# BLACKTOWN DUPLEX

# ELECTRICAL SERVICES AND

# AS-BUILT DRAWINGS

**PRODUCED:**          **SEPTEMBER 2025**

**REVISION:**          **A**

**PRODUCED BY:**          **Specialist Services**

6 Ferris St North Paramatta NSW

**HEAD CONTRACTOR:**          PRIME BUILD PTY LTD

6 Hassall St, Parramatta NSW 2150

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# 1: GENERAL DESCRIPTION

The extent of works includes, but not limited to the following, all in accordance with the Drawings, Specifications, project brief and Subcontract documents:

The work includes the following:

- ➤ Temporary supply during construction work

- ➤ Internal Lighting

- ➤ Lighting Fittings & Lighting Controls

- ➤ Communication Cabling

- ➤ Power socket outlets, outlets, permanent connections, etc

- ➤ Testing & Commissioning

- ➤ Operation & Maintenance Manuals & 'As-Installed' Drawings

Specialist Services Australia Pty Ltd  | ABN 89 135 692 170  | ACN 135 692 170
Telephone: 1300 322 000  | Email: admin@specialistsvs.com.au

| NSW Office | VIC Office | QLD Office |
| --- | --- | --- |
| 6 Ferris Street, North Parramatta NSW 2151 | 3/88 Wirraway Drive, Port Melbourne VIC 3207 | 15 Christine Avenue, Miami QLD 4220 |
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# 2: SUPPLIER DETAILS

| DESCRIPTION | SUPPLIER |
|---|---|
| **General Electrical Materials** | **John R Turks** |
| | 6/2 Windsor Rd |
| | Northmead NSW 2152 |
| | Web: www.jrt.com.au |
| | |
| **Light Fittings** | **SUPPLIER** |
| | **John R Turks** |
| | 6/2 Windsor Rd |
| | Northmead NSW 2152 |
| | Web: www.jrt.com.au |

# 3: COMPLIANCE & CERTIFICATES

**SECTION**

A - Site Details

B - Extract from AS. NZS2293.2:1998

C - Luminaire Details

D- Compliance Certificates

# SECTION A

## A: SITE DETAILS

Site:                                Blacktown Duplex

Address:                          74 & 74A Stephen St Blacktown 2148

Maintenance Contractor:    Specialist Services AUST Pty Ltd

Address:                          6 Ferris Street

                                       North Parramatta NSW  2151

Contact:                          Specialist Services

Phone:                            1300 322 000

Final Commissioning Date:    September 2025

# B: EXTRACT FROM AS. NZS2293.2:1998

### SECTION 3: INSPECTION AND MAINTENANCE PROCEDURES FOR SINGLE-POINT SYSTEMS

**3.1 REQUIRED PROCEDURES** The procedures described in Clauses 3.2 and 3.3 shall be carried out at intervals of not greater than those specified. Groups of self-contained emergency luminaries and exit signs may be tested on a rotational basis, provided that the maintenance intervals for the individual luminaries or exit signs do not exceed those specified.

Any emergency luminaire or exit sign which fails to operate satisfactorily shall be either repaired or replaced. Where battery replacement is necessary, the requirements of Clause 3.4 shall apply.

NOTE: With reference to the discharge test of clause 3.2, it should be noted that for part of the test period the building may be without emergency lighting. This risk is considered acceptable, except where the regulatory authority deems otherwise. When selecting a time for the discharge test, consideration should be given to the nature of the occupancy of the building in order to minimize the risk, e.g. conducting the test discharge at a time that will permit recharging of the battery when the building is unoccupied.

**3.2 SIX-MONTHLY PROCEDURES**

**3.2.1 General** The procedures specified in Clauses 3.2.2 and 3.2.3 shall be carried out at intervals of not more than six months

NOTES:
1   A check should be made to ensure that no interruption to the normal supply has taken place for a period of at least 16 h prior to conducting a discharge test.
2   For emergency luminaries and exit signs with tubular fluorescent lamps, it is recommended that the lamps be replaced if they exhibit excessive end-blackening, even when the lamps still operate.

**3.2.2 Discharge test**

**3.2.2.1** *Where manual discharge test facilities are provided.* Where manual discharge test facilities are provided, the following procedures shall be carried out:

(a)   Operate the emergency luminaries and exit signs from their battery supply by simulating failure of the monitored supply. The luminaries and exit signs shall remain illuminated for not less than the required in-service duration.

NOTE: Provision may be made for continuance of the discharge test beyond the required duration, e.g. until operation is terminated by the automatic battery cut-off device.

(b)   Restore the emergency luminaires and exit signs to normal condition and check that the battery charger operation indicator functions correctly.

**3.2.2.2** *Automatic discharge test facilities.* Where the emergency luminaires or exit signs are provided with facilities for automatic discharge testing, a visual check shall be made of the operational status of each unit either by means of the indicator at each unit, where self-contained facilities are provided, or by means of the relevant controller or indicator panel where centralized testing facilities are provided.

Those units which failed the previous discharge test shall be either repaired and restored to normal condition or replaced.

NOTE: A discharge test may also be carried out at any time using the manual initiation facility where provided in accordance with section 4 of AS/NZS 2293.1.

**3.2.3 Additional check for indirect lighting systems** for indirect lighting systems, carry out the following:

(a)   Check that the finish of the major reflecting surfaces (e.g. walls, ceilings) have reflectance's of not less than those on which the design of the system was based.

(b)   Check that emergency luminaries of the directional beam type, if used, are aimed in such a manner that the beam will not be directed into the eyes of persons moving through the designated area.

**3.3 TWELVE-MONTHLY PROCEDURES** The following procedure shall be carried out at intervals of not more than 12 months:

(a)   Carry out all the checks listed in Clause 3.2.

(b)   Clean all light-emitting and reflecting surfaces of emergency luminaries and exit signs.

NOTE: This procedure may be carried out in conjunction with the discharge test of Clause 3.2.2.

**3.4 BATTERY REPLACEMENT:** Replacement of batteries in the emergency luminaries and exit signs shall be carried out in accordance with the following requirements:

(a)   Where more than one cell is utilized, the complete battery pack shall be replaced

(b)   Replacement batteries shall be of the same type and ampere-hour capacity.

Whenever batteries are replaced for any reason, a discharge test shall be conducted in accordance with Clause 3.2.2 except that the test shall be continued for 1.33 times the required in-service duration.

Specialist Services Australia Pty Ltd  I  ABN 89 135 692 170  I  ACN 135 692 170
Telephone: 1300 322 000  I  Email: admin@specialistsvs.com.au

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|---|---|---|
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QLD Office
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# SECTION D

## D: Certificates

- Electrical Installation Certificate

- Mechanical Ventilation

- Smoke Detector

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# Certificate of Compliance

In accordance with AS/NZS 3000-2018 Electrical Installations, Wiring Rules

This document certifies that the Electrical Installation meets or exceeds the requirements:

Electrical Installation, Commissioning and Maintenance installed at

## Blacktown Duplex 74 & 74A

74 & 74a Stephen St Blacktown NSW 2148

Supplied by

Specialist Services NSW

ABN 89 135 692 170 / ACN 135 692 170

LICENCE 220319C

6 Ferris Street, North Parramatta NSW  2151

# Smoke Alarms Installation Certificate

**PrimeBuild**

## Builder

### Project Details

| Job Reference: | C25019 | Part of Building to be certified: | Smoke Alarms – Entire Building |
|---|---|---|---|

**Address:** 74 Stephen Street, BLACKTOWN

| CDC: | CDC/5663482 | Lot/DP: | Lot 393 DP 31926 |
|---|---|---|---|

---

**I hereby certify that:**

- The works have been inspected during construction and have been completed in accordance with the nominated Standards of Performance.

| Measure and/or system | Standards of Performance |
|---|---|
| **Smoke Alarms Installation Certificate** | Certified by a licensed electrician, after installation, as complying with AS3786 - 2014 "Smoke Alarms" in accordance with Housing Provisions 9.5.4 of the Building Code of Australia - Smoke Alarms. |

- I am a properly qualified person and have a good working knowledge of the relevant codes and standards referenced above. (My qualifications and accreditations are listed below):

  **Contractor License No. 220319C**

- The information contained in this statement is true and accurate to the best of my knowledge.

| | |
|---|---|
| **Full Name:** | **Shannon Hall** |
| **ABN:** | **89  135 692 170** |
| **Company:** | **Specialist Services Pty Ltd** |
| **Phone:** | **0405 123 683** |
| **Address:** | **6 Ferris Street North Parramatta NSW 2151** |
| **Signature:** | |
| **Date:** | 04/09/2025 |

# Mechanical Ventilation System - INSTALLATION CERTIFICATE

| | |
|---|---|
| **DA / CC** | |
| **Project Name** | *Blacktown Duplex* |
| **Address** | Lot 394, 74 Stephen Street, BLACKTOWN 2148 |
| **Part of Building to be certified** | *Mechanical Air Conditioning System.*<br><br>- *Ducted AC system.*<br><br>*Mechanical Ventilation*<br>- *Mechanical Ventilation for Ensuite*<br>- *Upstairs bathroom*<br>- *Downstairs WC.* |

I hereby certify that:

a) The works have been inspected during construction and have been completed in accordance with the nominated Standards of Performance.

| Measure and/or system | Standards of Performance |
|---|---|
| Air Conditioning and<br><br>Mechanical Ventilation Systems | • NCC 2022 H4P5<br>• AS1668.2-2012 – Mechanical Ventilation in Buildings. |

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License: REC 30674

QLD Office
15 Christine Avenue, Miami QLD 4220
License: 82540

b) I am a properly qualified person and have a good working knowledge of the relevant codes and standards referenced above. (My qualifications and accreditations are listed below)

*Relevant qualifications and accreditations*:

AIR CONDITIONING COMPANY LICENCE 220319C

c) The information contained in this statement is true and accurate to the best of my knowledge.

*Name*: MICHAEL KEARNS

*Company*: SPECIALIST SERVICES AUSTRALIA

*Address*: 6 FERRIS STREET NORTH PARRAMATTA

*Phone No.* 02 9630 1244          *Fax No.* 02 9630 1255

*Michael Kearns*                    03.09.25

**Signature**                    **Date**

Specialist Services Australia Pty Ltd  |  ABN 89 135 692 170  |  ACN 135 692 170
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# 4: DATA SHEETS

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Telephone: 1300 322 000 ∣ Email: admin@specialistsvs.com.au

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MSN163

### MCB 1P 6kA C-63A 1M

| Technical Properties | |
|---|---|
| Number of modules | 1 |
| Number of poles | 1 P |
| Rated short circuit breaking capacity Icn AC according IEC60898-1 | 6 kA |
| Curve | C |
| Rated operational voltage Ue | 230/400 V |
| Rated current | 63 A |
| Frequency | 50/60 Hz |
| Rated insulation voltage | 500 V |
| Operating temperature | -25 to 60 °C |
| Electric endurance in number of cycles | 4000 |
| Number of mechanical operations | 20000 |
| Top and bottom screw terminals connection capacity with rigid cable | 1/25 mm² |
| Top and bottom screw terminals connection capacity with flexible cable | 1/16 mm² |
| Tightening torque | 2,8Nm |
| Height of installed product | 83 mm |
| Width of installed product | 17,5 mm |
| Depth of installed product | 70 mm |
| Standard text | EN 60898-1 ; AS/NZ 60898-1 |

ADC920T

## RCBO 1M 1P+N 6kA C-20A 30mA A

### Architecture

| | |
|---|---|
| Neutral position | right |
| Number of protected poles | 1 |
| Number of poles | 2 P |
| Type of pole | 1P+N |
| Fixing mode | DIN rail type O (symmetrical) |
| Curve | C |

### Compatibility

| | |
|---|---|
| Compatible with DIN rail mounting | yes |

### Connectivity

| | |
|---|---|
| Bottom connection alignement for modular devices | Aligned terminal |
| Top connection alignement for modular devices | Shifted terminal |

