- 10GPLUS
- U-MEDIAPLUS
- CAT6PLUS
- GIGAPLUS
- VOICE

Copper Systems Contents

Structured cabling systems of today and in the future structured cabling world have to cope with the ever-growing demands of greater and greater bandwidth absorption within the local area network. All Brand-Rex copper systems provide the IT Manager with a complete open cabling system from the PBX point of entry, to building distribution, to floor distribution, to wiring closet, to wall outlets, and ultimately to the desk.

The Brand-Rex product range is system based, with each system containing full connectivity comprising of cable, patch panels, wall outlets and patch cords supporting VoIP and Power over Ethernet.

A premier grade cabling system needs Standards compliant components, and that is what Brand-Rex systems offer. The proof of this is in the overall link and channel performance, which is the only parameter that the transmission equipment is going to see. GigaPlus, Cat6Plus and 10GPlus components are engineered to achieve **guaranteed channel performance**.

Brand-Rex Copper Systems Support all Protocols of defined international standards including:
• IEEE802.3ab
• 10 Gigabit Ethernet (IEEE 802.3an)
• ATM 1200
• ANSI/TIA/EIA 854

Third party independent certificates of compliance are available for component and channel performance from 3P Inc. and GHMT Laboratories GmbH for GigaPlus, Cat6Plus, 10GPlus and U-MediaPlus.
• GigaPlus exceeds the requirements of
  ISO/IEC 11801 : 2002, EN 50173-1 : 2002
  for Class D channels and
  ANSI/TIA/EIA 568B.2 : 2002 Category 5e.
• Cat6Plus exceeds the requirements of
  ISO/IEC 11801 : 2002, EN 50173-1 : 2002
  for Class E channels and ANSI/TIA/EIA 568B.2.1 : 2002
  Category 6.
• 10GPlus exceeds the requirements of
  ISO/IEC 11801 : 2002 Amm 1.1, EN 50173-1 : 2002 ed2
  for Class EA channels and ANSI/TIA/EIA 568B.2.1 : 2002
  Augmented Category 6.
• U-MediaPlus is a range of universal media cables that exceed
  the Category 7 requirements of ISO/IEC 11801: 2002 Class F
  and EN 50173-1 : 2002.

Cable Properties

A simple legend system has been adopted throughout this brochure. The detail listed here provides descriptions of the symbols used. These symbols describe the physical properties of the cable, and where cables are to be used.

Internal System

ISO/IEC 11801 Class D System
ANSI/TIA/EIA 568B Category 5e

ISO/IEC 11801 Class E System
ANSI/TIA/EIA 568B Category 6

ISO/IEC 11801 Class EA System
ANSI/TIA/EIA 568B Augmented
Category 6

ISO/IEC 11801 Class F System
ANSI/TIA/EIA 568B Category 7

Unshielded
The cable is unshielded.

Foiled Pairs
A PET coated Aluminium foil is applied around the individual pairs.

Overall Foil
A PET coated Aluminium foil is applied around the 4 pair core construction.

Overall TCW Braid
The core construction is surrounded by an overall TCW braid.

Horizontal Cable
Suitable for installation in the horizontal plain of a structured wiring system.

Riser Cable
Suitable for installation in the risers and backbone areas within a structured wiring system.

Communications Room
Suitable for use in a communications room or consolidation point.

General Office Outlet
Suitable for general offfice use.

This product is available with an IEC 60332-1 flammability rating.

This product is available with an IEC 60332.3c flammability rating.
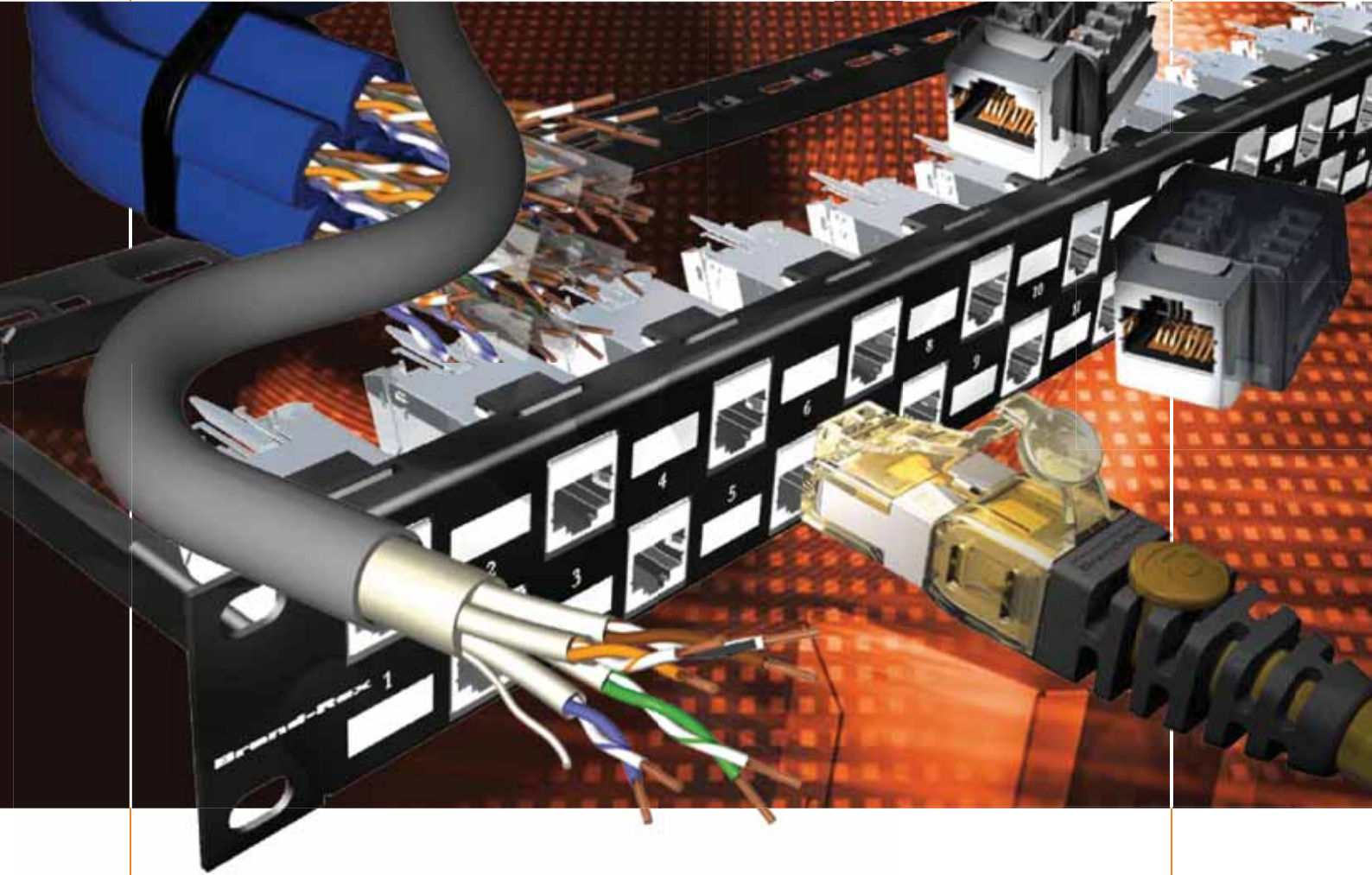
Voice over IP
Suitable for VoIP applications on enabled networks.

Power over Ethernet
Suitable for Power over Ethernet applications on enabled networks.

Waking up to a new era

10 Gigabit Ethernet over copper cabling systems has been heralded as the greatest technological revolution in networking since the birth of Ethernet.

The engineering science dedicated to overcoming the boundaries of convention should not be underestimated. Brand-Rex has dedicated a team of design engineers, technologists and laboratory technicians to developing the highest performance 10 Gigabit Ethernet solution on the market today.

High performance businesses need high performance networks

The use of increasingly sophisticated IT applications in modern, competitive business has driven the growth of Ethernet. What value is an enterprise application if the network hardware cannot support it? Whether your business uses demanding graphics based design packages, data hungry finance systems or emerging multi-media communication tools, they have one thing in common, a need for:

• Greater bandwidth
• Maximum transmission reliability
• Life long quality of operation
• Resilience against environmental challenges

10 Gigabit Ethernet provides the next standard platform that will allow the continued growth of high performance business applications. Powerful IT networks, able to deliver the new 10GBASE-T protocol, require phenomenal processing power within active network switching and routing hardware. Such active hardware commands a very high price.

Yet this investment is pointless unless supported by an equally sophisticated cabling system. It is vital that you can trust the claims of any 10 Gigabit Ethernet cabling system since the choices made today will impact the business applications of tomorrow.

Augmented Category 6 Systems
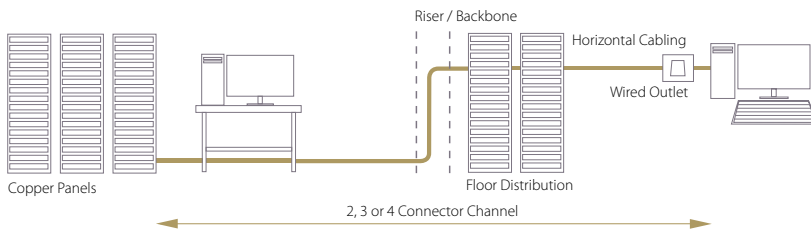
PRODUCT DESCRIPTION

The Brand-Rex 10GPlus product set is a premium quality, high performance, future proof, cabling system. 10GPlus is classified as an Augmented Category 6 and Class EA product set which is fully backward compatible to Category 6 (Class E) and Category 5e (Class D) solutions.

It is a product set which is designed to be compliant with the new IEC Class EA and TIA 568B.2-10 standards, ready for the new application from IEEE, 10GBASE-T. The cabling system is available in screened and unscreened solutions, however screened products are more robust against against electromagnetic noise and have improved alien crosstalk performance.

