

Siemon's Z-MAX[®] Network Cabling Solutions

The development of the Z-MAX line began with a simple goal — design and build the best RJ-45 based cabling solution — period.

And “best” was not a vague metric. Z-MAX was built to be best across the board:

- Highest performance margins across all critical transmission parameters
- Fastest, easiest and most reliable termination process
- Superior transmission consistency
- The best customer focused usability, efficiency and ergonomic features

To meet these goals, we did what we have done for over a century — innovate.

As you explore the Z-MAX line, you'll see Siemon innovation at every turn. From our patent-pending Zero-Cross™ termination to the exclusive PCB-based smart plug technology integrated into every Z-MAX cord to our hybrid flat/angled outlets to the easy-to-use Z-TOOL™, no opportunity to improve this family was overlooked.

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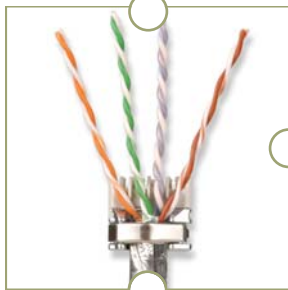
DON'T BLINK

Best-in-class category 6A performance for UTP and Shielded **in as little as 60 seconds.**



1 0:30 sec.

Prepare cable and place into Z-MAX's patent-pending Zero-Cross™ lacing cap. Close hinged cable retention/grounding clip.



2 0:45 sec.

Lace conductor pairs into color-coded linear lacing channels and trim excess.



3 0:60 sec.

Insert lacing cap into Z-MAX outlet and terminate with the one-step Z-TOOL™.



Complete!



Watch Z-MAX termination video at www.siemon.com/us/zmax

Siemon Innovations that make it possible. . .

Highest-Performing Category 6A Systems

	Z-MAX 6A UTP	Z-MAX 6A F/UTP
IL	3%	3%
NEXT	3.0 dB	3.0 dB
PSNEXT	3.5 dB	3.5 dB
ACR-F	7 dB	7 dB
PSACR-F	10 dB	10 dB
RL	3 dB	3 dB
PSANEXT	1 dB	10 dB
PSAACR-F	1 dB	5 dB
ACR-N	6 dB	6 dB
PSACR-N	6.5 dB	6.5 dB

Performance based on use of 24 x 2M cords and 24 port /1U density. Because we continually improve our product, Siemon reserves the right to change specifications and availability without prior notice.

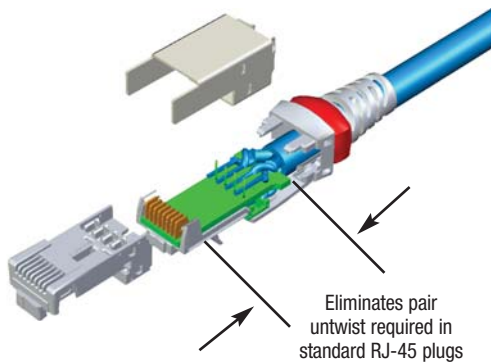
With Z-MAX, Siemon has shattered the RJ-45 barrier. We have achieved best-in-class performance through an innovative “matched” system which combines an optimally tuned plug with a higher performance outlet.

- Best UTP and F/UTP category 6A margins
- Leading performance on all parameters, not just NEXT
- Exceptional alien crosstalk performance
- TIA channel, link and component compliant
- ISO channel, link and component compliant
- Consistent, superior performance, eliminates marginal testing (*PASS)



Patent-Pending Smart Plug Technology

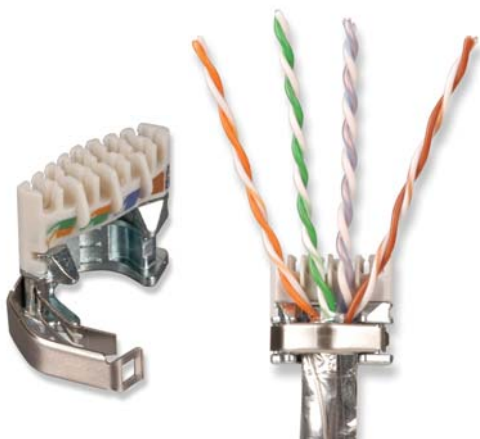
A critical element of Z-MAX systems’ exceptional performance is our smart-plug technology. The Z-MAX smart plug contains a tuned printed circuit board (PCB), normally only found in outlets, to achieve high performance tuning. This advancement in miniaturization has packaged the tuning capability and consistency of a PCB in an industry standard RJ-45 footprint, giving the Z-MAX patch cord unsurpassed performance capabilities.



- Patent pending PCB-based plug enables performance levels not possible with traditional cords
- Narrower NEXT range provides capability to tune to higher channel performance levels
- Advanced contact technology and automated assembly results in decreased performance variability compared with crimp-type plugs
- Smart-Plug is fully backwards-compatible and standards compliant
- PCB-based contacts eliminate pair-crossing condition present in traditional cords

ZeroCross™ Terminations

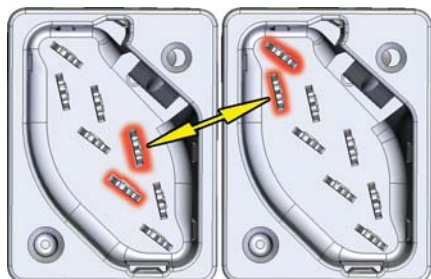
The crossing of cable pairs has long been recognized as a source of variability and performance degradation in connector systems. The linear design of the Z-MAX termination module allows conductors to feed naturally into position without the need for pair crossing.



- Linear design dramatically speeds and simplifies cable prep and conductor alignment
- Removes a significant source of noise and interference present in all other RJ-45 outlets
- Maintains and protects cable pair structure for optimized transmission performance consistency
- Intuitive cable lacing significantly minimizes miswires that lead to costly reworks

Diagonal IDC Contact Orientation

Siemon engineers thought “outside of the box” when they developed our diagonally-oriented IDC contact technology. This unique configuration places contacts on a single plane yet varies the alignment of each individual contact within the Z-MAX outlet. This design provides distinct performance benefits compared with traditional rectangular contact layouts.

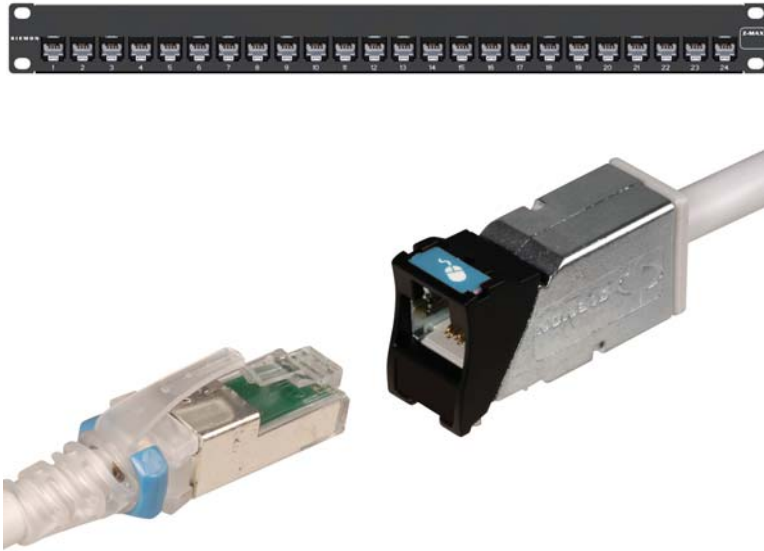


- Maximizes pair-to-pair separation from adjacent outlets to minimize alien crosstalk even in the most dense category 6A patching environments
- Enhances NEXT performance within outlets
- Limits untwist of pairs at termination to maximize cable performance
- Fully enclosed IDC's eliminates exposure of uninsulated conductors

Z-MAX® 6A Shielded System Features and Benefits

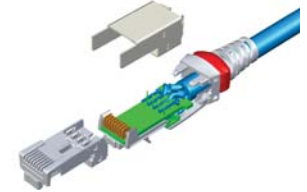
Combining consistent best-in-class performance, unparalleled usability and speed of termination with the security and robust noise immunity of a shielded cabling system, Siemon's Z-MAX 6A shielded end-to-end solution represents the cutting edge of category 6A cabling. The Z-MAX 6A shielded system provides the highest margins on all TIA and ISO performance requirements for category 6A/class E_A, including critical alien crosstalk parameters.

Siemon's Z-MAX 6A shielded channel consists of the shielded Z-MAX 6A outlet, Siemon category 6A F/UTP cable and Z-MAX patch panels as well as shielded, stranded or solid cord options.