### Main electrical features

| | |
|---|---|
| Frequency | 50 Hz |
| Rated short circuit breaking capacity Icn AC according IEC60898-1 | 6 kA |
| Type of supply voltage | AC |
| Rated operational voltage Ue | 230/240 V |

### Voltage

| | |
|---|---|
| Rated insulation voltage | 440 V |
| Max operating voltage | 264 V |
| Rated impulse withstand voltage | 4 kV |

### Electric current

| | |
|---|---|
| Rated residual operating current | 30 mA |
| Withstand not tripping on 8-20 ?s wave | 0,25 kA |
| Rated short circuit breaking capacity Icn under 230V AC according IEC 61009-1 | 6 kA |
| Rated short circuit breaking capacity Icn under 240V AC according IEC 61009-1 | 6 kA |
| Rated service breaking capacity Ics under 230V AC according IEC 61009-1 | 6 kA |

Technical Properties

| | |
|---|---|
| Rated service breaking capacity Ics under 240V AC according IEC 61009-1 | 6 kA |
| Breaking and opening capacity | 4,5 kA |
| Magnetic regulating currrent | 5/10 In |
| min/maxi threshold value of the AC thermal operation | 1,13/1,45 In |

**Electric current / temperature**

| | |
|---|---|
| Rating current -15°C | 24,5 A |
| Rating current -20°C | 25 A |
| Rating current 0°C | 23 A |
| Rating current 10°C | 22 A |
| Rating current -10°C | 24 A |
| Rating current 15°C | 21,5 A |
| Rating current 20°C | 21 A |
| Rating current 25°C | 20,5 A |
| Rating current -25°C | 25,5 A |
| Rating current 30°C | 20 A |
| Rating current 35°C | 19,6 A |
| Rating current 40°C | 19,2 A |
| Rating current 45°C | 18,8 A |
| Rating current 5°C | 22,5 A |
| Rating current -5°C | 23,5 A |
| Rating current 50°C | 18,4 A |
| Rating current 55°C | 18 A |
| Rating current 60°C | 17,6 A |
| Rating current 65°C | 17,2 A |
| Rating current 70°C | 16,8 A |

**Power**

| | |
|---|---|
| Power loss per pole at In | 7,58 W |
| Total power loss under IN | 11,68 W |

**Dimensions**

| | |
|---|---|
| Depth of installed product | 70 mm |
| Height of installed product | 85 mm |
| Width of installed product | 17,7 mm |

**Installation, mounting**

| | |
|---|---|
| Type of top connection for modular devices | with screw |
| Type of bottom rail clip for modular devices | plastic |
| Type of Bottom Connection for modular devices | BIconnect |
| Bottom removability for modular devices | yes |
| Top removability for modular devices | no |
| Suitable for flush-mounting | yes |

**Connection**

| | |
|---|---|
| Upstream cage clamp delivery status | opened |
| Downstream cage clamp delivery status | opened |
| Connection cross-section at output with screw, for flexible conductor | 1/10 mm² |
| Connection cross-section of the access with screws, with flexible conductor | 1/10 mm² |
| Connection cross-section at output with screw, for massive conductor | 1/16 mm² |
| Connection cross-section for rigid conductor, upstream terminals with screws | 1/16 mm² |

Technical Properties

| | |
|---|---|
| Nominal tightening torque bottom terminal | 2,1 Nm |
| Nominal tightening torque top terminal | 1,9 Nm |
| Connection cross section of access and exit with screws, for flexible conductor | 1/10 mm² |
| Connection cross-section of input and output with screws, for massive conductors | 1/16 mm² |

**Cable**

| | |
|---|---|
| Length of conductors used for the heating test (m) according to product standard | 1 m |
| Conductor cross-section used for heating test(mm²) according to product standard | 2,5 mm² |

**Equipment**

| | |
|---|---|
| Can be accessorized | no |
| Quick connect | no |
| Type selective | no |

**Standards**

| | |
|---|---|
| Standard text | IEC 61009-1, AS/NZS 61009-1 |
| European directive WEEE | concerned |

**Safety**

| | |
|---|---|
| Protection index IP | IP20 |
| Residual current type | A |

**Use conditions**

| | |
|---|---|
| Degree of pollution according to IEC 60664 / IEC 60947-2 | 2 |
| Class of energy limitation I²t | 3 |
| Altitude | 2000 m |
| Storage/transport temperature | -25   80 °C |

**temperatur**

| | |
|---|---|
| Temp.-rise limits for access. parts (not touched) according to product standard | 60 K |
| Temperature of calibration | 30 °C |
| Ambient air temperature during heating test according to the product standard | 23,4 °C |
| Max. admissible temperature on accessible parts (intended to be touched) | 64,9 °C |
| Max. admissible temperature on accessible parts (manual operating means) | 48,9 °C |
| Max. admissible temperature on access. parts (not touched for normal operation) | 94,1 °C |
| Max. admissible temperature on terminals | 82,2 °C |
| Temperature-rise measured on accessible parts at In (intended to be touched) | 24,9 K |
| Temperature-rise measured on accessible parts at In (manual operating means) | 8,9 K |
| Temperature-rise measured on access. parts at In (not touched normal operation) | 54,1 K |
| Temperature-rise measured on terminals at In | 42,2 K |
| Temp.-rise limits for access. parts (toggle) according to product standard | 40 K |

### Technical Properties

| | |
|---|---|
| Temp.rise limits for access. parts (to be touched) according to product standard | 40 K |
| Temperature-rise limits for terminals according to the product standard | 65 K |

## Insulated busbar 1P fork 16mm² 12M

KDN180A

| Technical Properties | |
|---|---|
| Number of modules | 12 |
| Number of poles | 1 P |
| Rated current | 80 A |
| Connection cross-sect. rigid cable | 16mm² |
| Connector type | busbar fork |
| Isolated busbar | yes |
| Length | 210 mm |

# GOODWE

# DNS G3 Series

### 3-6kW I Single Phase
### 2 MPPTs

The GoodWe DNS G3 series inverter is designed for single-phase residential applications. Integrated with high-current input and DC input oversizing capabilities, the DNS G3 provides optimised power generation and substantial return on investment. With its lighter and fanless compact design, the DNS G3 inverter provides a reliable power supply that runs at a super quiet operation of less than 25dB. The inverter also takes safety measures including optional Arc Fault Current Interrupter (AFCI) and Type II Surge Protection Device (SPD) on both sides to protect the system from electrical fire and lightning hazards in extreme environments, for guaranteed safety.

## Smart Control & Monitoring
· 24/7 load consumption monitoring[*]
· Multiple communication protocols supported

## Superb Safety & Reliability
· Optional AFCI preventing electrical fires[*]
· Optional AC & DC Type II SPD & SPD failure alarm[*]

## Optimal Generation
· Max. 16A input current per string
· 150% DC input oversizing & 110% AC output overloading

## Friendly & Thoughtful Design
· IP66 ingress protection
· Low noise level thanks to fanless cooling

# DNS G3 Series

**GOODWE**

| Technical Data | GW3000-DNS-30 | GW3600-DNS-30 | GW4200-DNS-30 | GW5000-DNS-30 | GW6000-DNS-30 |
|---|---|---|---|---|---|
| **Input** | | | | | |
| Max.Input Power (W) | 4500 | 5400 | 6300 | 7500 | 9000 |
| Max. Input Voltage (V) | 600 | 600 | 600 | 600 | 600 |
| MPPT Operating Voltage Range (V) | 40 ~ 560 | 40 ~ 560 | 40 ~ 560 | 40 ~ 560 | 40 ~ 560 |
| Start-up Voltage (V) | 50 | 50 | 50 | 50 | 50 |
| Nominal Input Voltage (V) | 360 | 360 | 360 | 360 | 360 |
| Max. Input Current per MPPT (A) | 16 | 16 | 16 | 16 | 16 |
| Max. Short Circuit Current per MPPT (A) | 23 | 23 | 23 | 23 | 23 |
| Number of MPP Trackers | 2 | 2 | 2 | 2 | 2 |
| Number of Strings per MPPT | 1 | 1 | 1 | 1 | 1 |
| PV Input Operating Voltage Range | 40 ~ 600 | 40 ~ 600 | 40 ~ 600 | 40 ~ 600 | 40 ~ 600 |
| **Output** | | | | | |
| Nominal Output Power (W) | 3000 | 3600 | 4200[*1] | 5000 | 6,000 |
| Nominal Output Apparent Power (VA) | 3000 | 3600 | 4200[*1] | 5000 | 6,000 |
| Max. AC Active Power (W)[*2] | 3300 | 3960 | 4620[*1*3] | 5500 | 6,600 |
| Max. AC Apparent Power (VA)[*2] | 3300 | 3960 | 4620[*1*3] | 5500 | 6,600 |
| Nominal Output Voltage (V) | 220 / 230 / 240 | 220 / 230 / 240 | 220 / 230 / 240 | 220 / 230 / 240 | 220 / 230 / 240 |
| Nominal AC Grid Frequency (Hz) | 50 / 60 | 50 / 60 | 50 / 60 | 50 / 60 | 50/60 |
| Max / Rated Output Current (A) | 14.4 | 17.3[*3] | 20.1[*3] | 24.0 | 28.8 |
| Power Factor | ~1 (Adjustable from 0.8 leading to 0.8 lagging) | | | | |
| Max. Total Harmonic Distortion | <3% | <3% | <3% | <3% | <3% |
| **Efficiency** | | | | | |
| Max. Efficiency | 97.9% | 97.9% | 97.9% | 97.9% | 97.9% |
| European Efficiency | 97.0% | 97.0% | 97.2% | 97.3% | 97.4% |
| **Protection** | | | | | |
| PV String Current Monitoring | Integrated | Integrated | Integrated | Integrated | Integrated |
| PV Insulation Resistance Detection | Integrated | Integrated | Integrated | Integrated | Integrated |
| Residual Current Monitoring | Integrated | Integrated | Integrated | Integrated | Integrated |
| PV Reverse Polarity Protection | Integrated | Integrated | Integrated | Integrated | Integrated |
| Anti-islanding Protection | Integrated | Integrated | Integrated | Integrated | Integrated |
| AC Overcurrent Protection | Integrated | Integrated | Integrated | Integrated | Integrated |
| AC Short Circuit Protection | Integrated | Integrated | Integrated | Integrated | Integrated |
| AC Overvoltage Protection | Integrated | Integrated | Integrated | Integrated | Integrated |
| DC Switch | Integrated | Integrated | Integrated | Integrated | Integrated |
| DC Surge Protection | Type III (Type II Optional) | | | | |
| AC Surge Protection | Type III (Type II Optional) | | | | |
| AFCI | Optional | Optional | Optional | Optional | Optional |
| **General Data** | | | | | |
| Operating Temperature Range (℃) | -25 ~ +60 | -25 ~ +60 | -25 ~ +60 | -25 ~ +60 | -25 ~ +60 |
| Relative Humidity | 0 ~ 100% | 0 ~ 100% | 0 ~ 100% | 0 ~ 100% | 0 ~ 100% |
| Max. Operating Altitude (m) | 3000 | 3000 | 3000 | 3000 | 3000 |
| Cooling Method | Natural Convection | | | | |
| User Interface | LED, LCD (Optional), WLAN + APP | | | | |
| Communication | WiFi, RS485 or LAN or 4G or DI (Ripple Control or DRM) (Optional) | | | | |
| Communication Protocols | Modbus-RTU (SunSpec Compliant) | | | | |
| Weight (kg) | 12.8 | 12.8 | 12.8 | 12.8 | 13.4 |
| Dimension (W × H × D mm) | 350 × 410 × 143 | 350 × 410 × 143 | 350 × 410 × 143 | 350 × 410 × 143 | 350 × 410 × 143 |
| Noise Emission (dB) | <25 | <25 | <25 | <25 | <25 |
| Topology | Non-isolated | Non-isolated | Non-isolated | Non-isolated | Non-isolated |
| Self-consumption at Night (W) | <1 | <1 | <1 | <1 | <1 |
| Ingress Protection Rating | IP66 | IP66 | IP66 | IP66 | IP66 |
| DC Connector | MC4 (4 ~ 6mm²) | MC4 (4 ~ 6mm²) | MC4 (4 ~ 6mm²) | MC4 (4 ~ 6mm²) | MC4 (4 ~ 6mm²) |
| AC Connector | Plug and play connector (Max.6mm²) | | | | |
| Country of Manufacture | China | China | China | China | China |

