Transformer-rated metering with PV

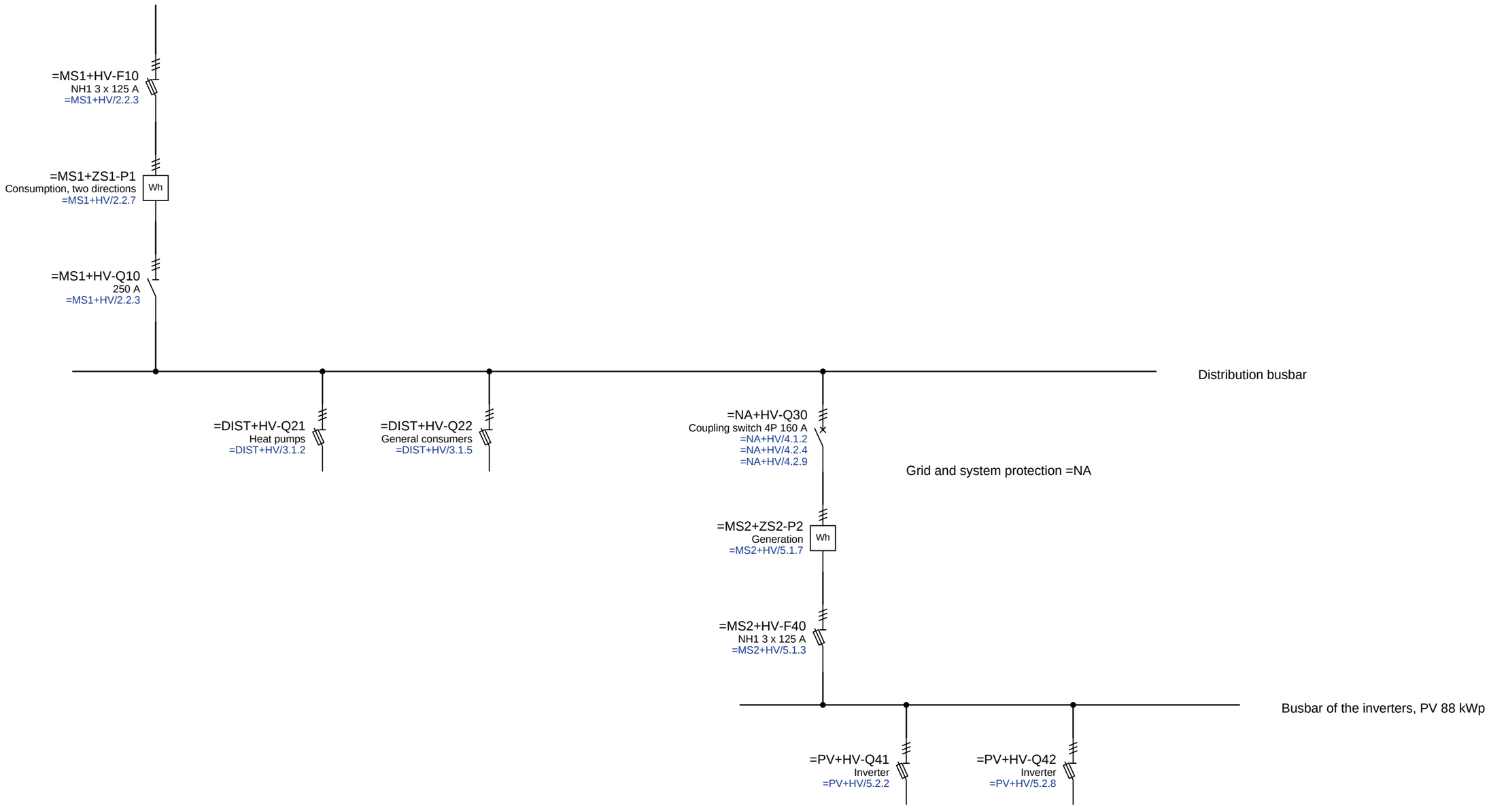
Distribution cabinet of an apartment building
with consumption and generation metering and NA protection

Company	OpenECraft
Created by	OpenECraft
Date	2026-11-02
Revision	A
Number of pages	18

