



DC Power Distribution Panel



Data sheet

DC Power Distribution Panel

Works with SG Stealth DC motors:

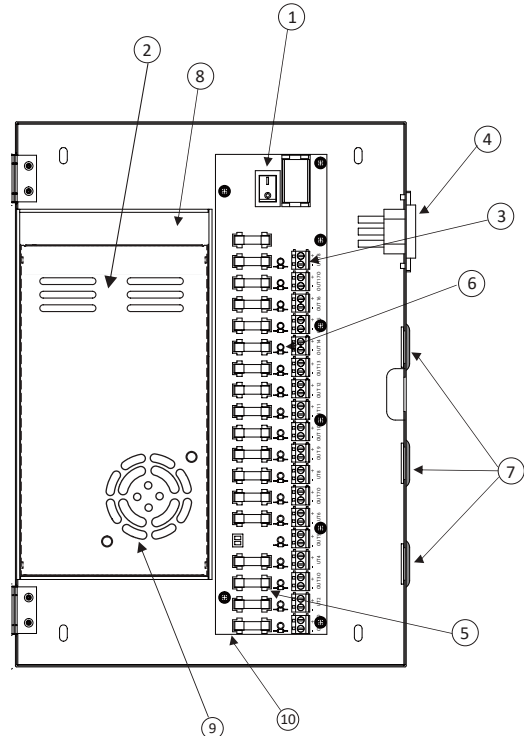
The Power Distribution Panel provides power for up to 18 separate DC motors. The higher 15V output allows for greater cable lengths from motor to power panel, freeing up routing options within an installation.

This eliminates the need for multiple individual power adapters for each DC motor in an installation, combining each power source into a single location. Channels may also be wired in parallel to provide additional power to larger motors.



Features

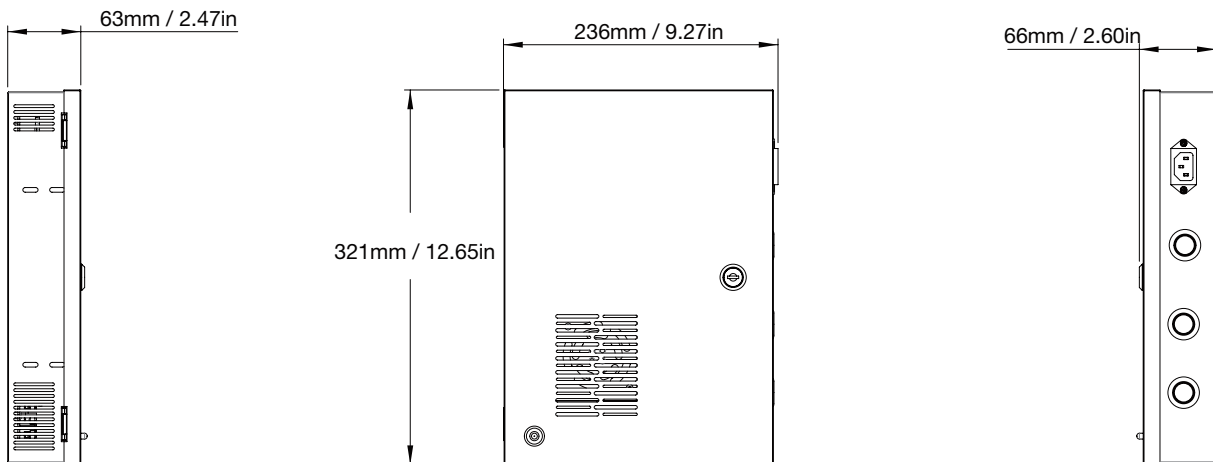
1. Internal power Switch
2. Mains Power supply (120V/240V)
3. 18 wire entries with clamp screws
4. IEC-C14 Connector for Mains Power Input
5. 18 Individual fuses for channel protection (Quick Blow Fuse 3.15A M205)
6. 18 Channel Status LEDs
7. Plastic Plugs (For cable routing)
8. Potentiometer for output voltage adjustment
9. Cooling fan
10. Terminal Block



