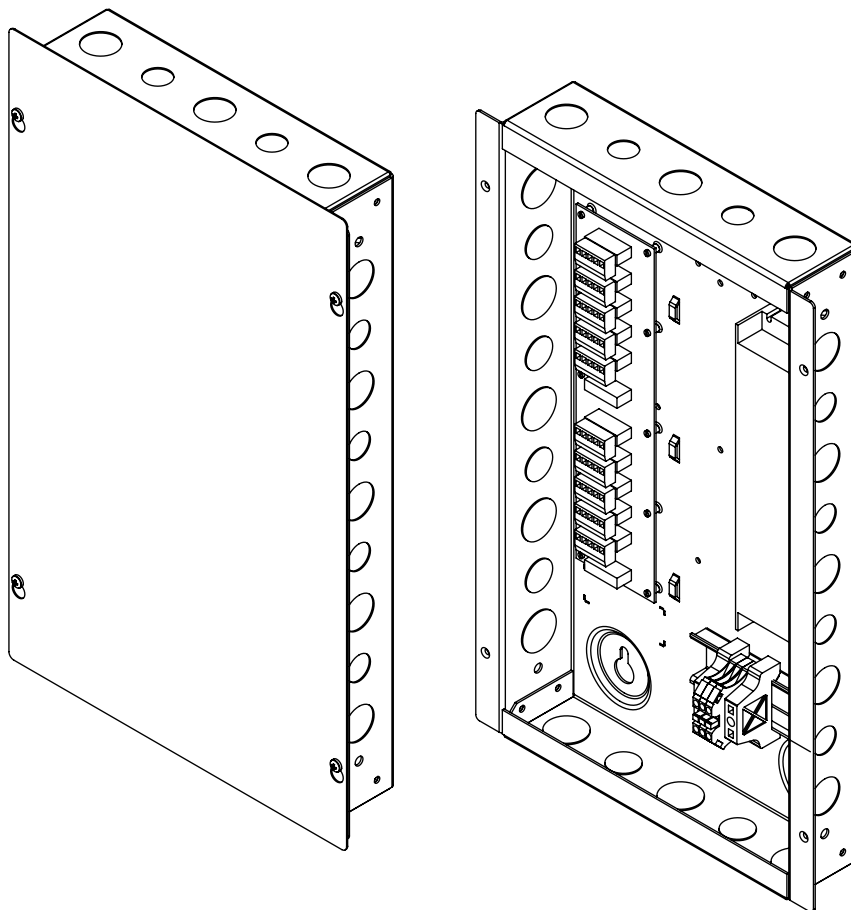




future automation

SPU10

SHADE POWER UNIT



INSTALLATION INSTRUCTIONS

ISSUE 001

SAFETY DISCLAIMER

IMPORTANT SAFETY INSTRUCTIONS BELOW

WARNING: Failure to provide adequate structural strengthening, prior to installation can result in serious personal injury or damage to the equipment. It is the installer's responsibility to ensure the structure to which the component is affixed can support four times the weight of the component and any additional apparatus mounted to the component.

WARNING: Enclosure should be safely affixed to a wall in a dry area above any flood lines and away from any hazards as detailed in electrical regulations.

ADDITIONAL WARNINGS:

1. Keep all documentation/instructions after fitting.
2. Read all technical instructions fully before installation and use. It is the installer's responsibility to ensure that all documentation is passed on to the end user and read fully before operation.
3. Do not use near water or outdoors unless the product has been specifically designed to do so.
4. Protect any cables or cords being used near this enclosure from being walked on or pinched to prevent damage and risk of injury.
5. Use this product only for its intended purpose as described in the product instructions and only use attachments/accessories specified by the manufacturer.
6. Do not install the product if it is damaged in any way, or the enclosure has been exposed to rain or moisture. Contact the original installer/manufacturer to arrange repair or return.
7. All screw terminals should be re-torqued as part of the final commissioning during installation by the on-site engineer/electrician.

Future Sound & Vision trading as Future Automation intend to make this and all documentation as accurate as possible. However, Future Automation makes no claim that the information contained herein covers all details, conditions or variations, nor does it provide for every possible contingency in connection with the installation or use of this product. The information contained in this document is subject to change without prior notice or obligation of any kind. Future Automation makes no representation of warranty, expressed or implied, regarding the information contained herein. Future Automation assumes no responsibility for accuracy, completeness or sufficiency of the information contained in this document.

