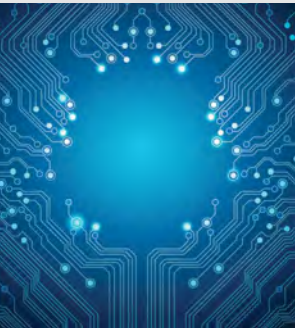




Product Selection Guide



INTRODUCTION

At A Glance

- Designed to meet the ever-changing power distribution and datacom needs of research, pharmaceutical, university, hospital, and data labs.
- Add or relocate plug-in modules anywhere on the raceway at anytime – without turning off power.
- Plug-in modules are available in single phase and three phase.
- Optional datacom channel is available for data, video, and audio applications.
- Tested to meet NEC and UL standards and carries the ETL mark.
- Is re-locatable and scalable making it one of today's most "green" products on the market.
- Registered member of U.S. Green Building Council.
- 20 or 60 Amp systems; up to 240V domestic/415V International; 3-phase.
- Compact design. Elbows and end feeds can be cut in the field for a precise fit.
- Standard colors are metallic silver and white. Custom colors also available.
- A steel EMI shielding is available to separate raceway channels.
- Lengths available in 2.5, 5 and 10 ft. or 1, 2, and 3 meters
- Optional isolated ground.
- System is manufactured in the USA.

Introduction

The next generation in raceway systems is STARLINE Plug-In Raceway from Universal Electric Corporation (UEC) that was created to meet the ever changing power distribution and datacom needs of research, pharmaceutical, university, hospital, data, and other labs.

This innovative design offers a flexibility that no other product on the market offers – the ability to add or relocate plug-in modules anywhere on the raceway quickly and easily without running additional wire or cables. STARLINE Plug-In Raceway not only offers flexibility, additional benefits are:

- Low Cost of Ownership
- Reliability
- Aesthetically Appealing
- Re-locatable/Scalable
- Reduced Installation Costs
- Safety and Convenience

This Product Selection Guide was developed to help the design engineer understand and consider all of the options available with STARLINE Plug-In Raceway when designing a system.

This guide includes many of the available options; however, UEC excels at collaborating with design engineers to provide solutions for any application. If you have a need that is not found in this guide, please contact us at **1-800-245-6378** or email us at info@uecorp.com. We will be happy to answer your questions over the telephone or schedule a visit with one of our local representatives.

Also, if viewing this guide in print, please keep in mind that this is a working document. UEC reserves the right to change information and descriptions of listed services and products. The latest version of this guide is available for download at <http://downloads.uecorp.com/starline/raceway/>.

Our goal is to provide you with Flexible Power Solutions – no matter what your design strategy may be. We welcome any comments regarding additional material that you feel should be included to help gain a more comprehensive understanding of STARLINE Plug-In Raceway. Please direct comments to www.info@uecorp.com.

TABLE OF CONTENTS

GROUND OPTIONS: END FEED.....	1.4
GROUND OPTIONS: MODULES.....	1.5

Plug-In Raceway Power Systems

SYSTEM LAYOUT DRAWING.....	2.1
STRAIGHT SECTIONS.....	2.2
STRAIGHT SECTIONS: PRODUCT NUMBERS.....	2.3
ELBOW SECTIONS.....	2.4
ELBOW SECTIONS: PRODUCT NUMBERS.....	2.5
UNIVERSAL END FEED KIT.....	2.6
UNIVERSAL END FEED: PRODUCT NUMBERS.....	2.7
UNIVERSAL CENTER FEED KIT.....	2.8
UNIVERSAL CENTER FEED: PRODUCT NUMBERS.....	2.9
ACCESSORIES: CONNECTION HARDWARE.....	2.10
ACCESSORIES: SUPPORT HARDWARE.....	2.11

Plug-In Raceway Power & Data Systems

SYSTEM LAYOUT DRAWING.....	3.1
STRAIGHT SECTIONS.....	3.2
STRAIGHT SECTIONS: PRODUCT NUMBERS.....	3.3
ELBOW SECTIONS.....	3.4
ELBOW SECTIONS: PRODUCT NUMBERS.....	3.5
UNIVERSAL END FEED KIT.....	3.6
UNIVERSAL END FEED: PRODUCT NUMBERS.....	3.7
UNIVERSAL CENTER FEED KIT.....	3.8
UNIVERSAL CENTER FEED: PRODUCT NUMBERS.....	3.9
ACCESSORIES: CONNECTION HARDWARE.....	3.10
ACCESSORIES: SUPPORT HARDWARE.....	3.11

Cover Pieces

POWER & DATA OUTLET COVER PIECES.....	4.1
POWER COVER PIECES: PRODUCT NUMBERS.....	4.2
BLANK DATA COVER PIECES: PRODUCT NUMBERS.....	4.3
CUT-OUT DATA COVER PIECES: PRODUCT NUMBERS.....	4.3

Plug-In Modules

PLUG-IN MODULE: P11.....	5.1
PLUG-IN MODULE: P21.....	5.2
PLUG-IN MODULE: P12.....	5.3
PLUG-IN MODULE: P22.....	5.4
PLUG-IN MODULE: P13.....	5.5
PLUG-IN MODULES: PRODUCT NUMBERS.....	5.6

TABLE OF CONTENTS

Current Monitoring

CURRENT MONITORING SYSTEM.....6.1
 CURRENT MONITORING: PRODUCT NUMBERS.....6.2

Product Number Resources

NEMA/IEC Configurations.....7.1
 RAL Colors.....7.2

Product Specifications

SPECIFICATIONS.....8.1

Application Briefs

FREQUENTLY ASKED QUESTIONS.....9.1
 FILL TABLE.....9.2
 FIELD CUTTING INSTRUCTIONS.....9.3
 POWER: FIELD CUTTING INSTRUCTIONS.....9.5
 POWER & DATA: FIELD CUTTING INSTRUCTIONS.....9.6
 FIELD CUTTING: ELBOWS.....9.7
 FIELD CUTTING: END FEEDS.....9.9
 FIELD CUTTING: STRAIGHT JUMPER.....9.10

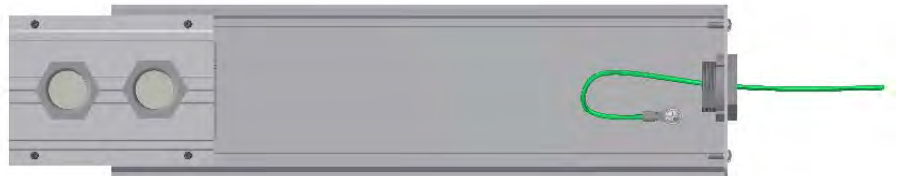
Product Drawings

DIAGRAM.....10.1
 DIAGRAM (cont'd).....10.2

GROUND OPTIONS: END FEED

Case Ground/Chassis Earth

Uses ground wire from contractor and grounds the raceway with a ring lug. Raceway has no ground copper.



Dedicated Ground/Earth

Uses ground wire from contractor and grounds directly to the raceway copper and then to the ring lug to ground the raceway.



Isolated Ground/Earth

Uses ground wire from contractor and grounds directly to the raceway copper. A second contractor ground wire is grounded to the ring lug, grounding the raceway.



Note: Grounding to be done by installer.

GROUND OPTIONS: MODULES

Case Ground/Chassis Earth

Uses the ground tab to ground the receptacle and enclosure to the raceway.



Dedicated Ground/Earth

Uses the ground tab and ground bar in raceway to ground the enclosure and receptacle.

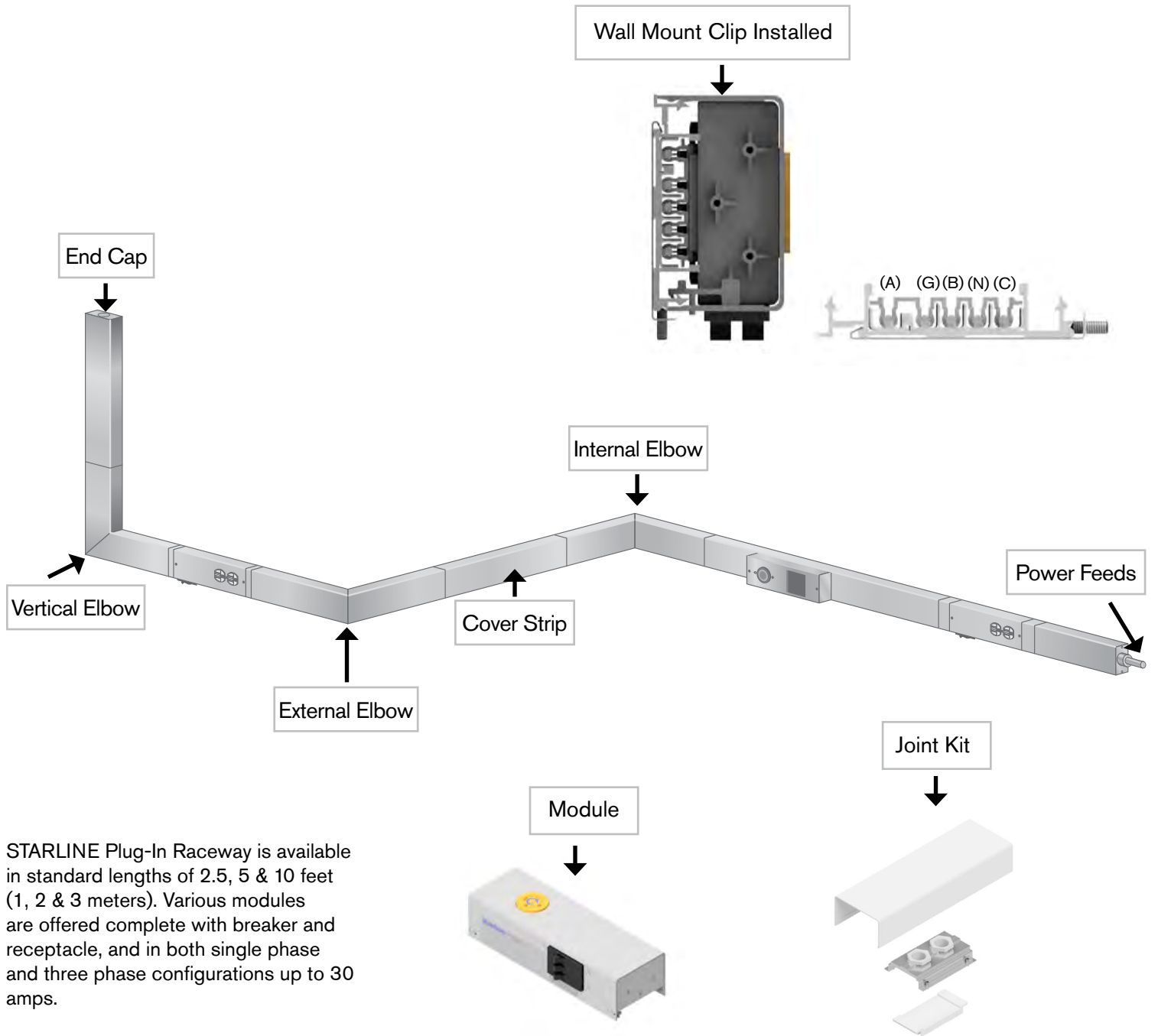


Isolated Ground/Earth

Uses the ground bar in raceway to ground directly to the receptacle. The enclosure is grounded using a ground tab.



SYSTEM LAYOUT DRAWING



STARLINE Plug-In Raceway is available in standard lengths of 2.5, 5 & 10 feet (1, 2 & 3 meters). Various modules are offered complete with breaker and receptacle, and in both single phase and three phase configurations up to 30 amps.

INTENDED FOR INDOOR USE ONLY

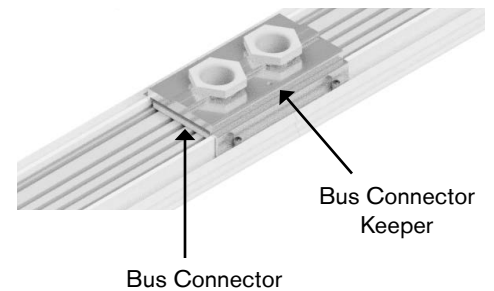
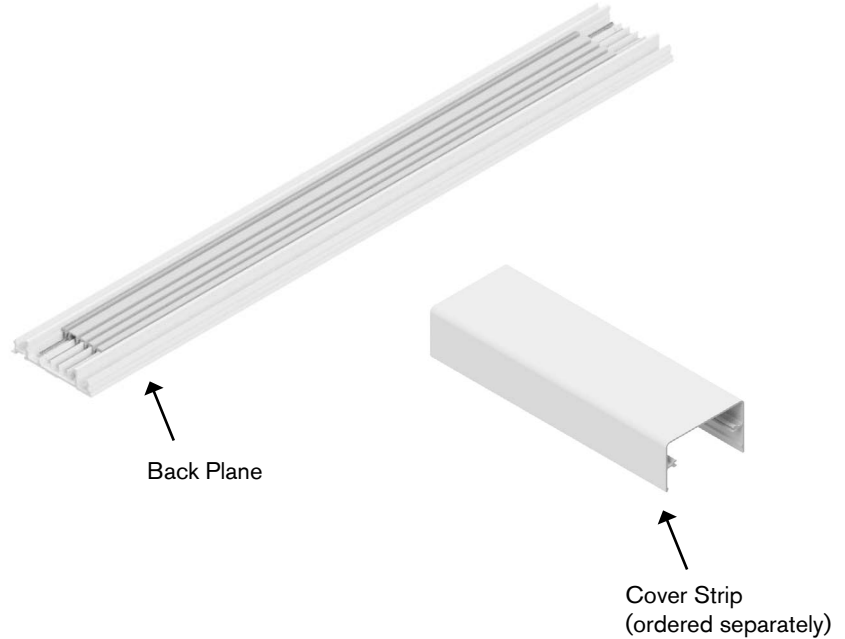
STRAIGHT SECTIONS

Product Description

Each Plug-In Raceway straight section consists of an extruded aluminum backplane with an insulated strip containing copper busbars. The aluminum extrusion acts as a 100% ground path. Each straight section is enclosed by means of cover pieces and plug-in modules. Available as 4-pole (3 phase + Neutral), and 4-pole with isolated ground conductor. Rated at 20 & 60 Amp. continuous duty, 240V domestic/415V International. Raceway sections are connected together using in-line connectors.

Sections should be supported every 30" (762mm). STARLINE Plug-In Raceway is available in standard lengths of 2.5, 5 & 10 feet (1, 2 & 3 meters). If custom lengths are required for your project, Plug-In Raceway is also field cuttable.

*Please note, a straight section only includes the backplane of the raceway. Cover strip pieces must be ordered with their own, separate part number (see pg. 4.1).

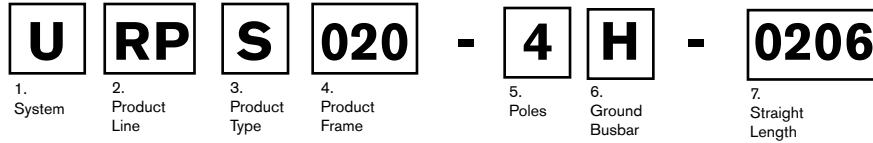


20 amp insulator



60 amp insulator

STRAIGHT SECTIONS: PRODUCT NUMBERS



1. System (standard of measure)

U U.S. **M** Metric

2. Product Line (section housing)

RP Raceway Power

3. Product Type (section component)

S Straight

4. Product Frame (maximum amperage)

020 20 amps **060** 60 amps

5. Poles (number of poles(including neutral))

4 4 poles

6. Ground Busbar (type of ground busbar)

H Housing Ground **G** Isolated/Dedicated Ground

7. Straight Length (length of section)

0206	2 ft. 6 in. (for U.S.)	M100	1 meter (for Metric)
0500	5 ft. (for U.S.)	M200	2 meters (for Metric)
1000	10 ft. (for U.S.)	M300	3 meters (for Metric)

Examples:

URPS020-4H-0206 = U.S., Raceway Power, Straight, 20 amps- 4 poles, Housing ground- 2 ft. 6 inches long

MRPS060-4G-M300 = Metric, Raceway Power, Straight, 60 amps- 4 poles, Isolated/Dedicated ground- 3 meters long

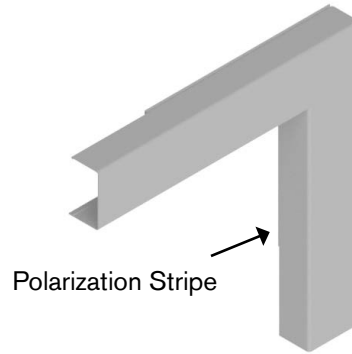
ELBOW SECTIONS

Product Description

An elbow is used for making a horizontal or vertical 90 degree change of direction in a raceway run. Specify internal or external for horizontal elbows and up or down for vertical.

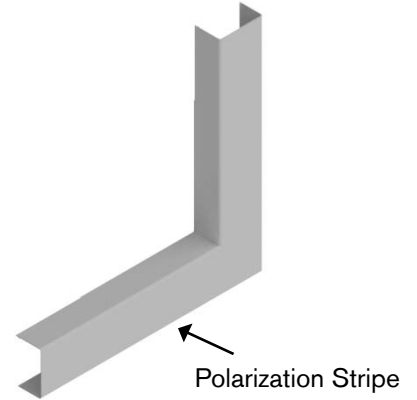
Elbows work with all ampere ratings – 20 and 60 Amp; Elbows are 5-pole for use on systems with and without the ground bus.

All elbows have a 12 inch x 12 inch (305mm x 305mm) outside foot print and come with (2) bus connector keepers (not pictured) for easy connections to the adjacent sections and 17 inch (432mm) cover pieces. Elbows are designed to be field-cut for jobsite fitting to as-built construction.