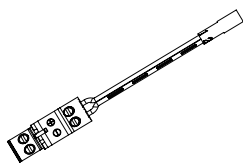
Product specifications

Input Voltage Range	85V AC ~ 125V AC
Output Voltage Range	15 VDC
Maximum Output Current (all 18 channels)	24 A
Power Output Rating	360 W
Single Channel Maximum Current Output	1.33 A
Ingress Protection	IP20

Dimensions



Accessories



Harness Connector
JCD-A-WR-05-01-AH-1D5

Items included



Power cord
(Supplied With Each Panel)



Keys
(Keys cannot be replaced if lost)



Screws
x4



Wall Plug
x4

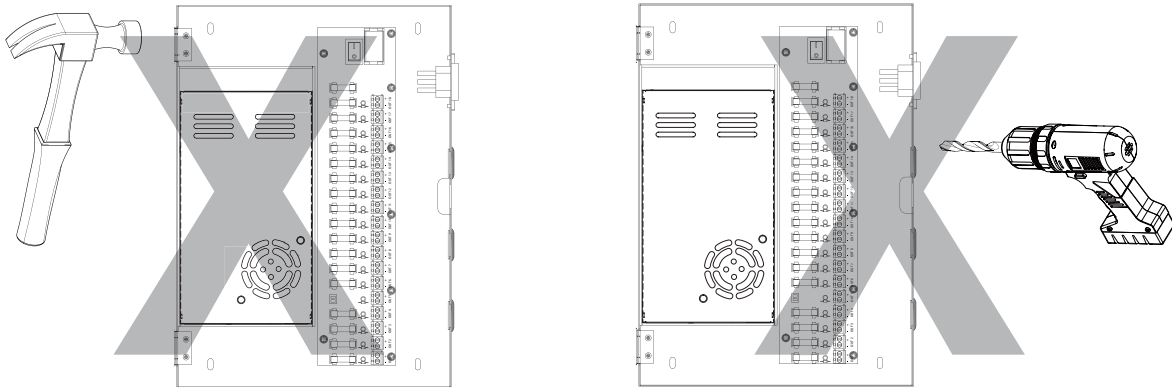


Fuse
x3

Safety Instructions

WARNING: Important safety instructions to be read before installation.

Incorrect installation can lead to serious injury, which may result in death and will void manufacturer's liability and warranty.



CAUTION

- Do not expose to moisture or extreme environments.
- Do not allow children to play with this device.
- Use or modification outside the scope of this instruction manual will void warranty.
- Installation and setup to be performed by a suitably qualified installer.
- Frequently inspect for improper operation. Do not use if repair or adjustment is necessary.
- Keep clear when in operation.
- For use with DC motors only (NOT suitable for charging Li-ion Battery powered motors).
- Do not cut power cables
- Do not drill into motor body or distribution panel.
- The routing of cable through walls shall be protected by isolating bushing or grommets.
- Ensure motor power cable and aerial is clear and protected from moving parts.
- If power cable, connections or connectors are damaged do not use.

Important safety instructions to be read prior to operation.

- It is important for the safety of persons to follow the enclosed instructions.
- Persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge should not be allowed to use this product.
- Frequently inspect for improper operation. Do not use if repair or adjustment is necessary.

Cable Run Reference Table (Maximum Lengths)



IMPORTANT!

MOTOR POWER CABLE RUN LENGTHS MUST NOT EXCEED THE DISTANCES IN THE REFERENCE TABLE BELOW WHEN VOLTAGE HAS BEEN REDUCED.

Failure to do so will result in loss of voltage along the cable run, subsequently resulting in insufficient voltage at the motor input terminals.

Before connection of any motors to the power distribution panel, check cable lengths and wire gauge (AWG), against this table in order to ensure system will operate to specification.