PRODUCT WARRANTY & RISK ASSESSMENT

WARRANTY INFORMATION

WARNING - The warranty offered for this product shall be annulled if the product is used improperly or in a way that is in breach of our Terms of Service.

Future Automation provides warranty for the enclosure you purchased for the period of **24 months** from the date of purchase, provided that it isn't used for unintended purposes.

Under the warranty, Future Automation aims to either solve the issue remotely (via telephone or email support) or if the mechanism requires a part, arrange a visit to your premises by a Future Automation approved engineer or send replacement items where appropriate.

Warranty repairs will be carried out as quickly as possible, but subject to parts availability. This warranty period is respectively extended for the period of a repair.

A malfunctioning product must be cleaned and placed into suitable packaging to protect against transit damage before organising delivery to a repair workshop.

All the complaints about defects must be submitted to the vendor/installer that sold this product, rather than directly to the manufacturer.

Any part of your system that needs to be replaced during a warranty repair becomes the property of Future Automation.

The warranty does not cover the following:

- Damages resulting from improper product use or maintenance.
- Repairs carried out by unauthorized persons.
- Natural wear and tear during operation.
- Damages caused by the buyer.
- Accidental damages caused by a customer or damages caused as a result of careless attitude or usage, or damages caused by natural disasters (natural phenomena).
- Any electrical, or other environmental work external to your Future Automation mechanism including power cuts, surges etc.
- Additional items not supplied by Future Automation although they may have been supplied together by the retailer
- Any 3rd party software products controlling your product
- Any transfer of ownership. Warranty is provided only to the initial purchaser.
- Compensation for loss of use of the product, and consequential loss of any kind.

A separate Safety and Servicing Information document is provided with these instructions (additional copies can be found at www.futureautomation.co.uk/safety), and this document **MUST** be filled out by the approved Future Automation Dealer who is installing the product. This Warranty Sheet must be held by the end user for the duration of the products life and will be referred to during servicing or warranty queries.

The Safety and Servicing Information document also contains two Service History Forms that must be filled in by the approved Future Automation dealer who is performing the first required yearly service of this product.

One copy of the Service History Form must be held by the customer (along with the Warranty Sheet) and a duplicate copy must be held by the approved Future Automation dealer that performed the service. Missing and/or mismatching documents may delay or invalidate warranty claims.

Additional Service History Forms can be found on the Future Automation website for further yearly services.

RISK ASSESSMENT INFORMATION

It is the installer's responsibility to perform a risk assessment of installed products. Future Automation can provide guidelines to installers/dealer about what should be included in a risk assessment, but due to the individual nuances of each location/site, Future Automation cannot provide a full list of areas to risk assess.

For full risk assessment and safety information please view our Safety and Servicing guide available at www.futureautomation.net/safety

