SURGE PROTECTION

CircaMax

Supporting a World of Communications

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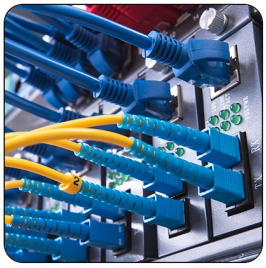
CircaMax is an innovative leader. We are experts in providing connectivity solutions to the information technology, telecommunication and data communication industries in North America. We manufacture surge protection and wired products including cable assemblies, connectors, adaptors, computer networking components, custom cable products, RF coaxial cables, lightning and surge protectors, and NEMA rated enclosures. With an extensive product portfolio and experienced staff, we are certain to help find a solution to your needs.

We have over 30 years of experience designing and manufacturing custom wired connectivity products. Our manufacturing facilities can build just about every type of copper or fiber cable assembly as well as custom connectors, adaptors, RF amplifiers, surge protectors, NEMA enclosures and more. Our product support specialists can help your company with specific protection and cabling not readily available off-the-shelf elsewhere.

We at CircaMax pride ourselves in delivering superb connectivity solutions to our customers while maintaining an unmatched level of service. Our commitment to providing our customers not only with exceptional and innovative products at competitive prices, but also an outstanding customer service experience is what distinguishes CircaMax from the competition. We want you to know we value you as a customer and your satisfaction is our priority. We work with you to help your business run smoothly.





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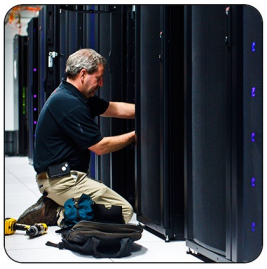



About CircaMax

Circa Telecom (division of Circa Enterprises, Inc.) was founded in 1985 to provide quality protection products to the telecommunications industry. Circa Telecom has since been rebranded to CircaMax to accommodate our ever growing product lines. Circa's headquarters are in Calgary, Alberta, Canada, along with fully integrated manufacturing, service and distribution facilities. Through its wholly owned subsidiary, Circa Telecom USA, Inc., Circa provides sales and service support to the North American marketplace. In 1988, Circa became a public company, and today is listed on the Toronto Stock Exchange.

Manufactured in Canada, Circa Telecom's UL497 rated line of lightning protection is sold through the best Datacom Distributors in North America. Circa Telecom's continued growth has allowed the addition of new products, including an outdoor-rated NEMA 4X box line , Security Products and Enhanced High-Speed Terminals.

How Can Circa Help You?

The underlying principle behind protection is simple: install a suitable protector unit into your telecommunications and networking equipment. Qualified protection specialists at Circa can help you select the right protection solution for your network from a wide range of quality products. Different types of protector units have been developed to provide the best possible protection for different types of equipment. Circa also provides a wide selection of protection panels which are used to house multiple protectors. Panels and terminals for 6, 12, 25, 50, 100 pairs and beyond are available with an impressive array of customer connection and termination options.

Circa can also help you with unusual or unique requirements. Our staff of product support specialists can help your company with specific protection and housing needs not readily available off the shelf elsewhere.

For Technical Assistance contact:

Surge Protection Division	Computer Cables Division
1-800-783-6556 circatech@circatelecom.com	1-877-257-4588 sales@circamax.com

www.circamax.com

Will Your Installation Meet Safety Standards?

When planning your communications network, it is important to consider the requirements of various standard setting organizations. Although exact requirements may vary from country to country the common goal is to protect people, property and equipment from hazardous voltages and current as well as the possibility of other dangers such as fire. Many of the standards developed by these code authorities have been enacted into law with corresponding penalties for failure to comply. Understanding how these requirements pertain to your installation can greatly simplify your product selection process. Some of the major standards-setting organizations that deal with safety are:

Underwriter's Laboratories Incorporated (UL) (C.UL)

UL is chartered as a non-profit independent organization with a mandate to test products for public safety in the United States and Canada. It maintains and operates laboratories for the testing of devices and materials to determine their potential for being a hazard to people, property or equipment . Safety standards for telecom protection devices are covered by UL 497.

Canadian Standards Association (CSA)

CSA is the main safety standards setting agency serving the Canadian public. CSA works very closely with UL, IEC, and other national and international safety agencies. Products sold into the Canadian marketplace are tested to meet CSA requirements as per CSA C22.

International Electrical Commission (IEC)

The IEC based in Geneva Switzerland is dedicated to developing and harmonizing international standards. Both UL and CSA work closely with the IEC and have several “harmonized” standards released or in process.

Restriction of Hazardous Substances (RoHS)

This directive restricts the use of six hazardous materials in the manufacture of various types of electronic and electrical equipment.

Sources of Electrical Disturbances

Electrical disturbances can arise from a number of sources, but there are five basic types which the protection engineer must design safeguards against:

1. **Lightning:** Lightning is one of nature's most powerful and destructive sources of electrical energy. Individual discharges can generate 100's of thousands of volts and deliver greater than 300 thousand amps.
2. **Power Line Contact:** Intense wind and ice storms often result in downed power lines. If a power line falls on communications cables, it has the potential to send current directly through the cable to the end-user's equipment.
3. **Induction:** Power lines, induction motors, ballasts, switching power supplies and other sources of electro-magnetic interference are able to induce surges in communications cables that run in close proximity. These indirect disturbances are often very difficult to trace and can be just as damaging as lightning or direct contact.
4. **Power Faults:** Power faults are most often associated with faulty neutral and/or grounding. In most buildings, the telephone company's ground or neutral is bonded to the power company's neutral. If current is introduced into this neutral by any means such as unbalanced phases, harmonics or wiring faults, it will likely be transferred to the telephone lines into your equipment.
5. **Electrostatic Discharge:** This type of electrical disturbance is most common in dry climates. The build-up of "static" electricity and its resultant discharge is very similar to the physics that produce lightning discharges. Although it's total energy discharge is on a vastly different scale, it is more likely that this type of current will come in contact with your sensitive electronics than any other type of discharge.

Today, with the huge installed base of sophisticated telecom electronics and customer premise equipment, it is even more important that superior protection is built into the physical plant. Circa Telecom supplies products designed specifically to safely divert the destructive forces of electrical disturbances before they can do damage to equipment.

Selecting the Best Product for the Job

All Building Entrance Terminals (BET) perform the same basic function. They take copper outside plant (OSP) voice/data lines (pairs) that are exposed to the possibility of surges of unexpected voltage and send those surges to ground.

They come in a variety or pair count sizes, input/output connection types and security and element protection. Follow these five basic steps when choosing the right BET for the job.

Step One - Application: Voice and low-speed data applications use standard BETs. High-speed networks and sensitive data equipment require enhanced BETs (see page 26)

Step Two - Pair Count: These units follow the same basic pair counts of the PE89 Outside Plant Cable 6, 12, 25, 50, 100, 200, 300 on up to 2400 pair. Larger applications will require multiple terminals.

Step Three - Input/output Termination: National Electric Code (NEC) requires that the OSP Cable must be connected to a UL497 Approved Primary Building Entrance Terminal within 50' (15 meters) of entering the building. There are several varieties of termination styles to choose from.

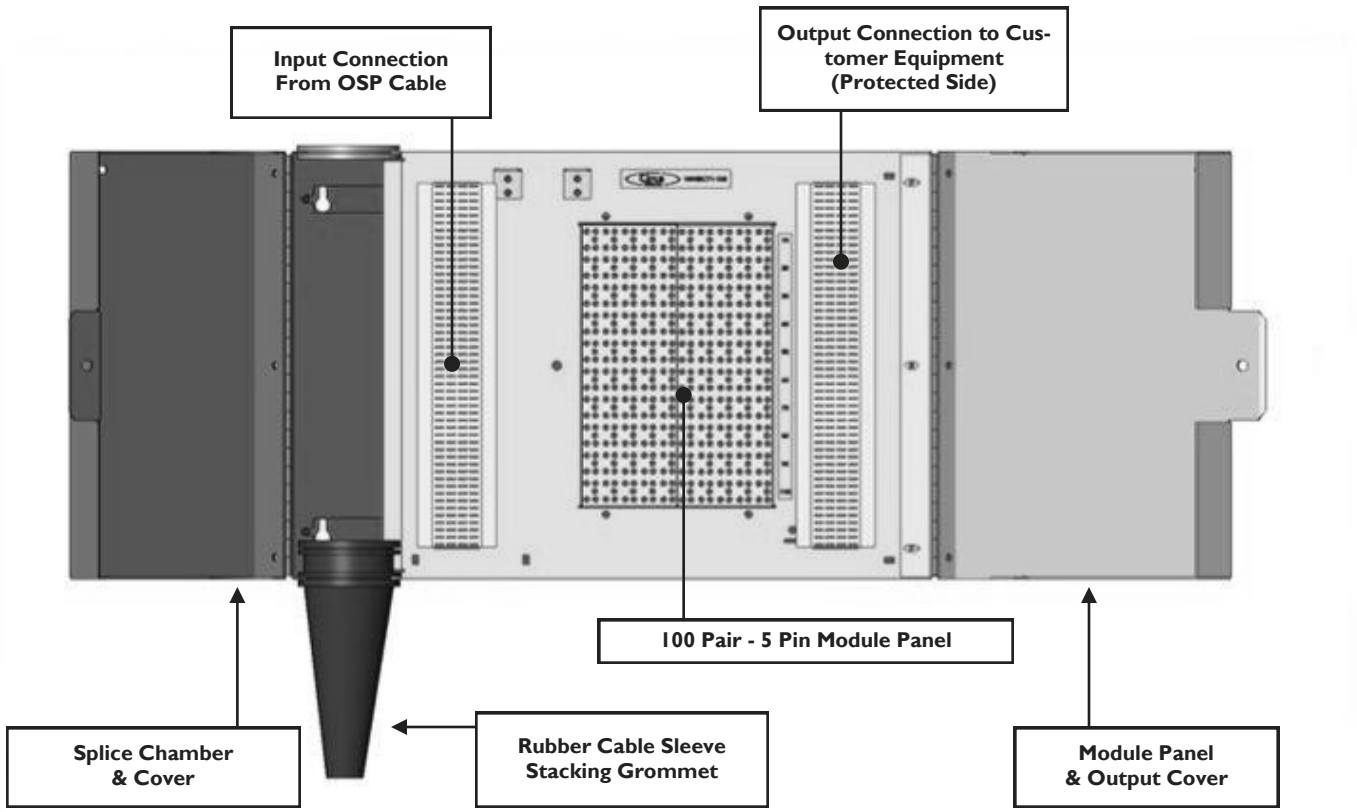
66 Block Quick Clip/110 Connectors - Both single punch down methods.
BIX Connector - Canadian Standard single punch down method.
710/MS2 Connectors - Used for predominantly larger projects these units utilizes special tools that punch down 25 pair at a time.
Stub Termination - The BET has a factory installed 25, 50 or 100' pre terminated tail on the input side of the unit. (custom lengths are available upon request)
RJ-21 Connector - This is a 25 Pair Telco Connector that comes in both Male and Female versions.

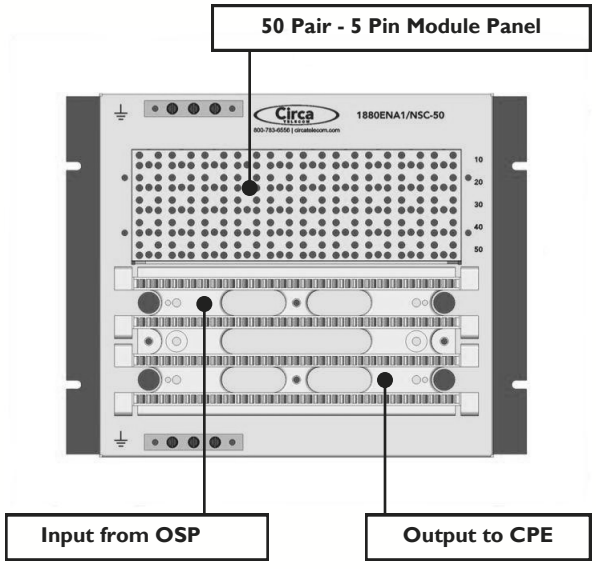
Step Four - Cover and Splice Chamber Options: Again you will have several different options to choose from depending on the application and the level of security or element protection required.

Dust Cover - Provides basic protection that covers the Input/output and modules
Security Cover - Provides total enclosure and is equipped with either a can bolt or other locking device for security reasons.
Splice Chamber - A totally enclosed compartment on the input side of the BET to secure the OSP jell filled cable from the rest of the application.
Outdoor Rated NEMA 4X - Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against incidental contact with the enclosed equipment; to provide a degree of protection against falling dirt, rain, sleet, snow, windblown dust, splashing water, and hose-directed water; and will be undamaged by the external formation of ice on the enclosure.

