

WIRING DIAGRAMS

Address:

Owner:

Contractor:

Designer:

Director:

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SPECIFICATIONS

Technical conditions:

Introductionary cable: MCMK/FXQJ 4G150

Main fuse: 3x250A

Power supply:

voltage: Y+N 230/400V

type of current: ~3 AC

frequency: 50Hz

type of power system: 3-phase

Ground:

missing (voltage doesn't exceed 50V)

TN-C

TN-C-S

TN-S

T-T

I-T

M+ and M- with grounded tap

Substation:

breaking current: min. 6kA

transformer: SIEMENS TUMETIC
1.000 kVA 3-phase

Installation properties:

Voltage drop: 2.8%

cos ϕ : >0.9

Wiring way:

- overhead powerline
- underground power cable
- cable shaft
- cables on wall surface
- cables inside the wall
- cables in cable tray
- other: _____

type of cabling: NYM and NYM-J

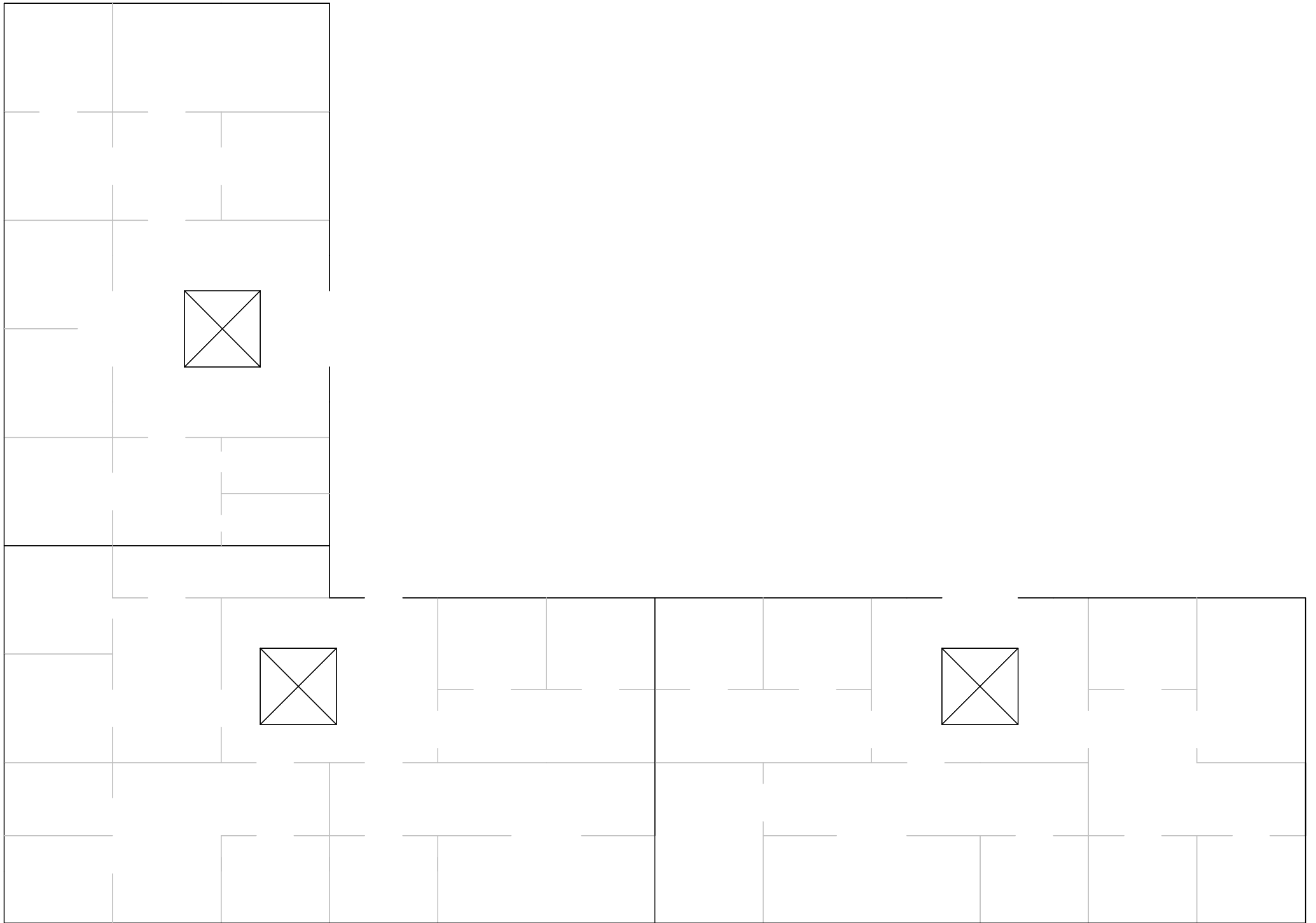
Main panel:

