

PIN s.c.r.l. – Polo Universitario città di Prato
 1MW Photovoltaic System – Yeghegnadzor, Armenia
 Ing. Paolo taddei Pardelli

Enhancing SME competitiveness through promotion
 and wider use of sustainable innovative technologies

SWITCHBOARD
 LV Users

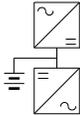
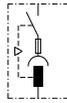
SWITCHBOARD CHARACTERISICS

UPSTREAM PLANT	
VOLTAGE [V]	400
FREQ. [Hz]	50
SWITCHBOARD RATED CURRENT [A]	
SWITCHBOARD PERSPECTIVE CURRENT [kA]	3,5
NEUTRAL SYSTEM TNS	
BUSBAR SIZE	
In [A]	Icc [kA]
STRUCTURE METALLICA	
INSULATION CLASS IP	

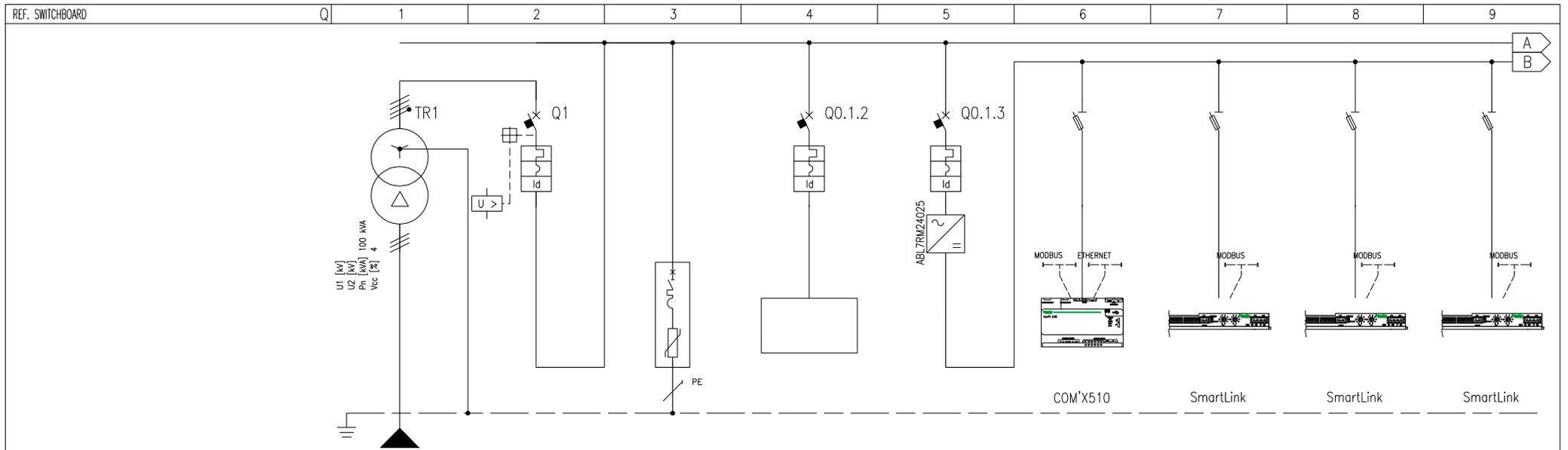
REFERENCE STANDARD	
MOULDED CASE CIRCUIT BREAKERS	<input checked="" type="checkbox"/> – CEI EN 60947-2
MINIATURE CIRCUIT BREAKERS	<input checked="" type="checkbox"/> – CEI EN 60947-2
	<input type="checkbox"/> – CEI EN 60898
STRUCTURE	<input checked="" type="checkbox"/> – CEI EN 60439-1
	<input type="checkbox"/> – CEI 23-48
	– CEI 23-49
	– CEI 23-51

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SYMBOLS

									
CIRCUIT BREAKER	DISCONNECTOR	SWITCH-DISCONNECTOR	THERMAL PROTECTION	MAGNETIC PROTECTION	RESIDUAL CURRENT PROTECTION	OVERLOAD CUT OUT	FUSE	TOROID	MANUAL CONTROL
									
AUTOMATIC CONTROL	TRIP FREE	ROTARY HANDLE	INTERLOCK	REMOVABLE/WITHDRAWAL EQUIPMENT	KEYLOCK OFF POSITION	KEYLOCK ON POSITION	AUXILIARY CONTACT	UNDERVOLTAGE RELEASE	SHUNT RELEASE
									
