Premium 5e® and Solution 5e™ UTP

Siemon's end-to-end Premium 5e UTP cabling solution is guaranteed to provide transmission performance margins in excess of industry standards for Category 5e/Class D parameters, and has been independently verified to perform to 160 MHz.

All components are approved for use in a Premium 5e channel unless otherwise indicated. Only Premium 5e components are eligible for use in a Premium 5e channel.

Siemon's Solution 5e UTP system is designed for 100 MHz Category 5e/Class D installations in which additional performance margins provided by the Premium 5e solution are not required.

Components specifically designed for use in a Solution 5e channels are indicated by product title. Both Solution 5e and Premium 5e components are eligible for use in a Solution 5e channel.

Section Contents

SIEMON™

MAX® 5e UTP Outlets

MAX 5e outlets exceed Category 5e performance with component and channel performance to 160 MHz. These outlets offer all the functional advantages of our MAX 6 modules in a variety of colour options. All outlets utilise our S310 punch-down block — making termination quick and easy.

Quick Installation
Pyramid wire entry system on S310® blocks separates paired conductors when lacing cables to simplify and reduce installation time.

Easy Installation — Install from either front or rear of faceplate

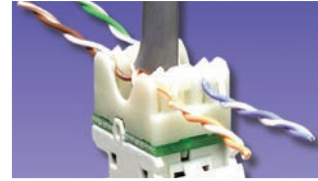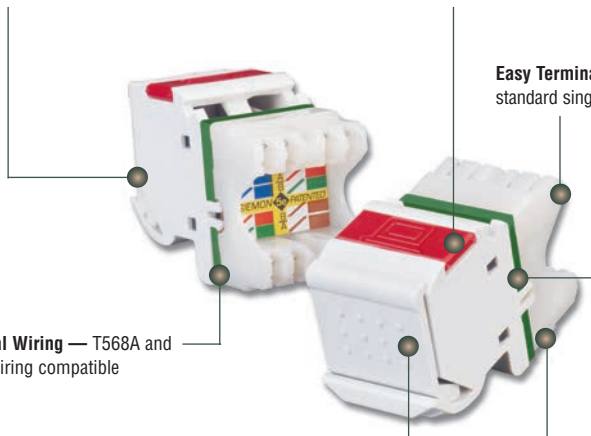**Quick Identification —** Icons provided for port identification

Easy Termination — Punch-down with standard single position 110 termination tools

Compliant — Is compliant with UL2043 and is appropriate for use in air handling spaces

Universal Wiring — T568A and T568B wiring compatible

Protective Doors — Minimise exposure to dust and other contaminants

Slim Design — Allows jacks to be side-stacked in faceplates to provide maximum density

Ultra Fast Termination
MAX 6 UTP outlets can be terminated using Siemon's MAX TurboTool™, in as little as 18 seconds.
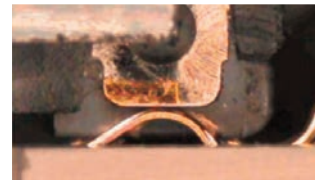
Contact Integrity
Featuring Siemon's patented crowned jack contact geometry that improves electrical and mechanical performance and ensures that any jack or plug contact damage due to arcing caused by unmating under PoE load occurs well away from the final mated contact position.

MX5-(XX). . . . .
Angled MAX 5e outlet, T568A/B, rear strain relief cap and protective colour-matching rubber door

MX5-F(XX). . . . .
Flat MAX 5e outlet, T568A/B, rear strain relief cap

MX5-K(XX). . . . .
Keystone MAX 5e outlet, T568A/B, rear strain relief cap

Use (XX) to specify colour: 01 = Black, 02 = White, 03 = Red, 04 = Grey, 05 = Yellow, 06 = Blue, 07 = Green, 09 = Orange, 20 = Ivory, 25 = Bright White, 80 = LIght Ivory

Angled outlets include one colour-matching, one red, and one blue icon.
Door colour is clear for red, yellow, blue and orange angled outlets.

Flat modules include one colour-matching, one red, and one blue icon.

Ⓑ *Add "B" to end of part number for bulk project pack of 100 outlets (angled and flat outlets include icons).*

Add "VP" to end of part number for value pack option. Value pack is a kit of 250 outlets, doors, terms caps and colour match icons.
(Available in flat/ angled only. Door only included with angled version.)