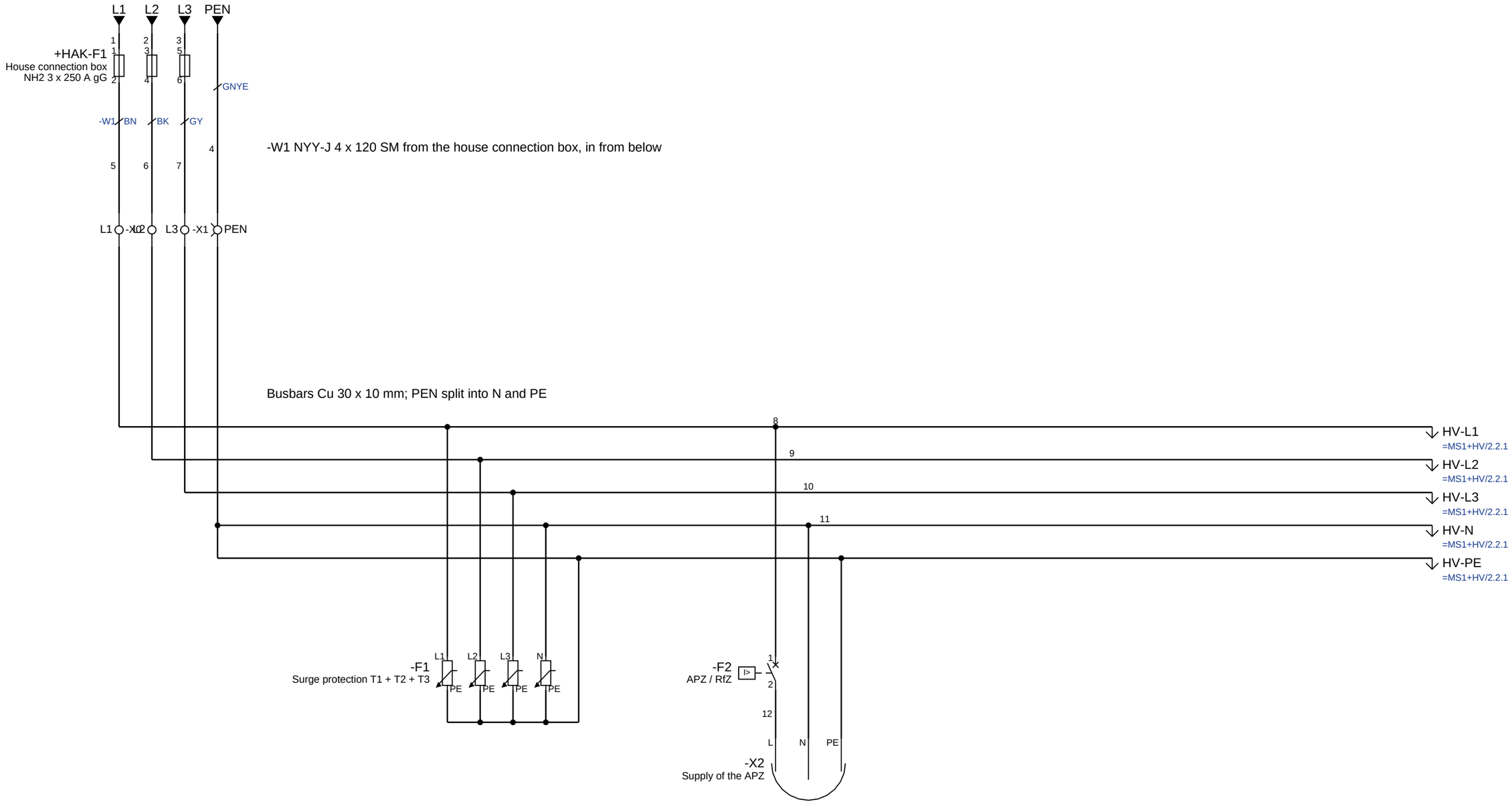
Table of contents

Page	Description	Type	Devices
1.1	Cover sheet	Cover sheet	0
1.2	Table of contents	Report: Table of contents	0
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3.1	Heat pumps and general consumers	Schematic (multi-line)	32
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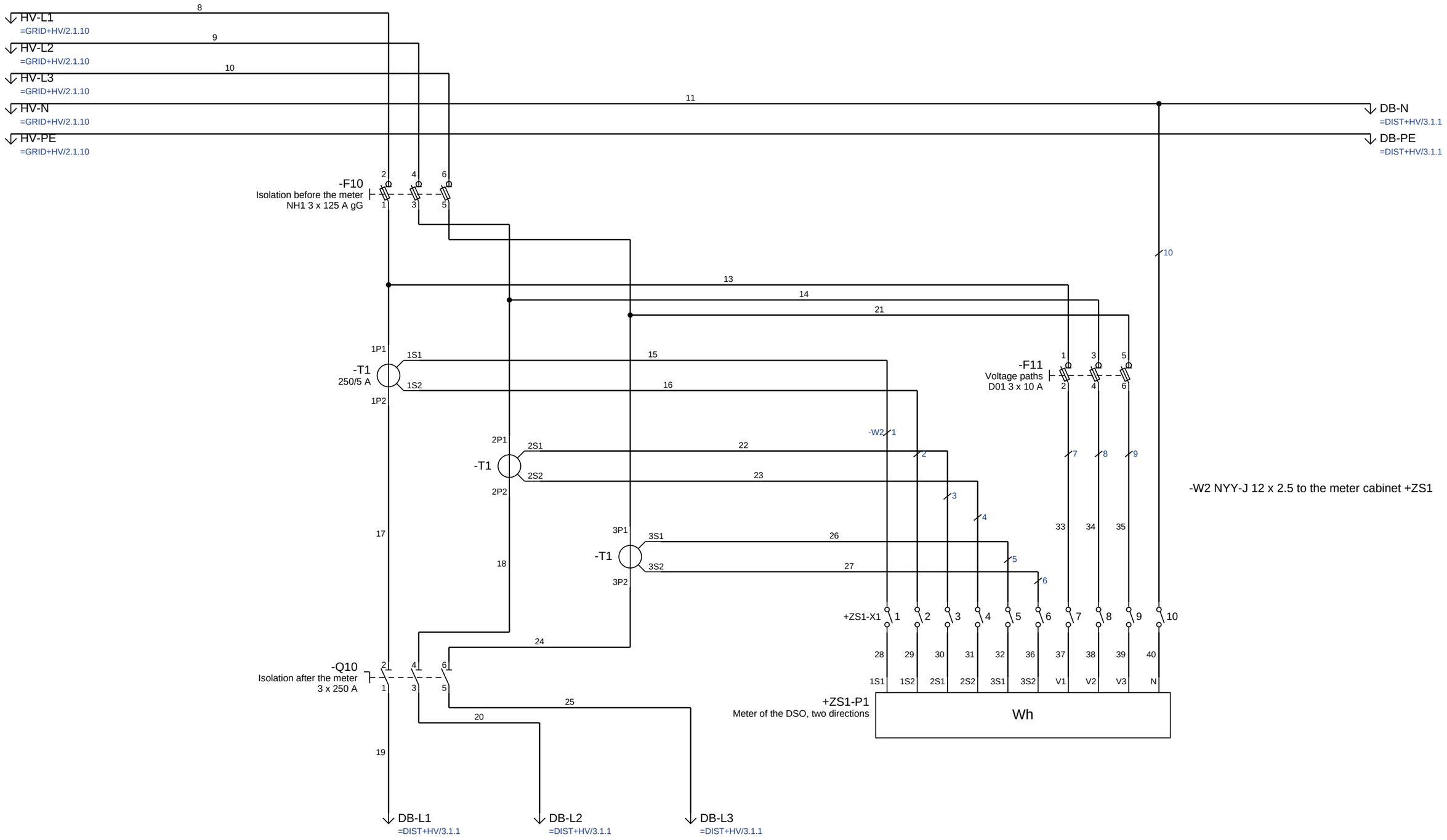
3/PEN AC 400 V 50 Hz, TN-C-S; -W1 NYY-J 4 x 120 from the house connection box



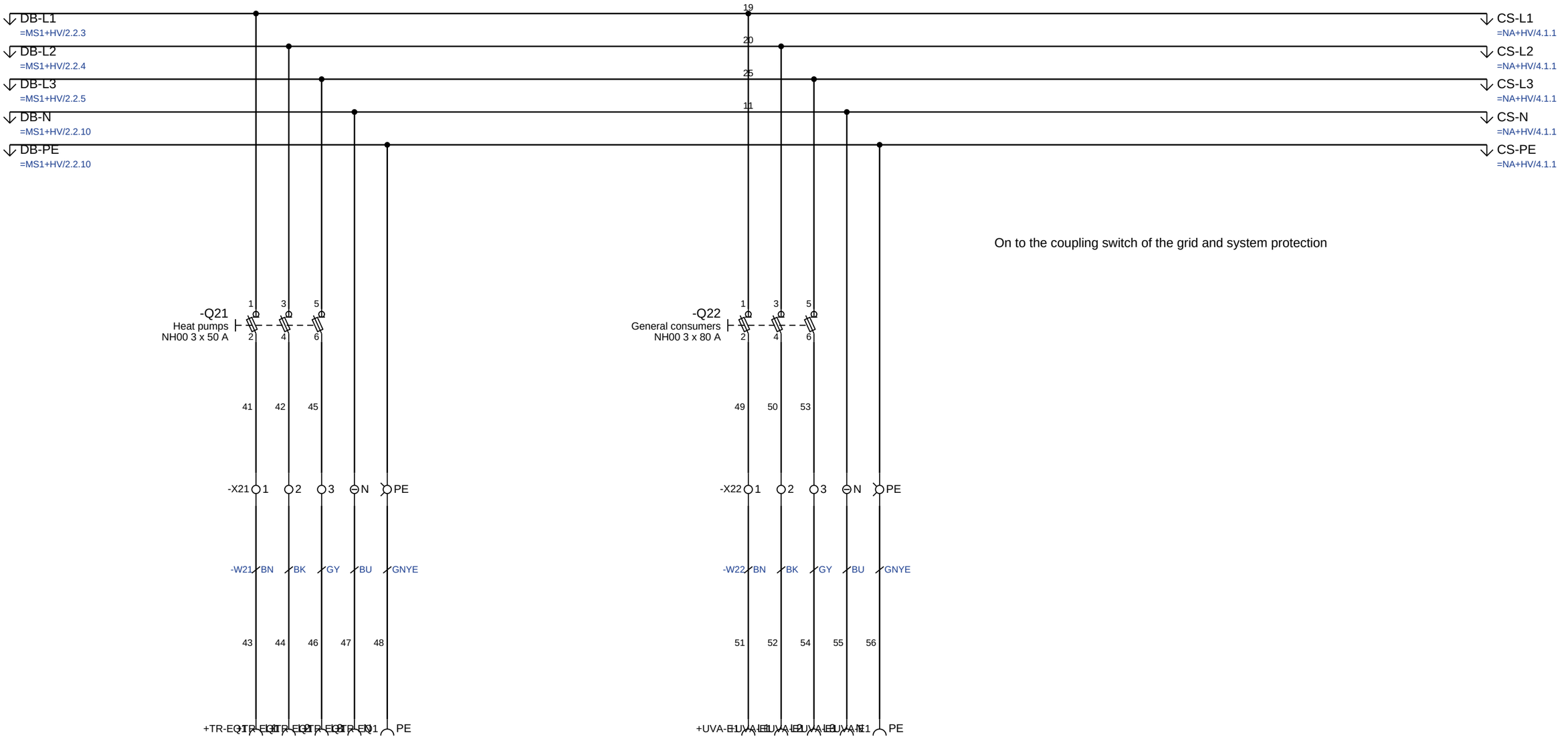
Company: OpenECraft	Date: 2026-11-02	Revision: A	Project / page description: Transformer-rated metering with PV	Page: 1.3	Sheet: 3 / 18
	Creator: OpenECraft	Software: OpenECraft	Single-line diagram	Type: Overview	Project: Transformer-rated metering with PV



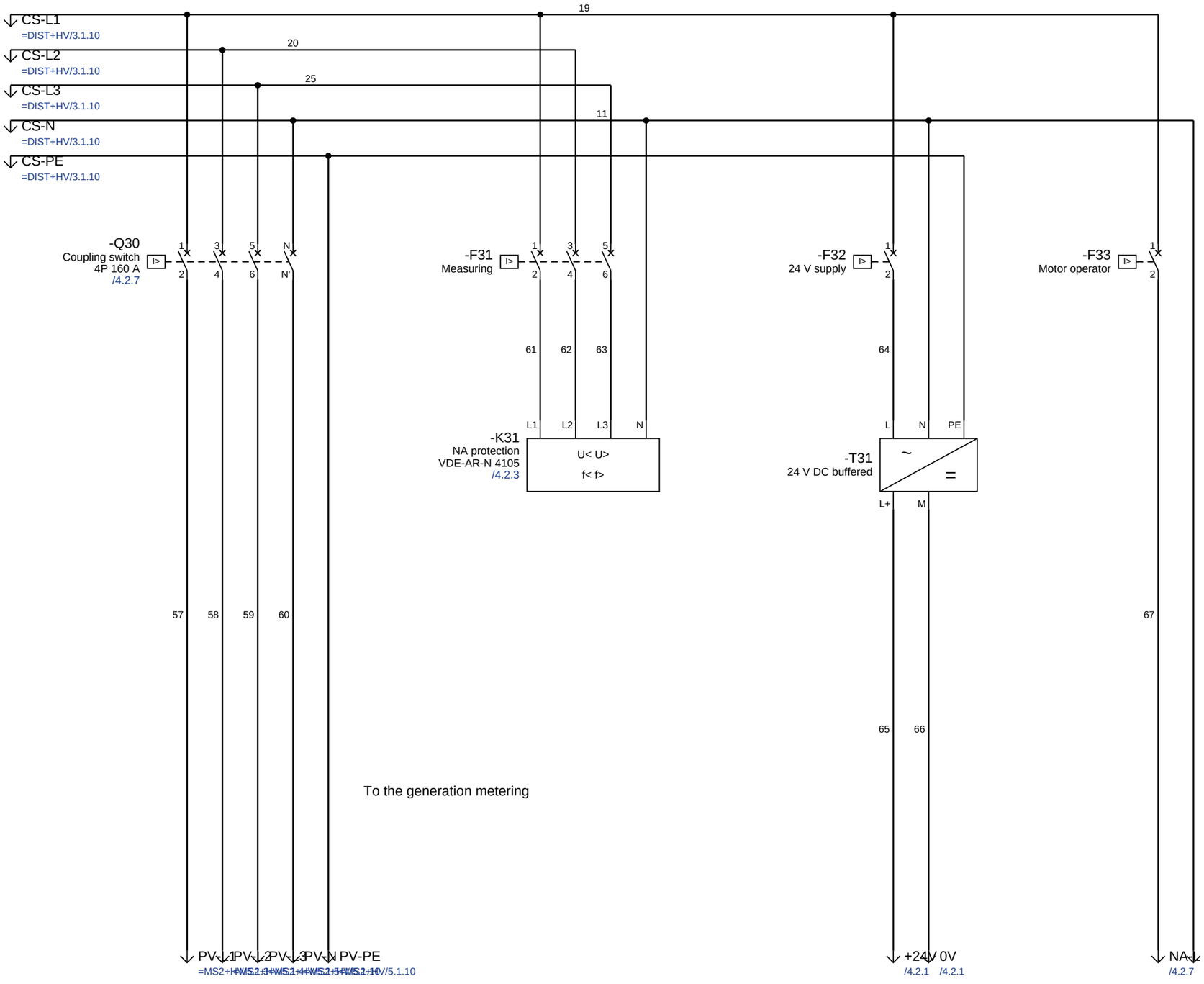
Company: OpenECraft	Date: 2026-11-02	Revision: A	Project / page description: Transformer-rated metering with PV	Page: =GRID+HV/2.1	Sheet: 4 / 18
	Creator: OpenECraft	Software: OpenECraft	Supply, surge protection and connection point zone	Type: Schematic	Project: Transformer-rated metering with PV



