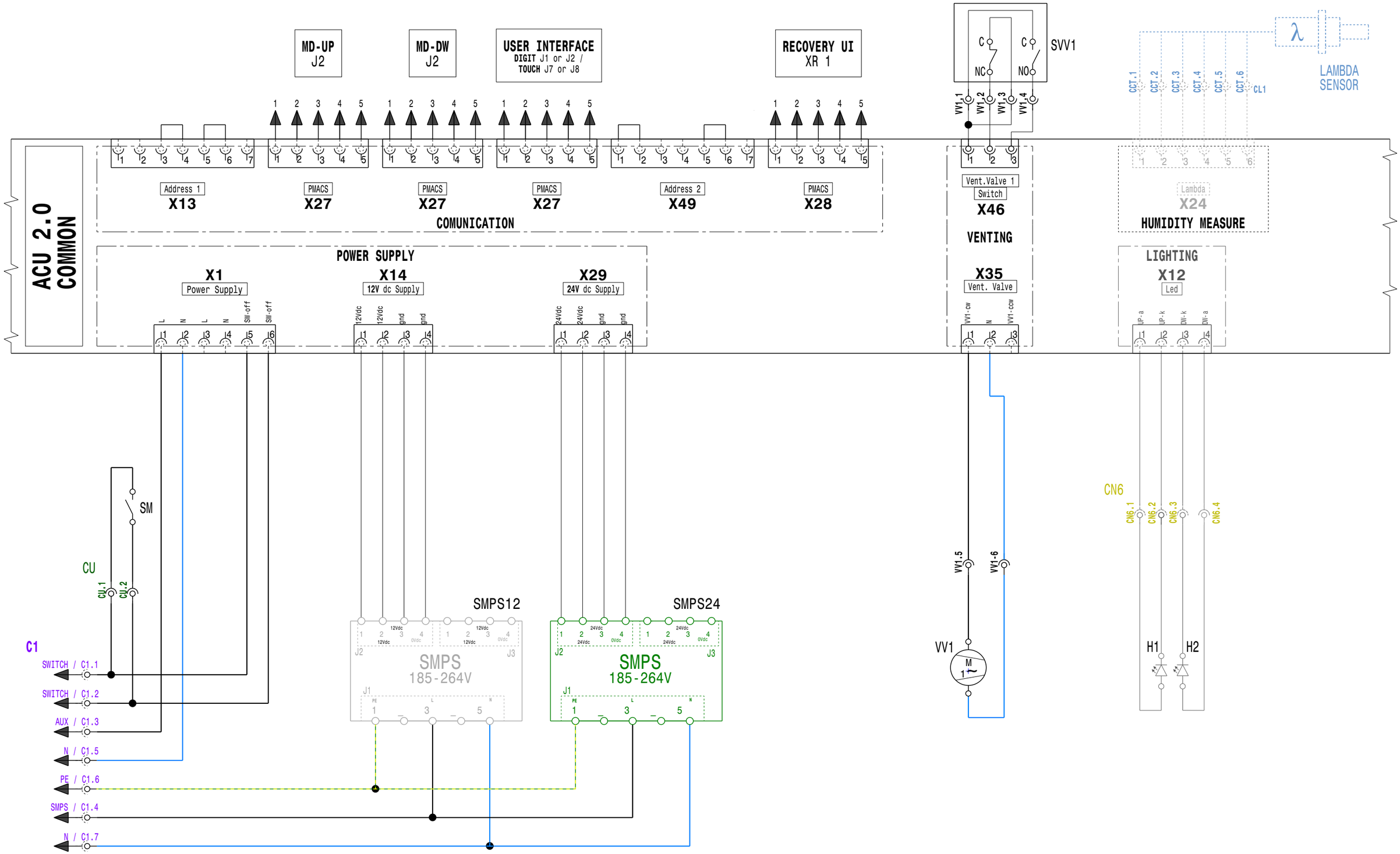
MA-L TERMINAL BLOCK					
Z-L CAPACITIVE FILTER	**KSM** ON/OFF RELAY	**KSM2** ON/OFF RELAY 2	**F1** AUXILIARY FUSE	**MD-DW** MOTOR DRIVE DW	**MD-UP** MOTOR DRIVE UP
Z-PE GROUND FILTER	**TR-1** TRANSFORMER 1	**F7-F8** TRANSFORMER 1 FUSE	**F3** MD-UP FUSE	**M-UP** MOTOR UP	**M-DW** MOTOR DW
Z-A AUXILIARY FILTER	**TR-2** TRANSFORMER 2	**F9-F10** TRANSFORMER 2 FUSE	COD 602402L01	ELECTRIC DIAGRAM 20 "ELT" 380-480V 3-3N CKM	From S/N :

