

Installation dossier

Working version

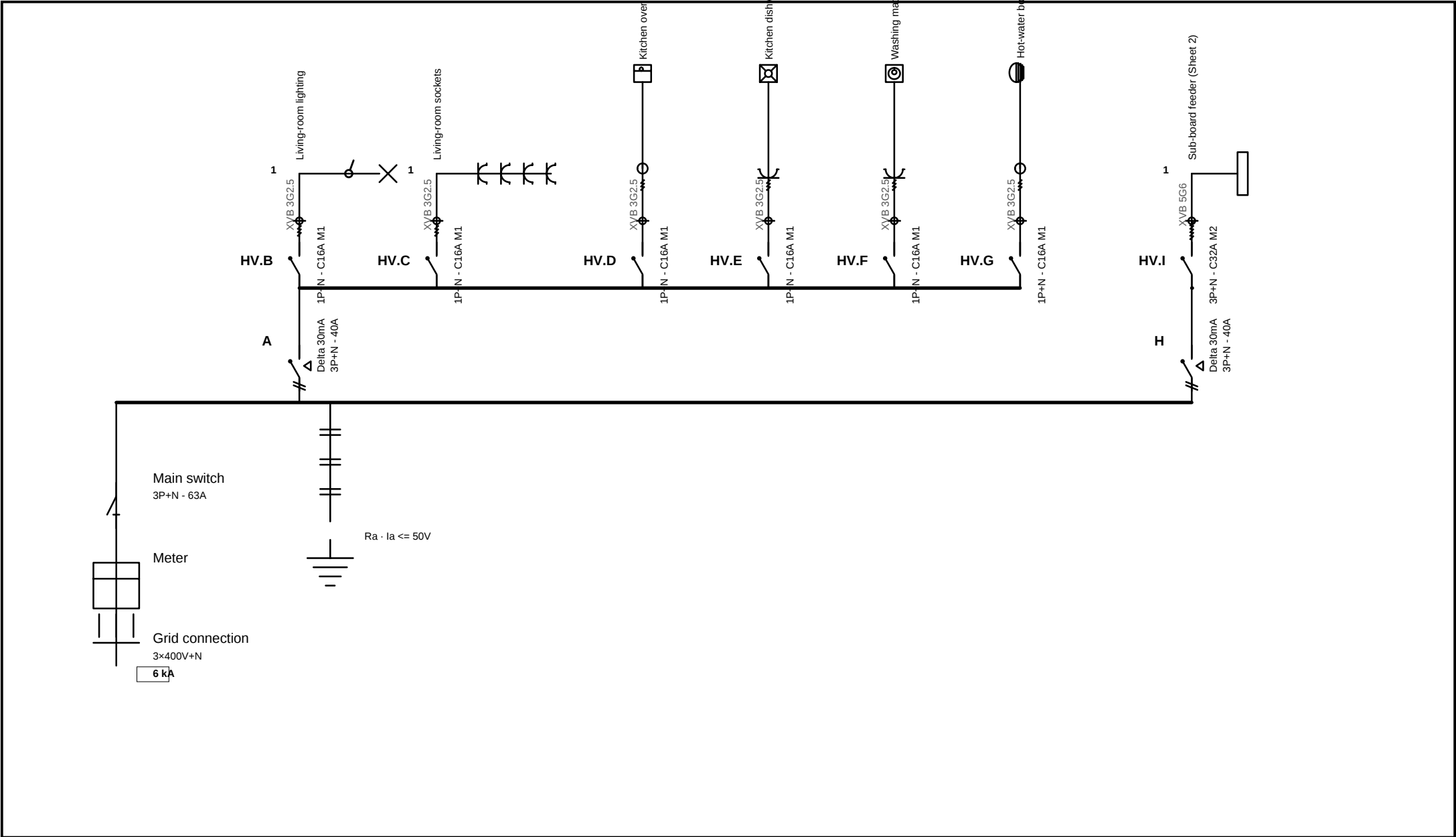
PROJECT	FICTIONAL PILOT DOSSIER - DO NOT SUBMIT
CLIENT	Fictional sample client
CUSTOMER CONTACT	client@pilot.invalid · +32 000 00 00 00
INSTALLATION ADDRESS	Rue Exemple 24, 1000 Bruxelles
INSTALLER	Fictional Installations Ltd
INSTALLER DETAILS	installer@pilot.invalid · BE 0000.000.000 · PILOT-NOT-VALID · Avenue Pilote 7, 1030 Schaerbeek
INSPECTION BODY	Fictional inspection body - not accredited · BE 0000.000.000 · Avenue Pilote 7, 1030 Schaerbeek
EAN	540000000000000000
INSTALLATION TYPE	Domestic