- wall surface
- inside the wall
- other: _____

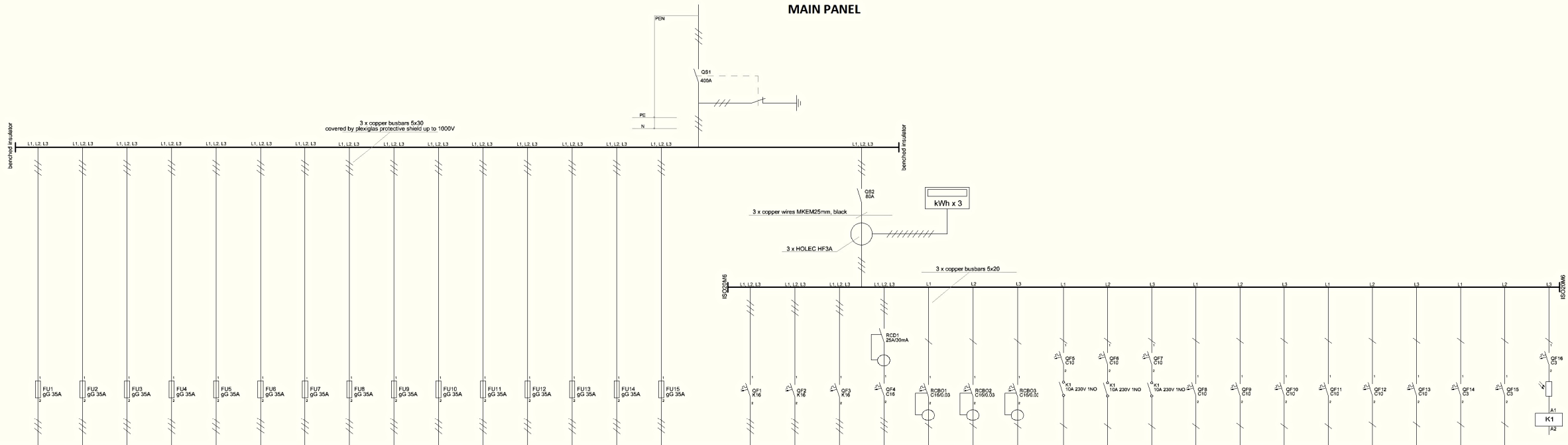
Ingress Protection Rating: min. IP20

Ground impedance: 5.32 Ohm

BUILDING PLANT

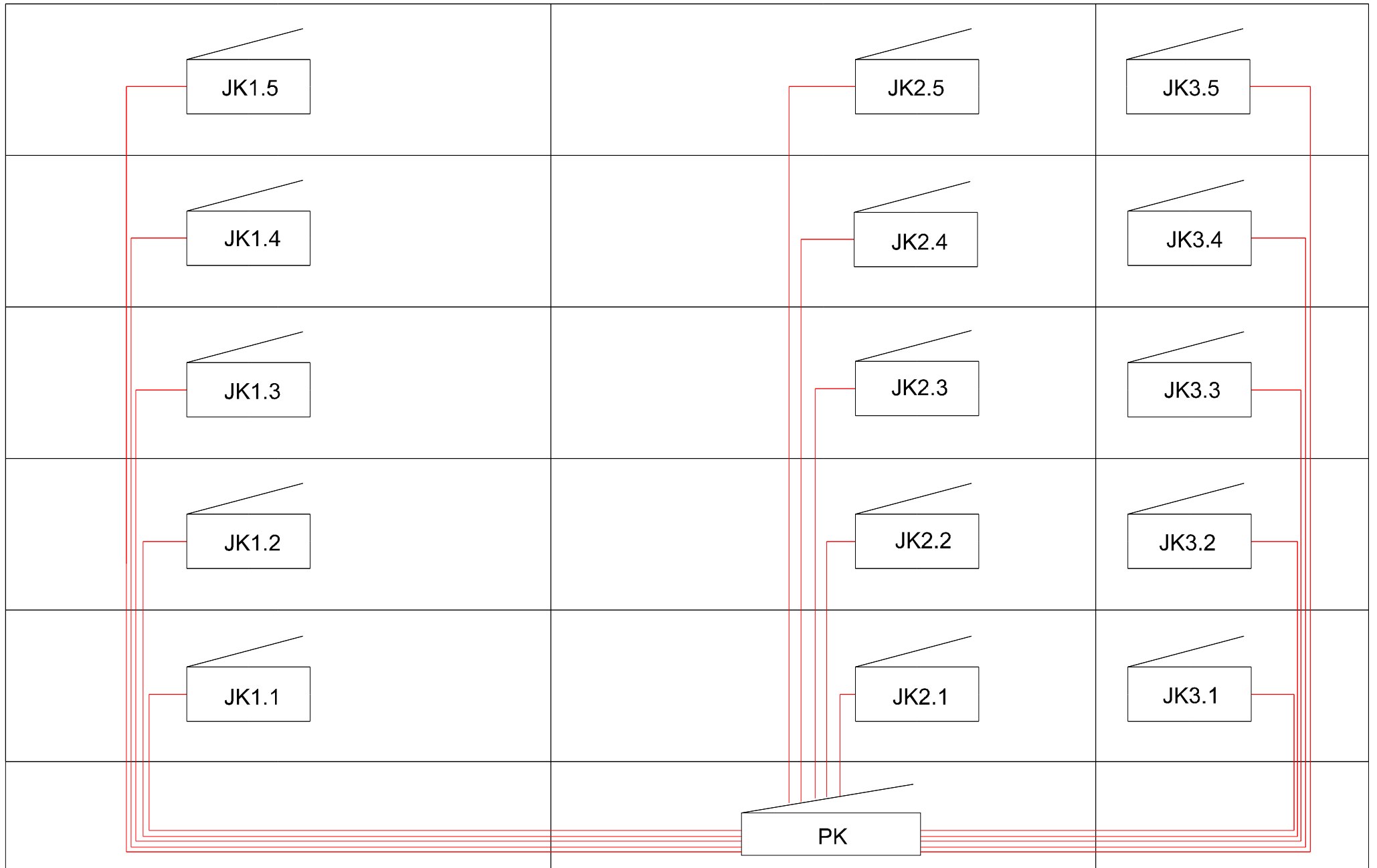


MAIN PANEL

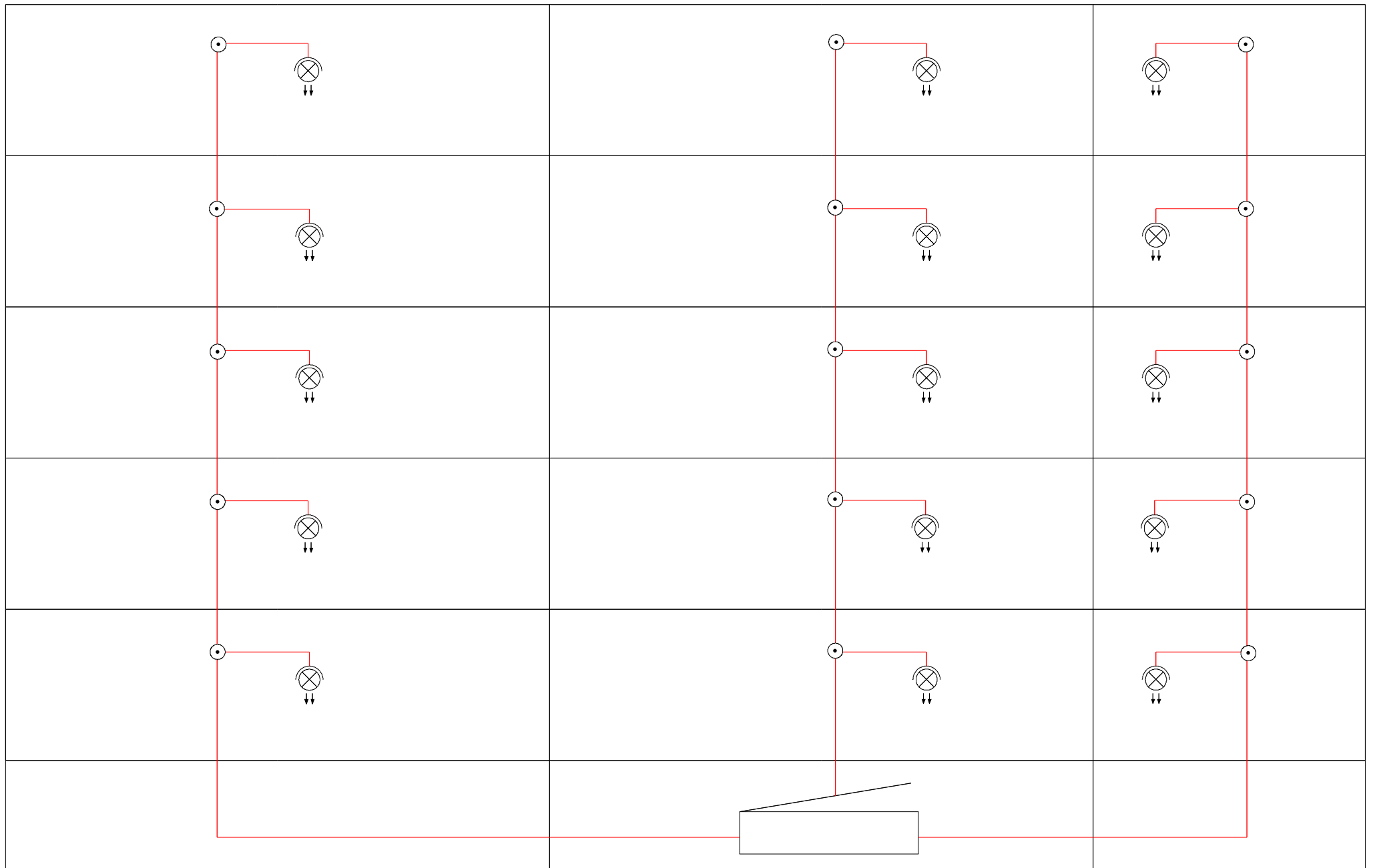


receptors	symbol		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
	name	phase	floor 1	floor 2	floor 3	floor 4	floor 5	floor 1	floor 2	floor 3	floor 4	floor 5	floor 1	floor 