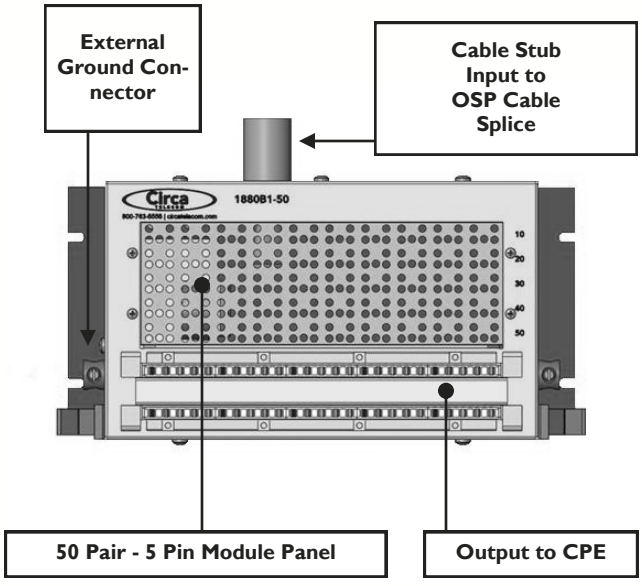
Step Five - Choose the correct Surge Protection Module (ordered separately see pg 29)

Building Entrance Terminal Diagram





Open Faced Unit
No Cover or Splice Chamber



Cable Stub Input Unit
No Cover or Splice Chamber

Termination Options

Input Outside Plant (OSP)	Output - Protected Side to Customer Premise Equipment (CPE)					
	66	110	BIX	Stub	RJ21	Page
Building Entrance Terminals (Indoor)						
66 Block Quick Clip	6 - 100 Pair					13 - 14
110 Connector		6 - 200 Pair				15 - 16
MS2 Connector	25 - 100 Pair	25 - 100 Pair				17
710 Connector	25 - 100 Pair	25 - 100 Pair				18
BIX Connector			6 - 100 Pair			19 - 22
Stub Termination	25 - 100 Pair	25 - 100 Pair	25 - 100 Pair	25 - 100 Pair		23 - 25
High-Speed Data - Building Entrance Terminals - (Indoor & Outdoor)						
66 Block Quick Clip	6 - 25 Pair					26 - 28
110 Connector		6 - 25 Pair				26 - 28
BIX Connector			6 - 25 Pair			26 - 28
Outdoor Building Entrance Terminals - NEMA 4X						
66 Block Quick Clip	6 - 50 Pair					34 - 35
110 Connector		6 - 100 Pair				34 - 35
BIX Connector			6 - 25 Pair			34 - 35
19" Rack Mount Protection						
110 Connector		200 Pair				39 - 42
BIX Connector			100 Pair			39 - 42
Stub Termination				100/50 Pair	100/50 Pair	39 - 42
MS2 Connector				100/50 Pair	100/50 Pair	39 - 42
710 Connector				100 Pair	100 Pair	39 - 42
RJ21 Amphenol					200 Pair	39 - 42
23" Rack Mount Protection						
26 AWG Stub		300 Pair		300 Pair	300 Pair	43 - 46
MS2				300 Pair	300 Pair	43 - 46
710				300 Pair	300 Pair	43 - 46

CircaMax can design and manufacture your OEM Building Entrance and Industrial Metal Cabinet products at our state of the art engineering and metal works facilities.

Cover and Splice Chamber

Building Entrance Terminals are a critical link in today's voice and data communications infrastructure. The telecommunications equipment rooms are a busy environment with a multitude of product vendors and service providers doing maintenance and installations on a regular basis.

Circa Telecom's BETs offer metal covers and splice chambers to help protect the critical communications equipment from both accidental and intentional damage by enclosing the cable and connectors.

Benefit from the increased security of a covered BET product

The use of splice chambers allows for the BET's to be mounted closer together, both vertically and horizontally. Large OSP cables can be hidden, resulting in a more aesthetically pleasing and space-saving installation.

In addition, the splice chamber offers the benefit of additional grounding points for the cable and reduces the chance of arcing between cable pairs.

Underwriters Laboratories

Protect the integrity of the installation with Covers and Splice Chambers

Cover and Splice Chamber Options

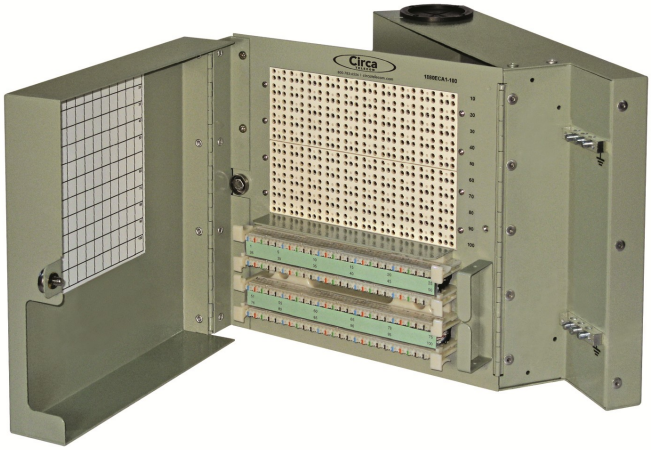
BET Series	Open Faced	Dust Cover	Full Cover	Splice Chamber	NEMA 4X	Page
66 Block Quick Clip Series						
2600	6 - 100 Pair				6 - 50 Pair	13 & 34
1890ECT1/NSC		25 - 100 Pair				14
1890ECT1			25 - 100 Pair	25 - 100 Pair		14
110 Connector Series						
1880ENA1/NSC	6 - 200 Pair				6 - 100 Pair	15 & 34
1880ECA1			25 - 200 Pair	25 - 100 Pair		16
MS2 Connector Series						
1890ECM1			25 - 100 Pair	25 - 100 Pair		17
1880ECM1			25 - 100 Pair	25 - 100 Pair		17
710 Connector Series						
1890ECS1			25 - 100 Pair	25 - 100 Pair		18
1880ECS1			25 - 100 Pair	25 - 100 Pair		18
BIX Connector Series						
2100BN	6 - 100 Pair				6 - 25 Pair	19 & 34
2100B (6 - 12 Pair)			6 - 12 Pair			20
2100B (25 - 100 Pair)		25 Pair (Module Only)	50 - 100 Pair (Input Only)			20
2100SB			12 - 100 Pair (Input Only)			21
2100SBC			25 - 100 Pair			22
Stub Termination Series						
1890BC1			25 - 100 Pair			23
1880B1	25 - 100 Pair					24
1900			25 - 100 Pair			25
1900A1	100 Pair					25
Enhanced High-Speed Series						
2600e	6 - 25 Pair				6 - 25 Pair	26 & 34
1880e	6 - 25 Pair				6 - 25 Pair	26 & 34
2100BNe	6 - 25 Pair				6 - 25 Pair	26 & 34

See pages 49 - 50 for Industrial Cabinets to fit all your outdoor communication needs.

Building Entrance Terminals
Features and Benefits

These 16-guage steel, powder epoxy coated Building Entrance Terminals are designed to provide electrical protection in areas served by exposed outside plant cables. They feature multiple design and connection options and are intended for indoor use only. They are built to meet the needs of today's outside plant cable terminations and exceed the requirements set forth in Underwriters Laboratory's UL497 Primary Protection Codes.

- 16 AWG Steel Powder Coated
- Cost Effective Protection
- Variety of Pair Count Options
- Multiple Input/output Terminations
- BIX Units Accommodates the QTBIX22A Test Shoe
- Stackable to Accommodate Future Expansion
- Wall and Frame Mountable Options Available
- External Ground Connectors Accept 6 - 14 AWG Ground Wire
- Accommodates Industry Standard 5 PIN Protection Modules (Ordered Separately)
- Built in 26-gauge (28-gauge in Canada) Fuse Link eliminates any need for additional fuse splice
- Gold-plated 5 Pin protector sockets provide superior electrical performance and eliminate noise problems

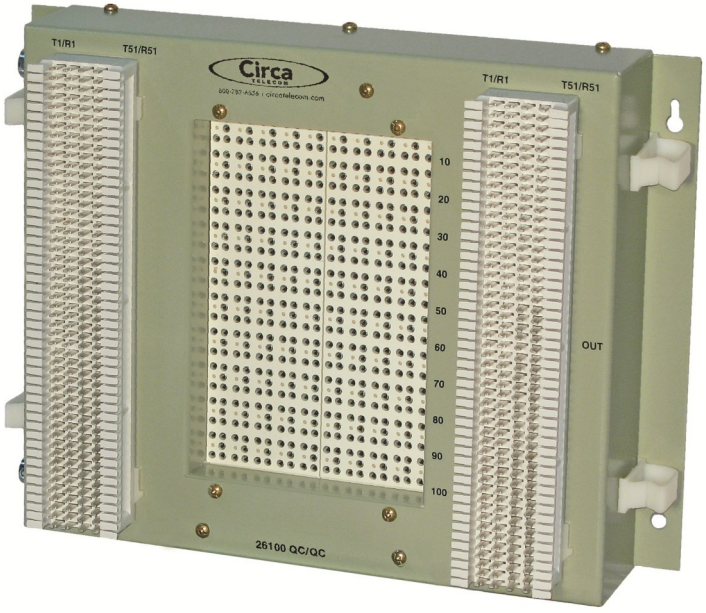


Underwriters Laboratories

Quality, Innovative Protection Products at Affordable Prices.

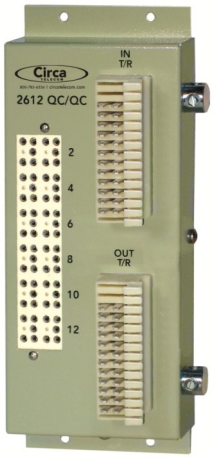
66 Block Quick Clip - No Cover/No Splice Chamber

Model No.	Pair Count	Dimensions (H" x W" x D")	Input	Output	Weight (Lbs)
2606QC/QC	6	4.50 x 4.00 x 2.70	66	66	1.5
2612QC/QC	12	10.00 x 4.50 x 2.75	66	66	2.5
2625QC/QC	25	10.00 x 3.50 x 3.25	66	66	3
2650QC/QC	50	9.70 x 11.75 x 3.70	66	66	8
26100QC/QC	100	11.00 x 15.00 x 3.70	66	66	13



26100QC/QC

- **Powder Coated Steel Construction**
- **Built-in Fuse Link**
- **Exceeds UL497 Standards**
- **Stackable**
- **Industry Standard 5-Pin Design**



2612QC/QC

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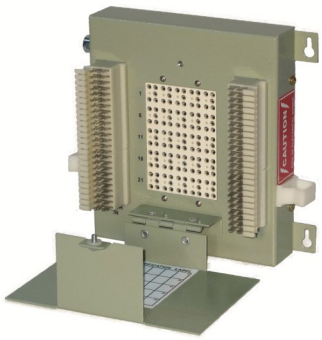
Visit **www.circamax.com** for Product Data Sheets and Dimensional Drawings

66 Block Quick Clip - With Cover/No Splice Chamber					
Model No.	**Pair Count**	**Dimensions (H" x W" x D")**	**Input**	**Output**	**Weight (Lbs)**
1890ECT1/NSC-25	25	8.00 x 9.00 x 4.25	66	66	5
1890ECT1/NSC-50	50	10.00 x 10.75 x 4.50	66	66	8.5
1890ECT1/NSC-100	100	11.00 x 15.00 x 4.50	66	66	14
66 Block Quick Clip - With Cover/Splice Chamber					
1890ECT1-25	25	9.50 x 16.50 x 5.00	66	66	5
1890ECT1-50	50	9.50 x 16.50 x 5.00	66	66	8.5
1890ECT1-100	100	11.70 x 19.00 x 4.48	66	66	14

1890ECT1-100

- **Powder Coated Steel Construction**
- **Built-in Fuse Link**
- **Exceeds UL497 Standards**
- **Stackable**
- **Industry Standard 5-Pin Design**



1890ECT1/NSC-25

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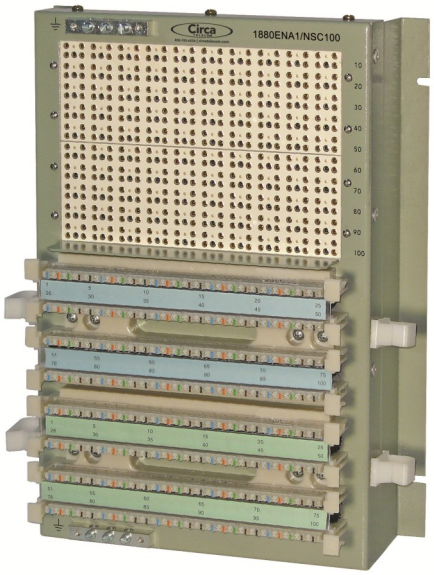
Visit **www.circamax.com** for Product Data Sheets and Dimensional Drawings