Document index

- 01 Single-Line Diagram
- 02 Site Plan
- 03 Circuit List
- 04 AREI/RGIE self-check report
- 05 Material List
- 06 Cable list
- 07 Distribution board layout

Installation era	Current (new works)
Current type	Alternating current (AC)
Ruleset version	AREI/RGIE Book 1 · version 06 · applicable since 01 April 2026
Revision	A
Plan format	A4
Created	7/20/2026, 8:00:00 AM

This dossier documents the planning state and does not replace measurement reports or the official inspection by an approved inspection body.



SINGLE-LINE DIAGRAM

Plan no.: EDS-001
Rev: A | Main distribution board - Sheet 1 | Domestic

Project: FICTIONAL PILOT DOSSIER - DO NOT SUBMIT
Address: Rue Exemple 24, 1000 Bruxelles

Date: 20/07/26
3x400V · Alternating current (AC)

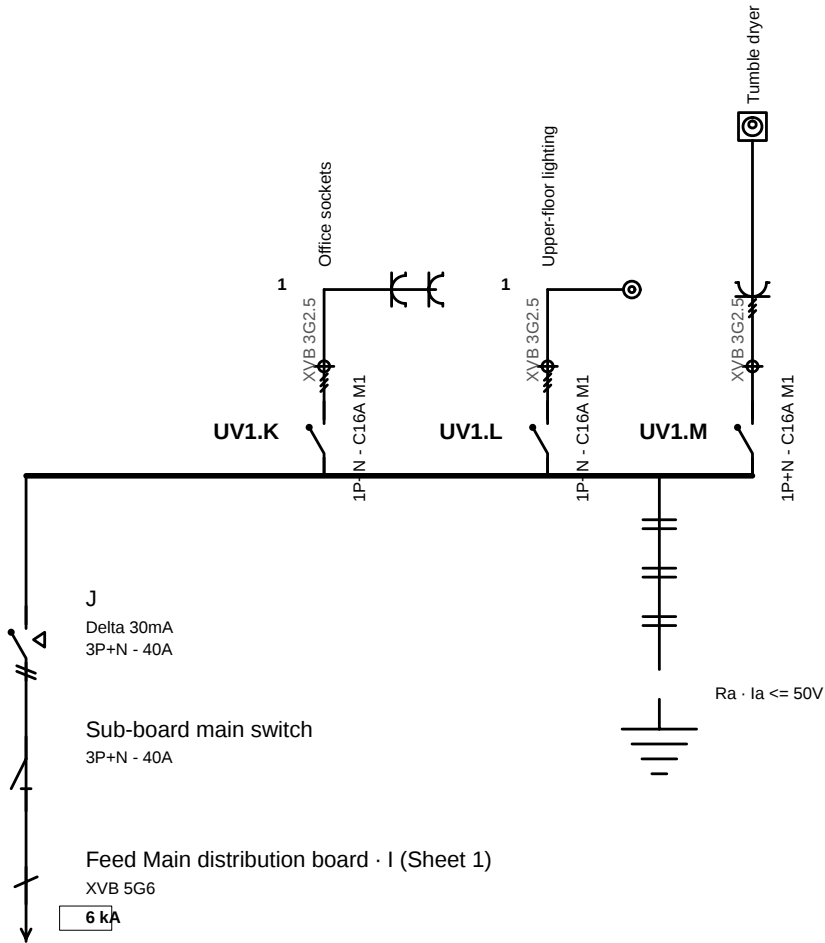
Client: Fictional sample client
Contact: client@pilot.invalid · +32 000 00 00 00

Installer: Fictional Installations Ltd
Reg. no.: PILOT-NOT-VALID

EAN: 5400000000000000

AREI/RGIE Art. 269-272

Fictional PlanElec sample. Not for inspection, ordering, or construction.