Z-TOOL™ Termination

- Fast
- Simple
- Consistent



PCB-based Smart Plug™

Z-MAX cords feature exclusive PCB-based smart plug specifically tuned to maximize overall system performance

Features and Benefits

- Hybrid work area outlets mount in either flat or angled orientation
- Industry's fastest termination time accelerates project completion
- Guided, tool-based termination process enhances system quality and reliability
- Field-terminated outlets or pre-terminated trunking cables can be quickly snapped into patch panels and released to enable rapid deployment or changes
- High density 48 port, 1U options provide the flexibility to work within strict space limitations saving valuable rack and cabinet space
- Integrated Quick-Ground™ outlet shield and panel connections ensures fast and reliable grounding
- Shielded outlet and modular cord color-coding provides the capability to code and customize your cabling system



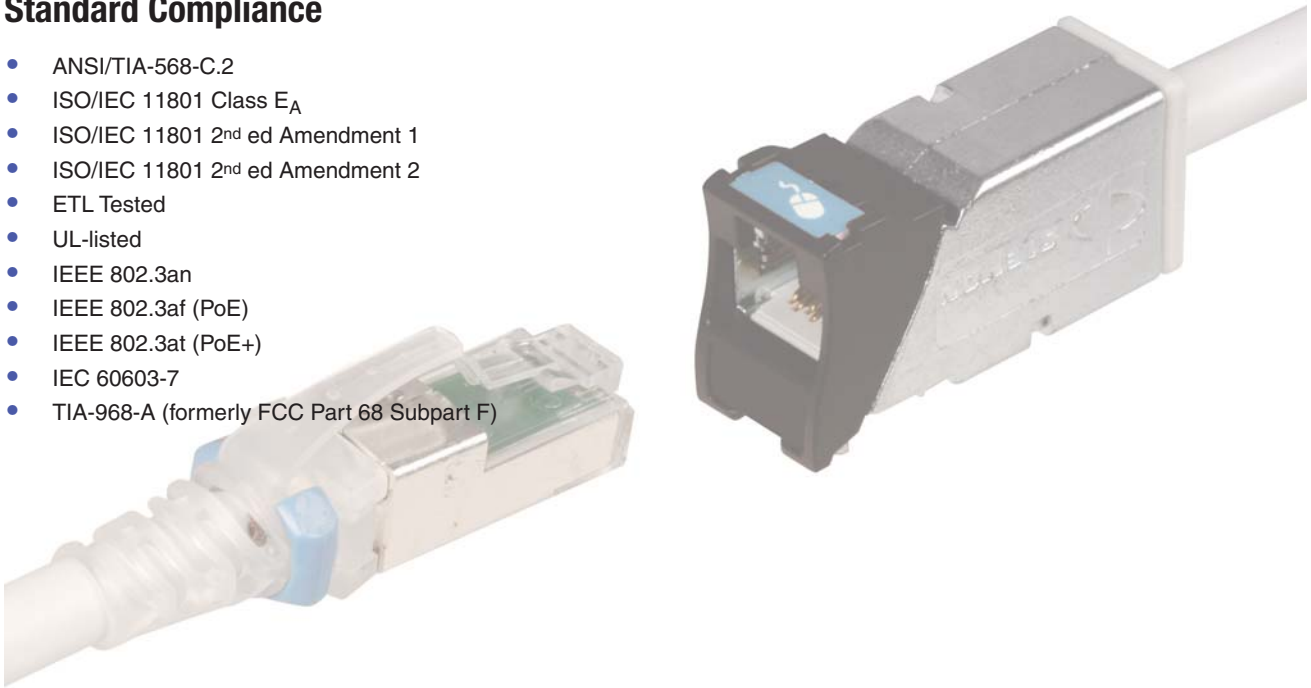
Rapid Deployment

Modular Quick-Snap™ panel design speeds initial deployment and subsequent MACs

System Performance Overview

Standard Compliance

- ANSI/TIA-568-C.2
- ISO/IEC 11801 Class E_A
- ISO/IEC 11801 2nd ed Amendment 1
- ISO/IEC 11801 2nd ed Amendment 2
- ETL Tested
- UL-listed
- IEEE 802.3an
- IEEE 802.3af (PoE)
- IEEE 802.3at (PoE+)
- IEC 60603-7
- TIA-968-A (formerly FCC Part 68 Subpart F)



Z-MAX 6A F/UTP Performance

GUARANTEED 4-CONNECTOR CHANNEL MARGINS TO ISO / IEC 11801 2.1 (1 - 500 MHz)

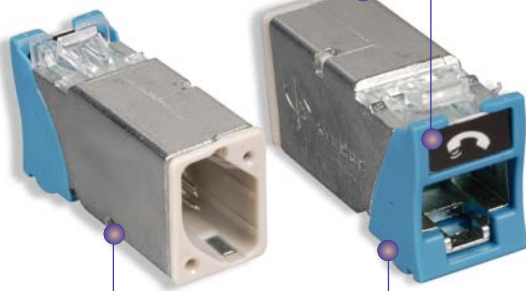
PARAMETER	VALUE
IL	3%
NEXT	3.0 dB
PSNEXT	3.5 dB
ACR-F	7 dB
PSACR-F	10 dB
RL	3 dB
PSANEXT	10 dB
PSAACR-F	5 dB
ACR-N	6 dB
PSACR-N	6.5 dB

Performance based on use of 24 x 2M cords and 24 port /1U density.
Because we continually improve our products, Siemon reserves the right to change specifications and availability without prior notice.

Z-MAX® 6A Shielded Outlets

The shielded Z-MAX outlet offers best-in-class performance in every critical specification, exceeding all category 6A performance requirements, including alien crosstalk. Its innovative features not only speed and simplify termination, but remove installation variability for consistently high and repeatable performance — every termination, every time!

Compact — Slim and side-stackable for high-density applications. Supports “pass-thru” feature to mount from the front or rear of a faceplate



Fastest Termination Time — Zero-Cross™ termination module and Z-TOOL™ termination process combine for best-in-class termination time

Color Coding Capability — Bezel allows outlets to be color coded for customer identification to match faceplates and other mounting accessories

High-Visibility Icon System — Printed icons allow designation for voice / data applications and also provide an additional color coding option

Guided Termination Features — Linear lacing channels guide correct conductor placement while 2-sided color-coding provides wiring verification before and after lacing



Robust Hinged Cable Retention — Clip accommodates multiple cable diameters



Flexibility and Simplified Ordering

A single hybrid outlet supports both angled and flat mounting orientations

Enhanced Shielding Effectiveness

High level of shielded effectiveness exceeds ISO 360 degree shielding requirements via die cast housing and hinged cable retention/grounding clip



100% Jack-to-Jack Plastic Isolation

Plastic bezels prevent contact between metal housings when side stacking to ensure ground quality and ANEXT performance



Quick-Ground™ Termination

Cable shield is automatically terminated to the outlet without additional steps



Spring Door Option

Minimizes exposure to dust and other contaminants.



Ordering Information:

Z6A-S(X)(XX)(X) Shielded Z-MAX 6A outlet, T568A/B

Mounting Style	Bezel Color	Door Option
(Blank) = Hybrid Flat/Angled	01= Black 06= Blue	(Blank) = No Door
K = Keystone	02= White 07= Green	D = Door (Hybrid only)
	03= Red 09= Orange	
	04= Gray 20= Ivory	
	05= Yellow 80= Light Ivory	

Outlet terminates S/FTP, F/FTP and F/UTP cable constructions with 22 – 26 AWG (0.64 – 0.51mm) solid and 26 AWG (0.48mm) stranded conductors, with up to 0.60mm diameter conductors and up to 1.48mm diameter over insulation.

Add “D” to end of part number for spring door option.

ⓐ Add “B” to end of part number for bulk project pack of 100 modules (hybrid modules include icons).

Each Z-MAX 6A hybrid outlet includes 1 printed icon set with the following color/print options.

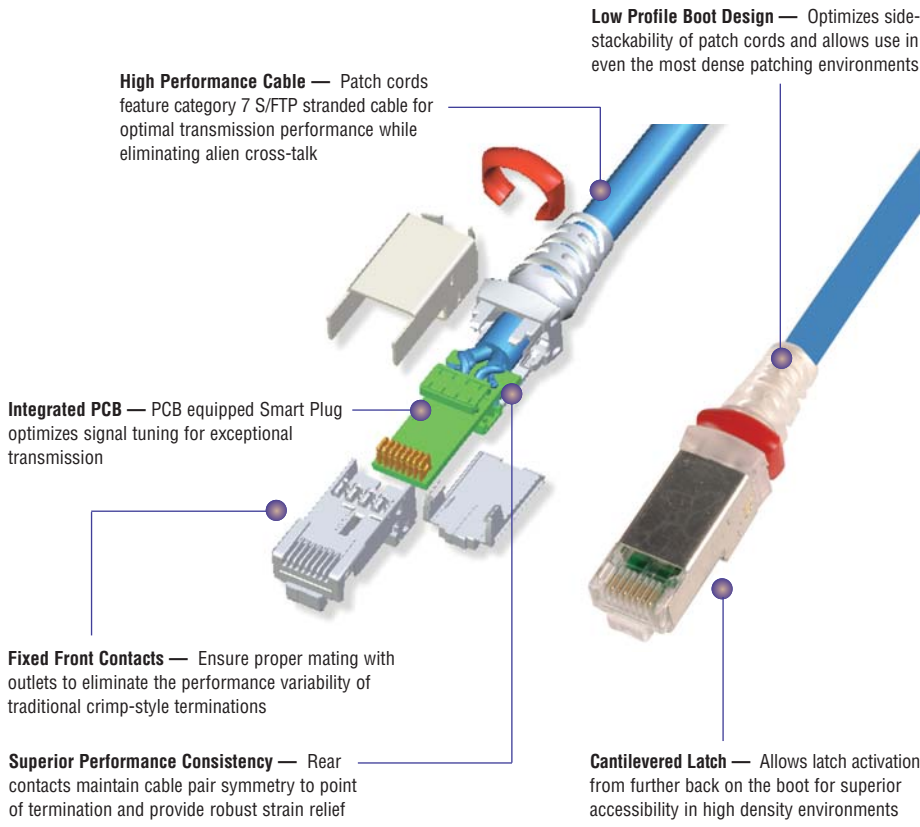


- | | |
|-------------------------------|--------------------------------|
| 1 - Red Data | 1 - Red Voice |
| 1 - Blue Data | 1 - Blue Voice |
| 1 - Bezel Color-matching Data | 1 - Bezel Color-Matching Voice |
| 1 - White Blank | 1 - Bezel Color-Matching Blank |

For more Z-MAX icon colors and options see page 9.5.