CHANGE OVER SWITCH (FOR MEASUREMENT)	AMMETER	VOLTMETER	FREQUENCY METER	METER	NO CONTACTS CONTACTOR	MANUAL CONTROL CONTACTOR	NC CONTACTS CONTACTOR	IMPULSE RELAY	CLOCK
									
TWILIGHT SWITCH	ASTRONOMIC CLOCK	UNINTERRUPTED POWER SYSTEM (UPS)	SOCKET	INTERLOCKED SOCKET WITH FUSES	SOFT STARTER	VARIABLE SPEED DRIVE	STAR DELTA STARTER	TRANSFORMER	SURGE PROTECTIVE DEVICE

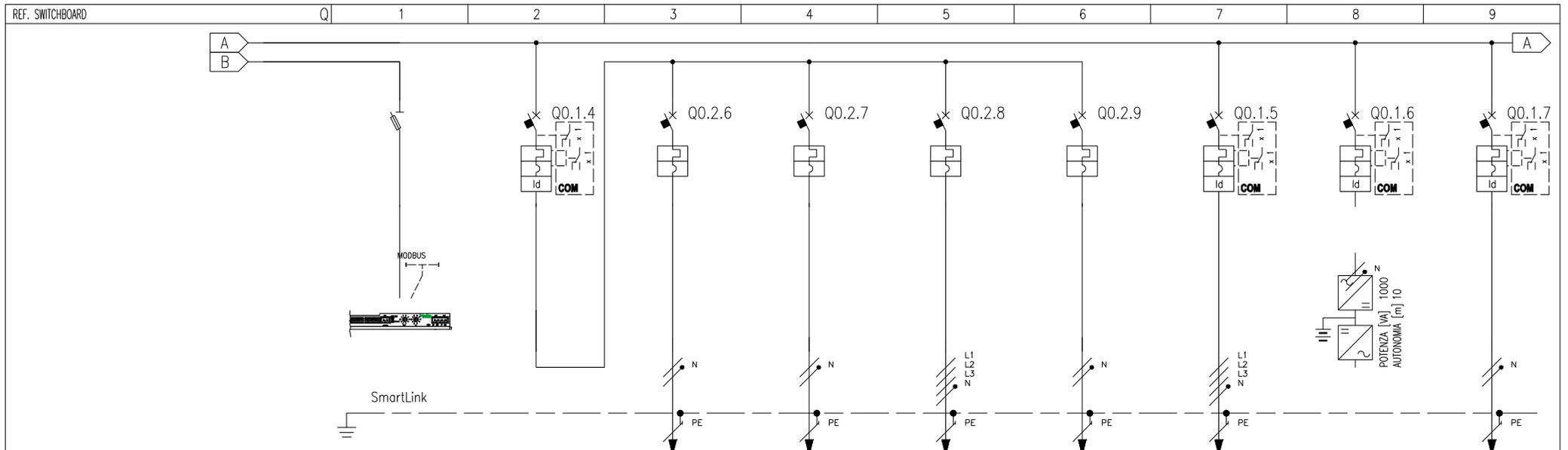
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TERMINALS NUMBERING