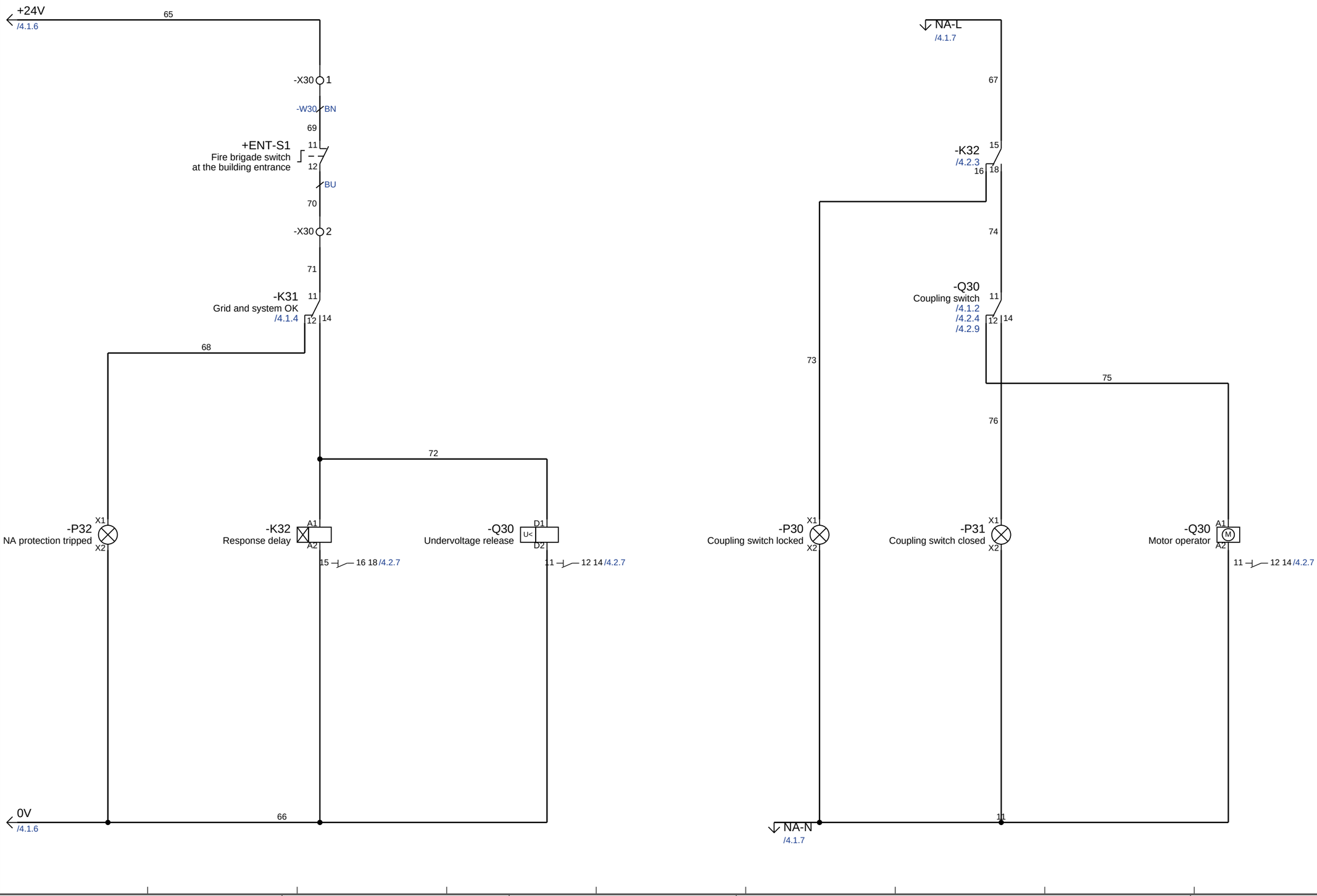
Company	Date	Revision	Project / page description	Page	Sheet
OpenECraft	2026-11-02	A	Transformer-rated metering with PV	=MS1+HV/2.2	5 / 18
	Creator	Software	Consumption metering	Type	Project
	OpenECraft	OpenECraft		Schematic	Transformer-rated metering with PV



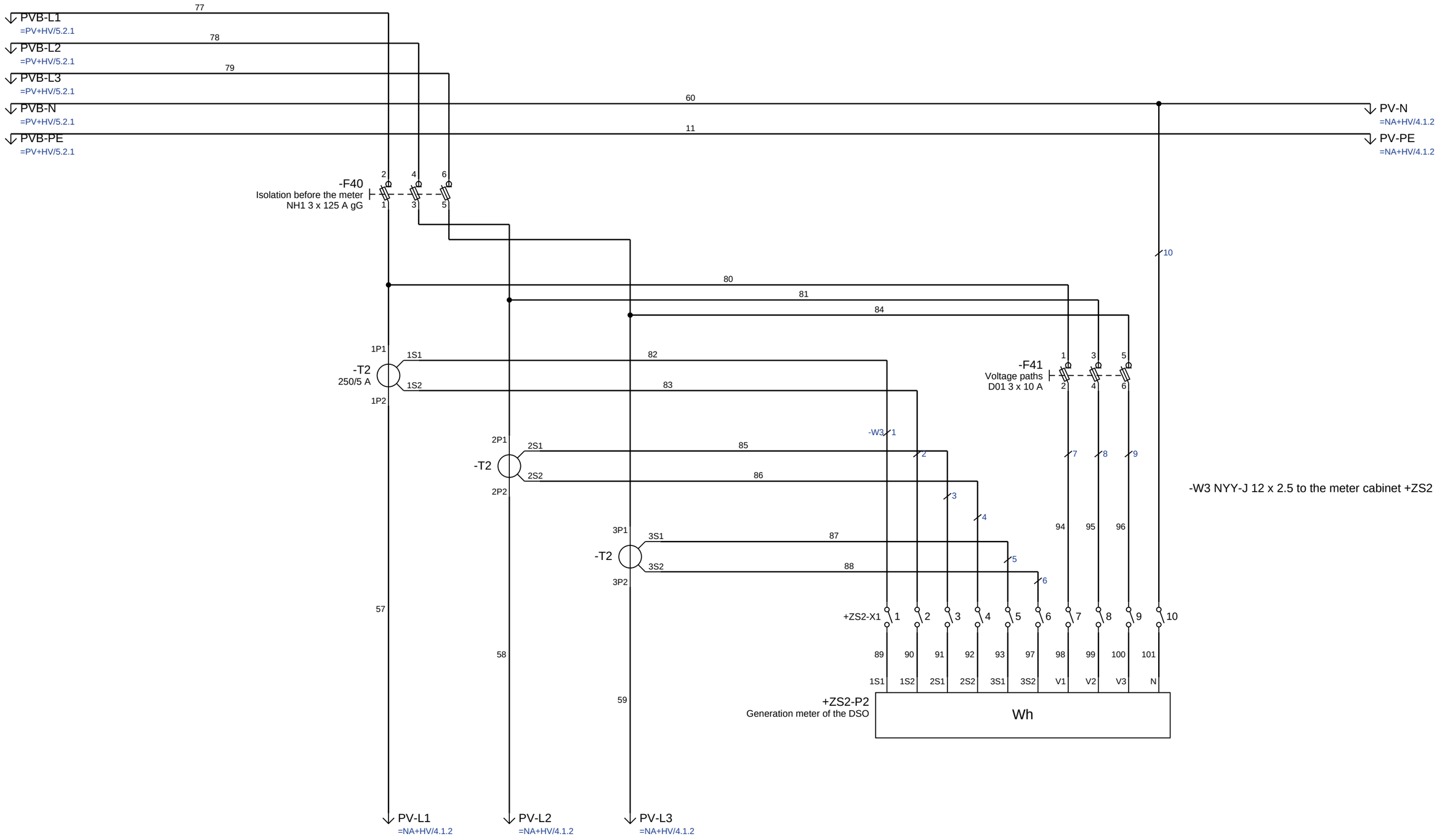
Company	Date	Revision	Project / page description	Page	Sheet
OpenECraft	2026-11-02	A	Transformer-rated metering with PV	=DIST+HV/3.1	6 / 18
	Creator: OpenECraft	Software: OpenECraft	Heat pumps and general consumers	Type: Schematic	Project: Transformer-rated metering with PV