ELECTRICAL SUPPLY 480V - 3 - 60Hz **"ELECTRIC"**



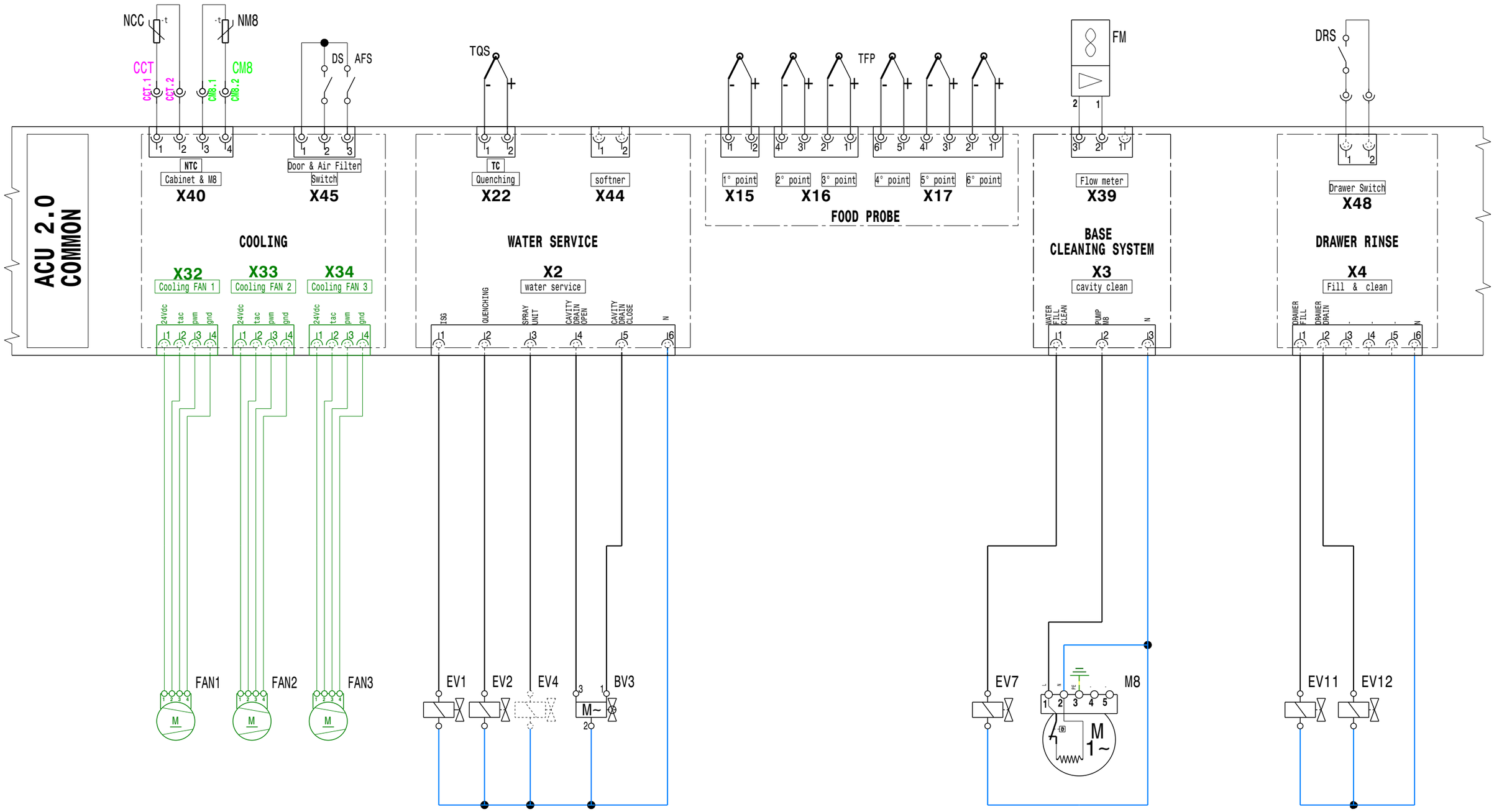
MA-L TERMINAL BLOCK	**TR-1** TRANSFORMER 1	**KSM** ON/OFF RELAY	**F1** AUXILIARY FUSE	**MD-DW** MOTOR DRIVE DW	**MD-UP** MOTOR DRIVE UP
F7-F8 TRANSFORMER 1 FUSE	**TR-2** TRANSFORMER 2	**KSM2** ON/OFF RELAY 2	**F3** MD-UP FUSE	**M-UP** MOTOR DW	**M-DW** MOTOR UP
F9-F10 TRANSFORMER 2 FUSE			COD 602402L01	ELECTRIC DIAGRAM 20 "ELT" 380-480V 3-3N CKM	From S/N :

COMMON



SM	MAIN SWITCH	-	-	**SMPS12**	SMPS 12V	**VV1**	VENTING VALVE 1	**H1**	LED LIGHTING 1	-	-
-	-	-	-	**SMPS24**	SMPS 24V	**SVV1**	VENTING VALVE SWITCHES	**H2**	LED LIGHTING 2	-	-
-	-	-	-	-	-	-	-	COD 602402L01	ELECTRIC DIAGRAM 20 "ELT" 380-480V 3-3N CKM	From S/N :	