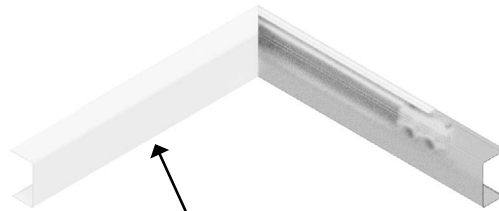
Polarization Stripe

**Down Turning
Vertical Elbow**



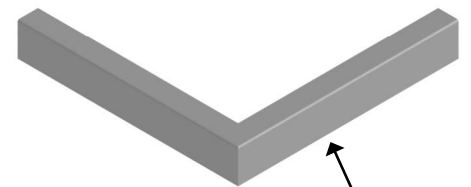
Polarization Stripe

**Up Turning
Vertical Elbow**



Polarization Stripe

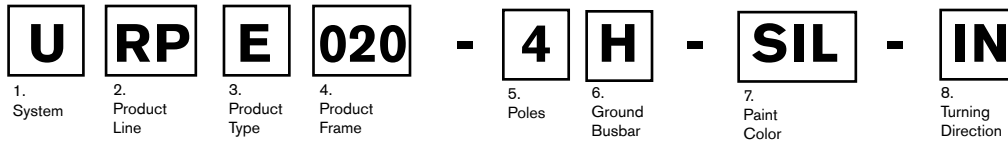
**Internal
Horizontal Elbow**



Polarization Stripe

**External
Horizontal Elbow**

ELBOW SECTIONS: PRODUCT NUMBERS



*RAL (please see page 7.2)

1. System (standard of measure)
U U.S. **M** Metric

2. Product Line (section housing)
RP Raceway Power

3. Product Type (section component)
E Elbow

4. Product Frame (maximum amperage)
020 20 amps **060** 60 amps

5. Poles (number of poles(including neutral))
4 4 poles

6. Ground Busbar (type of ground busbar)
H Housing Ground **G** Isolated/Dedicated Ground

7. Paint (allows painting of the housing)
SIL Paint UEC Silver **BLK** Paint UEC Black
WHT Paint UEC White
 RAL system can also be used; reference page 7.2

8. Turning Direction (direction of elbow)
IN Internal Horizontal **EX** External Horizontal
UP Up turning vertical **DN** Down turning vertical

Examples:

URPE020-4H-SIL-UP = U.S., Raceway Power, Elbow, 20 amps- 4 poles, Housing ground- painted Silver- Up turning vertical elbow

MRPE060-4G-BLK-IN = Metric, Raceway Power, Elbow, 60 amps- 4 poles, Isolated/Dedicated ground- painted Black- Internal horizontal elbow

UNIVERSAL END FEED KIT

Product Description

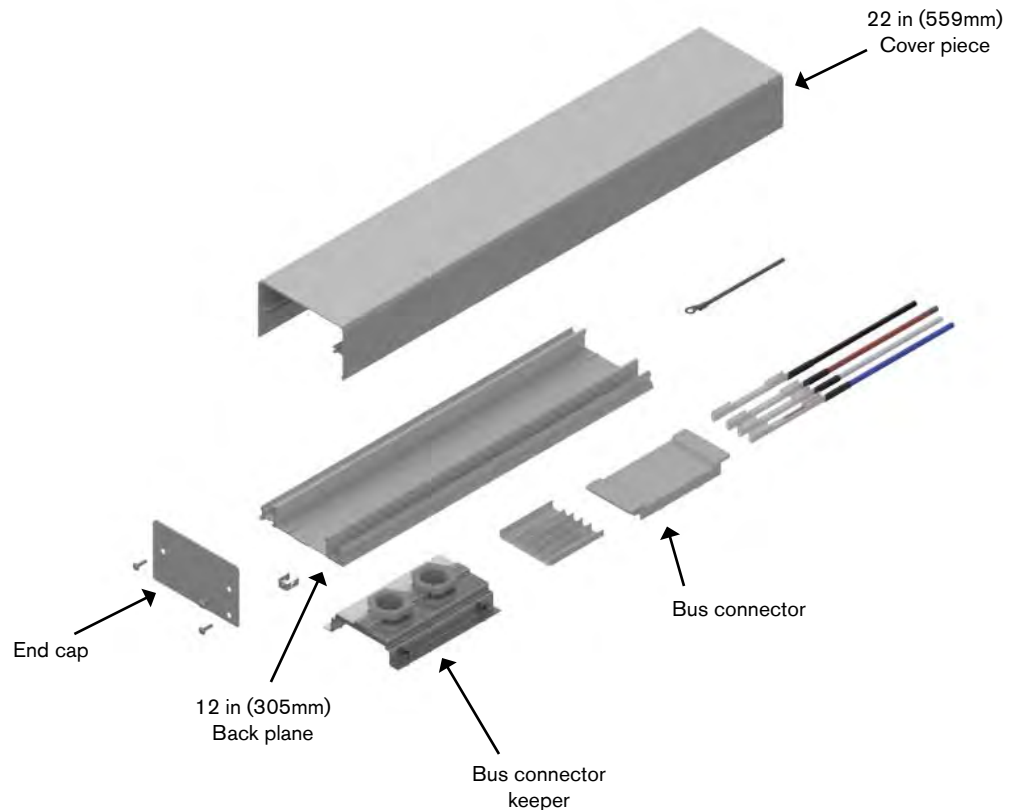
Provide an inconspicuous and fully customizable means for connecting power to the raceway busbars at the end of a run. Kit consists of a 12 in. (305mm) section of raceway, connector, wire leads, and end cap.

Providing components unassembled allows installers to field customize as required.

***Installer can configure for left hand, right hand, top or rear wire entry points- thus the term 'Universal'.**

End feeds work with all ampere ratings – 20 and 60 Amp.

**Please note: cover piece will be 22 inches (559mm) long, with 5 inches (127mm) hanging over each side of the 12 inch (305mm) back plane.*



UNIVERSAL END FEED: PRODUCT NUMBERS



*RAL (please see page 7.2)

1. System (standard of measure)

U U.S. **M** Metric

2. Product Line (section housing)

RP Raceway Power

3. Product Type (section component)

F End Feed

4. Product Frame (maximum amperage)

020 20 amps **060** 60 amps

5. Poles (number of poles(including neutral))

4 4 poles

6. Ground Busbar (type of ground busbar)

H Housing Ground **G** Isolated/Dedicated Ground

7. Paint (allows painting of the housing)

SIL Paint UEC Silver **BLK** Paint UEC Black
WHT Paint UEC White

RAL system can also be used; reference page 7.2

Examples:

URPF060-4G-SIL = U.S., Raceway Power, End Feed, 60 amps- 4 poles, Isolated/Dedicated ground- painted Silver

MRPF060-4H-PK6 = Metric, Raceway Power, End Feed, 60 amps- 4 poles, Housing ground- painted RAL 6006

UNIVERSAL CENTER FEED KIT

Product Description

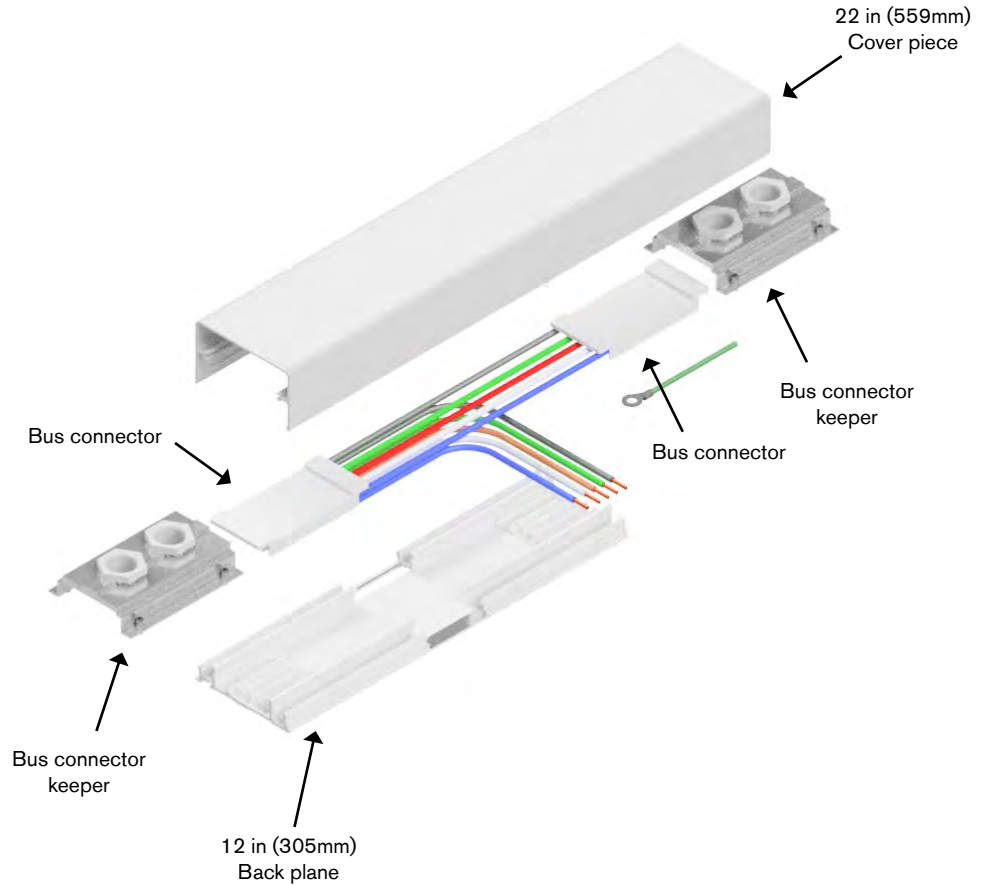
Provides an inconspicuous means for connecting power to the raceway busbars in the center of a run. Kit consists of a 12 in. (305mm) section of raceway, connector and wire leads.

Providing components unassembled allows installers to field customize as required.

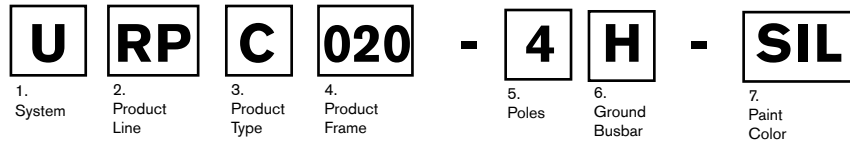
***Installer can configure for top, bottom or rear wire entry points- thus the term 'Universal'.**

Center feeds work with all ampere ratings – 20 and 60 Amp.

**Please note: cover piece will be 22 inches (559mm) long, with 5 inches (127mm) hanging over each side of the 12 inch (305mm) back plane.*



UNIVERSAL CENTER FEED: PRODUCT NUMBERS



*RAL (please see page 7.2)

1. System (standard of measure)

U U.S. **M** Metric

2. Product Line (section housing)

RP Raceway Power

3. Product Type (section component)

C Center Feed

4. Product Frame (maximum amperage)

020 20 amps **060** 60 amps

5. Poles (number of poles(including neutral))

4 4 poles

6. Ground Busbar (type of ground busbar)

H Housing Ground **G** Isolated/Dedicated Ground

7. Paint (allows painting of the housing)

SIL Paint UEC Silver **BLK** Paint UEC Black
WHT Paint UEC White

RAL system can also be used; reference page 7.2

Examples:

URPC060-4G-SIL = U.S., Raceway Power, Center Feed, 60 amps- 4 poles, Isolated/Dedicated ground- painted Silver

MRPC060-4H-WHT = Metric, Raceway Power, Center Feed, 60 amps- 4 poles, Housing ground- painted White

ACCESSORIES: CONNECTION HARDWARE

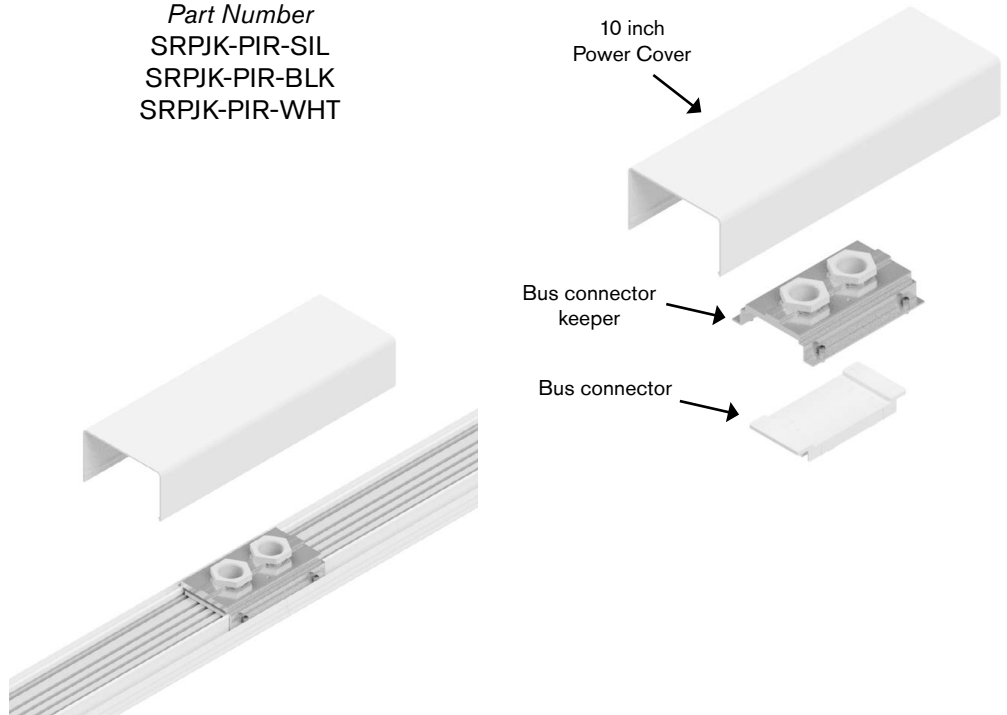
Joint Kit

A joint kit makes electrical and mechanical connections between raceway sections. Consists of a bus connector, bus connector keeper and a 10 inch (254mm) piece of blank cover to enclose the joint.

The bus connector presses and locks into place between adjoining sections. The bus connector keeper is positioned then screwed to the backplane, making the mechanical and equipment ground connections.

Joint kits are 5-pole for use on systems with and without the ground bus.

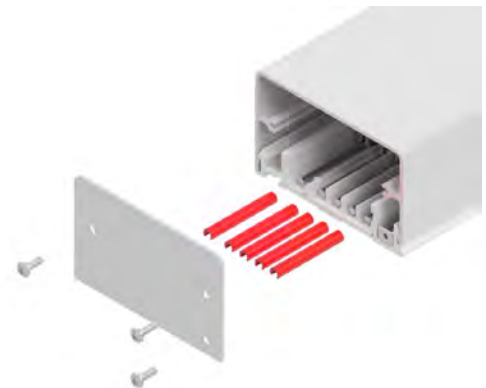
Part Number
SRPJK-PIR-SIL
SRPJK-PIR-BLK
SRPJK-PIR-WHT



End Cap

Used for covering and securing open ends of the raceway.

Part Number
SRPEC-PIR-SIL
SRPEC-PIR-BLK
SRPEC-PIR-WHT



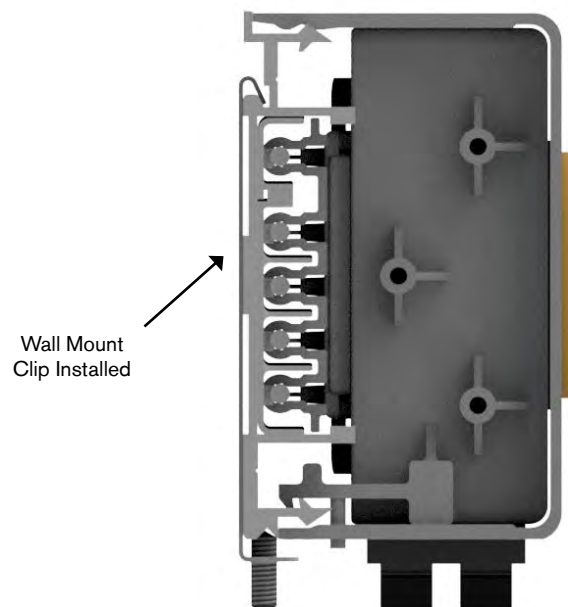
ACCESSORIES: SUPPORT HARDWARE

Wall Mount Clip

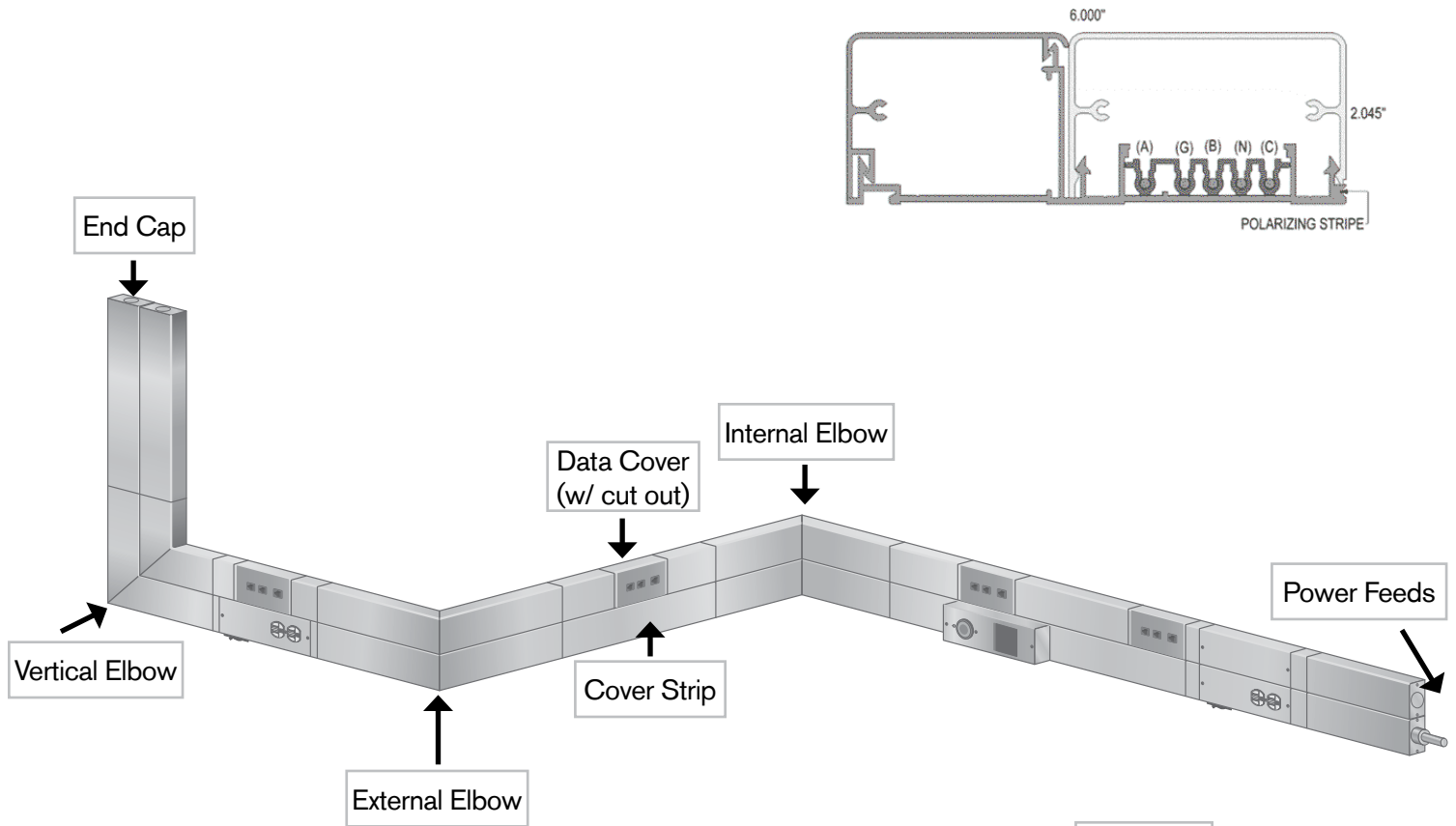
Sections of Plug-In Raceway may be mounted by means of wall mount clips. Use of the wall mount clips can dramatically speed up the system installation time compared to direct wall mounting.

The clip is installed by inserting two flat head screws through the clip and into the support point on the wall. The Plug-In Raceway pivots into the hook and is secured with a set screw.

Part Number
SRPWMC-PIR

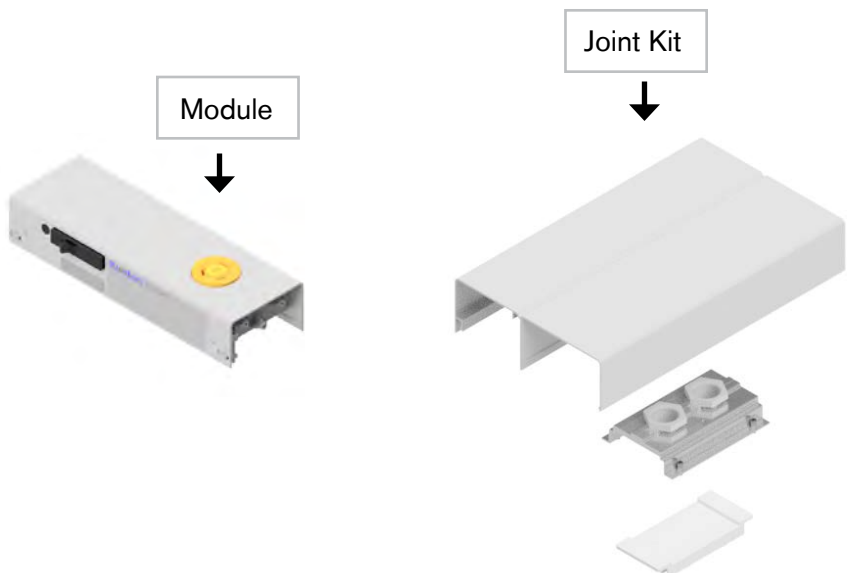


SYSTEM LAYOUT DRAWING



STARLINE Plug-In Raceway is available in standard lengths of 2.5, 5 & 10 feet (1, 2 & 3 meters). Various modules are offered complete with breaker and receptacle, and in both single phase and three phase configurations up to 30 amps.