*1: For Malaysia GW4200-DNS-30 Nominal Output Power (W) and Nominal Output Apparent Power (VA) and Max. AC Active Power (W) and Max. AC Apparent Power (VA) is 4000.
*2: For Belgium Max. AC Active Power (W) and Max. AC Apparent Power (VA)GW3000-DNS-30 is 3000, GW3600-DNS-30 is 3600, GW4200-DNS-30 is 4200, GW5000-DNS-30 is 5000,
    GW6000-DNS-30 is 6000; Nominal Output Current (A)GW3000-DNS-30 is 13.0, GW3600-DNS-30 is 15.7, GW4200-DNS-30 is 18.3, GW5000-DNS-30 is 21.7, GW6000-DNS-30 is 26.1.
*3: For Netherland Max. AC Active Power (W)and Max. AC Apparent Power (VA)GW3600-DNS-30 is 3600, GW4200-DNS-30 is 4200; Max. Output Current (A)and Nominal Output Current (A)
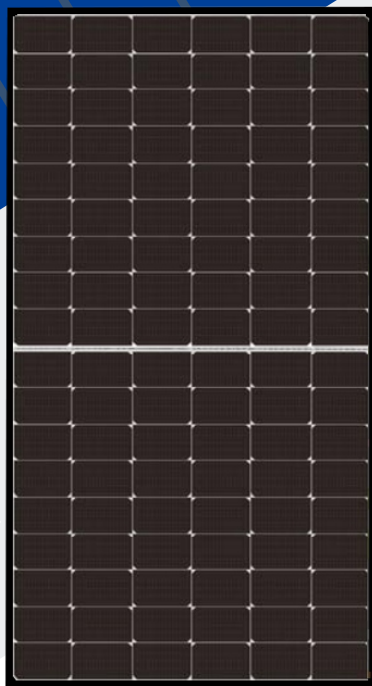    GW3600-DNS-30 is 15.7, GW4200-DNS-30 is 18.3.
*: All pictures shown are for reference only. Actual appearance may vary.
*: Optional functions or devices are purchased separately.
*: Please visit GoodWe website for the latest certificates.

# n-type TOPCon

# HIGH PERFORMANCE MODULE

## RSM108-9-415N-440N

**108 CELL**
n-type Module

**415-440Wp**
Power Output Range

**1500VDC**
Maximum System Voltage

**22.5%**
Maximum Efficiency

## KEY SALIENT FEATURES

**Bloomberg TIER 1** — Global Tier1 PV module manufactur

**LID** — n-type solar cell without LID caused by B-O , power degradation in 1st year is no more than 1%

Better Temperature Coefficient

**25 years** — Industry leading 25 years product warranty ★

Excellent low irradiance performance

**PID** — Excellent PID resistance

Positive power tolerance of 0~+3%

**2 EL** — Double EL testing ensuring defect-free products

Module Imp binning radically reduces string mismatch loss

Excellent wind load 2400Pa & snow load 5400Pa under certain installation method

Comprehensive product and system certification
- ◆ IEC61215:2016; IEC61730-1/-2:2016;
- ◆ ISO 9001:2015   Quality Management System
- ◆ ISO 14001:2015  Environmental Management System
- ◆ ISO 45001:2018  Occupational Health and Safety Management System

★ As there are different certification requirements in different markets, please contact your local Risen Energy sales representative for the specific certificates applicable to the products in the region in which the products are to be used.

ISO9001
ISO14001
ISO45001
IEC62941

Subject to the terms and conditions contained in the applicable Risen Energy Limited Warranty Statement. This 25-year product warranty is only applicable for products installed on residential rooftops in Australia.

## RISEN ENERGY CO., LTD.

Risen Energy is a leading, global tier 1 manufacturer of high-performance solar photovoltaic products and provider of total business solutions for residential, commercial and utility-scale power generation. The company, founded in 1986, and publicly listed in 2010, compels value generation for its chosen global customers. Techno-commercial innovation, underpinned by consummate quality and support, encircle Risen Energy's total Solar PV business solutions which are among the most powerful and cost-effective in the industry. With local market presence and strong financial bankability status, we are committed, and able, to building strategic, mutually beneficial collaborations with our partners, as together we capitalise on the rising value of green energy.

Tashan Industry Zone, Meilin, Ninghai 315609,Ningbo｜PRC
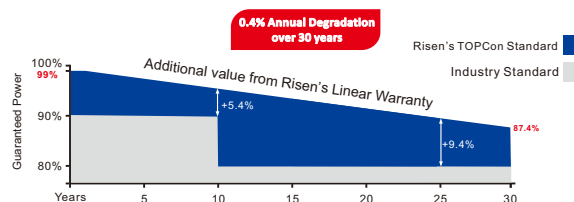Tel: +86-574-59953239    Fax: +86-574-59953599
E-mail: marketing@risenenergy.com  Website: www.risenenergy.com

## LINEAR PERFORMANCE WARRANTY

**25 year Product Warranty / 30 year Linear Power Warranty**

0.4% Annual Degradation over 30 years
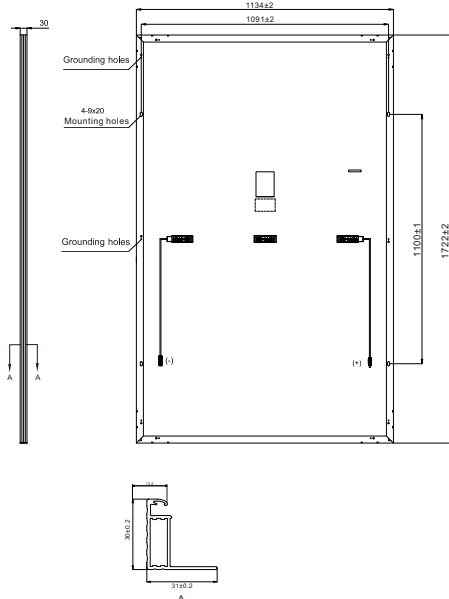
Risen's TOPCon Standard
Industry Standard

Guaranteed Power

100%
99%
90%
80%

Additional value from Risen's Linear Warranty

+5.4%
+9.4%
87.4%

Years    5    10    15    20    25    30

Only applicable to Resdential rooftop in Australia

**risen**

Preliminary
For Global Market

THE POWER OF RISING VALUE

## Dimensions of PV Module
Unit: mm



## ELECTRICAL DATA (STC)

| Model Number | RSM108-9-415N | RSM108-9-420N | RSM108-9-425N | RSM108-9-430N | RSM108-9-435N | RSM108-9-440N |
|---|---|---|---|---|---|---|
| Rated Power in Watts-Pmax(Wp) | **415** | **420** | **425** | **430** | **435** | **440** |
| Open Circuit Voltage-Voc(V) | 38.67 | 38.87 | 39.07 | 39.27 | 39.47 | 39.67 |
| Short Circuit Current-Isc(A) | 13.70 | 13.78 | 13.86 | 13.94 | 14.00 | 14.06 |
| Maximum Power Voltage-Vmpp(V) | 32.37 | 32.56 | 32.75 | 32.95 | 33.15 | 33.34 |
| Maximum Power Current-Impp(A) | 12.84 | 12.92 | 13.00 | 13.07 | 13.13 | 13.18 |
| Module Efficiency (%) ★ | 21.3 | 21.5 | 21.8 | 22.0 | 22.3 | 22.5 |

STC: Irradiance 1000 W/m², Cell Temperature 25°C, Air Mass AM1.5 according to EN 60904-3.
★ Module Efficiency (%): Rounding to the nearest number

## ELECTRICAL DATA (NMOT)

| Model Number | RSM108-9-415N | RSM108-9-420N | RSM108-9-425N | RSM108-9-430N | RSM108-9-435N | RSM108-9-440N |
|---|---|---|---|---|---|---|
| Maximum Power-Pmax (Wp) | 314.8 | 318.6 | 322.5 | 326.1 | 329.5 | 332.8 |
| Open Circuit Voltage-Voc (V) | 35.78 | 36.15 | 36.34 | 36.52 | 36.71 | 36.89 |
| Short Circuit Current-Isc (A) | 11.16 | 11.30 | 11.37 | 11.43 | 11.48 | 11.53 |
| Maximum Power Voltage-Vmpp (V) | 29.86 | 30.22 | 30.40 | 30.57 | 30.76 | 30.94 |
| Maximum Power Current-Impp (A) | 10.48 | 10.54 | 10.61 | 10.67 | 10.71 | 10.76 |

NMOT: Irradiance at 800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s.

### RSM108-9-425N
**I-V characteristics at different irradiations**



**I-V characteristics at different temperatures**
（AM1.5，1000W/m²）



## MECHANICAL DATA

| | |
|---|---|
| Solar cells | n-type |
| Cell configuration | 108 cells (6×9+6×9) |
| Module dimensions | 1722×1134×30mm |
| Weight | 22kg |
| Superstrate | High Transmission, Low Iron, Tempered ARC Glass |
| Substrate | White Back-sheet |
| Frame | Anodized Aluminium Alloy, Black |
| J-Box | Potted, IP68, 1500VDC, 3 Schottky bypass diodes |
| Cables | 4.0mm², Positive(+)1200mm, Negative(-)1200mm (Connector Included ) or customized length |
| Connector | MC4 EVO2, IP68 |

## TEMPERATURE & MAXIMUM RATINGS

| | |
|---|---|
| Nominal Module Operating Temperature (NMOT) | 44°C±2°C |
| Temperature Coefficient of Voc | -0.25%/°C |
| Temperature Coefficient of Isc | 0.046%/°C |
| Temperature Coefficient of Pmax | -0.30%/°C |
| Operational Temperature | -40°C~+85°C |
| Maximum System Voltage | 1500VDC |
| Max Series Fuse Rating | 25A |
| Limiting Reverse Current | 25A |

**Our Partners:**

## PACKAGING CONFIGURATION

| | 40ft(HQ) | 20ft |
|---|---|---|
| Number of modules per container | 936 | 216 |
| Number of modules per pallet | 36 | 36 |
| Number of pallets per container | 26 | 6 |
| Packaging box dimensions (LxWxH) in mm | 1738×1140×1260 | 1738×1140×1260 |
| Box gross weight[kg] | 835 | 835 |

REM108-N-16BB-EN-H1-1-2023-black frame-AU

# atom

## Coolum

4 blade 75W AC ceiling fan

- Powerful and efficient 75W AC motor
- Easy installation with our quick connect wiring solution
- Pre-balanced for smoother, quieter operation
- Slimline design ideal for indoor and covered outdoor applications
- ABS body and canopy with 4 reinforced ABS blades
- Hangsure canopy up to 15 degrees
- Reversible for summer and winter use
- Compatible with Atom Air ceiling fan remote control ACREMOTE/KIT (sold separately)
- 3 speed wall controller

### ORDERING INFORMATION

| | |
|---|---|
| **Order code** | 18449 |
| **Description** | 52 inch (1320mm) 4 blade 75W AC ceiling fan white |
| **Item Code** | COOLUM/52/WH |

### MECHANICAL

| | |
|---|---|
| **IP Rating** | IP20 |
| **Fitting Colour** | Satin White |
| **Body Material** | ABS |