110 Connector - No Cover/No Splice Chamber

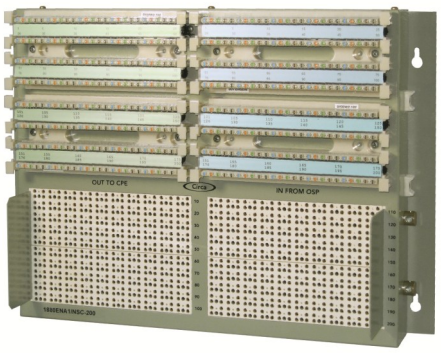
Model No.	Pair Count	Dimensions (H" x W" x D")	Input	Output	Weight (Lbs)
1880ENA1/NSC-6	6	5.25 x 3.00 x 1.75	110	110	.6
1880ENA1/NSC-12	12	9.85 x 4.00 x 2.21	110	110	2.5
1880ENA1/NSC-25	25	5.38 x 8.50 x 2.78	110	110	6
1880ENA1/NSC-50	50	7.18 x 10.75 x 5.45	110	110	9
1880ENA1/NSC-100	100	14.15 x 10.75 x 5.45	110	110	12
1880ENA1/NSC-200 *	200	14.00 x 20.00 x 6.06	110	110	23

* 200 Pair is Wall or 19" Rack Mountable



1880ENA1/NSC-100

- **Powder Coated Steel Construction**
- **Built-in Fuse Link**
- **Exceeds UL497 Standards**
- **Stackable**
- **Industry Standard 5-Pin Design**



1880ENA1/NSC-200

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Visit **www.circamax.com** for Product Data Sheets and Dimensional Drawings

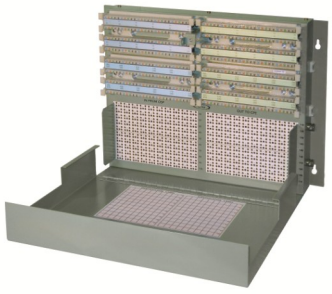
110 Connector - With Cover/Splice Chamber

Model No.	Pair Count	Dimensions (H" x W" x D")	Input	Output	Weight (Lbs)
1880ECA1-25	25	9.20 x 15.25 x 4.75	110	110	14
1880ECA1-50	50	9.20 x 15.25 x 4.75	110	110	15
1880ECA1-100	100	11.00 x 14.75 x 6.25	110	110	15
1880ECA1/NSC-200	200	14.00 x 20.00 x 6.06	110	110	32

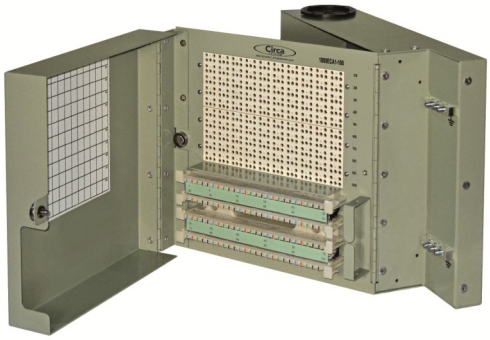
200 Pair comes without splice case and is wall or 19" rack mountable.

1880ECA1-25
1880ECA1-50

- **Powder Coated Steel Construction**
- **Built-in Fuse Link**
- **Exceeds UL497 Standards**
- **Stackable**
- **Industry Standard 5-Pin Design**



1880ECA1/NSC-200



1880ECA1-100

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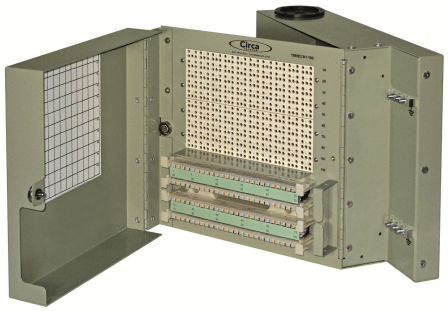
MS2 Connector - With Cover/Splice Chamber

Model No.	Pair Count	Dimensions (H" x W" x D")	Input	Output	Weight (Lbs)
1890ECM1-25	25	7.50 x 11.50 x 5.25	MS2	66	8
1890ECM1-50	50	9.20 x 15.25 x 4.75	MS2	66	15
1890ECM1-100	100	12.00 x 19.00 x 4.50	MS2	66	26
1880ECM1-25	25	7.50 x 11.50 x 5.25	MS2	110	8
1880ECM1-50	50	9.20 x 15.25 x 4.75	MS2	110	15
1880ECM1-100	100	11.00 x 14.75 x 6.00	MS2	110	15

1880ECM1-25 & 50
1890ECM1-25 & 50

- **Powder Coated Steel Construction**
- **Built-in Fuse Link**
- **Exceeds UL497 Standards**
- **Stackable**
- **Industry Standard 5-Pin Design**



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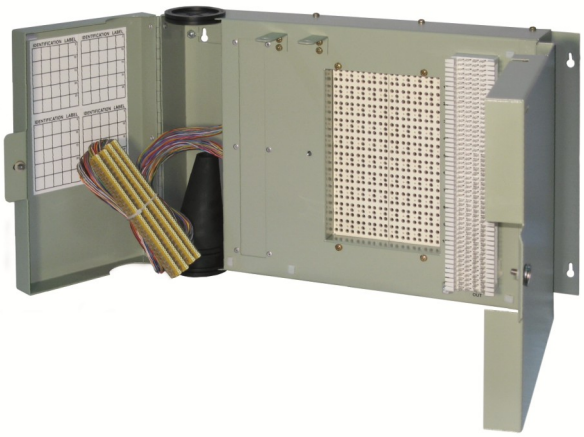

1890ECM1-100

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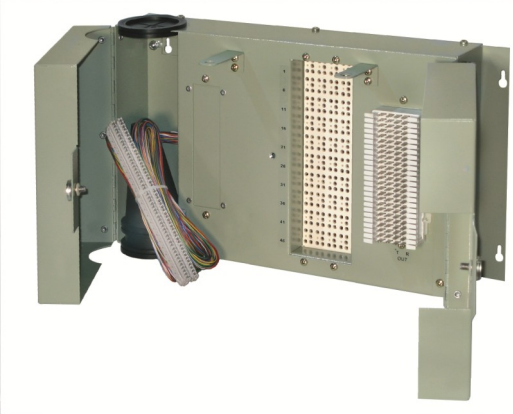
Visit **www.circamax.com** for Product Data Sheets and Dimensional Drawings

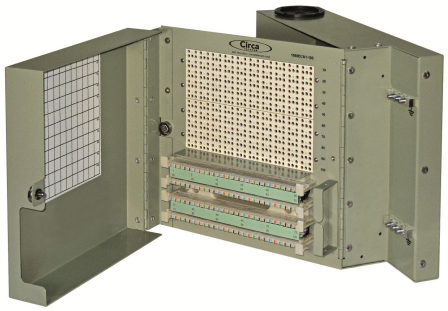
710 Connector - With Cover/Splice Chamber

Model No.	Pair Count	Dimensions (H" x W" x D")	Input	Output	Weight (Lbs)
1890ECS1-25	25	9.50 x 16.50 x 4.50	710	66	8
1890ECS1-50	50	9.50 x 16.50 x 5.00	710	66	15
1890ECS1-100	100	12.00 x 19.00 x 4.50	710	66	26
1880ECS1-25	25	7.50 x 11.50 x 5.25	710	110	8
1880ECS1-50	50	9.20 x 15.25 x 4.75	710	110	15
1880ECS1-100	100	11.00 x 14.50 x 6.25	710	110	15



1880ECS1-25 & 50
1890ECS1-25 & 50

- **Powder Coated Steel Construction**
- **Built-in Fuse Link**
- **Exceeds UL497 Standards**
- **Stackable**
- **Industry Standard 5-Pin Design**



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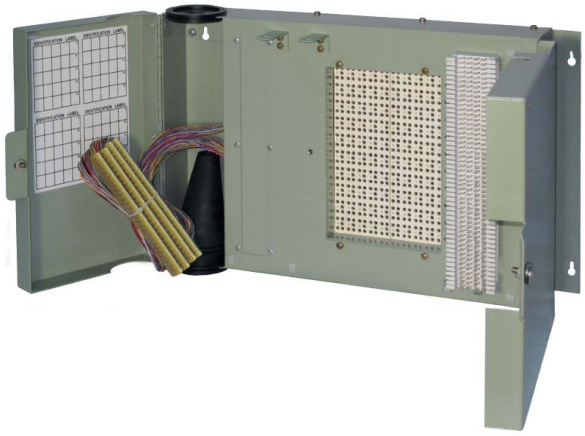


1890ECS1-100

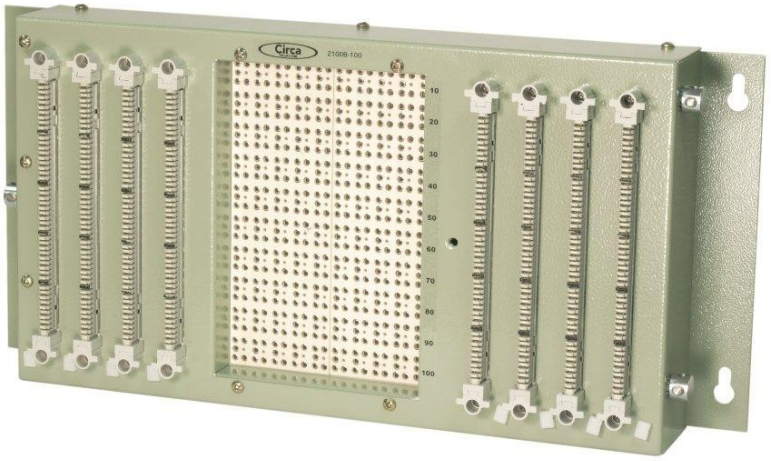
Underwriters Laboratories

Visit **www.circamax.com** for Product Data Sheets and Dimensional Drawings

BIX Connector - No Cover/No Splice Chamber

Model No.	Pair Count	Dimensions (H" x W" x D")	Input	Output	Weight (Lbs)
2100BN-6	6	6.45 x 4.57 x 1.94	BIX	BIX	2
2100BN-12	12	9.85 x 4.47 x 1.99	BIX	BIX	2
2100BN-25	25	7.88 x 8.48 x 2.12	BIX	BIX	4
2100BN-50	50	9.69 x 11.50 x 3.10	BIX	BIX	12
2100BN-100*	100	9.20 x 19.50 x 3.12	BIX	BIX	16

* 2100BN-100 can be wall or 19" rack mountable



2100BN-100

- **Powder Coated Steel Construction**
- **Built-in Fuse Link**
- **Exceeds UL497 Standards**
- **Stackable**
- **Industry Standard 5-Pin Design**

2100BN-25

Underwriters Laboratories

Visit **www.circamax.com** for Product Data Sheets and Dimensional Drawings

BIX Connector - With Cover/No Splice Chamber

Model No.	Pair Count	Dimensions (H" x W" x D")	Input	Output	Weight (Lbs)
2100B-6	6	6.50 x 5.00 x 4.00	BIX	BIX	2
2100B-12	12	10.00 x 5.00 x 4.00	BIX	BIX	3
2100B-25	25	8.00 x 9.25 x 4.25	BIX	BIX	5
2100B-50	50	9.69 x 11.50 x 3.87	BIX	BIX	12
2100B-100*	100	9.20 x 19.50 x 3.87	BIX	BIX	17

* 2100B-100 can be wall or 19" rack mountable

2100B-100

2100B-25

2100B-12

- **Powder Coated Steel Construction**
- **Built-in Fuse Link**
- **Exceeds UL497 Standards**
- **Stackable**
- **Industry Standard 5-Pin Design**

Underwriters Laboratories

Visit **www.circamax.com** for Product Data Sheets and Dimensional Drawings

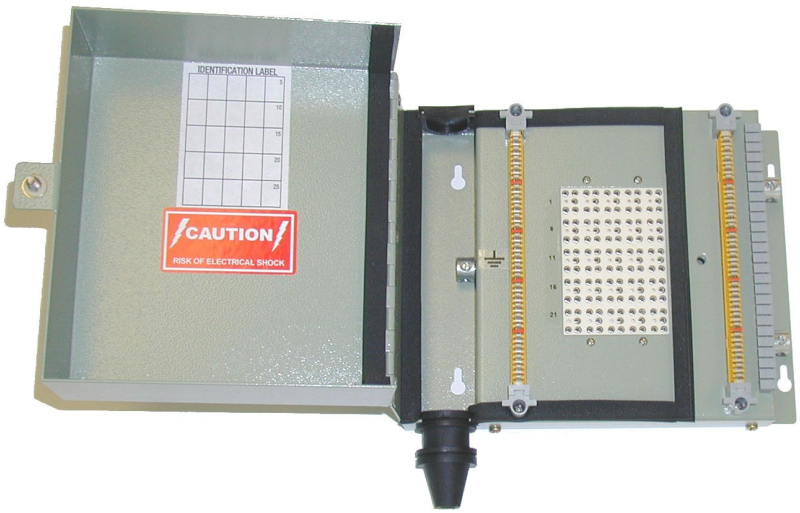
BIX Connector - With Cover/Splice Chamber

Model No.	Pair Count	Dimensions (H" x W" x D")	Input	Output	Weight (Lbs)
2100SB-12	12	7.50 x 7.36 x 3.90	BIX	BIX	4
2100SB-25	25	8.25 x 10.00 x 4.00	BIX	BIX	7
2100SB-50	50	9.25 x 15.00 x 4.50	BIX	BIX	15
2100SB-100*	100	9.25 x 24.25 x 4.50	BIX	BIX	21