COMMON

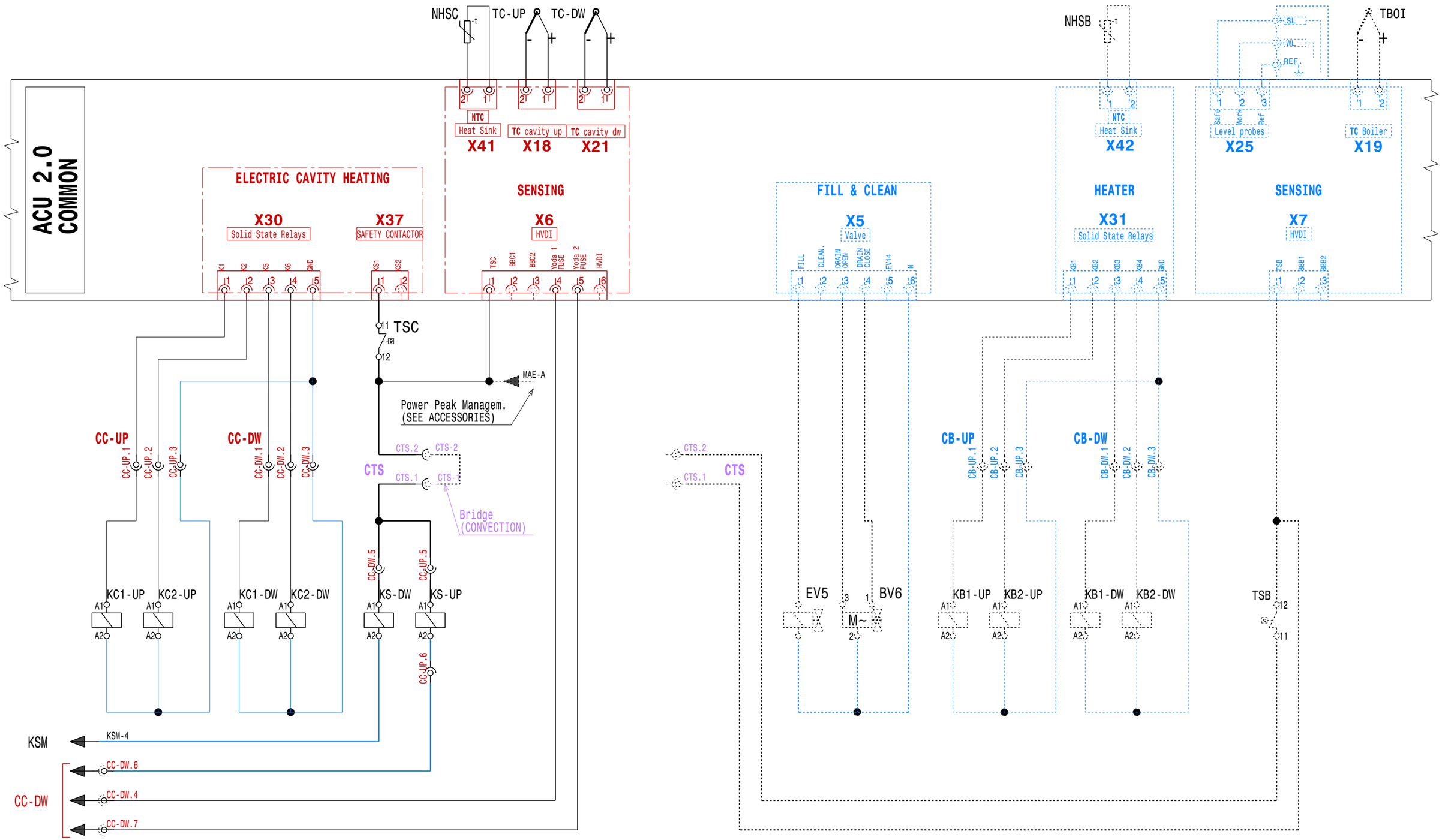


FAN1-2-3	COOLING FANS	**DS**	DOOR SWITCH	**TFP**	FOOD PROBE TEMPERATURE	**FM**	FLOW METER	**DRS**	DRAWER SWITCH
NCC	NTC CABINET COMPONENTS	**AFS**	AIR FILTER SWITCH	**EV1**	INSTANT STEAM SOLENOID VALVE	**EV7**	CLEANING WATER FILL S. VALVE	**EV11**	DRAWER FILL S. VALVE
NM8	NTC PUMP M8	**TQS**	QUENCHING THERMOC.	**EV2**	QUENCHING SOL.VALVE	**M8**	CLEANING PUMP	**EV12**	DRAWER DRAIN S. VALVE
-	-	**-**	-	**BV3**	CAVITY DRAIN BALL VALVE	COD	602402L01	ELECTRIC DIAGRAM 20 "ELT" 380-480V 3-3N CKM		From S/N :	