Z-MAX® 6A Shielded Modular Cords

Combining the unparalleled performance of an exclusive PCB-based plug, noise-resistant shielded construction and a host of innovative user friendly features, the shielded Z-MAX 6A modular cords are the ultimate category 6A cord. All cords are 100% factory-tested to ensure performance and compliance.



Excellent Bend Relief
Boot ensures proper bend relief, critical for category 6A performance



Colored Clips
Removable clips allow field color coding even when cords are connected



Solid Cord Option
Solid F/UTP assemblies are available for consolidation point and equipment cord applications

Ordering Information:

ZM6A-S(XX)(XX) Z-MAX 6A shielded (S/FTP), double-ended, stranded modular cord, clear boot, T568A/B, dual-listed CMP/LSOH

Length	Jacket Color		
03 = 0.9m (3 ft.)	01 = Black	04 = Gray	07 = Green
05 = 1.5m (5 ft.)	02 = White	05 = Yellow	08 = Violet
07 = 2.1m (7 ft.)	03 = Red	06 = Blue	09 = Orange
10 = 3.1m (10 ft.)			
15 = 4.6m (15 ft.)			
20 = 6.1m (20 ft.)			

ZC6A-S(XX)(X)(X)(X) Z-MAX 6A shielded (F/UTP) solid modular cord, blue jacket, clear boot

Length	Plugs	
	Jacket	Wiring
10 = 3.1m (10 ft.)	(Blank) = Single-ended D = Double-ended (T568A/B)	R = CMR P = CMP
20 = 6.1m (20 ft.)		
30 = 9.1m (30 ft.)		
40 = 12.2m (40 ft.)		
50 = 15.2m (50 ft.)		
60 = 18.3m (60 ft.)		

ⓑ Add "B" to end of part number for bulk project pack of 100 cords.

CLIP-(XX) Color coding clip, bag of 25

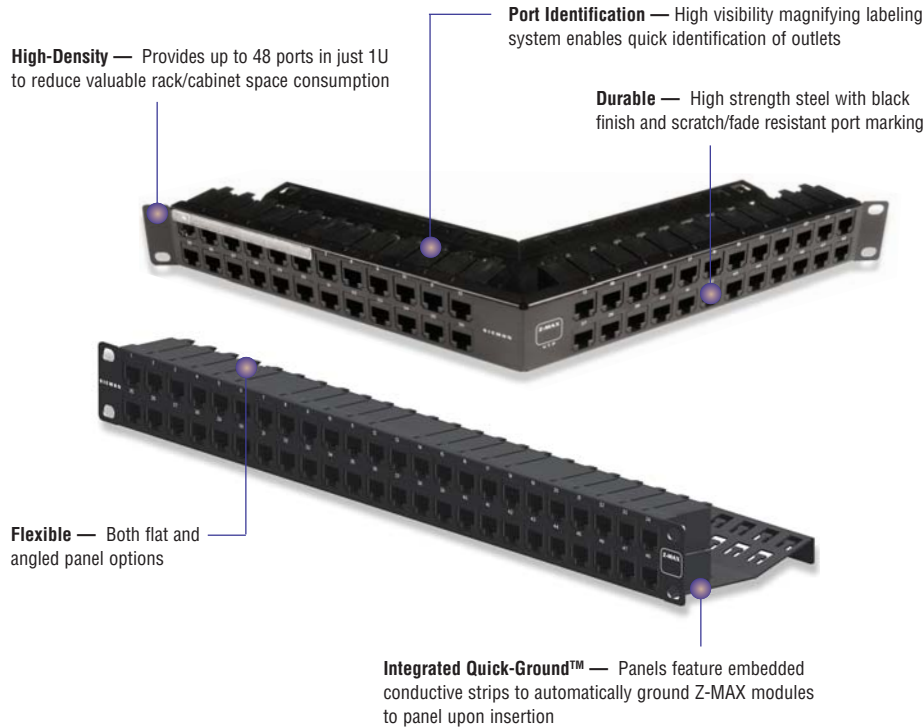
Clip Color		
01 = Black	04 = Gray	07 = Green
02 = White	05 = Yellow	08 = Violet
03 = Red	06 = Blue	09 = Orange



Z-MAX® 6A Shielded Patch Panels

Z-MAX patch panels provide outstanding performance and aesthetics in a shielded, high-density modular solution. The Z-MAX panels provide rapid and reliable installation by accelerating outlet mounting, grounding, and cable tie-down operations.

In addition to traditional 24 port / 1U flat and angled versions, the Z-MAX shielded panels are also available in 48 port / 1U configurations to permit high density installations.



Installation Friendly
Quick-Snap feature allows Z-MAX panel outlets to be quickly inserted and removed



Trunking Applications
Ideal for Trunking applications combine Z-MAX trunk assemblies (with panel outlets) and empty Z-MAX panels for rapid data center deployment



Kits
Panels available as complete kits including patch panel, Z-MAX panel outlets and all necessary accessories. Empty panels are also available for use with Z-MAX trunk assemblies

Ordering Information:

- Z6AS-PNL(X)-24K.....Z-MAX 24-Port, CAT 6A Shielded Patch Panel, Kit, 1 RMS, Black, with Jacks
- Z6AS-PNL(X)-U48K.....Z-MAX 48-Port, CAT 6A Shielded Patch Panel Kit, 1 RMS, Black, with Jacks
- ZS-PNL(X)-24E.....Z-MAX 24-Port Shielded Patch Panel, 1RMS, Black, Empty
- ZS-PNL(X)-U48E.....Z-MAX 48-Port Shielded Patch Panel, 1RMS, Black, Empty

Use (X) to specify mounting style: Blank = Flat, A = Angled

Panels include Z-TOOL*, label / icon holders, designation labels, cable ties, grounding lugs, and mounting hardware.

Note: 1U = 44.5mm (1.75 in.)

* included in kit only



Panel Accessories:

Part #	Description
Z-PNL-PL24	Patch panel label sheet, numbered 1 to 24, bag of 100
Z-PNL-PL48	Patch panel label sheet, numbered 25 to 48, bag of 100
Z-PNL-P	Patch panel label holder, bag of 25
Z6A-SP	Z-MAX 6A shielded panel outlet



Note: Z-MAX shielded patch panels designed for use with Z-MAX shielded panel outlets only

TERA[®]-MAX[®] Patch Panels

TERA-MAX patch panels provide outstanding performance and reliability in a shielded, high-density modular solution. As outlets are snapped into place, resilient ground tabs assure that each outlet is properly grounded for maximum protection from outside interference. No secondary outlet grounding operations are required, reducing overall installation time.

Angled TERA-MAX — Allows direct routing of cables to vertical managers, eliminating the need for horizontal cable managers



Integrated Grounding

Panels feature integrated grounding via resilient Quick-Ground™ tabs automatically engaged during Z-MAX outlet insertion.



Single Outlet Solution

Hybrid (flat/angled) shielded Z-MAX outlets used in the work area are required for use in TERA-MAX panels creating a common outlet solution for all locations



Future Flexibility

TERA-MAX panels also accept TERA outlets to support potential future infrastructure upgrades



High Density — 24 ports in 1U

Port Identification — Bold port numbering enables quick identification of outlets

Durable — High strength steel with black or metallic finish

Ordering Information:

Part #	Description
TM-PNLZ-24-01	24-port TERA-MAX panel, black, 1U
TM-PNLZ-24	24-port TERA-MAX panel, metallic, 1U
TM-PNLZA-24-01	24-port Angled TERA-MAX panel, black, 1U
TM-PNLZA-24	24-port Angled TERA-MAX panel, metallic, 1U

Panels include designation labels, cable ties, grounding lug and mounting hardware.



Note: TERA-MAX panels are designed for use with hybrid (flat/angled) shielded Z-MAX outlets. Also compatible with TERA outlets

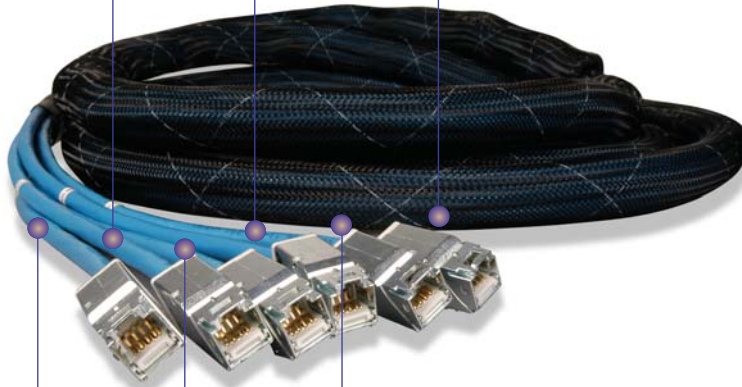
Z-MAX® 6A Shielded Trunking Cable Assemblies

Featuring factory terminated and tested shielded Z-MAX outlets and Siemon category 6A F/UTP cable, Z-MAX 6A shielded copper trunking cable assemblies were designed with data center applications in mind, providing high-performance category 6A performance in a quickly implemented, efficient and cost effective alternative to individual field-terminated components.