### ELECTRICAL

| | |
|---|---|
| **Working Temp Range** | -10 to 40 °C |
| **Input Frequency** | 50Hz Hz |
| **Input voltage** | 230Vac |

In Australia the Input voltage is defined as 230Vac -6%/+10%. This effectively means that the voltage range of these products are 216Vac - 253Vac or 240V +6%

### AIR MOVEMENT

| | |
|---|---|
| **Motor Wattage** | 75 W |
| **Motor Type** | AC |
| **No. Speeds** | 3 |
| **Control** | Wall control |
| **Ceiling Rake** | 15 ° |
| **Ceiling Drop** | 300 mm |
| **Blade Pitch** | 13 ° |
| **Blade Material** | ABS |
| **Fan Size** | 1320mm (52inch) |

| | |
|---|---|
| **Fan Speed 1** | 75 W, 257 rpm, 16200 m³/h |
| **Fan Speed 2** | 37 W, 170 rpm, 12000 m³/h |
| **Fan Speed 3** | 20 W, 120 rpm, 8300 m³/h |

### COMPLIANCE

| | |
|---|---|
| **Standards** | AS/NZS 60335.1 AS/NZS 60335.2.80 AS CISPR 14 |

### WARRANTY

| | |
|---|---|
| **Domestic Use Warranty** | 4 Onsite, 2 RTB (Total 6 years) |

### DIMENSIONS

| | |
|---|---|
| **Product Height** | 327 mm |
| **Product Width** | 1320 mm |
| **Product Weight** | 6360 g |

### LINE DRAWINGS

# atom

**COOLUM/52**

299mm · 327mm · Ø 1320mm
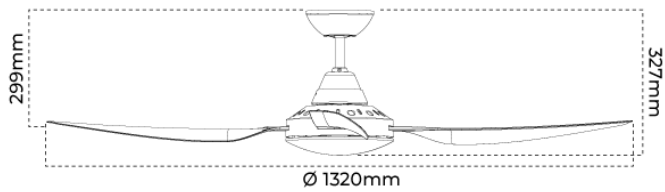
## ACCESSORIES

| | |
|---|---|
| **Order code** | 12509 |
| **Description** | Remote control receiver and remote kit for AC ceiling fans - White |
| **Item Code** | ACREMOTE/KIT/WH |
| **Order code** | 12513 |
| **Description** | 1500mm Extension rod for ceiling fans w/loom - white |
| **Item Code** | ROD/150/WH |
| **Order code** | 12511 |
| **Description** | 900mm Extension rod for ceiling fans w/loom - white |
| **Item Code** | ROD/90/WH |

# atom

# Eclipse

Ducted exhaust fan

- Powerful ball bearing motor for superior reliability
- Draught stopper for improved energy efficiency
- Enjoy quiet operation
- Supplied with flex and plug for easy DIY installation
- 3-year return to base warranty for peace of mind

## ORDERING INFORMATION

| | |
|---|---|
| **Order code** | 16758 |
| **Description** | 290mm 35W Ducted exhaust fan with round white fascia |
| **Item Code** | ECLIPSE/290/WH/RD |

## MECHANICAL

| | |
|---|---|
| **IP Rating** | IPx4 |
| **Fitting Colour** | White |
| **Product Finish** | Matt |
| **Installation Type** | Recessed |

## ELECTRICAL

| | |
|---|---|
| **Working Temp Range** | -10 to 40 °C |
| **Input Frequency** | 50 Hz |
| **Input voltage** | 230Vac |

In Australia the Input voltage is defined as 230Vac -6%/+10%. This effectively means that the voltage range of these products are 216Vac - 253Vac or 240V +6%

## AIR MOVEMENT

| | |
|---|---|
| **Outlet** | 150 mm |
| **Noise level** | 45 dB |
| **Motor Wattage** | 35 W |
| **Motor Type** | Ball bearing |
| **Fan Type** | Centrifugal |
| **Fan Size** | 290 |
| **Air extraction** | 350 m3/hr |

## DRIVER

| | |
|---|---|
| **Flex & Plug or Lead Length** | 900 mm |
| **Wiring Type** | Re-wireable Flex & Plug (3 pin) |

## COMPLIANCE

| | |
|---|---|
| **Product Design Life** | 10 years |

The product design life relates to the total product life which includes LEDs, drivers and the enclosure. This is different to the LED lifetime which only refers to the economical lifetime of the LEDs at which time the lumen output has dropped below the L Value. The product design life is calculated at the maximum ambient or working temperature of the product and takes into account the Daily Use.

| | |
|---|---|
| **Daily Use** | 2 hrs |

The Daily Use is the recommended time required to meet the product's design life. Installations can exceed this time, however the product design life will be reduced proportionally.

| | |
|---|---|
| **Standards** | AS/NZS 60335.1<br>AS/NZS 60335.2.80<br>AS/NZS CISPR 14.1 |

## WARRANTY

| | |
|---|---|
| **Warranty Operating Hours** | 2500 hrs |

This product is provided with a warranty up until the stated warranty period or until the stated warranty operating hours has been reached (whichever occurs first).
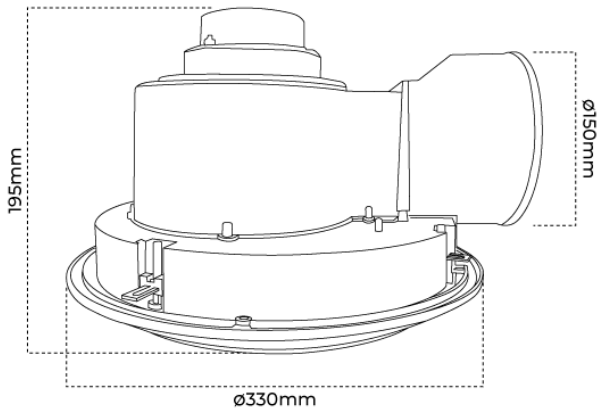
| | |
|---|---|
| **Domestic Use Warranty** | 3 RTB (Total 3 Years) |

# atom

## DIMENSIONS

| | |
|---|---|
| **Product Height** | 195 mm |
| **Product Length** | 330 mm |
| **Product Width** | 330 mm |
| **Minimum Ceiling Depth** | 220 mm |
| **Cutout** | 290 mm |

## LINE DRAWINGS

**ECLIPSE/290/WH/RD**



## ACCESSORIES

| | |
|---|---|
| **Order code** | 16777 |
| **Description** | 290mm round exhaust fan fascia - matt black |
| **Item Code** | ECLIPSE/TRIM/290/B/RD |

| | |
|---|---|
| **Order code** | 16781 |
| **Description** | 290mm square exhaust fan fascia - matt black |
| **Item Code** | ECLIPSE/TRIM/290/B/SQ |

| | |
|---|---|
| **Order code** | 16779 |
| **Description** | 290mm square exhaust fan fascia - matt white |
| **Item Code** | ECLIPSE/TRIM/290/WH/SQ |

# atom

## Spear II

LED Diffused Batten - TRI-CCT

- Narrow profile body
- Opalised reeded diffuser
- Quick close clips
- Ideal for all indoor commercial and residential applications
- Selectable colour temperature
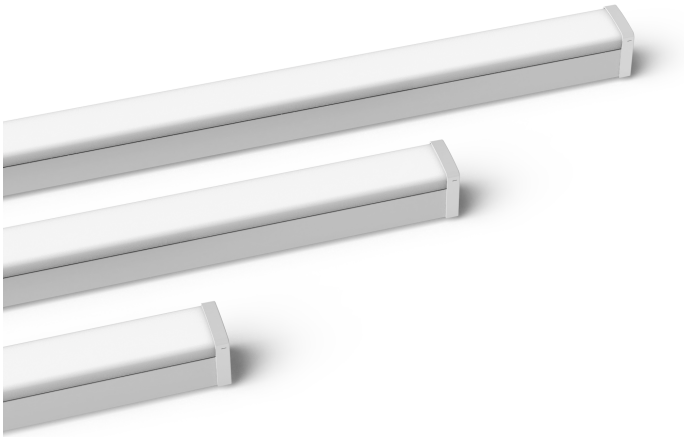
## ORDERING INFORMATION

| | |
|---|---|
| **Order code** | 11462 |
| **Description** | Spear II - 1200mm 36W LED Diffused Batten - TRI-CCT |
| **Driver Type** | Fixed output |
| **Item Code** | AT9860/1200/TRI |

## MECHANICAL

| | |
|---|---|
| **Body Material** | Steel |
| **Diffuser Material** | Polycarbonate |
| **Product Finish** | Powdercoated |
| **Fitting Colour** | White |
| **IK Rating** | IK08 |
| **Installation Type** | Surface mount |
| **IP Rating** | IP20 |

## ELECTRICAL

| | |
|---|---|
| **Electrical Rating** | Class I |
| **Input Frequency** | 50 Hz |
| **Input voltage** | 230Vac |

In Australia the Input voltage is defined as 230Vac -6%/+10%. This effectively means that the voltage range of these products are 216Vac - 253Vac or 240V +6%

| | |
|---|---|
| **Maximum Wattage** | 36 W |
| **Switch Type** | Inline |
| **Working Temp Range** | 0 to 40 °C |

## LAMP

| | |
|---|---|
| **Macadam Steps (SDCM)** | 5-step MacAdam Ellipse |
| **CCT Configuration** | TRI-CCT |
| **Colour Rendering Index (CRI)** | >80 |

## LED LIFETIME

| | |
|---|---|
| **LED Lifetime** | 60000 hrs |

This is the Reported LED Lifetime in Hours based on TM-21. Atom does not list the projected or calculated LED lifetime, which is normally longer as TM-21 Addendum B explicitly states "The Calculated and Projected Lp(Dk) are not to be reported". This Lifetime refers to the life of a single LED however the system life is longer since the probability and binomial distribution of all LEDs in the system means that the average led is performing above the specification and compensates for the LEDs falling below.

| | |
|---|---|
| **LED Lifetime Rating** | L70B10 |
| **TM-21 Test Hours** | 10000 hrs |

## COLOUR TEMPERATURE

| **36 Watts** | |
|---|---|
| 4000 K | 3600 lm |
| 5000 K | 4100 lm |
| 6500 K | 3740 lm |

# atom

## DRIVER

| | |
|---|---|
| **Dimmable** | No |
| **Driver Included** | Yes |
| **Integrated Driver** | No |
| **Driver Type** | Fixed output |
| **Wiring Type** | Re-wireable terminal block (3 pin) |

## COMPLIANCE

| | |
|---|---|
| **Product Design Life** | 6 years |

The product design life relates to the total product life which includes LEDs, drivers and the enclosure. This is different to the LED lifetime which only refers to the economical lifetime of the LEDs at which time the lumen output has dropped below the L Value. The product design life is calculated at the maximum ambient or working temperature of the product and takes into account the Daily Use.

| | |
|---|---|
| **Daily Use** | 12 hrs |

The Daily Use is the recommended time required to meet the product's design life. Installations can exceed this time, however the product design life will be reduced proportionally.

## WARRANTY

| | |
|---|---|
| **Domestic Use Warranty** | 3 RTB (Total 3 Years) |
| **Warranty Operating Hours** | 15000 hrs |

This product is provided with a warranty up until the stated warranty period or until the stated warranty operating hours has been reached (whichever occurs first).