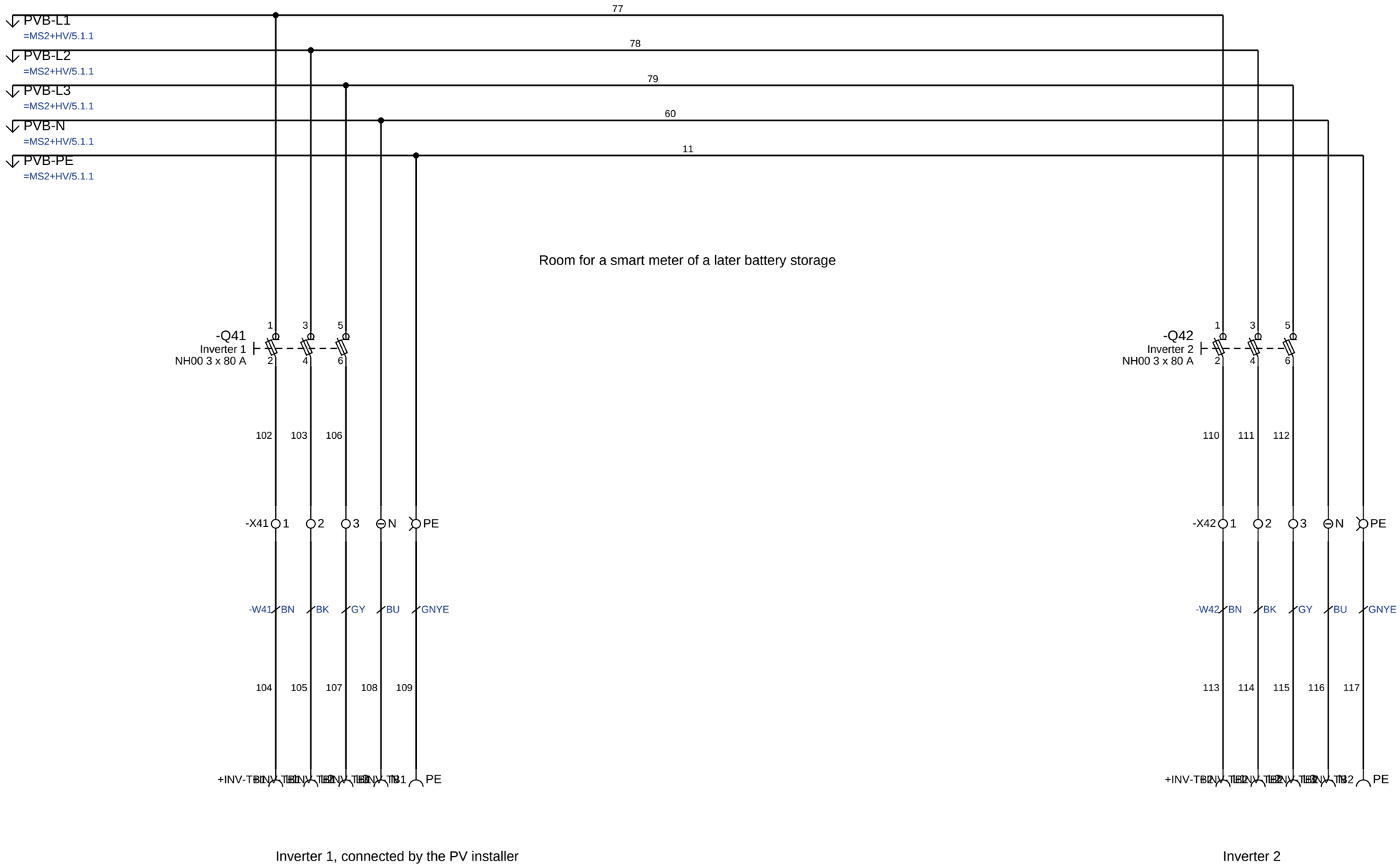
Company	Date	Revision	Project / page description	Page	Sheet
OpenECraft	2026-11-02	A	Transformer-rated metering with PV	=NA+HV/4.1	7 / 18
	Creator	Software	Coupling switch and NA protection relay	Type	Project
	OpenECraft	OpenECraft		Schematic	Transformer-rated metering with PV



Company	Date	Revision	Project / page description	Page	Sheet
OpenECraft	2026-11-02	A	Transformer-rated metering with PV	=NA+HV/4.2	8 / 18
	Creator	Software	Release, motor operator and fire brigade switch	Type	Project
	OpenECraft	OpenECraft		Schematic	Transformer-rated metering with PV

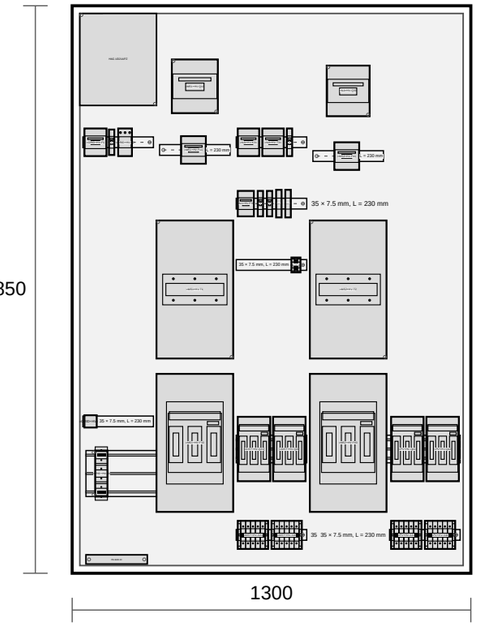


Company	Date	Revision	Project / page description	Page	Sheet
OpenECraft	2026-11-02	A	Transformer-rated metering with PV	=MS2+HV/5.1	9 / 18
	Creator	Software	Generation metering	Type	Project
	OpenECraft	OpenECraft		Schematic	Transformer-rated metering with PV

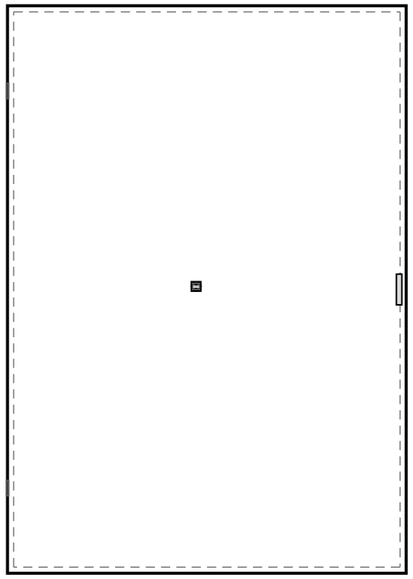


Company	Date	Revision	Project / page description	Page	Sheet
OpenECraft	2026-11-02	A	Transformer-rated metering with PV	=PV+HV/5.2	10 / 18
	Creator: OpenECraft	Software: OpenECraft	Inverter feeders	Type: Schematic	Project: Transformer-rated metering with PV

Mounting plate



Door (front view)



Roof



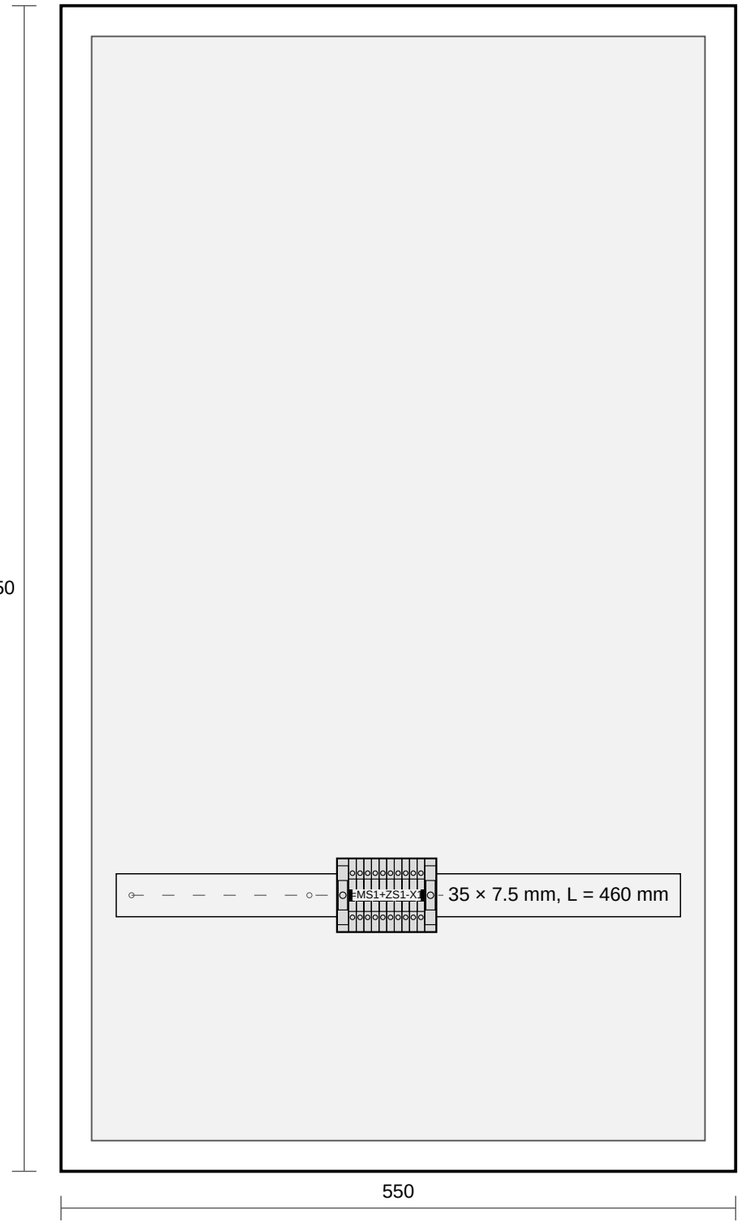
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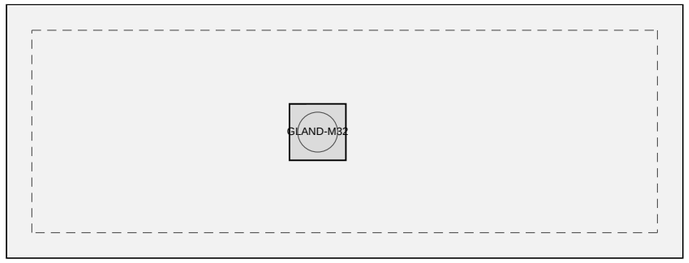
+HV HAG.FR25S2 - 1300 x 1850 x 275 mm - Scale 1:20