SINGLE-LINE DIAGRAM

Project: FICTIONAL PILOT DOSSIER - DO NOT SUBMIT
Address: Rue Exemple 24, 1000 Bruxelles

Client: Fictional sample client
Contact: client@pilot.invalid · +32 000 00 00 00

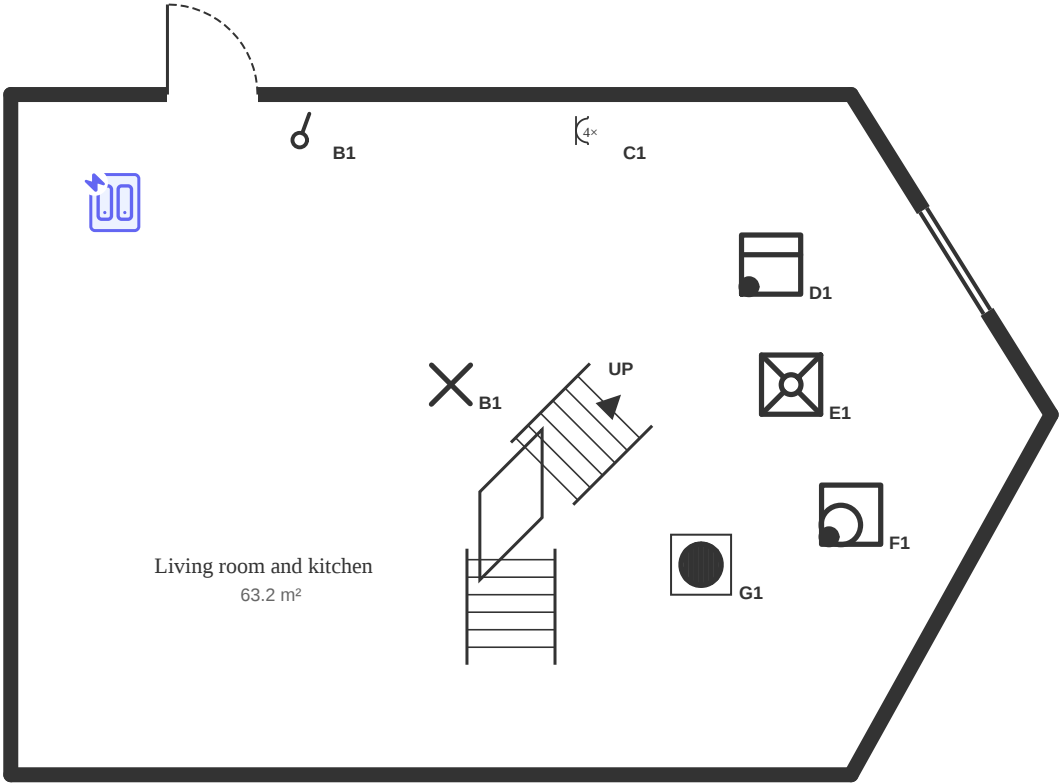
EAN: 5400000000000000

AREI/RGIE Art. 269-272

Plan no.: EDS-001
Rev: A | Upper-floor sub-board · Sheet 1 | Domestic

Date: 20/07/26
3x400V · Alternating current (AC)

Installer: Fictional Installations Ltd
Reg. no.: PILOT-NOT-VALID



SITE PLAN

Project: FICTIONAL PILOT DOSSIER - DO NOT SUBMIT

Address: Rue Exemple 24, 1000 Bruxelles

Client: Fictional sample client

Contact: client@pilot.invalid · +32 000 00 00 00

EAN: 5400000000000000000

Fictional PlanElec sample. Not for inspection, ordering, or construction.