SPECIFIC "ELECTRIC"

ELECTRIC CONVECTION

ELECTRIC BOILER (OPTION)

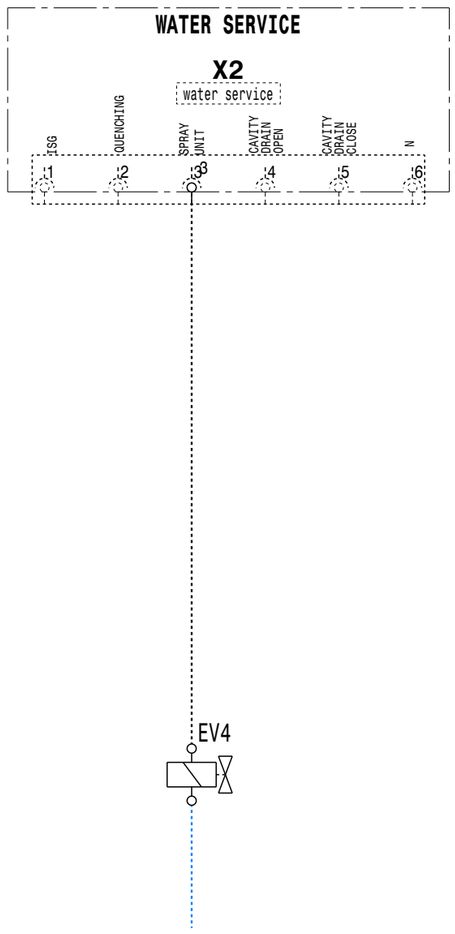


KC1-UP	CAVITY SOLID STATE RELAY 1 UP	**KC1-DW**	CAVITY SOLID STATE RELAY 1 DOWN	**KS-UP**	SAFETY CONTACTOR UP	**TC-UP**	CAVITY UP THERMOCOUPLE
KC2-UP	CAVITY SOLID STATE RELAY 2 UP	**KC2-DW**	CAVITY SOLID STATE RELAY 2 DOWN	**KS-DW**	SAFETY CONTACTOR DOWN	**TC-DW**	CAVITY DOWN THERMOCOUPLE
TSC	CAVITY SAFETY THERMOSTAT	**NHSC**	NTC CAVITY SSR HEAT SINK	**-**	-	COD 602402L01	ELECTRIC DIAGRAM 20 "ELT" 380-480V 3-3N CKM

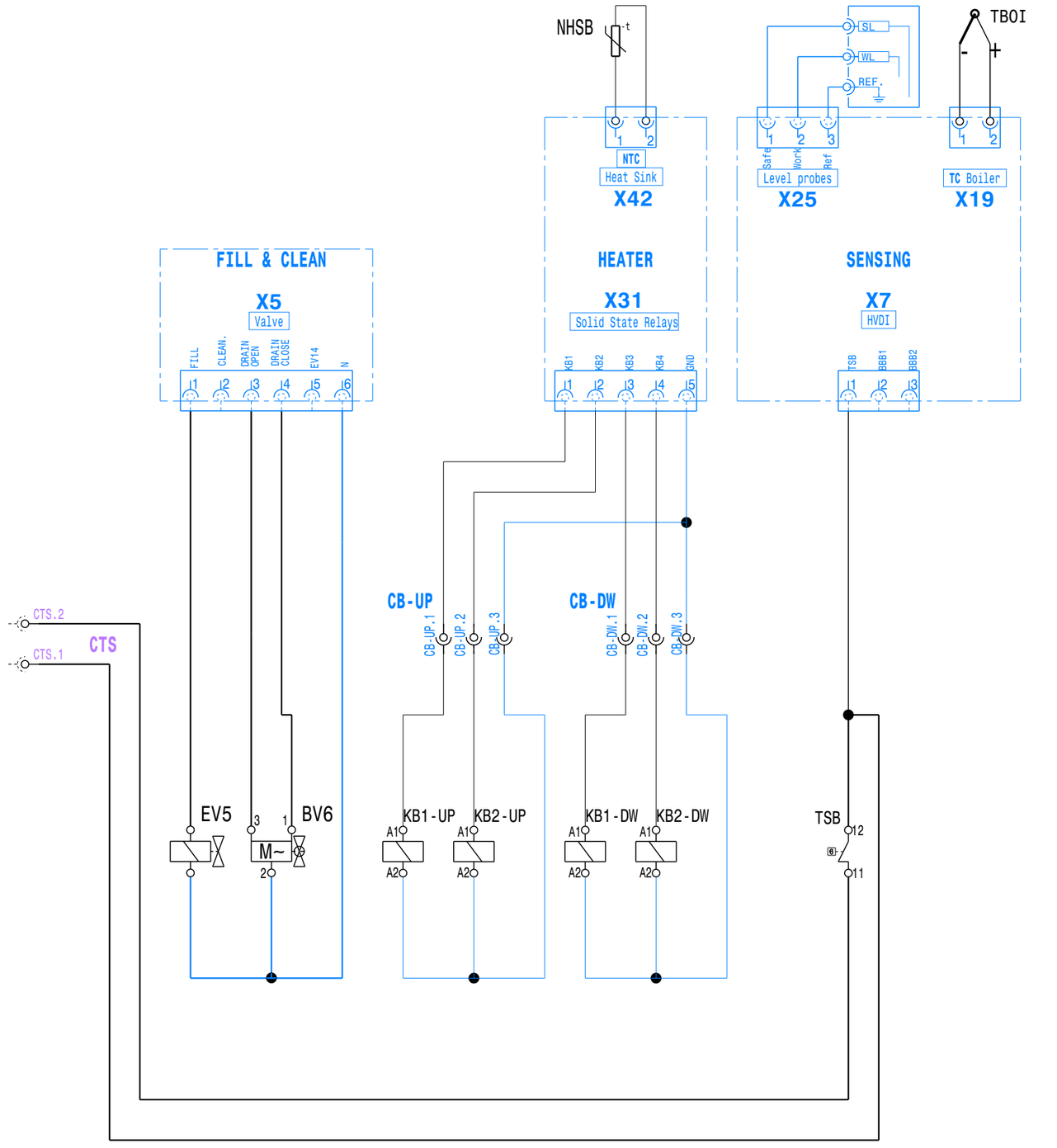
From S/N :