Category 6A F/UTP Cable — Utilizes high quality Siemon category 6A F/UTP cable

Identification — Each cable assembly is coded with a unique identification number for administrative purposes

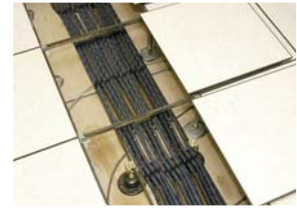
Quick-Ground™ — Shielded Z-MAX 6A outlets are automatically grounded upon insertion into Z-MAX panels



Proper Orientation — Each leg is labeled for proper outlet orientation

Breakout Kit — Unique breakout kit creates optimal cable orientation and limits cable crossing

Factory Terminated and Tested — Utilizes shielded Z-MAX outlet, factory terminated and tested for high performance



Data Centers

Ideal for data centers, raised floor and ladder rack environments enabling up to 75% faster deployment time



Simple Installation

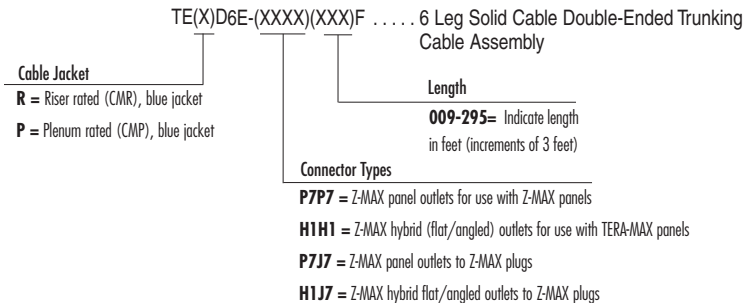
Pre-terminated Z-MAX panel outlets utilize the Quick-Snap feature for easy installation and removal from Z-MAX panels



Protective Packaging

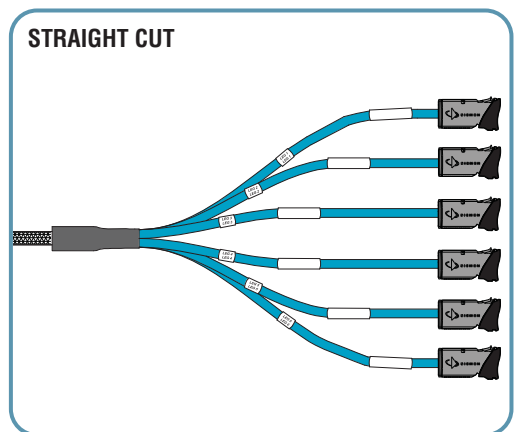
Each assembly is packaged individually to protect factory terminations

Ordering Information:



Standard wiring is T568B. Other lengths and configurations available upon request. Keystone versions also available.

Note: These products are made to order. Call for lead time and part number availability in your region.



Category 6A Shielded BladePatch® Modular Cords

Category 6A shielded BladePatch patch cord offers a unique category 6A solution for high-density patching environments. It features an innovative push-pull boot design to control the latch, enabling easy access and removal of the cord in tight-fitting areas. The BladePatch cord is ideal for patching blade servers, patch panels, or any equipment with high density RJ-45 outlets.

Snagless — Push-pull design eliminates external thumb latch which can snag and break

Backwards Compatible — With category 5e/class D and category 6/class E systems and components

Push-Pull Boot
Activates Latch

Universal Wiring — Compatible with T568A/B wiring schemes

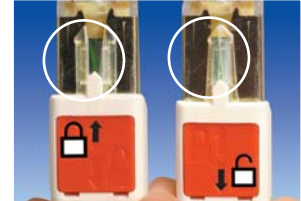
High Performance — Cords feature category 7 S/FTP stranded cable for optimal transmission performance while eliminating alien crosstalk

Revolutionary Design — Patented push-pull latch design eliminates need to defeat thumb latch used in standard modular plug designs. Enables easy access and removal in high density patching environments

Low Profile Boot Design — Optimizes side-stackability of patch cords and allows use in even the most dense equipment



Universal Compatibility
Fits within any standard RJ-45 outlet.



Revolutionary Latch
Simply push the boot forward to latch into the outlet and pull back to release.



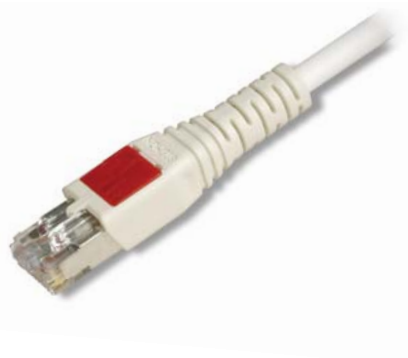
High Density
The push-pull design enables easy access and removal via the push/pull boot in tight-fitting areas.

Ordering Information:

Shielded category 6A BladePatch LSOH, double-ended, RJ-45 modular patch cord with push-pull latching design, color matching cord/boot T568A/B.

10GBPS-(XX)M-(XX)L

Cord Length:	Cord Color:
01 = 1m (3.3 ft.)	01 = Black
1.5 = 1.5m (4.9 ft.)	02 = White
02 = 2m (6.6 ft.)	03 = Red
03 = 3m (9.8 ft.)	04 = Gray
04 = 4m (13.1 ft.)	05 = Yellow
05 = 5m (16.4 ft.)	06 = Blue
	07 = Green



The use of Category 6A shielded BladePatch modular cords will provide Category 6A channel performance if used in a Z-MAX 6A system.

Z-MAX 6A warranty margins do not apply.

Siemon Category 6A F/UTP 4-Pair Cable (North America)

CABLE CONSTRUCTION

- F/UTP
- 0.57mm (0.023 in.) (23 AWG) solid bare copper
- 7.4mm (0.29 in.) nom. jacket diameter
- Central isolation member
- Shield is an aluminum foil tape enclosing a 0.51mm (0.20 in.) (24 AWG) tinned copper drain wire

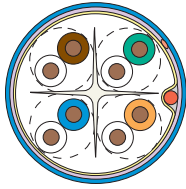
COMPLIANCE

- ISO/IEC 11801
- ANSI/TIA-568-C.2
- UL CMR and CSA FT4
- UL CMP and CSA FT6

PHYSICAL PROPERTIES

	CMP	CMR
Pulling Tension (max)	110N (25 lbf)	110N (25 lbf)
Bend Radius (min)	50mm (2.0 in.)	50mm (2.0 in.)
Installation Temperature	0 to 60°C (+32 to 140°F)	0 to 60°C (+32 to 140°F)
Storage Temperature	-20 to 75°C (-4 to 167°F)	-20 to 75°C (-4 to 167°F)
Operating Temperature	-20 to 60°C (-4 to 140°F)	-20 to 60°C (-4 to 140°F)

Ordering Information:



9A6(X)4-A5-(XX)-R1A 305m (1000 ft.) Reel (North America Only)

Jacket Color

- 01 = Black 04 = Gray 07 = Green
- 02 = White 05 = Yellow 08 = Violet
- 03 = Red 06 = Blue 09 = Orange

Jacket Material

- P = Plenum (CMP, CSA FT6)
- R = Riser (CMR, CSA FT4)



Lead time and minimum order quantities may vary by cable type. Please contact Customer Service for details.

TRANSMISSION PERFORMANCE

GUARANTEED WORST CASE SIEMON TYPICAL

Frequency (MHz)	Insertion Loss (dB)		NEXT (dB)		PS NEXT (dB)		ACR (dB)		PSACR (dB)		ACR-F (dB)		PS ACR-F (dB)		Return Loss (dB)		Propagation Delay (ns)	
	Guaranteed	Siemon Typical	Guaranteed	Siemon Typical	Guaranteed	Siemon Typical	Guaranteed	Siemon Typical	Guaranteed	Siemon Typical	Guaranteed	Siemon Typical	Guaranteed	Siemon Typical	Guaranteed	Siemon Typical	Guaranteed	Siemon Typical
1.0*	2.0	1.8	74.3	86.0	72.3	82.3	72.3	84.2	70.3	80.5	67.8	91.0	64.8	85.0	20.0	33.0	570	545
4.0	3.8	3.4	65.3	77.0	63.3	73.3	61.5	73.6	59.5	69.9	55.8	79.0	52.8	73.0	23.0	35.5	552	527
10.0	6.0	5.4	59.3	71.0	57.3	67.3	53.3	65.6	51.3	61.9	47.8	71.0	44.8	65.0	25.0	38.0	545	520
16.0	7.6	6.9	56.2	68.0	54.2	64.2	46.7	61.1	46.7	57.3	43.7	67.0	40.7	61.0	25.0	35.2	543	518
20.0	8.5	7.7	54.8	67.0	52.8	62.8	46.3	59.3	44.3	55.1	41.8	65.0	38.8	59.0	25.0	35.0	542	517
31.25	10.7	9.9	51.9	64.0	49.9	59.9	41.2	54.1	39.2	50.0	37.9	61.0	34.9	55.0	23.6	33.1	540	515
62.5	15.4	14.3	47.4	59.0	45.4	55.4	32.0	44.7	30.0	41.1	31.9	55.0	28.9	49.0	21.5	32.2	539	514
100.0	19.8	18.1	44.3	56.0	42.3	52.0	24.5	37.9	22.5	33.9	27.8	51.0	24.8	45.0	20.1	31.6	538	513
200.0	29.0	27.3	39.8	52.0	37.8	47.8	10.8	24.7	8.8	20.5	21.8	45.0	18.8	39.0	18.0	29.8	537	512
250.0	32.8	31.1	38.3	50.0	36.3	46.0	5.5	18.9	3.5	14.9	19.8	43.0	16.8	37.0	17.3	28.7	536	511
300.0	36.4	35.0	37.1	49.0	35.1	45.0	0.7	14.0	-1.3	10.0	18.3	38.0	15.3	35.0	16.8	28.0	536	511
400.0	43.0	40.0	35.3	47.0	33.3	43.0	-7.7	7.0	-9.7	3.0	15.8	36.0	12.8	33.0	15.9	27.1	536	511
500.0	48.9	42.0	33.8	47.0	31.8	42.0	-15.1	5.0	-17.1	0.0	13.8	34.0	10.8	32.0	15.2	26.0	536	510
550.0*	51.8	43.0	33.2	46.0	31.2	42.0	-18.6	3.0	-20.6	-1.0	13.0	33.0	10.0	31.0	14.9	26.0	536	510
625.0*	55.8	44.9	32.4	46.0	30.4	41.0	-23.5	1.1	-25.5	-3.9	11.9	33.0	8.9	29.0	14.5	25.0	535	505
750.0*	62.3	49.0	31.2	45.0	29.2	41.0	-31.1	-4.0	-33.1	-8.0	10.3	32.0	7.3	27.0	14.0	25.0	535	504