Channel Performance of 10GPlus

Channel Performance

Frequency (MHz)	Guaranteed Headroom to Class E	Typical Headroom to Class EA		1	4	10	16	100	250	300	400	500
Insertion Loss (dB/100m)	6%	2%	Spec	4.0	4.1	6.4	8.1	20.8	33.8	37.3	43.6	49.3
			Typical	2.1	4.0	6.3	7.9	20.4	33.1	36.6	42.8	48.4
NEXT (dB)	6	6	Spec	65.0	63.0	56.6	53.2	39.9	33.1	31.7	29.6	27.9
			Typical	78.8	69.3	62.9	59.7	46.6	40.0	38.6	36.5	34.9
PSNEXT (dB)	7.5	7	Spec	62.0	60.5	54.0	50.6	37.1	30.2	28.8	26.6	24.8
			Typical	77.7	67.9	61.3	57.9	42.2	37.2	35.8	33.6	31.8
ELFEXT (dB/100m)	8	9	Spec	63.3	51.2	43.3	39.2	23.3	15.3	13.7	11.2	9.3
			Typical	72.0	60.0	52.0	47.9	32.0	24.0	22.5	20.0	18.0
PSELFEXT (dB/100m)	9	10	Spec	60.3	48.2	40.3	36.2	20.3	12.3	10.7	8.2	6.3
			Typical	70.0	58.0	50.0	45.9	30.0	22.0	20.5	18.0	16.0
Return Loss (dB/100m)	3	4	Spec	19.0	19.0	19.0	18.0	12.0	8.0	8.0	8.0	8.0
			Typical	23.0	23.0	23.0	22.0	16.0	12.0	12.0	12.0	12.0
ACR (dB/100m)	9	6	Typical	76.6	65.3	56.7	51.7	26.3	6.8	2.1	-6.3	-13.5
PSACR (dB/100m)	10	7	Typical	75.6	63.9	55.0	49.9	23.9	4.1	-0.8	-9.2	-16.5

Unscreened Systems

Frequency (MHz)	Guaranteed Headroom to Class E	Typical Headroom to Class EA			4	10	16	100	250	300	400	500
PSANEXT (dB)	-	3	Spec		67.0	67.0	67.0	67.0	60.0	54.0	52.8	51.0	49.5
			Typical		83.0	77.0	73.0	71.0	63.0	57.0	55.8	54.0	52.5
PSAELFEXT (dB)	-	5	Spec		67.0	65.0	57.0	52.9	37.0	29.0	27.5	25.0	23.0
			Typical		82.0	70.0	62.0	57.9	42.0	34.0	32.5	30.0	28.0

Screened Systems

Frequency (MHz)	Guaranteed Headroom to Class E	Typical Headroom to Class EA		1	4	10	16	100	250	300	400	500
PSANEXT (dB)	-	10	Spec	67.0	67.0	67.0	67.0	60.0	54.0	52.8	51.0	49.5
			Typical	90.0	84.0	80.0	78.0	70.0	64.0	62.8	61.0	59.5
PSAELFEXT (dB)	-	10	Spec	67.0	65.0	57.0	52.9	37.0	29.0	27.5	25.0	23.0
			Typical	87.0	75.0	67.0	62.9	47.0	39.0	37.5	35.0	33.0

Spec = FPDAM 1.1 to ISO/IEC 11801:2002

AC6
500MHz

Sheath

Cross Filler

23 AWG PACW

Polyolefin Insulation
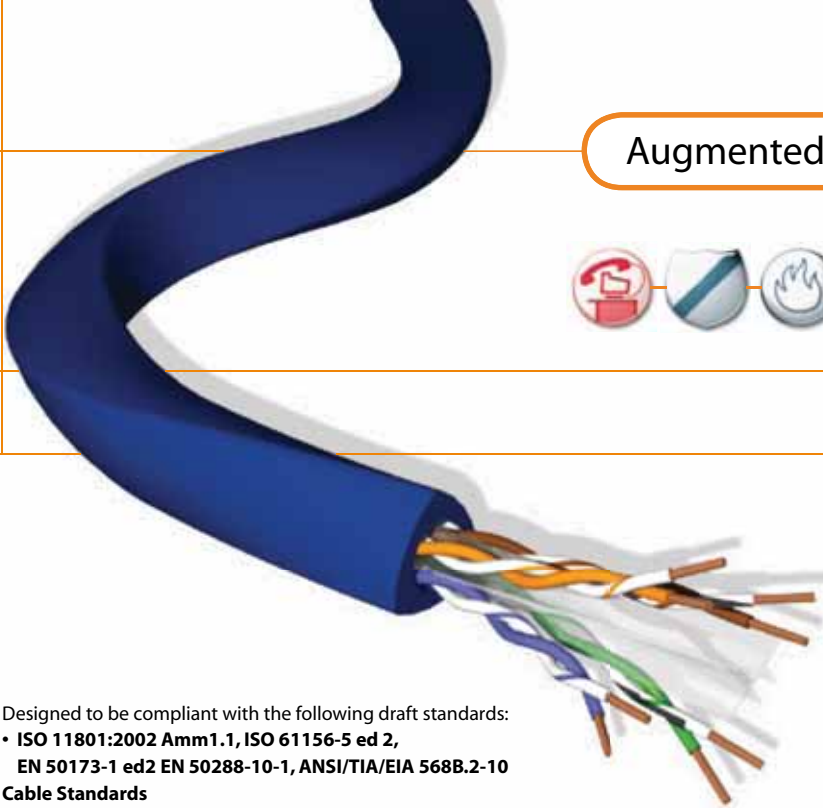
Designed to be compliant with the following draft standards:
- **ISO 11801:2002 Amm1.1, ISO 61156-5 ed 2, EN 50173-1 ed2 EN 50288-10-1, ANSI/TIA/EIA 568B.2-10**

Cable Standards
The cable is backwards compatible with:
- **ISO 11801:2002, ISO 61156-5, EN 50173-1:2002, EN 50288-6-1, ANSI/TIA/EIA 568B, ANSI/TIA/EIA 568B.2-1**

Brand-Rex Copper Cables - 10GPlus
Communication Cable, U/UTP, 100 Ω, 4x2,AWG23/1

| Electrical Characteristics @ 20°c	Specification	Typical Performance
Conductor Loop Resistance	Max 19Ω / 100m	Max 19Ω / 100m
Conductor Resistance Unbalance	Max 2%	0.5%
Dielectric Strength	1.0kV dc or 0.7kV ac for 1 min	100% in process test
Insulation Resistance	>500 MΩ.km @ 100-500 V test voltage	>5 GΩ.km
Capacitance Unbalance to Earth	<120 pF/100m	40 pF/100m
Velocity of Propagation	<534 nsec/100m @ 100Mhz	<490 nsec/100m @ 100Mhz (NVP for hand testers = 0.67)
Skew	Max 40ns/100m @ 100Mhz	Max 30ns/100m @ 100Mhz
Mean Characteristic Impendance	100+/-5 Ω @ 100Mhz	100+/-5 Ω @100Mhz
Coupling Attenuation up to 1Ghz	Min 40dB	56dB

Characteristic	Typical Headroom vs Cat6 (250MHz)	Typical Headroom vs AC6 (500MHz)
Return Loss	5dB	5dB
Insertion Loss	6%	2%
NEXT	10dB	10dB
PSNEXT	10dB	20dB
ELFEXT	12dB	12dB
PSELFEXT	12dB	12dB
PSANEXT	NA	5dB
PSAELFEXT	NA	6dB

Typical headroom on key S/N characteristics - for information only

	Typical Headroom vs Cat6 (250MHz)	Typical Headroom vs AC6 (500MHz)
PSACR @ 500MHz	NA	0dB
PSAACR* @ 500MHz	NA	13dB

* Power Sum Attenuation to Alien Crosstalk (near end) Ratio
  The Alien crosstalk performance of cables is assessed using a '6 round 1' or '4 on a drum' method.

Part Number	AC6U - HF1	AC6U - HF3
Outer Sheath	LSZH	LSZH
Construction	Simplex	Simplex
Cable Weight	79 kg/km	81 kg/km
Calorific Value	32 kJ/m	41 kJ/m
Effective Diameter	8.5mm	8.5mm
Sheath Colour	Voilet RAL 4005	Blue RAL 5015
Fire Safety Rating	IEC 60332 - Part 1	IEC 60332 - Part 3c
Acid Gas Emmisons	IEC 60754 - 1	IEC 60754 - 1
Smoke Index	IEC 61034	IEC 61034
Packaging Unit	WRL	WRL
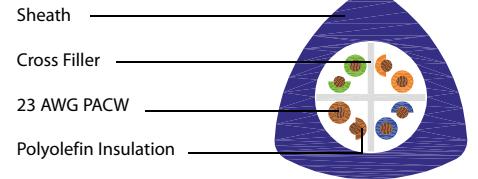
PRODUCT DESCRIPTION
10GPlus U/UTP, 100 Ohm, 4x2,AWG23/1 is a premium grade Class EA / Augmented Category 6 cable to support 10 Gigabit Ethernet protocol for installation in horizontal and backbone applications.

PRODUCT PERFORMANCE
Core
Conductor: 23 AWG Plain Annealed Copper Wire
Insulation: Polyolefin
Diameter: 1.06mm Nominal
Pair: 2 of the above cores
Pair Colour: Blue - White, Orange - White, Green - White, Brown - White

Final Assembly
Cable: 4 of the above pairs cabled together around a cross filler
Sheath: PVC or LSZH compound

Mechanical and Environmental
Temp - Installation: 0C to 50C
Temp - Operation: -20C to 75C
Max Tensile Load: 10kg per cable
Min Bend Radius:
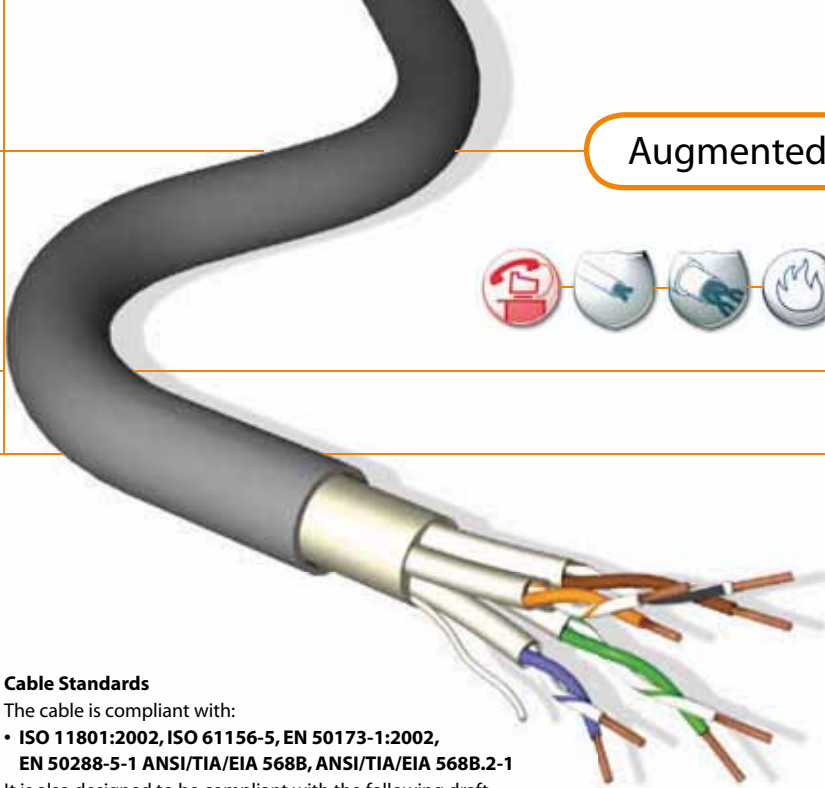8 x Effective Diametre (installation)
Min Bend - Operation:
4 x Effective Diametre (operation)

Packaging
WRL 500m Wooden Reel 4 per Pallet
1000m Wooden Reel 2 per Pallet

AC6
500MHz

Cable Standards

The cable is compliant with:
- **ISO 11801:2002, ISO 61156-5, EN 50173-1:2002, EN 50288-5-1 ANSI/TIA/EIA 568B, ANSI/TIA/EIA 568B.2-1**