OPTIONS "ELECTRIC"

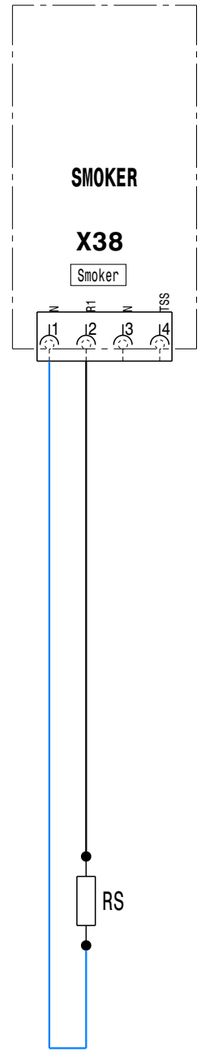
SPRAY UNIT



ELECTRIC BOILER (OPTION)



SMOKER

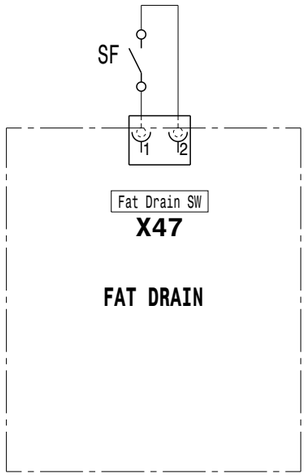


EV4	SPRAY UNIT	**EV5**	BOILER FILL VALVE	**KB1-UP**	BOILER SSR 1 UP	**KB1-DW**	BOILER SSR 1 DW	**TSB**	BOILER SAFETY THERMOSTAT	**RS**	SMOKER HEATER
-	-	**BV6**	BOILER DRAIN BALL VALVE	**KB2-UP**	BOILER SSR 2 UP	**KB2-DW**	BOILER SSR 2 DW	**TBOI**	BOILER THERMOCOUPLE	-	-
-	-	-	-	**NHSB**	NTC BOILER SSR HEAT SINK	-	-	COD	602402L01	ELECTRIC DIAGRAM 20 "ELT" 380-480V 3-3N CKM	From S/N :

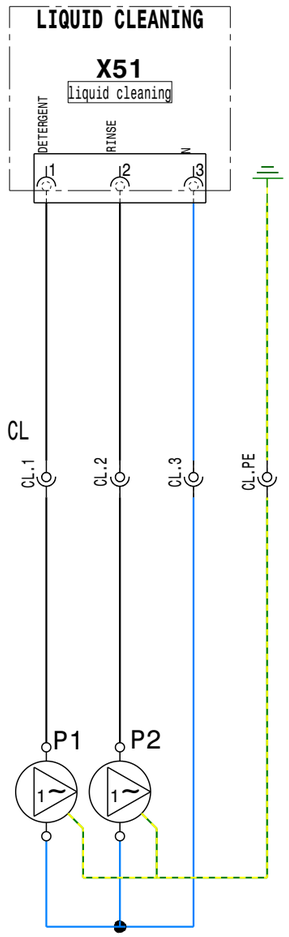
ACCESSORIES 1/2

"ELECTRIC"