Company	Date	Revision	Project / page description	Page	Sheet
OpenECraft	2026-11-02	A	Transformer-rated metering with PV	6.1	11 / 18
	Creator	Software	Mounting layout +HV	Type	Project
	OpenECraft	OpenECraft		Mounting	Transformer-rated metering with PV

Mounting plate



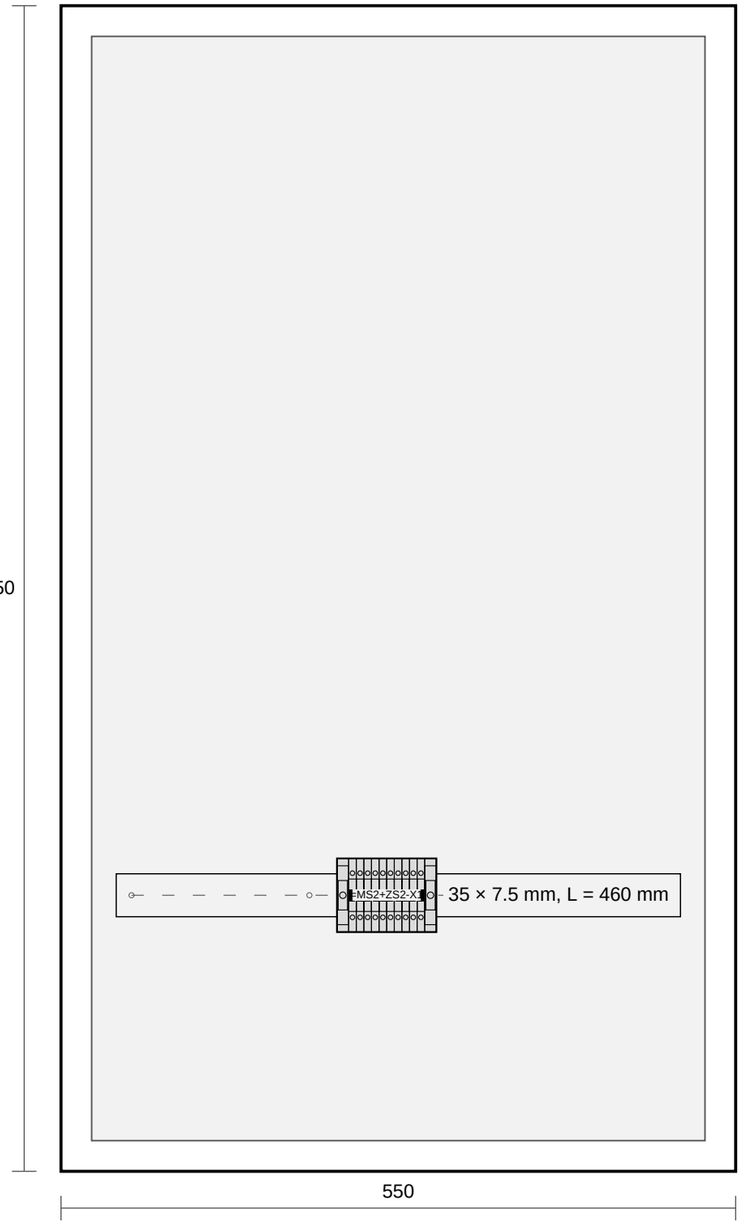
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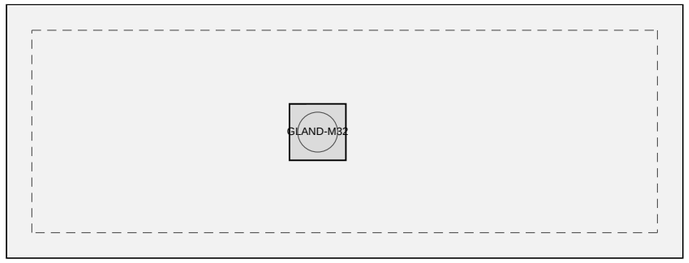
+ZS1 HAG.FP62ZG2 - 550 x 950 x 205 mm - Scale 1:5

Company	Date	Revision	Project / page description	Page	Sheet
OpenECraft	2026-11-02	A	Transformer-rated metering with PV	6.2	12 / 18
	Creator	Software	Mounting layout +ZS1	Type	Project
	OpenECraft	OpenECraft		Mounting	Transformer-rated metering with PV

Mounting plate



Bottom



+ZS2 HAG.FP62ZG2 - 550 x 950 x 205 mm - Scale 1:5

Company	Date	Revision	Project / page description	Page	Sheet
OpenECraft	2026-11-02	A	Transformer-rated metering with PV	6.3	13 / 18
	Creator	Software	Mounting layout +ZS2	Type	Project
	OpenECraft	OpenECraft		Mounting	Transformer-rated metering with PV

Bill of materials

Pos	Qty	Unit	Part number	Type number	Manufacturer	Description	Devices	Unit price	Total
1	0.71	m	GEN.BB-3X30X10	BB-3X30X10	Generic	Busbar system 3-pole, Cu 30 x 10 mm, 60 mm centre distance	+HV	118.00 EUR	83.78
1.1	1	pcs				Cut length 480 mm	+HV		incl.
1.2	1	pcs				Cut length 230 mm	+HV		incl.
2	0.46	m	GEN.BB-3X30X10-60	BB-3X30X10-60	Generic	Busbar system 3-pole, Cu 30 x 10 mm, 60 mm centre distance, holders 15…	+HV	124.00 EUR	57.04
2.1	1	pcs				Cut length 460 mm	+HV		incl.
3	3	pcs	GEN.BB-FEED-185	BB-FEED-185	Generic	Busbar feed-in terminal 1-pole, up to 185 mm², for 60 mm busbar systems	=GRID+HV-X0	38.00 EUR	114.00
4	8	pcs	GEN.BB-HOLDER-3P	BB-HOLDER-3P	Generic	Busbar holder 3-pole for 12 x 5 mm, 60 mm	+HV	6.40 EUR	51.20
5	20	m	GEN.CBL-NYM-3X2.5	CBL-NYM-3X2.5	Generic	Installation cable NYM-J 3 x 2.5	=NA-W30	1.40 EUR	28.00
6	6	m	GEN.CBL-NYY-12X2.5	CBL-NYY-12X2.5	Generic	Control cable NYY-J 12 x 2.5 RE 0.6/1 kV, numbered cores	=MS1-W2, =MS2-W3	6.80 EUR	40.80
7	15	m	GEN.CBL-NYY-4X120	CBL-NYY-4X120	Generic	Power cable NYY-J 4 x 120 SM 0.6/1 kV	=GRID-W1	42.00 EUR	630.00
8	25	m	GEN.CBL-NYY-5X16	CBL-NYY-5X16	Generic	Power cable NYY-J 5 x 16 RM 0.6/1 kV	=DIST-W21	9.60 EUR	240.00
9	70	m	GEN.CBL-NYY-5X35	CBL-NYY-5X35	Generic	Power cable NYY-J 5 x 35 RM 0.6/1 kV	=DIST-W22, =PV-W41, =PV-W42	19.50 EUR	1365.00
10	2	pcs	GEN.CT-SET-250-5A	CT-SET-250-5A	Generic	Current transformer set 3 x 250/5 A, class 0.5S, 5 VA, for busbars up …	=MS1+HV-T1, =MS2+HV-T2	165.00 EUR	330.00
11	6	pcs	GEN.D01-GG-10A	D01-GG-10A	Generic	NEOZED fuse link D01, gG, 10 A, 400 V AC	=MS1+HV-F11, =MS2+HV-F41	1.60 EUR	9.60
12	12	pcs	GEN.EB-35	EB-35	Generic	End bracket for TS 35 mounting rail	=DIST+HV-X21, =DIST+HV-X22, =MS1+ZS1-X1, =M…	1.10 EUR	13.20
13	32	pcs	GEN.FER-0.75	FER-0.75	Generic	Ferrule 0.75 mm², insulated, grey, 8 mm	wiring	0.03 EUR	0.96
14	2	pcs	GEN.FER-1.5	FER-1.5	Generic	Ferrule 1.5 mm², insulated, black, 8 mm	wiring	0.03 EUR	0.06
15	6	pcs	GEN.FER-10	FER-10	Generic	Ferrule 10 mm², insulated, red, 12 mm	wiring	0.03 EUR	0.18
16	34	pcs	GEN.FER-16	FER-16	Generic	Ferrule 16 mm², insulated, blue, 12 mm	wiring	0.03 EUR	1.02
17	24	pcs	GEN.FER-2.5	FER-2.5	Generic	Ferrule 2.5 mm², insulated, blue, 8 mm	wiring	0.03 EUR	0.72
18	1	pcs	GEN.FIRE-SW-1NC1NO	FIRE-SW-1NC1NO	Generic	Fire brigade switch in a red surface-mounted box, key-operated, 1 NC +…	=NA+ENT-S1	145.00 EUR	145.00
19	1	pcs	GEN.GLAND-M20	GLAND-M20	Generic	Cable gland M20 x 1.5, polyamide, light grey, IP68, cable Ø 6 – 12 mm	+HV	1.40 EUR	1.40
20	5	pcs	GEN.GLAND-M32	GLAND-M32	Generic	Cable gland M32 x 1.5, polyamide, light grey, IP68, cable Ø 13 – 21 mm	+HV, +ZS1, +ZS2	2.80 EUR	14.00
21	3	pcs	GEN.GLAND-M40	GLAND-M40	Generic	Cable gland M40 x 1.5, polyamide, light grey, IP68, cable Ø 22 – 32 mm	+HV	4.60 EUR	13.80
22	1	pcs	GEN.GLAND-M63	GLAND-M63	Generic	Cable gland M63 x 1.5, polyamide, light grey, IP68, cable Ø 34 – 48 mm	+HV	11.00 EUR	11.00
23	1	pcs	GEN.HP-AW-12KW	HP-AW-12KW	Generic	Heat pump air / water 12 kW, 400 V, inverter, flow up to 70 °C, indoor…	=DIST+TR-EQ1	9800.00 EUR	9800.00
24	2	pcs	GEN.INV-PV-40KW	INV-PV-40KW	Generic	PV inverter 3-phase 40 kW, 4 MPP trackers, 400 V AC, wall-mounted	=PV+INV-TB1, =PV+INV-TB2	4200.00 EUR	8400.00
25	1	pcs	GEN.LMP-DIN-GN-230	LMP-DIN-GN-230	Generic	Modular indicator lamp green, LED 230 V AC, 1 module	=NA+HV-P31	14.50 EUR	14.50
26	1	pcs	GEN.LMP-DIN-RD-230	LMP-DIN-RD-230	Generic	Modular indicator lamp red, LED 230 V AC, 1 module	=NA+HV-P30	14.50 EUR	14.50
27	1	pcs	GEN.LMP-RD-24	LMP-RD-24	Generic	Indicator lamp red, LED 24 V	=NA+HV-P32	9.10 EUR	9.10
28	16	pcs	GEN.MARK-CABLE	MARK-CABLE	Generic	Cable marker for cable Ø 4 – 10 mm, white, printable	marking	0.12 EUR	1.92
29	31	pcs	GEN.MARK-DEV	MARK-DEV	Generic	Device marker 15 x 5 mm, white, printable	marking	0.08 EUR	2.48
30	1	pcs	GEN.MARK-LEG	MARK-LEG	Generic	Legend plate 27 x 8 mm for 22 mm command devices, printable	marking	0.35 EUR	0.35
31	55	pcs	GEN.MARK-TB-5	MARK-TB-5	Generic	Terminal marker 5.2 mm, white, printable	marking	0.02 EUR	1.10
32	190	pcs	GEN.MARK-WIRE	MARK-WIRE	Generic	Wire marker sleeve for 0.5 – 2.5 mm², white, printable	marking	0.03 EUR	5.70
33	2	pcs	GEN.METER-3PT-CT	METER-3PT-CT	Generic	Energy meter 3-phase, transformer-operated x/5 A, two directions, for …	=MS1+ZS1-P1, =MS2+ZS2-P2	0.00 EUR	0.00
34	3	pcs	GEN.NH00-GG-50A	NH00-GG-50A	Generic	NH fuse link size NH00, gG, 50 A, 500 V AC	=DIST+HV-Q21	6.90 EUR	20.70
35	9	pcs	GEN.NH00-GG-80A	NH00-GG-80A	Generic	NH fuse link size NH00, gG, 80 A, 500 V AC	=DIST+HV-Q22, =PV+HV-Q41, =PV+HV-Q42	7.40 EUR	66.60
36	6	pcs	GEN.NH1-GG-125A	NH1-GG-125A	Generic	NH fuse link size NH1, gG, 125 A, 500 V AC	=MS1+HV-F10, =MS2+HV-F40	11.90 EUR	71.40
37	1	pcs	GEN.NH2-BASE-3P-400A	NH2-BASE-3P-400A	Generic	NH fuse base size 2, 3-pole, 400 A, 690 V AC, DIN 43620, V-clamps 35 -…	=GRID+HAK-F1	98.00 EUR	98.00