2	floor 3	floor 4	floor 5	elevator 1	elevator 2	elevator 3	3-phase socket in basement	1-phase socket in basement	1-phase socket in basement	1-phase socket in basement	lamps stairs 1	lamps stairs 2	lamps stairs 3	lamps basement 1	lamps basement 2	lamps basement 3	DVB-C	DOCSIS	emergency lamps	intercom	thermostat	relay circuits		
			5G10	5G10	5G10	5G10	5G10	5G10	5G10	5G10	5G10	5G10	5G10	5G10	5G10	5G10	5G10	5G10	5G10	5G10	5G10	5G10	5G10	5G10	5G10	5G10	5G10	5G10	5G10	5G10	5G10	5G10	5G10	5G10	5G10	5G10	5G10	5G10
			3x35	3x35	3x35	3x35	3x35	3x35	3x35	3x35	3x35	3x35	3x35	3x35	3x35	3x35	3x35	3x16	3x16	3x16	3x16	3x16	3x16	3x16	3x16	3x16	3x16	3x16	3x16	3x16	3x16	3x16	3x16	3x16	3x16	3x16	3x16	3x16
			24000	24000	24000	24000	24000	24000	24000	24000	24000	24000	24000	24000	24000	24000	24000	11000	11000	11000	11000	3500	3500	3500	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	700	700	700	700