Note: Keystone version is designed for integration with various 3rd party mounting products and is not compatible with MAX mounting hardware.

SIEMON

HD® 5e UTP Patch Panels

Siemon's HD 5e series patch panels offer the most robust Category 5e patching solution in the industry. HD 5e panels feature universal T568A/B wiring and exceed Category 5e requirements with component and channel performance to 160 MHz. Compliant pin technology enables the use of multi-pair S110® punch-down tools to reduce termination time.

Aesthetics — Front surface is uninterrupted by screw heads for a clean appearance

Universal Wiring — HD 5e patch panels feature universal wiring for both T568A/B

Port Identification — Bold port numbering enables quick identification of outlets

Standard Fit — Panels can be mounted directly on standard 19 inch relay rack or cabinet

Installer Friendly — Panels available in 16-, 24-, 48- and 96-port configurations

Compliant Pin Technology
Allows the use of Siemon's multi-pair impact tool to significantly reduce termination time. S110 termination openings on the rear are compatible with S110 patch plugs.

Rear Cable Management
Integrated rear cable manager properly guides cables to and from the rear of the panel.

Quick Identification
Icon and label holder kits are included with every panel.

HD 5e UTP Flat Patch Panels

Part #	Description
HD5-16	16-Port Category 5e UTP HD patch panel, T568A/B, 1U, black
HD5-24	24-Port Category 5e UTP HD patch panel, T568A/B, 1U, black
HD5-32	32-Port Category 5e UTP HD patch panel, T568A/B, 2U, black
HD5-48	48-Port Category 5e UTP HD patch panel, T568A/B, 2U, black
HD5-96	96-Port Category 5e UTP HD patch panel, T568A/B, 4U, black

Panels include rear cable manager, icon/label holders, designation labels, cable ties, and mounting hardware.

Ⓑ *Add "B" for bulk project pack of 5 panels (rear cable managers (p/n: HD-RWM] not included but can be ordered separately).*

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

S310 termination blocks on 16- and 32-port HD 5e panels are not compatible with S110 multi-pair termination tools.

HD 5e UTP Angled Patch Panels

Part #	Description
HD5-24A	24-Port angled Category 5e UTP HD patch panel, T568A/B, 1U, black
HD5-48A	48-Port angled Category 5e UTP HD patch panel, T568A/B, 2U, black
PNLA-CVR-01	Angled panel cover, black

Angled panels include one rear cable manager, designation labels, cable ties, and mounting hardware

Ⓑ *Add "B" for bulk project pack of 5 panels (rear cable managers not included but can be ordered separately).*

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

SIEMON™

HD5 Quick-Patch™ Panel*

Siemon's HD5 Quick-Patch panel provides a quick and easy Category 5 channel patching solution for 10/100BASE-T hubs with 25-pair connectors. The HD5 Quick-Patch Panel incorporates many user-friendly features and benefits, including rear connectors that are staggered to enable easy routing of 25-pair cable to the connection point and a rear metal enclosure that protects printed circuitry. The black anodised panel can be mounted directly to a standard 19 inch rack or cabinet with the mounting hardware included. Icon/label holders and designation labels included.

Part #   **Description**
HD5-QP-48. . . . .   48-Port 10/100BASE-T panel (Active pins 1, 2, 3 & 6 only), four 25-pair connectors (female), 2U, black

Panel includes icon/label holders, designation labels, and mounting hardware.

Note: 1U = 44.5mm

*Not eligible for Premium 5e or Solution 5e warranty

MAX® UTP Patch Panels

MAX UTP Patch Panels

Part #	Description
MX-PNL-16.	16-Port MAX patch panel, 1U, black

Part #	Description
MX-PNL-48.	48-Port MAX patch panel, 2U, black

Part #	Description
MX-PNL-24.	24-Port MAX patch panel, 1U, black

Part #	Description
MX-PNL-72.	72-Port MAX patch panel, 2U, black

Panels include rear cable manager, designation labels, cable ties, and mounting hardware.
MAX Panels are not compatible with shielded Z-MAX® or TERA® modules. Use the TERA-MAX® or Z-MAX shielded panel.
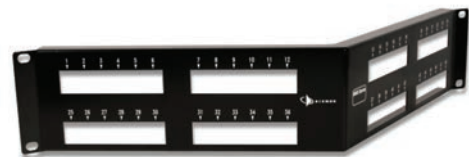
Note: 1U = 44.5mm (1.75 in.)