AREI/RGIE Art. 269-272

Plan no.: SIT-001

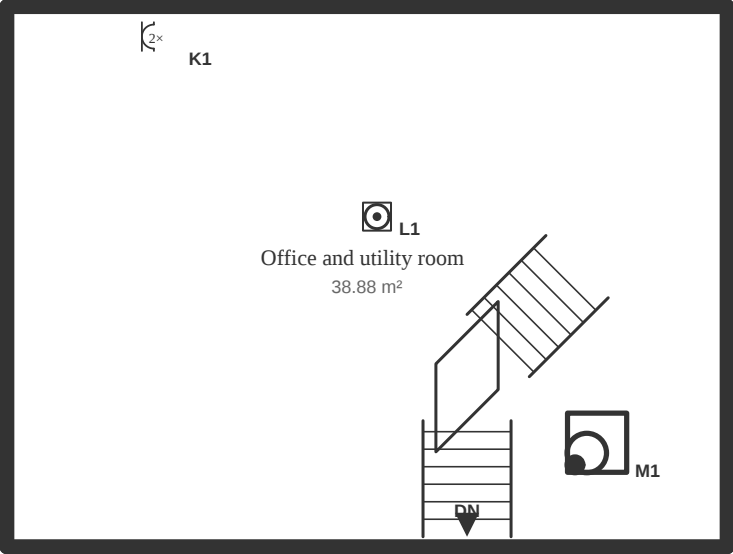
Rev: A | Floor 1 — Sheet 1 / 3 | Domestic

Date: 20/07/26

3x400V · Alternating current (AC) · Scale: N/A

Installer: Fictional Installations Ltd

Reg. no.: PILOT-NOT-VALID



SITE PLAN

Project: FICTIONAL PILOT DOSSIER - DO NOT SUBMIT
Address: Rue Exemple 24, 1000 Bruxelles

Client: Fictional sample client
Contact: client@pilot.invalid · +32 000 00 00 00

EAN: 5400000000000000

AREI/RGIE Art. 269-272

Plan no.: SIT-001

Rev: A | Floor 2 — Sheet 2 / 3 | Domestic

Date: 20/07/26
3x400V · Alternating current (AC) · Scale: N/A

Installer: Fictional Installations Ltd
Reg. no.: PILOT-NOT-VALID

Fictional PlanElec sample. Not for inspection, ordering, or construction.

LEGEND

-  Boiler
-  Dishwasher
-  Distribution board
-  Light point
-  Spot / downlight
-  Oven
-  Socket
-  Switch
-  Washing machine
-  Stairs

SITE PLAN

Project: FICTIONAL PILOT DOSSIER - DO NOT SUBMIT
Address: Rue Exemple 24, 1000 Bruxelles

Client: Fictional sample client
Contact: client@pilot.invalid · +32 000 00 00 00

EAN: 5400000000000000000

AREI/RGIE Art. 269-272

Plan no.: SIT-001
Rev: A | Legend — Sheet 3 / 3 | Domestic

Date: 20/07/26
3x400V · Alternating current (AC) · Scale: N/A

Installer: Fictional Installations Ltd
Reg. no.: PILOT-NOT-VALID

Fictional PlanElec sample. Not for inspection, ordering, or construction.

Circuit List

Project: FICTIONAL PILOT DOSSIER - DO NOT SUBMIT

Client: Fictional sample client

Date: 2026-07-20

No.	Description	Protection	RCD	Cable type	Cross section	Phase	Room / Zone
Main circuit RCD — 40A 30mA Type A							
HV.A	Living-room lighting	C 16A M1	40A 30mA Type A	XVB 3G2.5	2.5 mm ²	L1	
HV.B	Living-room sockets	C 16A M1	40A 30mA Type A	XVB 3G2.5	2.5 mm ²	L2	
HV.C	Kitchen oven	C 16A M1	40A 30mA Type A	XVB 3G2.5	2.5 mm ²	L3	
HV.D	Kitchen dishwasher	C 16A M1	40A 30mA Type A	XVB 3G2.5	2.5 mm ²	L2	
HV.E	Washing machine	C 16A M1	40A 30mA Type A	XVB 3G2.5	2.5 mm ²	L1	
HV.F	Hot-water boiler	C 16A M1	40A 30mA Type A	XVB 3G2.5	2.5 mm ²	L3	
Sub-board feeder RCD — 40A 30mA Type A							
HV.F1	Sub-board feeder	C 32A M2	40A 30mA Type A	XVB 5G6	6 mm ²	3P	
Upper-floor RCD — 40A 30mA Type A							
UV1.A	Office sockets	C 16A M1	40A 30mA Type A	XVB 3G2.5	2.5 mm ²	L2	
UV1.B	Upper-floor lighting	C 16A M1	40A 30mA Type A	XVB 3G2.5	2.5 mm ²	L3	
UV1.C	Tumble dryer	C 16A M1	40A 30mA Type A	XVB 3G2.5	2.5 mm ²	L1	