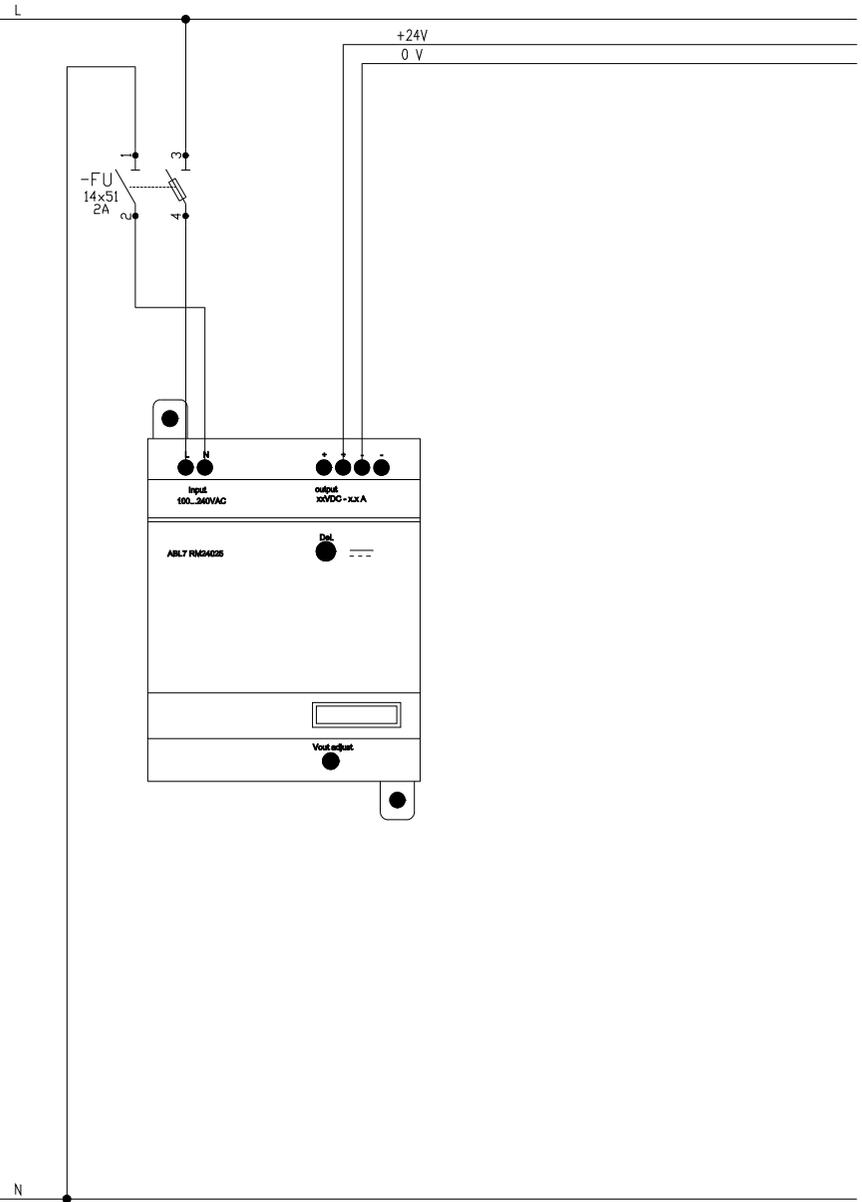
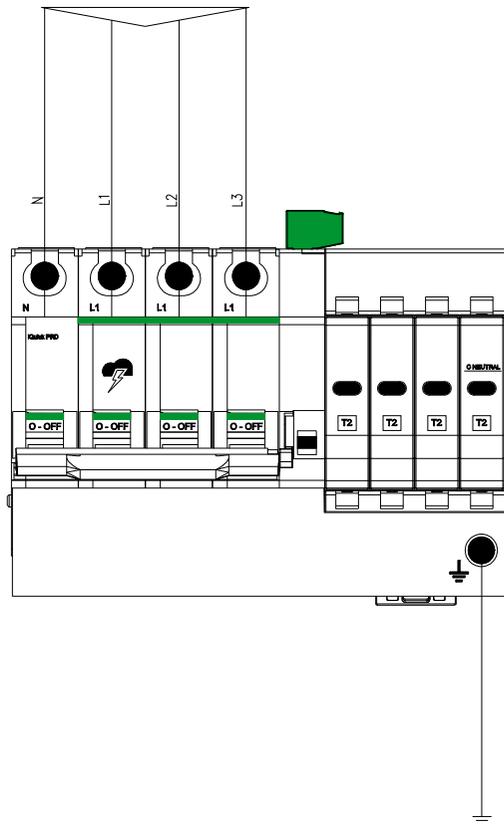
CIRCUIT NUMBERING		DISTRIBUTION		L1L2L3NPE	1	RSTN	2	L1L2L3NPE	3	L1NPE	4	L1NPE	5	L1NPE	6	L1NPE	7	L1NPE	8	L1NPE	9
CIRCUIT DESCRIPTION		TRANSFORMER MT/BT USERS			TRANSFORMER MT/BT USERS		SPD		SERVICE POWER SUPPLY 230 Vac		AUX 24 Vdc MONITORING 24 Vdc		WEBSERVER CON GRAPHIC PAGES COM'X 510		SMARTLINK 1		SMARTLINK 2		SMARTLINK 3		
EQUIPMENT					NSX160 E				iC60 H		iC60 H		STI		STI		STI		STI		
CIRCUIT BREAKER	lcu [kA] / lcn [A]				16				30		30										
	N. POLES	In [A]			4P 63				2P 16		2P 6										
	COURBE/TRIPPING UNIT					TM-D				C		C									
	Ir [A]	tr [s]			56,7 0,9x				16		6										
	Isd [A]	tsd [s]			500				160		60										
li [A]																					
RESIDUAL CURRENT DEVICE	lg [A]	tg [s]																			
	TYPE	CLASS			Vigi ME A				Vigi A SI		Vigi A										
	Idn [A]	tdn [ms]			0,3 Instant				0,03 Instant		0,03 Instant										
CONTACTOR	TYPE	CLASSE																			
IMPULSE RELAY	COIL	N. POLES	In [A]																		
THERMAL RELAY	TYPE	lrth [A]																			
FUSE	N. POLES	In [A]																			
OTHER	TYPE	MODEL																			
CONDUCTORS	INSULATION	INST.METHOD	EPR 21																		
	CROSS SECTION PHASE-N-PE/PEN [mmq]		1x35 1x35 1x16																		
	Ib [A]	Iz [A]	55,3 169																		
Un [V]	Pn [kW]	400 19,61																			
BOTTOM OF THE LINE	Icc min [kA]	Icc max [kA]	3 3,5																		
	LENGHT [m]	dV TOTAL [%]	3 0																		
NOTES		FG7R																			