* 2100SB-100 Can be wall or 23" rack mountable

2100SB-12

- **Powder Coated Steel Construction**
- **Built-in Fuse Link**
- **Exceeds UL497 Standards**
- **Stackable**
- **Industry Standard 5-Pin Design**



2100SB-25

Underwriters Laboratories

Visit **www.circamax.com** for Product Data Sheets and Dimensional Drawings

BIX Input/Cable Stub Output - Cover/Splice Chamber

Model No.	Pair Count	Dimensions (H" x W" x D")	Input	Output	Weight (Lbs)
2100SBC-25	25	8.25 x 10.50 x 4.00	BIX	15'	10
2100SBC-50	50	9.50 x 14.50 x 4.50	BIX	15'	17
2100SBC-100	100	10.25 x 18.25 x 4.50	BIX	15'	20

Cable Stub Input/BIX Output

2100BC1-100K (No Splice)	100		25' *	BIX
2100B1-100K (No Cover)	100		25' *	BIX

USA Units equipped with 24AWG shielded output cable

Canadian units equipped with 24AWG unshielded output cable

Custom stub lengths available upon request

* Equipped with 26AWG Shielded OSP Aircore

- **Powder Coated Steel Construction**
- **Built-in Fuse Link**
- **Exceeds UL497 Standards**
- **Stackable**
- **Industry Standard 5-Pin Design**

2100SBC-100

2100SBC-25

Underwriters Laboratories

Visit **www.circamax.com** for Product Data Sheets and Dimensional Drawings

Stub Input/66 Block Output - Cover/No Splice Chamber

Model No.	Pair Count	Dimensions (H" x W" x D")	Stub Input 26 AWG	Output	Weight (Lbs)
1890BC1-25	25	6.00 x 8.50 x 5.50	25'	66	9
1890BC1-25/50	25	6.00 x 8.50 x 5.50	50'	66	14
1890BC1-25/100	25	6.00 x 8.50 x 5.50	100'	66	24
1890BC1-50A	50	10.00 x 9.00 x 6.00	25'	66	18
1890BC1-50A/50	50	10.00 x 9.00 x 6.00	50'	66	25
1890BC1-50A/100	50	10.00 x 9.00 x 6.00	100'	66	39
1890BC1-100K	100	20.00 x 8.75 x 8.25	25'	66	27
1890BC1-100K/50	100	20.00 x 8.75 x 8.25	50'	66	39
1890BC1-100K/100	100	20.00 x 8.75 x 8.25	100'	66	63
Equipped with heavy duty strain relief and encapsulated cable connector.					
26AWG swivel stub serves as a fuse link. Custom stub lengths available upon request					

1890BC1-100K

- **Powder Coated Steel Construction**
- **Built-in Fuse Link**
- **Exceeds UL497 Standards**
- **Stackable**
- **Industry Standard 5-Pin Design**

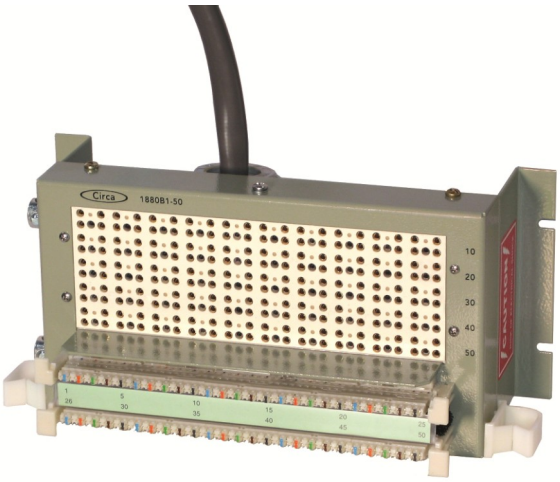
1890BC1-25

Underwriters Laboratories

Visit **www.circamax.com** for Product Data Sheets and Dimensional Drawings

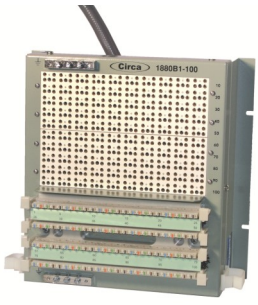
Stub Input/110 Connector Output - No Cover/No Splice Chamber

Model No.	Pair Count	Dimensions (H" x W" x D")	Stub Input 26 AWG	Output	Weight (Lbs)
1880B1-25	25	5.38 x 10.75 x 4.75	25'	110	9
1880B1-50A	50	5.38 x 10.75 x 4.75	25'	110	10
1880B1-100K	100	10.75 x 10.75 x 4.75	25'	110	15
1880BC1-100K (Cover)	100		25'	110	
26AWG swivel stub serves as a fuse link. Custom stub lengths available upon request.					
Equipped with heavy duty strain relief and encapsulated cable connector					



1880B1-50A

- **Powder Coated Steel Construction**
- **Built-in Fuse Link**
- **Exceeds UL497 Standards**
- **Stackable**
- **Industry Standard 5-Pin Design**



1880B1-100K

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Visit **www.circamax.com** for Product Data Sheets and Dimensional Drawings

Stub Input/Stub Output - Cover/No Splice Chamber

Model No./Order No.	Pair Count	Dimensions (H" x W" x D")	Stub Input 26 AWG	Stub Output 24 AWG	Weight (Lbs)
1900-25/214014C25A25	25	9.53 x 7.88 x 4.05	25'	25'	12.5
1900-25/214014C15B15 *	25	9.53 x 7.88 x 4.05	15'	15'	10
1900-50A/411011A25A25	50	9.51 x 7.67 x 4.63	25'	25'	12.5
1900-50A/411012A15B15 *	50	9.51 x 7.67 x 4.63	15'	15'	10
1900-100K/417018K25A25	100	10.00 x 10.75 x 4.50	25'	25'	24
1900-100K/417017K15B15 *	100	10.00 x 10.75 x 4.50	15'	15'	20
1900A1-100K/416016K25A25	100	23.94 x 3.94 x 4.74	25'	25'	34
1900A1-100K/416015K25A25	100	23.94 x 3.94 x 4.74 (both stubs up)	25'	25'	34
1900A1-100K/416014K25A25	100	23.94 x 3.94 x 4.74 (both stubs bottom)	25'	25'	34

(K) 26AWG OSP Air Core input cable stub serves as a fuse link. Custom stub lengths available upon request.

* Canadian version equipped with 24AWG unshielded output. US Version equipped with 24 AWG shielded output.

1900A1-100K
No Cover

1900-25/1900-50A

- **Powder Coated Steel Construction**
- **Built-in Fuse Link**
- **Exceeds UL497 Standards**
- **Stackable**
- **Industry Standard 5-Pin Design**

1900-100K

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Visit **www.circamax.com** for Product Data Sheets and Dimensional Drawings

Enhanced Building Entrance Terminals
Features and Benefits

Enhanced Speed and Throughput: Employing the same format as the units you've been installing for years, Circa Telecom now offers hybrid protection with enhanced throughput for modern data devices. Our new 6, 12 and 25 pair Building Entrance Terminals fit comfortably into existing facilities with no alteration to the system. The units are the same size and configuration of the original Circa products, but with blazing speed. These enhanced units, loaded with our new enhanced 5-pin modules, offer the fastest throughput available **[1000 Mbps/1Gbps and clamping speeds of 2-3 nanoseconds]** providing the bandwidth power to handle everything from POTS, VOIP, xDSL and your network. The beauty of these new products is that they fit in all the same places you've installed a thousand times before - but with **CAT5e** performance, speed and simplicity - for 66 Block, 110 Connectors and BIX, this is **YOUR BEST OPTION**.

- 16 AWG Powder Coated Steel construction
- Certified Category 5e when used in conjunction with Circa Telecom Enhanced Module Series (See page 33)
- Underwriters Laboratory's UL497 Approved
- Equipped with internal fuse link
- Standard 5-pin module configuration (ordered separately)
- Interchangeable for voice or data lines
- External ground connector accepts 6 - 14 AWG ground wire
- ISO 9001 Certified Manufacturer

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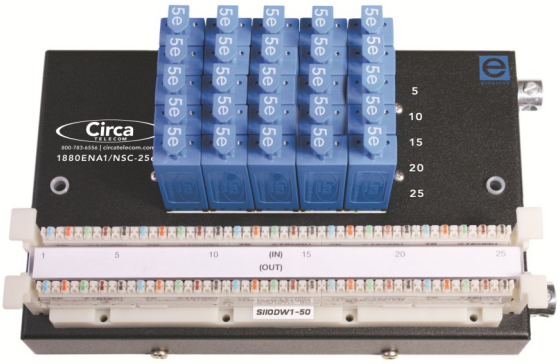
Get Ready for High-Speed, High-Bandwidth Applications!

Enhanced Building Entrance - No Cover/No Splice Chamber

Model No.	Pair Count	Dimensions (H" x W" x D")	Input	Output	Weight (Lbs)
2606QC/QCe	6	4.50 x 3.95 x 2.69	66	66	1.5
2612QC/QCe	12	9.85 x 4.45 x 1.99	66	66	2.5
2625QC/QCe	25	9.99 x 3.42x 3.08	66	66	3
1880ENA1/NSC-6e	6	6.24 x 3.50 x 1.79	110	110	.6
1880ENA1/NSC-12e	12	9.85 x 4.45 x 1.77	110	110	2.5
1880ENA1/NSC-25e	25	5.38 x 8.95 x 2.98	110	110	6
2100BN-6e	6	6.45 x 4.56 x 1.94	BIX	BIX	2
2100BN-12e	12	9.85 x 4.45 x 1.99	BIX	BIX	2
2100BN-25e	25	8.25 x 8.48 x 2.12	BIX	BIX	4

BETs shown with Enhanced CAT5e Modules ordered separately.



1880ENA1/NSC-25e

2612QC/QCe

- **Powder Coated Steel Construction**
- **Category 5e Rated (1)**
- **Built-in Fuse Link**
- **Exceeds UL497 Standards**
- **Industry Standard 5-Pin Design**

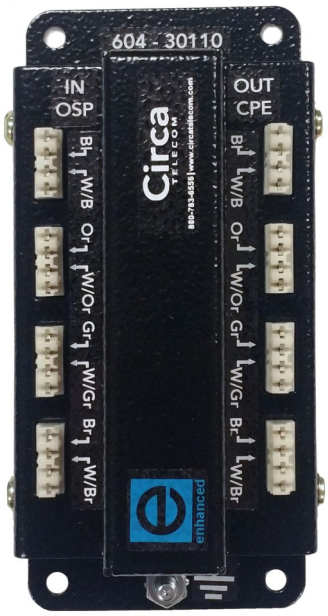
Underwriters Laboratories

Visit **www.circamax.com** for Product Data Sheets and Dimensional Drawings

CAT6 4 Pair Indoor BET

These Solid State devices are designed to protect High-Speed 4 Pair CAT6 outside plant cables at speeds of up to 10 gigabit at 250 MHz and clamping speeds of 1-5 nanoseconds. Rated for UL497/UL497B the 75v series is ideal for ISDN, VOIP and PoE/PoE+ applications.

- Certified Category 6
- Frequencies up to 250 MHz
- Equipped with Internal Fuse Link
- Exceeds UL497/UL497B Protection Standards
- 16 AWG Powder Coated Steel
- 110 Connector Accepts 22-26 AWG Solid or Standard Copper Wire



604-75-110

Enhanced Building Entrance Terminals - CAT6					
Model No.	**Pair Count**	**Dimensions** (H" x W" x D")	**Input**	**Output**	**Weight** (Lbs)
604-30-110	4	5.50 x 2.67 x 1.65	110	110	2
604-30-RJ	4	5.50 x 2.67 x 1.65	110	RJ45	2
604-75-110	4	5.50 x 2.67 x 1.65	110	110	2
604-75-RJ	4	5.50 x 2.67 x 1.65	110	RJ45	2

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5-Pin Surge Protection Modules

There are two basic types of Protection Modules in use today. Gas Tube Technology, used as a Life Safety Device and Solid State Technology that meets the same NEC Code Life Safety requirements PLUS provides protection to the customers premise equipment (CPE). Each type has several different variations that can be seen outlined on pages 32 - 33.

Choosing the Correct Module

Electrical surges can travel along copper lines about one foot per nanosecond. Before your next installation, survey the equipment you are assigned to protect and you'll find a need for faster reacting solid-state modules. The 3-5 nanosecond clamp-down time of solid-state modules provides protection from surges as low as 30 volts for digital switches, data transmission and security devices.

GAS TUBE	VS	SOLID STATE
4,000 TO 5,000 NANOSECOND RESPONSE TIME		**3 TO 5 NANOSECOND RESPONSE TIME**

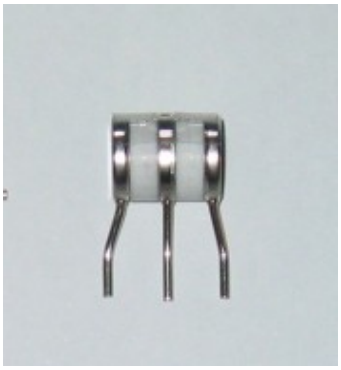
Visit **www.circamax.com** for Product Data Sheets and Dimensional Drawings

Popular Industry Terminologies

5-Pin Technology - This is the industry standard of Protection Modules. Each module protects one voice/data line (pair). The first two pins are input Tip & Ring, the second two shorter pins are output to the Customer Premise Equipment (CPE) and the 5th pin is the ground for overvoltage.