Self-check report

AREI/RGIE self-check

SUPPORTED CHECKS WITH WARNINGS

0 errors • 3 warnings • 1 notices

Checked on: 20/07/2026, 08:00

1. Installation overview

Project:	FICTIONAL PILOT DOSSIER - DO NOT SUBMIT
EAN:	540000000000000000
Address:	Rue Exemple 24, 1000 Bruxelles
Customer:	Fictional sample client
Installer:	Fictional Installations Ltd · PILOT-NOT-VALID
Inspection body:	Fictional inspection body - not accredited · BE 0000.000.000 · Avenue Pilote 7, 1030 Schaerbeek
Installation type:	Domestic
Current type:	Alternating current (AC)
Earthing system:	TT
Voltage:	3x400V
Installation era:	Current (new works)
Rooms:	2
Distribution boards:	2
Circuits:	10
Consumers:	10
Total load:	18.0 kW

2. Installation age & AREI part 8

Current (new works): 10 circuit(s)

No Part 8 deviations — current requirements apply.

3. Results by category

Protection measures 3 warnings, 1 notices

4. Detailed results

- **#1** 30 mA RCD "Main circuit RCD" has no sufficiently graded upstream RCD
Warning
As an IEC 60364-5-53 practice recommendation, PlanElec recommends a sensitivity ratio of at least 3× together with time grading. This is not treated as an AREI/RGIE violation.
-> Review the design for a sufficiently graded, selective RCD (Type S) upstream of the 30 mA RCD.

- #2** 30 mA RCD "Sub-board feeder RCD" has no sufficiently graded upstream RCD

Warning

As an IEC 60364-5-53 practice recommendation, PlanElec recommends a sensitivity ratio of at least 3× together with time grading. This is not treated as an AREI/RGIE violation.

-> Review the design for a sufficiently graded, selective RCD (Type S) upstream of the 30 mA RCD.
- #3** 30 mA RCD "Upper-floor RCD" has no sufficiently graded upstream RCD

Warning

As an IEC 60364-5-53 practice recommendation, PlanElec recommends a sensitivity ratio of at least 3× together with time grading. This is not treated as an AREI/RGIE violation.

-> Review the design for a sufficiently graded, selective RCD (Type S) upstream of the 30 mA RCD.
- #4** No surge protection (SPD) — recommended best practice

AREI AREI_4.5.1 | Notice

AREI 4.5.1 requires protection against overvoltages "according to the relevant rules of the trade". A surge protective device (SPD type 2) is recommended in Belgium as state of the art, but is not explicitly mandatory for domestic installations.

-> SPD type 2 recommended in the main board, especially for: exposed locations, PV installations, abundant electronics, low-voltage overhead lines or lightning protection systems (then possibly SPD type 1+2).