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TERMINALS NUMBERING		9	L1NPE	10	L1L2L3NPE	11	L1NPE	12	L1NPE	13	L1L2L3NPE	14	L1NPE	15	L1L2L3NPE	16	L1NPE	17	L1NPE										
CIRCUIT NUMBERING		SMARTLINK 3		CABIN SERVICES		LIGHTING		POWER SUPPLY		CONDITIONING		SPARE		SERVICES SWITCH BOARD		UPS CEI 0-16		TRANSFORMER CONTROL UNIT and AUX											
CIRCUIT DESCRIPTION		SMARTLINK 3		CABIN SERVICES		LIGHTING		POWER SUPPLY		CONDITIONING		SPARE		SERVICES SWITCH BOARD		UPS CEI 0-16		TRANSFORMER CONTROL UNIT and AUX											
EQUIPMENT		STI		iC60 L		C40 a		C40 a		iC60 L		C40 a		iC60 L		C40 a		C40 a											
CIRCUIT BREAKER	lcu [kA] / lcn [A]			25		6		6		25		6		25		6		6											
	N. POLES	In [A]		4P		25		1P+N		10		1P+N		16		4P		16		1P+N		16		1P+N		10			
	COURBE/TRIPPING UNIT				C		C		C		C		C		C		C		C		C		C		C				
	Ir [A]	tr [s]		25		10		16		16		10		16		16		16		10		16		10		100			
	Isd [A]	tsd [s]		250		100		160		160		100		160		160		160		100		160		100		100			
RESIDUAL CURRENT DEVICE	li [A]																												
	lg [A]	tg [s]																											
TYPE		CLASS		Vigi		A								Vigi		A		Vigi		A		Vigi		A		Vigi		A	
ldn [A]		tdn [ms]		0,03		Instant								0,03		Instant		0,03		Instant		0,03		Instant		0,03		Instant	
CONTOUR		CLASSE																											
IMPULSE RELAY		COIL		N. POLES		In [A]																							
THERMAL RELAY		TYPE		lrth [A]																									
FUUSE		N. POLES		In [A]																									
OTHER		TYPE		MODEL																									
CONDUCTORS		INSULATION		INST.METHOD		EPR		13		EPR		13		EPR		13		EPR		13		EPR		13		EPR		13	
CROSS SECTION PHASE-N-PE/PEN [mmq]						1x2,5		1x2,5		1x2,5		1x2,5		1x2,5		1x2,5		1x2,5		1x2,5		1x2,5		1x2,5		1x2,5		1x2,5	
lb [A]		lz [A]				4,8		36		9,7		36		3,2		32		4,8		36		4,8		32		11,9		36	
Un [V]		Pn [kW]		6		230		1		230		2		400		2		230		1		400		3		230		2,61	
lcc min [kA]		lcc max [kA]				1,8		2,1		1,8		2,1		1,8		3		1,8		2,1		1,8		3		2,1		2,4	
LENGHT [m]		dv TOTAL [%]				3		0,1		3		0,3		3		0,1		3		0,1		2		0,2		2		0,1	
NOTES						FG7OR		FG7OR		FG7OR		FG7OR		FG7OR		FG7OR		FG7OR		FG7OR		FG7OR		FG7OR		FG7OR		FG7OR	