It is also designed to be compliant with the following draft standards when they are published:
- **ISO 11801:2002 Amm1.1, ISO 61156-5 ed 2 , EN 50173-1 ed2 EN 50288-10-1, ANSI/TIA/EIA 568B.2-10**

Brand-Rex Copper Cables - 10GPlus
Communication Cable, F/FTP, 100 Ω, 4x2xAWG 23/1

Electrical Characteristics @ 20°c	Specification	Typical Performance
Conductor Loop Resistance	Max 19 Ω / 100m	14 Ω / 100m
Conductor Resistance Unbalance	Max 2%	0.5%
Dielectric Strength	1.0kV dc or 0.7kV ac for 1 min	100% in process test
Insulation Resistance	>500MΩ @ 100-500 V test voltage	>5 GΩ.km
Capacitance Unbalance to Earth	Max 120 pF/100m	80 pF/100m
Velocity of Propagation	<537.6 nsec/100m @ 100MHz	445 nsec/100m @ 100MHz (NVP for hand held testers = 0.74)
Skew	Max 20 nsec/100m @ 100MHz	5 nsec/100m @ 100MHz
Mean Characteristic Impendance	100 Ω +/- 5 Ω @ 100MHz	100 Ω +/- 3 Ω @ 100MHz
Transfer Impendance	Max 100 mΩ/m @ 10MHz	25 mΩ/m @ 10MHz (ISO 61156 grade 1 cable)
Coupling Attenuation up to 1Ghz	Min 55 dB	75 dB

Characteristic	Typical Headroom vs Cat6 (250MHz)	Typical Headroom vs AC6 (500MHz)
Return Loss	5dB	5dB
Insertion Loss	6%	2%
NEXT	20dB	20dB
PSNEXT	20dB	20dB
ELFEXT	15dB	15dB
PSELFEXT	15dB	15dB
PSANEXT	NA	10dB
PSAELFEXT	NA	10dB

Typical headroom on key S/N characteristics - for information only

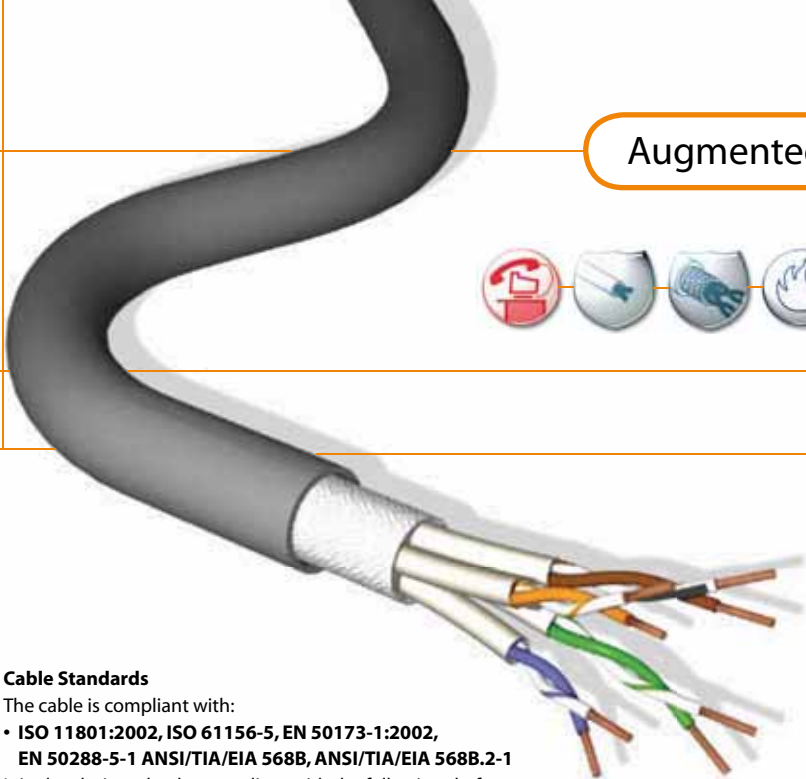|	Typical Headroom vs Cat6 (250MHz)	Typical Headroom vs AC6 (500MHz)
PSACR @ 500MHz	NA	35dB
PSAACR* @ 500MHz	NA	20dB

* Power Sum Attenuation to Alien Crosstalk (near end) Ratio
The Alien crosstalk performance of cables is assessed using a '6 round 1' or '4 on a drum' method.

Product Part Numbering

Part Number	AC6F/FTP-HF1	AC6F/FTP-HF3
Outer Sheath	LSZH	LSZH
Construction	Simplex	Simplex
Cable Weight	50.1 kg/km	56.4 kg/km
Calorific Value	0.20 k Wh/m	0.21 k Wh/m
Outer Diameter (nom)	7.3mm	7.7mm
Sheath Colour	Violet RAL 4005	Blue RAL 5015
Fire Safety Rating	IEC 60332-1-2	IEC 60332-3-24
Acid Gas Emissions	IEC 60754-1	IEC 60754-1
Smoke Index	IEC 61034	IEC 61034
Packaging	WRL	WRL

Sheath
AI/PET Tape
AI/PET Tape
Polyolefin Insulation
23 AWG PACW
TACW Drainwire

Independent 3rd Party Certification (3P)

PRODUCT DESCRIPTION:

10GPlus F/FTP, 100 Ω, 4x2xAWG 23/1 is a premium grade Class EA / Augmented Category 6 cable to support 10 Gigabit Ethernet protocol for installation in horizontal and backbone areas.

PRODUCT PERFORMANCE:
Core
Conductor: 23 AWG Plain Annealed Copper Wire
Insulation: Cellular Polyolefin
Diameter: 1.45mm Nominal
Pair: 2 of the above cores
Tape Screen: Individual pair wrapped with aluminium polyester tape, applied metal side out
Pair Colour: Blue-White, Orange-White, Green-White, Brown-White

Final Assembly
Cable: 4 of the above shielded pairs
Drainwire: 0.5mm Tinned Annealed Copper Wire
Tape Screen: Wrapped with aluminium polyester tape, applied metal side in
Sheath: PVC or LSZH compound

Mechanical and Environmental
Temp - Installation: 0°c to +50°c
Temp - Operation: -20°c to +75°c
Max Tensile Load:
10kg per simplex cable (installation)
Min Bend Radius:
8 x Outer Diameter (installation)
4 x Outer Diameter (operation)

Packaging
WRL   500m Wooden Reel
    1000m Wooden Reel

AC6
500MHz

Sheath
TACW Braid
AI/PET Tape
Cellular Polyolefin Insulation
23 AWG PACW

Cable Standards

The cable is compliant with:
- **ISO 11801:2002, ISO 61156-5, EN 50173-1:2002,**
  EN 50288-5-1 ANSI/TIA/EIA 568B, ANSI/TIA/EIA 568B.2-1

It is also designed to be compliant with the following draft standards when they are published:
- **ISO 11801:2002 Amm1.1, ISO 61156-5 ed 2 ,**
  EN 50173-1 ed2 EN 50288-10-1, ANSI/TIA/EIA 568B.2-10

Brand-Rex Copper Cables - 10GPlus
Communication Cable, F/FTP, 100 Ω, 4x2xAWG 23/1

Electrical Characteristics @ 20°c	Specification	Typical Performance
Conductor Loop Resistance	Max 19 Ω / 100m	14 Ω / 100m
Conductor Resistance Unbalance	Max 2%	0.5%
Dielectric Strength	1.0kV dc or 0.7kV ac for 1 min	100% in process test
Insulation Resistance	>500MΩ @ 100-500 V test voltage	>5 GΩ.km
Capacitance Unbalance to Earth	Max 120 pF/100m	80 pF/100m
Velocity of Propagation	<537.6 nsec/100m @ 100MHz	445 nsec/100m @ 100MHz (NVP for hand held testers = 0.74)
Skew	Max 20 nsec/100m @ 100MHz	5 nsec/100m @ 100MHz
Mean Characteristic Impendance	100 Ω +/- 5 Ω @ 100MHz	100 Ω +/- 3 Ω @ 100MHz
Transfer Impendance	Max 100 mΩ/m @ 10MHz	25 mΩ/m @ 10MHz (ISO 61156 grade 1)
Coupling Attenuation up to 1Ghz	Min 55 dB	90 dB

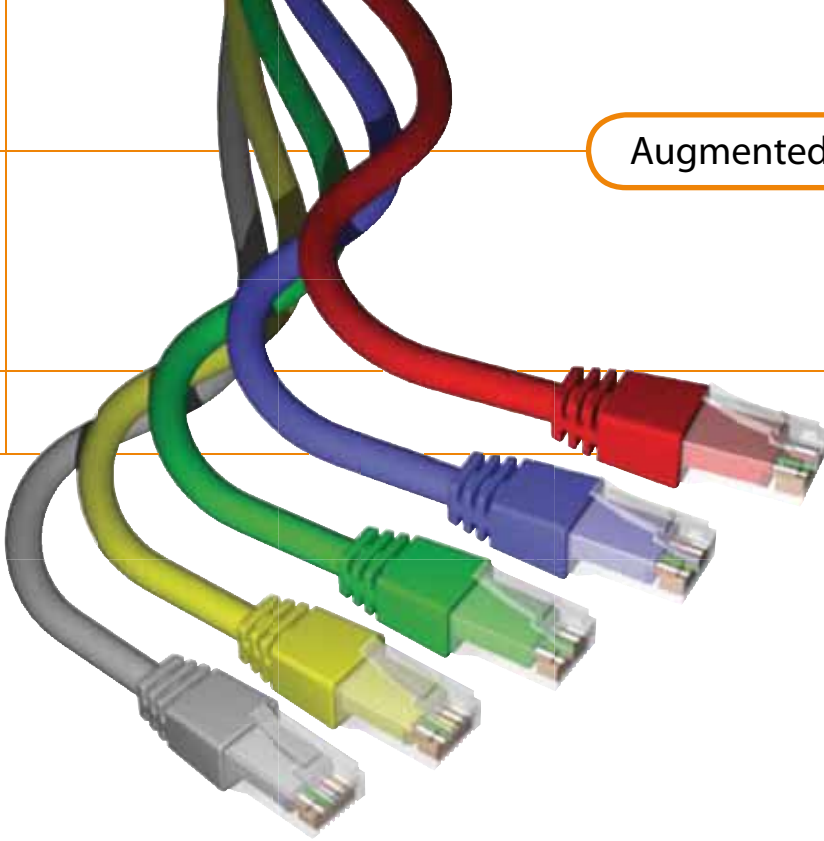| Characteristic	Typical Headroom vs Cat6 (250MHz)	Typical Headroom vs AC6 (500MHz)
Return Loss	5dB	5dB
Insertion Loss	6%	2%
NEXT	20dB	20dB
PSNEXT	20dB	20dB
ELFEXT	15dB	15dB
PSELFEXT	15dB	15dB
PSANEXT	NA	10dB
PSAELFEXT	NA	10dB

Typical headroom on key S/N characteristics - for information only

	Typical Headroom vs Cat6 (250MHz)	Typical Headroom vs AC6 (500MHz)
PSACR @ 500MHz	NA	35dB
PSAACR* @ 500MHz	NA	20dB

* Power Sum Attenuation to Alien Crosstalk (near end) Ratio
  The Alien crosstalk performance of cables is assessed using a '6 round 1' or '4 on a drum' method.