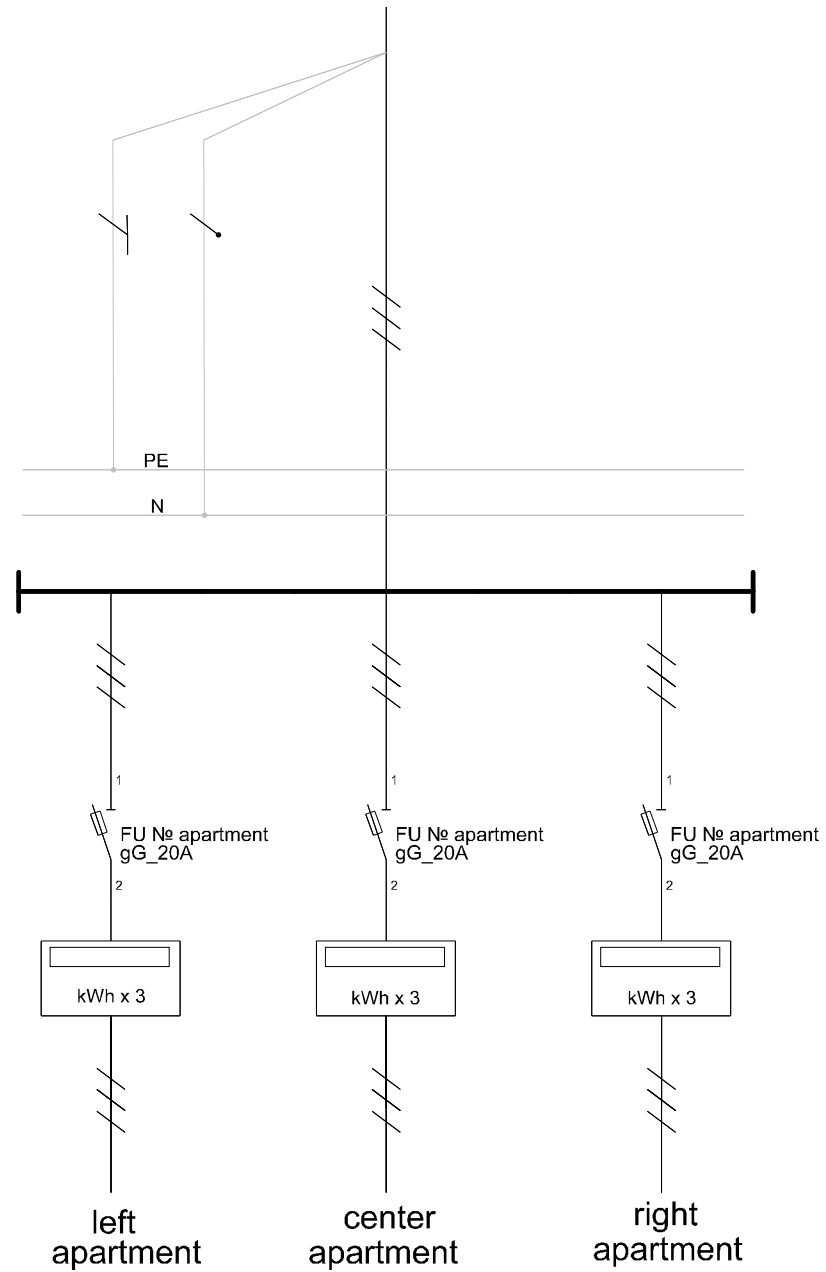
CIRCUITS 1-15