GUIDE

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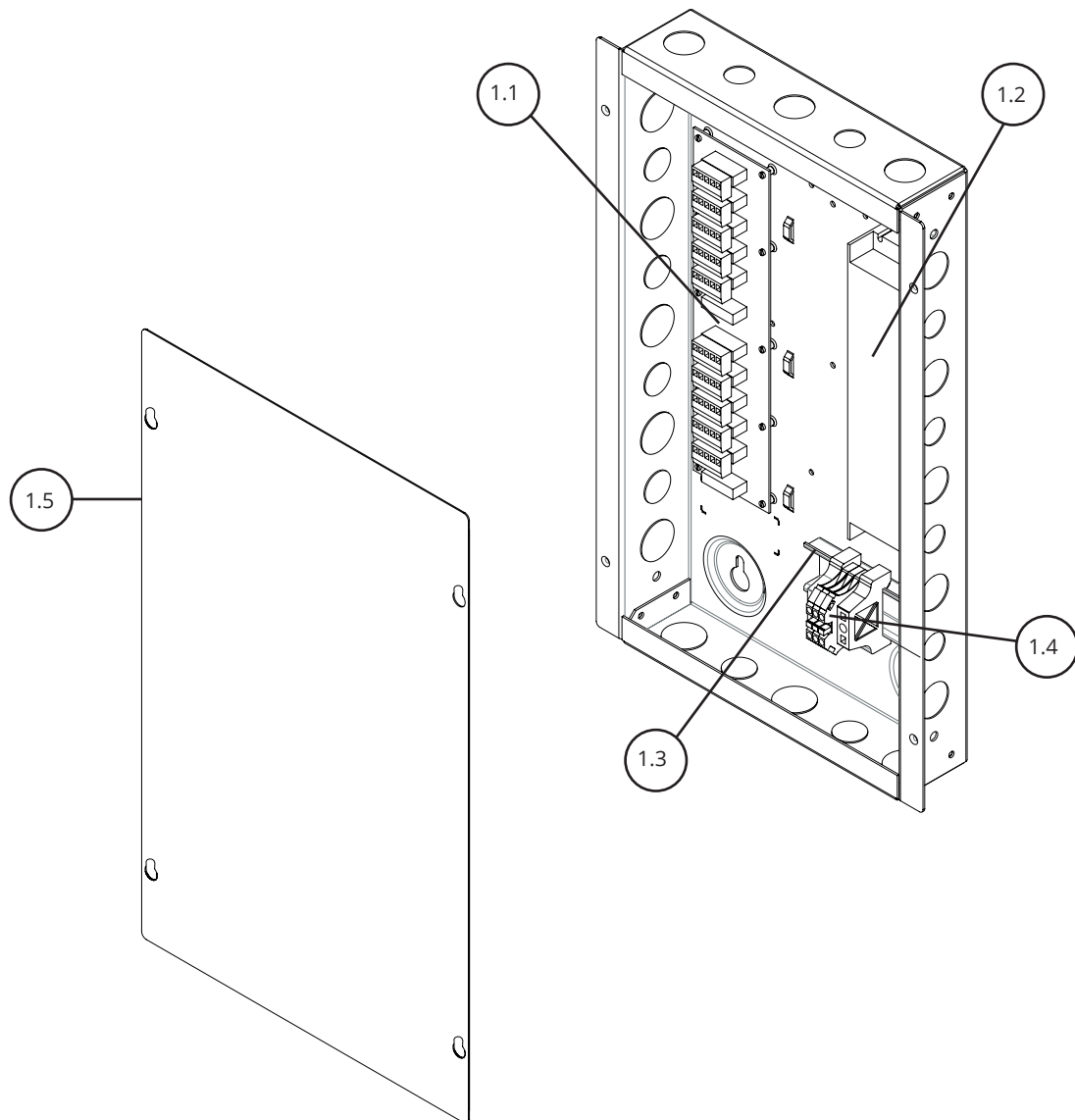
PACKAGE CONTENTS

1 - SHU10 ENCLOSURE

- 1.1 - 10 OUTPUT BOARD
- 1.2 - 24V OR 36V PSU (DEPENDING ON MODEL)
- 1.3 - PRE-INSTALLED DIN RAIL
- 1.4 - TERMINAL BLOCKS
- 1.5 - ENCLOSURE LID

2 - ITEMS NOT SHOWN ON PAGE

- ENCLOSURE LID FIXING SCREWS (4*)



ELECTRICAL SPECIFICATIONS

ELECTRICAL SUPPLY SPECIFICATION

- Voltage: 90 - 264VAC
- Frequency: 47 - 64Hz
- Power Factor: PF 0.94/230VAC / PF 0.98/115VAC (At Full Load)
- Current: 4A/115VAC / 2A/230VAC
- Power Max: 460W
- Supply: Suitable Protected Supply 5A (See Relevant Local Wiring Regulations)

ELECTRICAL SUPPLY WIRING SPECIFICATION

- 1.0 - 4.0mm² (18 - 10 AWG) Solid Or Stranded
- 3 x Feed Through Terminal Block
 - EARTH - (GREEN / YELLOW (IEC / European) / GREEN (North American))
 - LIVE - (BROWN (IEC / European) / BLACK (North American))
 - NEUTRAL - (BLUE - (IEC / European) / WHITE (North American))