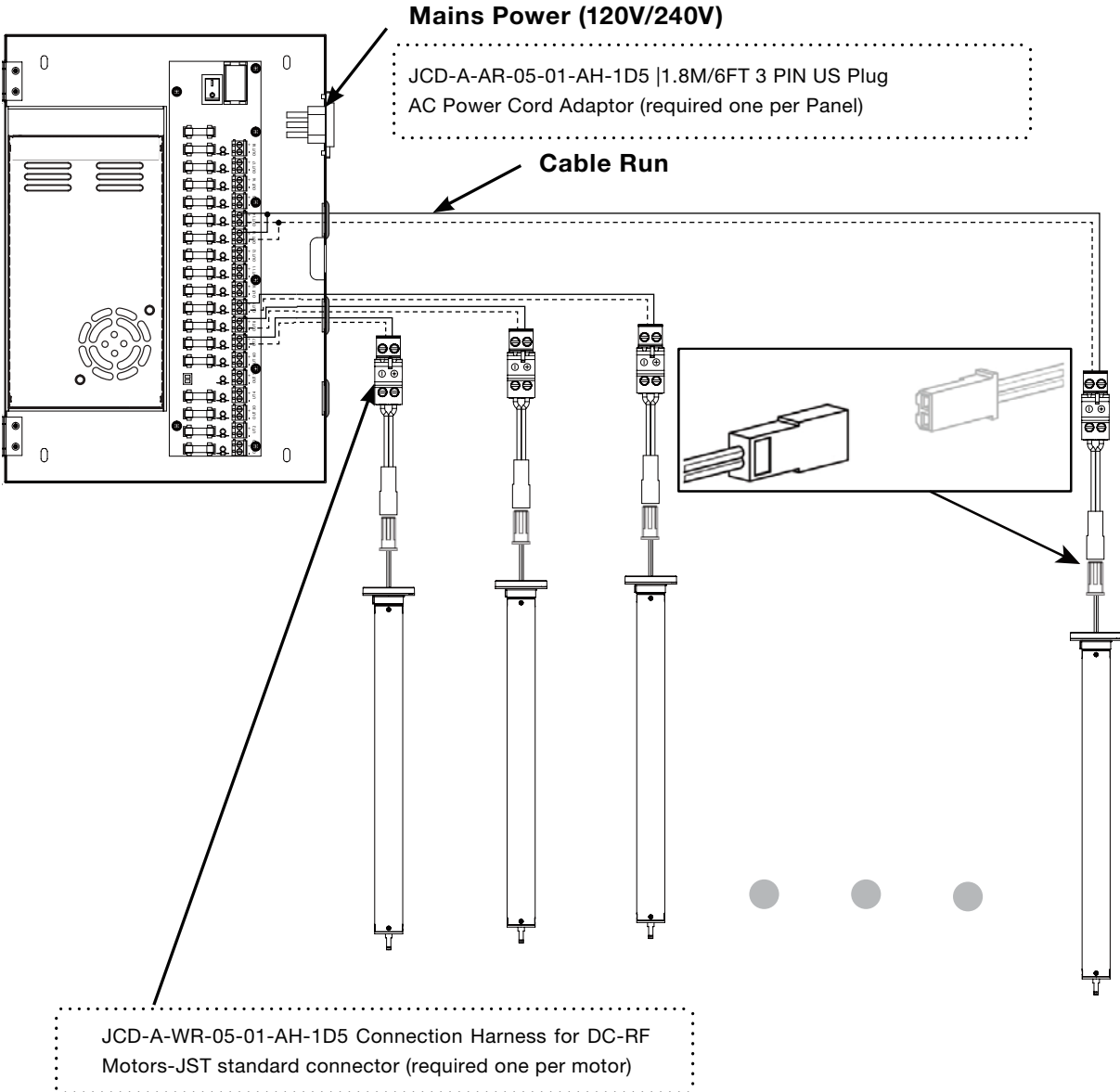
CABLE RUN LENGTH TOTAL (m)	SG STEALTH MOTORS	CELLULAR-REG DC 24mm Motor	CELLULAR-D&N DC 24mm Motor	SG FLEX DC 25mm Motor
		12V	12V	12V
≤15m		24AWG	22AWG	22AWG
20m		22AWG	22AWG	20AWG
25m		22AWG	22AWG	20AWG
30m		20AWG	20AWG	20AWG
35m		20AWG	20AWG	20AWG
40m		20AWG	20AWG	20AWG
45m		20AWG	18AWG	20AWG
50m-60m		20AWG	18AWG	20AWG
65m		18AWG	18AWG	18AWG
70m		18AWG	18AWG	18AWG
75m		18AWG	18AWG	18AWG
80m		18AWG	18AWG	18AWG
85m		18AWG	18AWG	18AWG
90m		18AWG	18AWG	18AWG
95m		18AWG	18AWG	18AWG
100m		16AWG	16AWG	18AWG
105m		16AWG	16AWG	18AWG
110m		16AWG	16AWG	18AWG
115m		16AWG	16AWG	18AWG
120m-160m		16AWG	16AWG	16AWG
165m		NA	NA	NA
170m		NA	NA	NA
175m		NA	NA	NA
180m		NA	NA	NA
185m		NA	NA	NA
215m		NA	NA	NA
185m - 210m		NA	NA	NA
215m		NA	NA	NA