… 40 more rows – see Reports window / CSV export

Company: OpenECraft	Date: 2026-11-02	Revision: A	Project / page description: Transformer-rated metering with PV	Page: 7.1	Sheet: 14 / 18
	Creator: OpenECraft	Software: OpenECraft	Bill of materials	Type: Report	Project: Transformer-rated metering with PV

Device list

Device tag	Main function	Function text	Location	Aux. functions	Part number	Description
=DIST+HV-Q21	Fuse switch-disconnector 3-pole	Heat pumps NH00 3 x 50 A	/3.1.2	0	HAG.LT056, 3× GEN.NH00-GG-50A	NH fuse switch disconnector size NH00, 3P, 160 A, for 60 mm busbar s…
=DIST+HV-Q22	Fuse switch-disconnector 3-pole	General consumers NH00 3 x 80 A	/3.1.5	0	HAG.LT056, 3× GEN.NH00-GG-80A	NH fuse switch disconnector size NH00, 3P, 160 A, for 60 mm busbar s…
=DIST+HV-X21	Terminal ×5		/3.1.2	0	GEN.TB-35, GEN.TB-N-35, GEN.TB-PE-35	Feed-through terminal 35 mm², grey
=DIST+HV-X22	Terminal ×5		/3.1.5	0	GEN.TB-35, GEN.TB-N-35, GEN.TB-PE-35	Feed-through terminal 35 mm², grey
=DIST+TR-EQ1	Plug female socket ×5		/3.1.2	0	GEN.HP-AW-12KW	Heat pump air / water 12 kW, 400 V, inverter, flow up to 70 °C, indo…
=DIST+UVA-E1	Plug female socket ×5		/3.1.5	0	GEN.SUBDIST-48M	Sub-distribution board 4 rows x 12 modules, wall-mounted, main termi…
=GRID+HAK-F1	Fuse 3-pole	House connection box NH2 3 x 250 A gG	/2.1.2	0	GEN.NH2-BASE-3P-400A, 3× GEN.NH2-HRC-…	NH fuse base size 2, 3-pole, 400 A, 690 V AC, DIN 43620, V-clamps 35…
=GRID+HV-F1	Surge protective device	Surge protection T1 + T2 + T3	/2.1.4	0	HAG.SPA811Z	Combined surge arrester type 1 + 2 + 3, 4P, 12.5 kA, TT / TN-S, back…
=GRID+HV-F2	Circuit breaker 1-pole	APZ / RfZ	/2.1.6	0	HAG.NBN116	Miniature circuit breaker 1P B16, 10 kA (15 kA after IEC 60947-2), 2…
=GRID+HV-X0	Terminal ×3		/2.1.2	0	GEN.BB-FEED-185	Busbar feed-in terminal 1-pole, up to 185 mm², for 60 mm busbar syst…
=GRID+HV-X1	PE terminal ×1		/2.1.2	0	GEN.TB-PEN-150	PEN terminal 150 mm², green-yellow with blue marking
=GRID+HV-X2	Socket outlet	Supply of the APZ	/2.1.6	0	GEN.SOCKET-DIN-16A	Socket outlet type F for mounting rail, 16 A 250 V
=MS1+HV-F10	Fuse switch-disconnector 3-pole	Isolation before the meter NH1 3 x 125 A gG	/2.2.3	0	HAG.LT153, HAG.UE31E1B, 3× GEN.NH1-…	NH fuse switch disconnector size NH1, 3P, 250 A, for 60 mm busbar sy…
=MS1+HV-F11	Fuse switch-disconnector 3-pole	Voltage paths D01 3 x 10 A	/2.2.8	0	HAG.L73M, 3× GEN.D01-GG-10A	Fuse switch disconnector D01 / D02 (NEOZED) 3P 63 A, with blown fuse…
=MS1+HV-Q10	Main switch 3-pole	Isolation after the meter 3 x 250 A	/2.2.3	0	HAG.HA354	Load break switch 3P 250 A with visible isolation, rotary handle
=MS1+HV-T1	Current transformer	250/5 A	/2.2.3	0	GEN.CT-SET-250-5A, HAG.UE31SS400	Current transformer set 3 x 250/5 A, class 0.5S, 5 VA, for busbars u…
=MS1+ZS1-P1	Energy meter 3-phase, transformer-operated	Meter of the DSO, two directions	/2.2.7	0	GEN.METER-3PT-CT	Energy meter 3-phase, transformer-operated x/5 A, two directions, fo…
=MS1+ZS1-X1	Disconnect terminal ×10	Test terminal block	/2.2.7	0	GEN.TB-DISC-4	Disconnect terminal 4 mm², knife disconnect, grey
=MS2+HV-F40	Fuse switch-disconnector 3-pole	Isolation before the meter NH1 3 x 125 A gG	/5.1.3	0	HAG.LT153, HAG.UE31E1B, 3× GEN.NH1-…	NH fuse switch disconnector size NH1, 3P, 250 A, for 60 mm busbar sy…
=MS2+HV-F41	Fuse switch-disconnector 3-pole	Voltage paths D01 3 x 10 A	/5.1.8	0	HAG.L73M, 3× GEN.D01-GG-10A	Fuse switch disconnector D01 / D02 (NEOZED) 3P 63 A, with blown fuse…
=MS2+HV-T2	Current transformer	250/5 A	/5.1.3	0	GEN.CT-SET-250-5A, HAG.UE31SS400	Current transformer set 3 x 250/5 A, class 0.5S, 5 VA, for busbars u…
=MS2+ZS2-P2	Energy meter 3-phase, transformer-operated	Generation meter of the DSO	/5.1.7	0	GEN.METER-3PT-CT	Energy meter 3-phase, transformer-operated x/5 A, two directions, fo…
=MS2+ZS2-X1	Disconnect terminal ×10	Test terminal block	/5.1.7	0	GEN.TB-DISC-4	Disconnect terminal 4 mm², knife disconnect, grey
=NA+ENT-S1	Selector switch NC	Fire brigade switch at the building entrance	/4.2.3	0	GEN.FIRE-SW-1NC1NO	Fire brigade switch in a red surface-mounted box, key-operated, 1 NC…
=NA+HV-F31	Circuit breaker 3-pole	Measuring	/4.1.4	0	HAG.MCN306	Miniature circuit breaker 3P C6, 6 kA, 400 V AC, 3 modules
=NA+HV-F32	Circuit breaker 1-pole	24 V supply	/4.1.6	0	HAG.MCN106	Miniature circuit breaker 1P C6, 6 kA, 230/400 V AC, 1 module
=NA+HV-F33	Circuit breaker 1-pole	Motor operator	/4.1.7	0	HAG.MCN106	Miniature circuit breaker 1P C6, 6 kA, 230/400 V AC, 1 module
=NA+HV-K31	Grid and system protection relay (voltage and…	NA protection VDE-AR-N 4105	/4.1.4	1	HAG.EU400	Voltage and frequency relay for grid and system protection (NA prote…
=NA+HV-K32	Timer coil, on-delay	Response delay	/4.2.3	1	HAG.EZM100	Multifunction timer relay 12 - 240 V AC/DC, 1 CO, 1 module
=NA+HV-P30	Indicator lamp	Coupling switch locked	/4.2.6	0	GEN.LMP-DIN-RD-230	Modular indicator lamp red, LED 230 V AC, 1 module
=NA+HV-P31	Indicator lamp	Coupling switch closed	/4.2.7	0	GEN.LMP-DIN-GN-230	Modular indicator lamp green, LED 230 V AC, 1 module
=NA+HV-P32	Indicator lamp	NA protection tripped	/4.2.1	0	GEN.LMP-RD-24	Indicator lamp red, LED 24 V
=NA+HV-Q30	Circuit breaker 4-pole	Coupling switch 4P 160 A	/4.1.2	1	HAG.HNT161GR, HAG.HXT041H, HAG.HXA0…	HX air breaker h3+ P250, electronic trip unit LSnI, 4P, 160 A, 40 kA
=NA+HV-T31	Power supply AC/DC	24 V DC buffered	/4.1.6	0	HAG.HTG911H	Power supply 230 V AC / 24 V DC 2.5 A (60 W at 70 °C), short-circuit…
=NA+HV-X30	Terminal ×2		/4.2.3	0	PXC.3209510	Feed-through terminal block PT 2,5, push-in, 2.5 mm², grey
=PV+HV-Q41	Fuse switch-disconnector 3-pole	Inverter 1 NH00 3 x 80 A	/5.2.2	0	HAG.LT056, 3× GEN.NH00-GG-80A	NH fuse switch disconnector size NH00, 3P, 160 A, for 60 mm busbar s…
=PV+HV-Q42	Fuse switch-disconnector 3-pole	Inverter 2 NH00 3 x 80 A	/5.2.8	0	HAG.LT056, 3× GEN.NH00-GG-80A	NH fuse switch disconnector size NH00, 3P, 160 A, for 60 mm busbar s…
=PV+HV-X41	Terminal ×5		/5.2.2	0	GEN.TB-35, GEN.TB-N-35, GEN.TB-PE-35	Feed-through terminal 35 mm², grey
=PV+HV-X42	Terminal ×5		/5.2.8	0	GEN.TB-35, GEN.TB-N-35, GEN.TB-PE-35	Feed-through terminal 35 mm², grey
=PV+INV-TB1	Plug female socket ×5		/5.2.2	0	GEN.INV-PV-40KW	PV inverter 3-phase 40 kW, 4 MPP trackers, 400 V AC, wall-mounted