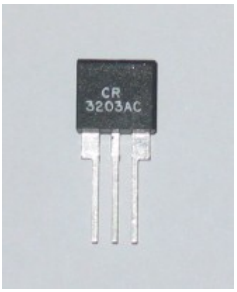
DC Voltage Break Over - The level at which a module is set to react and shunt overvoltage current to ground. Industry standard is 350v for Gas Tube Modules and 300v, 240v, 75v and 30v for Solid State Modules.

Gas Tube (Analog) - This technology has been around since the early 50's. Being strictly a Life Safety Device the module is not set to redirect current until 350v hits the line. The gases in the module are set to react at 350v redirecting the surge to ground. Like the gases in a fluorescent light bulb this process can sometimes linger causing upwards of 650+ volts to enter the system. Circa does not recommend this type of module when sensitive voice/data equipment is involved.



3 Element Gas Tube/Balanced - These modules use a single gas tube for both Tip & Ring allowing both sides to simultaneously shunt to ground regardless of what side of the pair the current appears.

2 Element Gas Tube/Unbalanced - These modules utilize dual 2-element tubes, which create scenarios where one side of the device could ionize faster than the other leaving a path for the current to pass on through to the equipment.



Solid State (Digital) - These modules employ a balanced Solid State Thyristor that is far superior to the Gas Tube Technology in speed of response and are virtually immune to overshoot, aging and failure due to repeated tripping within rated limits. Unlike the Gas Tube you can choose the amount of voltage you allow to pass through before they react. These modules come in Industry Standard 300v, 240v 75v & 30v Models.

Visit **www.circamax.com** for Product Data Sheets and Dimensional Drawings

Popular Industry Terminologies

Sneak Current - This is current that develops on the line through an outside source such as an electrical cross or grounding problem. The voltage level is not high enough to trip the standard 5-pin module so it stays on the line. It is usually too weak to cause immediate damage, but if unchecked could potentially create harmful heating effects destroying the voice/data system on the other side.

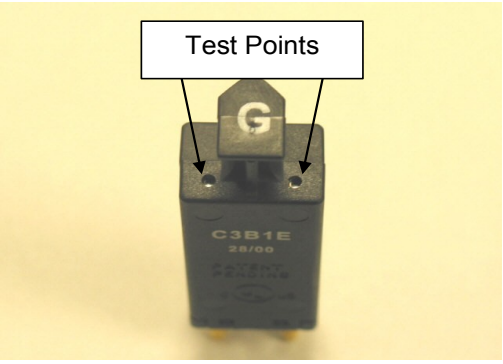
Current Limiters - These are additional technologies included in 4-Series Modules that provide effective protection from Sneak Current Faults.

Heat Coil - These devices employ a very high AWG element placed between the input and output side of the module. if a surge comes down the line it will melt the connection between the input and output, thereby protecting the equipment. Some heat coils have springs in them, so that when a surge breaks the circuit their tension is released permanently closing the line. These units are one-time use and will need to be replaced after each occurrence.

PTC (Positive Temperature Coefficient) - This new state of the art self-resetting technology employs a carbon based alloy covered in a polymer connecting the input and output sides of the module. When an undesirable level of milliamps (heat) is reached, the unit will open the circuit not allowing anything to pass through to the CPU. When the issue is fixed the unit will cool down and automatically close the circuit. All of the Circa 4 Series Modules employ this vastly superior technology.

Response Time - The time it takes for a module to redirect overvoltage current to ground. These times are measured in Nanoseconds (equal to one billionth of a second). Electricity travels at the speed of light or one foot per nanosecond.

Test Points - Access points at the top of each module allowing a continuity test to ensure the unit is wired and working properly.



Visit **www.circamax.com** for Product Data Sheets and Dimensional Drawings

Surge Protection Module - Voice

- Heavy duty surge handling capabilities
- Balanced operation
- UL and CUL listed, R.U.S. approved
- Integrated Test Points
- Designed to meet or exceed Telcordia standards
- Non-radioactive
- ISO9002 certified manufacturer

Model No.	Clamping Voltage	PTC	Applications
Gas Tube (Life Safety Device)			
3B1E	350v	NO	Used by Telco's over long runs where equipment protection is not an issue.
4B1E	350v	YES	Same as the 3B1E with Positive Temperature Coefficient self-resetting current limiter. (PTC)
Solid State (Equipment Protection)			
3B1S-300	300v	NO	Use with field tested rugged equipment
4B1S-300	300v	YES	Same as the 3B1S with Positive Temperature Coefficient self-resetting current limiter. (PTC)
3B1FS-240	240v	NO	Solid State performance for analog lines
4B1FS-240	240v	YES	Same as the 3B1FS with Positive Temperature Coefficient self-resetting current limiter. (PTC)
4B3S-75 (RED) *	75v	YES	48v Digital phone systems. (PTC)
3B3S-30 (RED) *	30v	NO	24v Digital phone systems and low voltage, low speed data applications.
* Analog Phones, Switches and Fax Machines operate above 75v and will not function properly behind a 75v or 30v module.			
Grounding/Continuity			
3B2N Grounding	N/A	NO	Includes no protection and provides permanent path to ground.
3B5N Continuity	N/A	NO	Includes no protection and provides continuous continuity from input to output.

Surge Protection Module - High-Speed Data

The Enhanced Series Modules are built to be a universal protector. With throughputs of up to 1000Mbps/1Gbps and clamping speeds of 2-3 nanoseconds, just select the right voltage and protect everything from VOIP systems to networks, digital phone lines to VDSL2.

- Extreme Protection for Voice and Data Lines
- Heavy Duty Surge Handling Capabilities
- Combines Gas Tube, Solid State and Silicone Diodes for Extreme Protection
- Certified Category 5e (1000 Mbps/1Gbps Speeds)
- Employs Self-Resetting PTC
- Balanced Operation
- 2 - 3 Nanosecond Response Time
- Extremely Low Capacitance
- UL and C.UL listed, R.U.S. Approved
- Integrated Test Points
- ISO9002 Certified Manufacturer

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CAT5e/Hybrid - High-Speed Data (1000Mbps/1Gps)

Model No.	Clamping Voltage	PTC	Applications
4B6S-300e	300v	YES	High bandwidth over long distances
4B6FS-240e	240v	YES	T1, xDSL and Analog Systems
4B6S-75e	75v	YES	Digital Lines, VOIP and Network Protection
4B6S-30e	30v	YES	For your lowest voltage applications
Standard BETs can benefit from the speeds and the extreme protection of the Hybrid/CAT5e modules.			

Building Entrance Terminals (Outdoors)
Features and Benefits

The NEMA 4X Line of outdoor Building Entrance Terminals meets the National Electric Code requirements for outdoor applications, such as construction trailers, multi-dwelling units, schools and industrial environments. The units contain Circa's RDUP/RUS accepted 66 Block, 110 and BIX Connectors. They use industry standard 5-pin modules which are sold separately.

- High durability fiberglass, polycarbonate and metal construction suited for corrosive and high humidity environments
- Protects from falling dirt, rain, sleet, snow, windblown dust, splashing water, and hose-directed water; and will be undamaged by the external formation of ice on the enclosure.
- Meets NEMA/EEMAC Type 4X Standards
- Available in 6, 12, 25, 50, & 100 pair configuration
- Lockable Hinged Cover for secure access.
- Metal Backboard and Grommets included
- BET Pre-installed

Fiberglass

Polycarbonate

Underwriters Laboratories

Visit **www.circamax.com** for Product Data Sheets and Dimensional Drawings

4000N Series NEMA 4X - Standard Voice					
Model No.	**Pair Count**	**Input/ Output**	**Material**	**Dimensions** (H" x W" x D")	**Weight** (lbs)
4006-QC	6	66/66	Polycarbonate	13.68 x 12.20 x 5.30	6.60
4006M-QC	6	66/66	Metal	14.00 x 10.00 x 6.18	18.00
4012-QC	12	66/66	Polycarbonate	13.68 x 12.20 x 5.30	7.80
4012M-QC	12	66/66	Metal	14.00 x 10.00 x 6.18	19.00
4025-QC	25	66/66	Polycarbonate	13.68 x12.20 x 5.30	8.00
4025M-QC	25	66/66	Metal	14.00 x 10.00 x 6.18	19.50
4050-QC	50	66/66	Fiberglass	16.27 x 14.40 x 8.13	13.50
4050M-QC	50	66/66	Metal	17.50 x 14.25 x 8.34	21.50
4006-110	6	110/110	Polycarbonate	13.68 x 12.20 x 5.30	6.60
4006M-110	6	110/110	Metal	14.00 x 10.00 x 6.18	18.00
4012-110	12	110/110	Polycarbonate	13.68 x 12.20 x 5.30	7.70
4012M-110	12	110/110	Metal	14.00 x 10.00 x 6.18	19.00
4025-110	25	110/110	Polycarbonate	13.68 x 12.20 x 5.30	11.00
4025M-110	25	110/110	Metal	14.00 x 10.00 x 5.30	19.50
4050-110	50	110/110	Fiberglass	16.27 x 14.40 x 8.13	13.50
4050M-110	50	110/110	Metal	17.50 x 14.25 x 8.34	21.50
4100-110	100	110/110	Fiberglass	16.27 x 14.40 x 8.13	23.00
4100M-110	100	110/110	Metal	17.50 x 14.25 x 8.34	31.00
4006-BIX	6	BIX/BIX	Polycarbonate	13.68 x 12.20 x 5.30	7.00
4012-BIX	12	BIX/BIX	Polycarbonate	13.68 x 12.20 x 5.30	7.00
4025-BIX	25	BIX/BIX	Polycarbonate	13.68 x 12.20 x 5.30	9.00
4000N Series NEMA 4X - Enhanced High-Speed					
4006-QCe	6	66/66	Polycarbonate	13.68 x 12.20 x 5.30	6.60
4012-QCe	12	66/66	Polycarbonate	13.68 x 12.20 x 5.30	7.80
4025-QCe	25	66/66	Polycarbonate	13.68 x 12.20 x 5.30	8.00
4006-110e	6	110/110	Polycarbonate	13.68 x 12.20 x 5.30	6.60
4012-110e	12	110/110	Polycarbonate	13.68 x 12.20 x 5.30	7.70
4025-110e	25	110/110	Polycarbonate	13.68 x 12.20 x 5.30	11.00
4006-BIXe	6	BIX/BIX	Polycarbonate	13.68 x 12.20 x 5.30	7.00
4012-BIXe	12	BIX/BIX	Polycarbonate	13.68 x 12.20 x 5.30	7.00
4025-BIXe	25	BIX/BIX	Polycarbonate	13.68 x 12.20 x 5.30	9.00

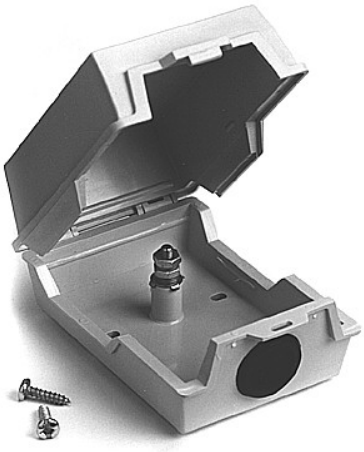
For additional Industrial Enclosure Options see page 46

Station Protection - Outdoors
Features and Benefits

The NEMA 3R rated Station Protectors are well suited for single, dual or up to 25 Pair applications in residential, rural and other low pair count customer premise installations. Industry standard design allows installation into most standard telephone lines or network Interface devices.

- Accepts Gas Tube or Solid State type Station Protection Modules
- Removable knock-out and guides on back of unit to mount onto 3/4" conduit and/or conduit connector
- Ground post molded directly into the 2 pair housing, therefore the unit does not require an additional T-post ground adaptor (T-post ground adaptor not included when modules or 12 - 25 pair housings ordered separately)
- Easy installation, ultra-violet, NEMA 3R, weather resistant housing
- Lid locks into position on scalloped body design allows for easy replacement of protection modules
- Includes flexible rubber grommet at wire entrance and universal mounting screws

512-A350



502

Underwriters Laboratories

Visit **www.circamax.com** for Product Data Sheets and Dimensional Drawings

3 Element Gas - Station Protectors

The model 1356 Gas Station Protector is designed to provide heavy duty transient and power fault protection for most standard telephone line applications. The common chamber, 3 electrode gas tube provides true balanced operation. An over voltage on either side of the circuit causes the entire tube to ionize and ground both sides of the circuit simultaneously.

- Heavy duty surge handling capability
- Modular industry standard design
- Balanced operation
- Superior Common Chamber design
- UL Listed
- Rugged dependable operation

Solid State - Station Protectors

The Solid State Station Protectors are designed to provide heavy duty transient and power fault protection for most standard telephone line applications. The characteristics of the solid state protector are far superior to the gas tube technology in speed of response to faults and are virtually immune to overshoot, aging and repeated tripping within rated limits.