## DIMENSIONS

| | |
|---|---|
| **Product Height** | 74 mm |
| **Product Length** | 1164 mm |
| **Product Width** | 74 mm |

## LINE DRAWINGS

### AT9860/1200/TRI

1164 mm
74 mm
74 mm
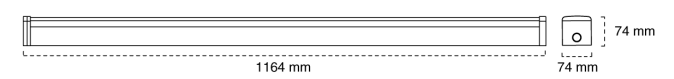
## PHOTOMETRICS

### AT9860/1200/TRI 6500K

70mm x 1130mm

Flux 3741 lm
Maximum 266.46 cd/klm
Position C=180.00 G=4.00
Efficiency: 100.00%
Date: 10-11-2023
Asymmetrical

### AT9860/1200/TRI 5000K

70mm x 1130mm

Flux 4060 lm
Maximum 267.06 cd/klm
Position C=112.50 G=1.00
Efficiency: 100.00%
Date: 10-11-2023
Asymmetrical

Information is subject to change without prior notice. Images are for illustrative purposes only. E&OE

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# atom'

## AT9860/1200/TRI 4000K

70mm x 1130mm

C Halfplanes

180.0 ——— 0.0

270.0 ——— 90.0

Flux 3558 lm
Maximum 267.42 cd/klm
Position C=180.00 G=3.00
Efficiency: 100.00%
Date: 10-11-2023
Asymmetrical

# atom

# AT9039 TRI

8W LED Downlight With Dimmable Integral Driver -

Tri Colour

## Features

- Built-in Driver
- Ideal for Residential, retail, showroom and decorative
- IC-4 Rated - According to AS/NZS605982.2:2016
- Seamless Look

## ORDERING INFORMATION

| | |
|---|---|
| Order code | 14536 |
| Description | 8W LED Downlight Dimmable - 90deg - w/F&P - White - Recessed Lens - Tri Colour |
| Driver Type | Dimmable ( Phase cut) |
| Item Code | AT9039/WH/TRI |

## MECHANICAL

| | |
|---|---|
| Adjustability | Fixed |
| Body Material | Aluminium |
| Product Finish | Powdercoated |
| Fitting Colour | White |
| IC Rating | IC-4 |

IC-4 rating has been conducted at the products maximum working Temperature Range (C) in line with Australian standards. This provides the required safety when covered with insulation and used in Australian Environments.

| | |
|---|---|
| Installation Type | Recessed |
| IP Rating | IP44 Front Face Only |

## ELECTRICAL

| | |
|---|---|
| Electrical Rating | Class II |
| Input Frequency | 50 Hz |
| Input voltage | 230Vac |

In Australia the Input voltage is defined as 230Vac -6%/+10%. This effectively means that the voltage range of these products are 216Vac - 253Vac or 240V +6%

| | |
|---|---|
| Maximum Wattage | 8 W |
| Switch Type | Inline |

| | |
|---|---|
| Working Temp Range | 5 to 40 °C |

## LAMP

| | |
|---|---|
| Beam Angle | 90 ° |
| CCT Configuration | TRI-CCT |
| CRI | >80 |
| LED Type | Diffused |
| Number of Lamps | 1 |

## LED LIFETIME

| | |
|---|---|
| LED Lifetime | 36000 hrs |

This is the Reported LED Lifetime in Hours based on TM-21. Atom does not list the projected or calculated LED lifetime, which is normally longer as TM-21 Addendum B explicitly states "The Calculated and Projected Lp(Dk) are not to be reported". This Lifetime refers to the life of a single LED however the system life is longer since the probability and binomial distribution of all LEDs in the system means that the average led is performing above the specification and compensates for the LEDs falling below.

| | |
|---|---|
| LED Lifetime Rating | L70B10 (6k) |
| TM-21 Test Hours | 6000 hrs |

## COLOUR TEMPERATURE

| | |
|---|---|
| Warm White (3000 K) | 670 lm |
| Cool White (4000 K) | 750 lm |
| DayLight (5700 K) | 700 lm |

# atom

## DRIVER

| | |
|---|---|
| **Dimmable** | Yes |
| **Driver Included** | Yes |
| **Integrated Driver** | Yes |
| **Driver Type** | Dimmable ( Phase cut) |
| **Wiring Type** | Non rewireable Flex & Plug |

## COMPLIANCE

| | |
|---|---|
| **Product Design Life** | 10 years |

The product design life relates to the total product life which includes LEDs, drivers and the enclosure. This is different to the LED lifetime which only refers to the economical lifetime of the LEDs at which time the lumen output has dropped below the L Value. The product design life is calculated at the maximum ambient or working temperature of the product and takes into account the Daily Use.

| | |
|---|---|
| **Standards** | AS/NZS 60598.1 |
| | AS/NZS 60598.2.2 |
| | AS/NZS 61347.1 |
| | AS/NZS 61347.2.13 |
| | AS CISPR 15 |

## WARRANTY

| | |
|---|---|
| **Commercial Use Warranty** | 3 RTB (Total 3 Years) |
| **Domestic Use Warranty** | 3 (Yr) RTB |
| **Operational Lifetime** | 30000 hrs |
| **VIP Warranty** | 2 Onsite, 3 RTB (Total 5 Years) |

VIP warranty is available to registered users and is subjected to additional terms and conditions.

| | |
|---|---|
| **Warranty Operating Hours** | 13000 hrs |

This product is provided with a warranty up until the stated warranty period or until the stated warranty operating hours has been reached (whichever occurs first).

## DIMENSIONS

| | |
|---|---|
| **Cutout** | 90 mm |
| **Product Diameter** | 115 mm |
| **Product Height** | 60 mm |

## LINE DRAWINGS

### AT9039/TRI
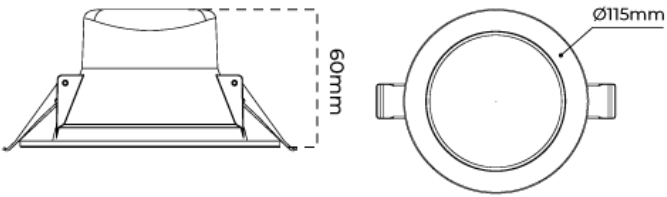


## PHOTOMETRICS

### AT9039/WH/DL

Lamp=794.2 lm
Max=355.7 cd
Power=9 W



-115x-115x5 mm

## AT9039/WH/CW

Lamp=721.3 lm
Max=316 cd
Power=9 W

Ellipse || length 115x115x5 mm

## AT9039/WH/WW

Lamp=669.1 lm
Max=296 cd
Power=9 W

-115x-115x5 mm

Information is subject to change without prior notice. Images are for illustrative purposes only.  E&OE
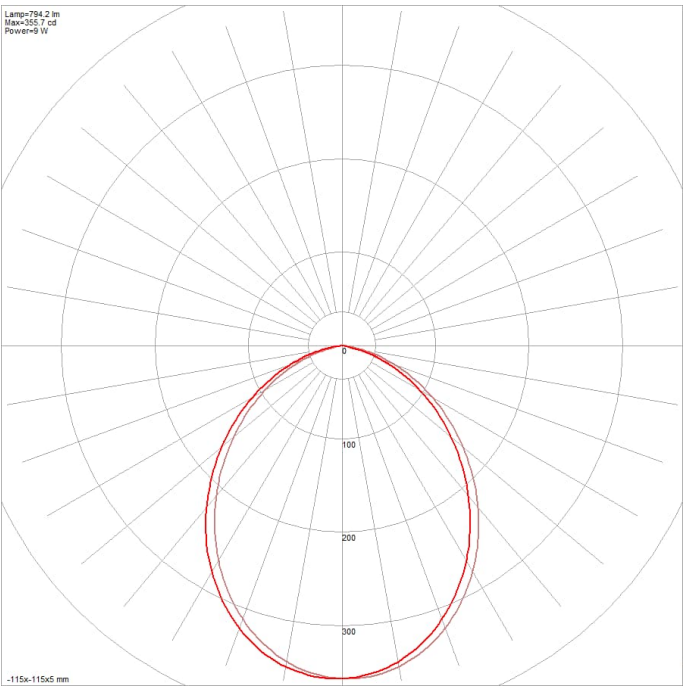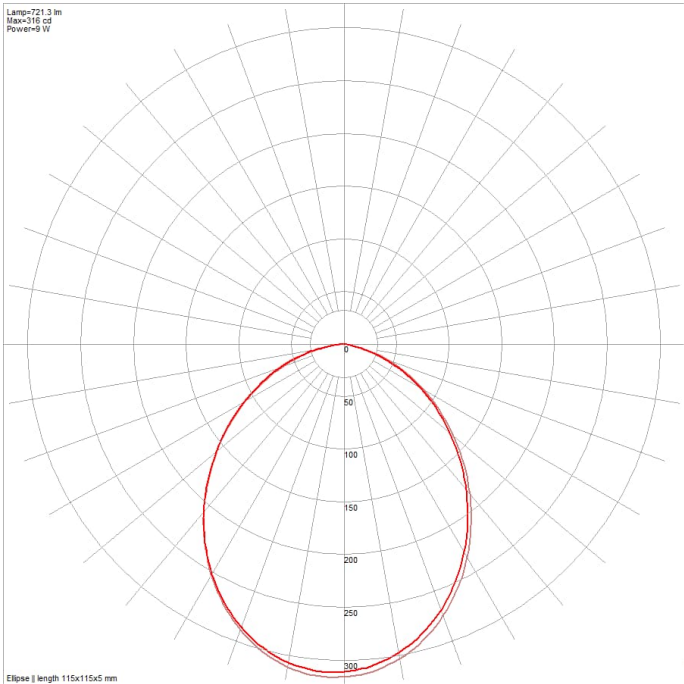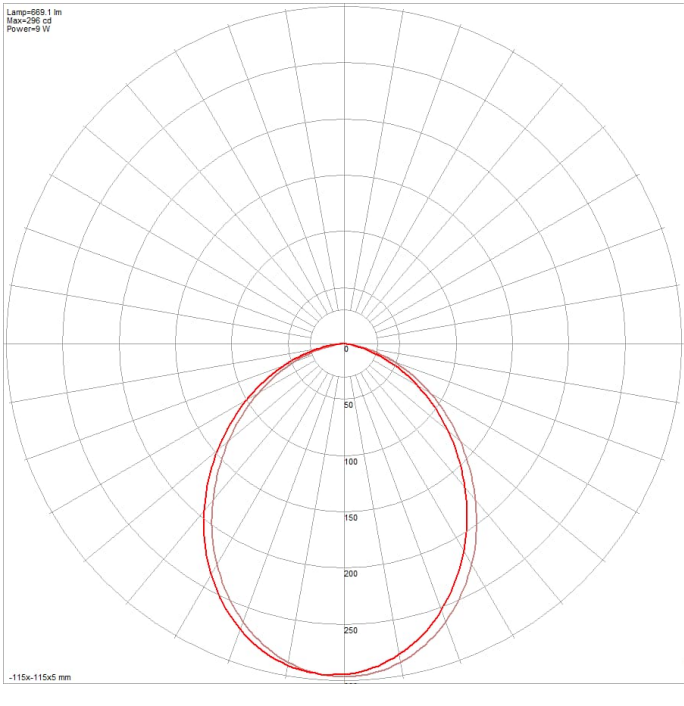
# Aluminium Surface Mounted LED Downlights

**HAVIT** Lighting

## PRODUCT SPECIFICATIONS

**Name:** Nella

**Material:** Aluminium

**Colour:** Matt Black or Matt White

**IP Rating:** IP54

**Lamp Base:** Built in LED

**CRI:** ≥80

**Wiring:** Parallel

**Dimmable:** Yes (Triac)

**Warranty:** 2 Years Replacement**

## DIMENSIONS

65
75
65
Ø75
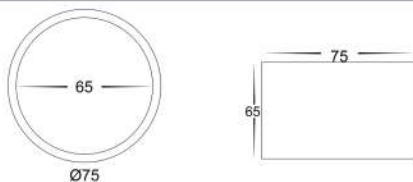
## OPTIONAL EXTENSIONS

HV5802-BLK-EXT

HV5802-WHT-EXT

## COLOUR TEMPERATURE

Tri-Colour By Havit
3000K
4000K
5500K

## IP RATING

IP54
INDOOR/OUTDOOR
WEATHERPROOF

## APPROVALS

## Product Ordering

| IMAGE | PART NUMBER | COLOUR TEMP | LUMENS | INPUT | BEAM ANGLE | INCLUDED LED |
|-------|-------------|-------------|--------|-------|------------|--------------|
|  | **HV5802T-BLK** | 3000k 4000k 5500k | 560lm 595lm 630lm | 240v AC | 120° | **TRI Colour** 7w Built in LED |
|  | **HV5802T-WHT** | 3000k 4000k 5500k | 560lm 595lm 630lm |  |  |  |

\* Lumen output measured at source
\*\* See Warranty Terms and Conditions for more information

# atom'

# LED SECURITY LIGHTS

## Twin 24W Security Spotlights IP54 with sensor

## CONDOR TWIN WITH SENSOR



**Features**

- High quality die-cast aluminium housing and glass diffuser
- Easy to install with Phillips head screws
- Three selectable colour temperatures
- Up to 30% higher lumen output[1]
- Inbuilt relay allows switching and control of other loads
- Highly reliable 240V sensor
- Manual override
- Adjustable sensitivity

**Colour temperature**
Tri-Colour (3000K, 4000K & 5000K)

**IP54 Rating**
Improved rating

**Quality**
Improved design for high reliability

**Relay output**
230V 300W

# atom

**Product datasheet**

## Description

Twin 24W Security Spotlight IP54 with sensor.

