

AUTOMATE™

DC Power Distribution Panel



DC POWER

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

Removes the need for multiple individual power adaptors 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. Additional information and updates are available at <https://www.rolleaseacmeda.com>

FEATURES:

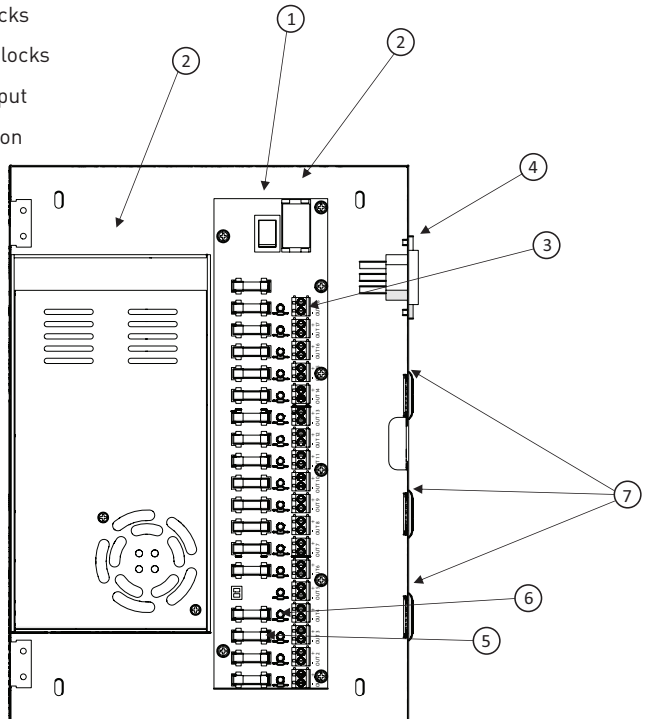
- Capacity for up to 18 ARC DC motors (18mm, 25mm, and 28mm motors)
- Ability to parallel connect motor supplies for higher current motors (35mm and 45mm motors)
- LED status indication for checking whether power is being applied to panel
- LED status indication for each individual motor supply

CONTENTS

1	INSTALLATION	4
1.1	Cable Run Reference Table (Maximum Lengths)	4
1.2	Motor Power Distribution Setup	5
1.3	Wiring Diagram – Series (MTDCRF28/25/18)	6
1.4	Wiring Diagram – Parallel (MTDCRF45/35)	6
1.5	JST Connector Recommendations for Custom Cable Adaptors	7
1.6	Status LED Indication	8
2	SPECIFICATIONS	8
3	TROUBLESHOOTING	9
4	WIRE GAUGE DIMENSIONS	9
5	NOTES	10

FEATURES

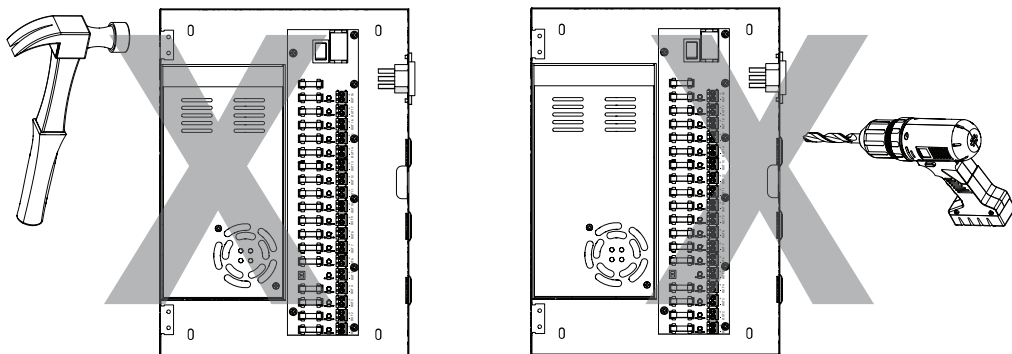
1. Internal power Switch
2. Mains Power (120V/240V) Terminal Blocks
3. 18 Channels with Individual Terminal Blocks
4. IEC-C14 Connector for Mains Power Input
5. 18 Individual fuses for channel protection
6. 18 Channel Status LEDs
7. Plastic Plugs (For cable routing)



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.
- For use with DC powered motorised shading devices.
- 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 cable or power connector is 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.
- Keep remote controls away from children.
- Frequently inspect for improper operation. Do not use if repair or adjustment is necessary.

Save these instructions for future reference.



Do not dispose of in general waste.