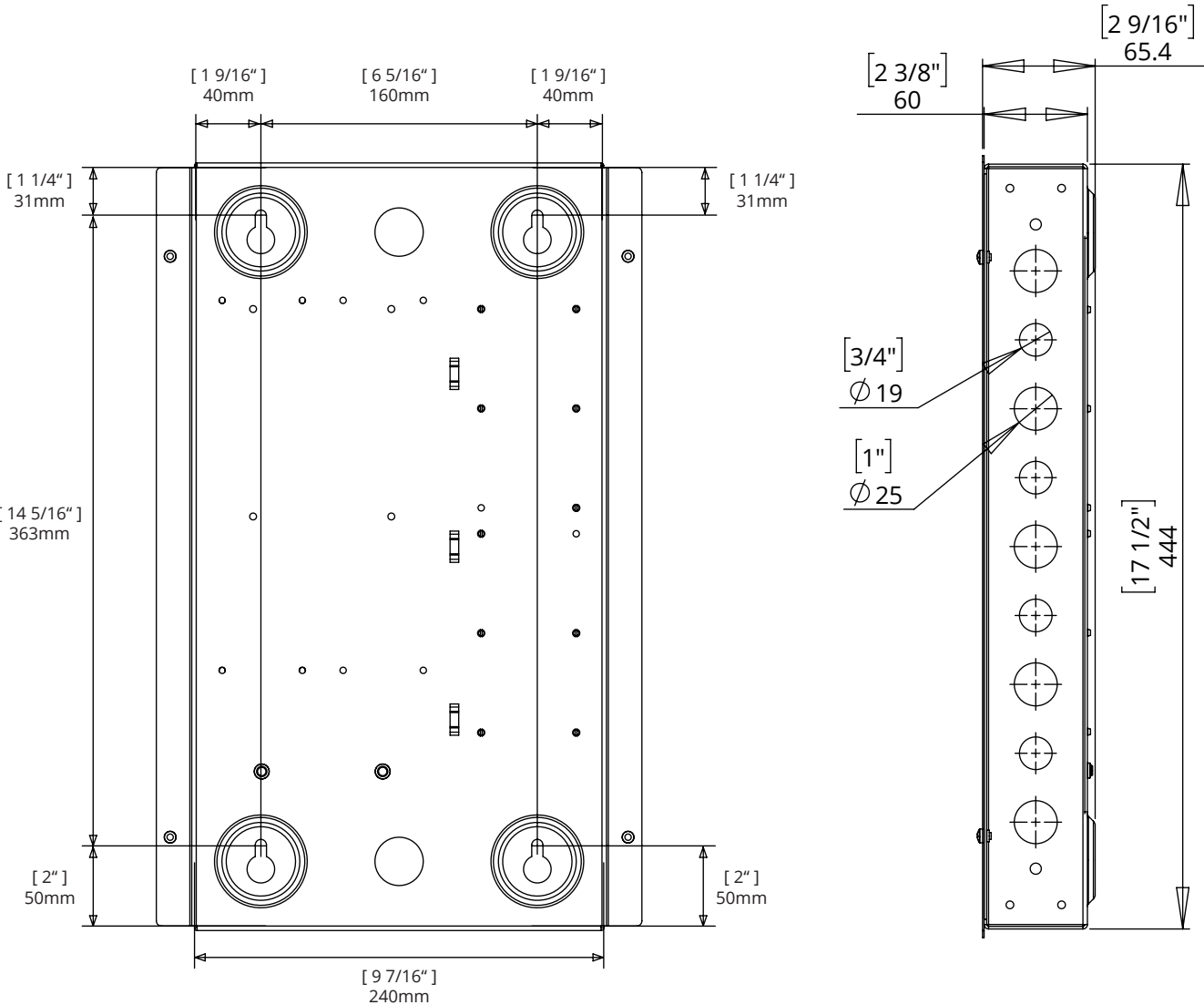
ELECTRICAL OUTPUT SPECIFICATION

- Voltage: 34.2 - 37.8VDC
- Current: 9.75A
- Rated Power: 351W
- Power Per Output: 5W Typical
- Fuse: 3.15A T 5x20mm

ELECTRICAL OUTPUT/DATA WIRING SPECIFICATION:

- 0.5 - 4mm² (22 - 14AWG), Solid Or Stranded Wire (See Below)
- 10 x 5-Pin Phoenix Terminal For Shade motor Power & Data Passthrough
 - COM - 1.0 - 4.0 mm² (18 - 12 AWG) solid or stranded
 - VE+ - 1.0 - 4.0 mm² (18 - 12 AWG) solid or stranded
 - MUX - 0.5 mm² (22 AWG) twisted/shielded pair
 - MUX BAR - 0.5 mm² (22 AWG) twisted/shielded pair
 - GRND/DRN - 0.5 mm² (22 AWG) twisted/shielded pair
- 1 x 5-Pin Phoenix Terminal For Shade Motor Data Input
 - COM (May not be used depending on control system)
 - VE+ (May not be used depending on control system)
 - MUX - 0.5 mm² (22 AWG) twisted/shielded pair
 - MUX BAR - 0.5 mm² (22 AWG) twisted/shielded pair
 - GRND/DRN - 0.5 mm² (22 AWG) twisted/shielded pair

MOUNTING POSITION



1

Ensure the mounting wall is structurally suitable and appropriate fixings are used before continuing installation.