*Values for frequencies above industry requirements are for information only.

All performance based on 100 meters (328 ft.).

Please see www.siemon.com/e-catalog for more global cable options



Siemon Category 6A F/UTP 4-Pair Cable (South/Central America)

CABLE CONSTRUCTION

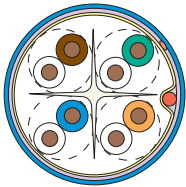
- F/UTP
- 0.57mm (0.023 in.) (23 AWG) solid bare copper
- 7.4mm (0.29 in.) nom. jacket diameter
- Central isolation member
- Shield is an aluminum foil tape enclosing a 0.51mm (0.20 in.) (24 AWG) tinned copper drain wire

COMPLIANCE

- ISO/IEC 11801
- ANSI/TIA-568-C.2
- UL CM and IEC 60332-1
- UL CMR and CSA FT4
- LSOH IEC 60332-1, IEC 60754, IEC 61034

PHYSICAL PROPERTIES

	LSOH	CM/CMR
Pulling Tension (max)	110N (25 lbf)	110N (25 lbf)
Bend Radius (min)	50mm (2.0 in.)	50mm (2.0 in.)
Installation Temperature	0 to 60°C (+32 to 140°F)	0 to 60°C (+32 to 140°F)
Storage Temperature	-20 to 75°C (-4 to 167°F)	-20 to 75°C (-4 to 167°F)
Operating Temperature	-20 to 60°C (-4 to 140°F)	-20 to 60°C (-4 to 140°F)

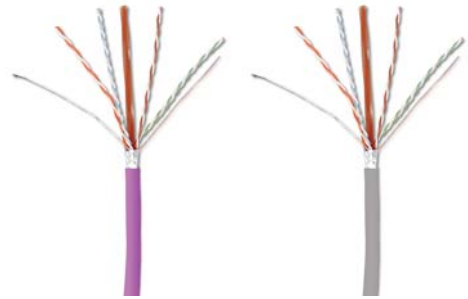


Ordering Information:

9A6(X)4-A5 305m (1000 ft.) Reel (South/Central America Only)

Jacket Material

- M** = PVC (CM, IEC 60332-1), Gray Jacket
- R** = Riser (CMR, CSA FT4), Blue Jacket
- L** = LSOH (IEC 60332-1), Violet Jacket



TRANSMISSION PERFORMANCE

ANSI/TIA & ISO/IEC

SIEMON TYPICAL

Frequency (MHz)	Insertion Loss (dB)		NEXT (dB)		PS NEXT (dB)		ACR (dB)		PSACR (dB)		ACR-F (dB)		PS ACR-F (dB)		Return Loss (dB)		Propagation Delay (ns)	
	ANSI/TIA & ISO/IEC	SIEMON TYPICAL	ANSI/TIA & ISO/IEC	SIEMON TYPICAL	ANSI/TIA & ISO/IEC	SIEMON TYPICAL	ANSI/TIA & ISO/IEC	SIEMON TYPICAL	ANSI/TIA & ISO/IEC	SIEMON TYPICAL	ANSI/TIA & ISO/IEC	SIEMON TYPICAL	ANSI/TIA & ISO/IEC	SIEMON TYPICAL	ANSI/TIA & ISO/IEC	SIEMON TYPICAL		
1.0*	2.0	1.8	74.3	86.0	72.3	82.3	72.3	84.2	70.3	80.5	67.8	91.0	64.8	85.0	20.0	33.0	570	545
4.0	3.8	3.4	65.3	77.0	63.3	73.3	61.5	73.6	59.5	69.9	55.8	79.0	52.8	73.0	23.0	35.5	552	527
10.0	6.0	5.4	59.3	71.0	57.3	67.3	53.3	65.6	51.3	61.9	47.8	71.0	44.8	65.0	25.0	38.0	545	520
16.0	7.6	6.9	56.2	68.0	54.2	64.2	46.7	61.1	46.7	57.3	43.7	67.0	40.7	61.0	25.0	35.2	543	518
20.0	8.5	7.7	54.8	67.0	52.8	62.8	46.3	59.3	44.3	55.1	41.8	65.0	38.8	59.0	25.0	35.0	542	517
31.25	10.7	9.9	51.9	64.0	49.9	59.9	41.2	54.1	39.2	50.0	37.9	61.0	34.9	55.0	23.6	33.1	540	515
62.5	15.4	14.3	47.4	59.0	45.4	55.4	32.0	44.7	30.0	41.1	31.9	55.0	28.9	49.0	21.5	32.2	539	514
100.0	19.8	18.1	44.3	56.0	42.3	52.0	24.5	37.9	22.5	33.9	27.8	51.0	24.8	45.0	20.1	31.6	538	513
200.0	29.0	27.3	39.8	52.0	37.8	47.8	10.8	24.7	8.8	20.5	21.8	45.0	18.8	39.0	18.0	29.8	537	512
250.0	32.8	31.1	38.3	50.0	36.3	46.0	5.5	18.9	3.5	14.9	19.8	43.0	16.8	37.0	17.3	28.7	536	511
300.0	36.4	35.0	37.1	49.0	35.1	45.0	0.7	14.0	-1.3	10.0	18.3	38.0	15.3	35.0	16.8	28.0	536	511
400.0	43.0	40.0	35.3	47.0	33.3	43.0	-7.7	7.0	-9.7	3.0	15.8	36.0	12.8	33.0	15.9	27.1	536	511
500.0	48.9	42.0	33.8	47.0	31.8	42.0	-15.1	5.0	-17.1	0.0	13.8	34.0	10.8	32.0	15.2	26.0	536	510
550.0*	51.8	43.0	33.2	46.0	31.2	42.0	-18.6	3.0	-20.6	-1.0	13.0	33.0	10.0	31.0	14.9	26.0	536	510
625.0*	55.8	44.9	32.4	46.0	30.4	41.0	-23.5	1.1	-25.5	-3.9	11.9	33.0	8.9	29.0	14.5	25.0	535	505
750.0*	62.3	49.0	31.2	45.0	29.2	41.0	-31.1	-4.0	-33.1	-8.0	10.3	32.0	7.3	27.0	14.0	25.0	535	504

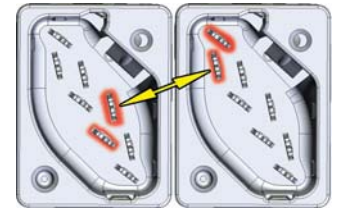
*Values for frequencies above industry requirements are for information only.

All performance based on 100 meters (328 ft.).

Z-MAX® 6A UTP System Features and Benefits

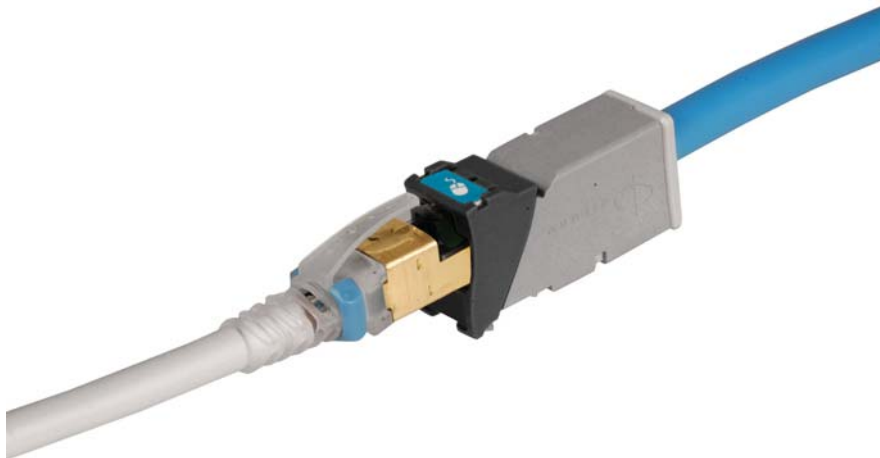
Siemon's Z-MAX 6A UTP solution was developed from the ground up with a single goal: shattering the limitations of category 6A UTP cabling as we know it today. Combining patented PCB-based Smart Plugs, optimized outlets and high-density patch panels, the Z-MAX 6A UTP system provides outstanding margin on all TIA and ISO performance requirements for category 6A/class E_A, including critical alien crosstalk parameters.