Angled MAX UTP Patch Panels

Siemon's MAX series angled patch panels route cables directly into the vertical cable managers, eliminating the need for horizontal cable management between panels.

Part #	Description
MX-PNLA-24.	24-Port angled MAX UTP patch panel, 1U, black

Part #	Description
MX-PNLA-48.	48-Port angled MAX UTP patch panel, 2U, black

Part #	Description
PNLA-CVR-01.	Angled panel cover, black

Angled MAX panels are not compatible with shielded Z-MAX or TERA outlets. Use the angled TERA-MAX or Z-MAX shielded panel.
Angled MAX panels are not recommended for use with RS3 rack series. RS series racks are recommended.
Panels include mounting hardware. Rear cable manager not included.
Note: 1U = 44.5mm (1.75 in.)

Optional Accessories

MX-PNL-LBL4*. . . . .
10 Sheets of laser printable labels
for 16-port MAX panels

MX-PNL-LBL6*. . . . .
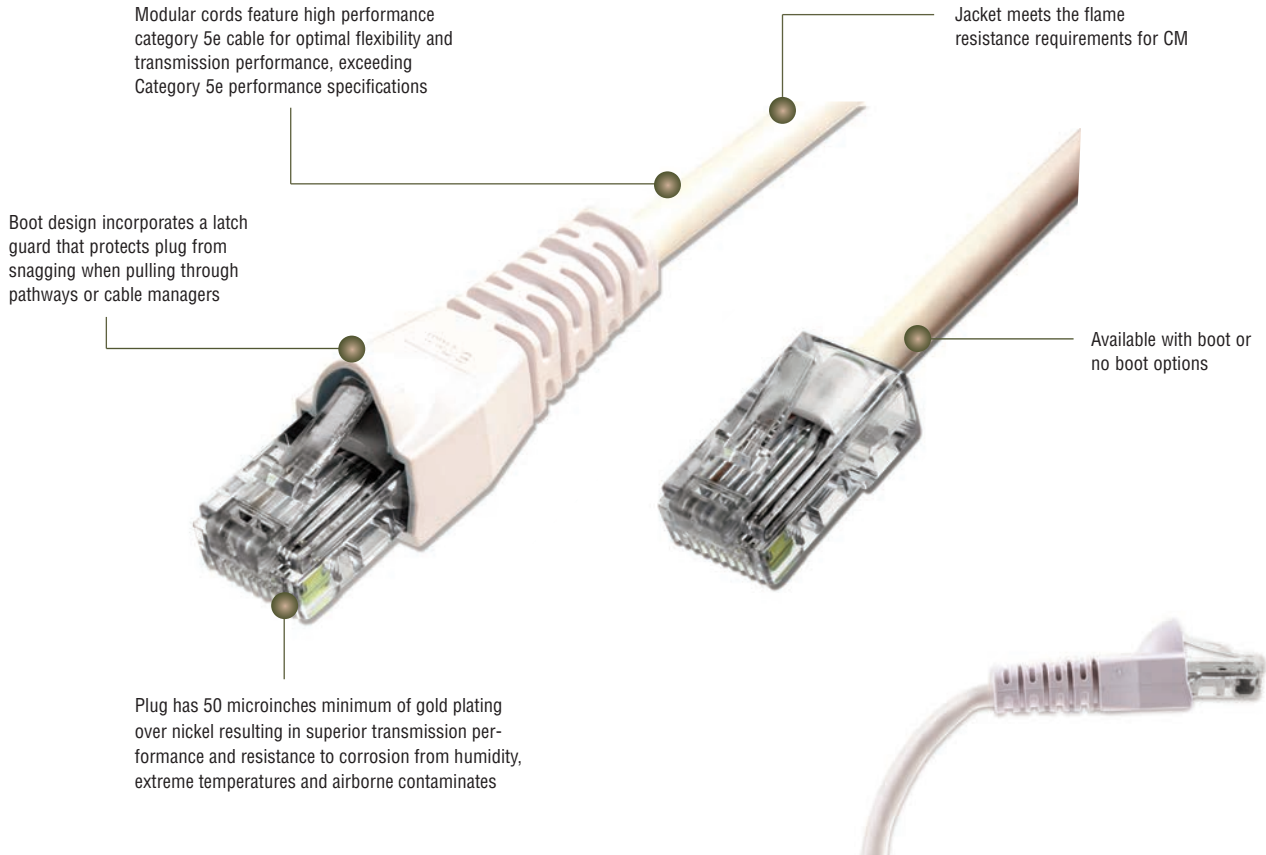10 Sheets of laser printable labels
for 24- and 48-port MAX panels