5. Check protocol per rule (Pass/Fail)

31 rule(s) checked • 29 passed • 2 flagged

- [FAIL]** RCD selectivity (practice recommendation) — 3 finding(s)
- [FAIL]** Surge protection (SPD) (AREI AREI_4.5.1) — 1 finding(s)
- [OK]** Main RCD (AREI AREI_4.2.4.3)
- [OK]** Max. circuits per high-sensitivity RCD (AREI AREI_4.2.4.3_b)
- [OK]** Cable cross-section (AREI AREI_5.2.2)
- [OK]** 30 mA protection for wet rooms (AREI AREI_4.2.4.4)
- [OK]** Max. contact points per final circuit (AREI AREI_5.3.5.2b)
- [OK]** Complete connections
- [OK]** Minimum number of lighting circuits
- [OK]** Dedicated circuits for large appliances (AREI AREI_4.3.3.3)
- [OK]** Combined current in distribution boards with multiple sources
- [OK]** 30 mA RCD for socket circuits (AREI AREI_4.2.4.3_b)
- [OK]** Main equipotential bonding (AREI AREI_4.2.3.2)
- [OK]** Earth electrode (ring earth/earth rod) (AREI AREI_4.2.3)
- [OK]** Main switch min. 40 A (AREI AREI_5.3.5.1.b)
- [OK]** Main RCD min. 40 A (AREI AREI_5.3.5.3.a)
- [OK]** 30 mA RCD for bathroom circuits (AREI AREI_7.1.4.3)
- [OK]** Bathroom zones 0/1/2: permitted equipment (AREI AREI_7.1.5.2)
- [OK]** Voltage drop (Delta U) (AREI AREI_5.2.5)
- [OK]** CPR cable fire-performance class (AREI AREI_4.3.3.7)
- [OK]** Phase imbalance
- [OK]** RCD protection in delta networks
- [OK]** Installation dossier (AREI 9.1.2)
- [OK]** Smoke-detector coverage (recommendation)
- [OK]** Embedded wall heating: 100 mA RCD (AREI AREI_4.2.4.3_b)
- [OK]** Pole configuration in residential installations (AREI AREI_4.4.4.2)
- [OK]** Trip characteristic versus load type
- [OK]** Feeder back-up protection between distribution boards (AREI AREI_4.4.1.4)
- [OK]** Switch-control group plausibility
- [OK]** Cables in hollow walls: Cca/Preflex (AREI AREI_5.2.2)
- [OK]** Breaking capacity versus prospective short-circuit current (AREI AREI_5.3.5.5)

6. Data gaps (not checked)

The following rules could not be checked due to missing matching data/equipment in the plan. A missing entry does NOT automatically mean conformity.

- Charging-point protection (EV charging) (AREI AREI_7.22.4) — No suitable equipment in the plan (Charging point)
- PV installation compliance (AREI AREI_7.112.2) — No suitable equipment in the plan (Inverter)
- Distribution-board layout — No suitable equipment in the plan (Distribution board)
- Placement of connection/junction boxes (AREI AREI_3.1.2.3) — No suitable equipment in the plan (Connection/junction box)

Check coverage

This report evaluates only the currently supported rules that can be checked from the recorded project data. It does not replace professional review or an official inspection.

7. Conclusion

No errors were found in the checks currently supported.

3 warning(s) were found and still require professional review.

This report is a software-assisted self-check of the currently supported rules that can be evaluated from the recorded project data. The integrated full rule text is Book 1, Version 06; the product logic covers it only partially. This report does not replace professional review or an official inspection by an accredited inspection body.

Material List / Bill of Materials

Project: FICTIONAL PILOT DOSSIER - DO NOT SUBMIT

Date: 2026-07-20

29 positions

Detailed, manufacturer-neutral model list with transparent base assumptions — verify professionally before quoting or ordering; not approved for purchase.

Material derivation assumptions

- Wiring accessories: manufacturer-neutral white standard range; inserts, covers and frames are listed separately. Boxes follow an explicitly linked wall; otherwise hollow-wall boxes are assumed for rooms containing hollow walls, and flush boxes elsewhere.
- Fixed appliances include a connection box, terminal and strain relief; appliance-specific accessories are not included.
- Cable lengths are net lengths from the model; waste and installation allowances are not included.
- Distribution enclosures and busbars follow the modeled row and module count; in this pilot, each active row assumes two end caps and one feed terminal regardless of separate RCD sections.
- All positions are manufacturer-neutral and must later be mapped to specific product references.