Product Part Numbering

Part Number	AC6S/FTP-HF1	AC6S/FTP-HF3
Outer Sheath	LSZH	LSZH
Construction	Simplex	Simplex
Cable Weight	64.1 kg/km	65.1 kg/km
Calorific Value	0.19 k Wh/m	0.2 k Wh/m
Outer Diameter (nom)	7.5mm	7.8mm
Sheath Colour	Violet RAL 4005	Blue RAL 5015
Fire Safety Rating	IEC 60332-1-2	IEC 60332-3-24
Acid Gas Emissions	IEC 60754-1	IEC 60754-1
Smoke Index	IEC 61034	IEC 61034
Packaging	WRL	WRL

Independent 3rd Party Certification (3P)

PRODUCT DESCRIPTION:
10GPlus S/FTP, 100 Ω, 4x2xAWG 23/1 is a premium grade Class EA / Augmented Category 6 cable to support 10 Gigabit Ethernet protocol for installation in horizontal and backbone areas.

PRODUCT PERFORMANCE:
Core

Conductor:	23 AWG Plain Annealed Copper Wire
Insulation:	Cellular Polyolefin
Diameter:	1.45mm Nominal
Pair:	2 of the above cores
Tape Screen:	Individual pair wrapped with aluminium polyester tape, applied metal side out
Pair Colour:	Blue-White, Orange-White, Green-White, Brown-White

Final Assembly

Cable:	4 of the above shielded pairs
Braid Screen:	0.127mm Tinned Annealed Copper Wire
Sheath:	PVC or LSZH compound

Mechanical and Environmental

Temp - Installation: 0°c to +50°c
Temp - Operation: -20°c to +75°c
Max Tensile Load:
10kg per simplex cable (installation)
Min Bend Radius:
8 x Outer Diameter (installation)
4 x Outer Diameter (operation)

Packaging

WRL   500m Wooden Reel
             1000m Wooden Reel

10G PLUS

AC6 500MHz

PRODUCT DESCRIPTION:

The Brand-Rex Augmented Category 6 patch cord is part of the Brand-Rex 10GPlus cabling system. The 10GPlus cabling system is comprised of high performance cables and connectivity which not only provide a reliable platform for all of today's network applications, but is also designed to future-proof networks for the emerging, new, higher speed protocols of tomorrow, such as 10GBASE-T. The 10GPlus system is classified as an Augmented Category 6 and Class EA product set that is fully backward compatible to Category 6 (Class E) and Category 5e (Class D) products.

Packaging
- Individually packed in branded, easy tear bags
- Individual bagged parts, bulk packed in bags of 10 for standard cords

Applications
- Wall and multi-user outlets
- Patch panel and consolidation points
- Blade servers, hubs and switches

Mechanical Specifications

Dimensions
- Nominal Cable Diameter:
  Stranded - 6.0mm
- Length Tolerance:
  (bracketed length) ± 1%

Environmental Conditions
- Operating temperature from -0ºC to 50ºC at 93% relative humidity, non condensing
- Storage temperature from -20ºC to 70ºC

Brand-Rex Copper Patch Cords - 10GPlus
Augmented Category 6 Blade Server Patch Cords

Part Number Format

AC6C-PC-A-bbb-cde-F

A - Cord Type		bbb - Cord Length		cde - Colour Scheme						F - Speciality Tag	
U	24AWG UTP	**020**	2 metre	**(c) Cable**		**(d) Boot 1**		**(e) Boot 2**		**X**	Crossover
S	27AWG STP	**030**	3 metre	**1**	Red	**1**	Red	**1**	Red	**HB**	Halogen Free
		050	5 metre	**4**	Blue	**4**	Blue	**4**	Blue		
		Additional lengths on request		**5**	Green	**5**	Green	**5**	Green		
				6	Yellow	**6**	Yellow	**6**	Yellow		
				8	Grey	**8**	Grey	**8**	Grey		
				Additional colours on request							

Product Part Numbering

	Red	Blue	Green	Yellow	Grey
24 AWG UTP - 2.0m	AC6PCU020-188HB	AC6PCU020-488HB	AC6PCU020-588HB	AC6PCU020-688HB	AC6PCU020-888HB
24 AWG UTP - 3.0m	AC6PCU030-188HB	AC6PCU030-488HB	AC6PCU030-588HB	AC6PCU030-688HB	AC6PCU030-888HB
24 AWG UTP - 5.0m	AC6PCU050-188HB	AC6PCU050-488HB	AC6PCU050-588HB	AC6PCU050-688HB	AC6PCU050-888HB
27 AWG SFTP - 2.0m	AC6PCS020-188HB	AC6PCS020-488HB	AC6PCS020-588HB	AC6PCS020-688HB	AC6PCS020-888HB
27 AWG SFTP - 3.0m	AC6PCS030-188HB	AC6PCS030-488HB	AC6PCS030-588HB	AC6PCS030-688HB	AC6PCS030-888HB
27 AWG SFTP - 5.0m	AC6PCS050-188HB	AC6PCS050-488HB	AC6PCS050-588HB	AC6PCS050-688HB	AC6PCS050-888HB

Non standard colour and length options are available to order on request.

Brand-Rex Copper Connectivity - 10GPlus
Augmented Category 6 Modular Panel
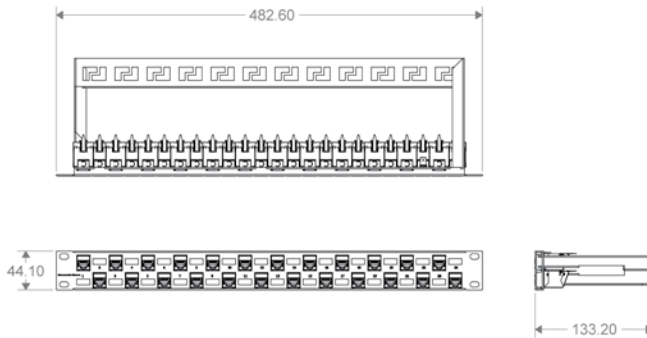
Compatible 10GPlus System Products

	Catalogue Number	Revision	Colour	Qty per Pack
Augmented Category 6 Unshielded Jack	AC6JAKUOK2	A	Black	12
Augmented Category 6 Unshielded Jack	AC6JAKUOK3	A	White	12
Augmented Category 6 Shielded Jack	AC6JAKFOK2	A	Metallic	12

Product Part Numbering

	Catalogue Number	Revision	Colour	Qty per Pack
10GPlus 24 Port Modular Snap-in-jack Panel	MMCPNLX24SIJ2M-B	D	Black	1
10GPlus 24 Port Modular Snap-in-jack Panel	MMCPNLX24SIJ8M-B	D	Grey	1

PRODUCT DESCRIPTION
The Brand-Rex Augmented Category 6 Snap-In-Jack panel is part of the Brand-Rex 10GPlus cabling system. The 10GPlus cabling system is comprised of high performance cables and connectivity which not only provide a reliable platform for all of today's network applications, but are also designed to future proof networks for the emerging, new, higher speed protocols of tomorrow, such as 10GBASE-T. The 10GPlus system is classified as an Augmented Category 6 and Class EA product set that is fully backwards compatible to Category 6 (Class E) and Category 5e (Class D) products.

Packaging
• Panel and cable manager pre-assembled and individually packaged in a cardboard box

Applications
• Equipment racks
• Cabinets
• Wall mounted brackets

Installation
• Suitable for Brand-Rex approved LSA and 110 unshielded jacks
• Suitable for Brand-Rex approved LSA shielded jacks
• Keystone style connection interface

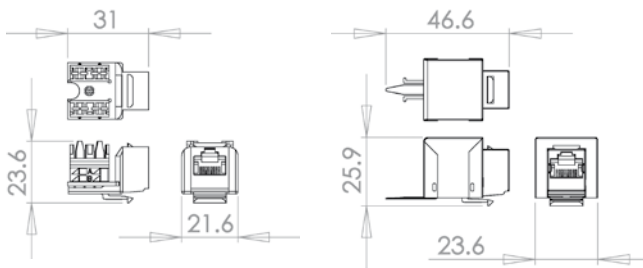**Mechanical Specifications**
Dimensions
• 483.0mm × 44.5mm (1U) × 133.2mm (w×h×d)

Material Data
• Panel and cable manager manufactured from high quality 1.5mm powder coated steel

10G PLUS

AC6
500MHz

Brand-Rex Copper Connectivity - 10GPlus Jacks
Augmented Category 6 Snap-In-Jacks

Product Part Numbering

	Catalogue Number	Revision	Colour	Qty per Pack
10GPlus Unshielded Snap-in-jack	AC6JAKUOK2	A	Black	12
10GPlus Unshielded Snap-in-jack	AC6JAKUOK3	A	White	12
10GPlus Shielded Snap-in-jack	AC6JAKFOK2	A	Metallic	12

PRODUCT DESCRIPTION:

The Brand-Rex 10GPlus Snap-In-Jack offers true Class EA component performance using a patented contact array design. The 10GPlus system is classified as an Augmented Category 6 and Class EA product set that is fully backwards compatible to Category 6 (Class E) and Category 5e (Class D) products. The jack is also fully compatible with all our UK and Continental style faceplates and products.

PRODUCT CHARACTERISTICS:

Outlet Style:	Unshielded and shielded Keystone type with RJ-45 ports
Cable Entry:	Top and Rear
Hole Plate Thickness:	Jack will clip into sheet material with a thickness of 1.6mm max.
Body Material:	High impact PBT UL94 - VO
Jack Contacts:	Phosphor Bronze
Plating:	50 µm gold over 100 µm of nickel
Punch Down Blocks:	LSA style IDC
IDC Contacts:	Phosphor Bronze
Wiring Standard:	EIA/TIA 568A/B
Conformance:	Category 6
	ANSI/EIA/TIA 568B.2.1 : 2002
	ISO/IEC 11801 : 2002
	EN50173-1 : 2002
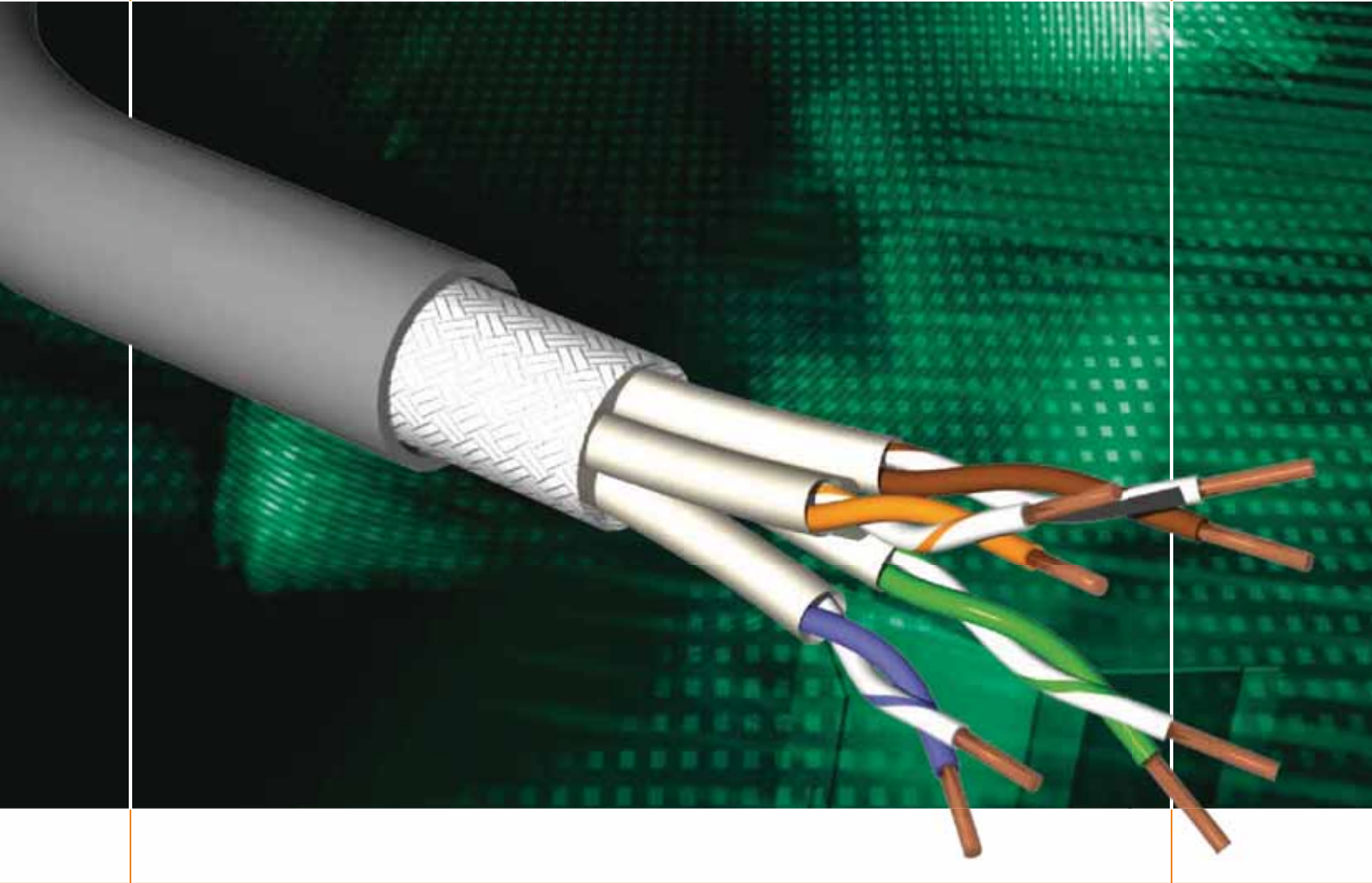
**BRAND-REX CATEGORY 7 CABLING
(CATEGORY 7 - CLASS F):**

Key Features

• U-MediaPlus is a range of universal
  media cables that exceed the Category 7
  requirements of ISO/IEC 11801 : 2002
  and EN 50173-1 : 2002.
• Third party independent certificates of
  compliance (from 3P) are available.
• Provides a foundation for supporting high
  bandwidth applications.

• Multi Gigabit capability.
• Individual and overall shielding providing
  outstanding EMI/RFI protection.
• Backward compatibility guaranteed.

Sheath
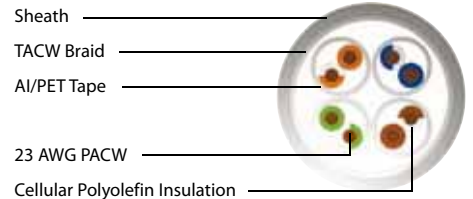
TACW Braid

Al/PET Tape

23 AWG PACW

Cellular Polyolefin Insulation
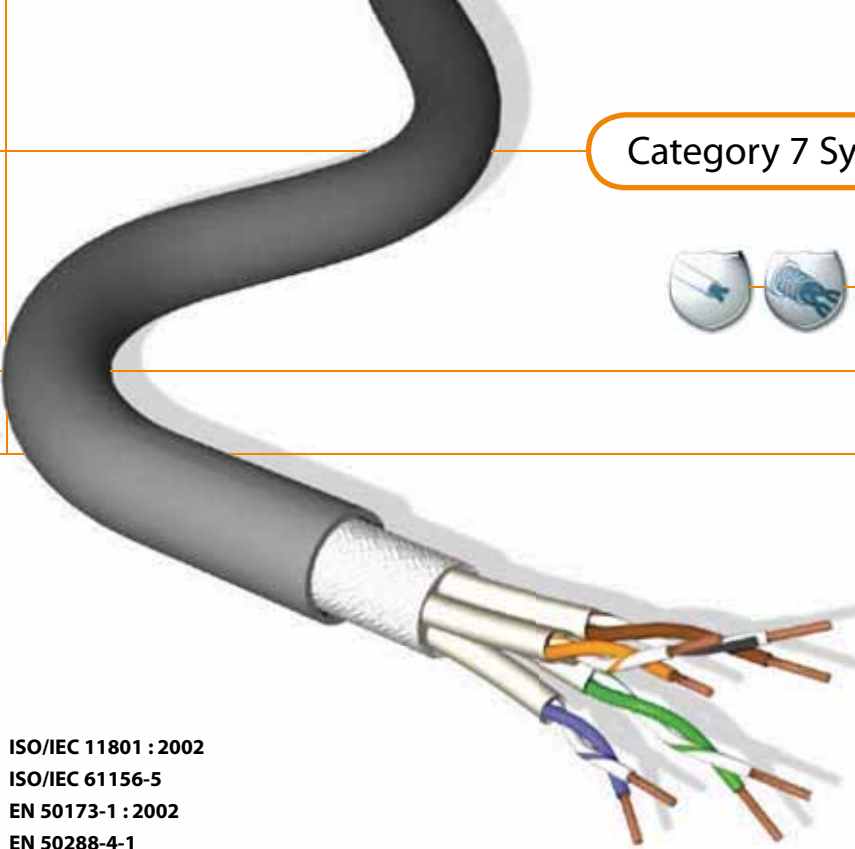
ISO/IEC 11801 : 2002
ISO/IEC 61156-5
EN 50173-1 : 2002
EN 50288-4-1

Brand-Rex Copper Cables - U-MediaPlus
Communication Cable, PIMF cable, S/FTP, 100 Ω, 4x2xAWG 23/1

Independent 3rd Party Certification (3P)

PRODUCT DESCRIPTION:
U-MediaPlus S/FTP, 100 Ω,
4x2xAWG 23/1 premium grade Class F/Cat 7
cables to support Gigabit Ethernet protocol for
installation in horizontal and backbone areas.

PRODUCT PERFORMANCE:
Core

Conductor:	23 AWG Plain Annealed Copper Wire
Insulation:	Cellular Polyolefin
Diameter:	1.45mm Nominal
Pair:	2 of the above cores
Tape Screen:	Individual pair wrapped with aluminium polyester tape, applied metal side out (Pair in Metal Foil)
Pair Colour:	Blue-White, Orange-White, Green-White, Brown-White

Final Assembly

Cable:	4 of the above screened pairs
Braid Screen:	0.127mm Tinned Annealed Copper Wire
Sheath:	PVC or LSZH compound

Mechanical and Environmental
Temp - Installation: 0°c to +50°c

Temp - Operation: 20°c to +75°c

Max Tensile Load:
10kg per simplex cable (installation)

Min Bend Radius:
8 x Outer Diameter (installation)
4 x Outer Diameter (operation)

Packaging
WRL   500m Wooden Reel
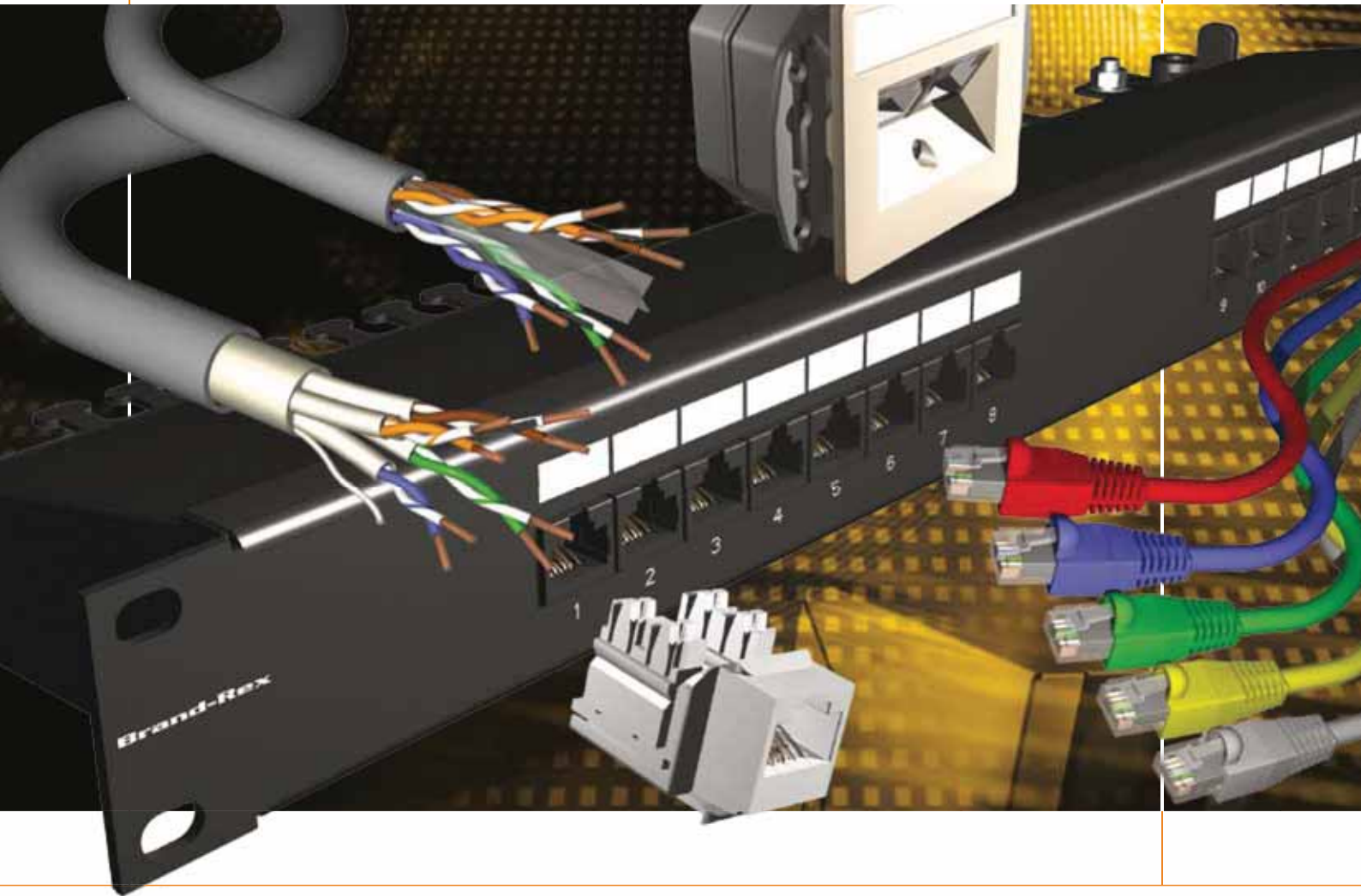   1000m Wooden Reel