INTENDED FOR INDOOR USE ONLY



STRAIGHT SECTIONS

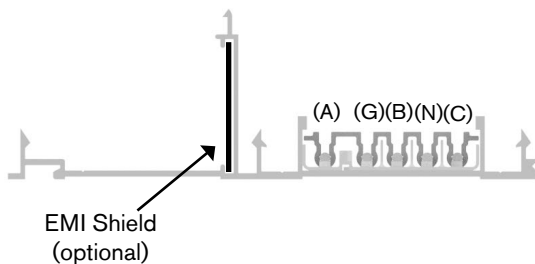
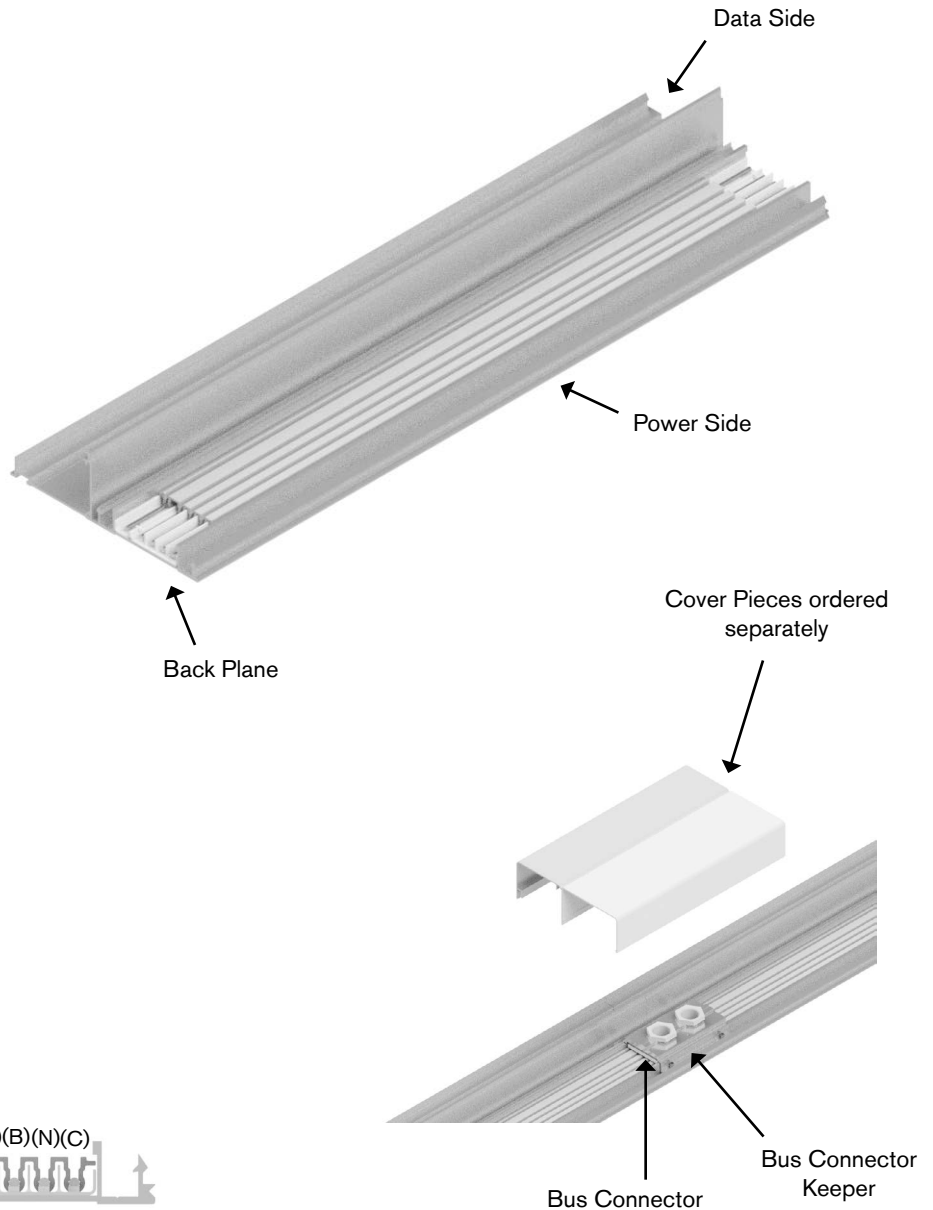
Product Description

Each Plug-In Raceway straight section consists of a two-channel extruded aluminum housing. The power channel contains an insulated strip with copper busbars. The aluminum extrusion acts as a 100% ground path. The data channel provides a raceway for datacom cabling.

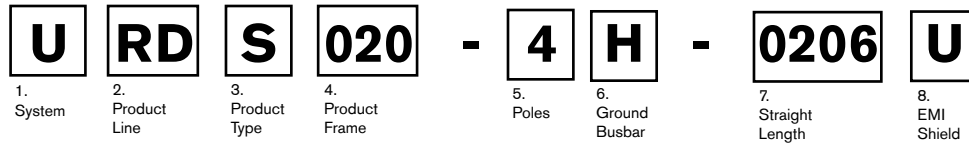
Each raceway straight is enclosed by means of cover pieces and plug-in modules. Power available as 4 pole (3 phase + Neutral) and 4 pole with isolated ground conductor. Rated at 20 and 60 Amp continuous duty, 240V domestic/415V International. Raceway sections are connected together using in-line connectors.

Sections should be supported every 30" (762mm). STARLINE Plug-In Raceway is available in standard lengths of 2.5, 5 & 10 feet (1, 2 & 3 meters). If custom lengths are required for your project, Plug-In Raceway is also field cuttable.

*Please note, a straight section only includes the backplane of the raceway. Cover strip pieces must be ordered with their own, separate part number (see pg. 4.1).



STRAIGHT SECTIONS: PRODUCT NUMBERS



1. System (standard of measure)

U U.S. **M** Metric

2. Product Line (section housing)

RD Raceway Dual

3. Product Type (section component)

S Straight

4. Product Frame (maximum amperage)

020 20 amps **060** 60 amps

5. Poles (number of poles(including neutral))

4 4 poles

6. Ground Busbar (type of ground busbar)

H Housing Ground **G** Isolated/Dedicated Ground

7. Straight Length (length of section)

0206 2 ft. 6 in. (for U.S.)	M100 1 meter (for Metric)
0500 5 ft. (for U.S.)	M200 2 meters (for Metric)
1000 10 ft. (for U.S.)	M300 3 meters (for Metric)

8. EMI Shield (optional shield to minimize electromagnetic radiation)

U Unshielded **S** Shielded

Examples:

URDS020-4H-0500U = U.S., Raceway Dual, Straight, 20 amps- 4 poles, Housing ground- 5 feet long, unshielded

MRDS060-4G-M100S = Metric, Raceway Dual, Straight, 60 amps- 4 poles, Isolated/Dedicated ground- 1 meter long, shielded

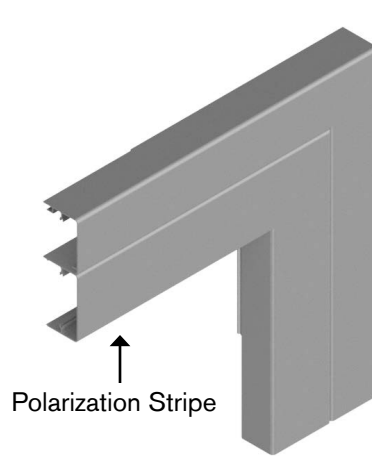
ELBOW SECTIONS

Product Description

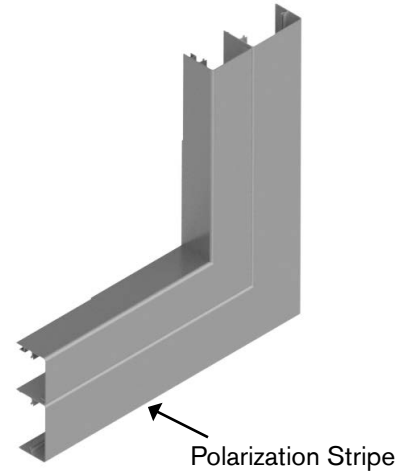
An elbow is used for making a horizontal or vertical 90 degree change of direction in a raceway run. Specify internal or external for horizontal elbows and up or down for vertical.

Elbows work with all ampere ratings – 20 and 60 Amp; Elbows are 5-pole for use on systems with and without the ground bus.

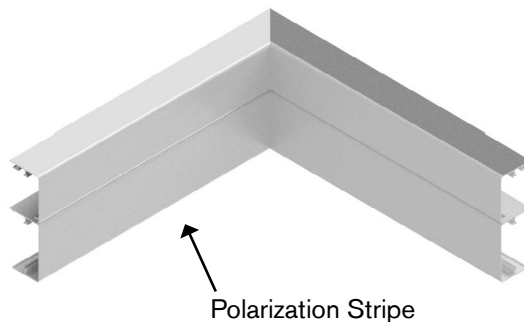
All elbows have a 12 inch x 12 inch (305mm x 305mm) outside foot print and come with (2) bus connector keepers (not pictured) for easy connections to the adjacent sections and 17 inch (432mm) cover pieces. Elbows are designed to be field-cut for jobsite fitting to as-built construction.



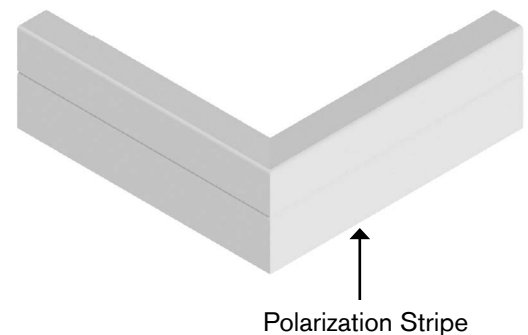
**Down Turning
Vertical Elbow**



**Up Turning
Vertical Elbow**

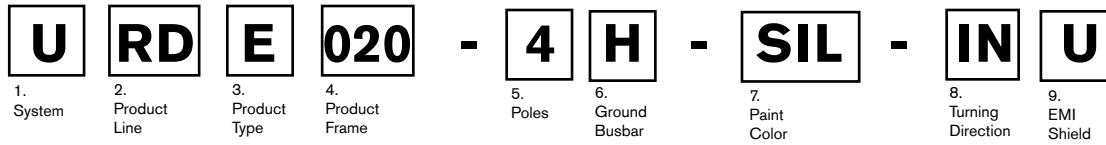


**Internal
Horizontal Elbow**



**External
Horizontal Elbow**

ELBOW SECTIONS: PRODUCT NUMBERS



*RAL (please see page 7.2)

1. System (standard of measure)	
U U.S.	M Metric

2. Product Line (section housing)	
RD Raceway Dual	

3. Product Type (section component)	
E Elbow	

4. Product Frame (maximum amperage)	
020 20 amps	060 60 amps

5. Poles (number of poles(including neutral))	
4 4 poles	

6. Ground Busbar (type of ground busbar)	
H Housing Ground	G Isolated/Dedicated Ground

7. Paint (allows painting of the housing)	
SIL Paint UEC Silver	BLK Paint UEC Black
WHT Paint UEC White	
RAL system can also be used; reference page 7.2	

8. Turning Direction (direction of elbow)	
IN Internal Horizontal	EX External Horizontal
UP Up turning vertical	DN Down turning vertical

9. EMI Shield (optional shield to minimize electromagnetic radiation)	
U Unshielded	S Shielded

Examples:

URDE060-4H-SIL-UPU = U.S., Raceway Dual, Elbow, 60 amps- 4 poles, Housing ground- painted Silver- Up turning vertical elbow, Unshielded

MRDE060-4G-BLK-INS = Metric, Raceway Dual, Elbow, 60 amps- 4 poles, Isolated/Dedicated ground- painted Black- Internal horizontal elbow, Shielded

UNIVERSAL END FEED KIT

Product Description

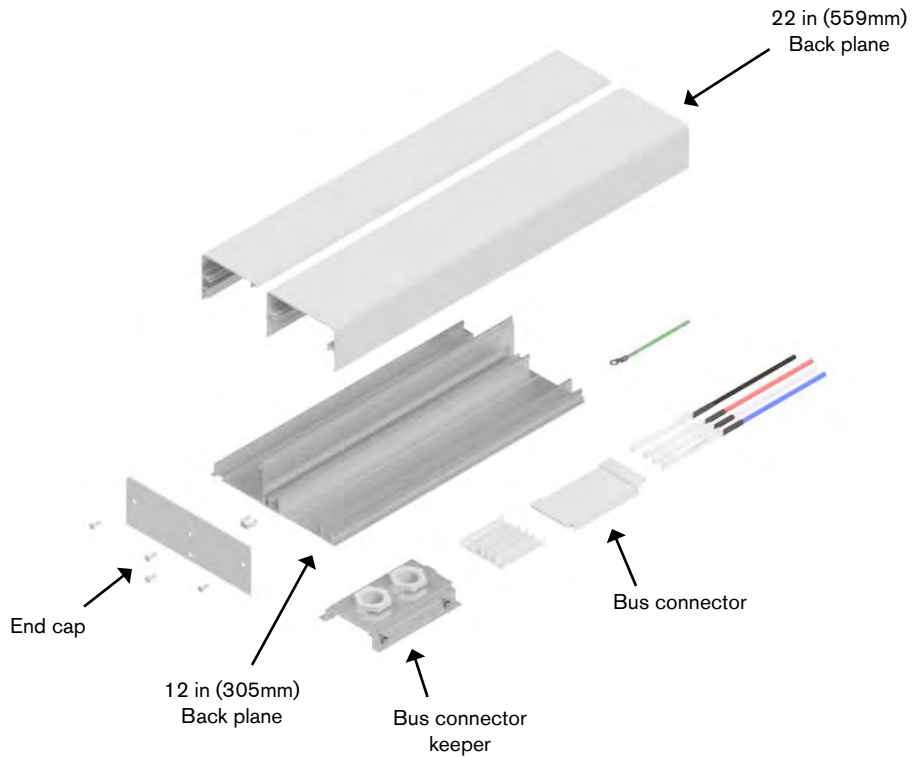
Provide an inconspicuous and fully customizable means for connecting power to the raceway busbars at the end of a run. Kit consists of a 12 in. (305mm) section of raceway, connector, wire leads, and end cap.

Providing components unassembled allows installers to field customize as required.

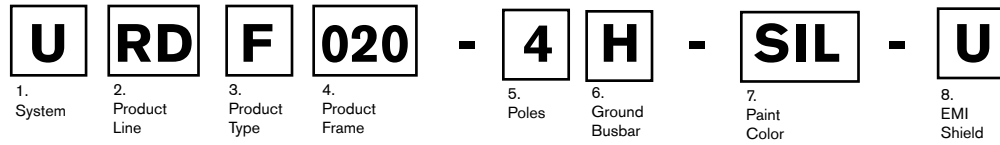
***Installer can configure for left hand, right hand, top or rear wire entry points- thus the term 'Universal'.**

End feeds work with all ampere ratings – 20 and 60 Amp.

**Please note: cover piece will be 22 inches (559mm) long, with 5 inches (127mm) hanging over each side of the 12 inch (305mm) back plane.*



UNIVERSAL END FEED: PRODUCT NUMBERS



*RAL (please see page 7.2)

1. System (standard of measure)
U U.S. **M** Metric

2. Product Line (section housing)
RD Raceway Dual

3. Product Type (section component)
F End Feed

4. Product Frame (maximum amperage)
020 20 amps **060** 60 amps

5. Poles (number of poles(including neutral))
4 4 poles

6. Ground Busbar (type of ground busbar)
H Housing Ground **G** Isolated/Dedicated Ground

7. Paint (allows painting of the housing)
SIL Paint UEC Silver **BLK** Paint UEC Black
WHT Paint UEC White

RAL system can also be used; reference page 7.2

8. EMI Shield (optional shield to minimize electromagnetic radiation)
U Unshielded **S** Shielded

Examples:

URDF060-4G-SILS = U.S., Raceway Dual, End Feed, 60 amps- 4 poles, Isolated/Dedicated ground- painted Silver, Shielded
MRDF060-4H-PB8U = Metric, Raceway Dual, End Feed, 60 amps- 4 poles, Housing ground- painted RAL 3018, Unshielded

UNIVERSAL CENTER FEED KIT

Product Description

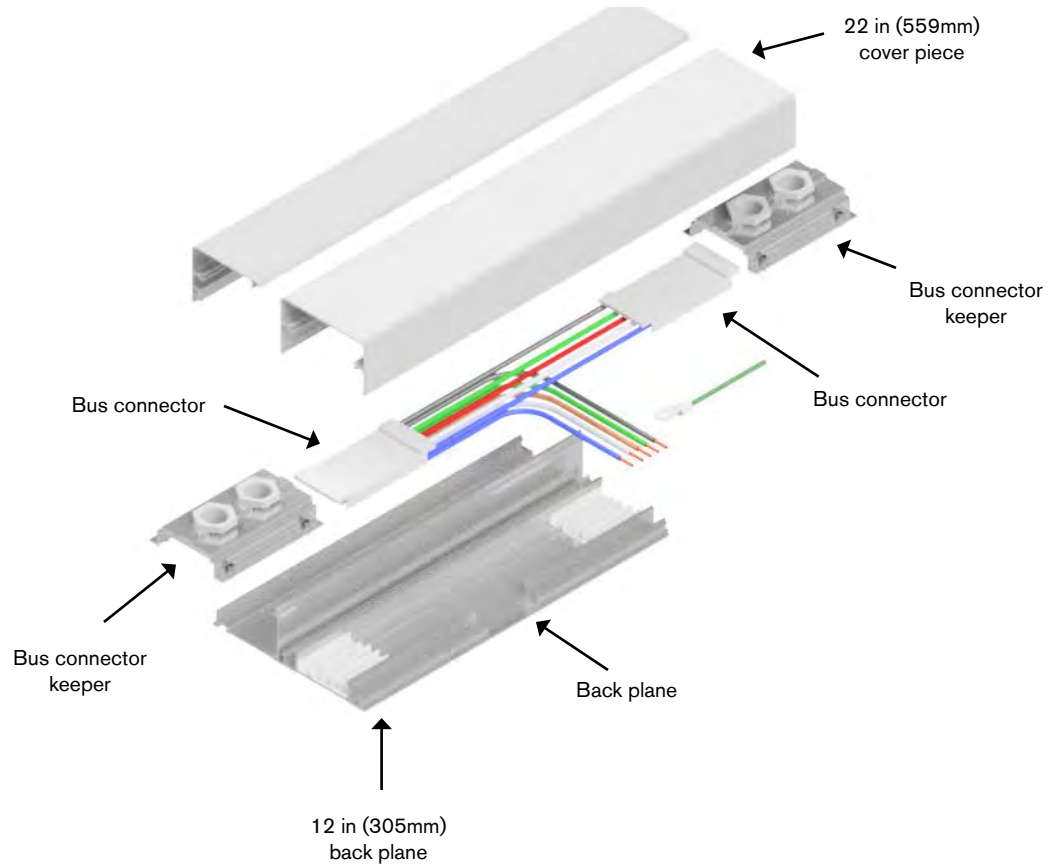
Provides an inconspicuous means for connecting power to the raceway busbars in the center of a run. Kit consists of a 12 inch (305mm) section of raceway, connector and wire leads.

Providing components unassembled allows installers to field customize as required.