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SCHEMATIC
DIAGRAMS

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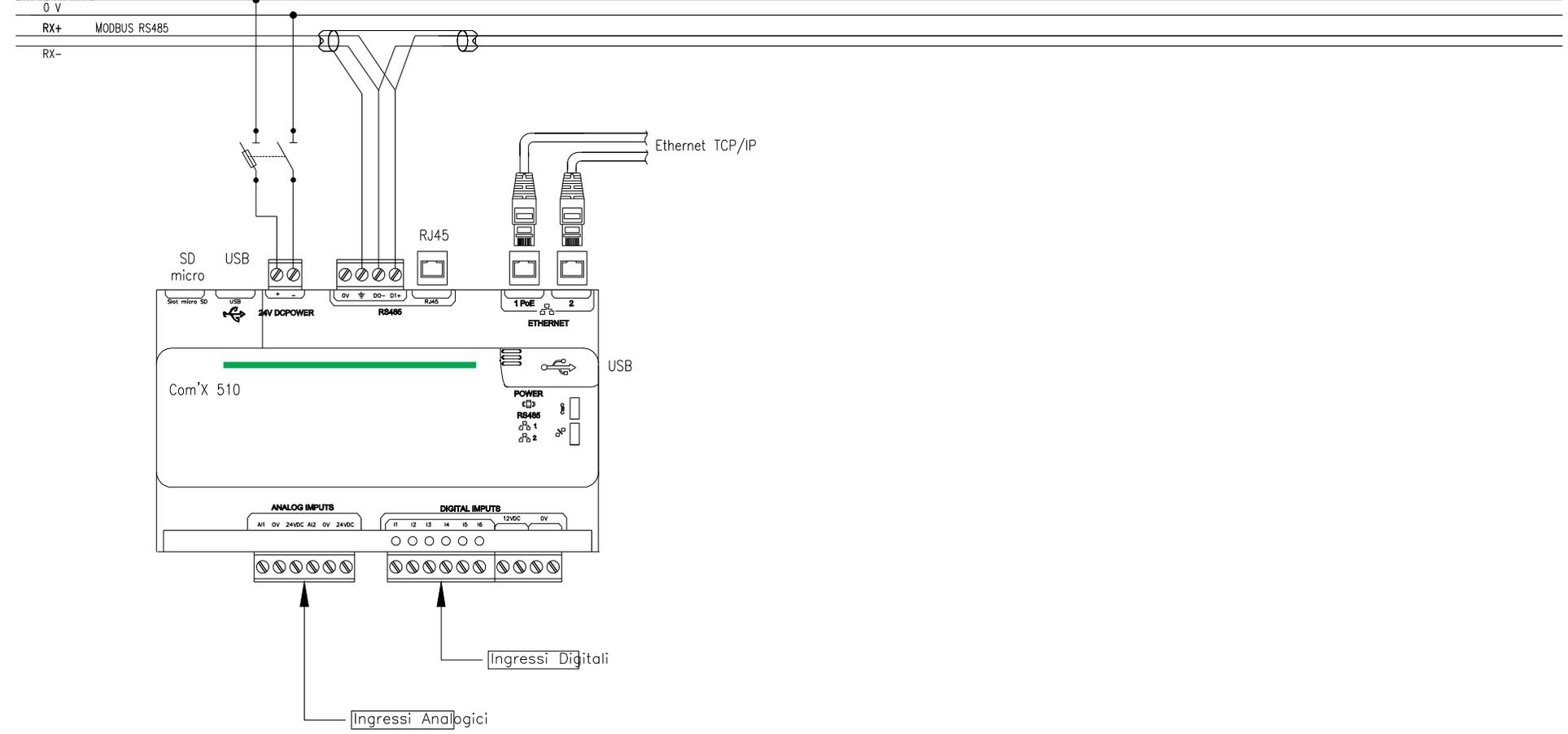
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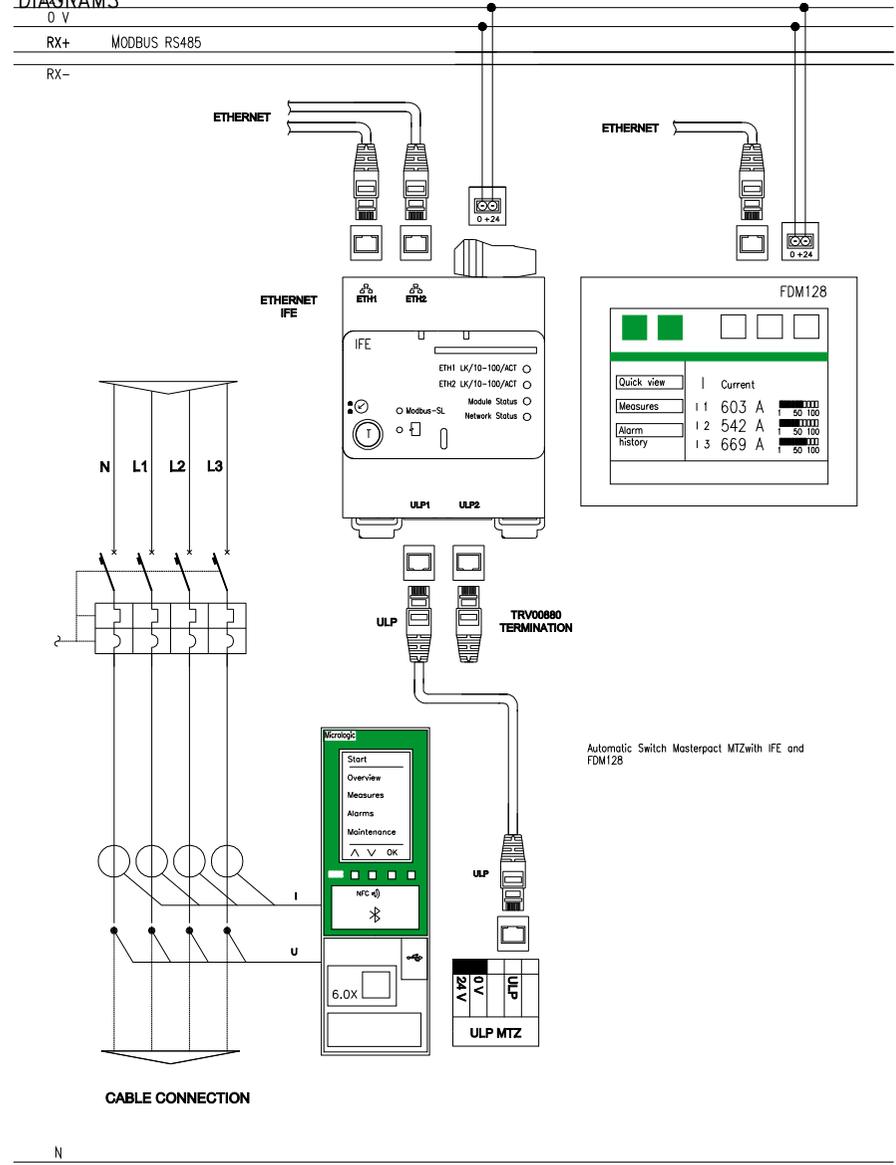
**SCHEMATIC
DIAGRAM**