Electrical Characteristics @ 20°c	Specification	Typical Performance
Conductor Loop Resistance	Max 19 0hm / 100m	14 Ω / 100m
Conductor Resistance Unbalance	Max 2%	0.5%
Dielectric Strength	1.0kV dc or 0.7kV ac for 1 min	100% in process test
Insulation Resistance	>500MΩ.km @ 100-500 V test voltage	>5 GΩ.km
Capacitance Unbalance to Earth	Max 160 pF/100m	80 pF/100m
Velocity of Propagation	<537.6 nsec/100m @ 100MHz	445 nsec/100m @ 100MHz (NVP for hand held testers = 0.74)
Skew	Max 25 nsec/100m @ 100MHz	5 nsec/100m @ 100MHz
Mean Characteristic Impendance	100 Ω +/- 5 Ω @ 100MHz	100 Ω +/- 3 Ω @ 100MHz
Transfer Impendance	Max 10 mΩ/m @ 100 MHz	5 mΩ/m @ 100MHz (ISO 61156 grade 1 cable)
Coupling Attenuation up to 1Ghz	Min 80 db	90 db

Frequency (MHz)		1	4	10	16	20	31.25	62.5	100	155	200	250	300	600	750	900	1000
Insertion Loss (dB/100m)	Spec	2.0	2.0	5.7	7.2	8.1	10.1	14.5	18.5	23.4	26.8	30.2	33.3	48.9	na	na	na
	Typical	1.9	1.9	5.5	7.0	7.8	9.9	14.1	18.0	22.7	26.1	29.4	32.5	47.6	54.1	60.0	63.8
NEXT (dB)	Spec	80.0	80.0	80.0	80.0	80.0	80.0	75.5	72.4	69.6	67.9	66.5	65.3	60.8	na	na	na
	Typical	100.0	100.0	100.0	100.0	100.0	100.0	98.0	94.3	90.9	88.9	87.1	85.7	80.3	78.5	77.1	76.3
PSNEXT (dB)	Spec	77.0	77.0	77.0	77.0	77.0	77.0	72.8	69.4	66.6	64.9	63.5	62.3	57.8	na	na	na
	Typical	97.0	97.0	97.0	97.0	97.0	97.0	95.0	91.3	87.9	85.9	84.1	82.7	77.3	75.5	74.1	73.3
ELFEXT (dB/100m)	Spec	80.0	80.0	74.0	69.9	68.0	64.1	58.1	54.0	50.2	48.0	46.0	44.5	38.4	na	na	na
	Typical	90.0	90.0	90.0	86.7	84.8	80.9	74.9	70.8	67.0	64.8	62.8	61.3	55.2	53.3	51.7	50.8
PSELFEXT (dB/100m)	Spec	77.0	77.0	71.0	66.9	65.0	61.1	55.1	51.0	47.2	45.0	43.0	41.5	35.4	na	na	na
	Typical	87.0	87.0	87.0	83.7	81.8	77.9	71.9	67.8	64.0	61.8	59.8	58.3	52.2	50.3	48.7	47.8
Return Loss (dB/100m)	Spec	NA	NA	25.0	25.0	25.0	23.6	21.5	20.1	18.8	18.0	17.3	17.3	17.3	na	na	na
	Typical	27.0	27.0	30.0	30.0	30.0	28.6	26.5	25.1	23.8	23.0	22.3	21.8	19.7	19.0	18.4	18.1
ACR (dB/100m)	Typical	98.1	98.1	94.5	93.0	92.2	90.1	83.9	76.3	68.1	62.8	57.7	53.3	32.6	24.5	17.1	12.5
PSACR (dB/100m)	Typical	95.1	95.1	91.5	90.0	89.2	87.1	80.9	73.3	65.1	59.8	54.7	50.3	29.6	21.5	14.1	9.5

Product Part Numbering

Part Number	UM10	UM10-D	UM10-HF1	UM10-HF1-D	UM10-HF3	UM10-HF3-D
Outer Sheath	PVC	PVC	LSZH	LSZH	LSZH	LSZH
Construction	Simplex	Duplex	Simplex	Duplex	Simplex	Duplex
Cable Weight	62.6 kg/km	122.0 kg/km	64.1kg/km	127.1 kg/km	65.1 kg/km	129.0 kg/km
Calorific Value	0.22 k Wh/m	0.42 k Wh/m	0.19 k Wh/m	0.39 k Wh/m	0.20 k Wh/m	0.43 k Wh/m
Outer Diameter (nom)	7.5mm	15 x 7.5mm	7.5mm	15 x 7.5mm	7.8mm	15.6 x 7.8mm
Sheath Colour	Grey RAL 7037	Grey RAL 7037	Violet RAL 4005	Violet RAL 4005	Blue RAL 5015	Blue RAL 5015
Fire Safety Rating	IEC 60332-1-2	IEC 60332-1-2	IEC 60332-1-2	IEC 60332-1-2	IEC 60332-3-24	IEC 60332-3-24
Acid Gas Emissions	na	na	IEC 60754-1	IEC 60754-1	IEC 60754-1	IEC 60754-1
Smoke Index	na	na	IEC 61034	IEC 61034	IEC 61034	IEC 61034
Packaging	WRL	WRL	WRL	WRL	WRL	WRL

**BRAND-REX CAT6PLUS SYSTEM
(CATEGORY 6 - CLASS E):**

Key Features
• Cat6Plus is standards compliant

• Cat6Plus is third party independently
 verified by 3P and GHMT

• Third party independent certificates of
 compliance are available for component
 and channel performance from 3P Inc.
 and GHMT Laboratories GmbH

• 1000BASE-T will operate with a lower bit
 error rate given the extra margin
 afforded by Cat6Plus

• Cat6Plus screened systems will support
 10GBASE-T in any channel configuration
 up to 100 metres*. Cat6Plus unscreened
 systems can support 10GBASE-T in any
 channel configuration up to 37 metres*
 and up to 55 metres* subject to Alien Cross
 Talk verification
 * Subject to testing to the latest versions of TSB
  155 or TR 24750

• Cat6Plus supports broadband video
 applications up to 550MHz

• Cat6Plus supports Power over Ethernet
 applications including:
 - VoIP
 - WLAN access points
 - Security cameras etc.

• Reduced bit error rate as a consequence
 of higher system margin above standard

• System available in both shielded and
 unshielded options

• Cat6Plus is interoperable and
 backwards compatible

• For EMC add the same statement as
 outlined for Cat 5e
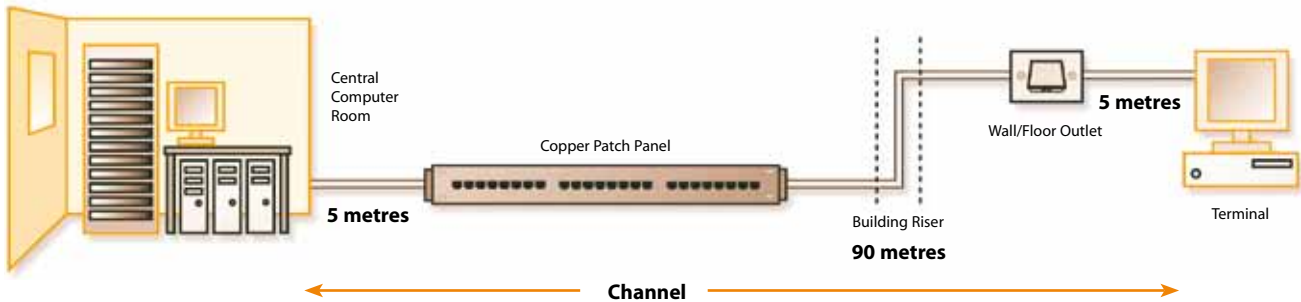
The Cat6Plus System

Structured wiring systems comprised of Cat6Plus cables, patch leads and connectivity are designed to be compliant with the current sets of Class E / Category 6 published and draft standards requirements as an absolute minimum.

The systems support all protocols defined in current editions, and amendments, of ISO 11801:2002, ANSI/TIA/EIA 568B.2.1 : 2002 and EN50173-1:2002 (including IEEE802.3ab Gigabit Ethernet) and are fully backward compatible.

Cat6Plus is a premium grade cabling system that is characterised to 550MHz and its performance significantly exceeds the requirements specified in the current versions of the published and draft standards for Class E / Category 6.

Brand-Rex Copper Cables - Cat6Plus Channel Performance
Unshielded and Shielded systems