Please recycle batteries and damaged electrical products appropriately.



1 **INSTALLATION**

1.1 **Cable Run Reference Table (Maximum Lengths)**



IMPORTANT!

MOTOR POWER CABLE RUN LENGTHS MUST NOT EXCEED THE DISTANCES IN THE REFERENCE TABLE BELOW.

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.

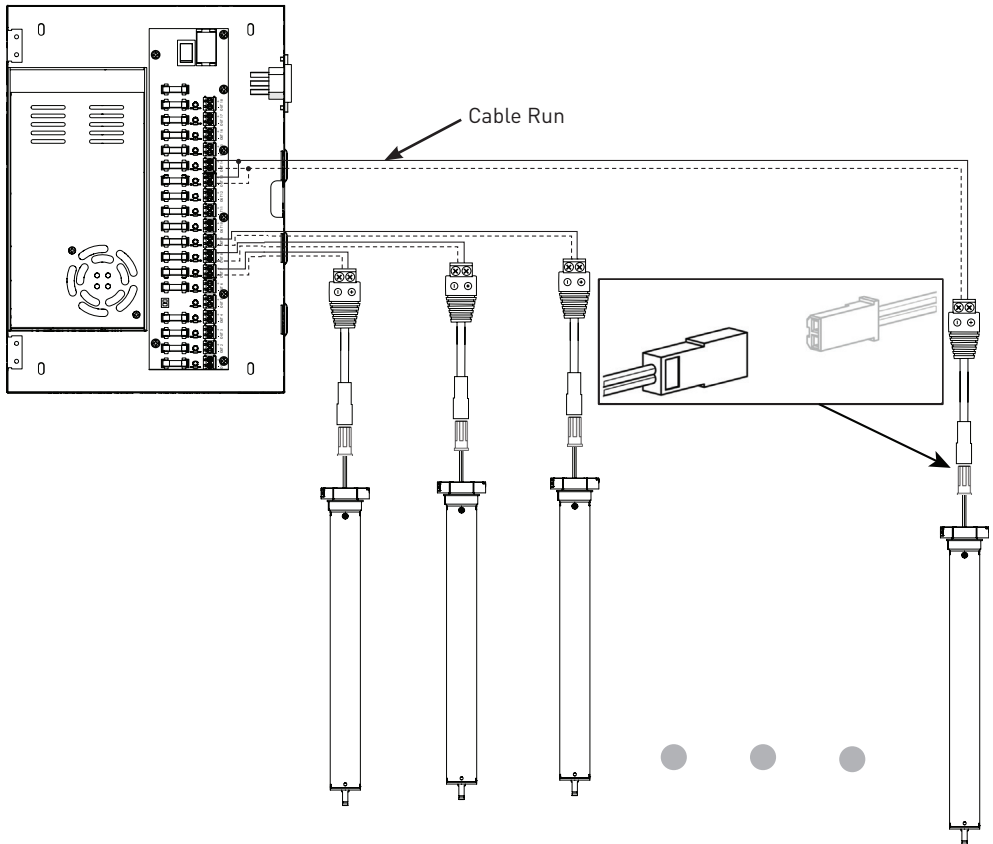
ROLLEASE ACMEDA MOTORS						
		MTDCRF18-0.2	MTDCRF25-1.1	MTDCBSW25-1.1	MTDCRF28-2	MTDCRF45-10 MTDCRFQ45-3 MTDCRF35-3
CABLE RUN LENGTH TOTAL (m)	≤15m	24 AWG	24 AWG	24 AWG	24 AWG	24 AWG
	20m	24 AWG	24 AWG	24 AWG	24 AWG	22 AWG
	25m	24 AWG	24 AWG	24 AWG	24 AWG	22 AWG
	30m	24 AWG	24 AWG	24 AWG	24 AWG	20 AWG
	35m	24 AWG	24 AWG	24 AWG	22 AWG	20 AWG
	40m	24 AWG	24 AWG	24 AWG	22 AWG	20 AWG
	45m	24 AWG	24 AWG	22 AWG	22 AWG	18 AWG
	50m - 60m	24 AWG	22 AWG	22 AWG	20 AWG	18 AWG
	65m	24 AWG	22 AWG	22 AWG	20 AWG	18 AWG
	70m	24 AWG	22 AWG	20 AWG	20 AWG	16 AWG
	75m	24 AWG	20 AWG	20 AWG	18 AWG	16 AWG
	80m	24 AWG	20 AWG	20 AWG	18 AWG	16 AWG
	85m	24 AWG	20 AWG	20 AWG	18 AWG	16 AWG
	90m	22 AWG	20 AWG	20 AWG	18 AWG	16 AWG
	95m	22 AWG	20 AWG	20 AWG	18 AWG	16 AWG
	100m	22 AWG	20 AWG	20 AWG	18 AWG	16 AWG
	105m	22 AWG	20 AWG	18 AWG	18 AWG	N/A
	110m	22 AWG	20 AWG	18 AWG	18 AWG	N/A
	115m	22 AWG	18 AWG	18 AWG	18 AWG	N/A
	120m - 160m	20 AWG	18 AWG	18 AWG	16 AWG	N/A
	165m	20 AWG	18 AWG	18 AWG	16 AWG	N/A
	170m	20 AWG	18 AWG	16 AWG	16 AWG	N/A
	175m	20 AWG	16 AWG	16 AWG	16 AWG	N/A
	180m	20 AWG	16 AWG	16 AWG	16 AWG	N/A
	185m - 210m	20 AWG	16 AWG	16 AWG	N/A	N/A
	215m	20 AWG	16 AWG	16 AWG	N/A	N/A
	220m - 255m	18 AWG	16 AWG	16 AWG	N/A	N/A
	260m	18 AWG	16 AWG	16 AWG	N/A	N/A
	265m	18 AWG	16 AWG	N/A	N/A	N/A
	270m	18 AWG	16 AWG	N/A	N/A	N/A
	275m	18 AWG	16 AWG	N/A	N/A	N/A
	280m - 335m	18 AWG	N/A	N/A	N/A	N/A
	340m	18 AWG	N/A	N/A	N/A	N/A
	345m - 535m	16 AWG	N/A	N/A	N/A	N/A
	540m	16 AWG	N/A	N/A	N/A	N/A