2

Use the keyhole positioning information to drill holes in your wall/aperture at your desired height. Align the keyholes with your wall fixings to hang your enclosure and tighten fixings to secure in position.

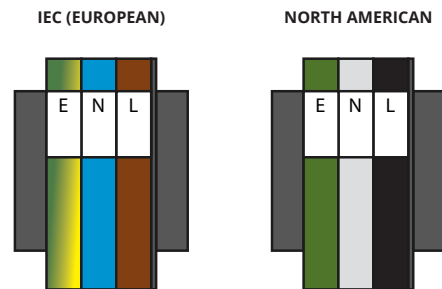


IT IS THE INSTALLERS RESPONSIBILITY TO OBTAIN THE APPROPRIATE FIXINGS WHEN ATTACHING TO THE WALL AND TO MAKE SURE THE ENCLOSURE IS SECURE AND SAFE.

WIRING OVERVIEW - HIGH VOLTAGE INPUT

- Installation to be carried out by persons with relevant electrotechnical expertise in conjunction with local building and electrical regulations.
- Power will enter the unit via one of the many knockout holes (avoid using any near the low voltage DC left hand side).
- Use a compression gland to protect your cables from damage.

CONNECTION	IEC (EUROPEAN)	NORTH AMERICAN
EARTH	GREEN / YELLOW	GREEN
NEUTRAL	BLUE	WHITE
LIVE	BROWN	BLACK

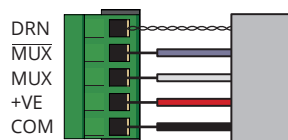
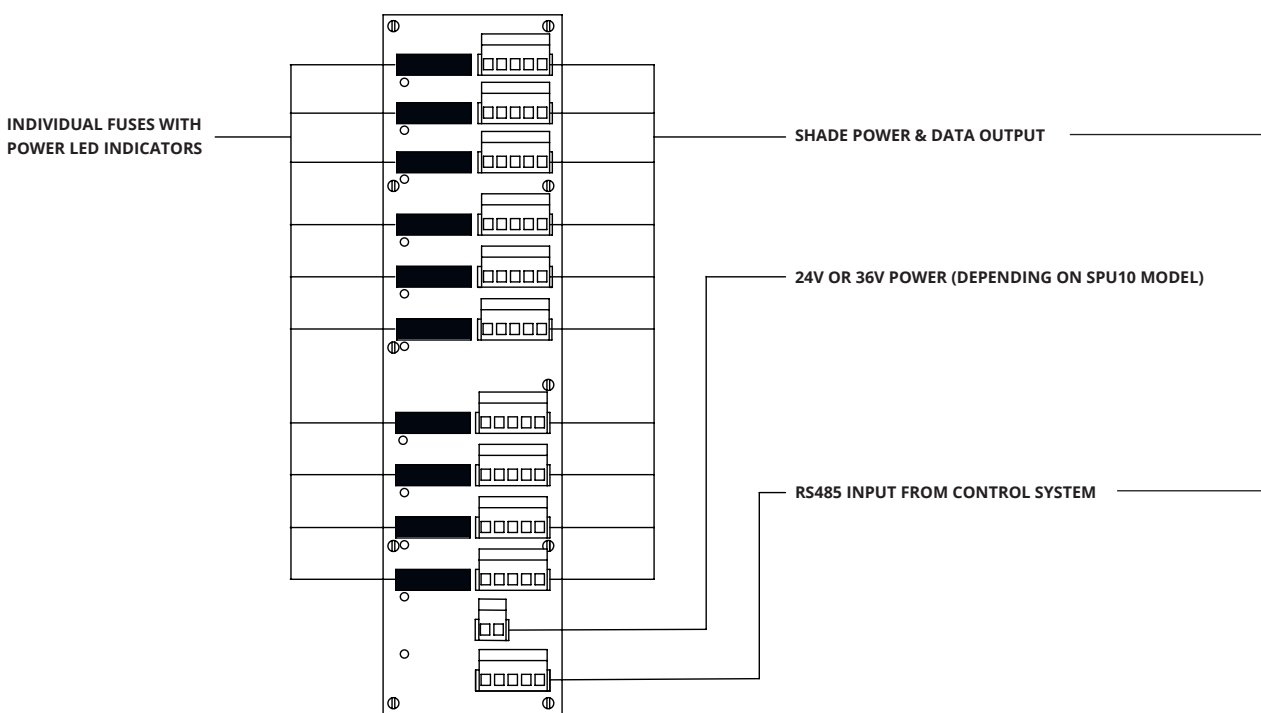