… 1 more rows – see Reports window / CSV export

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Terminal diagram

Strip	Terminal	Level	Jumper	External (top)	Internal (bottom)	Potential	Location	Function text
=DIST+HV-X21	End bracket			GEN.EB-35				
=DIST+HV-X21	1			=DIST+HV-Q21:2	=DIST+TR-EQ1:L1	N17	/3.1.2	
=DIST+HV-X21	2			=DIST+HV-Q21:4	=DIST+TR-EQ1:L2	N18	/3.1.2	
=DIST+HV-X21	3			=DIST+HV-Q21:6	=DIST+TR-EQ1:L3	N19	/3.1.3	
=DIST+HV-X21	N			=DIST+HV-X21:PE, =DIST+HV-X22:N, =DIST+HV-X22:PE, =GRID+HV-F1:N, =GRID+…	=DIST+TR-EQ1:N	PEN	/3.1.3	
=DIST+HV-X21	PE			=DIST+HV-X21:N, =DIST+HV-X22:N, =DIST+HV-X22:PE, =GRID+HV-F1:N, =GRID+…	=DIST+TR-EQ1:PE	PEN	/3.1.3	
=DIST+HV-X21	End bracket			GEN.EB-35				
=DIST+HV-X22	End bracket			GEN.EB-35				
=DIST+HV-X22	1			=DIST+HV-Q22:2	=DIST+UVA-E1:L1	N20	/3.1.5	
=DIST+HV-X22	2			=DIST+HV-Q22:4	=DIST+UVA-E1:L2	N21	/3.1.5	
=DIST+HV-X22	3			=DIST+HV-Q22:6	=DIST+UVA-E1:L3	N22	/3.1.6	
=DIST+HV-X22	N			=DIST+HV-X21:N, =DIST+HV-X21:PE, =DIST+HV-X22:PE, =GRID+HV-F1:N, =GRID+…	=DIST+UVA-E1:N	PEN	/3.1.6	
=DIST+HV-X22	PE			=DIST+HV-X21:N, =DIST+HV-X21:PE, =DIST+HV-X22:N, =GRID+HV-F1:N, =GRID+…	=DIST+UVA-E1:PE	PEN	/3.1.6	
=DIST+HV-X22	End bracket			GEN.EB-35				
=GRID+HV-X0	L1			=GRID+HV-F1:L1, =GRID+HV-F2:1, =MS1+HV-F10:2, »HV-L1	=GRID+HAK-F1:2	HV-L1	/2.1.2	
=GRID+HV-X0	L2			=GRID+HV-F1:L2, =MS1+HV-F10:4, »HV-L2	=GRID+HAK-F1:4	HV-L2	/2.1.2	
=GRID+HV-X0	L3			=GRID+HV-F1:L3, =MS1+HV-F10:6, »HV-L3	=GRID+HAK-F1:6	HV-L3	/2.1.2	
=GRID+HV-X1	PEN			=PEN	=DIST+HV-X21:N, =DIST+HV-X21:PE, =DIST+HV-X22:N, =DIST+HV-X22:PE, =GRID…		/2.1.2	
=MS1+ZS1-X1	End bracket			GEN.EB-35				
=MS1+ZS1-X1	1			=MS1+HV-T1:1S1	=MS1+ZS1-P1:1S1	N6	/2.2.7	Test terminal block
=MS1+ZS1-X1	2			=MS1+HV-T1:1S2	=MS1+ZS1-P1:1S2	N7	/2.2.7	
=MS1+ZS1-X1	3			=MS1+HV-T1:2S1	=MS1+ZS1-P1:2S1	N9	/2.2.7	
=MS1+ZS1-X1	4			=MS1+HV-T1:2S2	=MS1+ZS1-P1:2S2	N10	/2.2.7	
=MS1+ZS1-X1	5			=MS1+HV-T1:3S1	=MS1+ZS1-P1:3S1	N12	/2.2.7	
=MS1+ZS1-X1	6			=MS1+HV-T1:3S2	=MS1+ZS1-P1:3S2	N13	/2.2.8	
=MS1+ZS1-X1	7			=MS1+HV-F11:2	=MS1+ZS1-P1:V1	N14	/2.2.8	
=MS1+ZS1-X1	8			=MS1+HV-F11:4	=MS1+ZS1-P1:V2	N15	/2.2.8	
=MS1+ZS1-X1	9			=MS1+HV-F11:6	=MS1+ZS1-P1:V3	N16	/2.2.8	
=MS1+ZS1-X1	10			=DIST+HV-X21:N, =DIST+HV-X21:PE, =DIST+HV-X22:N, =DIST+HV-X22:PE, =GRID…	=MS1+ZS1-P1:N	PEN	/2.2.8	
=MS1+ZS1-X1	End bracket			GEN.EB-35				
=MS2+ZS2-X1	End bracket			GEN.EB-35				
=MS2+ZS2-X1	1			=MS2+HV-T2:1S1	=MS2+ZS2-P2:1S1	N37	/5.1.7	Test terminal block
=MS2+ZS2-X1	2			=MS2+HV-T2:1S2	=MS2+ZS2-P2:1S2	N38	/5.1.7	
=MS2+ZS2-X1	3			=MS2+HV-T2:2S1	=MS2+ZS2-P2:2S1	N39	/5.1.7	
=MS2+ZS2-X1	4			=MS2+HV-T2:2S2	=MS2+ZS2-P2:2S2	N40	/5.1.7	
=MS2+ZS2-X1	5			=MS2+HV-T2:3S1	=MS2+ZS2-P2:3S1	N41	/5.1.7	
=MS2+ZS2-X1	6			=MS2+HV-T2:3S2	=MS2+ZS2-P2:3S2	N42	/5.1.8	
=MS2+ZS2-X1	7			=MS2+HV-F41:2	=MS2+ZS2-P2:V1	N43	/5.1.8	
=MS2+ZS2-X1	8			=MS2+HV-F41:4	=MS2+ZS2-P2:V2	N44	/5.1.8	
=MS2+ZS2-X1	9			=MS2+HV-F41:6	=MS2+ZS2-P2:V3	N45	/5.1.8	