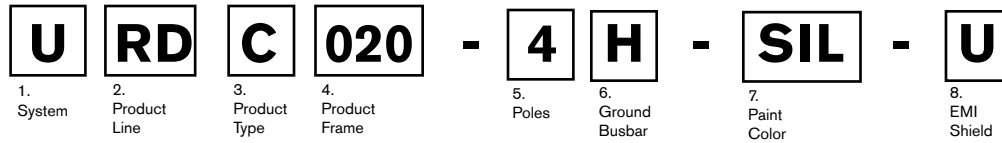
***Installer can configure for top, bottom or rear wire entry points- thus the term 'Universal'.**

Center feeds work with all ampere ratings – 20 and 60 Amp.

**Please note: cover piece will be 22 inches (559mm) long, with 5 inches (127mm) hanging over each side of the 12 inch (305mm) back plane.*



UNIVERSAL CENTER FEED: PRODUCT NUMBERS



*RAL (please see page 7.2)

1. System (standard of measure)
U U.S. **M** Metric

2. Product Line (section housing)
RD Raceway Dual

3. Product Type (section component)
C Center Feed

4. Product Frame (maximum amperage)
020 20 amps **060** 60 amps

5. Poles (number of poles(including neutral))
4 4 poles

6. Ground Busbar (type of ground busbar)
H Housing Ground **G** Isolated/Dedicated Ground

7. Paint (allows painting of the housing)
SIL Paint UEC Silver **BLK** Paint UEC Black
WHT Paint UEC White

RAL system can also be used; reference page 7.2

8. EMI Shield (optional shield to minimize electromagnetic radiation)
U Unshielded **S** Shielded

Examples:

URDC060-4G-SILU = U.S., Raceway Dual, Center Feed, 60 amps- 4 poles, Isolated/Dedicated ground- painted Silver, Unshielded

MRDC060-4H-WHTU = Metric, Raceway Power, Center Feed, 60 amps- 4 poles, Housing ground- painted White, Unshielded

ACCESSORIES: CONNECTION HARDWARE

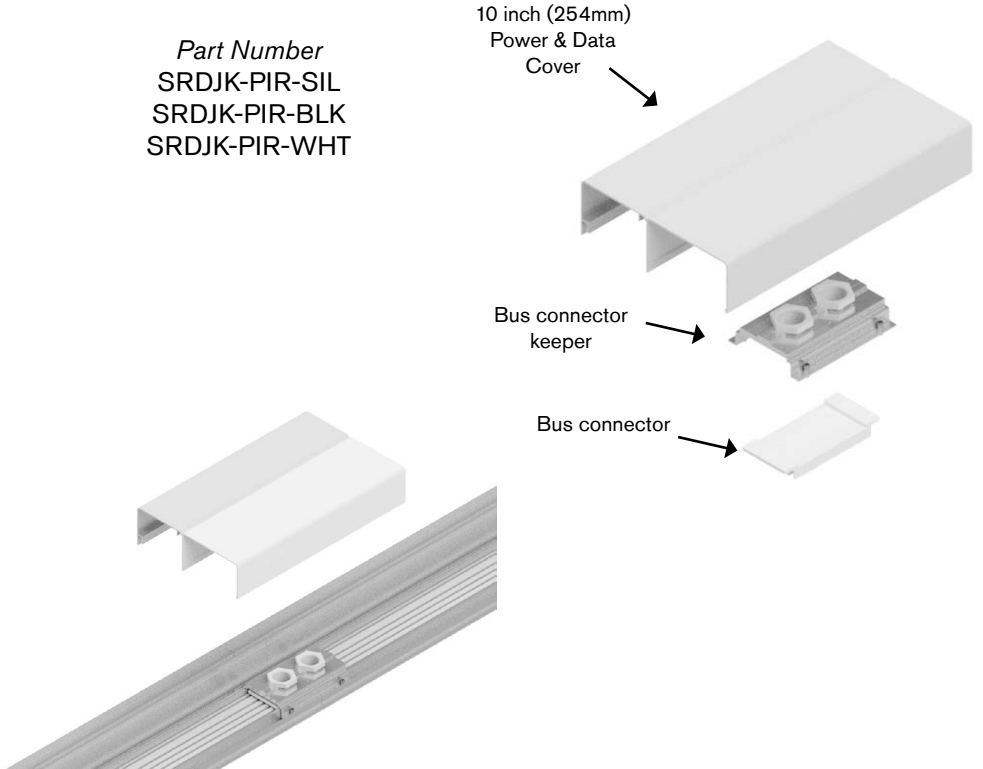
Joint Kit

A joint kit makes electrical and mechanical connections between raceway sections. Consists of a bus connector, bus connector keeper and a 10 inch (254mm) piece of blank cover to enclose the joint.

The bus connector presses and locks into place between adjoining sections. The bus connector keeper is positioned then screwed to the backplane, making the mechanical and equipment ground connections.

Joint kits are 5-pole for use on systems with and without the ground bus.

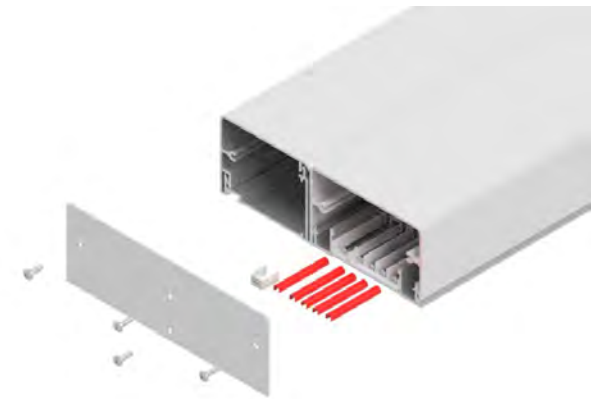
Part Number
SRDJK-PIR-SIL
SRDJK-PIR-BLK
SRDJK-PIR-WHT



End Cap

Used for covering and securing open ends of the raceway. Provides conduit knockout for optional Datacom cable entry.

Part Number
SRDEC-PIR-SIL
SRDEC-PIR-BLK
SRDEC-PIR-WHT



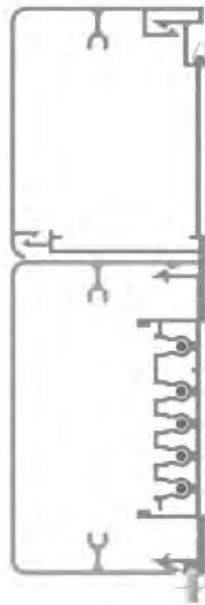
ACCESSORIES: SUPPORT HARDWARE

Wall Mount Clip

Sections of Plug-In Raceway may be mounted by means of wall mount clips. Use of the wall mount clips can dramatically speed up the system installation time compared to direct wall mounting.

The clip is installed by inserting two flat head screws through the clip and into the support point on the wall. The Plug-In Raceway pivots into the hook and is secured with a set screw.

Part Number
SRDWMC-PIR



Wall Mount
Clip Installed

POWER & DATA OUTLET COVER PIECES

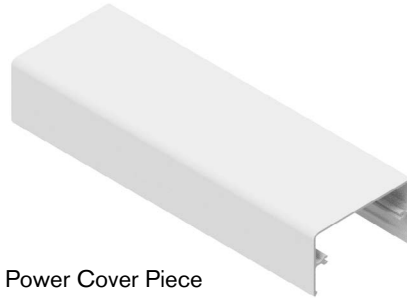
Product Description

Going along with your straight pieces of Power Raceway or Power & Data Raceway, you will need to order your power cover pieces, or your power and your data cover pieces.

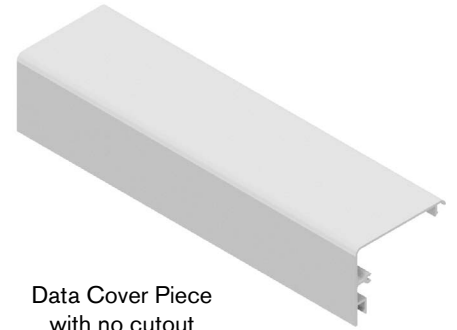
Cover pieces for data outlets are provided with a rectangular cutout sized for the target communication device. There are two cutouts available the C1 and C2. The "C1 cutout" measures 2.64"x1.320" (67.056 x 33.528mm) with mounting hole spacing of 3.28" (83.312mm). The C1 cutout is able to accept two and three port housings.

The C2 cutout is designed to accept angled modules, making it possible to meet bend radius requirements while maintaining the sleek design of the raceway. The C2 Cutout is designed to accept HUBBELL® and BLACK BOX® Modules or other manufacturer equivalent.

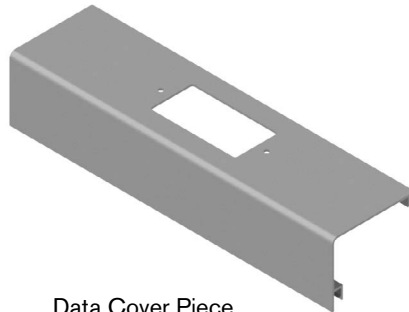
The modules and housings accept a wide variety of Data, Audio/Video, and Fiber Jacks.



Power Cover Piece



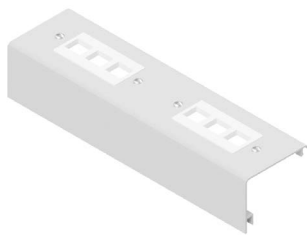
Data Cover Piece with no cutout



Data Cover Piece with C1 Cutout



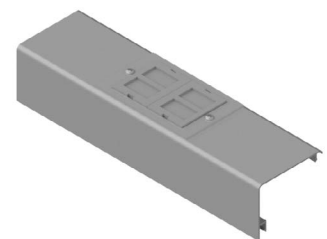
Data Cover Piece with C2 Cutout



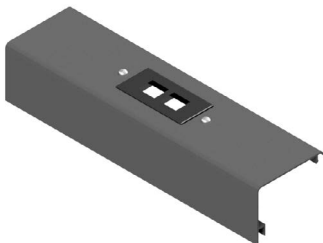
C1 cutout with 2 ISF3W device configurations



C1 cutout with 1 ISF2GY device configuration



C2 cutout with IM2IA12GY device configuration



C1 cutout with 1 ISF2BK device configuration

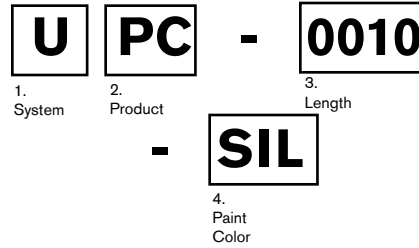


C1 cutout with 1 ISF3GY device configuration



C2 cutout with IM2IA12W device configuration

POWER COVER PIECES: PRODUCT NUMBERS



*RAL (please see page 7.2)

1. System (standard of measure)

U U.S. **M** Metric

2. Product (section housing)

PC Power Cover

3. Length (length of section)

0010	0 ft. 10 in. (for U.S.)	M025	25 centimeters (for Metric)
0500	5 ft. (for U.S.)	M200	2 meters (for Metric)
1000	10 ft. (for U.S.)	M300	3 meters (for Metric)

4. Paint Color (allows painting of the housing)

SIL Paint UEC Silver **BLK** Paint UEC Black
WHT Paint UEC White

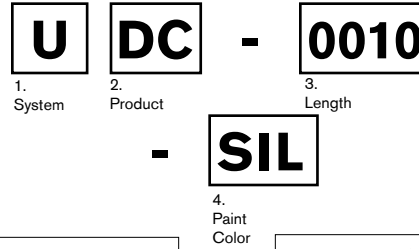
RAL system can also be used; reference page 7.2

Examples:

UPC-1000-SIL = U.S., Power Cover- 10 feet- painted Silver

MPC-M300-BLK = Metric, Power Cover- 3 meters- painted Black

BLANK DATA COVER PIECES: PRODUCT NUMBERS



*RAL (please see page 7.2)

1. System (standard of measure)
U U.S. **M** Metric

2. Product (section housing)
DC Data Cover

3. Length (length of section)

0010	0 ft. 10 in. (for U.S.)	M025	25 centimeters (for Metric)
0500	5 ft. (for U.S.)	M200	2 meters (for Metric)
1000	10 ft. (for U.S.)	M300	3 meters (for Metric)

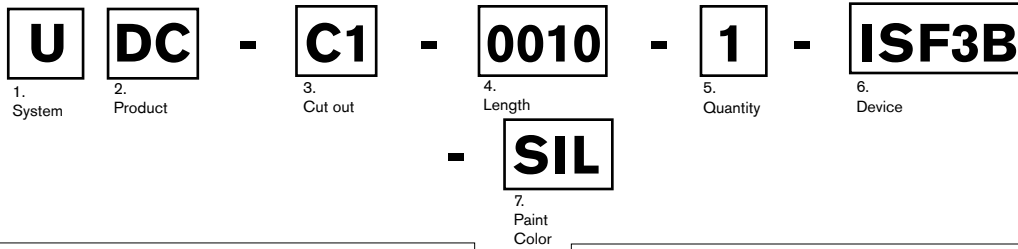
4. Paint Color (allows painting of the housing)

SIL	Paint UEC Silver	BLK	Paint UEC Black
WHT	Paint UEC White		

RAL system can also be used; reference page 7.2

Examples:
UDC-1000-SIL = U.S., Data Cover- 10 feet- painted Silver
MDC-M030-BLK = Metric, Data Cover- 30 centimeters- painted Black

CUT-OUT DATA COVER PIECES: PRODUCT NUMBERS



1. System (standard of measure)
U U.S. **M** Metric

2. Product (section housing)
DC Data Cover

3. Cut out (cut-out size)
C1 C1 **C2** C2

4. Length (length of section)

0010	0 ft. 10 in. (for U.S.)	M025	25 centimeters (for Metric)
-------------	-------------------------	-------------	-----------------------------

5. Quantity (number of devices)

1	1 device	2	2 devices
----------	----------	----------	-----------

6. Device (NEMA or IEC configuration)
 *For a complete list of NEMA & IEC configurations, see pg. 7.1

7. Paint Color (allows painting of the housing)

SIL	Paint UEC Silver	BLK	Paint UEC Black
WHT	Paint UEC White		

RAL system can also be used; reference page 7.2

Examples:
UDC-C1-0010-2-IM1A15GY-SIL = U.S., Data Cover- C1 cut out- 10 inches, 2 devices- IM1A15GY configuration- painted Silver
MDC-C2-M025-1-IM2A12W-BLK = Metric, Data Cover- C2 cut out- 25 centimeters, 1 device- IM2A12W configuration- painted Black

PLUG-IN MODULE: P11

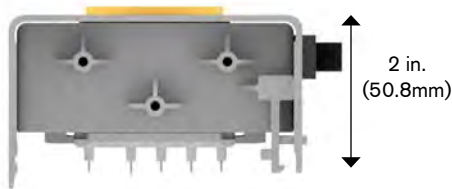
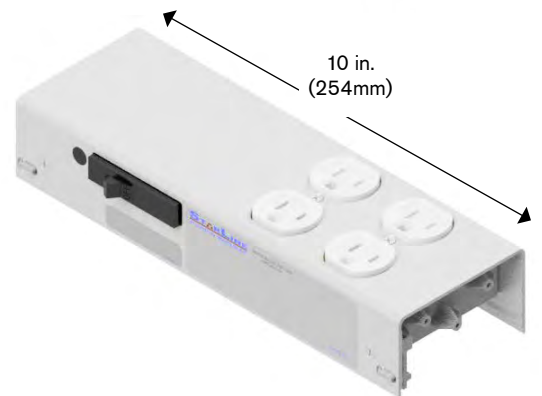
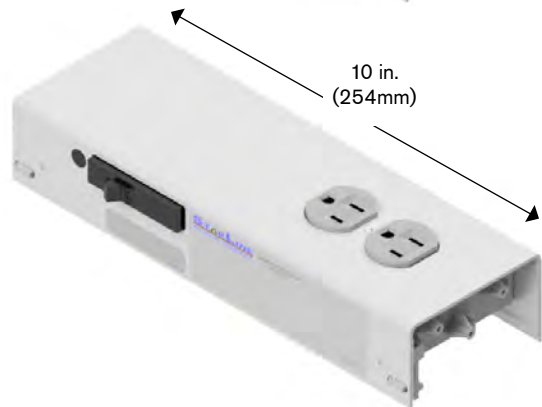
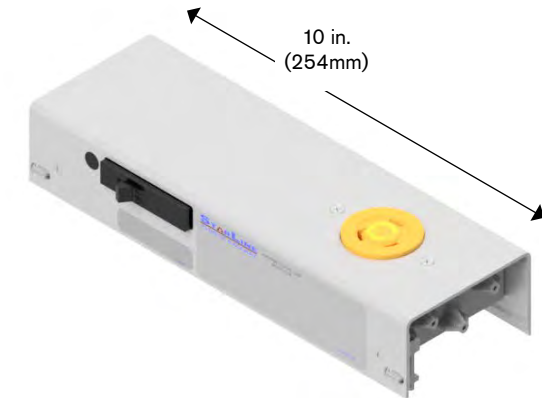
*previously known as E31

Product Description

Plug-in modules are used to tap off power from along the raceway busbars. Modules are factory assembled and include the cover and a plug head. The module is inserted into the raceway backplane until the latching mechanism snaps into place. Modules are easily removed by pressing and holding in two buttons at the bottom of the module. The P11 style modules are 10" (254mm) long and exactly match the raceway system profile.

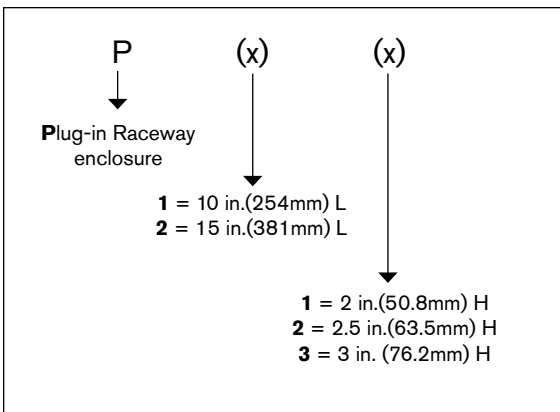
Standard modules are fully configured with receptacle and circuit breaker. A variety of receptacle and breaker combinations are available in P11 size, with ratings up to 30 Amps, single phase. Optional isolated ground. Units without a circuit breaker may be used on 20 Amp raceway systems.

All plug-in modules can be configured for up to 240V domestic/415V International.