The Power supply is compatible with world-wide mains voltages and Frequency. e.g., UK 240V 50Hz and USA 120V 60Hz. The power feed should be from a protected (fuse or circuit breaker) line. Fuse or Circuit breaker rating should be adequate to protect the cable type and size used to supply the SPU10 in the event of wiring fault.

WIRING OVERVIEW - LOW VOLTAGE INPUT

The DC Shade outputs are identified on the printed circuit board next to the connectors.

Each DC output has an individual in-line fuse in case of a direct short-circuit. There are individual LED indicators on each output to show when there is power or not show if fuse has blown. The Printed Circuit Board is "SELV" (Safety Extra Low Voltage) and safe to touch but should still be connected and disconnected when the unit is off to avoid arcing. Ensure correct cable type is used to supply each shade for long runs you will require larger diameter wire to account for resistance and voltage drop.



***Cable colours are for illustrative purposes only**

SHADE POWER & DATA OUTPUT

- COM - 1.0 - 4.0 mm² (18 - 12 AWG) solid or stranded
- VE+ - 1.0 - 4.0 mm² (18 - 12 AWG) solid or stranded
- MUX - 0.5 mm² (22 AWG) twisted/shielded pair
- MUX BAR - 0.5 mm² (22 AWG) twisted/shielded pair
- GRND/DRN - 0.5 mm² (22 AWG) twisted/shielded pair