*Refer to section 4 on page 9 for detailed American Wire Gauge (AWG) dimensions

1.2 Motor Power Distribution Setup

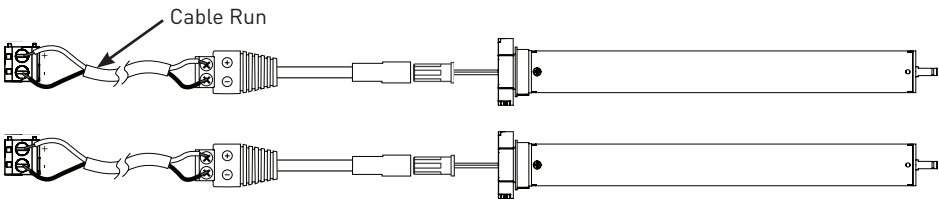
OVERVIEW

- Multiple individual connections can be made for MTDCRF28/25/18 motors
- Parallel connections must be made for MTDCRF45/35 motors in order to supply them with the required amount of current without causing damage to the Power Distribution Panel.
- All motor connections must be made before the power distribution panel can have power applied
- Use of parallel connections ensure power supply cannot be overloaded



1.3 Wiring Diagram – Series (MTDCRF28/25/18)

Motors may be connected individually to each output terminal block, with care being taken to ensure polarity is correct (see page 4). Incorrect polarity will stop the motor from functioning.



This series connection may only be used when wiring 28mm, 25mm and 18mm motors to the distribution panel, as these motors do not exceed the 1.33 A current limit per channel.

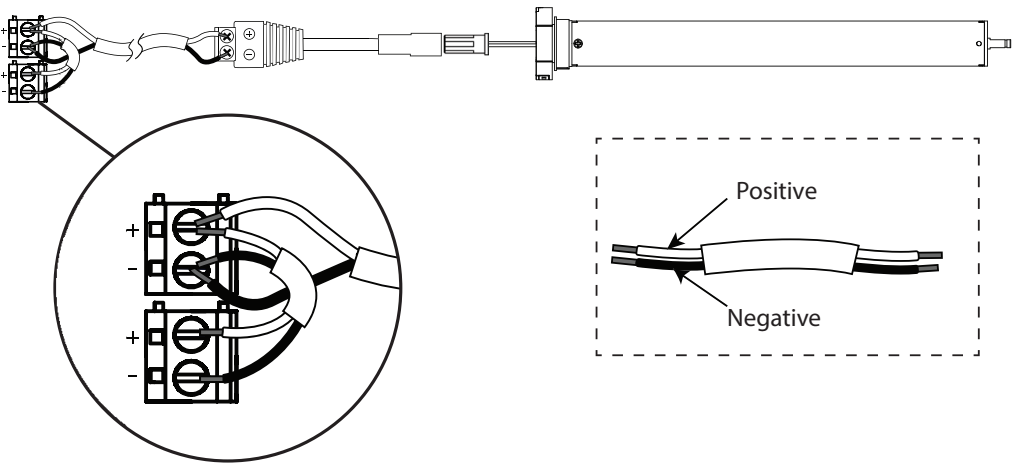
1.4 Wiring Diagram – Parallel (MTDCRF45/35)



IMPORTANT!