*Refer to page 9 for detailed American Wire Gauge (AWG) dimensions

Motor Power Distribution Setup

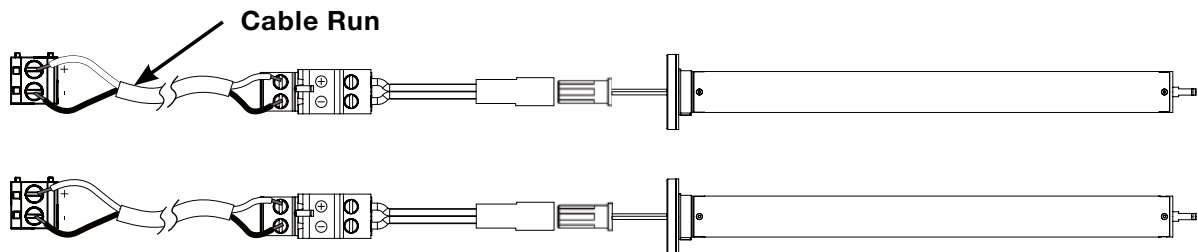
OVERVIEW

- One wire entry is connected to one of DC 24mm, 25mm, 28mm & 30mm motors.
- Two wire entries are connected to one of DC 35mm & 45mm motors.
- All motor connections must be made before power applies to the distribution panel.
- Use of two parallel connections ensures the power supply is not overloaded during larger motor operation.



Wiring Diagram – Individual Connection (DC 24mm, 25mm, 28mm & 30mm)

Low power motors may be connected individually to one wire entry of the terminal block, with care being taken to ensure polarity is correct. Incorrect polarity will stop the motor from functioning.



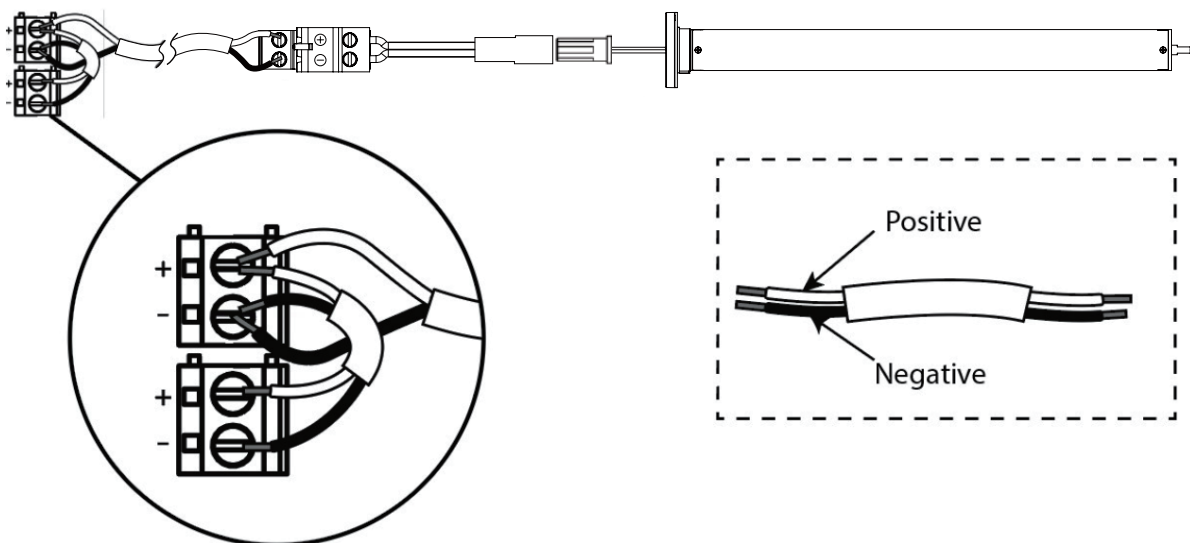
This connection may only be used when wiring 24mm/25mm/28mm & 30mm motors to the distribution panel, as these motors do not exceed the 1.33 A current limit per channel.