*Visit our web site or contact our Technical Support Department for labelling software.

SIEMON™

MC® 5e UTP Modular Cords - International

Siemon's MC series category 5e modular cords are key components to ensure optimum channel performance of our category 5e UTP systems. The cable used to manufacture the category 5e patch cords exceeds the Category 5e/Class D specifications set forth by both ISO/IEC 11801:2002 Ed 2.2 and ANSI/TIA-568-C.2.

Modular cords feature high performance category 5e cable for optimal flexibility and transmission performance, exceeding Category 5e performance specifications

Jacket meets the flame resistance requirements for CM

Boot design incorporates a latch guard that protects plug from snagging when pulling through pathways or cable managers

Available with boot or no boot options

Plug has 50 microinches minimum of gold plating over nickel resulting in superior transmission performance and resistance to corrosion from humidity, extreme temperatures and airborne contaminates

Excellent Bend Relief
Boot and integrated strain relief ensures proper bend relief, critical for category 5e performance

STANDARDS COMPLIANCE
- ISO/IEC 11801: Ed 2.2 (Class D)
- IEC 60603-7
- ANSI/TIA-568-C.2 (Category 5e)
- cUL US Listed
- TIA-968-A (formerly FCC Part 68 Subpart F)

SIEMON™

Product Information

PERFORMANCE SPECIFICATIONS

ELECTRICAL	
Contact Resistance	20 mΩ
Input to Output DC Resistance	200 mΩ
Min. Dielectric Withstand Voltage (contact to contact)	1000 V DC or AC peak
Insulation Resistance	500 mΩ
Current Rating @ 25° C	1.5 A
Power over Ethernet	Suitable for PoE and PoE+
MECHANICAL — GENERAL	
Operating Temperature	-10 to 60 °C, (14 to 140 °F)
Flammability Rating	UL 94 - V0
Green Features	RoHS
Contact Materials	Copper alloy with contact plating of 50 micro inches gold or equivalent
Plastic Materials	Flame retardant thermoplastic
Marking	P/N, length, performance level, QC
MECHANICAL — PLUG	
Number of Plug Insertion Cycles	750
Min. Plug Retention Force	50N (11.24 lbf)
Plug Compatibility	Compatible with RJ45 outlets

MECHANICAL — CABLE (STRANDED)	
Wire Size Range (nominal)	26 AWG 7x34 Stranded tinned copper
Cable Construction	UTP
Cable O.D. (nominal)	4.9mm (0.19 in.)
Wiring	T568B*
Jacket Type	CM
Bend Radius	6mm (0.24 in.)