Central Computer Room

Copper Patch Panel

5 metres

Wall/Floor Outlet

5 metres

Terminal

Building Riser

90 metres

Channel

4 Connector Channel Performance

Frequency (MHz)		1	4	10	16	20	31.25	62.5	100	125	155	175	200	250	350	500	550
Attenuation (dB)	Typical	1.9	3.5	5.5	7.0	7.8	9.8	14.2	18.4	20.8	23.4	25.0	27.0	30.6	37.2	45.9	48.6
	Spec	2.1	4.0	6.3	8.0	9.0	11.4	16.5	21.3	24.1	27.2	29.2	31.5	35.9			
NEXT (dB)	Typical	80.7	71.0	64.6	61.2	59.6	56.4	51.4	47.9	46.3	44.7	43.8	42.8	41.1	35.6	32.9	32.2
	Spec	65.0	63.0	56.6	53.2	51.6	48.4	43.4	39.9	38.3	36.7	35.8	34.8	33.1			
PSNEXT (dB)	Typical	78.6	68.8	62.3	58.9	57.2	54.0	48.8	45.3	43.6	42.0	41.1	40.1	38.3	32.8	30.0	29.3
	Spec	62.0	60.5	54.0	50.6	49.0	45.7	40.6	37.1	35.4	33.8	32.9	31.9	30.2			
Return Loss (dB)	Typical	28.0	25.0	23.0	22.0	21.5	20.5	19.0	18.0	17.5	17.0	16.8	16.5	16.0	15.3	14.5	14.3
	Spec	19.0	19.0	19.0	18.0	17.5	16.5	14.0	12.0	11.0	10.1	9.6	9.0	8.0			
ELFEXT (dB)	Typical	78.3	66.2	58.3	54.2	52.2	48.4	42.3	38.3	36.3	34.5	33.4	32.2	30.3	22.4	19.3	18.4
	Spec	63.3	51.2	43.3	39.2	37.2	33.4	27.3	23.3	21.3	19.5	18.4	17.2	15.3			
PSELFEXT (dB)	Typical	75.3	63.2	55.3	51.2	49.2	45.4	39.3	35.3	33.3	31.5	30.4	29.2	27.3	19.4	16.3	15.4
	Spec	60.3	48.2	40.3	36.2	34.2	30.4	24.3	20.3	18.3	16.5	15.4	14.2	12.3			
Propogation Delay (ns)	Typical	520	505	500	500	500	500	500	500	500	500	500	500	500	500	500	500
	Spec	580	562	555	553	552	550	549	548	547	547	547	547	546			
Delay Skew (ns)	Typical	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30
	Spec	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50			
ACR (dB)	Typical	78.8	67.6	59.1	54.3	51.8	46.6	37.2	29.6	25.5	21.3	18.7	15.8	10.5	-1.6	-13.1	-16.5
	Spec	62.9	59.0	50.2	45.2	42.6	37.0	26.9	18.6	14.2	9.51	6.6	3.3	-2.8			
PSACR (dB)	Typical	76.7	65.3	56.8	51.9	49.4	44.1	34.6	26.9	22.9	8.6	16.0	13.1	7.7	-4.5	-15.9	-19.4
	Spec	59.9	56.5	47.7	42.6	39.9	34.3	24.1	15.8	11.3	6.6	3.7	0.3	-5.8			
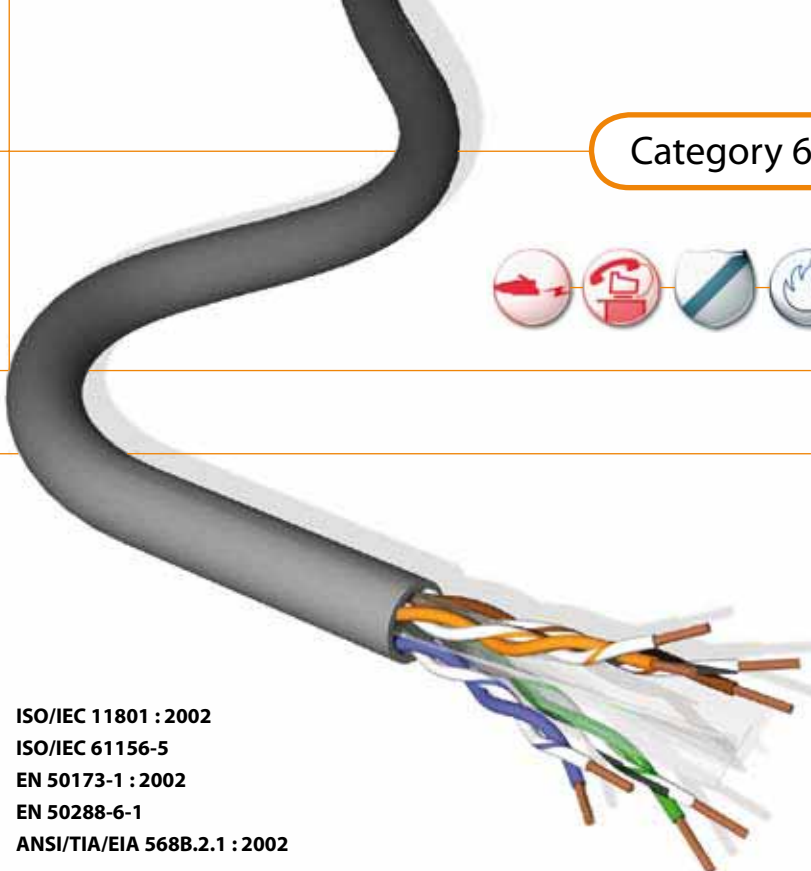
ISO/IEC 11801 : 2002
ISO/IEC 61156-5
EN 50173-1 : 2002
EN 50288-6-1
ANSI/TIA/EIA 568B.2.1 : 2002

Brand-Rex Copper Cables - Cat6Plus
Communication Cable, U/UTP, 100 Ω, 4x2xAWG 23/1

Sheath

Cross Filler

Solid PE Insulation

23 AWG PACW

Independent 3rd Party Certification (3P)

PRODUCT DESCRIPTION:
Cat6Plus U/UTP, 100 Ω, 4x2xAWG 23/1 premium grade Class E/Cat 6 cable to support Gigabit Ethernet protocol for installation in horizontal and backbone areas.

PRODUCT PERFORMANCE:

Core

Conductor:	23 AWG Plain Annealed Copper Wire
Insulation:	Polyolefin
Diameter:	1.00mm Nominal
Pair:	2 of the above cores
Pair Colour:	Blue-White, Orange-White, Green-White, Brown-White

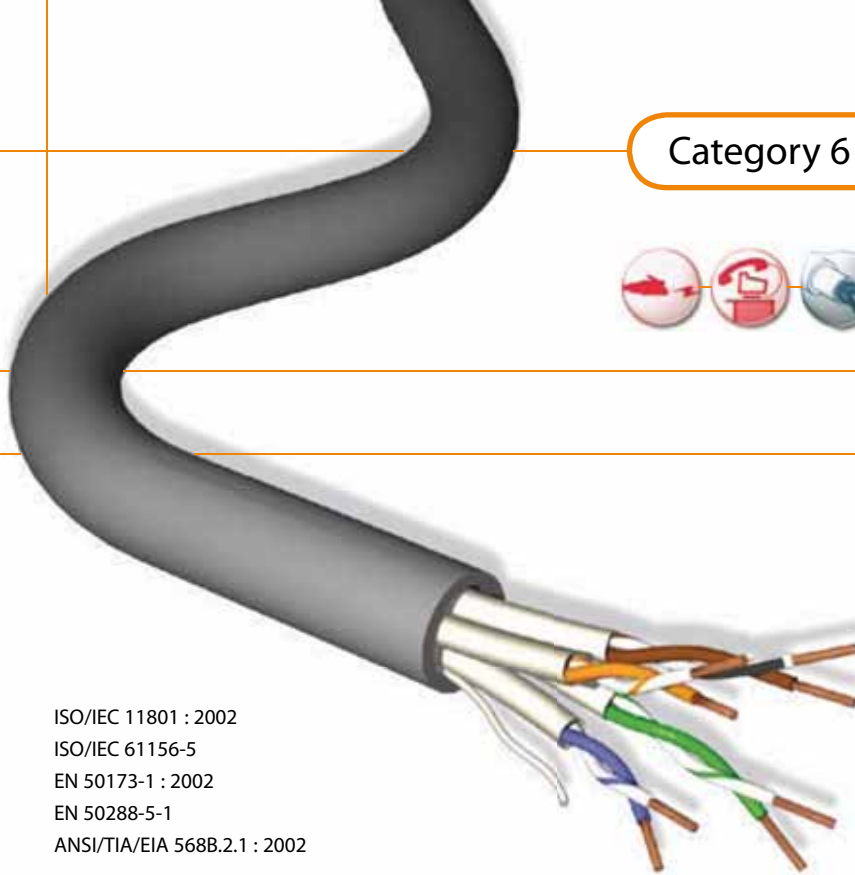| Electrical Characteristics @ 20°c	Specification	Typical Performance
Conductor Loop Resistance	Max 19 Ω / 100m	14 Ω / 100m
Conductor Resistance Unbalance	Max 2%	0.5%
Dielectric Strength	1.0kV dc or 0.7kV ac for 1 min	100% in process test
Insulation Resistance	>500MΩ.km @ 100-500 V test voltage	>5 GΩ.km
Capacitance Unbalance to Earth	Max 160 pF/100m	40 pF/100m
Velocity of Propagation	<534 nsec/100m @ 100MHz	490 nsec/100m @ 100MHz (NVP for hand held testers = 0.69)
Skew	Max 40 nsec/100m @ 100MHz	30 nsec/100m @ 100MHz
Mean Characteristic Impendance	100 Ω +/- 5 Ω @ 100MHz	100 Ω +/- 3Ω @ 100MHz
Coupling Attenuation up to 1Ghz	Min 40 dB	56 dB

Final Assembly

Cable:	4 of the above pairs cabled together around a cross filler
Sheath:	PVC or LSZH compound

Frequency (MHz)		1	4	10	16	20	31.25	62.5	100	155	200	250	300	550
Insertion Loss (dB/100m)	Spec	2.1	3.8	6.0	7.6	8.5	10.7	15.5	19.9	25.3	29.1	33.0	na	na
	Typical	1.9	3.5	5.5	7.0	7.8	9.9	14.1	18.0	22.7	26.1	29.4	32.5	45.4
NEXT (dB)	Spec	66.0	65.3	59.3	56.2	54.8	51.9	47.4	44.3	41.4	39.8	38.3	na	na
	Typical	86.5	77.5	71.5	68.4	67.0	64.1	59.6	56.5	53.6	52.0	50.5	49.3	45.4
PSNEXT (dB)	Spec	64.0	63.3	57.3	54.2	52.8	49.9	45.4	42.3	39.4	37.8	36.3	na	na
	Typical	84.5	75.5	69.5	66.4	65.0	62.1	57.6	54.5	51.6	50.0	48.5	47.3	43.4
ELFEXT (dB/100m)	Spec	66.0	58.0	50.0	45.9	44.0	40.1	34.1	30.0	26.2	24.0	22.0	na	na
	Typical	85.0	73.0	65.0	60.9	59.0	55.1	49.1	45.0	41.2	39.0	37.0	35.5	30.2
PSELFEXT (dB/100m)	Spec	64.0	55.0	47.0	42.9	41.0	37.1	31.1	27.0	23.2	21.0	19.0	na	na
	Typical	82.0	70.0	62.0	57.9	56.0	52.1	46.4	42.0	38.2	36.0	34.0	32.5	27.2
Return Loss (dB/100m)	Spec	na	23.0	25.0	25.0	25.0	23.6	21.5	20.1	18.8	18.0	17.3	na	na
	Typical	27.0	30.0	30.0	30.0	30.0	28.6	26.5	25.1	23.8	23.0	22.3	21.8	19.9
ACR (dB/100m)	Typical	84.6	73.9	66.0	61.4	59.1	54.2	45.5	38.5	30.9	25.9	21.1	16.9	0.0
PSACR (dB/100m)	Typical	82.6	71.9	64.0	59.4	57.1	52.2	43.5	36.5	28.9	23.9	19.1	14.9	-2.0

Mechanical and Environmental

Temp - Installation:	0°c to +50°c
Temp - Operation:	-20°c to +75°c

Max Tensile Load:
10kg per simplex cable (installation)
Min Bend Radius:
8 x Outer Diameter (installation)
4 x Outer Diameter (operation)

Product Part Numbering

Part Number	C6U	C6U-D	C6U-HF1	C6U-HF1-D	C6U-HF3	C6U-HF3-D
Outer Sheath	PVC	PVC	LSZH	LSZH	LSZH	LSZH
Construction	Simplex	Duplex	Simplex	Duplex	Simplex	Duplex
Cable Weight	43.5 kg/km	87.0 kg/km	43.0kg/km	86.0 kg/km	56.5 kg/km	113 kg/km
Calorific Value	0.19 k Wh/m	0.38 k Wh/m	0.18 k Wh/m	0.36 k Wh/m	0.26 k Wh/m	0.52 k Wh/m
Outer Diameter (nom)	6.2mm	12.5 x 6.2mm	6.2mm	12.5 x 6.2mm	7.0mm	14.1 x 7.0mm
Sheath Colour	Grey RAL 7037	Grey RAL 7037	Violet RAL 4005	Violet RAL 4005	Blue RAL 5015	Blue RAL 5015
Fire Safety Rating	IEC 60332-1-2	IEC 60332-1-2	IEC 60332-1-2	IEC 60332-1-2	IEC 60332-3-24	IEC 60332-3-24
Acid Gas Emissions	na	na	IEC 60754-1	IEC 60754-1	IEC 60754-1	IEC 60754-1
Smoke Index	na	na	IEC 61034	IEC 61034	IEC 61034	IEC 61034
Packaging	RLX / WRL	WRL	RLX / WRL	WRL	WRL	WRL

Packaging

RLX	305m Reelex Box
WRL	500m Wooden Reel
	1000m Wooden Reel

Sheath
Polyester Tape
AI/PET Tape
Polyolefin Insulation
23 AWG PACW
TACW Drainwire

PRODUCT DESCRIPTION:

Cat6Plus U/FTP, 100 Ω, 4x2xAWG 23/1 premium grade Class E/Cat 6 cable to support Gigabit Ethernet protocol for installation in horizontal and backbone areas.