And, the innovative Z-TOOL™ termination process eliminates the variability of field terminations, providing faster, more user-friendly and less-error-prone category 6A UTP installations.



Optimized For Alien Crosstalk Elimination

Diagonal IDC alignment maximizes outlet to outlet pair separation to achieve AXT performance in high-density environments



PCB-Based Smart Plug

Exclusive PCB-based Smart Plug is specifically tuned to maximize overall system performance

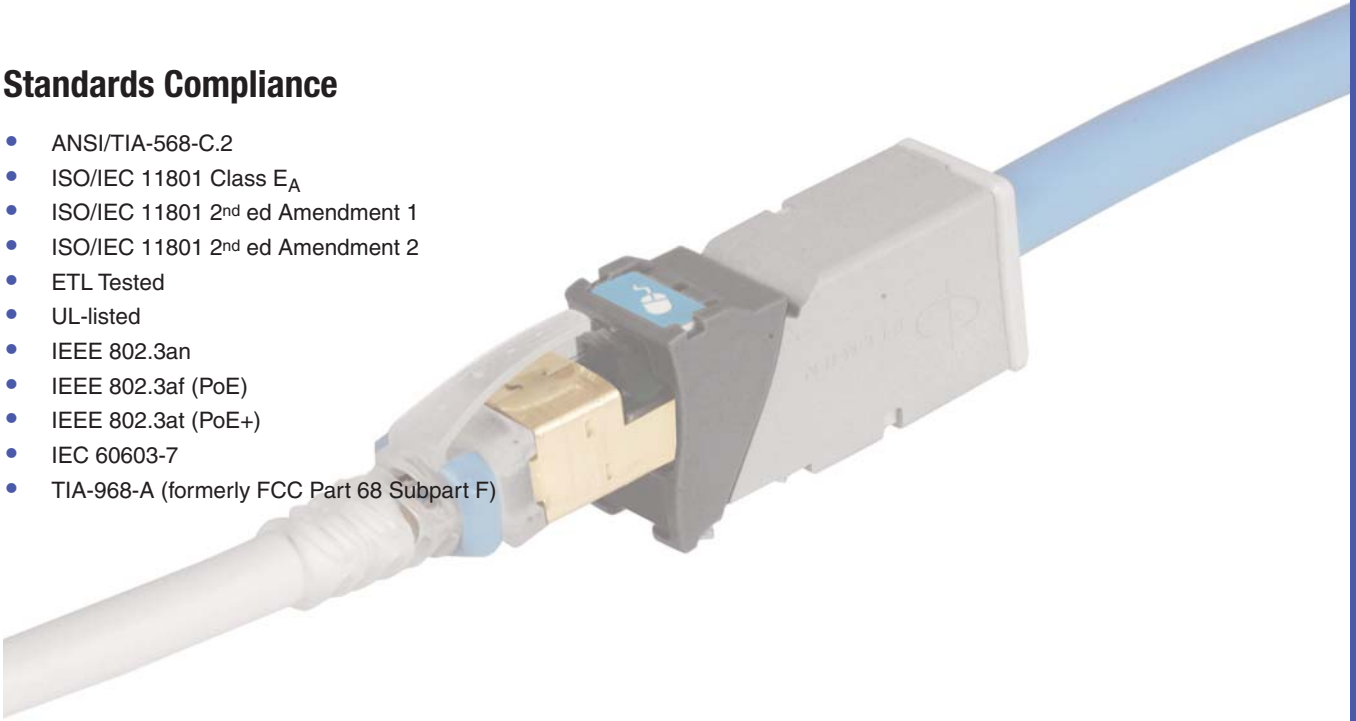
Features and Benefits

- High density 48 port, 1U panels provide the flexibility to maximize rack/cabine space while maintaining excellent alien crosstalk isolation
- Industry's fastest termination time accelerates project completion
- Guided, tool-based termination process enhances system quality and reliability
- Hybrid work area outlets can be mounted in either flat or angled orientation
- Field-terminated outlets or pre-terminated trunking cables can be quickly snapped into patch panels and released enabling rapid deployment or changes
- Outlet and modular cord color-coding provides the capability to code and customize your cabling system

System Performance Overview

Standards Compliance

- ANSI/TIA-568-C.2
- ISO/IEC 11801 Class E_A
- ISO/IEC 11801 2nd ed Amendment 1
- ISO/IEC 11801 2nd ed Amendment 2
- ETL Tested
- UL-listed
- IEEE 802.3an
- IEEE 802.3af (PoE)
- IEEE 802.3at (PoE+)
- IEC 60603-7
- TIA-968-A (formerly FCC Part 68 Subpart F)



Z-MAX 6A UTP Performance

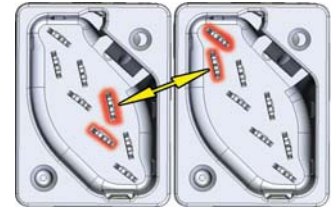
GUARANTEED 4-CONNECTOR CHANNEL MARGINS TO ISO / IEC 11801 2.1 (1 - 500 MHz)

PARAMETER	VALUE
IL	3%
NEXT	3.0 dB
PSNEXT	3.5 dB
ACR-F	7 dB
PSACR-F	10 dB
RL	3 dB
PSANEXT	1 dB
PSAACR-F	1 dB
ACR-N	6 dB
PSACR-N	6.5 dB

Performance is based on the use of 24 x 2M cords and 24port/1U density.
Because we continually improve our product, Siemon reserves the right to change specifications and availability without prior notice.

Z-MAX® 6A UTP Outlets

The category 6A UTP Z-MAX outlet offers best-in-class performance in every critical specification, exceeding all category 6A performance requirements, including alien crosstalk. Its innovative features not only accelerate and simplify termination, but remove installation variability for consistently high and repeatable performance — every termination, every time!



Optimized For Alien Crosstalk Isolation

Diagonal IDC alignment maximizes outlet to outlet pair separation to achieve AXT performance in high-density environments

Compact — Slim and side-stackable for high-density applications. Supports “pass-thru” feature to mount from the front or rear of a faceplate

Guided Termination Features — Lacing channels guide correct conductor placement while 2-sided color-coding provides wiring verification before and after lacing



Enclosed IDC Terminations — IDC terminations are fully enclosed in the outlet housing for robust protection



Robust Hinged Cable Retention — Hinged clip accommodates multiple cable diameters



High-Visibility Icon System — Printed icons allow designation for voice / data applications and also provide an additional color coding option

Fastest Termination Time — Zero-Cross™ termination module and 2-step Z-TOOL™ termination process combine for best-in-class termination time



Flexibility and Simplified Ordering

A single hybrid outlet supports both angled and flat mounting orientations

Ordering Information:

Z6A-(X)(XX)(X) UTP Z-MAX 6A outlet, T568A/B

Mounting Style	Bezel Color	Door Option
(Blank) = Hybrid Flat/Angled	01 = Black 06 = Blue	(Blank) = No Door
K = Keystone	02 = White 07 = Green	D = Door (Hybrid only)
	03 = Red 09 = Orange	
	04 = Gray 20 = Ivory	
	05 = Yellow 80 = Light Ivory	



Spring Door Option

Minimizes exposure to dust and other contaminants.

Outlet terminates UTP cable constructions with 23 – 26 AWG (0.64 – 0.51mm) solid and 26 AWG (0.48mm) stranded conductors, with up to 0.60mm diameter conductors and up to 1.48mm diameter over insulation.

Each Z-MAX 6A UTP hybrid flat/angled outlet includes 1 printed icon set with the following color/print options.

ⓑ Add “B” to end of part number for bulk project pack of 100 modules (hybrid modules include Icons).



- | | |
|-------------------------------|--------------------------------|
| Front | Rear |
| 1 - Red Data | 1 - Red Voice |
| 1 - Blue Data | 1 - Blue Voice |
| 1 - Bezel Color-matching Data | 1 - Bezel Color-Matching Voice |
| 1 - White Blank | 1 - Bezel Color-Matching Blank |



Z-MAX 6A UTP outlets utilize 10G MAX faceplates and cannot be side-stacked in standard MAX faceplates.

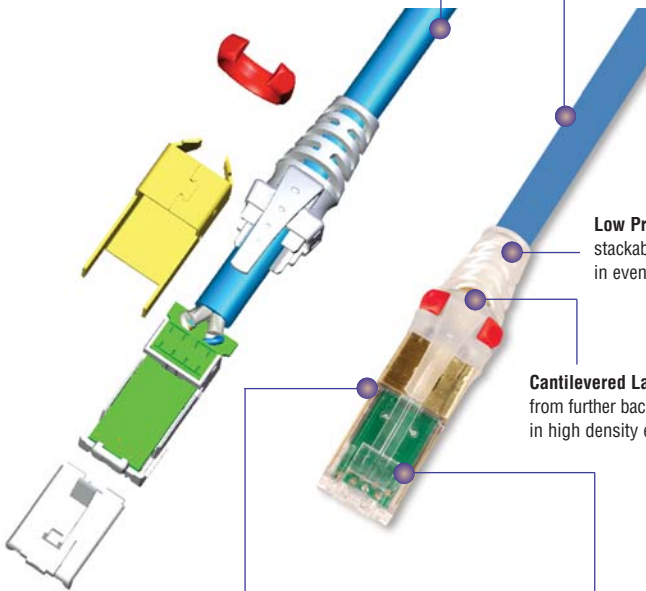
For more Z-MAX icon colors and options see page 9.5.