Pos	Cat.	Description	Qty	Unit	Circuit
Equipment and inserts					
1	Equipment and inserts	Meter	1	pcs	
2	Equipment and inserts	Recessed spotlight	1	pcs	UV1.B
3	Equipment and inserts	Single switch insert	1	pcs	HV.A
4	Equipment and inserts	Socket insert 2P+E, 16 A	9	pcs	HV.B, HV.D, HV.E, UV1.A, UV1.C
Covers and frames					
5	Covers and frames	1-gang cover frame	4	pcs	HV.A, HV.D, HV.E, UV1.C
6	Covers and frames	2-gang cover frame	1	pcs	UV1.A
7	Covers and frames	4-gang cover frame	1	pcs	HV.B
8	Covers and frames	Single rocker	1	pcs	HV.A
9	Covers and frames	Socket outlet cover plate	9	pcs	HV.B, HV.D, HV.E, UV1.A, UV1.C
Installation material					
10	Installation material	Ceiling outlet box	1	pcs	HV.A
11	Installation material	Fixed-appliance connection box	2	pcs	HV.C, HV.F
12	Installation material	Fixed-appliance connection terminal	2	pcs	HV.C, HV.F
13	Installation material	Flush-mounting device box	7	pcs	HV.A, HV.B, HV.D, HV.E
14	Installation material	Hollow-wall device box	3	pcs	UV1.A, UV1.C
15	Installation material	Lighting connection terminal	2	pcs	HV.A, UV1.B
16	Installation material	Recessed spotlight housing	1	pcs	UV1.B
17	Installation material	Strain relief	2	pcs	HV.C, HV.F
Protection devices					
18	Protection devices	Miniature circuit breaker (MCB) 1P+N C16A M1 230V 6kA	9	pcs	HV.A, HV.B, HV.C, HV.D, HV.E, HV.F, UV1.A, UV1.B, UV1.C
19	Protection devices	Miniature circuit breaker (MCB) 3P+N C32A M2 400V 6kA	1	pcs	HV.F1
20	Protection devices	Residual-current device (RCD) 3P+N 40A 30mA Type A 400V	3	pcs	
Distribution					

Pos	Cat.	Description	Qty	Unit	Circuit
21	Distribution	Busbar end cap (3P)	10	pcs	
22	Distribution	Busbar feed terminal (3P)	5	pcs	
23	Distribution	Comb busbar 3P, 18 modules	5	pcs	
24	Distribution	Distribution enclosure, 2 rows of 18 modules (36 modules)	1	pcs	
25	Distribution	Distribution enclosure, 3 rows of 18 modules (54 modules)	1	pcs	
26	Distribution	Main switch 3P+N 40A 400V	1	pcs	
27	Distribution	Main switch 3P+N 63A 400V	1	pcs	
Cables					
28	Cables	XVB 3G2.5 · CPR Cca · F1 not specified	150.0	m	HV.A, HV.B, HV.C, HV.D, HV.E, HV.F, UV1.A, UV1.B, UV1.C
29	Cables	XVB 5G6 · CPR Cca · F1 not specified	24.0	m	HV.F1