- Solid State technology provides nanosecond response time
- Multiple voltage levels available
- Modular industry standard design
- Balanced operation
- Superior Common Chamber design
- UL Listed
- Longer life span than conventional gas tube
- Equipment dependant voltage options

All station protectors come with an external fail-safe mechanism that ensures safe operation even under the most adverse conditions. Under continuous surge conditions, the device will short both sides of the circuit to ground.

Station Protector Modules

Model Number	Stock Code	Type	Application	Clamping Voltage
1356	801002	Gas Tube	Minimum standard for Life Safety and analog equipment	350v
1360-300	801007	Solid State	Faster response times provide greater equipment protection	300v
1360-240	801012	Solid State	240v Analog or Digital equipment protection	240v
1360-75	801010	Solid State	75v Digital equipment protection	75v
1360-30	801008	Solid State	30v Lowest voltage and most sensitive equipment protection	30v

Loaded Station Protectors - NEMA 3R

Model Number	Stock Code	Pair Count	Description	Clamping Voltage	Dimensions (H" x W" x D)	Weight (lbs)
501-A350	837045	1	1 Pair Station Protector 350v Gas Tube	350v	4.78 x 3.20 x 2.17	.38
501-D300	837046	1	1 Pair Station Protector 300v Solid State	300v	4.78 x 3.20 x 2.17	.38
501-D240	837047	1	1 Pair Station Protector 240v Solid State	240v	4.78 x 3.20 x 2.17	.38
501-D75	837048	1	1 Pair Station Protector 75v Solid State	75v	4.78 x 3.20 x 2.17	.38
501-D30	837049	1	1 Pair Station Protector 30v Solid State	30v	4.78 x 3.20 x 2.17	.38
502-A350	837041	2	2 Pair Station Protector 350v Gas Tube	350v	4.78 x 3.20 x 2.17	.45
502-D300	837050	2	2 Pair Station Protector 300v Solid State	300v	4.78 x 3.20 x 2.17	.45
502-D240	837032	2	2 Pair Station Protector 240v Solid State	240v	4.78 x 3.20 x 2.17	.45
502-D75	837051	2	2 Pair Station Protector 75v Solid State	75v	4.78 x 3.20 x 2.17	.45
502-D30	837052	2	2 Pair Station Protector 30v Solid State	30v	4.78 x 3.20 x 2.17	.45
506-A350	838007	6	6 Pair Station Protector 350v Gas Tube	350v	7.90 x 7.50 x 3.3	1.75
506-D300	837053	6	6 Pair Station Protector 300v Solid State	300v	7.90 x 7.50 x 3.3	1.75
506-D240	838024	6	6 Pair Station Protector 240v Solid State	240v	7.90 x 7.50 x 3.3	1.75
506-D75	837054	6	6 Pair Station Protector 75v Solid State	75v	7.90 x 7.50 x 3.3	1.75
506-D30	837055	6	6 Pair Station Protector 30v Solid State	30v	7.90 x 7.50 x 3.3	1.75
512-A350	838035	12	12 Pair Station Protector 350v Gas Tube	350v	7.90 x 7.50 x 3.3	2.19
512-D300	837056	12	12 Pair Station Protector 300v Solid State	300v	7.90 x 7.50 x 3.3	2.19
512-D240	838033	12	12 Pair Station Protector 240v Solid State	240v	7.90 x 7.50 x 3.3	2.19
512-D75	837057	12	12 Pair Station Protector 75v Solid State	75v	7.90 x 7.50 x 3.3	2.19
512-D30	837058	12	12 Pair Station Protector 30v Solid State	30v	7.90 x 7.50 x 3.3	2.19
525-A350	838016	25	25 Pair Station Protector 350v Gas Tube	350v	14.2 x 10.00 x 5.00	5.39
525-D300	837059	25	25 Pair Station Protector 300v Solid State	300v	14.2 x 10.00 x 5.00	5.39
525-D240	838034	25	25 Pair Station Protector 240v Solid State	240v	14.2 x 10.00 x 5.00	5.39
525-D75	837060	25	25 Pair Station Protector 75v Solid State	75v	14.2 x 10.00 x 5.00	5.39
525-D30	837061	25	25 Pair Station Protector 30v Solid State	30v	14.2 x 10.00 x 5.00	5.39

Empty Enclosures - NEMA 3R

Model Number	Stock Code	Pair Count	Description	Dimensions (H" x W" x D")	Weight (lbs)
502	837038	1 - 2	1 - 2 Pair Enclosure with T Post	4.78 x 3.20 x 2.17	0.30
512	UMM100008	1 - 12	1 - 12 Pair Enclosure	7.90 x 6.50 x 3.33	1.27
525	UMM100010	1 - 25	1 - 25 Pair Enclosure	13.50 x 10.00 x 5.00	3.46

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Rack Mount Protection
Features and Benefits

The Rack Mount Protection [RMP] family of products from Circa Telecom provides an intuitive, versatile, yet simplified space-saving solution for high pair count wire management. The high density protection systems are the result of years of field research, problem solving and custom builds on college and industrial campuses across North America. These durable protection panels and output connectors are easily mounted on universal 19" and 23" wide racks and are designed to accommodate multiple block configurations. (racks not included)

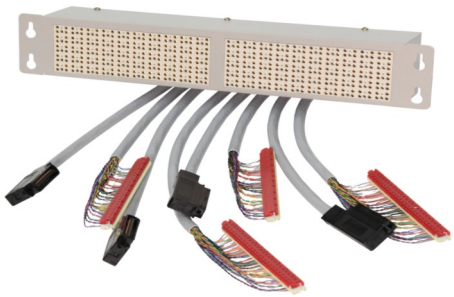
- Wide variety of Pair Count Options
- Multiple Input/Output Terminations
- Space Savings Cross-Connect Options
- External Ground Connectors Accept 6 - 14 AWG Ground Wire
- Accommodates Industry Standard 5 PIN Protection Modules (Ordered Separately)
- Built in 26-gauge Fuse Link eliminates any need for additional fuse splice.
- Gold-plated 5 Pin protector sockets provide superior electrical performance and eliminate noise problems
- Orders come ready to assemble with all necessary mounting hardware (racks not included)
- Custom stub lengths available

RMP1800XLBET

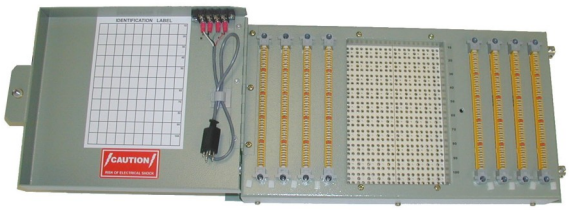
Underwriters Laboratories

Space-Saving Solutions for High Pair Count Installations

19" Rack Mount RMP100BET					
Model No.	**Pair Count**	**Dimensions (H" x W" x D")**	**Input**	**Output**	**Weight (Lbs)**
RMP50BET-MS2/RJF	50	3.32 x 19.50 x 3.06	MS2	RJ21	15
RMP100BET-MS2/RJM	100	3.32 x 19.50 x 3.06	MS2	RJ21	19
RMP100BET-MS2/RJF	100	3.32 x 19.50 x 3.06	MS2	RJ21	19
RMP100BET-25/25	100	3.32 x 19.50 x 3.06	25' STUB	25' STUB	43
RMP100BET-710/RJM	100	3.32 x 19.50 x 3.06	710	RJ21	19
RMP100BET-710/RJF	100	3.32 x 19.50 x 3.06	710	RJ21	19
Units equipped with (4) 25 pair CAT5e input/output cables. Custom stub lengths and termination options available.					
19" Rack Mount 2100BN-100					
2100BN-100	100	9.20 x 19.50 x 3.12	BIX	BIX	16
2100B-100 (cover)	100	9.20 x 19.50 x 3.87	BIX	BIX	17
All units equipped with 26AWG fuse link					



RMP100BET



2100B-100

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Visit **www.circamax.com** for Product Data Sheets and Dimensional Drawings

19" Rack Mount - 1880 Series

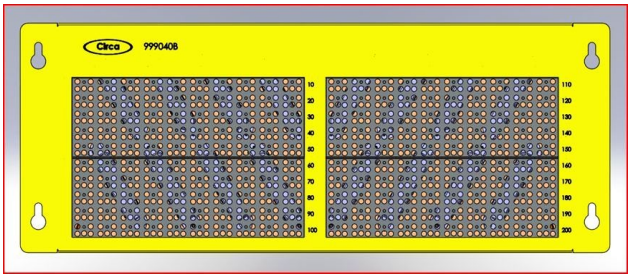
Model No.	Pair Count	Dimensions (H" x W" x D")	Input	Output	Weight (Lbs)
1880ENA1/NSC-200	200	14.00 x 20.00 x 6.06	110	110	21
1880ENA1/NSC-200R/C	200	14.00 x 20.00 x 6.06	110	110	21
1880ECA1/NSC-200	200	14.00 x 20.00 x 6.06	110	110	26
1880ECA1/NSC-200R/C	200	14.00 x 20.00 x 6.06	110	110	26
R/C Refers to Reverse Configuration for us on opposite side of rack					

1880ENA1/NSC-200

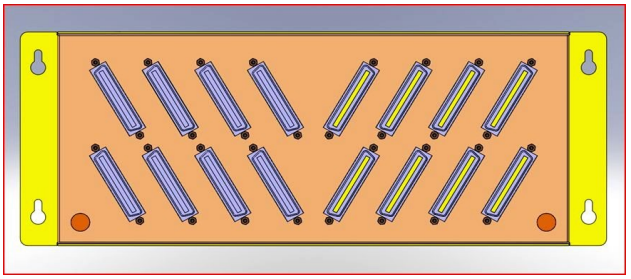
1880ECA1/NSC-200

19" Rack MOUNT - RMP200BET

Model No.	Pair Count	Dimensions (H" x W" x D")	Input	Output	Weight (Lbs)
RMP200BET-RJM/RJM	200	7.50 x 19.50 x 3.57	RJ21	RJ21	21



RMP200BET (front)



RMP200BET (back)

Visit **www.circamax.com** for Product Data Sheets and Dimensional Drawings

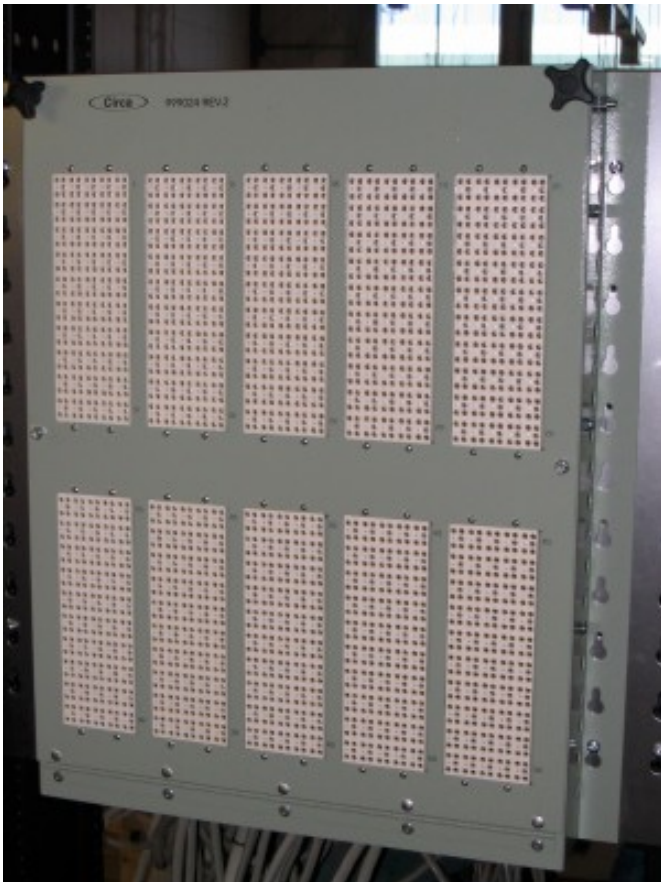
19” Rack Mount - RMP500BET

Model No.	Pair Count	Dimensions (H” x W” x D”)	Input 24 AWG	Output 24 AWG	Weight (Lbs)
RMP500BET-MS2/RJM	500	24.40 x 18.30x 5.00	15’MS2	15’ RJ21	105
RMP500BET-MS2/RJM-FL	500	24.40 x 18.30x 5.00	15’MS2	15’ RJ21	105

Can be mounted 3 units high allowing for up to 1500 pair on a standard 19” or 23” rack

Hinged panel allows for rear access. Custom cable lengths and input/output connections available

Can be used in outdoor cabinets for DSL deployment. Available with or without internal fuse link (FL)



RMP500BET (front)

RMP500BET (rear)

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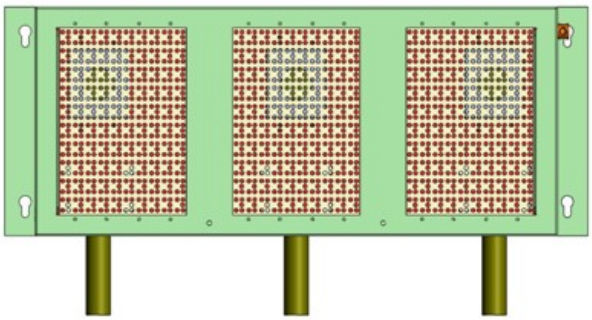
Visit **www.circamax.com** for Product Data Sheets and Dimensional Drawings

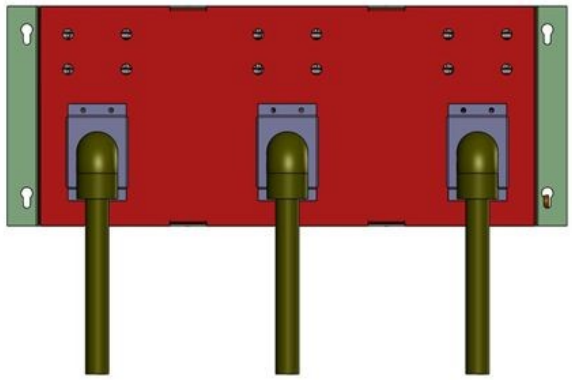
23" XLBET Rack Mount - Series

The Circa XLBET Series is easily mounted on a industry standard 23" rolled steel XLBET Frame and can be ordered as a complete unit (see page 45) or can be ordered as separate 300 pair BETs and accessories to custom build your network (rack not included).