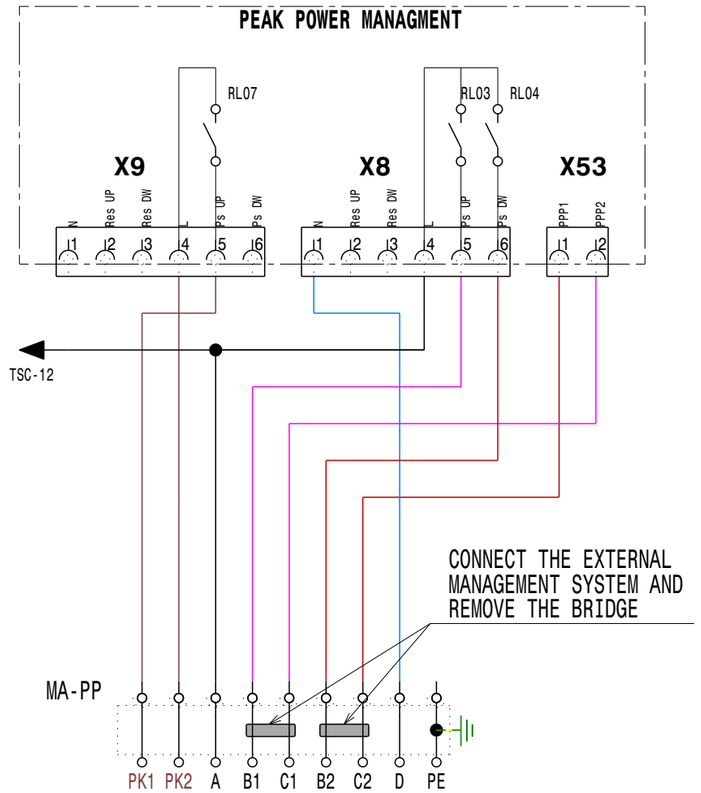
FAT DRAIN SYSTEM



LIQUID CLEANING



PEAK POWER MANAGMENT



LEGENDA

PK: PICK POWER CONTROL (POTENTIAL FREE CONTACT)
A : POWER ON (KS CLOSED)
B1: THERMOSTAT ON (HALF AND FULL POWER)
B2: THERMOSTAT ON (FULL POWER)
C1: RELEASE HEATING CONTACTOR (FIRST HALF POWER)
C2: RELEASE HEATING CONTACTOR (SECOND HALF POWER)
D : REFERENCE POTENTIAL (NEUTRAL)
PE: GROUND

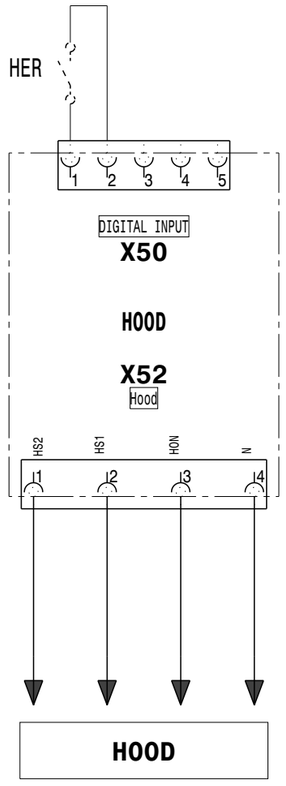
SF	FAT DRAIN SWITCH	-	-	**P1**	RINSE PUMP	-	-	**MA-PP**	TERMINAL BLOCK PEAK POWER MANAGEMENT
-	-	-	-	**P2**	DETERGENT PUMP	-	-	**TSC**	CAVITY SAFETY THERMOSTAT
-	-	-	-	-	-	-	-	COD 602402L01	ELECTRIC DIAGRAM 20 "ELT" 380-480V 3-3N CKM

From S/N :

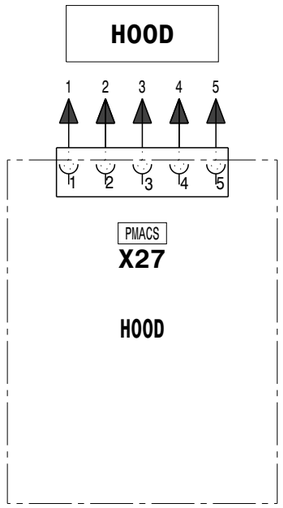
ACCESSORIES 2/2

"ELECTRIC"

EXTRACTION HOOD
CONDENSATION HOOD



ODOURLESS HOOD

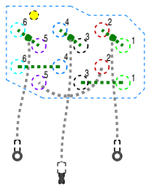


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-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	COD 602402L01	ELECTRIC DIAGRAM 20 "ELT" 380-480V 3-3N CKM	From S/N :	

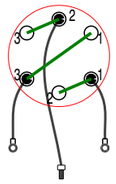
ELECTRICAL POWER WIRING

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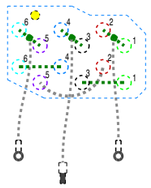
BOILER UP