Wiring Diagram – Two Wire Entry Connections in Parallel

IMPORTANT!

WARNING: Important instructions to read before commencing wiring of 45mm and 35mm motors.

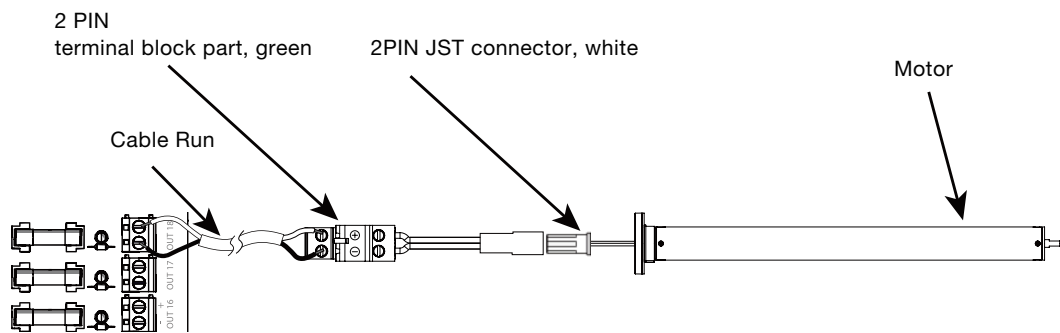
Due to higher power demands, these motors must be wired in a parallel configuration (shown below) utilizing two wire entries in order to avoid overloading the power circuit and blow the protection fuses.



Due to 1.33A limit per channel, working current can be doubled to 2.66A with parallel configuration as shown above, allowing connection of 45mm and 35mm motors.

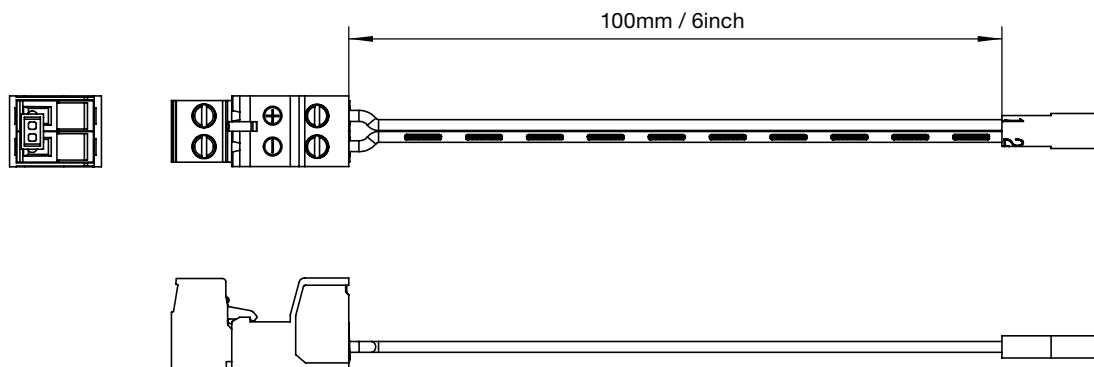
CAUTION: Before plugging in this equipment to mains power;