Z-MAX® 6A UTP Modular Cords

Combining the unparalleled performance of an exclusive PCB-based smart plug, alien crosstalk resistant construction and a host of innovative end-user features, Z-MAX 6A UTP modular cord sets the bar for category 6A UTP patching.

High Performance Cable — Z-MAX 6A UTP cords feature dual jacket construction for excellent alien crosstalk performance

Solid Cord Option — Solid UTP cords are available for consolidation point and equipment cord applications



Low Profile Boot Design — Optimizes side-stackability of modular cords and allows use in even the most dense equipment

Cantilevered Latch Guard — Allows latch activation from further back on the boot for superior accessibility in high density environments

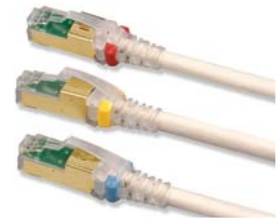
Superior Performance Consistency — Precision PCB-based conductor terminations eliminate the performance variability of traditional direct wire to contacts

Integrated PCB — PCB equipped Smart Plugs optimize signal tuning for exceptional transmission



100% Factory-Tested

Cords are 100% transmission tested to ensure compliance with applicable standards requirements



Colored Clips

Removable clips allow field color coding even when cords are connected



Excellent Bend Relief

Boot ensures proper bend relief, critical for category 6A performance

Ordering Information:

ZM6A-(XX)(XX) Z-MAX 6A UTP, double-ended, stranded modular cord, clear boot, T568A/B, CMG

Length	Jacket Color
03 = 0.9m (3 ft.)	01 = Black 05 = Yellow
05 = 1.5m (5 ft.)	02 = White 06 = Blue
07 = 2.1m (7 ft.)	03 = Red 07 = Green
10 = 3.1m (10 ft.)	04 = Gray 09 = Orange
15 = 4.6m (15 ft.)	
20 = 6.1m (20 ft.)	

ZC6A-(XX)(X)(X)(X) Z-MAX 6A UTP, solid modular cord, blue jacket, clear boot

Length	Plugs
10 = 3.1m (10 ft.)	(Blank) = Single-ended
20 = 6.1m (20 ft.)	D = Double-ended (T568A/B)
30 = 9.1m (30 ft.)	
40 = 12.2m (40 ft.)	Jacket
50 = 15.2m (50 ft.)	R = CMR
60 = 18.3m (60 ft.)	P = CMP
	Wiring
	A = T568B
	T = T568A

Ⓢ Add "B" to end of part number for bulk project pack of 100 cords.

CLIP-(XX) Color coding clip, bag of 25

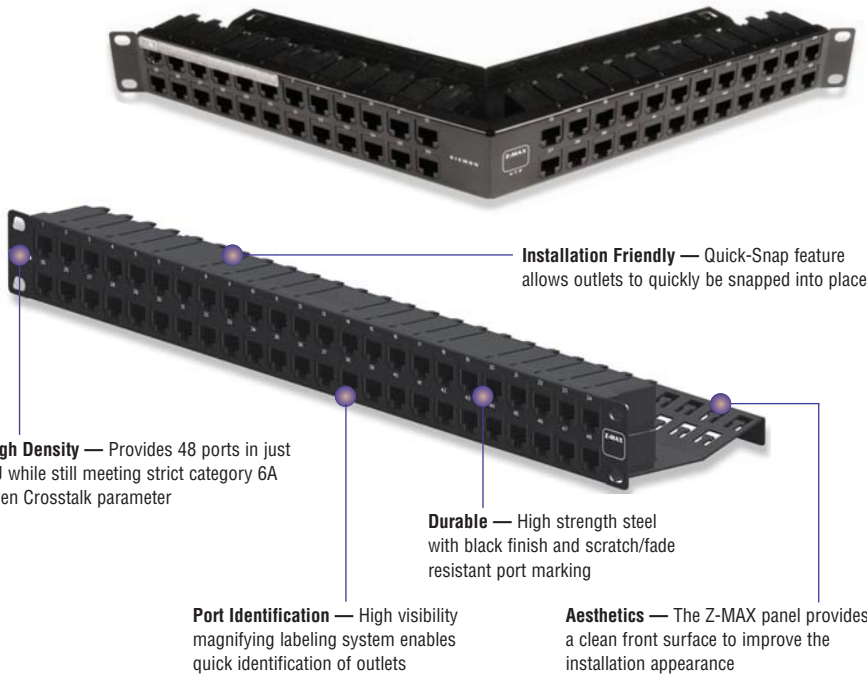
Clip Color
01 = Black 04 = Gray 07 = Green
02 = White 05 = Yellow 08 = Violet
03 = Red 06 = Blue 09 = Orange



Z-MAX® 6A UTP Patch Panels

Z-MAX patch panels provide outstanding 10 Gb/s performance and aesthetics in a high-density, modular UTP solution. The Z-MAX UTP panels provide rapid and reliable installation by accelerating module mounting, and cable tie-down operations.

In addition to traditional 24 port / 1U flat and angled versions, the Z-MAX UTP panels are also available in 48 port / 1U configurations to permit high density installations.



Kits

Panels available as complete kits including patch panel, Z-MAX panel outlets and all necessary accessories. Empty panels are also available for use with Z-MAX trunk assemblies



Ideal for Trunking Applications

Combine Z-MAX trunk assemblies (with preterminated panel outlets) and empty Z-MAX panels for rapid data center deployment



Integrated Cable Management

Ensures proper cable management practices for all installations, critical to category 6A performance

Ordering Information:

- Z6A-PNL(X)-24KZ-MAX 24-Port, CAT 6A UTP Patch Panel, Kit, 1 RMS, Black, with Jacks
- Z6A-PNL(X)-U48K.....Z-MAX 48-Port, CAT 6A UTP Patch Panel Kit, 1 RMS, Black, with Jacks
- Z-PNL(X)-24E.....Z-MAX 24-Port UTP Patch Panel, 1RMS, Black, Empty
- Z-PNL(X)-U48E.....Z-MAX 48-Port UTP Patch Panel, 1RMS, Black, Empty

Use (X) to specify mounting style: Blank = Flat, A = Angled

Panels include Z-TOOL*, label / icon holders, designation labels, cable ties, and mounting hardware.

Note: 1U = 44.5mm (1.75 in.)

* included in kit only



Panel Accessories:

Part #	Description
Z-PNL-PL24	Patch panel label sheet, numbered 1 to 24, bag of 100
Z-PNL-PL48	Patch panel label sheet, numbered 25 to 48, bag of 100
Z-PNL-PS	Patch panel label holder, bag of 25
Z6A-P	Z-MAX 6A UTP panel outlet



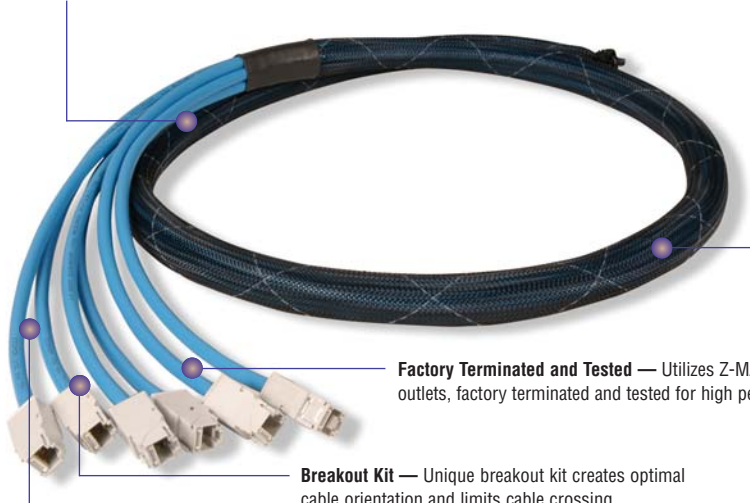
Note: Z-MAX UTP patch panels are designed for use with Z-MAX UTP panel outlets only

Z-MAX® 6A UTP Trunking Cable Assemblies

Siemon's Z-MAX 6A UTP trunking cable assemblies provide an easily installed and cost effective alternative to individual field-terminated channels. Combining factory terminated and tested Z-MAX outlets with Siemon's category 6A UTP cable in a high-performance modular cable assembly, Z-MAX 6A UTP trunking cable assemblies are designed to simplify the installation of category 6A systems in data centers and other high-density high-performance environments.