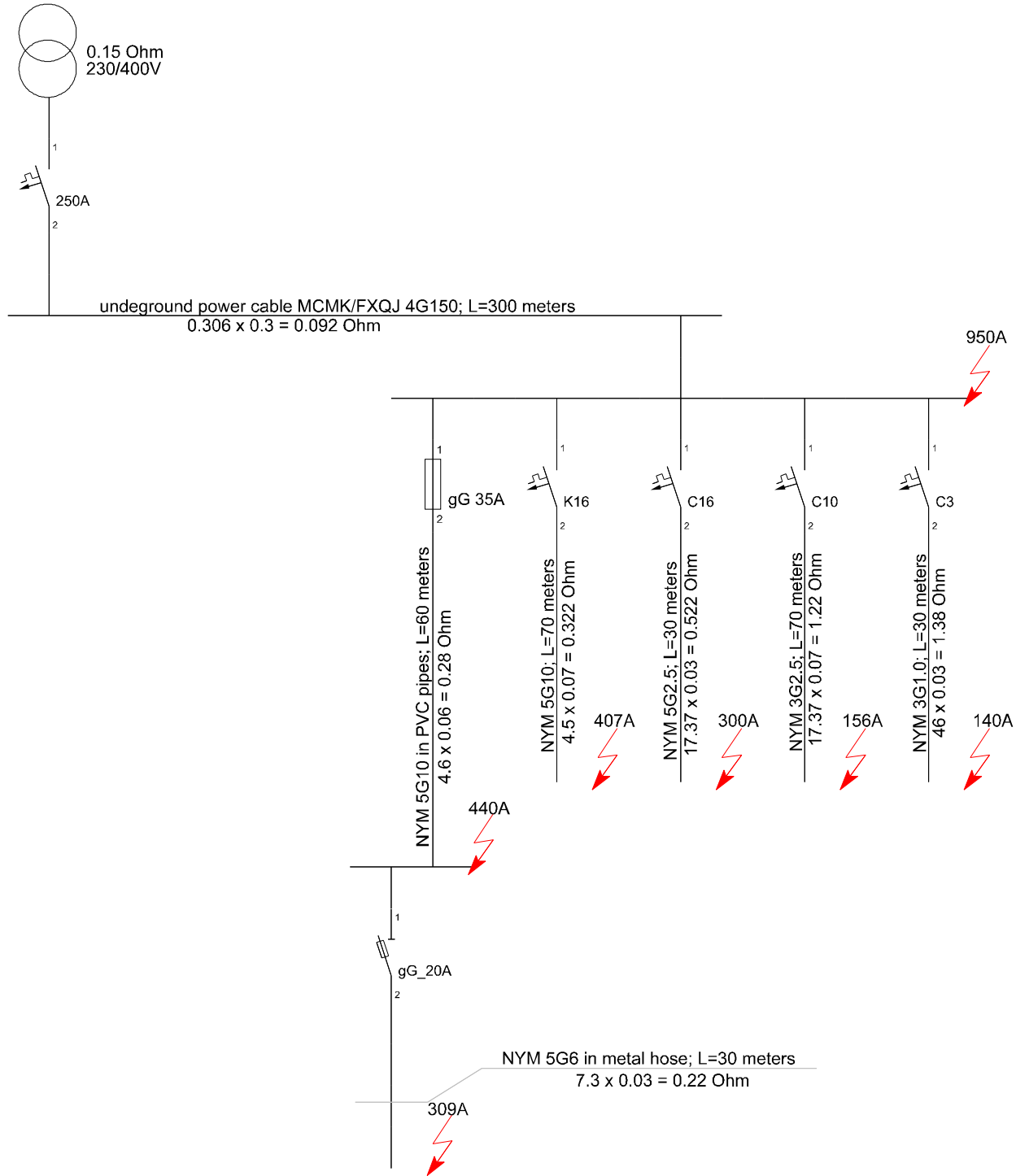
CIRCUITS 24-26

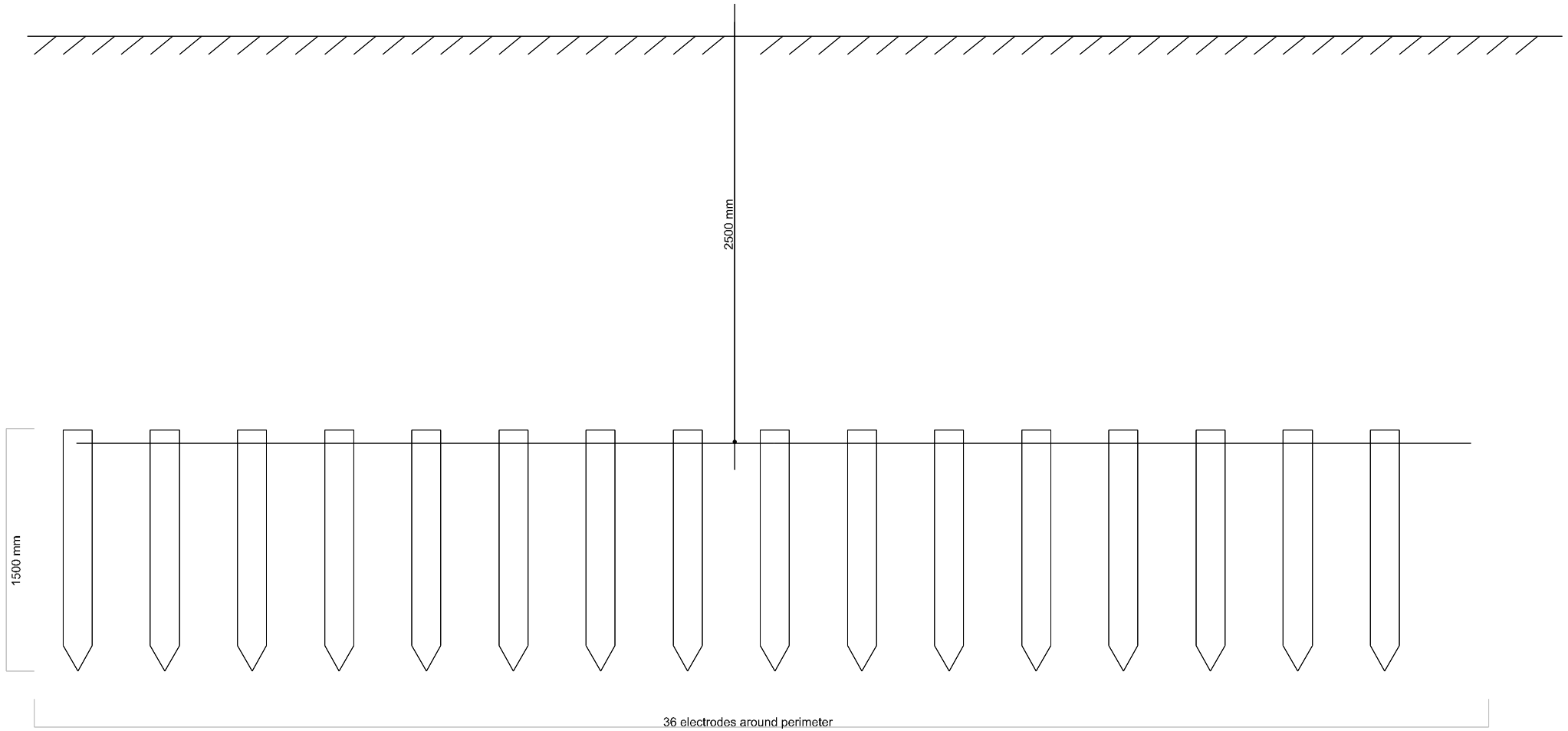


FUSE BOXES JK1.1 - 3.5



SHORT CIRCUITS (FIRE SAFETY)