Model No.	Pair Count	Dimensions (H" x W" x D")	Input	Output	Weight (Lbs)
RMP300XLBET-SWM-25 *	300	9.40 x 24.00 x 8.23	25' STUB 26AWG	110	66
RMP300XLBET-LWM-25 *	300	9.40 x 24.00 x 8.23	25' STUB 26AWG	110	66
RMP300XLBET-25-25	300	9.40 x 24.00 x 8.23	25' STUB 26AWG	25' STUB 24AWG	81
* Includes 300 pair 110 Pre-Wired Female Output for opposite side of rack					
* SWM/LWM - Small/Large wire management system. 26AWG swivel stub input serves as fuse link					



RMP300XLBET (front)



RMP300XLBET (rear)

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Visit **www.circamax.com** for Product Data Sheets and Dimensional Drawings

23” RMP300XLBET - Accessories

Model No.	Pair Count	Input	Output	Dimensions (H” x W” x D”)	Order No.
110 Pre-Wired Female Customer Protected Output	300	1’ RJ Female	110	11 x 11 x 3.50	332305B1RJ
110 Pre-Wired Male Cross Connect	300	110	2.5’ RJ Male	11 x 11 x 3.50	332306B2.5RJ
BIX Pre-Wired Female Customer Protected Output	300	1’ RJ Female	BIX	11 x 11 x 3.50	332307B1RJ
BIX Pre-Wired Male Cross Connect	300	BIX	2.5’ RJ Male	11 x 11 x 3.50	332308B2.5RJ
RJ Connector Plate	600	N/A	N/A	6.5 x 24 x 2.5	332304
Mounting Bar	N/A	N/A	N/A	1.5 x 23.5 x 1.0	MM15-0129
Small Wire Management	N/A	N/A	N/A	2.5 x 23.5 x 4.5	MM15-0130
Large Wire Management	N/A	N/A	N/A	6.0 x 23.5 x 7.5	MM15-0131

110 Pre Wired Output/Cross Connect

Amphenol RJ21 Connector Plate

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Visit **www.circamax.com** for Product Data Sheets and Dimensional Drawings

High Density 23" Rack Mount RMP1800XLBET

The Rack Mount Protection System provides an intuitive, versatile, yet simplified and space-saving solution for high pair count wire management. Ideal for custom builds and upgrades on college and industrial campuses.

- Circa's durable protection panels and output connectors are easily mounted on a 12AWG rolled steel 23" W x 7' H x 6" D universal rack. (rack not included)
- System combines protection and cross connect for 1800 pair on one rack.
- 26 AWG swivel stub serves as fuse link with custom lengths available upon request
- Accommodates industry standard 5 Pin protector modules (ordered separately)
- Includes 25 Pair Amphenol RJ21 connectors for easy transition to the customers premise equipment.
- Includes all necessary hardware, wire management and mounting brackets for trouble-free onsite installation.
- Equipped with external ground lug for building ground connection.
- Designed to exceed the requirements set forth in Underwriters Laboratory's UL497 Primary Protection Code.

RMP1800XLBET - Component List

QTY	Item Description	Input	Output	Order No.
6	RMPXLBET-300	25' 26 AWG	1' Male RJ	332302C75B1RJ
3	RJ Connector Plates	N/A	N/A	332304
6	300 Pair Female Pre-wired Output 110 Blocks	1' Female RJ	110 Block	332305B1.5RJ
6	300 Pair Male Pre-wired Cross Connect 110 Blocks	110 Block	2.5' Male RJ	332306B2.5RJ
6	23" Mounting Bar	N/A	N/A	MM15-0129
3	Small Wire Management Systems	N/A	N/A	MM15-0130
3	Large Wire Management Systems	N/A	N/A	MM15-0131

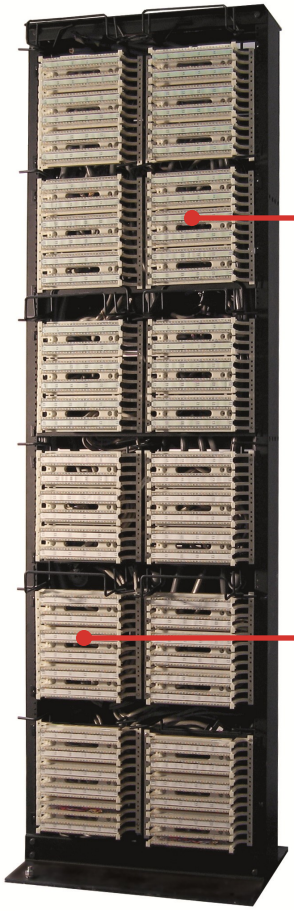
Orders come ready-to-assemble with mounting brackets and hardware.

High Density 23" Rack Mount RMP1800XLBET

25 Pair Amphenol RJ21
Output to Customer Premise
Equipment

(6) RMPXLBET-300 5 Pin
Protection Blocks
Total 1800 Pair

26 AWG Fuse Link Swivel
Stub Input/
RJ21 Male Output
(not shown)



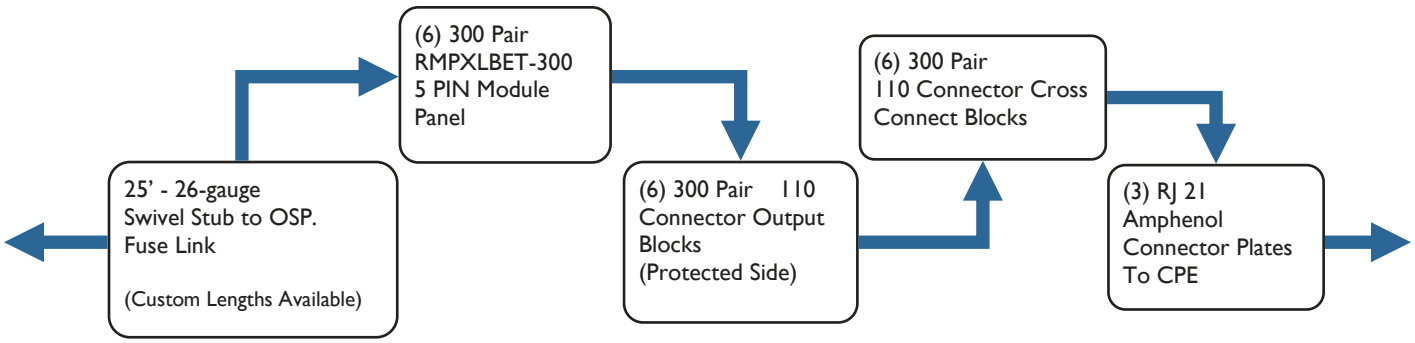
(6) 300 Pair 110 Cross-Connect Blocks.

110 Input/RJ21 Male Output

(6) 300 Pair 110 Protected Output Blocks.

RJ21 Female Input/110 Output

Rear View | **Front View**



Visit **www.circamax.com** for Product Data Sheets and Dimensional Drawings

4486 Central Office Connector
Features and Benefits

The 4486 Central Office Series is designed to protect incoming cable lines from overvoltage and current in Central Office and Private Automatic Branch Exchange environments. Easily mounted on central office frames with 8 in. centers.

- 100 Pair maximum density space- saving unit
- Accepts industry standard 5 Pin protection modules
- Gold plated protector module sockets provide superior electrical contact to eliminate noise problems
- User-friendly front facing cross connect field and test blocks
- Large, well spaced fanning strips allows for clean jumper wire management
- Quick release system on rear cover allows for access to panel field for wire wrap input
- Designed to exceed the requirements set forth in Underwriters Laboratory's UL497
- Dimensions (H" x W" x D") 8.52 x 9.96 x 4.39

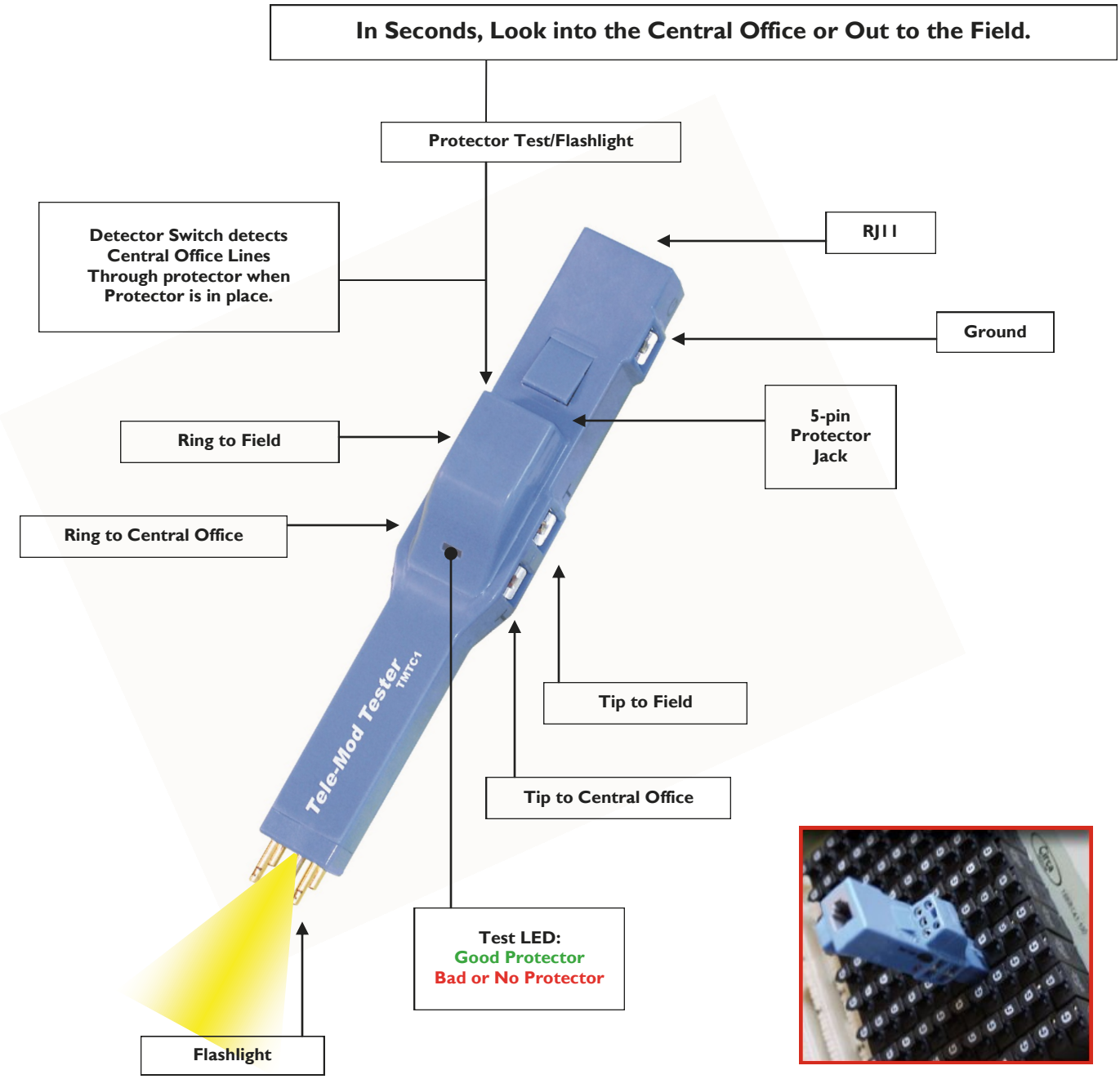
Underwriters Laboratories

Model No./Order No.	Stub Direction	Input	Output	Weight (Lbs)
4486/611001	Stubless	Wire Wrap	IDC Connector	7
4486/622001	Stubless	Wire Wrap	Wire Wrap	7
4486/611012L30	Bottom	30' 24 AWG OSP Air Core Shielded	IDC Connector	19
4486/622012L30	Bottom	30' 24 AWG OSP Air Core Shielded	Wire Wrap	19
4486/611002L30	Top	30' 24 AWG OSP Air Core Shielded	IDC Connector	19
4486/622002L30	Top	30' 24 AWG OSP Air Core Shielded	Wire Wrap	19

Various cable gauges and lengths are available upon request.