- Ensure the internal power switch ① (page 3) is in the OFF position.
- Check the mains input ② DC output for any loose wires, ensuring the plastic safety covers are covering the main power supply.
- Check motor connection terminal blocks ⑩ for loose wires, as well as polarity check each connection (See below)



PART #: JCD-A-WR-05-01-AH-1D5

DESCRIPTION: Power Connection Harness for DC-RF Motors - JST to Screw connectors



WIRING POLARITY FROM PANEL TO MOTOR

Female (Power Output)

Grey Dashes (Positive)

Male (Motor Input)

Solid White (Positive)

JST Connector Recommendations for Custom Cable Adaptors

Rollease Acmeda recommends the following JST connectors for DC power connections:

RECOMMENDED JST CONNECTORS			
DESCRIPTION	PART NO.	MANUFACTURER	Digikey.com PART NO.
Male Connector (White)	SYR-02TV	JST SALES AMERICA INC.	455-2655-ND
Male Pin Contact	SYM-001T-P0.6	JST SALES AMERICA INC.	455-1909-1-ND

Status LED Indication

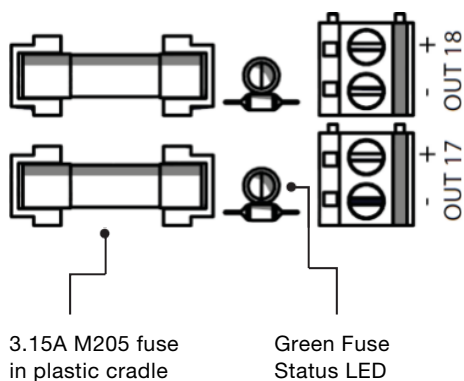


IMPORTANT!

Status LEDs for each motor channel indicate the condition of the inline fuse. If the status LED is not lit up when power is supplied to the panel, then the inline fuse for that channel has blown.

Disconnect all power to the Panel and inspect the individual motor and supply cable to the motor in order to determine why the fault occurred.

Once the fault has been determined, make the appropriate repairs and replace the fuse with a 3.15A M205 quick blow fuse.



In order to replace fuse, carefully pry the fuse out of the plastic cradle using a small tool (such as a small screwdriver or pen). To replace, gently press the new fuse into the cradle.

To test LED, apply power to the distribution panel, and observe whether the channel LED is glowing.

Troubleshooting



IMPORTANT!

WARNING: Distribution panel is connected to (120V/240V) mains power. Do not attempt to troubleshoot panel without first disconnecting all power and waiting a period of 5 minutes.

PROBLEM	CAUSE	REMEDY
No Motors are responding	A/C power supply not plugged in	Check exterior LED Check Panel to power connection and IEC connector and AC plug
	Internal power switch turned off	Power is supplied to panel, but exterior LED is not lit. Open panel and switch internal power switch to ON position
	A/C terminal block wiring is incorrect	CAUTION: Do NOT attempt to rewire mains power terminal block. Only to be performed by a suitably qualified installer
Individual Motor is not responding	Motor channel fuse has blown	Check individual LED's
		Replace fuse as necessary (refer to section 1.5)
	Motor wiring is incorrect	Refer to wiring diagram on page 4
	Motor is in sleep mode	Refer to motor's programming instructions in order to change motor sleep status

Wire Gauge Dimensions

AMERICAN WIRE GAUGE DIMENSIONS		
WIRE GAUGE	DIAMETER	CROSS-SECTIONAL AREA
24 AWG	0.51054 mm (0.0201 in)	0.205 mm ² (0.00032 in ²)
22 AWG	0.64516 mm (0.0254 in)	0.326 mm ² (0.00051 in ²)
20 AWG	0.8128 mm (0.032 in)	0.518 mm ² (0.00080 in ²)
18 AWG	1.02362 mm (0.0403 in)	0.823 mm ² (0.00128 in ²)
16 AWG	1.29032 mm (0.0508 in)	1.31 mm ² (0.00203 in ²)