## Finish

⬤ Black (BLK)          ◯ White (WH)

## Product specification

| | |
|---|---|
| **Voltage** | 230V~ 50Hz |
| **Power consumption** | 24W |
| **Light colour options** | Tri-Colour |
| **Lumen output** | 2200lm / 2450lm / 2400lm |
| **Colour temperature** | 3000K / 4000K / 5000K |
| **Colour rendering index** | >80 |
| **Beam Angle** | 90° |
| **Dimmable** | No |
| **Warranty** | 3 years |
| **Working temperature** | -10°C – 40°C |
| **IP Rating** | IP54 |
| **Electrical classification** | Class I |
| **Sensor specifications** | |
| **Relay rating** | 230V~ 300W |
| **Detection angle** | 120° |
| **Detection distance** | Max 10m (mounted at 2.5m) |
| **Adjustable time** | 5 sec to 12 min |
| **Lux** | 10 - 1000 lx |

## Product range

| SKU | Code | Finish |
|---|---|---|
| 13960 | Condor Single | White |
| 13959 | Condor Single | Black |
| 13962 | Condor Single w/sensor | White |
| 13961 | Condor Single w/sensor | Black |
| 13964 | Condor Twin | White |
| 13963 | Condor Twin | Black |
| 13966 | Condor Twin w/sensor | White |
| 13965 | Condor Twin w/sensor | Black |

## Dimensions

| Width | Height | Depth |
|---|---|---|
| 234mm | 158mm | 177mm |
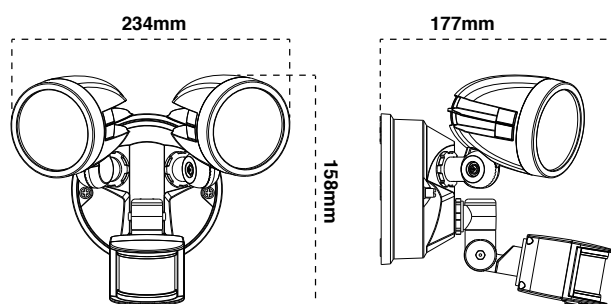


[1] Compared to previous Atom model AT9130.

# Aluminium White Up & Down Wall Pillar Lights

**HAVIT** Lighting

## PRODUCT SPECIFICATIONS

**Name:** Tivah

**Material:** Aluminium

**Colour:** Poly powder coated white
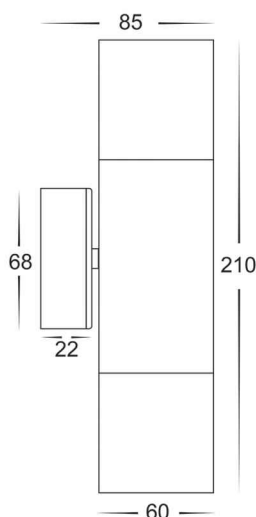
**IP Rating:** IP65

**Lamp Base:** GU10 or MR16

**CRI:** ≥80

**Wiring:** Parallel

**Dimmable:** No

**Warranty:** 2 Years Replacement**
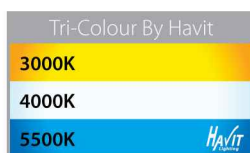
## DIMENSIONS

85
68
22
210
60

### COLOUR TEMPERATURE

Tri-Colour By Havit
3000K
4000K
5500K
*HAVIT Lighting*

### IP RATING

IP65
INDOOR/OUTDOOR
WEATHERPROOF

### APPROVALS

## Product Ordering

| IMAGE | PART NUMBER | COLOUR TEMP | LUMENS | INPUT | BEAM ANGLE | INCLUDED LED |
|-------|-------------|-------------|--------|-------|------------|--------------|
| | **HV1035T** | 3000K<br>4000K<br>5500K | 2x 240-560lm<br>2x 255-595lm<br>2x 270-630lm | 240v | 60° | **9 in 1 Tri-Colour**<br>2x 3/5/7w GU10 LED |
| | **HV1037GU10T** | 3000K<br>4000K<br>5500K | 2x 270lm<br>2x 285lm<br>2x 300lm | 240v | 120° | **Tri-Colour**<br>2x 5w GU10 LED |
| | **HV1037MR16T** | 3000K<br>4000K<br>5500K | 2x 270lm<br>2x 285lm<br>2x 300lm | 12v DC | 120° | **Tri-Colour**<br>2x 5w MR16 LED |

12v DC models must be used with suitable 12v DC LED Driver

\* Lumen output measured at source
** See Warranty Terms and Conditions for more information

# 6800 SMOKE ALARM

## Mains Powered 240V AC with 9V DC Battery Backup

**ADVANCE** SENSOR

130mm  45mm

Certified Product
Australian Standard
AS3786:2014
SAI GLOBAL

WARRANTY 5 YEAR

ACTIVFIRE CERTIFIED ®
Tested & Complies to
Australian Standards
AS3786:2014

## Application

The PSA Lifesaver 6800 model is a mains powered, 9V battery backed smoke alarm.
The alarm uses photoelectric technology and is designed to be surface mounted on the ceiling or wall.
It can be used as a single stand alone unit, or can be interconnected with up to 24 units.

When used with the 6000WB (wireless RF interlink baseplate), the alarm offers wireless interlinking capabilities as well as remote test/hush functionality with 6000THL (wireless smoke alarm controller)

## Features

- New advance sensor technology and intelligence to reduce sensitive activations.
- Anti-static sensor to repel dust particles
- Easy installation & maintenance with QUICK SLIDE base.
- Mains powered, surface mount smoke alarm
- 240V AC with 9V battery backup (Duracell supplied)
- Photoelectric sensing technology
- Increased resilience to electrical interferences and dirty power.
- Chamber monitoring feature and first to alarm memory

- Switch-mode power supply uses less power and safer operation.
- Compatible with 5800 series baseplate
- Bug screen over sensor chamber
- Low battery hush feature
- Single button operation
- 5 year warranty
- ActivFire Certified, Approved to AS3786:2014
- SAI Global Certified

# LIFESAVER

**6000 SERIES**

## 6800 SMOKE ALARM
Mains Powered 240V AC with 9V DC Battery Backup

**ADVANCE SENSOR**

## Technical Specifications

| | |
|---|---|
| **Model** | 6800 |
| **Part Number** | LIF6800 |
| **Sensor Type** | Photoelectric Advance Sensor |
| **Supply Voltage** | 240V AC 50Hz |
| **Power Consumption** | 10mA max per alarm, 4mA (standby) |
| **Battery Back-up** | 9V battery (Duracell Alkaline supplied) |
| **Interconnecting** | Interconnectable up to 24 units |
| **Alarm Volume** | 85dBA at 3 metres |
| **Alarm Signal Pattern** | ISO8201 (T3 - Repeat 3 long beeps) |
| **Temperature Range** | 0˚C - 40˚C |
| **Humidity Range** | Up to 93% RH (non-condensing) |
| **Hush Function** | Silences alarm for 9 minutes<br>Red LED flashes every 10 seconds<br>Dense smoke will override hush function |
| **Low Battery Hush** | Silence low battery beeping for 8 hours |
| **Alarm Duration** | Alarm will sound for as long as smoke is detected, then unit will automatically reset when smoke clears. |
| **Alarm Indication** | Red LED flashes every second.<br>When interconnected, only the red LED of initiating unit will flash. |
| **Alarm Memory** | Red LED flashes 3 times every 40 seconds. Pressing Test button will sound a short beeping sequence. |
| **Chamber Monitoring** | 3 beeps every 40 seconds.<br>Indicates maintenance is required. |
| **Indicator LEDs** | Green LED - Power indicator<br>Red LED - Alarm status indicator, differentiated by frequency of flash. |
| **Wiring Terminal** | 9V, Active, Switch, Neutral, Loop |
| **Dimensions** | 130mm (diameter) x 45mm (depth) |
| **Approvals** | ActivFire, SAI Global, RCM, AS3786:2014 |
| **Warranty** | 5 years |

## Item Code

| LIF6800 | Quantity | Barcode |
|---|---|---|
| Single | 1 | 9318475002155 |
| Pack | 6 | 19318475002152 |
| Carton | 24 | 29318475002159 |
| Pallet | 648 | |

## Compatibility

| | |
|---|---|
| **6800** | 240V smoke alarm 9V battery backup (replaceable) |
| **6800RL** | 240V, 10yr backup battery (non-replaceable) |
| **6000DCW** | 10yr wireless smoke alarm |
| **6000WB** | Wireless RF interlink baseplate |
| **6000THL** | Smoke alarm control (wireless) (6800 and 6800RL requires 6000WB) |
| **6000WIRM** | Wireless interconnect module |

## Accessories

| | |
|---|---|
| **LIFHA240** | Heat alarm with 9V battery back |
| **LIFCO240** | Carbon monoxide alarm |
| **LIF5800ACF** | Flush smoke alarm 240V, 10yr backup battery |
| **LIFSAIR** | Isolation relay (Gen 2) |
| **LIFSAIRMB** | Isolation relay (Gen 2) within mounting block |
| **LIFMB3848** | Mounting block |
| **LIFLT711** | Smoke alarm tester (aerosol) |

**PSA**
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SECURITY
INTERCOMS

PROTECTING SINCE 1985 PSA PRODUCTS

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enquiry@psaproducts.com.au

# PRODUCT DATA AND APPLICATION SHEET

**PRODUCT NAME** **Classic Series Flush Switches (Horizontal/Vertical)**



**PRODUCT CODE**     SW1, SW2, SW3, SW4, SW5, SW6
SW1V, SW2V, SW3V, SW4V, SW5V, SW6V

**DESCRIPTION**     Tesla Classic Switches

**BOX QUANTITY**     10          **OUTER QUANTITY**          100

**FEATURES**

- Available in 1,2,3,4,5 and 6 gang combinations
- Horizontal and vertical mount
- Flush type single pole, single way switches.
- 84mm mounting centers

- Terminals suit 4 x 1.5mm$^2$ cable
- No special brackets required for mounting
- Metal cover finishes: MS-Matt Silver, SP-Silver Plastic

**WARRANTY**

- 5 Years

**APPLICATIONS**

- This Product is recommended for residential and commercial environments
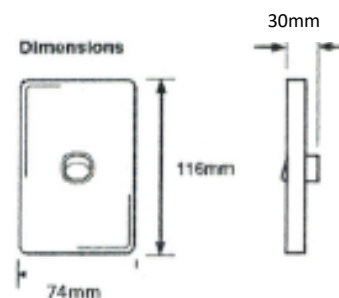


| Specifications |
| --- |
| Operational Voltage:250V a.c. 50Hz |
| Dimensions:116 x 74mm |
| AS/NZS 3133 |
| Approval No SGS/142031-EA |
| Standard Colours: White |