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

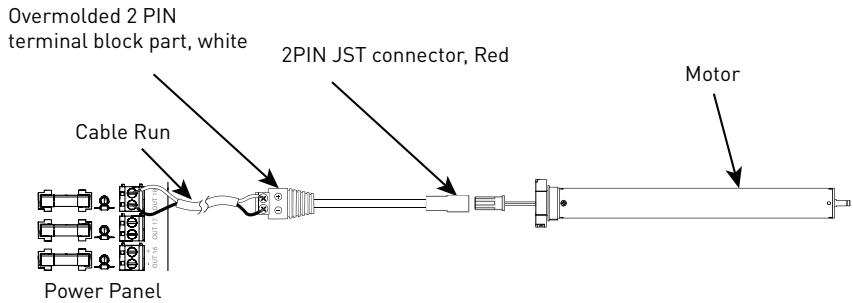
Due to higher power demands, these motors must be wired in a parallel configuration (shown below) utilising two channels in order to avoid overloading the power circuit, resulting in damage to the distribution panel.



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 2) is in the OFF position.
- Check the mains input ② (page 2) DC output for any loose wires, ensuring the plastic safety covers are covering the mains terminal blocks.
- Check motor connection terminal blocks ③ (page 2) for loose wires, as well as polarity check each connection [See below]



PART #: MT03-0301-069012

DESCRIPTION: Automate Connection Harness for DCRF Motors - JST to Screw connectors

16MM

14

75±3MM

12.3

WIRING POLARITY FROM PANEL TO MOTOR	
Female (Power Output)	Grey Dashes (Positive)
Male (Motor Input)	Solid White (Positive)

1.5 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 Connector (Red)	SYR-02T	JST SALES AMERICA INC.	455-2653-ND
Male Pin Contact	SYM-001T-P0.6(N)	JST SALES AMERICA INC.	455-1909-1-ND

1.6 Status LED Indication

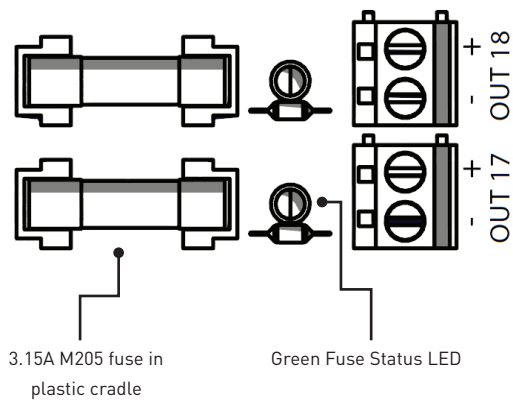


IMPORTANT!

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.

2 SPECIFICATIONS

TECHNICAL SPECIFICATIONS	
PARAMETERS	VALUE
Input Voltage Range	100 VAC - 240 VAC
Output Voltage Range	15 VDC
Maximum Output Current (all 18 channels)	24 A
Power Output Rating	360 W
Single Channel Absolute Maximum Current Output	1.33 A
Ingress Protection	IP20

3 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 6
	Motor is in sleep mode	Refer to motor's programming instructions in order to change motor sleep status

4 WIRE GAUGE DIMENSIONS

AMERICAN WIRE GAUGE DIMENSIONS		
WIRE GAUGE	DIAMETER	CROSS-SECTIONAL AREA
24 AWG	0.51054 mm (0.0201 in)	0.205 mm² (0.00032 in²)
22 AWG	0.64516 mm (0.0254 in)	0.326 mm² (0.00051 in²)
20 AWG	0.8128 mm (0.032 in)	0.518 mm² (0.00080 in²)
18 AWG	1.02362 mm (0.0403 in)	0.823 mm² (0.00128 in²)
16 AWG	1.29032 mm (0.0508 in)	1.31 mm² (0.00203 in²)

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