Identification — Each cable assembly is coded with a unique identification number for administrative purposes

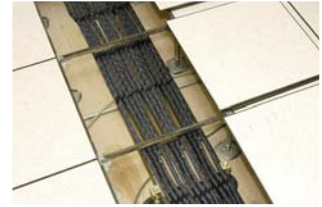
Siemon Category 6A UTP Cable — Utilizes high quality Siemon category 6A UTP cable



Factory Terminated and Tested — Utilizes Z-MAX 6A UTP outlets, factory terminated and tested for high performance

Breakout Kit — Unique breakout kit creates optimal cable orientation and limits cable crossing

Proper Orientation — Each leg is cut and labeled for proper module orientation



Data Centers

Ideal for Data Centers, raised floor and ladder rack environments enabling up to 75% faster deployment time



Simple Installation

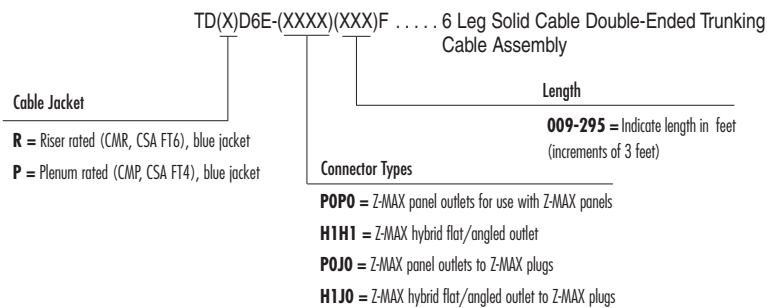
Pre-terminated Z-MAX panel outlets utilize the Quick-Snap feature for easy installation and removal from Z-MAX panels



Protective Packaging

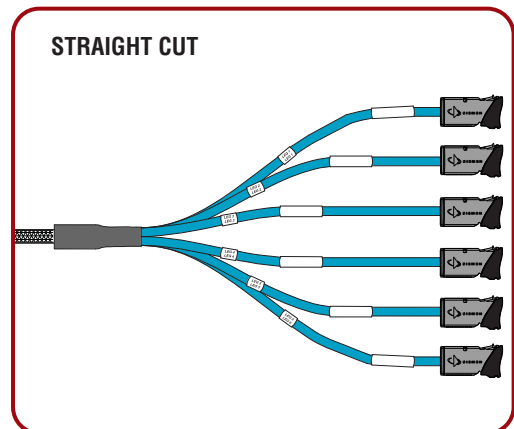
Each assembly is packaged individually to protect factory terminations

Ordering Information:



Standard wiring is T568B. Other lengths and configurations available upon request. Keystone versions also available.

Note: These products are made to order. Call for lead time and part number availability in your region.

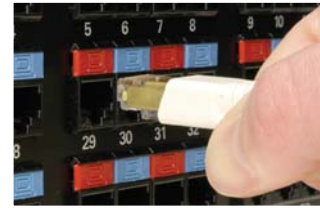
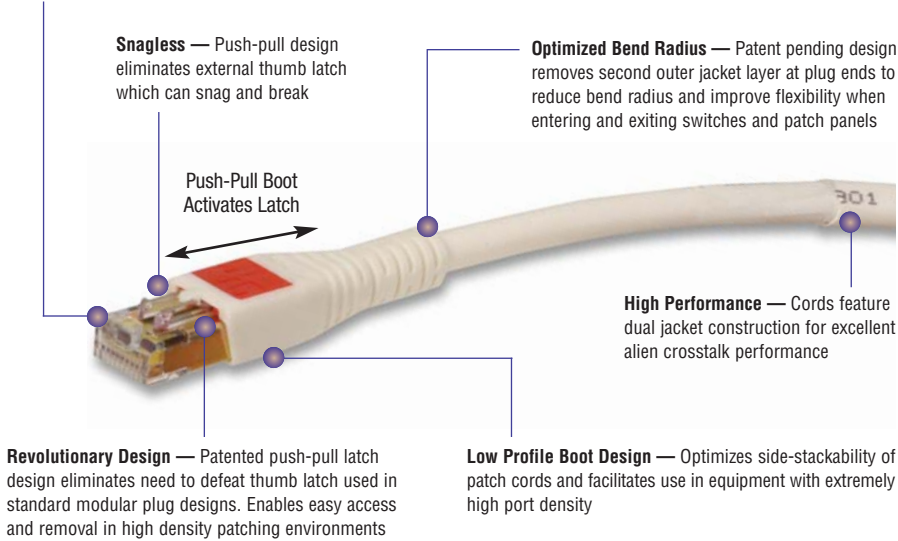


Category 6A UTP BladePatch® Modular Cords

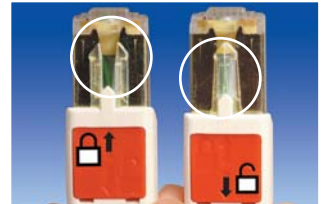
Siemon's Category 6A UTP BladePatch patch cord offers a unique category 6A solution for high-density patching environments. It features an innovative push-pull boot design to control the latch, enabling easy access and removal of the cord in tight-fitting areas.

The BladePatch cord is ideal for patching blade servers, patch panels, or any equipment with high density RJ-45 outlets.

Universal Wiring — Compatible with T568A/B wiring schemes



Universal Compatibility
Fits within any standard RJ-45 outlet.



Revolutionary Latch
Simply push the boot forward to latch into the outlet and pull back to release.



High Density
The push-pull design enables easy access and removal via the boot in tight-fitting areas.

Ordering Information:

Category 6A BladePatch double ended, 4-pair UTP stranded modular cord with push-pull latching design, color matching cord/boot, T568A/B, CMG

BP6A-(XX)(XX)			
Cord Length:	Cord Color		
03 = 0.9m (3 ft.)	01 = Black	04 = Gray	07 = Green
05 = 1.5m (5 ft.)	02 = White	05 = Yellow	08 = Violet
07 = 2.1m (7 ft.)	03 = Red	06 = Blue	09 = Orange
10 = 3.1m (10 ft.)			
15 = 4.6m (15 ft.)			
20 = 6.1m (20 ft.)			



The use of Category 6A UTP BladePatch modular cords will provide Category 6A channel performance if used in a Z-MAX 6A system.

Z-MAX 6A warranty margins do not apply.

Category 6A UTP 4-Pair Cable (Americas)

CABLE CONSTRUCTION

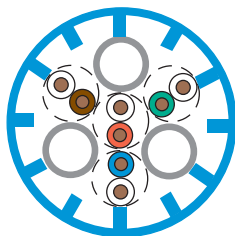
- UTP
- 0.58mm (0.022 in.) (23 AWG) solid bare copper
- 7.6mm (0.30 in.) CMP nom. jacket diameter
- Round jacket with Internal Longitudinal Striations (ILS)

COMPLIANCE

- ISO/IEC 11801
- ANSI/TIA-568-C.2
- UL CMR and CSA FT4
- UL CMP and CSA FT6

PHYSICAL PROPERTIES

	CMP	CMR
Pulling Tension (max)	110N (25 lbf)	110N (25 lbf)
Bend Radius (min)	34mm (1.3 in.)	34mm (1.3 in.)
Installation Temperature	0 to 50°C (+32 to 122°F)	0 to 50°C (+32 to 122°F)
Storage Temperature	-20 to 75°C (-4 to 167°F)	-20 to 75°C (-4 to 167°F)
Operating Temperature	-20 to 60°C (-4 to 140°F)	-20 to 60°C (-4 to 140°F)



Ordering Information:

9C6(X)4-A5-(XX)-R1A 305m (1000 ft.) Reel

Jacket Material

- P** = Plenum (CMP, CSA FT6)
- R** = Riser (CMR, CSA FT4)

Jacket Color

- 01** = Black **04** = Gray **07** = Green
- 02** = White **05** = Yellow **08** = Violet
- 03** = Red **06** = Blue **09** = Orange



TRANSMISSION PERFORMANCE

GUARANTEED WORSE CASE

Frequency (MHz)	Insertion Loss (dB)	NEXT (dB)	PS NEXT (dB)	ACR (dB)	PSACR (dB)	ACR-F (dB)	PS ACR-F (dB)	Return Loss (dB)	Propagation Delay (ns)
1.0	2.1	74.3	72.3	72.2	70.2	67.8	64.8	20.0	570
4.0	3.8	65.3	63.3	61.5	59.5	55.7	52.7	23.0	552
10.0	5.9	59.3	57.3	53.4	51.4	47.8	44.8	25.0	545
16.0	7.5	56.2	54.2	48.8	46.8	43.7	40.7	25.0	543
20.0	8.4	54.8	52.8	46.4	44.4	41.7	38.7	25.0	542
31.25	10.5	51.9	49.9	41.4	39.4	37.9	34.9	23.6	540
62.5	15.0	47.4	45.4	32.4	30.4	31.8	28.8	21.5	539
100.0	19.1	44.3	42.3	25.2	23.2	27.8	24.8	20.1	538
200.0	27.6	39.8	37.8	12.2	10.2	21.7	18.7	18.0	537
250.0	31.1	38.3	36.3	7.3	5.3	19.8	16.8	17.3	536
300.0	34.3	37.1	35.1	2.9	0.9	18.2	15.2	16.8	536
350.0	37.2	36.1	34.1	-1.1	-3.1	16.9	13.9	16.3	535
400.0	40.1	35.3	33.3	-4.8	-6.8	15.7	12.7	15.9	535
500.0*	45.3	33.8	31.8	-11.4	-13.4	13.8	10.8	15.2	536
625.0*	51.2	32.4	30.4	-18.8	-20.8	11.8	8.8	14.5	535
750.0*	56.7	31.2	29.2	-25.5	-27.5	10.3	7.3	14.0	535

*Performance for frequencies beyond TIA requirements are for information only.

All performance based on 100 meters (328 ft.).



Please see www.siemon.com/e-catalog for more global cable options