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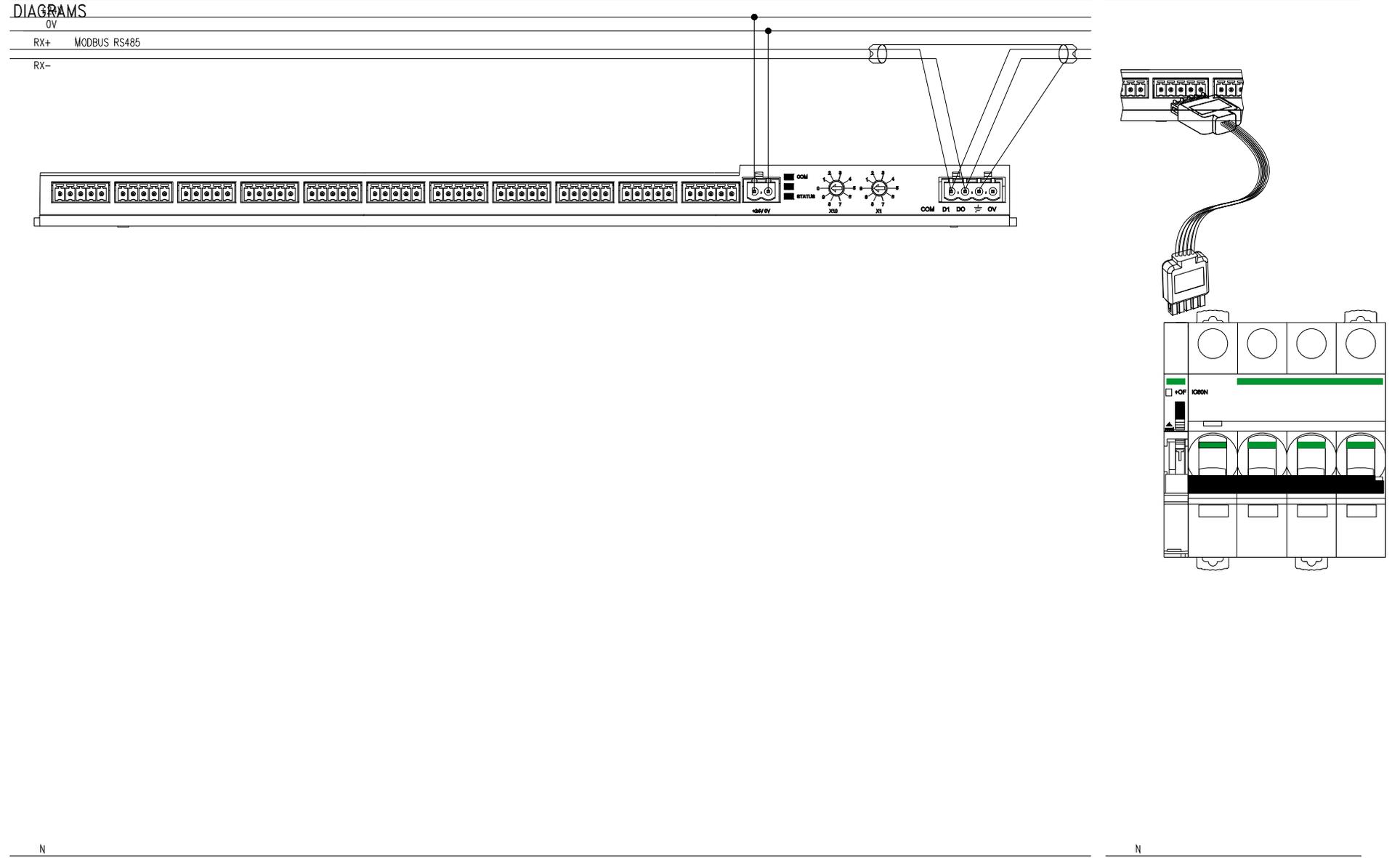
SCHEMATIC
DIAGRAMS