Side profile view

Module Nomenclature Logic:



PLUG-IN MODULE: P21

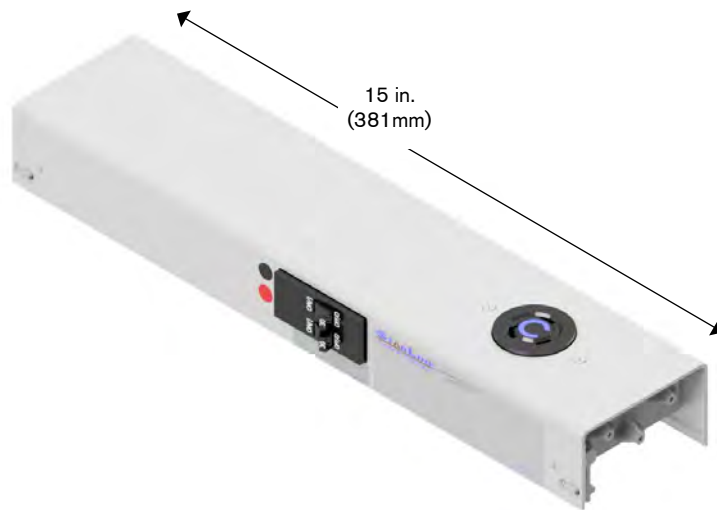
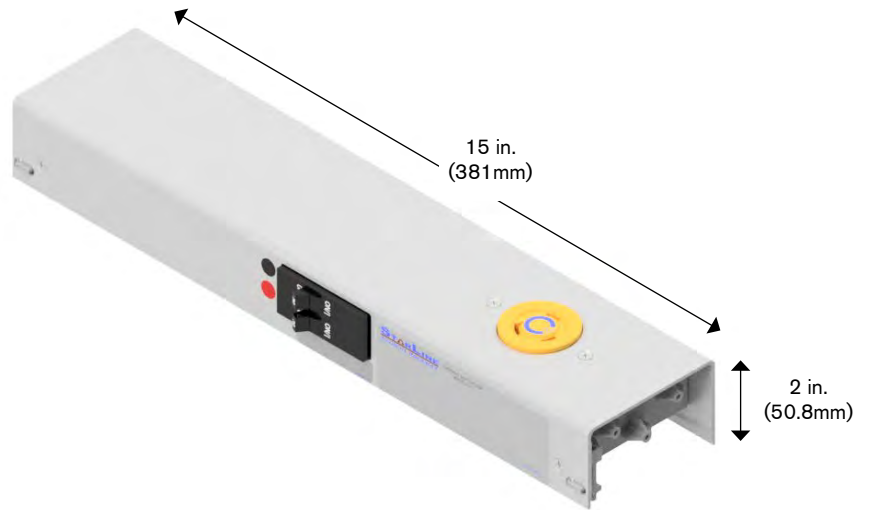
*previously known as E32

Product Description

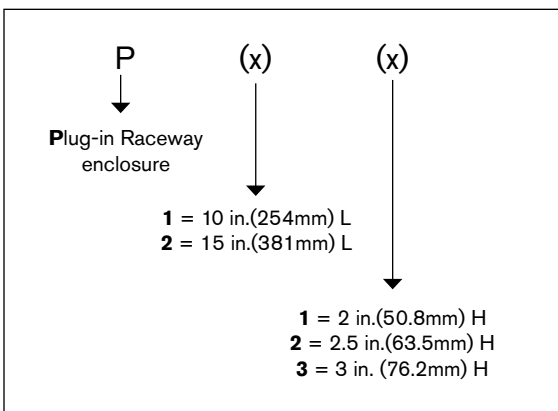
Plug-in modules are used to tap off power from along the raceway busbars. Modules are factory assembled and include the cover and a plug head. The module is inserted into the raceway backplane until the latching mechanism snaps into place. Modules are easily removed by pressing and holding in two buttons at the bottom of the module. The P21 style modules are 15" (381mm) long and exactly match the raceway system profile.

Standard modules are fully configured with receptacle and circuit breaker. A variety of receptacle and breaker combinations are available in P21 size, with ratings up to 30 Amps, single phase. Optional isolated ground. Units without a circuit breaker may be used on 20 Amp raceway systems.

All plug-in modules can be configured for up to 240V domestic/415V International.



Module Nomenclature Logic:



PLUG-IN MODULE: P12

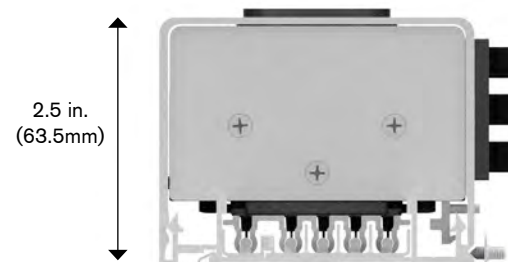
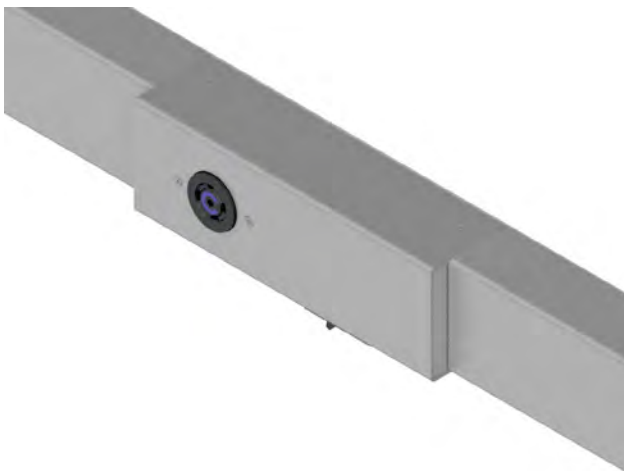
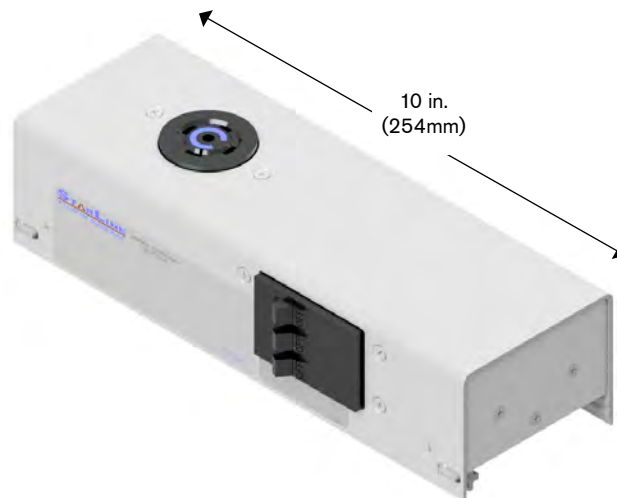
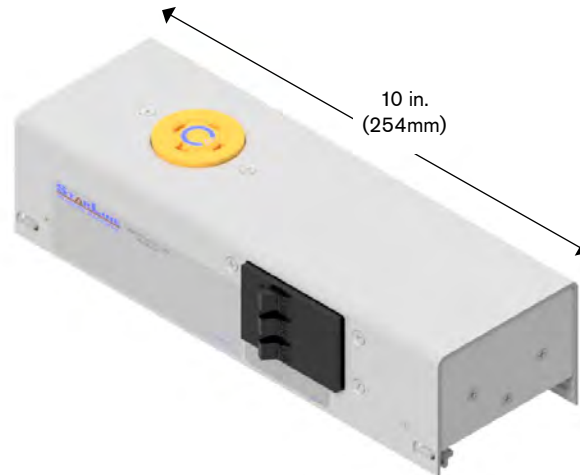
*previously known as E33

Product Description

Plug-in modules are used to tap off power from along the raceway busbars. Modules are factory assembled and include the cover and a plug head. The module is inserted into the raceway backplane until the latching mechanism snaps into place. Modules are easily removed by pressing and holding in two buttons at the bottom of the module. The P12 style modules are 10" (254mm) long and are 1/2" (13mm) higher than the raceway system profile (see image below).

Standard modules are fully configured with receptacle and circuit breaker. A variety of receptacle and breaker combinations are available in P12 size, with ratings up to 30 Amps, 3-phase. Optional isolated ground. Units without a circuit breaker may be used on 20 Amp raceway systems.

All plug-in modules can be configured for up to 240V domestic/415V International.



Side profile view

PLUG-IN MODULE: P22

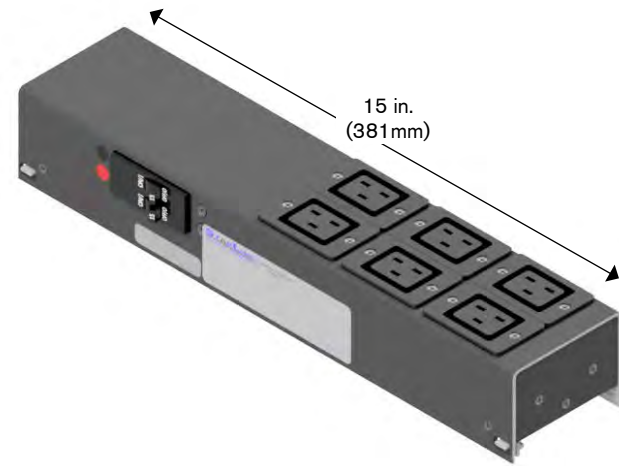
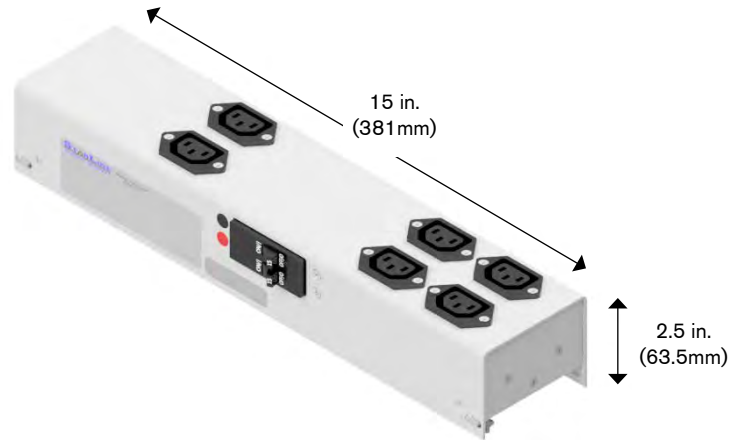
*previously known as E34

Product Description

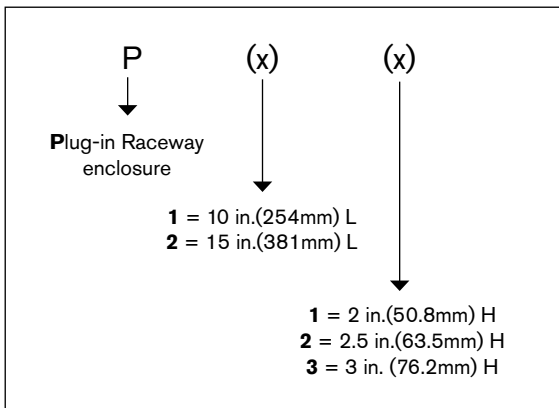
Plug-in modules are used to tap off power from along the raceway busbars. Modules are factory assembled and include the cover and a plug head. The module is inserted into the raceway backplane until the latching mechanism snaps into place. Modules are easily removed by pressing and holding in two buttons at the bottom of the module. The P22 style modules are 15" (381mm) long and are 1/2" (13mm) higher than the raceway system profile.

Standard modules are fully configured with receptacle and circuit breaker. A variety of receptacle and breaker combinations are available in P22 size, with ratings up to 30 Amps, 3-phase. Optional isolated ground. Units without a circuit breaker may be used on 20 Amp raceway systems.

All plug-in modules can be configured for up to 240V domestic/415V International.



Module Nomenclature Logic:



PLUG-IN MODULE: P13

*previously known as E29

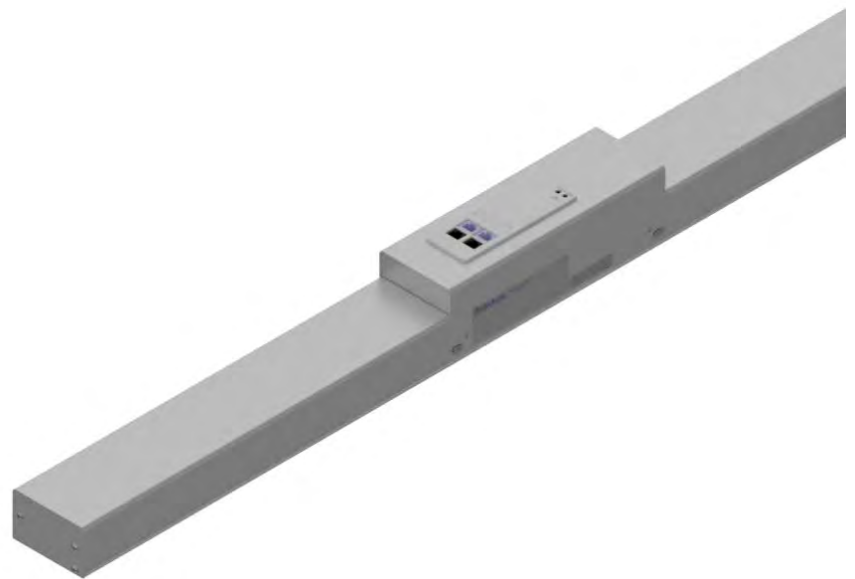
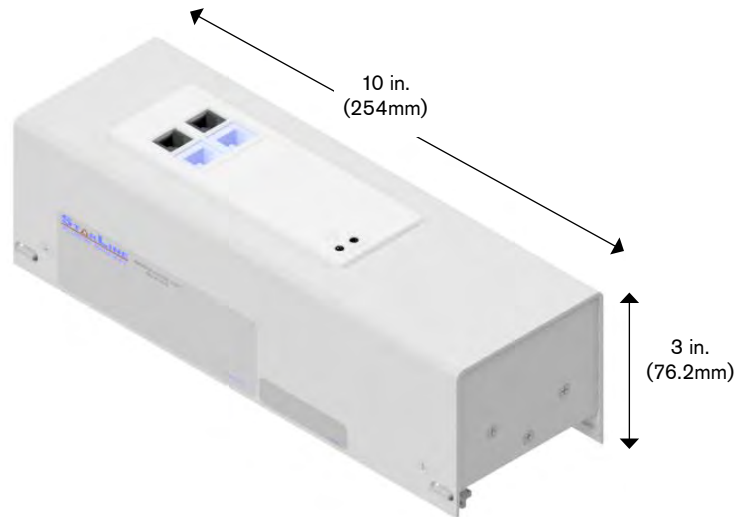
Product Description

Plug-in modules are used to tap off power from along the raceway busbars. Modules are factory assembled and include the cover and a plug head. The module is inserted into the raceway backplane until the latching mechanism snaps into place. Modules are easily removed by pressing and holding in two buttons at the bottom of the module. The P13 style modules are 10" (254mm) long and are 1" (25.4mm) higher than the raceway system profile.

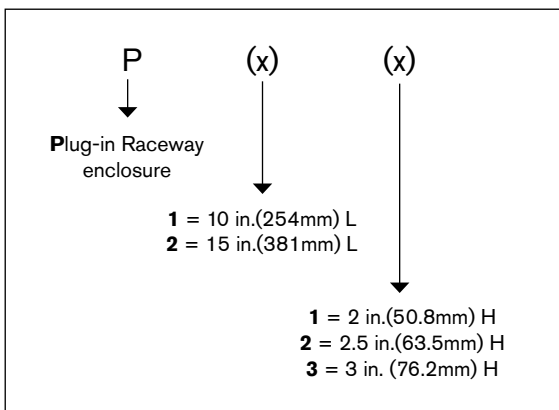
Standard modules are fully configured with receptacle and circuit breaker. A variety of receptacle and breaker combinations are available in P22 size, with ratings up to 30 Amps, 3-phase. Optional isolated ground. Units without a circuit breaker may be used on 20 Amp raceway systems.

All plug-in modules can be configured for up to 240V domestic/415V International.

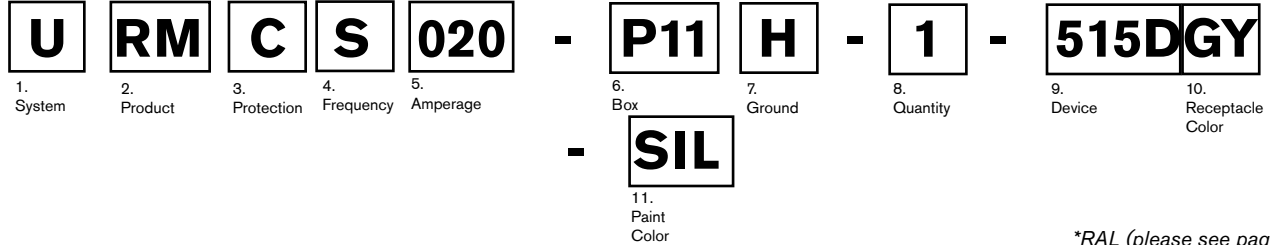
*This module style can incorporate the M50 series meter (shown in image).



Module Nomenclature Logic:



PLUG-IN MODULES: PRODUCT NUMBERS



*RAL (please see page 7.2)

1. System (standard of measure)

U U.S.	M Metric
---------------	-----------------

2. Product (section housing)

RM Raceway Module

3. Protection (section component)

C Circuit Breaker	O Outlet Box
F Fused Box	P Power
D Data	

4. Frequency (number of breakers in unit)

S Single	M Multiple
N None (0)	

5. Amperage (paddle compatibility)

020 20 amps	060 60 amps
--------------------	--------------------

6. Box (what module/enclosure)

P11 P11 module	P21 P21 module
P12 P12 module	P22 P22 module
P13 P13 module	

7. Ground (what type of ground is installed)

H Housing	D Dedicated
G Isolated	

8. Quantity (number of devices)

1 1 device	2 2 devices
3 3 devices	4 4 devices

9. Device (NEMA or IEC configuration)

*For a complete list of NEMA & IEC configurations, see pg. 7.1

10. Color (receptacle color)

GY Gray	RD Red
WH White	BK Black
BL Blue	

11. Paint Color (allows painting of the housing)

SIL Paint UEC Silver	BLK Paint UEC Black
WHT Paint UEC White	

RAL system can also be used; reference page 7.2

Examples:

URMCS060-P11H-1-515DGY-SIL = U.S., Raceway Module, Circuit Breaker, Single breaker, 60 amp- P11 module, Housing ground- 1 device- 515D device, Gray receptacle, painted Silver

MRMFN020-P13D-1-520DRD-WHT = Metric, Raceway Module, Fused Box, No breakers, 20 amp- P13 module, Dedicated ground- 1 device- 520D device, Red receptacle, painted White

CURRENT MONITORING SYSTEM

M50/M40 Current Monitoring

The Starline Critical Power Monitor (CPM) for Plug-In Raceway is a distributed data acquisition system that enables the M50 unit measures current on the phases and neutral lines, and the M40 version monitors both current and power in raceway systems. Each phase and neutral may be monitored independently. The CPM may be incorporated at a power feed point or directly into a plug-in unit.

CURRENT TRANSFORMERS

Current transformers (CT's) are supplied and calibrated with the unit for installation onto the customer-supplied feeder cables. Sense leads from the CT's connect to the meter.

METER MODULES

Each unit is calibrated for accuracy within 99% to meet ANSI Revenue Grade Standards.