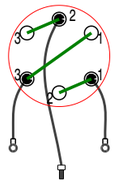
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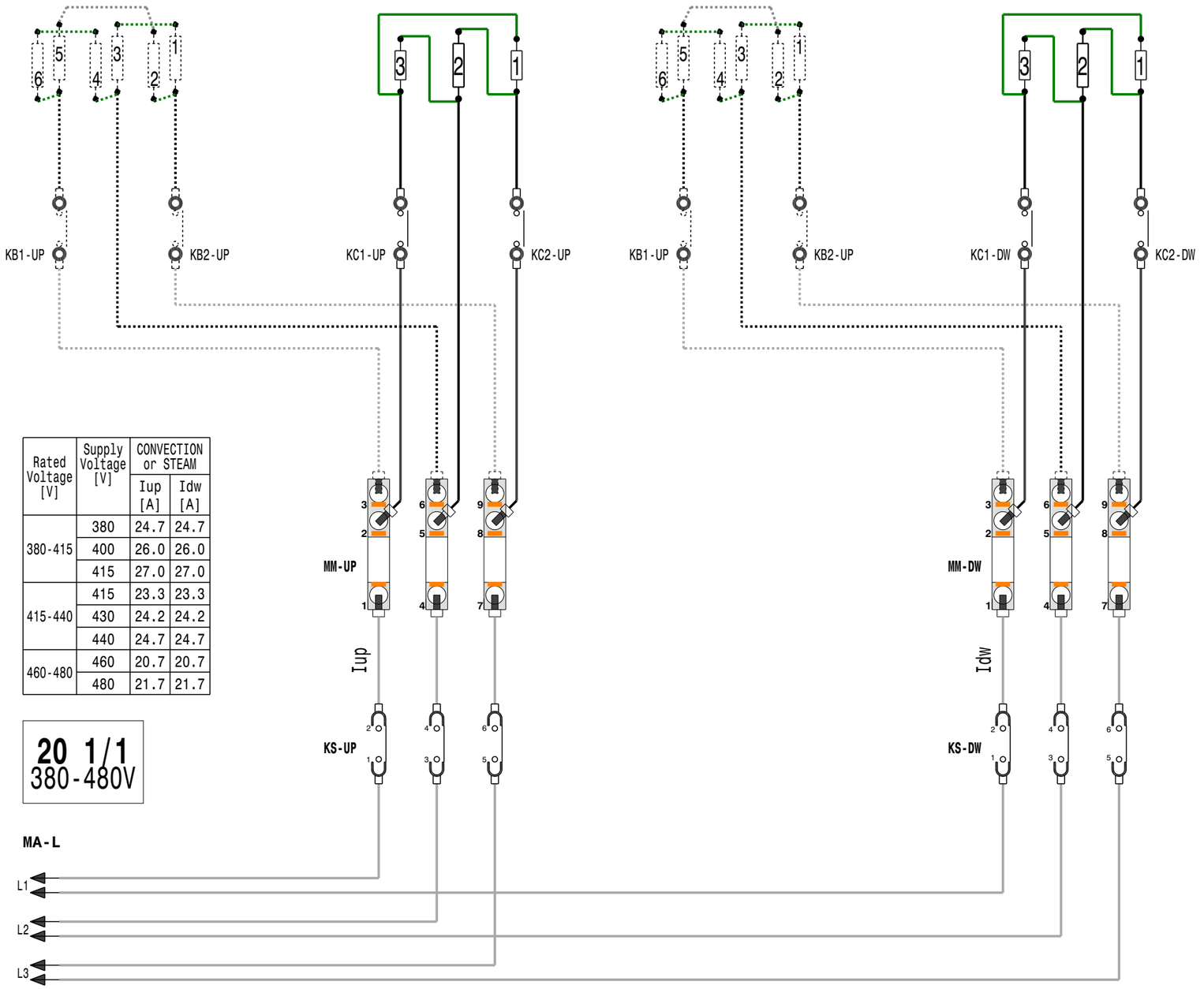


BOILER DOWN



CAVITY DOWN





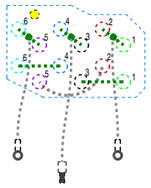
Rated Voltage [V]	Supply Voltage [V]	CONVECTION or STEAM	
		Iup [A]	Idw [A]
380-415	380	24.7	24.7
	400	26.0	26.0
	415	27.0	27.0
415-440	415	23.3	23.3
	430	24.2	24.2
	440	24.7	24.7
460-480	460	20.7	20.7
	480	21.7	21.7

20 1/1
380-480V

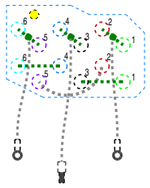
ELECTRICAL POWER WIRING

"ELECTRIC"