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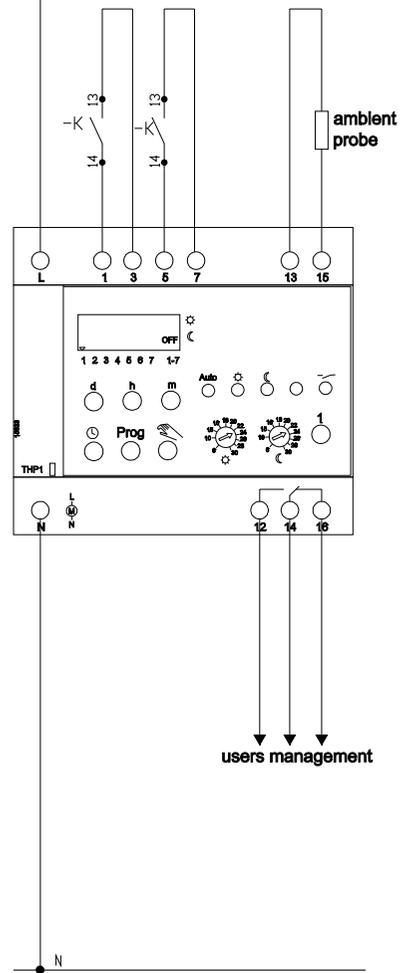
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OV
RX+ MODBUS RS485
RX-



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