Cable list

Project: FICTIONAL PILOT DOSSIER - DO NOT SUBMIT

Client: Fictional sample client

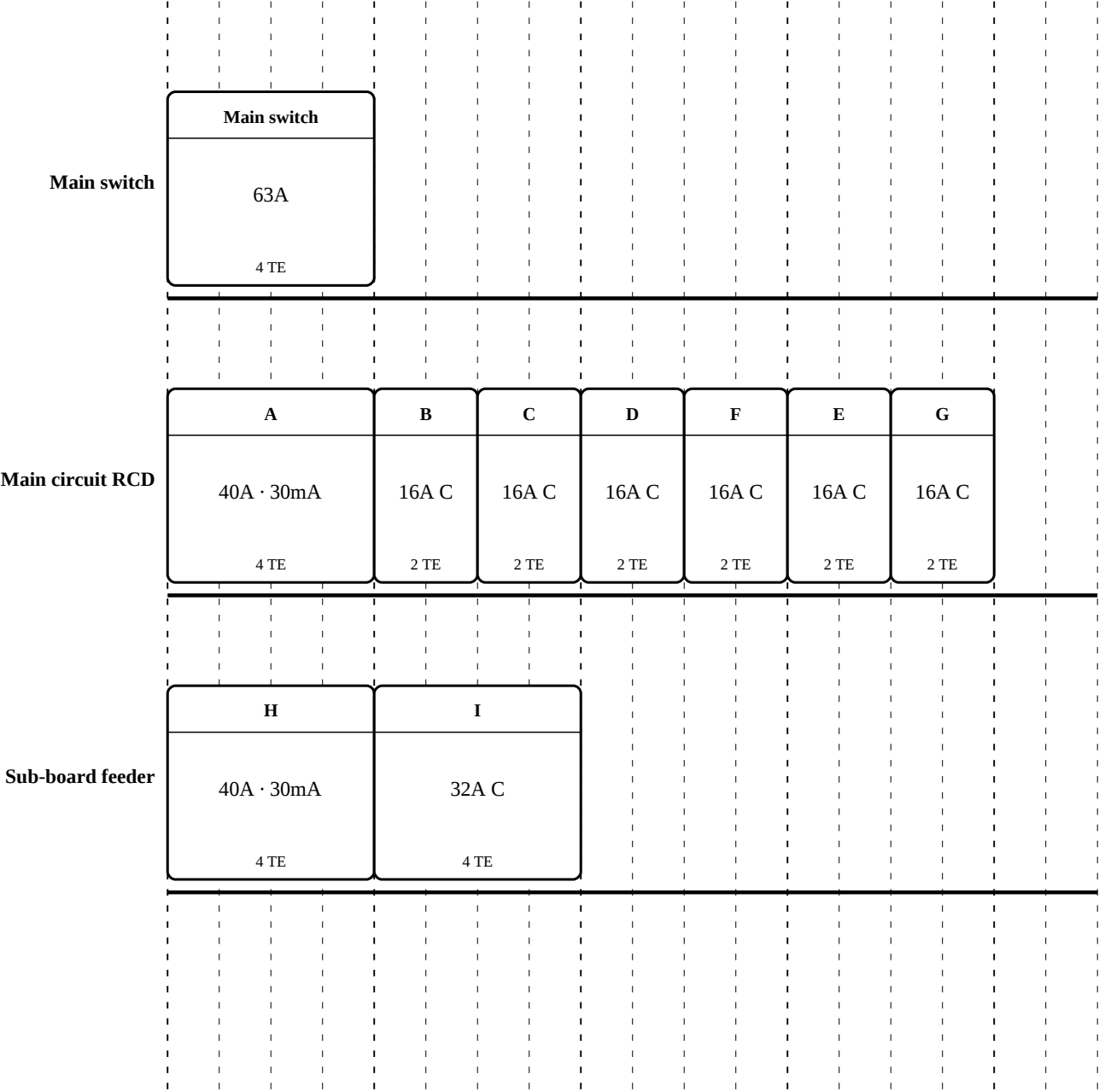
Date: 2026-07-20

No.	Cable type	Cross-section	Length (m)	From	To	Current (A)	Delta U (%)	End voltage (V)	Circuit	Status
C01	XVB	2.5 mm ²	11.0	Living-room lighting	Living-room switch	12.80	0.81	228.13	A	OK
C02	XVB	2.5 mm ²	13.0	Living-room lighting	Living-room ceiling	12.80	0.96	227.79	A	OK
C03	XVB	2.5 mm ²	13.0	Living-room sockets	Living-room sockets	12.80	0.96	227.79	B	OK
C04	XVB	2.5 mm ²	14.0	Kitchen oven	Oven	12.80	1.04	227.62	C	OK
C05	XVB	2.5 mm ²	15.0	Kitchen dishwasher	Dishwasher	12.80	1.11	227.45	D	OK
C06	XVB	2.5 mm ²	16.0	Washing machine	Washing machine	12.80	1.18	227.28	E	OK
C07	XVB	2.5 mm ²	17.0	Hot-water boiler	Hot-water boiler	12.80	1.26	227.11	F	OK
C08	XVB	6 mm ²	24.0	Sub-board feeder	Sub-board main	25.60	0.74	397.05	F1	OK
C09	XVB	2.5 mm ²	16.0	Office sockets	Office double socket	12.80	1.18	227.28	A	OK
C10	XVB	2.5 mm ²	17.0	Upper-floor lighting	Upper-floor ceiling	12.80	1.26	227.11	B	OK
C11	XVB	2.5 mm ²	18.0	Tumble dryer	Tumble dryer	12.80	1.33	226.94	C	OK

Delta U limits for DC extra-low-voltage/SELV circuits are best-practice recommendations (3% lighting / 5% other), not an AREI requirement.

HV — Main distribution board

18 TE · 1 TE = 17,5 mm



UV — Upper-floor sub-board

18 TE · 1 TE = 17,5 mm

Sub-board main switch

Sub-board main switch	
Sub-board main switch	J
40A	40A · 30mA
4 TE	4 TE

Upper-floor RCD

M	K	L
16A C	16A C	16A C
2 TE	2 TE	2 TE