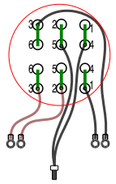
BOILER UP



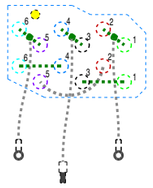
BOILER MIDDLE



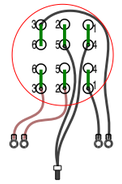
CAVITY UP

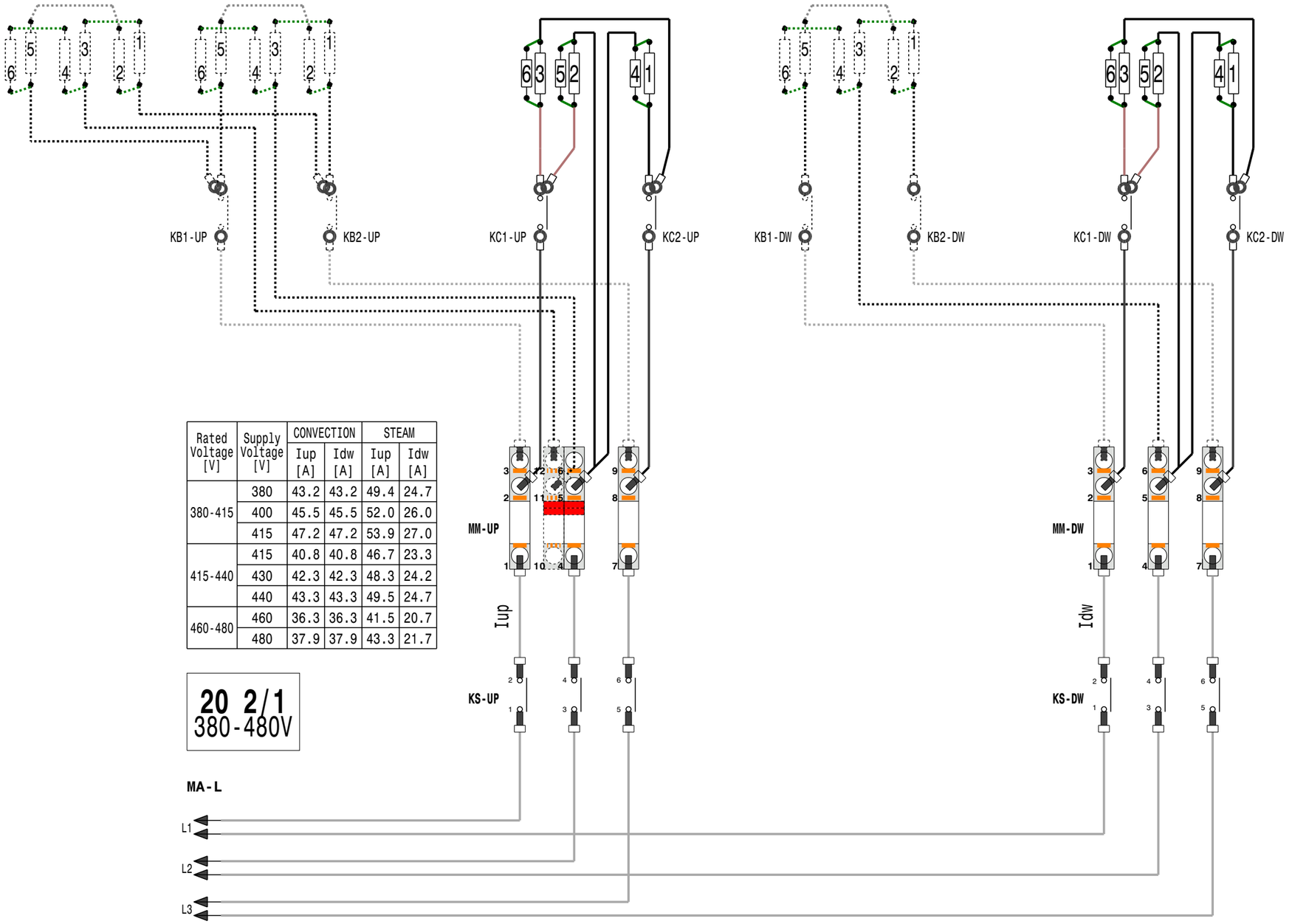


BOILER DOWN



CAVITY DOWN





Rated Voltage [V]	Supply Voltage [V]	CONVECTION		STEAM	
		Iup [A]	Idw [A]	Iup [A]	Idw [A]
380-415	380	43.2	43.2	49.4	24.7
	400	45.5	45.5	52.0	26.0
	415	47.2	47.2	53.9	27.0
415-440	415	40.8	40.8	46.7	23.3
	430	42.3	42.3	48.3	24.2
	440	43.3	43.3	49.5	24.7
460-480	460	36.3	36.3	41.5	20.7
	480	37.9	37.9	43.3	21.7

20 2/1
380-480V

COD 602402L01	ELECTRIC DIAGRAM 20 "ELT" 380-480V 3-3N CKM	From S/N :