DISPLAY (OPTIONAL)

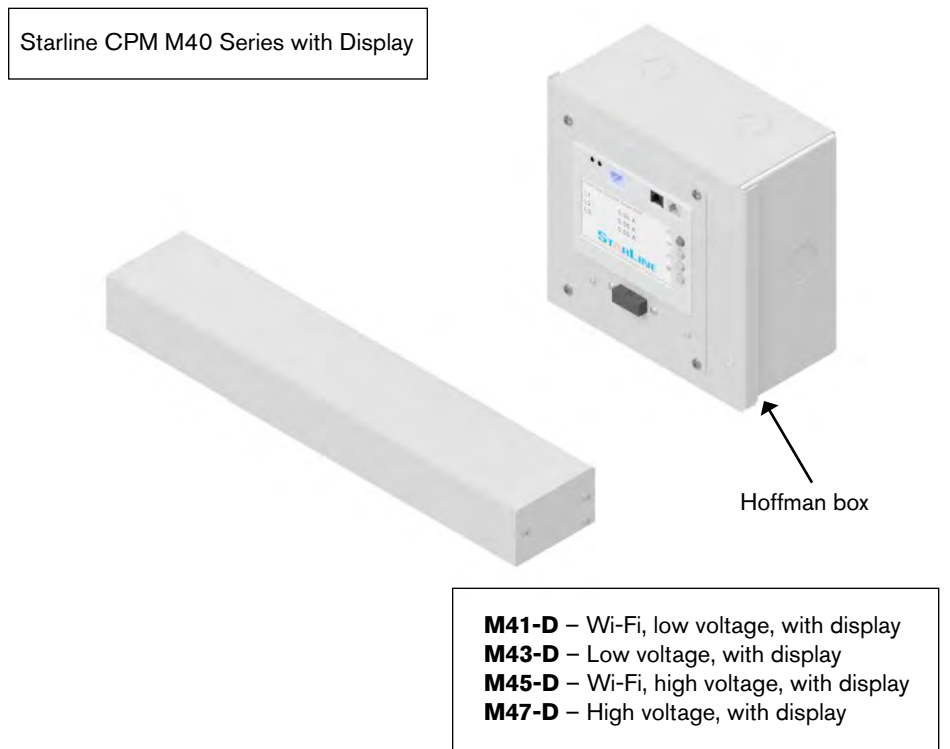
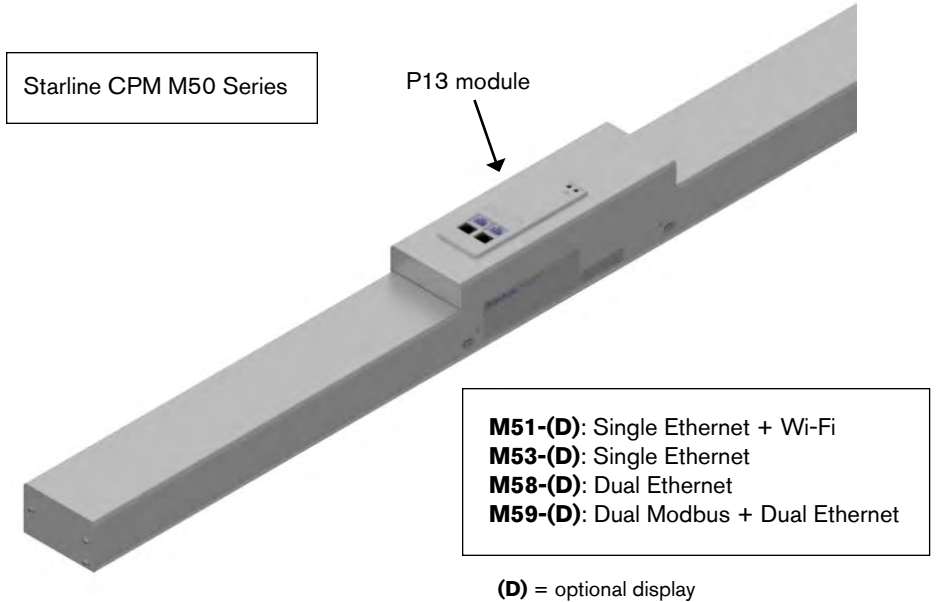
The digital display shows all power measurements and alarms, and provides for configuration and control of the device. The large format display is easily readable from a distance.

COMMUNICATION

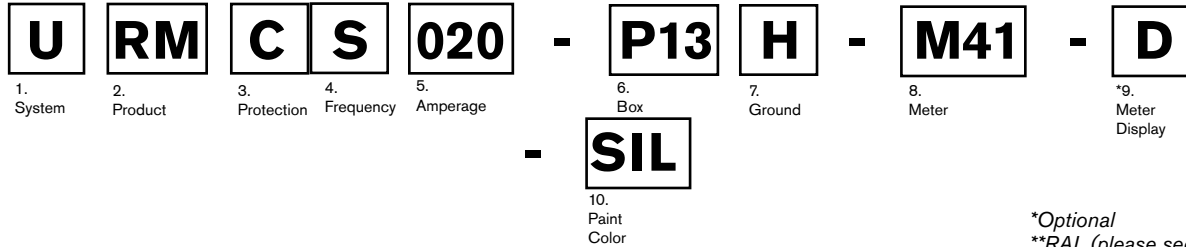
Two Modbus RTU ports are standard for both the M50 and M40 versions.

ALARMS

When the defined alarm threshold is exceeded, a warning corresponding to that channel will turn ON and activate a contact for an audible alarm.



CURRENT MONITORING: PRODUCT NUMBERS



*Optional
**RAL (please see page 7.2)

1. System (standard of measure)

U U.S.	M Metric
---------------	-----------------

2. Product (section housing)

RM Raceway Module

3. Protection (section component)

C Circuit Breaker	O Outlet Box
F Fused Box	P Power
D Data	

4. Frequency (number of breakers in unit)

S Single	M Multiple
N None (0)	

5. Amperage (paddle compatibility)

020 20 amps	060 60 amps
--------------------	--------------------

6. Box (what module/enclosure)

P13 P13 module for M50 series
EXE Hoffman box for M40 series

7. Ground (what type of ground is installed)

H Housing	D Dedicated
G Isolated	

8. Meter (what type of meter you require)

M41 Wi-Fi, low voltage	M43 Low voltage
M45 Wi-Fi, high voltage	M47 High voltage
M51 Single ethernet + Wi-Fi	M53 Single ethernet
M58 Dual ethernet	M59 Dual modbus + dual ethernet

***9. Meter Display (optional meter display)**

D Meter w/ display

10. Paint Color (allows painting of the housing)

SIL Paint UEC Silver	BLK Paint UEC Black
WHT Paint UEC White	

RAL system can also be used; reference page 7.2

Examples:

URMON060-P13H-M59-D-BLK = U.S., Raceway Module, Outlet box, Single breaker, no breakers, 60 amp- P13 module, Housing ground- M59 meter- with display- painted Black

MRMCS020-EXEH-M43-D-WHT = Metric, Raceway Module, Circuit breaker, Single breaker, 20 amp- Hoffman box, Housing ground- M43 meter- with display- painted White

NEMA/IEC Configurations

For Data Cover Cutouts:

Cutout	Configuration	Description
C1	ISF3B	3-port frame
C1	IM1IA15GY	1-port recessed angle, gray
C1	(2) SF3W	(2) 3-port frame, white
C1	ISF2BK	2-port frame, black
C1	ISF2W	2-port frame, white
C1	ISF3GY	outlet cover, 3-port frame, gray
C1	ISF2GY	outlet cover, 2-port frame, gray
C1	ISF3W	outlet cover, 3-port frame, white
C2	IM1IA15W	outlet cover, white
C2	IM2IA15W	2-port recessed angled, white
C2	IM2KA15GY	2-port angled, gray

For Plug-In Modules:

NEMA Configurations
515D
520D
520DGFI
520DUSB
615R
620R
615D
620D
1420R
L515R
L520R
L530R
L615R
L620R
L630R
L1015R
L1120R
L1420R
L1430R
L1520R
L1530R
L2120R
L2130R
C13D
C19D

For Plug-In Modules:

IEC Configurations
695W-RCD30MA
695W-10
695W-15
695RCD30MA-10
316A6S
332A6S
415W
IND6B
IND16B
IND6W
IND16W
BS1363

*This list is not all-inclusive. If you see a configuration that is not listed here, please consult the factory or your applications engineer.

RAL Colors

1st Character

P	Paint
---	-------

2nd Character

0	100
1	101
2	102
3	103
4	200
5	201
A	300
B	301
C	302
D	303
E	400
F	401
G	500
H	501
J	502
K	600
L	601
M	602
N	603
P	700
Q	701
R	702
S	703
T	704
U	800
V	801
W	802
X	900
Y	901
Z	902

3rd Character

0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

Example:

P B 2 = Paint RAL 3012

SPECIFICATIONS

1.01 SUMMARY

A. SCOPE OF WORK

STARLINE Plug-in Raceway is an integrated electrical busway with an enclosed pathway used for power distribution and communication wiring. It is a distribution system for branch circuit electrical wiring using the busway. It has options for a communication cabling system for voice, data, multi-media, low voltage, and optical fiber.

1.02 The General Conditions, Supplementary Conditions, and Division 1 – General Requirements apply.

1.03 STANDARDS

STARLINE Plug-in Raceway is designed and manufactured to the following standards:

- A. Low Voltage Directive (73/23/EEC) including Amendment (93/68/EEC)
- B. Low Voltage Switchgear and Controlgear Assemblies, Part 1: Type Tested and partially type tested Assemblies, IEC 60439-1: 1999
- C. Low Voltage Switchgear and Controlgear Assemblies, Part 2: Particular Requirements for Busbar Trunking systems (Busway), IEC 60439-2: 2000
- D. Underwriters Laboratories Standard, UL 857 – The common UL, CSA, and ANCE Standard for Busway that is derived from the fifth edition of CSA Standard C22.2 No. 27, the twelve edition of UL 857, and the second edition of NMX-J-148-1998-ANCE
- E. cETLus
- F. National Electric Code (NEC) – Article 368 – Busway
- G. NEMA AB1, Molded Case Circuit Breakers and Molded Case Switches
- H. NEMA KS-1, Enclosed and Miscellaneous Distribution Equipment Switches (600VAC)
- I. NFPA 70 – National Fire Protection Agency
- J. National Electric Code (NEC) Article 386 Surface Metal Raceways

1.04 RELATED SECTIONS

- A. Division 26 - Electrical: Electrical systems and components.
- B. Division 27 - Communications: Communications systems and components
- C. Division 28 - Electronic Safety and Security: Security systems and components

1.05 SUBMITTALS

- A. Section 16130 Specification
- B. Product Data Sheets
- C. Installation Instruction Drawing

1.06 WARRANTY

- A. Product is warranted free of defects in material and workmanship for one year.
- B. Product is warranted for the wiring of power and communication for areas within working environment meeting the standard of clean dry areas.

1.07 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Firms regularly engaged in the manufacture of raceway systems, boxes and fittings of the types and sizes required, whose products have been in satisfactory use in similar service for not less than 10 years. Provide raceways and boxes produced by a manufacturer listed in this section.
- B. Electrical Raceways, Boxes, and Components: Comply with requirements of applicable local codes, NEC, UL, and NEMA Standards pertaining to busway, raceways, boxes, and components. Listed and labeled in accordance with NFPA 70, Article 100.

1.08 DELIVERY, STORAGE AND HANDLING

- A. Deliver raceways and distribution systems in factory labeled packages.

SPECIFICATIONS

- B. Store and handle in strict compliance with manufacturer's written instructions and recommendations.
- C. Protect from damage due to weather, excessive temperature, and construction operations.

PRODUCTS

2.01 ACCEPTABLE MANUFACTURER

- A. Provide STARLINE Plug-in Raceway as manufactured by Universal Electric Corporation, 168 Georgetown Rd., Canonsburg, PA 15317: toll-free 1-800-245-6378, telephone 724-597-7800, fax 724-916-2221; www.StarlinePower.com. NO KNOWN EQUAL.

2.02 STARLINE PLUG-IN RACEWAY

- A. STARLINE Raceway Assembly: Model Series 20A, 60A

2.03 PRODUCT DESCRIPTION

- A. Raceway systems are provided as 4 pole, (the number of phase and neutral busbars) rated up to 240V domestic/415V International, and in power only and power-data configurations.
- B. The 20A and 60A STARLINE continuous surface mounted busway is a plug-in type that allows for the direct plug-in of modules containing various types and ratings of receptacles. Circuit breakers may be provided as part of the plug-in modules.
- C. This system is intended for field installation in accordance with Article 368 of the National Electrical Code (NEC) and installation instructions provided by the manufacturer.
- D. Raceway Systems
 - 3 Phase up to 240V domestic/415V International Power Only @ 20 & 60 Amp
 - 3 Phase up to 240V domestic/415V International Power-Data @ 20 & 60 Amp

- 3 Phase up to 240V domestic/415V International Power Only @ 20 & 60 Amp
- 3 Phase 240V domestic/415V International Power-Data @ 20 & 60 Amp
- E. Enclosure: Indoor only.
- F. Grounding: Provided by the enclosure metal or by ground conductor.
- G. Support: To be supported at intervals of not more than 5' in horizontal runs.
- H. Short Circuit Rating: 10,000 RMS symmetrical amperes.
- I. System type & Amperage (power only / power-data / 20 or 60A)

a. Sections and Fittings

- RPS020-4H-xxxx Power Only 20 Amp
- RPS060-4H-xxxx Power Only 60 Amp
- RPS020-4G-xxxx Power Only w/ ISO GND 20 Amp
- RPS060-4G-xxxx Power Only w/ ISO GND 60 Amp
- RDS020-4H-xxxx Power-Data 20 Amp
- RDS060-4H-xxxx Power-Data 60 Amp
- RDS020-4G-xxxx Power-Data with ISO GND 20 Amp
- RDS060-4G-xxxx Power-Data with ISO GND 60 Amp

b. Conductor Materials

- 20 Amp series use bare copper wire, 60 Amp series uses tin plated copper wire
- xxxx – Raceway length

c. Joint Kit

Model	AC Volt	Hz.	Phase	Short Circuit Rating	Current Rating
20A	240V (U) 415V (M)	50/60	3Ø	10,000A	20A
60A	240V (U) 415V (M)	50/60	3Ø	10,000A	60A

SPECIFICATIONS

d. End Cap

e. Elbows

f. Power End Feeds or Center Feeds

Providing components unassembled allows installers to field customize as required. Installer can configure for left hand, right hand, top or rear wire entry points. All units rated at 480 Volts max / 20 or 60 Amps.

(RP or RD)(F or C)(X)-4(H, D, or G)-(SIL/BLK/WHT)

RP STARLINE Raceway – Power Version

RD STARLINE Raceway – Power and Data Version

(F or C) End Feed or Center Feed

(X) System Amps 20, 60

(H) Housing Ground or (G) Isolated Ground System (optional)

(SIL) Color (SIL = Silver; WHT = White; BLK = Black)

g. Plug-In Module

All plug-in modules are provided with circuit breaker overcurrent protection. The circuit breakers and receptacles are factory wired and ordered to meet the user power requirements. The raceway power covers consist of plug-in modules and blank filler sections.

h. Electrical Ratings

EXECUTION

3.01 PREPARATION

- A. Layout drawings of the raceway system should be approved prior to installation.
Note: Metal raceway should not be installed in wet areas.
- a. Manufacturer's instructions for installing raceway and fittings should be followed by the installer.
 - b. All wall surfaces or other permanent structures to which raceway is mounted, should be completed prior to installation.

c. Raceway Support

STARLINE Plug-In Raceway should be supported at intervals not exceeding 2.5 feet (30in) or in accordance with manufacturer's installation sheets.

d. Accessories

Provide accessories as required for a complete installation, including insulated bushings and inserts when required by manufacturer.

e. Unused Openings

Close unused raceway openings using manufacturers' recommended accessories.

CLEANING AND PROTECTION

- A. Clean exposed surfaces using non-abrasive materials and methods recommended by manufacturer.
- B. Protect raceways and boxes until acceptance.
- C. Starline Plug-in Raceway is manufactured by Universal Electric Corporation, 168 Georgetown Rd., Canonsburg, PA 15317. Toll-free phone: 1-800-245-6378; telephone: 724-597-7800; fax: 724-916-2221; www.uecorp.com, No known equal.

FREQUENTLY ASKED QUESTIONS

Q: What Styles of Plug-In Raceway are available?

A: STARLINE Plug-In Raceway is available in power only or power & data. Optional EMI shielding is available to separate the power/data raceway channels. Sections are available in lengths of 2.5, 5, and 10 feet; or 1, 2, and 3 meters.

Q: What amperage is available?

A: STARLINE Plug-In Raceway is available in 20 and 60 Amps. 240V domestic/415V International; 3-phase.

Q: Is STARLINE Plug-In Raceway available with Isolated Ground?

A: Yes, it is available with or without an isolated ground bus.

Q: Is the system scalable?

A: The system is an investment that allows you to expand, reconfigure, or relocate it anywhere you need power – improving your ability to meet future changing facility needs.

Q: Are there polarity issues with STARLINE Plug-In Raceway?

A: This product was designed with polarity issues in mind. In each section of the raceway, (elbows, end feeds, center feeds) an easily identifiable groove indicates the polarity. In general, the polarity of the sections faces toward the ground when mounting the system to a vertical surface.

Q: Can the raceway be cut in the field?

A: Yes. Please see the Application Briefs pages on field cutting for instructions.

Q: Is STARLINE Plug-In Raceway Certified?

A: Yes, STARLINE Plug-In Raceway has been tested to meet NEC and UL standards and carries the ETL certification mark.

Q: When adding plug-in modules, is it necessary to turn the power off?

A: No, STARLINE Plug-In Raceway Modules (available in single and 3-phase units) can be added or relocated simply by snapping the pre-assembled module into place on the raceway backplane. The connection is made automatically without having to interrupt the power to the system.

Q: What colors are available?

A: The raceway is available in a standard white, metallic silver and black. Custom colors are also available.

Q: How does the cost compare to other similar products?

A: STARLINE Plug-In Raceway is pre-wired, which lowers costs, because it takes less time to install compared to other traditional raceway systems. Also, plug-in modules are so easy to install, that outside labor is often not needed.

Q: How safe is this system?

A: STARLINE Plug-In Raceway is touch safe and allows the user to avoid large remote panel boards.

Q: What are the benefits to local circuit protection?

A: By having local circuit protection, the user can control each plug-in module at their workstation and each workstation is unaffected by changes being made to an adjacent outlet. Additionally, the user does not have to worry about someone turning off a breaker in a remote panel that may affect a critical process or test.

FILL TABLE

The Plug-In Raceway Fill Table is a guide to determine the number of conductors allowed inside of the raceway for various cables. The maximum cable fill allowed by NEC is 40%.

			VOICE		DATA (Copper Cables)			DATA (Multimode Fiber Optic)				
			4-Pair	25-Pair	Type RG59U	Category 5e	Category 6	Augmented Cat 6	2/4 Fiber Round Cable	Fiber Optic Jumpers	Fiber Optic Zip Cord	
			Wire O.D.	0.19	0.41	0.242	0.21	0.25	0.35	0.19	0.118	.12 X.24
			Area (sq. in)	0.0283	0.132	0.046	0.0346	0.0491	0.0962	0.0283	0.0109	0.0288
			Barrier	Number of Wires to fill 40% of Channel								
SB20	center	4.4										
SB60			62	13	38	51	36	18	62	161	61	

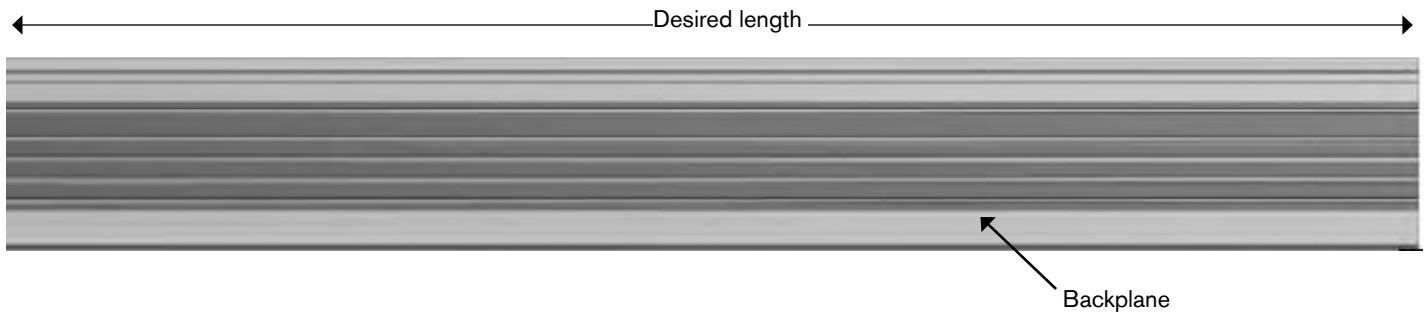
FIELD CUTTING INSTRUCTIONS

Backplane Cutting

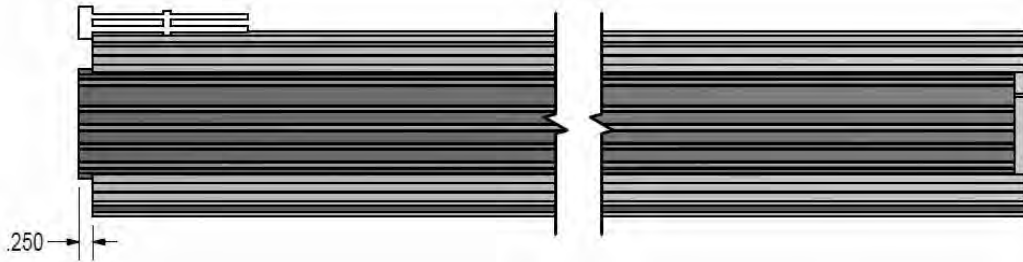
When Plug-In Raceway is cut in the field, care must be taken to ensure that the field cut ends are insulated. This is essential for maintaining proper clearances for live electrical parts and safe operation of the system. To cut sections in the field is difficult and could result in faulty sections.