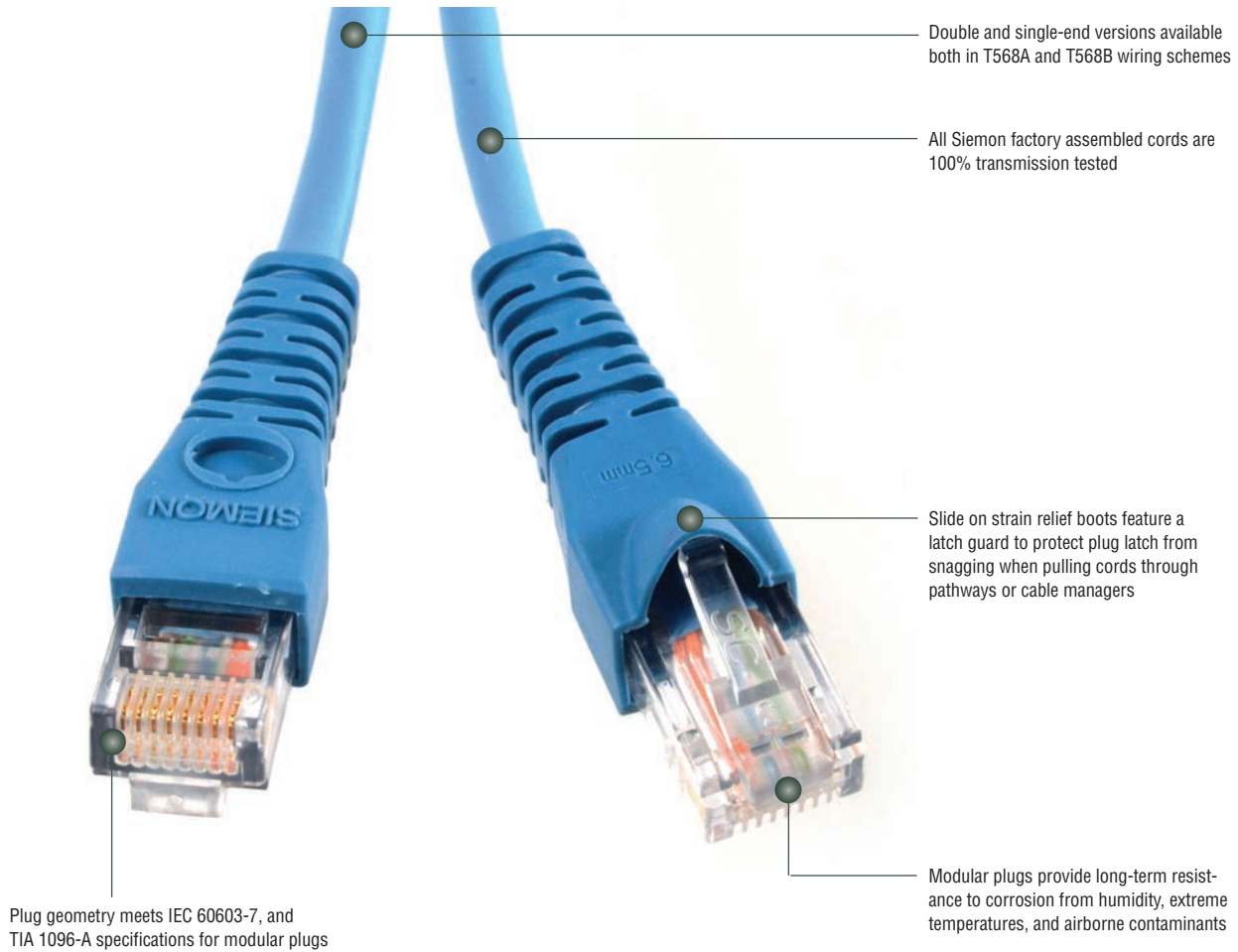** Double-ended cords wired T568B are suitable for both T568A & T568B applications*

MC 5e UTP Modular Cords

MC Category 5e, double-ended, 4-pair UTP stranded modular patch cord, booted and non-booted options available.

MC5-(XX)M-(XX)(XX)

Boot Colour

01 = Black	**04** = Grey	**07** = Green **Blank** = No Boot
02 = White	**05** = Yellow	**08** = Violet
03 = Red	**06** = Blue	**09** = Orange

Cord Length

01 = 1m (3.3 ft.)
1.5 = 1.5m (5 ft.)
02 = 2m (6.5 ft.)
03 = 3m (9.8 ft.)
05 = 5m (16.4 ft.)
7.5 = 7.5m

Cord Colour

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

Ⓑ *Add "B" for bulk pack of 100 modular cords.*

SIEMON™

IC® 5e UTP Solid Modular Cords - International

Siemon's Category 5e IC solid conductor modular cords are designed for use in Category 5e applications requiring a consolidation point (CP) or cross-connect (as an equipment cord). The cords are 100% factory transmission tested. These cords are available in CM, LSOH, and riser jacket and can be ordered single-ended for direct terminations or double-ended for extended length direct connections.