Tele-Mod Tester - TMTC1

Troubleshoot cable pairs in seconds with the Tele-Mod Tester from Circa telecom. Look into the Central Office or out to the field. Simply clip a butt set or voltmeter to the metal tabs marked "Tip" and Ring" In to look to the switch. Move the clips to the tabs marked "Tip" and "Ring" Out to look to the field.



Important Time-Saving Tool for Outside Plant Cable Maintenance.

NEMA 4/12 Industrial Enclosures
Features & Benefits

Large - Oil, Dust & Water Tight
EEMAC/NEMA 4/12
Hinged Cover

- For outdoor or indoor use.
- For use on construction sites, industrial facilities, shipping docks, etc.
- Completely weather resistant.
- All seam welded 14-guage construction.
- Built to EEMAC/NEMA 4/12 requirements.
- Grey enamel finish.
- All complete with back plate
- External wall mounting brackets.
- Neoprene Gasket

Order Number						Dimensions	
8" Depth	10" Depth	12" Depth	16" Depth	20" Depth	24" Depth	H" x W'	Panel Size
4ST54428	-	-	-	-	-	54 x 42	51 x 39
4ST60488	4ST604810	4ST604812	4ST604816	4ST604820	4ST604824	60 x 48	57 x 45
-	4ST606010	4ST606012	4ST606416	-	4ST606024	60 x 60	57 x 57
-	4ST726010	4ST726012	4ST726016	4ST726020	4ST726024	72 x 60	69 x 57
-	4ST727210	4ST727212	4ST727216	4ST727220	4ST727224	72 x 72	69 x 69
All boxes available in stainless steel and aluminum.							

NEMA 4/12 Industrial Enclosures

Order Number					Dimensions	
6" Depth	8" Depth	10" Depth	12" Depth	16"Depth	H" x W"	Panel Size
4ST16166	4ST16168	4ST161610	-	-	16 x 16	13 x 13
4ST16206	4ST16208	4ST162010	-	-	16 x 20	13 x 17
4ST20166	4ST20168	4ST201610	-	-	20 x 16	17 x 13
4ST20206	4ST20208	4ST202010	-	-	20 x 20	17 x 17
4ST20246	4ST20248	4ST202410	4ST202412	-	20 x 24	17 x 21
4ST24126	4ST24128	4ST241210	-	-	24 x 12	21 x 9
4ST24166	4ST24168	4ST241610	-	4ST241616	24 x 16	21 x 13
4ST24206	4ST24208	4ST242010	4ST242012	-	24 x 20	21 x 17
4ST24246	4ST24248	-	4ST242412	-	24 x 24	21 x 21
4ST24306	4ST24308	4ST243010	4ST243012	-	24 x 30	21 x 27
4ST30206	4ST30208	4ST302010	4ST302012	-	30 x 20	27 x 17
4ST30246	4ST30248	4ST302410	4ST302412	4ST302416	30 x 24	27 x 21
4ST30366	4ST30368	4ST303610	4ST303612	-	30 x 36	27 x 33
4ST36246	4ST36248	4ST362410	4ST362412	-	36 x 24	33 x 21
4ST36306	4ST36308	4ST363010	-	4ST363016	36 x 30	33 x 27
-	4ST42248	4ST422410	4ST422412	-	42 X 24	39 X 21
-	4ST42308	4ST423010	4ST423012	-	42 x 30	39 x 27
-	4ST42368	4ST423610	4ST423612	-	42 x 36	39 x 33
-	4ST48248	4ST482410	4ST482412	-	48 x 24	45 x 21
-	4ST48308	4ST483010	4ST403012	-	48 x 30	45 x 27
-	4ST48368	4ST483610	4ST483612	4ST483616	48 x 36	45 x 33
-	4ST60368	4ST603610	4ST603612	4ST603616	60 x 36	57 x 33
-	-	-	4ST723012	4ST723016	72 x 30	69 x 27
-	-	-	4ST723612	4ST723616	72 x 36	69 x 33

Custom Enclosures and Cabinets available upon request.

Cross Reference Guide

5 Pin Surge Protection Modules					
Clamping Voltage	Circa	Porta *	CommScope *	Emerson	Bourns
Gas Tube Modules					
350v	3B1E	175BCXN-230	3C1EW	R3C1EJZ	2420-31-GT
Gas Tube Modules with Self-Resetting Current Limiter (PTC)					
350v	4B1E	195BCXN-230	4B1EW	R4C1EJZ *	2440-41-GT
Solid State Modules					
300v	3B1S-300	105SCN-300	3C1S	R3B1S	3B1ES
240v	3B1FS-240	105SCN-240	3C1FS	R3B1FS	3B1FS
30v	3B3S-30	MLVP27	Not Available	Not Available	Not Available
Solid State Modules with Self-Resetting Current Limiter (PTC)					
300v	4B1S-300	115SCN-300	4C1S	R4B1S	4B1ES *
240v	4B1FS-240	115SCN-240	4C1FS	R4B1FS	4B1FS *
75v	4B3S-75	113SCN-75	4C3S-75	Not Available	Not Available
Hybrid Multi-Layer Protection Modules with Self-Resetting Current Limiter (PTC)					
300v	4B6S-300e	195BCDXN-350	9A1AHT **		2410-31-GT **
240v	4B6FS-240e	195BCDXN-230			
75v	4B6S-75e	195BCDXN-75	9A3AHT **		
30v	4B6S-30e	Not Available			
High Speed Data Modules with Self-Resetting Current Limiter (PTC)					
300v	4B6S-300e	Not Available	9A1AHT **		2410-31-GT **
240v	4B6FS-240e	Not Available			
75v	4B6S-75e	MLVP65	9A3AHT **		
30v	4B6S-30e	MLVP27			

* Modules use one-time use Heat Coil for current limiting protection.

** Module does not provide current limiting protection device.

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Cross Reference Guide

Pair Count Cover Options	Indoor Building Entrance Terminals			
	Input	Output	Circa	Porta
100 Pair Open Faced No Cover No Splice	66	66	26100QC/QC	24100-66-M66
	110	110	1880ENA1/NSC-100	24100-110-M110
	BIX	BIX	2100BN-100	Not Available
	Stub	110	1880B1-100	Not Available
	Stub	Stub	1900A1-100	26100-ST-MST
50 Pair Open Faced No Cover No Splice	66	66	2650QC/QC	24050-66-M66
	110	110	1880ENA1/NSC-50	24050-110-M110
	BIX	BIX	2100BN-50	Not Available
	Stub	110	1880B1-50	Not Available
25 Pair Open Faced No Cover No Splice	66	66	2625QC/QC	24025-66-M66
	110	110	1880ENA1/NSC-25	24025-110-M110
	BIX	BIX	2100BN-25	Not Available
	Stub	110	1880B1-25	Not Available
12 Pair No Cover No Splice	66	66	2612QC/QC	512
	110	110	1880ENA1/NSC-12	1512
	BIX	BIX	2100BN-12	Not Available
6 Pair No Cover No Splice	66	66	2606QC/QC	506
	110	110	1880ENA1/NSC-6	1506
	BIX	BIX	2100BN-6	Not Available
100 Pair Cover No Splice	66	66	1890ECT1/NSC-100	25100-66-M66C
	Stub	66	1890BC1-100	25100-ST-M66C
	Stub	Stub	1900-100	26100-ST-MST
50 Pair Cover No Splice	66	66	1890ECT1/NSC-50	25050-66-M66C
	Stub	66	1890BC1-50	25050-ST-M66C
	Stub	Stub	1900-50	26050-66-MST
25 Pair Cover No Splice	66	66	1890ECT1-25	25025-66-M66C
	Stub	66	1890BC1-25	25025-ST-66M
	Stub	Stub	1900-25	26025-66-MST

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Pair Count Cover Options	Indoor Building Entrance Terminals			
	Input	Output	Emerson	CommScope
100 Pair Open Faced No Cover No Splice	66	66	BEPNCC100C	66-BNB1-100
	110	110	BEPNCT100T	110-ANA1-100
	BIX	BIX	NOT AVAILABLE	NOT AVAILABLE
	Stub	110	BEPNCT100SC25	489ACC1-100
	Stub	Stub	R13410025	NOT AVAILABLE
50 Pair Open Faced No Cover No Splice	66	66	BEPNCC50C	66-BNB1-050
	110	110	BEPNCT50T	110-ANA1-050
	BIX	BIX	NOT AVAILABLE	NOT AVAILABLE
	Stub	110	BEPNCT50SC25	489ACC1-050
25 Pair Open Faced No Cover No Splice	66	66	BEPNCC25C	66BNB1-025
	110	110	BEPNCT25T	110-ANA1-025
	BIX	BIX	NOT AVAILABLE	NOT AVAILABLE
	Stub	110	BEPNCT25SC25	489ACC-025
12 Pair No Cover No Splice	66	66	NOT AVAILABLE	66-BNB1-012
	110	110	NOT AVAILABLE	NOT AVAILABLE
	BIX	BIX	NOT AVAILABLE	NOT AVAILABLE
6 Pair No Cover No Splice	66	66	NOT AVAILABLE	66-BNB1-06
	110	110	NOT AVAILABLE	110-ANA1-06
	BIX	BIX	NOT AVAILABLE	NOT AVAILABLE
100 Pair Cover No Splice	66	66	BEPNCC100CC	NOT AVAILABLE
	Stub	66	BEPC100SC25	489BCC1-100
	Stub	Stub	NOT AVAILABLE	NOT AVAILABLE
50 Pair Cover No Splice	66	66	BEPNCC50CC	NOT AVAILABLE
	Stub	66	BEPC50SC25	489BCC1-050
	Stub	Stub	NOT AVAILABLE	NOT AVAILABLE
25 Pair Cover No Splice	66	66	BEPNCC25CC	NOT AVAILABLE
	Stub	66	BEPC25SC26	489BCC1-025
	Stub	Stub	NOT AVAILABLE	NOT AVAILABLE

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Pair Count Cover Options	Indoor Building Entrance Terminals			
	Input	Output	Circa	Porta
100 Pair Cover & Splice Chamber	66	66	1890ECT1-100	24100-66-M66C
	110	110	1880ECA1-100	24100-110-M110C
	MS2	66	1890ECM1-100	Special Order
	MS2	110	1880ECM1-100	Special Order
	710	66	1890ECS1-100	Special Order
	710	110	1880ECS1-100	Special Order
	BIX	BIX	2100SB-100	Not Available
	BIX	Stub	2100SBC-100	Not Available
50 Pair Cover & Splice Chamber	66	66	1890ECT1-50	24050-66-M66C
	110	110	1880ECA1-50	24050-110-M110C
	MS2	66	1890ECM1-50	Special Order
	MS2	110	1880ECM1-50	Special Order
	710	66	1890ECS1-50	Special Order
	710	110	1880ECS1-50	Special Order
	BIX	BIX	2100SB-50	Not Available
	BIX	Stub	2100SBC-50	Not Available
25 Pair Cover & Splice Chamber	66	66	1890ECT1-25	24025-66-M66C
	110	110	1880ECA1-25	24025-110-M110C
	MS2	66	1890ECM1-25	Special Order
	MS2	110	1880ECM1-25	Special Order
	710	66	1890ECS1-25	Special Order
	710	110	1880ECS1-25	Special Order
	BIX	BIX	2100SB-25	Not Available
	BIX	Stub	2100SBC-25	Not Available

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Pair Count Cover Options	Indoor Building Entrance Terminals			
	Input	Output	Emerson	CommScope
100 Pair Cover & Splice Chamber	66	66	BEPC100C	489BCB1-100
	110	110	BEPT100T	489ACA1-100
	MS2	66	BEPC100MM	489BCM1-100
	MS2	110	BEPT100MM	489ACM1-100
	710	66	BEPC100CF	489BCS1-100
	710	110	BEPT100CF	489ACS1-100
	BIX	BIX	BEPAN100N	NOT AVAILABLE
	BIX	Stub	BEPASC100N	NOT AVAILABLE
50 Pair Cover & Splice Chamber	66	66	BEPC50C	489BCB1-050
	110	110	BEPT50T	489ACA1-050
	MS2	66	BEPC50MM	489BCM1-050
	MS2	110	BEPT50MM	489ACM1-050
	710	66	BEPC50CF	489BCS1-050
	710	110	BEPT50CF	489ACS1-050
	BIX	BIX	BEPAN50N	NOT AVAILABLE
	BIX	Stub	BEPASC50N	NOT AVAILABLE
25 Pair Cover & Splice Chamber	66	66	BEPC25C	489BCB1-025
	110	110	BEPT25T	489ACA1-025
	MS2	66	BEPC25MM	489BCM1-025
	MS2	110	BEPT25MM	489ACM1-025
	710	66	BEPT25CF	489BCS1-025
	710	110	BEPT25CF	489ACS1-025
	BIX	BIX	BEPAN25N	NOT AVAILABLE
	BIX	Stub	BEPASC25N	NOT AVAILABLE

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