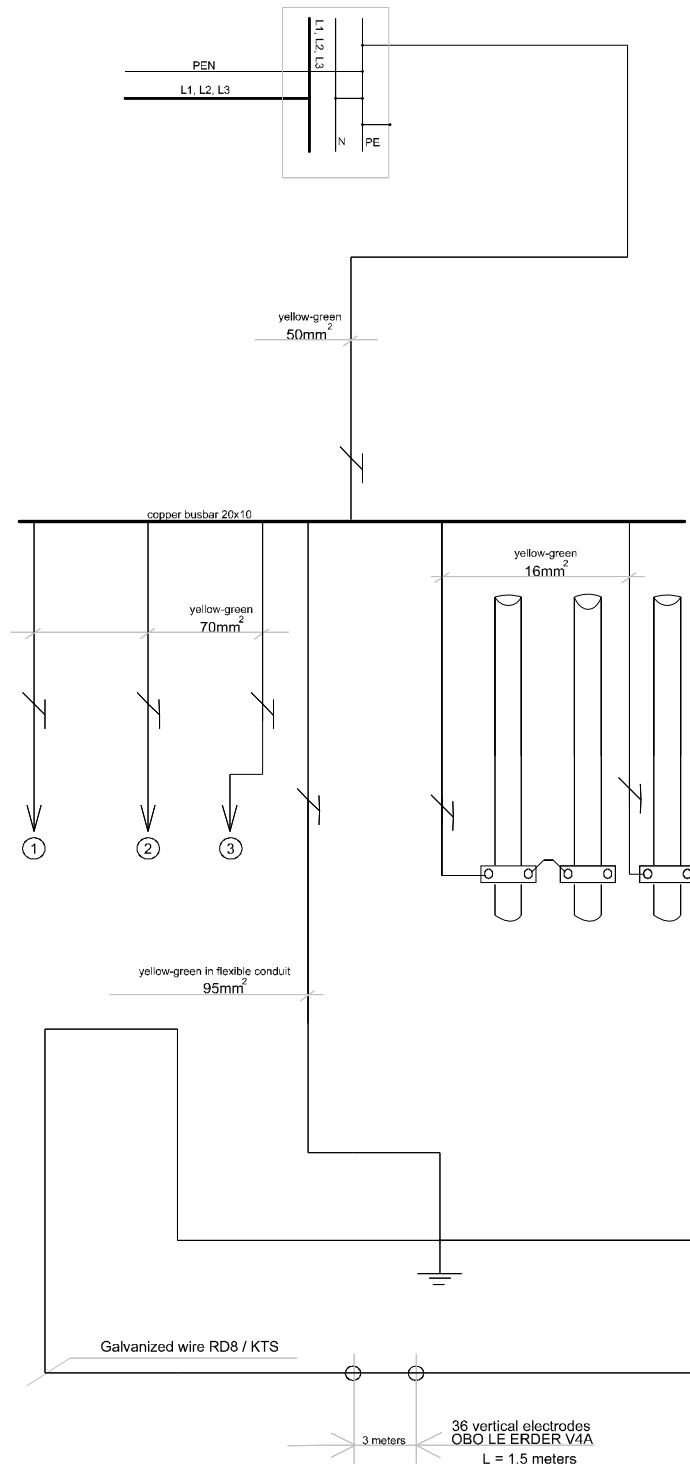


Ground impedance:

Vertical:

$$R(1 \text{ electrode}) = \frac{0.366 \times \rho}{L} \times \left(\lg \frac{2L}{D} + 0.5 \lg \frac{4T + L}{4T - L} \right) = 122 \times (1.17 + 1.4) = 153.25$$

$$R(36 \text{ electrodes}) = \frac{R(1 \text{ el})}{K_p + N} = 5.32$$



MATERIALS

Fuse boxes:

Distribution board 1500x2000	1
Fuse box 650x1200	15
DIN-rail	20 meters

Busbars:

Copper busbar 30x5	10 meters
Copper busbar 20x5	10 meters
FORK busbar 10mm, 3-phase	135M
Benched busbar holder 30x5	1
Busbar N and PE 4x16+14x10	15
Equipotential busbar	1

Disconnectors and releases:

Load switch 400A, 3-phase	1
Load switch 3x80A	1

Fuses and circuit breakers:

Fuse disconnecter RBK1	15
Knife fuse gG_35A, size "1"	45
Fuse disconnecter, for DIN-rail	45
Fuse gG_10A, size 10x38	135
Circuit breaker K16 3-phase	3
Circuit breaker C16 3-phase	1
Circuit breaker C10 1-phase	9
Circuit breaker C3 1-phase	3
RCBO C16/30mA	3
RCD 25A/30mA 4-pole	1

Relays:

Photorelay for DIN rail 16A	1
Relay 3P 10A 3NO+3NC for DIN rail	1

Other panel products:

Terminal PM5X120	5
Terminal PM5X35	8
Terminal PM5X16	132
Electricity meter 3-phase 65A	45
Current transformer HOLEC HF3A	3
Plexiglas cover 1000V	1

Cables and wires:

Cable NYM 5G10	1150 meters
Cable NYM 5G6	500 meters
Cable NYM 5G2.5	35 meters
Cable NYM 3G2.5	350 meters
Cable NYM 3G1.0	300 meters
Copper wire S=95mm, yellow-green	40 meters
Copper wire S=70mm, yellow-green	25 meters
Copper wire S=50mm, yellow-green	10 meters
Copper wire S=25mm, black	30 meters
Copper wire S=16mm, yellow-green	250 meters

Ground and lightning safety:

Galvanized rods, OBO LE ERDER V4A 1.5m	36
Ground wire RD8/KTS	60 meters
3-way contacts for earthing rods	35
4-way contacts for earthing rods	1
PVC-wells	36
Grounding collars	~40

Installation appliances:

Sockets 3-phase 16A	1
Schuko sockets 16A	3
Light switches IP44 10A 250VAC	20
Junction boxes	100
Flourescent lamp 22W IP44	6
LED lamp, 6W 230V	15
emergency lamps, LED	3
Cable trays	*by installation process
Cable channels	*by installation process
Flexible conduit	*by installation process
Other (nails, screws)	1

Work:

Work

*will be calculated by construction company