

WIRING DIAGRAMS

Address:

Owner:

Contractor:

Designer:

Director:

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TECHNICAL CONDITIONS

Introductionary cable: APRX 4G50

Main fuse: 3x50A

Power supply:

voltage: Y+N 230/400V

type of current: ~3 AC

frequency: 50Hz

type of power system: 3-phase

Voltage drop: 0.27%

Ground:

- missing (voltage doesn't exceed 50V)
- TN-C
- TN-C-S
- TN-S
- T-T
- I-T
- M+ and M- with grounded tap

Ground impedance: 28.2 Ohm

I (breaking):

- 4.5 kA
- 6 kA
- 10 kA
- 15 kA
- 25 kA
- 60 kA
- 90 kA

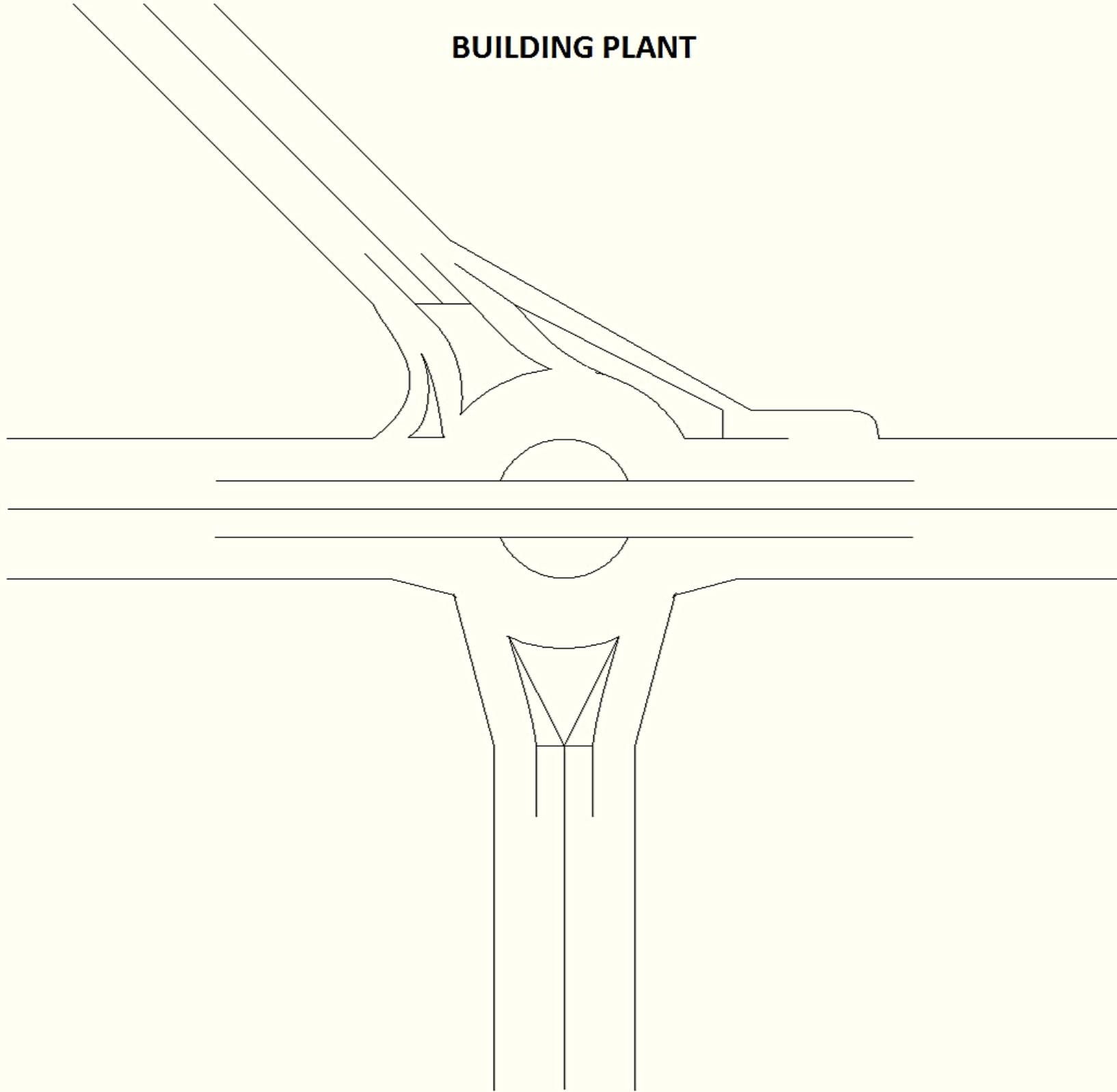
Wiring way:

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

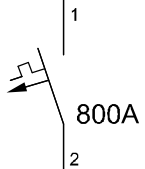
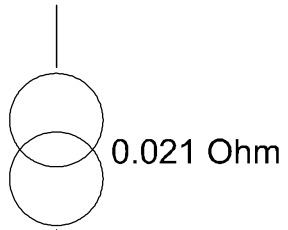
Fuse box:

- wall surface
- inside the wall
- other: utility cabinet

BUILDING PLANT



cable parameters



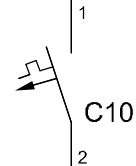
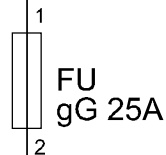
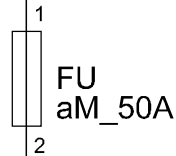
underground cable
AXMK 4G625

$$0.0736 \times 0.53 = 0.04$$

$$dU = 1.732 \times 800 \times 0.04 \times 0.8 \times 0.05 \times 0.2 = 0.45$$

$$dU = 0.2\%$$

$$I(s) = 5750A$$



APRX 4G35
750 meters

$$1.715 \times 0.75 = 1.3$$

$$dU = 1.732 \times I(c) \times (R \cdot \cos\phi \times X \sin\phi) \times L = 0.5$$

$$dU = 0.22\%$$

$$I(s) = 170A$$



NYM 4G16
750 meters

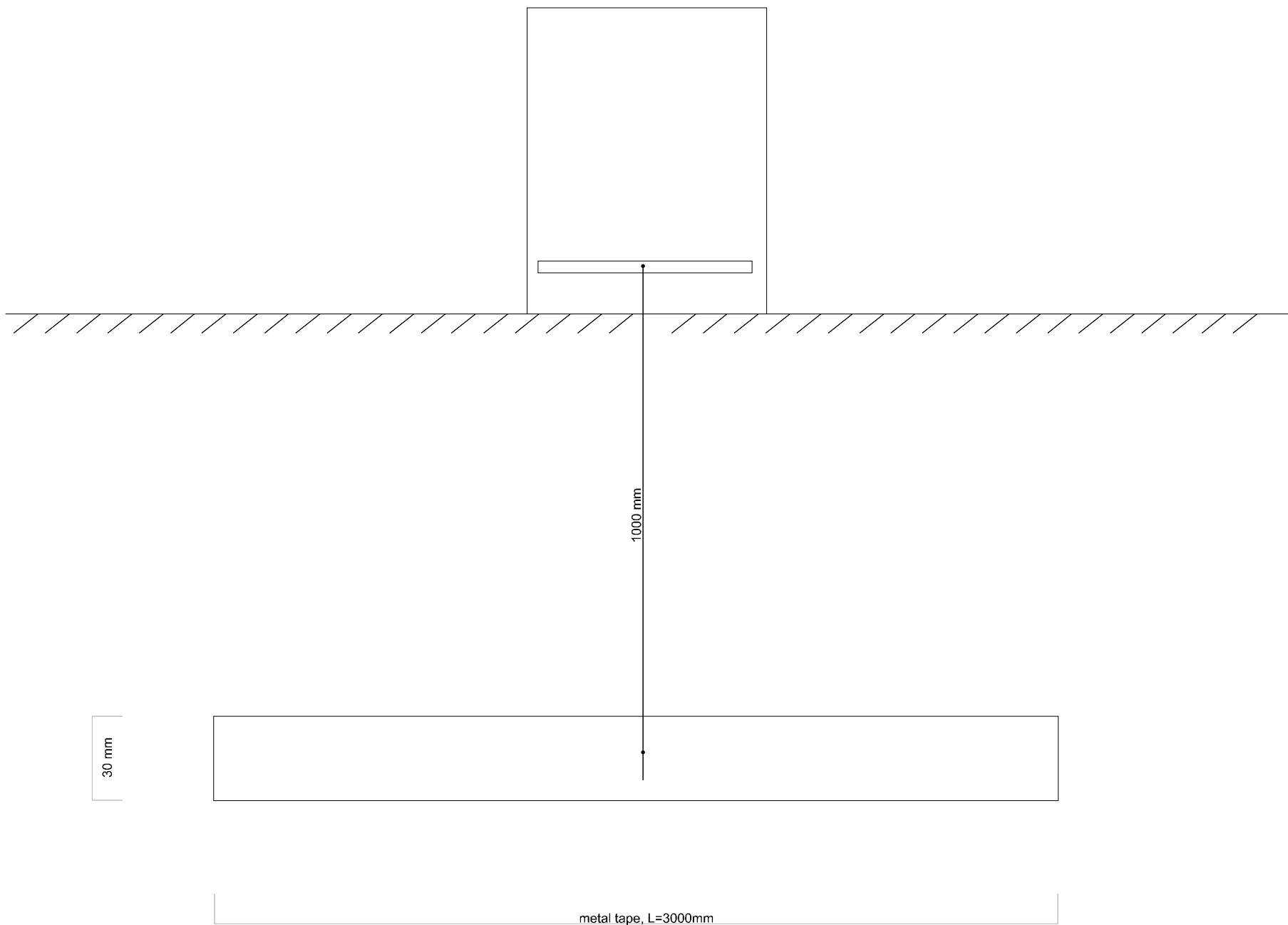
$$3.75 \times 0.75 = 2.82$$

$$dU = 1.732 \times I(c) \times (R \cdot \cos\phi \times X \sin\phi) \times L = 0.73$$

$$dU = 0.32\%$$

$$I(s) = 80A$$





Ground impedance:

$$R(1 \text{ electrode}) = \frac{0.366 \times \rho}{L} \times \lg \frac{2L^2}{B \times T} = 15.86 \times 1.778 = 28.2$$

MATERIALS

Fuse box HETR85LKL, metal	1
Fuse disconnecter	1
>40A 3-phase for DIN rail	
Fuse disconnecter	3
<40A 3-phase for DIN rail	
Fuse aM_50A	3
Fuse gG/gL 25A	9
MCB 1xC10	6
MCB 1xC2	3
plexiglas 550x1000	1
Contactor 3x25A, NO, coil 230VAC	4
Photorelay 10A, 1NO	1
Control lamps 2W neon for DIN rail	4
copper busbars 5x20	4
Terminals for 5mm busbar	18
FORK busbar 3-phase, 10mm	6M
Terminal block, bridged, 10x2.5mm	1
3-position switch with common point	4
Terminals for DIN rail 1.5 to 50, Al/Cu	40
copper wire 10mm (500V), black	20m
copper wire 10mm (500V), yellow-green	7m
copper wire 1.5mm (500V), black	10m
copper wire 1.5mm (500V), blue	10m
copper wire 16mm, yellow-green	5m
metal tape 300mm	3 meters
Cable APRX 4G50	3 Meters
Lampposts and light fixtures	*specified in photodesigner's application sheet
Other (nails, contacts)	1