Parts Required: Backplane, insulator/conductor, joint insulator (2), super glue, installation tool

1. Cut housing to desired length. (Keep work area clean, remove aluminum chips.)

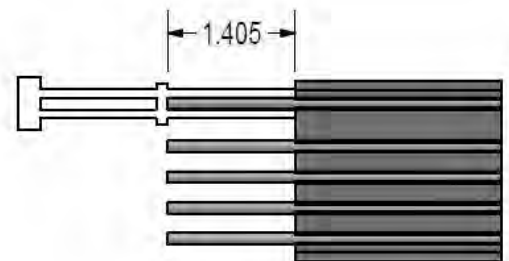
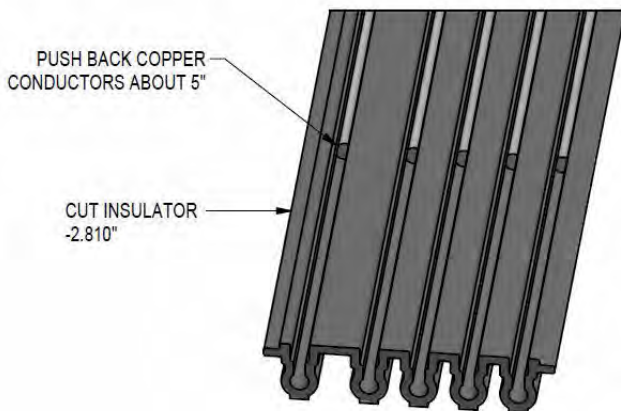


2. Then cut the insulator/conductor to your desired length minus .250"(6.35mm) $-.000/+063$ (1.6002mm). (Keep work area clean, remove copper and plastic chips.)



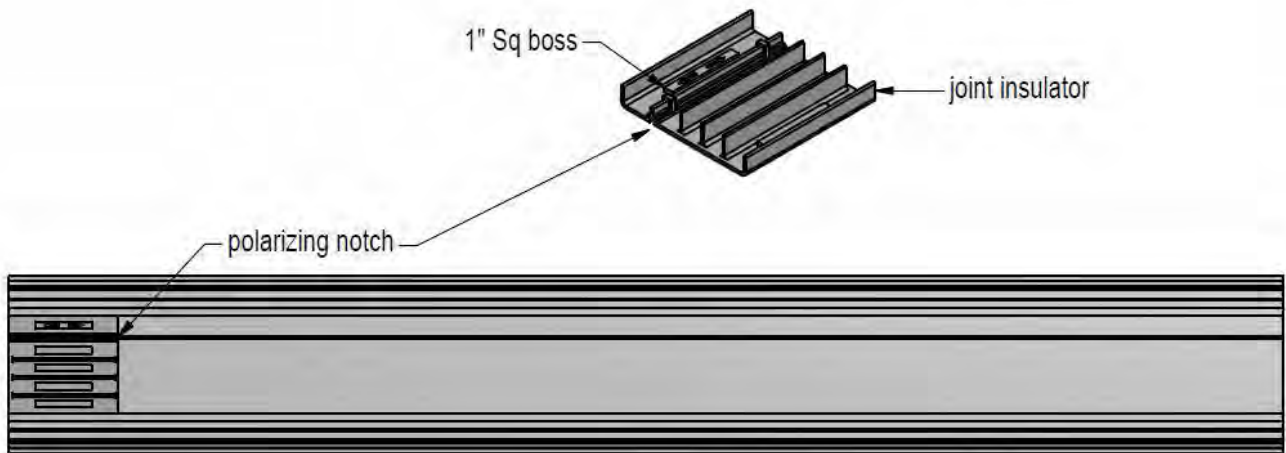
3. Using a flat tip screw driver, push the copper conductors back about 5 inches(127mm).

4. Once the copper is recessed, cut 2.810"(71.374mm) off the insulator. (Keep area clean after cut). Then push the conductors back so that 1.405"(35.687) $-.000/+063$ (1.6002mm) extends past the insulator on both sides. Check with install tool.



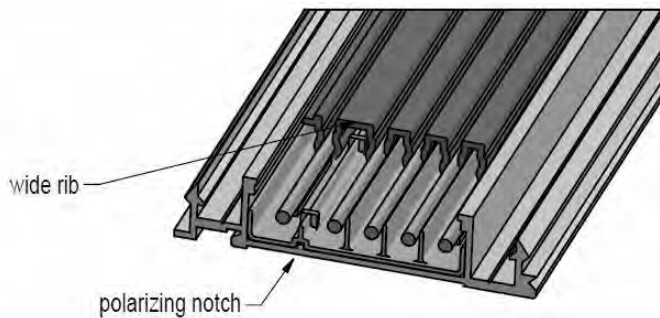
FIELD CUTTING INSTRUCTIONS (cont'd)

5. Install the joint insulator by super gluing it to one end of the backplane. Let it dry. (The housing should have nothing protruding.) Be aware of the polarizing notch on the backplane and the joint insulator.



6. Now the insulator/conductor can be slid into the backplane until it is flush with the 1"(25.4mm) square boss on the installed joint insulator.

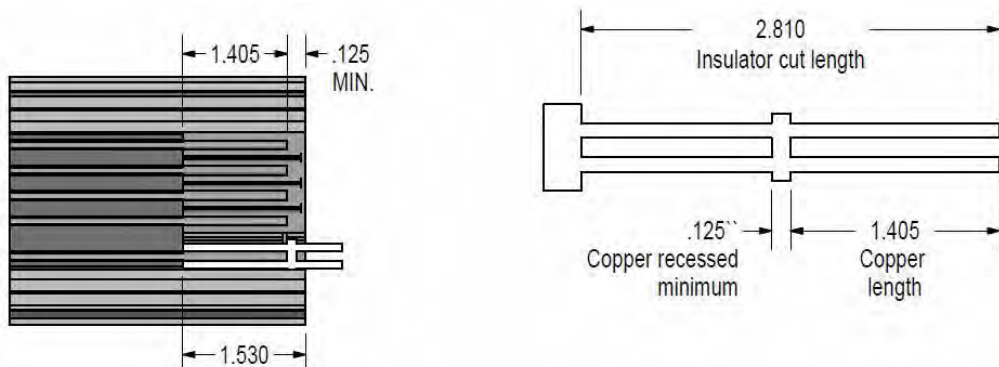
Be sure to match the insulators wide rib up with the polarizing notch.



7. Dry fit the other joint insulator, make sure that it slides under the insulator. (it should be flush with the end of the backplane housing.) Now remove it, apply super glue and reinsert back on the backplane. Let it dry.

8. Below is a finished end. Once complete, use a volt meter and check the bus bars and housing for short circuit to ensure proper assembly.

Installation tool dimensions:



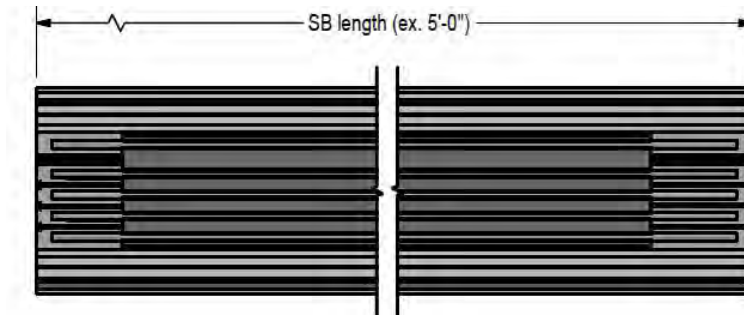
POWER: FIELD CUTTING INSTRUCTIONS

Flush Cutting

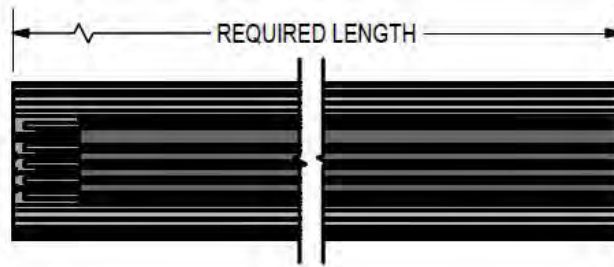
When Plug-In Raceway is cut in the field, care must be taken to ensure that the field cut ends are insulated. This is essential for maintaining proper clearances for live electrical parts and safe operation of the system. To cut sections in the field is difficult and could result in faulty sections.

Parts Required: SRPS060-FIELD FLUSH CUT-KIT, End Cap, plastic (set), end cap clip, screws

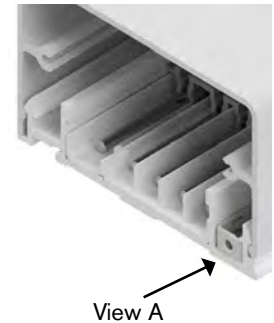
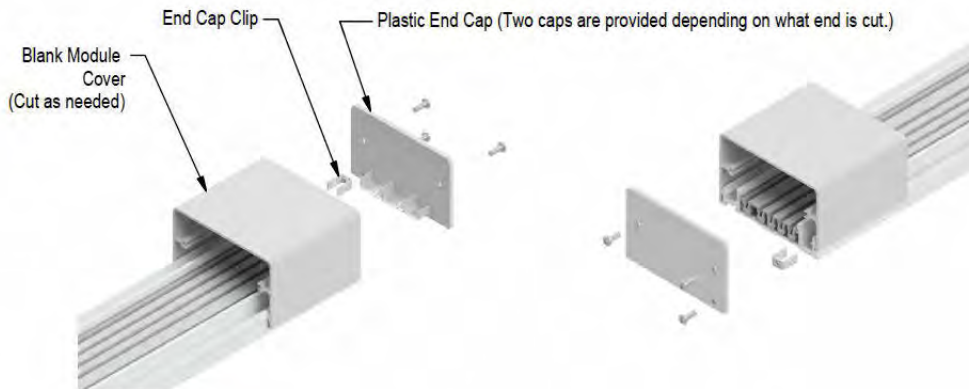
1. Cut housing to desired length. (Keep work area clean, remove aluminum chips.)



2. Then cut the insulator/conductor to your desired length. *** (Be sure to clean all parts of metal and plastic shavings after cuts.)***



3. Attach the plastic end cap. Be sure to insert under the insulator. Install the provided screws. (If blank module cover is less than 6", install end cap clip by pushing it into the back plane housing. (view A))



4. Once complete, use volt meter and check the busbar and housing for short circuit to ensure proper assembly.***

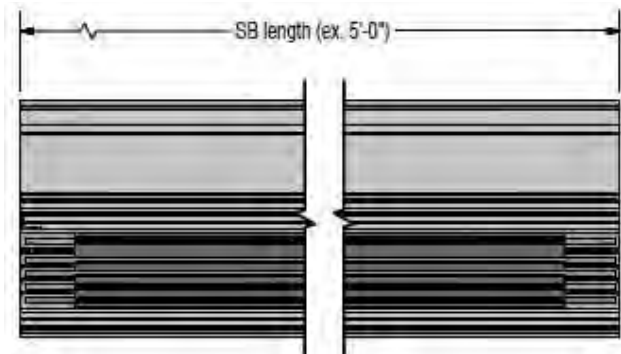
POWER & DATA: FIELD CUTTING INSTRUCTIONS

Flush Cutting

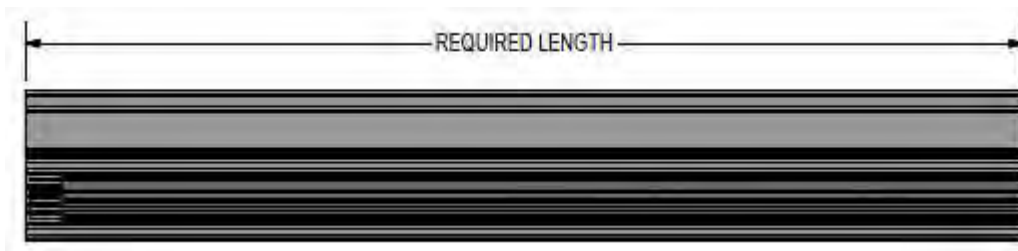
When Plug-In Raceway is cut in the field, care must be taken to ensure that the field cut ends are insulated. This is essential for maintaining proper clearances for live electrical parts and safe operation of the system. To cut sections in the field is difficult and could result in faulty sections.

Parts Required: SRDS060-FIELD FLUSH CUT-KIT, End Cap, plastic (set), end cap clip, screws

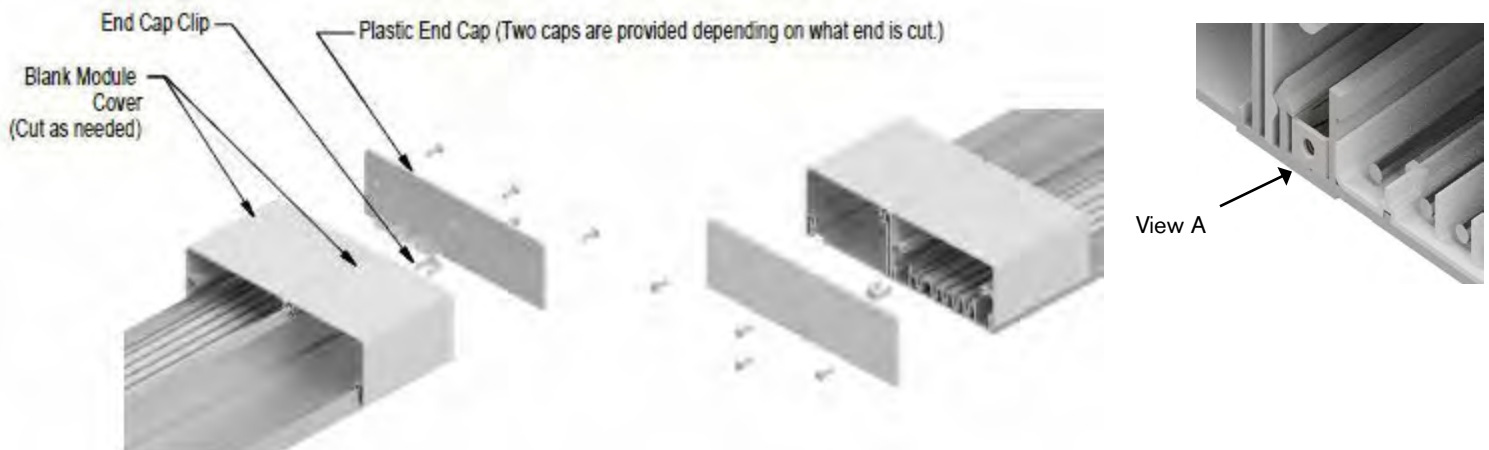
1. Cut housing to desired length.
(Keep work area clean, remove aluminum chips.)



2. Then cut the insulator/conductor to your desired length. *** (Be sure to clean all parts of metal and plastic shavings after cuts.)***



3. Attach the plastic end cap. Be sure to insert under the insulator. Install the provided screws.
(If blank module cover is less than 6", install end cap clip by pushing it into the back plane housing. (view A))

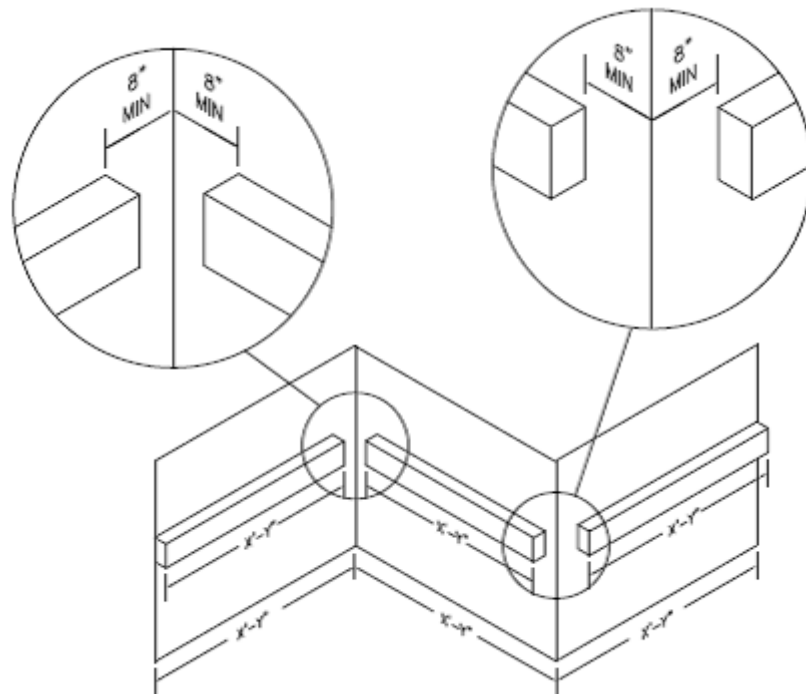


4. Once complete, use volt meter and check the busbar and housing for short circuit to ensure proper assembly.***

FIELD CUTTING: ELBOWS

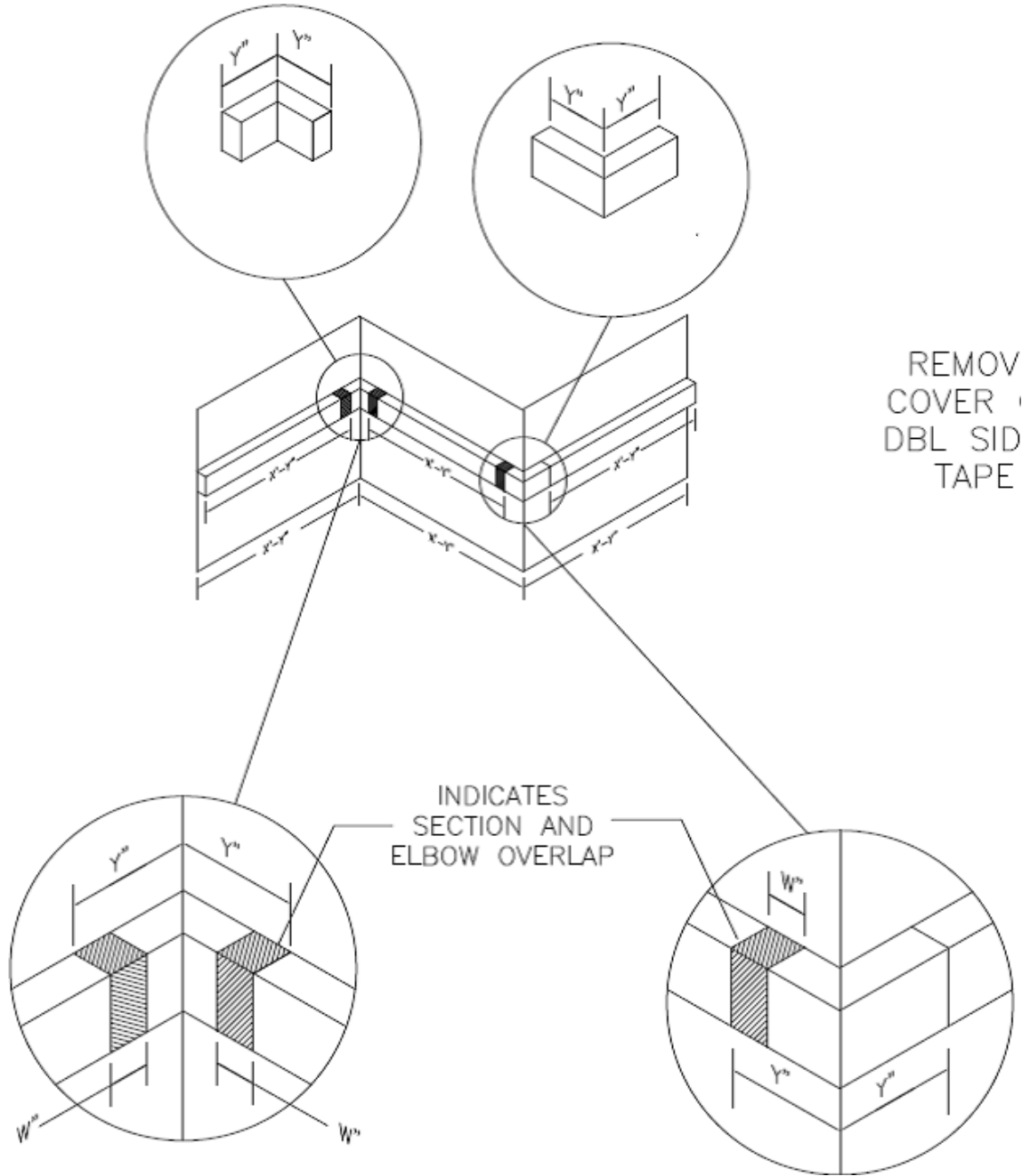
STARLINE Plug-In Raceway was designed to allow for in field customization to fit the as-built dimensions of the area in which the raceway is to be installed. The field customization can be accomplished by cutting/trimming the end feeds, center feeds, straight joiner sections or the elbows of the installed system in both power and power & data systems. ***It should be noted that a maximum of 4" (101.6mm) can be removed from the end feeds and center feeds, and a maximum of 4" (101.6mm) can be removed from each of the legs that create an elbow.*** The cutting/trimming is easily accomplished with the use of a cut-off saw. The backplanes contain the copper busbars that supply the power to the plug-in modules. ***These backplane sections can also be cut with use of the proper instructions.***

Situations will arise in the field where the lengths of the backplane do not meet the dimensions on a layout drawing. As an example a backplane section may end up too close to an interior or exterior corner of a room.