# Tesla
Electrical Components

| Standard Size – Horizontal Mounting | | | | |
|---|---|---|---|---|
| **Product Code** | **Length** | **Width** | **Depth** | **Mounting Centre's** |
| **All Products** | **74mm** | **116mm** | **30mm** | **84mm apart** |
| SW1 | One Gang Flush Type single pole, Single way switches 1SW 16A 250V AC; | | | |
| SW2 | Two Gang Flush Type single pole, Single way switches 2SW 16A 250V AC; | | | |
| SW3 | Three Gang Flush Type single pole, Single way switches 3SW 16A 250V AC; | | | |
| SW4 | Four Gang Flush Type single pole, Single way switches 4SW 16A 250V AC; | | | |
| SW5 | Five Gang Flush Type single pole, Single way switches 5SW 16A 250V AC; | | | |
| SW6 | Six Gang Flush Type single pole, Single way switches 6SW 16A 250V AC; | | | |

| Standard Size – Vertical Mounting | | | | |
|---|---|---|---|---|
| **Product Code** | **Length** | **Width** | **Depth** | **Mounting Centre's** |
| **All Products** | **116mm** | **74mm** | **30mm** | **84mm apart** |
| SW1V | One Gang Flush Type single pole, Single way switches 1SW 16A 250V AC; | | | |
| SW2V | Two Gang Flush Type single pole, Single way switches 2SW 16A 250V AC; | | | |
| SW3V | Three Gang Flush Type single pole, Single way switches 3SW 16A 250V AC; | | | |
| SW4V | Four Gang Flush Type single pole, Single way switches 4SW 16A 250V AC; | | | |
| SW5V | Five Gang Flush Type single pole, Single way switches 5SW 16A 250V AC; | | | |
| SW6V | Six Gang Flush Type single pole, Single way switches 6SW 16A 250V AC; | | | |

# PRODUCT DATA AND APPLICATION SHEET

| | |
|---|---|
| **PRODUCT NAME** | **Classic Double Power Point** *(White/Black)* **(Horizontal/Vertical)** |

**PRODUCT CODE**  GPO2, GPO2X, GPO2V, WGPO2D, GPO2XV, GPO2/15
GPO2/BLK, GPO2/BLK, WGPO2D/BLK

**DESCRIPTION**  Tesla Classic Double GPO range in White or Black

**BOX QUANTITY**  10        **OUTER QUANTITY** 100

**FEATURES**

**Dimensions**

- Available in single and twin variants
- Extra switch variants
- Double pole variants
- Horizontal mount
- 84mm mounting centers
- Terminals suit 4 x 2.5mm² cable
- No special brackets required for mounting
- Metal cover finishes: MS – Matt Silver, SP – Silver Plastic, MG – Gold
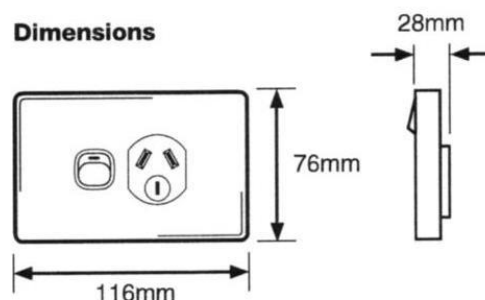
| Specifications |
|---|
| Operational Voltage: 250V a.c. 50Hz |
| Dimensions: 116mm x 76mm |
| AS/NZS 3112:2004 + A1 |
| Approval No: SGS/142030-EA |

**APPLICATIONS**

- This product is recommended for residential and commercial environments

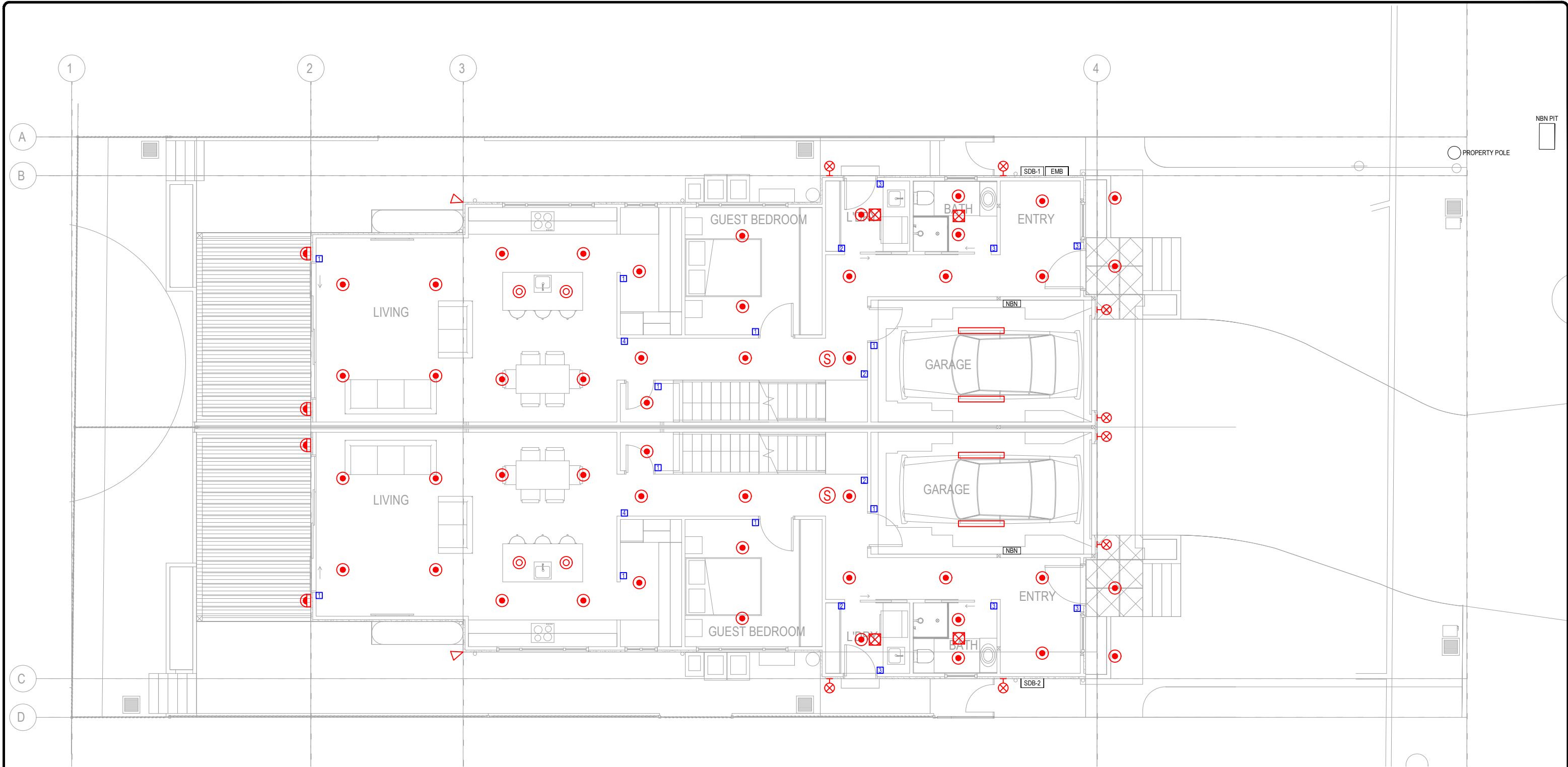| Standard Size Classic Double Power Point – Horizontal Mounting | | | | |
|---|---|---|---|---|
| **Product Code** | **Length** | **Width** | **Depth** | **Mounting Centres** |
| **All Products** | **116mm** | **76mm** | **28mm** | **84mm** |
| GPO2 | Twin Switch Socket Outlet, 250V/10A | | | |
| GPO2V | Vertical Twin Switched Socket Outlet, 250V/10A | | | |
| GPO2X | Twin Switched Socket Outlet, 250V/10A, With removable extra Switch | | | |
| WGP02D | Twin Switched Socket Outlet, 250V/10A, Double Pole | | | |
| GPO2XV | Vertical Twin Switched Socket Outlet, 250V/10A, With removable extra Switch | | | |
| GPO2/15 | Twin Switched Socket Outlet, 250V/15A | | | |
| GPO2/**BLK** | Twin Switch Socket Outlet, 250V/10A - BLACK | | | |
| GPO2X/**BLK** | Twin Switched Socket Outlet, 250V/10A, With removable extra Switch - BLACK | | | |

# 5: AS-BUILT DRAWINGS

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LIVING

GUEST BEDROOM

BATH

ENTRY

GARAGE

LIVING

GARAGE

GUEST BEDROOM

BATH

ENTRY

NBN PIT

PROPERTY POLE

SDB-1   EMB

NBN

NBN

SDB-2

## LEGEND OF SYMBOLS

| | | | |
|---|---|---|---|
| ⊙ | RECESSED DOWNLIGHT | ◁ | FLOODLIGHT - EXTERNAL |
| ◎ | SURFACE MOUNT CAN LIGHT | ⊗ | EXHAUST FAN |
| ⌂ | BUNKER LIGHT - EXTERNAL | ✱ | CEILING FAN |
| ⊗ | PENDANT LIGHT | Ⓢ | SMOKE DETECTOR |
| ⊗ | UPDOWN LIGHT - EXTERNAL | | |
| ▭ | SURFACE MOUNT LED BATTEN | ▪ | LIGHT SWITCH  # = NO. OF GANGS |

PROJECT:
PROPOSED DUAL OCCUPANCY
74 STEPHEN ST, BLACKTOWN, NSW 2148

TITLE:
GROUND FLOOR PLAN
LIGHTING LAYOUT

DRAWN:
CHECKED:
DATE:

JOB NO.:
DWG NO.:   E-1001

1:100 @A3

| ISSUE | AMENDMENT | DATE |
|---|---|---|
| 0 | AS BUILT | 09.09.25 |

0

## LEGEND OF SYMBOLS

| | | | | |
|---|---|---|---|---|
| ⊙ | RECESSED DOWNLIGHT | ◁ | FLOODLIGHT - EXTERNAL | |
| ◎ | SURFACE MOUNT CAN LIGHT | ⊠ | EXHAUST FAN | |
| ⌂ | BUNKER LIGHT - EXTERNAL | ✳ | CEILING FAN | |
| ⊗ | PENDANT LIGHT | Ⓢ | SMOKE DETECTOR | |
| ⊻ | UPDOWN LIGHT - EXTERNAL | ■ | LIGHT SWITCH | |
| ▭ | SURFACE MOUNT LED BATTEN | | # = NO. OF GANGS | |

**BEDROOM THREE**
**BEDROOM TWO**
**ENS.**
**BATH**
**STUDY**
**STUDY**
**ENS.**
**BATH**
**BEDROOM THREE**
**BEDROOM TWO**

| ISSUE | AMENDMENT | DATE |
|---|---|---|
| 0 | AS BUILT | 09.09.25 |

PROJECT:
PROPOSED DUAL OCCUPANCY
74 STEPHEN ST, BLACKTOWN, NSW 2148

TITLE:
FIRST FLOOR PLAN
LIGHTING LAYOUT

DRAWN:
CHECKED:
DATE:

JOB NO.:

1:100 @A3

DWG NO.: E-1002

0

# LEGEND OF SYMBOLS

| Symbol | Description |
|---|---|
| ⌓ | SINGLE GPO — WP = WEATHERPROOF |
| ◑ | DOUBLE GPO — WP = WEATHERPROOF |
| ⊘ | PERMANENT CONNECTION - 1 PHASE |
| ▲ | DATA OUTLET |
| △ | TV / FOXTEL OUTLET |
| ⬜ (strobe) | STROBE LIGHT |
| ⬜ (siren) | SIREN SCREAMER |
| KP ▯ | SECURITY KEYPAD |
| ▭)) | SECURITY PIR SENSOR |
| ⬛ | ALARM BOX |