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Cable overview

Cable	Type	Cores used	Cross-section	Length (m)	From	To	Part number	Description
=DIST-W21	CBL-NYY-5X16	5/5	16 mm²	25	=DIST+HV-X21	=DIST+TR-EQ1	GEN.CBL-NYY-5X16	Heat pump
=DIST-W22	CBL-NYY-5X35	5/5	35 mm²	10	=DIST+HV-X22	=DIST+UVA-E1	GEN.CBL-NYY-5X35	Sub-distribution general consumers
=GRID-W1	CBL-NYY-4X120	3/4	120 mm²	15	=GRID+HV-X0	=GRID+HAK-F1	GEN.CBL-NYY-4X120	Supply from the house connection box
=MS1-W2	CBL-NYY-12X2.5	10/12	2.5 mm²	3	=DIST+HV-X21, =DIST+HV-X22, =GRID+HV-X1	=DIST+HV-X21, =DIST+HV-X22, =GRID+KE-F1	GEN.CBL-NYY-12X2.5	Meter cabinet consumption
=MS2-W3	CBL-NYY-12X2.5	10/12	2.5 mm²	3	=MS2+HV-F41, =MS2+HV-T2, =NA+HV-Q30,S2	=MS2+ZS2-X1, =PV+HV-X41	GEN.CBL-NYY-12X2.5	Meter cabinet generation
=NA-W30	CBL-NYM-3X2.5	2/3	2.5 mm²	20	=NA+HV-X30	=NA+ENT-S1	GEN.CBL-NYM-3X2.5	Fire brigade switch
=PV-W41	CBL-NYY-5X35	5/5	35 mm²	30	=PV+HV-X41	=PV+INV-TB1	GEN.CBL-NYY-5X35	Inverter 1
=PV-W42	CBL-NYY-5X35	5/5	35 mm²	30	=PV+HV-X42	=PV+INV-TB2	GEN.CBL-NYY-5X35	Inverter 2

Panel legend

Enclosure	Pos	Device tag	Description	Part number	Mounting	Position (mm)	Size (mm)	Length (mm)
+HV	1	=MS1+HV-Q10	Load break switch 3P 250 A with visible isolation, rotary handle	HAG.HA354	Mounting plate	300 / 150	150 × 175	
+HV	2	=NA+HV-Q30	Circuit breaker h3+ P250, electronic trip unit LSnI, 4P, 160 A, …	HAG.HNT161GR	Mounting plate	805 / 170	140 × 165	
+HV	3	=GRID+HV-F1	Combined surge arrester type 1 + 2 + 3, 4P, 12.5 kA, TT / TN-S, …	HAG.SPA811Z	Mounting plate	15 / 375	72 × 90	
+HV	4	=GRID+HV-X2	Socket outlet type F for mounting rail, 16 A 250 V	GEN.SOCKET-DIN-16A	Mounting plate	125 / 375	45 × 90	
+HV	5	=NA+HV-K31	Voltage and frequency relay for grid and system protection (NA p…	HAG.EU400	Mounting plate	515 / 375	70 × 90	
+HV	6	=NA+HV-T31	Power supply 230 V AC / 24 V DC 2.5 A (60 W at 70 °C), short-cir…	HAG.HTG911H	Mounting plate	595 / 375	70 × 90	
+HV	7	=NA+HV-K32	Multifunction timer relay 12 - 240 V AC/DC, 1 CO, 1 module	HAG.EZM100	Mounting plate	675 / 375	18 × 90	
+HV	8	=GRID+HV-F2	Miniature circuit breaker 1P B16, 10 kA (15 kA after IEC 60947-2…	HAG.NBN116	Mounting plate	95 / 378	18 × 83	
+HV	9	=MS1+HV-F11	Fuse switch disconnector D01 / D02 (NEOZED) 3P 63 A, with blown …	HAG.L73M	Mounting plate	330 / 400	81 × 90	
+HV	10	=MS2+HV-F41	Fuse switch disconnector D01 / D02 (NEOZED) 3P 63 A, with blown …	HAG.L73M	Mounting plate	830 / 420	81 × 90	
+HV	11	=NA+HV-P30	Modular indicator lamp red, LED 230 V AC, 1 module	GEN.LMP-DIN-RD-230	Mounting plate	640 / 575	18 × 90	
+HV	12	=NA+HV-P31	Modular indicator lamp green, LED 230 V AC, 1 module	GEN.LMP-DIN-GN-230	Mounting plate	670 / 575	18 × 90	
+HV	13	=NA+HV-F31	Miniature circuit breaker 3P C6, 6 kA, 400 V AC, 3 modules	HAG.MCN306	Mounting plate	515 / 578	52 × 83	
+HV	14	=NA+HV-F32	Miniature circuit breaker 1P C6, 6 kA, 230/400 V AC, 1 module	HAG.MCN106	Mounting plate	580 / 578	18 × 83	
+HV	15	=NA+HV-F33	Miniature circuit breaker 1P C6, 6 kA, 230/400 V AC, 1 module	HAG.MCN106	Mounting plate	610 / 578	18 × 83	
+HV	16	=MS1+HV-T1	Current transformer set 3 x 250/5 A, class 0.5S, 5 VA, for busba…	GEN.CT-SET-250-5A	Mounting plate	250 / 675	250 × 450	
+HV	17	=MS2+HV-T2	Current transformer set 3 x 250/5 A, class 0.5S, 5 VA, for busba…	GEN.CT-SET-250-5A	Mounting plate	750 / 675	250 × 450	
+HV	18	=NA+HV-X30	Feed-through terminal block PT 2,5, push-in, 2.5 mm², grey	PXC.3209510	Mounting plate	690 / 796	29 × 49	
+HV	19	=MS1+HV-F10	NH fuse switch disconnector size NH1, 3P, 250 A, for 60 mm busba…	HAG.LT153	Mounting plate	250 / 1175	250 × 450	
+HV	20	=MS2+HV-F40	NH fuse switch disconnector size NH1, 3P, 250 A, for 60 mm busba…	HAG.LT153	Mounting plate	750 / 1175	250 × 450	
+HV	21	=GRID+HV-X1			Mounting plate	15 / 1310	40 × 40	
+HV	22	=DIST+HV-Q21	NH fuse switch disconnector size NH00, 3P, 160 A, for 60 mm busb…	HAG.LT056	Mounting plate	515 / 1315	106 × 210	
+HV	23	=DIST+HV-Q22	NH fuse switch disconnector size NH00, 3P, 160 A, for 60 mm busb…	HAG.LT056	Mounting plate	630 / 1315	106 × 210	
+HV	24	=PV+HV-Q41	NH fuse switch disconnector size NH00, 3P, 160 A, for 60 mm busb…	HAG.LT056	Mounting plate	1015 / 1315	106 × 210	
+HV	25	=PV+HV-Q42	NH fuse switch disconnector size NH00, 3P, 160 A, for 60 mm busb…	HAG.LT056	Mounting plate	1130 / 1315	106 × 210	
+HV	26	=GRID+HV-X0	Busbar feed-in terminal 1-pole, up to 185 mm², for 60 mm busbar …	GEN.BB-FEED-185	Mounting plate	50 / 1425	40 × 150	
+HV	27	=DIST+HV-X21	Feed-through terminal 35 mm², grey	GEN.TB-35	Mounting plate	515 / 1654	99 × 92	
+HV	28	=DIST+HV-X22	Feed-through terminal 35 mm², grey	GEN.TB-35	Mounting plate	625 / 1654	99 × 92	
+HV	29	=PV+HV-X41	Feed-through terminal 35 mm², grey	GEN.TB-35	Mounting plate	1015 / 1654	99 × 92	
+HV	30	=PV+HV-X42	Feed-through terminal 35 mm², grey	GEN.TB-35	Mounting plate	1125 / 1654	99 × 92	
+HV	31	=NA+HV-P32	Indicator lamp red, LED 24 V	GEN.LMP-RD-24	Door	600 / 900	30 × 30	
+HV	32		Mounting rail TS 35 x 7.5, perforated, 1 m	GEN.RAIL-TS35-1M	Mounting plate	10 / 402	35 × 7.5	230
+HV	33		Mounting rail TS 35 x 7.5, perforated, 1 m	GEN.RAIL-TS35-1M	Mounting plate	510 / 402	35 × 7.5	230
+HV	34		Mounting rail TS 35 x 7.5, perforated, 1 m	GEN.RAIL-TS35-1M	Mounting plate	260 / 428	35 × 7.5	230
+HV	35		Mounting rail TS 35 x 7.5, perforated, 1 m	GEN.RAIL-TS35-1M	Mounting plate	760 / 448	35 × 7.5	230
+HV	36		Mounting rail TS 35 x 7.5, perforated, 1 m	GEN.RAIL-TS35-1M	Mounting plate	510 / 602	35 × 7.5	230
+HV	37		Mounting rail TS 35 x 7.5, perforated, 1 m	GEN.RAIL-TS35-1M	Mounting plate	510 / 802	35 × 7.5	230
+HV	38		Mounting rail TS 35 x 7.5, perforated, 1 m	GEN.RAIL-TS35-1M	Mounting plate	10 / 1312	35 × 7.5	230
+HV	39		Mounting rail TS 35 x 7.5, perforated, 1 m	GEN.RAIL-TS35-1M	Mounting plate	510 / 1682	35 × 7.5	230
+HV	40		Mounting rail TS 35 x 7.5, perforated, 1 m	GEN.RAIL-TS35-1M	Mounting plate	1010 / 1682	35 × 7.5	230

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