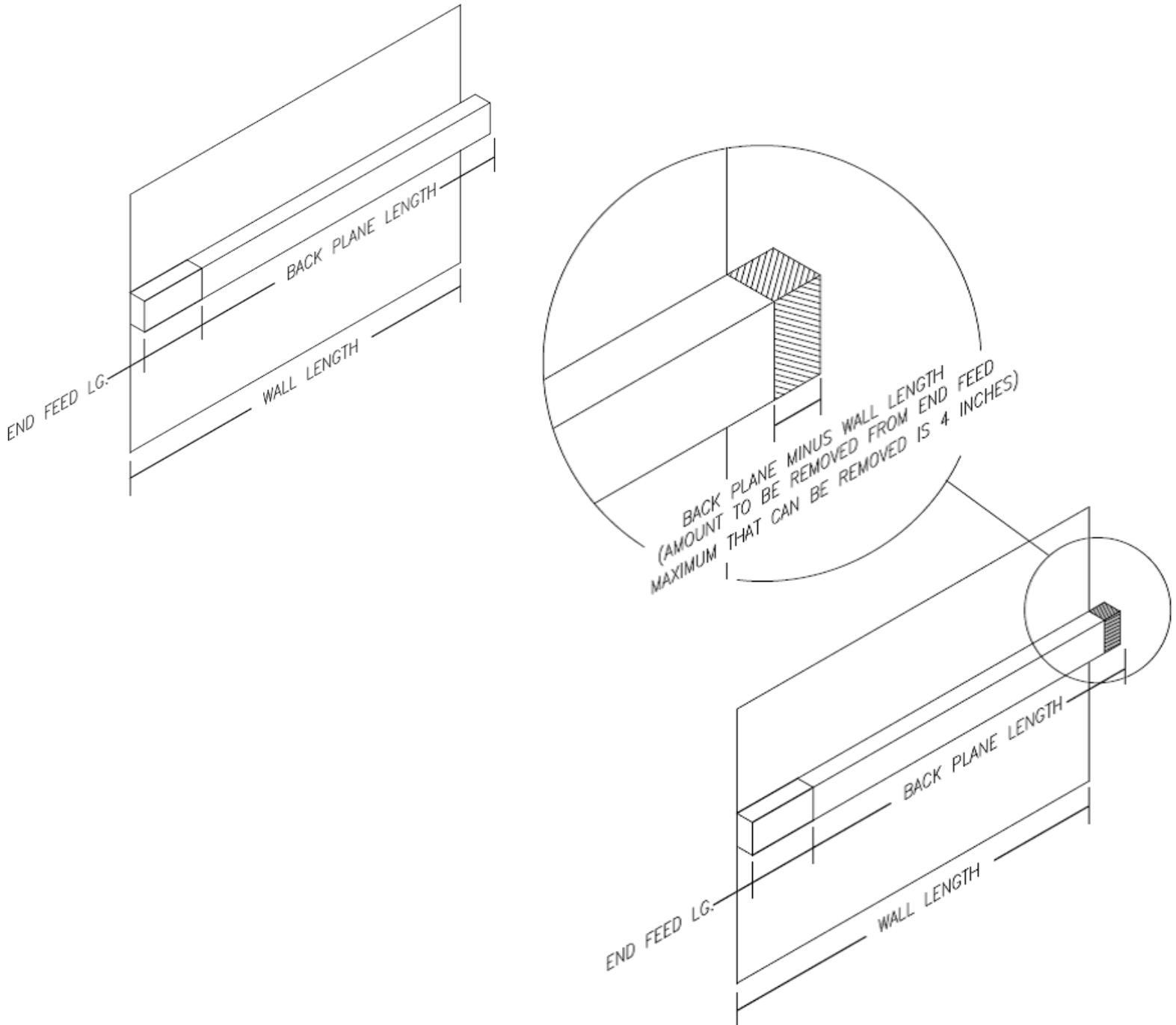
FIELD CUTTING: ELBOWS (cont'd)

In order for the sections to fit, it will be necessary to adjust the length(s) of the interior or exterior elbow piece. The elbow pieces were designed with this situation in mind and thus can be field modified (cut) to connect the backplane sections together seamlessly.



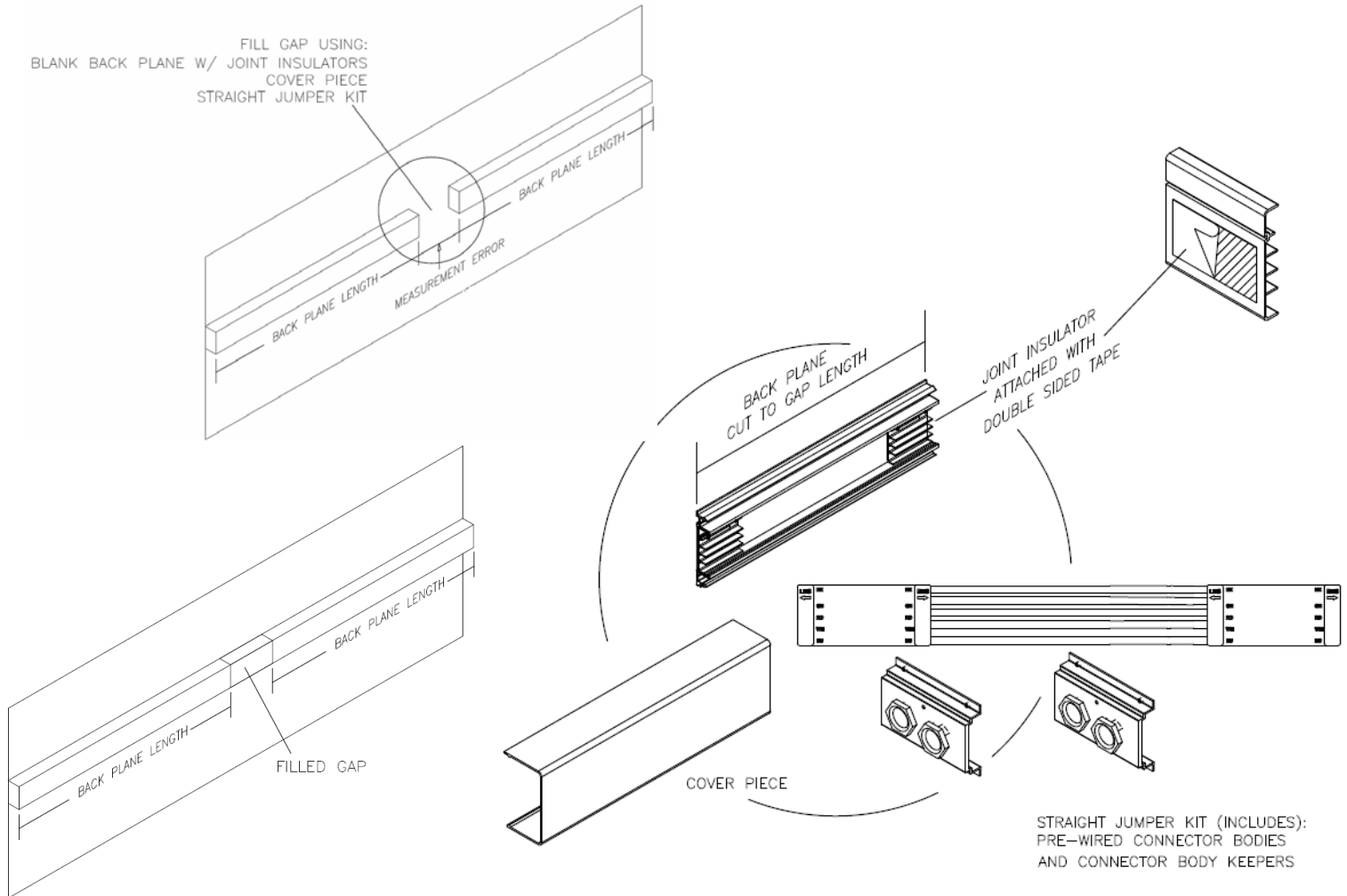
FIELD CUTTING: END FEEDS

In another situation, a simple straight run of STARLINE Plug-In Raceway powered by an end feed may need to be adjusted to fit onto a wall. The end feed can be modified so the run will fit onto the wall and maximize the plug-in space.



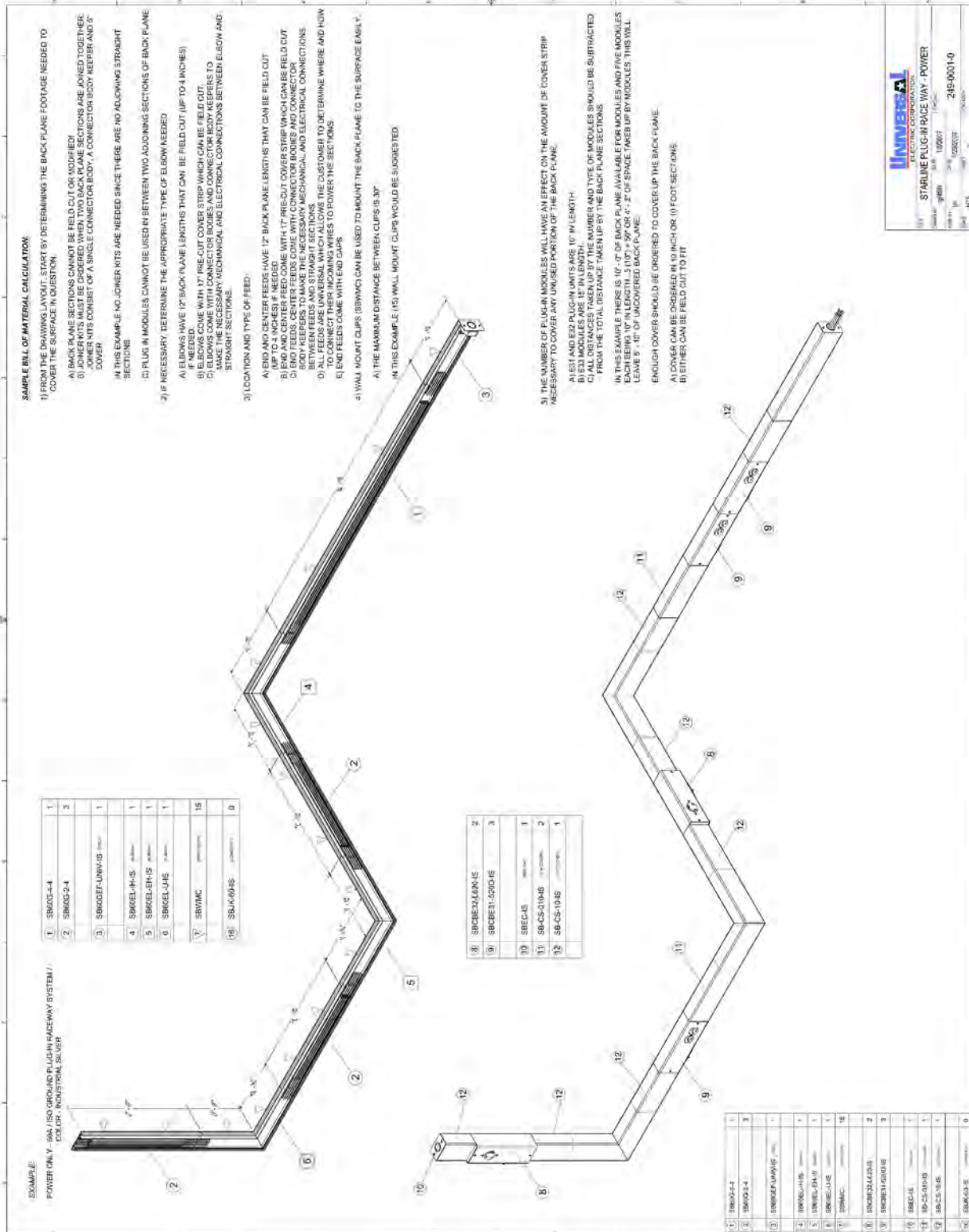
FIELD CUTTING: STRAIGHT JUMPER

As a final example of the field cutting flexibility of STARLINE Plug-In Raceway, a situation may arise where two runs of backplanes do not meet as intended in the middle of a wall. In this case a straight jumper section can be used to tie the two runs together. NOTE: Plug-in space will be lost in the section of the straight jumper and the gap distance must be 6" (152.4mm) or larger.



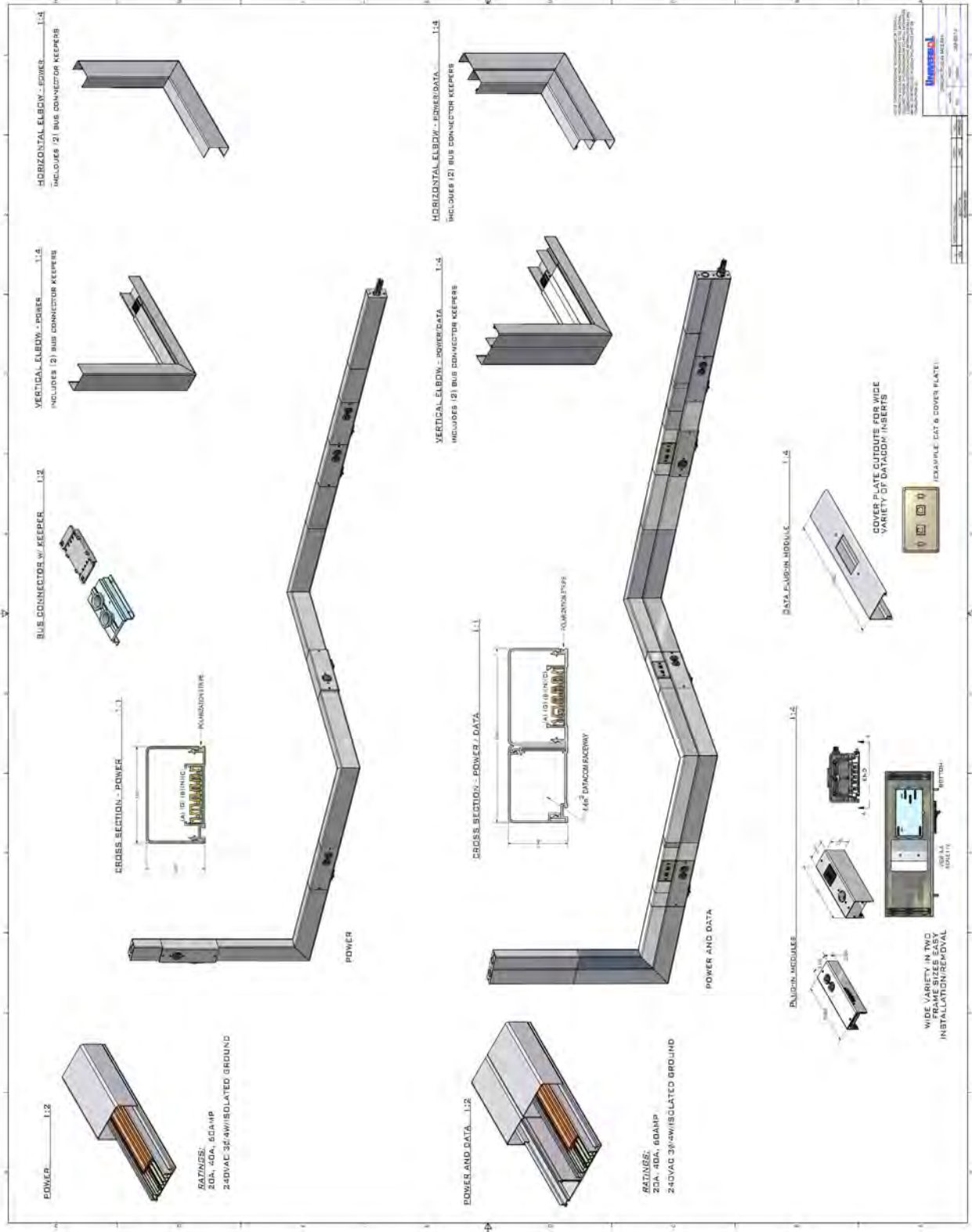
The straight jumper kits (and the elbow sections) include all the necessary parts to jump between the two backplanes. Installation of the straight jumper is similar to how the field modified elbows are installed.

DIAGRAM



*A larger version of this diagram is available for download on <http://downloads.uecorp.com/starline/raceway/>

DIAGRAM (cont'd)



*A larger version of this diagram is available for download on <http://downloads.uecorp.com/starline/raceway/>

Universal Electric Corporation, manufacturer of Starline Plug-In Raceway, has been a global leader in power distribution since 1924. The company's focus on innovation continues to pave the way for safer, more flexible and reliable electrical power distribution systems. Other Starline products include Track Busway, the customizable, overhead power distribution system; Critical Power Monitor (CPM), which works in conjunction with Starline Track Busway to improve energy efficiency; and DC Solutions, the revolutionary 380V direct current alternative for data centers.



www.StarlinePower.com | info@uecorp.com



United States

168 Georgetown Rd. | Canonsburg, PA 15317 | 800-245-6378 | +1 724-597-7800

UK & Northern Europe

804 Oxford Avenue, Slough Trading Estate | Slough, Berkshire | SL14LN | 800-245-6378

Asia Pacific Region Office

Level 8 Samsung Hub | 3 Church Street | Singapore 049483 | +65 6408 0165

S.W. Asia Region Office

Ground Floor, E-1 Block, Beech Building | Manyata Embassy Business Park | Outer Ring Road | Bangalore, India 560045 | +91 80 4276 4627

REV 1



While every effort has been made to ensure the accuracy of all information, Universal Electric Corporation does not accept liability for any errors or omissions and reserves the right to change information and descriptions of listed services and products.

Most STARLINE systems and most standard components are UL, CE or ETL listed.

F0000020 5/2016