Double and single-end versions available both in T568A and T568B wiring schemes

All Siemon factory assembled cords are 100% transmission tested

Slide on strain relief boots feature a latch guard to protect plug latch from snagging when pulling cords through pathways or cable managers

Modular plugs provide long-term resistance to corrosion from humidity, extreme temperatures, and airborne contaminants

Plug geometry meets IEC 60603-7, and TIA 1096-A specifications for modular plugs

Non-Booted version also available

Strain and bend relief provides improved plug-to-cable retention and maximum performance by preventing pair deformation, as caused by mechanical strain

COMPLIANCE

- ISO/IEC 11801 Ed. 2.2
- IEC 60603-7
- ANSI/TIA-568-C.2
- TIA-1096-A
- IEEE 802.3af (PoE)
- IEEE 802.3at (PoE+)
- ANSI/TIA-968-B
- UL CMR and CSA FT4
- UL CM
- LSOH: IEC 60332-1, IEC 60754, and IEC61034

SIEMON

Product Information

PERFORMANCE SPECIFICATIONS*

ELECTRICAL	
Contact Resistance	20 mΩ
Input to Output DC Resistance	200 mΩ
Min. Dielectric Withstand Voltage (contact to contact)	1000 V DC or AC peak
Insulation Resistance	500 mΩ
Current Rating @ 25° C	1.5 A
Power over Ethernet	Suitable for all PoE applications
MECHANICAL — GENERAL	
Operating Temperature	-10 to 60 °C, (14 to 140 °F)
Flammability Rating	UL 94 - V0
Contact Materials	copper alloy
Plastic Materials	Flame retardant thermoplastic
Marking	P/N, length, performance level, QC

MECHANICAL — PLUG	
Number of Plug Insertion Cycles	750
Min. Plug Retention Force	50N (11.2 lbf)
Plug Compatibility	Compatible with RJ45 outlets
MECHANICAL — CABLE	
Wire Size (Nominal)	24 AWG solid
Construction	UTP
Cable O.D. (Nominal)	0.19 in. (4.8mm)
Wiring	T568A/B as specified by part #
Jacket Type	LS0H-1 CM Riser as specified by part #
Bend Radius	1.0 in. (25mm)

Refer to Siemon Cable spec sheets for additional performance, electrical and mechanical information.

IC 5e Solid UTP Modular Cords

Siemon's IC5e solid conductor modular cords are available as single-ended or double-ended T568A or T568B assemblies. Siemon's solid, single-ended IC5e cable assemblies are designed for patching between the consolidation point and the back of the work area outlet or as equipment cords in cross-connect applications. These assemblies are constructed using cable that exceeds all Category 5e specifications.

Ordering Information:

NON-BOOT IC5-8(X)-(XX)M(X)(X) . . . . . Category 5e IC, UTP solid cord, no boot

Wiring
A = T568B
T = T568A

Length
03 = 3m (9.8 ft.)
05 = 5m (16.4 ft.)
10 = 10m (32.8 ft.)
15 = 15m (49.2 ft.)
20 = 20m (65.6 ft.)

Termination Type
Blank = Single-Ended (RJ45 on one end)
D = Double-Ended (RJ45 on both ends)

Jacket Material
***L** = LSOH, Violet Jacket
***M** = CM, Grey Jacket
R = Riser, Blue Jacket

BOOT IC5-8(X)-(XX)M-B(XX)(X)(X). . . . .Category 5e IC, UTP solid cord, coloured boot

Wiring
A = T568B
T = T568A

Length
03 = 3m (9.8 ft.)
05 = 5m (16.4 ft.)
10 = 10m (32.8 ft.)
15 = 15m (49.2 ft.)
20 = 20m (65.6 ft.)