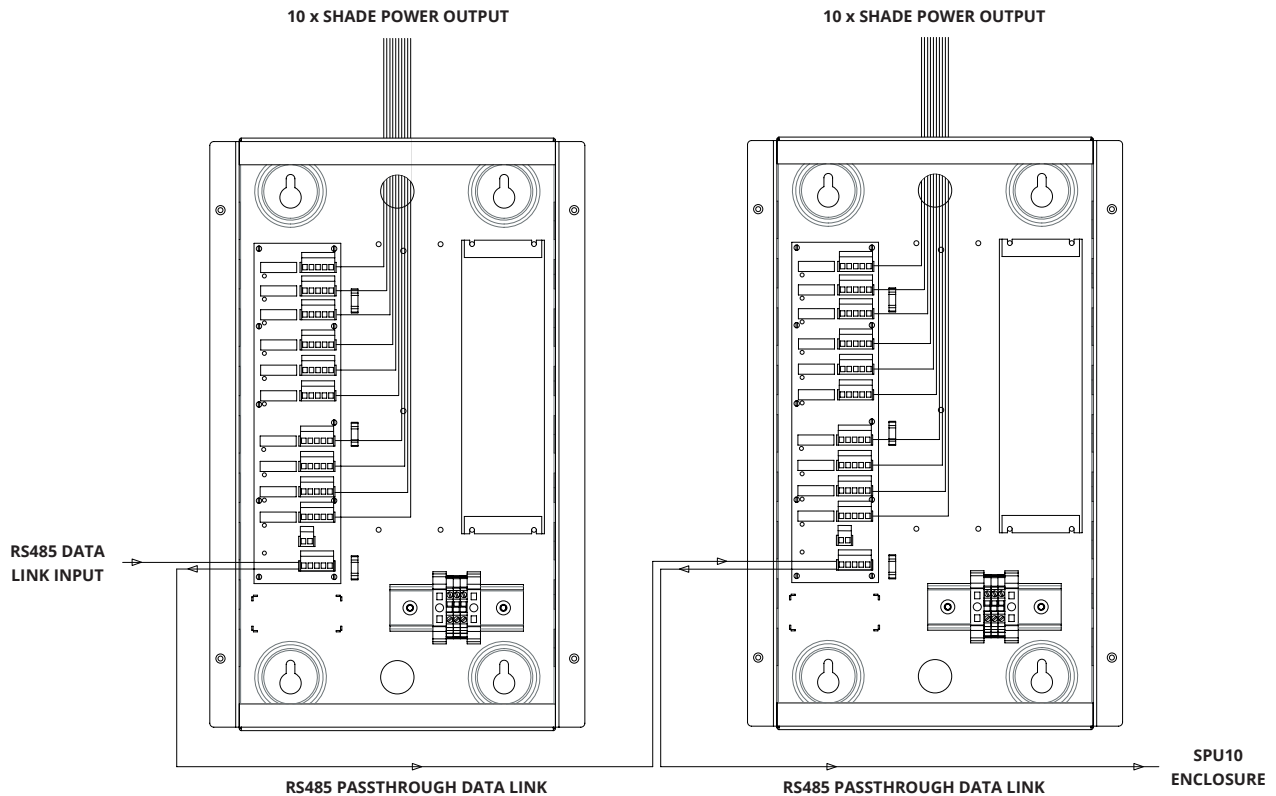
RS485 INPUT FROM CONTROL SYSTEM

- COM (May not be used depending on control system)
- VE+ (May not be used depending on control system)
- MUX - 0.5 mm² (22 AWG) twisted/shielded pair
- MUX BAR - 0.5 mm² (22 AWG) twisted/shielded pair
- GRND/DRN - 0.5 mm² (22 AWG) twisted/shielded pair

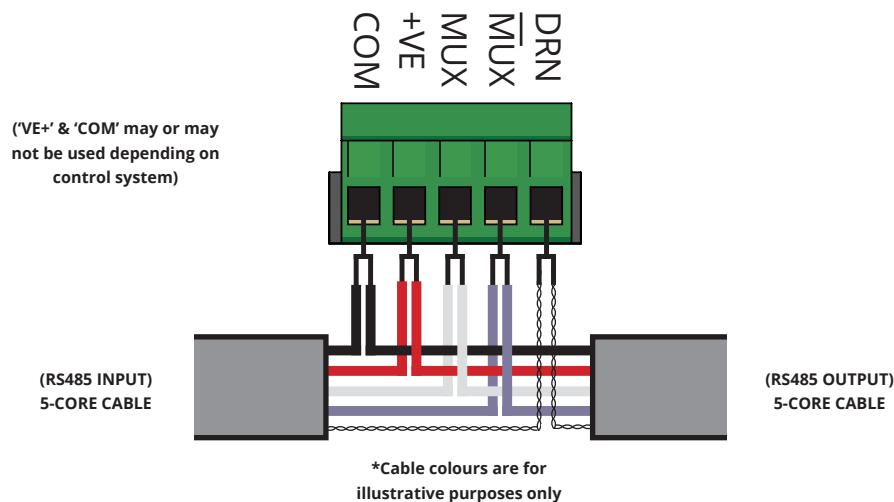
DATA LINKING

MULTIPLE ENCLOSURES

On larger system installations where more than one SPU10 unit may be required or where multiple SPU10 units are spread out across multiple locations, it is possible to link multiple panels together via the "Data Link" connector to avoid wiring each individual SPU10 back to the RS485 data source.



To daisy chain the RS485 signal between multiple SPU10 units, the RS485 source from the control system will need to be wired to the "RS485 Input / Data Link" connector on the first SPU10 panel. A second cable can then be bi-wired out of this "RS485 Input / Data Link" connector into the "RS485 Input / Data Link" connector in the next SPU10 panel along in the chain. The maximum number of SPU10 panels that can be daisy chained together will vary depending on individual panel loading.



NOTES:



EUROPEAN OFFICE

Address:

Unit 6-8
Brunel Road
Bedford
Bedfordshire
MK41 9TG

Phone: +44 (0) 1438 833577

Email: info@futureautomation.co.uk

Office Hours:

Mon - Fri 8:00 to 17:30 GMT
Saturday & Sunday - Closed

NORTH AMERICAN OFFICE

Address:

Enterprise Park
127 Venture Drive
Dover
NH
03820

Phone: +1 (603) 742 9181

Email: info@futureautomation.net

Office Hours:

Mon - Fri 7:00 to 17:00 EST
Saturday & Sunday - Closed