## Plan labels

NBN CONDUIT P20
NBN PIT
PROPERTY POLE
ELECTRICAL CONDUIT 40mmØ HDPVC
SDB-1   EMB
NBN CONDUIT P20
ELECTRICAL CONDUIT 40mmØ HDPVC
SDB-2

ISLAND BENCH CONDUIT 32mmØ HDPVC INSLAB
ISLAND BENCH CONDUIT 32mmØ HDPVC INSLAB

GUEST BEDROOM
L'DRY
BATH
ENTRY
LIVING
GARAGE
GARAGE DOOR
GARAGE
GARAGE DOOR
GUEST BEDROOM
L'DRY
BATH
ENTRY

A/C UNIT 25A, 1P
HWS 20A, 1P
AB   OV  RH  CT   AB
WP
DW
F
KP
NBN
NBN
KP
25A, 1P A/C UNIT
20A, 1P HWS
AB   OV  RH  CT   AB
WP
DW
F
WM  AB
WM  AB

Grid references: 1, 2, 3, 4 (columns); A, B, C, D (rows)

PROJECT:
PROPOSED DUAL OCCUPANCY
74 STEPHEN ST, BLACKTOWN, NSW 2148

TITLE:
GROUND FLOOR PLAN
POWER, DATA & SECURITY LAYOUT

DRAWN:
CHECKED:
DATE:

JOB NO.:
1:100 @A3

DWG NO.: E-2001   0

| ISSUE | AMENDMENT | DATE |
|---|---|---|
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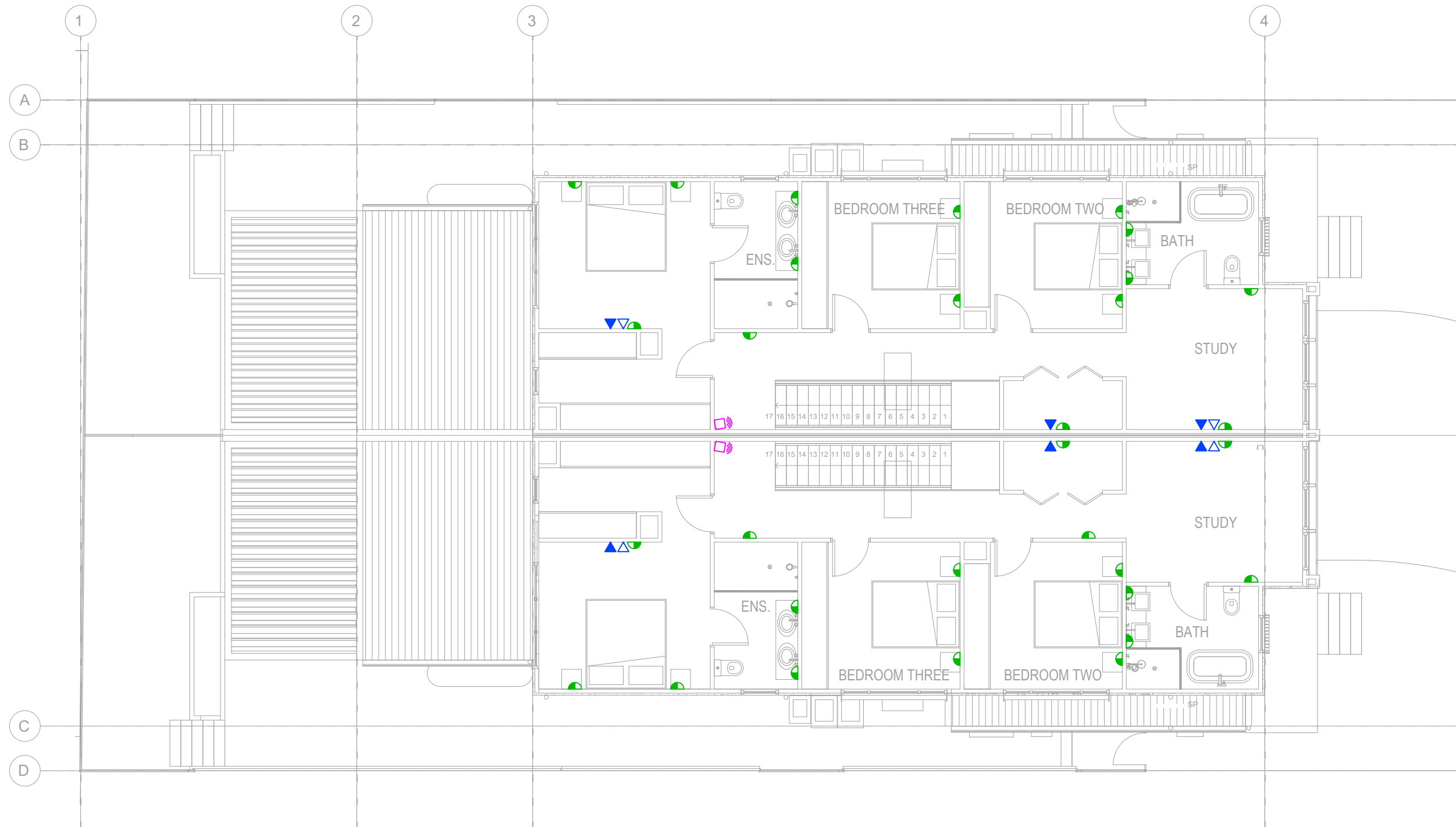
## LEGEND OF SYMBOLS

- SINGLE GPO
  WP = WEATHERPROOF
- DOUBLE GPO
  WP = WEATHERPROOF
- PERMANENT CONNECTION - 1 PHASE
- DATA OUTLET
- TV / FOXTEL OUTLET

- STROBE LIGHT
- SIREN SCREAMER
- KP  SECURITY KEYPAD
- SECURITY PIR SENSOR
- ALARM BOX

Rooms labelled: BEDROOM THREE, BEDROOM TWO, BATH, STUDY, ENS.

| ISSUE | AMENDMENT | DATE |
|---|---|---|
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**specialist services**

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PROJECT:
PROPOSED DUAL OCCUPANCY
74 STEPHEN ST, BLACKTOWN, NSW 2148

TITLE:
FIRST FLOOR PLAN
POWER, DATA & SECURITY LAYOUT

DRAWN:
CHECKED:
DATE:

JOB NO.:

1:100 @A3

DWG NO.: E-2002    0

① ② ③ ④

Ⓐ
Ⓑ

DP          DP                    DP

| 450W SOLAR PANEL | 450W SOLAR PANEL | 450W SOLAR PANEL |
| 450W SOLAR PANEL | 450W SOLAR PANEL | 450W SOLAR PANEL |
| 450W SOLAR PANEL | 450W SOLAR PANEL | 450W SOLAR PANEL |

2° ROOF FALL

6° ROOF FALL

2° ROOF FALL

| 450W SOLAR PANEL | 450W SOLAR PANEL | 450W SOLAR PANEL |
| 450W SOLAR PANEL | 450W SOLAR PANEL | 450W SOLAR PANEL |
| 450W SOLAR PANEL | 450W SOLAR PANEL | 450W SOLAR PANEL |

2° ROOF FALL

6° ROOF FALL

2° ROOF FALL

DP          DP                    DP

Ⓒ
Ⓓ

**specialist services**

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NORTH PARRAMATTA NSW 2151
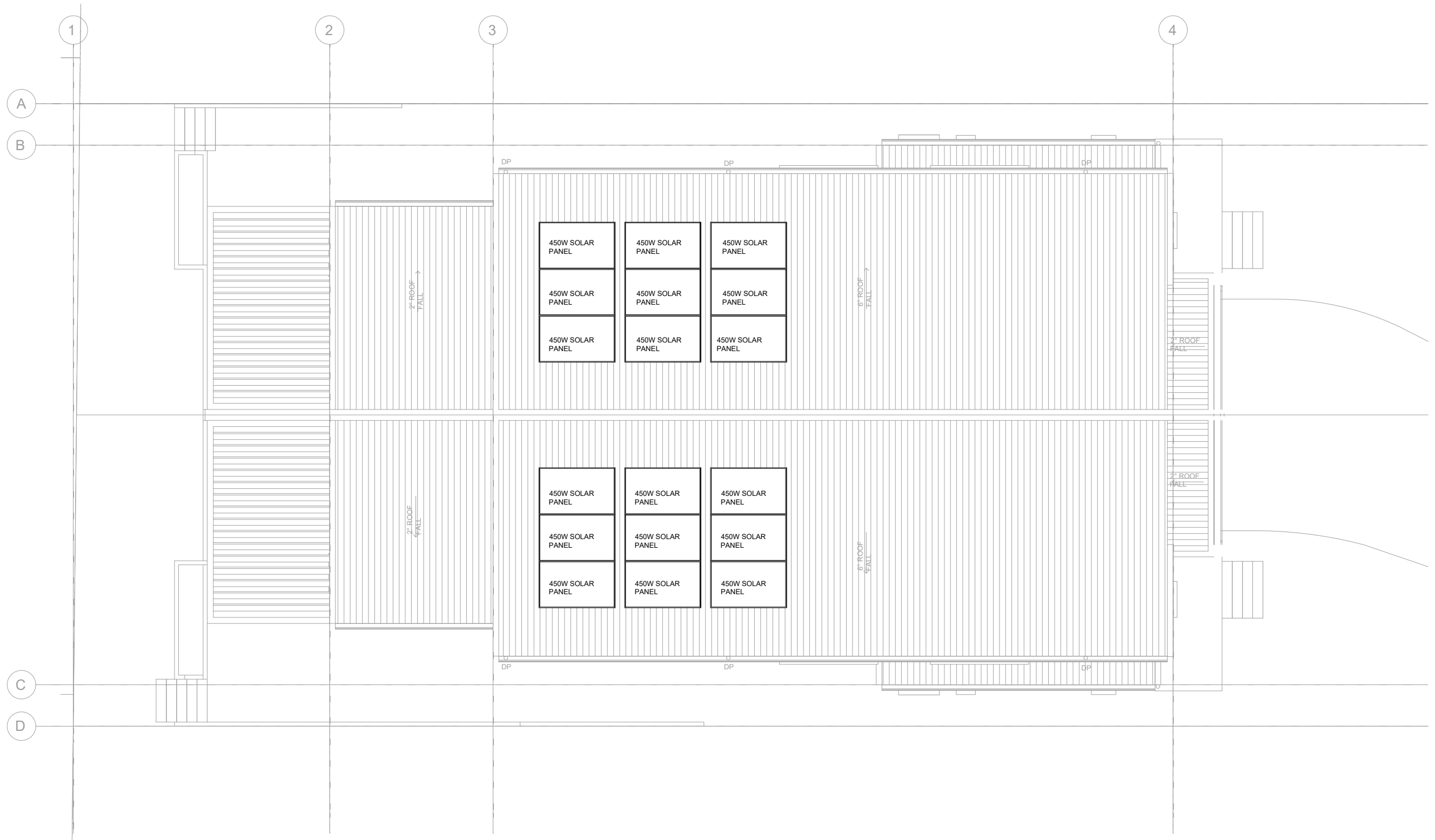T: 1300 322 000
E: admin@specialistsvs.com.au

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DIMENSIONS IN MILLIMETRES. CONFIRM ALL DIMENSIONS ON SITE.

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PROPOSED DUAL OCCUPANCY
74 STEPHEN ST, BLACKTOWN, NSW 2148

TITLE:
ROOF PLAN
SOLAR PANEL LAYOUT

DRAWN:
CHECKED:
DATE:

JOB NO.:                    1:100 @A3

DWG NO.:  E-3001            0

| ISSUE | AMENDMENT | DATE |
|---|---|---|
| 0 | AS BUILT | 09.09.25 |