Boot Colour
01 = Black
02 = White
03 = Red
04 = Grey
05 = Yellow
06 = Blue
07 = Green

Termination Type
Blank = Single-Ended (RJ45 on one end)
D = Double-Ended (RJ45 on both ends)

Jacket Material
* **L** = LSOH, Violet Jacket
* **M** = CM, Grey Jacket
* **R** = Riser, Blue Jacket

Cable assembly constructed with EU CPR rated cable - Eca

SIEMON

Premium 5e® UTP 4-Pair Cable - International

COMPLIANCE

- ISO/IEC 11801: Ed. 2.2 (Class D)
- IEC 61156-6-5 Ed. 2.0 (Category 5e)
- IEEE 802.3
- ANSI/TIA-568-C.2 (Category 5e)
- UL CM, IEC 60332-1, Class E_{ca}
- UL CMR and CSA FT4
- LSOH: IEC 60332-1, IEC 60754, IEC 61034, and Class E_{ca}

CABLE CONSTRUCTION

- UTP
- Nominal jacket OD: 5mm (0.20 in.)
- 0.5mm solid (non-tinned) copper
- 1.0mm max conductor insulation diameter
- Reverse sequential numbering

Part #	Description
9C5R4-E2	PVC (CMR, CSA FT4), blue jacket, 305m (1000 ft.) Reelex
9C5M4-E2	PVC (CM), grey jacket, Class E_{ca} 305m (1000 ft.) Reelex
9C5L4-E2	LS0H (IEC 60332-1), violet jacket, Class E_{ca} 305m (1000 ft.) Reelex

Other cable lengths also available:
Add "-5CR" for 500m (1640 ft.) reel, "-1KR" for 1000m (3280 ft.) reel

ELECTRICAL SPECIFICATIONS

DC Resistance	<9.38Ω/100m
DC resistance Unbalance	5%
Mutual Capacitance	5.6 nF/100m
Capacitance Unbalance	<330 pF/100m
Characteristic Impedance (ohms)	1-100 MHz: 100 ± 15% 100-350 MHz: 100 ± 22%
NVP	65%
Delay Skew	≤40ns

PHYSICAL PROPERTIES

	LSOH	CM/CMR
Pulling Tension (max)	110N (25 lbf)	110N (25 lbf)
Bend Radius (min)	25mm (1 in.)	25mm (1 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)

TRANSMISSION PERFORMANCE

GUARANTEED WORSE 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)	
1.0	2.1	1.9	65.3	79.3	62.3	72.3	63.2	77.4	60.2	70.4	63.8	84.8	60.8	78.8	20.0	27.0	570	545
4.0	4.1	3.7	56.3	70.0	53.3	63.3	52.2	66.6	49.2	59.6	51.8	72.8	48.8	66.8	23.0	32.0	552	527
10.0	6.5	5.8	50.3	64.3	47.3	57.3	43.8	58.5	40.8	51.5	43.8	64.8	40.8	58.8	25.0	32.0	545	520
16.0	8.3	7.4	47.2	61.2	44.2	54.2	39.0	53.8	36.0	46.8	39.7	60.7	36.7	54.7	25.0	32.0	543	518
20.0	9.3	8.3	45.8	59.8	42.8	52.8	36.5	51.5	33.5	44.5	37.8	58.8	34.8	52.8	25.0	32.0	542	517
31.25	11.7	10.5	42.9	56.9	39.9	49.9	31.1	46.4	28.1	39.4	33.9	54.9	30.9	48.9	23.6	30.0	540	515
62.5	17.0	15.0	38.4	52.4	35.4	45.4	21.4	37.4	18.4	30.4	27.9	48.9	24.9	42.9	21.5	30.0	539	514
100.0	22.0	19.3	35.3	49.3	32.3	42.3	13.3	30.0	10.3	23.0	23.8	44.8	20.8	38.8	20.1	30.0	538	513
160.0*	28.6	25.1	32.2	46.2	29.2	39.2	3.7	21.1	0.7	14.1	19.7	40.7	16.7	34.7	18.7	28.0	537	512
200.0*	32.4	28.1	30.8	44.8	27.8	37.8	-1.6	16.7	-4.6	9.7	17.8	38.8	14.8	32.8	18.0	27.0	537	512
250.0*	36.9	31.4	29.3	43.3	26.3	36.3	-7.5	11.9	-10.5	4.9	15.8	36.8	12.8	30.8	17.3	26.0	536	511
300.0*	41.0	34.5	28.1	42.1	25.1	35.1	-12.8	7.6	-15.8	0.6	14.3	35.3	11.3	29.3	16.8	25.0	536	511
350.0*	44.9	39.4	27.1	41.1	24.1	34.1	-17.7	1.7	-20.7	-5.3	12.9	33.9	9.9	27.9	16.3	24.0	536	511

*Values above100 MHz are for information only.

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