ISO/IEC 11801 : 2002
ISO/IEC 61156-5
EN 50173-1 : 2002
EN 50288-5-1
ANSI/TIA/EIA 568B.2.1 : 2002

PRODUCT PERFORMANCE:

Core

Conductor:	23 AWG Plain Annealed Copper Wire
Insulation:	Polyolefin
Diameter:	1.4mm Nominal
Pair:	2 of the above cores
Tape Screen:	Individual pair wrapped with aluminium polyester tape, applied metal side out
Pair Colour:	Blue-White, Orange-White, Green-White, Brown-White

Brand-Rex Copper Cables - Cat6Plus
Communication Cable, U/FTP, 100 Ω, 4x2xAWG 23/1

Final Assembly

Cable:	4 of the above pairs cabled together around a cross filler
Drainwire:	0.5mm Tinned Annealed Copper Wire
Tape Screen:	Wrapped with polyester tape
Sheath:	PVC or LSZH compound

| Electrical Characteristics @ 20°c	Specification	Typical Performance
Conductor Loop Resistance	Max 19 Ohm / 100m	14 Ohm / 100m
Conductor Resistance Unbalance	Max 2%	0.5%
Dielectric Strength	1.0kV dc or 0.7kV ac for 1 min	100% in process test
Insulation Resistance	>500MOhm @ 100-500 V test voltage	>5 GOhm.km
Capacitance Unbalance to Earth	Max 160 pF/100m	40 pF/100m
Velocity of Propagation	<537.6 nsec/100m @ 100MHz	440 nsec/100m @ 100MHz (NVP for hand held testers = 0.74)
Skew	Max 40 nsec/100m @ 100MHz	20 nsec/100m @ 100MHz
Mean Characteristic Impendance	100 Ohm +/- 5 Ohm @ 100MHz	100 Ω +/- 3 Ohm @ 100MHz
Transfer Impendance	Max 100 mΩ/m @ 10 MHz	30 mΩ/m @ 10MHz (ISO 61156 grade 2)

Mechanical and Environmental

Temp - Installation: 0°c to +50°c
Temp - Operation: -20°c to +75°c
Max Tensile Load:
10kg per simplex cable (installation)
Min Bend Radius:
8 x Outer Diameter (installation)
4 x Outer Diameter (operation)

Frequency (MHz)		1	4	10	16	20	31.25	62.5	100	155	200	250	300	600
Insertion Loss (dB/100m)	Spec	2.1	3.8	6.0	7.6	8.5	10.7	15.5	19.9	25.3	29.1	33.0	na	na
	Typical	1.9	3.5	5.5	7.0	7.8	9.9	14.1	18.0	22.7	26.1	29.4	32.5	47.6
NEXT (dB)	Spec	66.0	65.3	59.3	56.2	54.8	51.9	47.4	44.3	41.4	39.8	38.3	na	na
	Typical	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	95.0	90.0	90.0
PSNEXT (dB)	Spec	64.0	63.3	57.3	54.2	52.8	49.9	45.4	42.3	39.4	37.8	36.3	na	na
	Typical	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	92.0	87.0	87.0
ELFEXT (dB/100m)	Spec	66.0	58.0	50.0	45.9	44.0	40.1	34.1	30.0	26.2	24.0	22.0	na	na
	Typical	90.0	89.0	85.0	81.0	76.0	72.0	67.0	60.0	52.0	50.0	49.0	40.0	35.0
PSELFEXT (dB/100m)	Spec	64.0	55.0	47.0	42.9	41.0	37.1	31.1	27.0	23.2	21.0	19.0	na	na
	Typical	87.0	86.0	82.0	78.0	73.0	69.0	64.0	57.0	49.0	47.0	46.0	37.0	32.0
Return Loss (dB/100m)	Spec	20.0	23.0	25.0	25.0	25.0	23.6	21.5	20.1	18.8	18.0	17.3	na	na
	Typical	30.0	30.0	30.0	30.0	30.0	27.0	25.0	24.0	22.0	21.0	20.0	19.0	17.0
ACR (dB/100m)	Typical	98.1	96.5	94.5	93.0	92.2	90.1	85.9	82.0	77.3	73.9	65.9	57.5	42.4
PSACR (dB/100m)	Typical	95.1	93.5	91.5	90.0	89.2	87.1	82.9	79.0	74.3	70.9	62.6	54.5	39.4

Packaging
WRL   500m Wooden Reel
                  1000m Wooden Reel

Product Part Numbering

Part Number	C6U/FTP	C6U/FTP-D	C6U/FTP-HF1	C6U/FTP-HF1-D
Outer Sheath	PVC	PVC	LSZH	LSZH
Construction	Simplex	Duplex	Simplex	Duplex
Cable Weight (nom)	51.1 kg/km	102.5 kg/km	53.8 kg/km	108.0 kg/km
Calorific Value	0.22 k Wh/m	0.22 k Wh/m	0.20 k Wh/m	0.20 k Wh/m
Outer Diameter (nom)	7.15mm	7.15mm	7.15mm	7.15mm
Sheath Colour	Grey RAL 7037	Grey RAL 7037	Violet RAL 4005	Violet RAL 4005
Fire Safety Rating	IEC 60332-1-2	IEC 60332-1-2	IEC 60332-1-2	IEC 60332-1-2
Acid Gas Emissions	na	na	IEC 60754-1	IEC 60754-1
Smoke Index	na	na	IEC 61034	IEC 61034
Packaging	WRL	WRL	WRL	WRL

CAT6PLUS
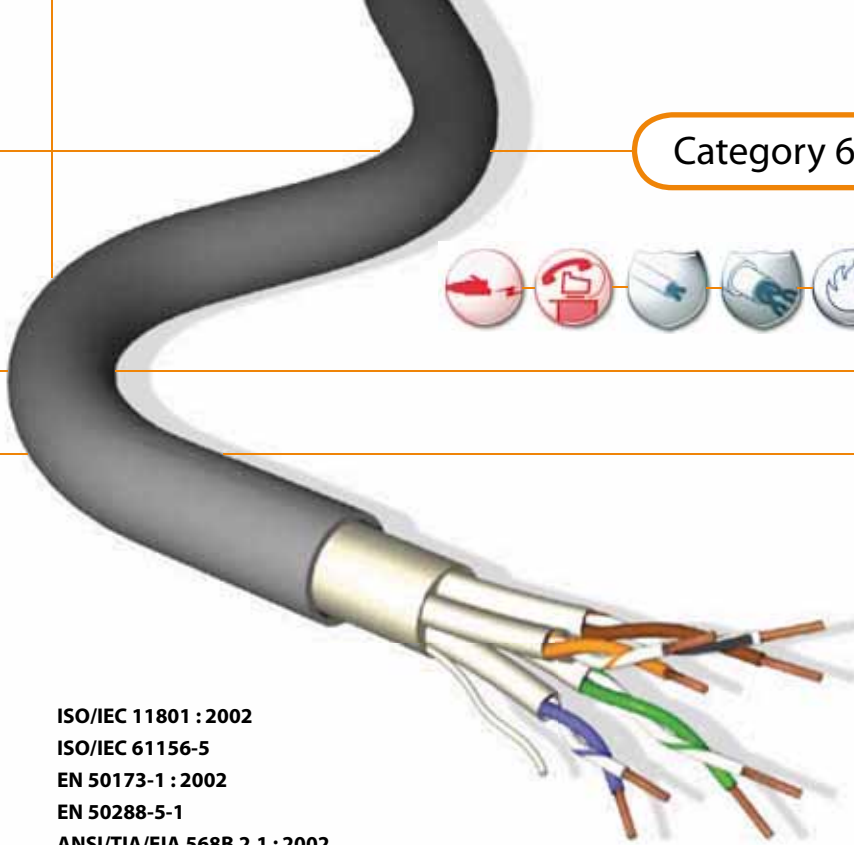
6 250MHz

Sheath
AI/PET Tape
AI/PET Tape
Cellular Polyolefin Insulation
23 AWG PACW
TACW Drainwire

ISO/IEC 11801 : 2002
ISO/IEC 61156-5
EN 50173-1 : 2002
EN 50288-5-1
ANSI/TIA/EIA 568B.2.1 : 2002

Brand-Rex Copper Cables - Cat6Plus
Communication Cable, F/FTP, 100 Ω, 4x2xAWG 23/1

Independent 3rd Party Certification (3P)

PRODUCT DESCRIPTION:
Cat6Plus F/FTP, 100 Ω, 4x2xAWG 23/1 premium grade Class E/Cat 6 cable to support Gigabit Ethernet protocol for installation in horizontal and backbone areas.

PRODUCT PERFORMANCE:
Core
Conductor: 23 AWG Plain Annealed Copper Wire
Insulation: Cellular Polyolefin
Diameter: 1.45mm Nominal
Pair: 2 of the above cores
Tape Screen: Individual pair wrapped with aluminium polyester tape, applied metal side out
Pair Colour: Blue-White, Orange-White, Green-White, Brown-White

Final Assembly
Cable: 4 of the above shielded pairs
Drainwire: 0.5mm Tinned Annealed Copper Wire
Tape Screen: Wrapped with aluminium polyester tape, applied metal side in
Sheath: PVC or LSZH compound

Mechanical and Environmental
Temp - Installation: 0°c to +50°c
Temp - Operation: -20°c to +75°c
Max Tensile Load:
10kg per simplex cable (installation)
Min Bend Radius:
8 x Outer Diameter (installation)
4 x Outer Diameter (operation)

Packaging
WRL   500m Wooden Reel
1000m Wooden Reel

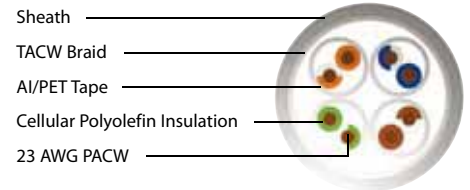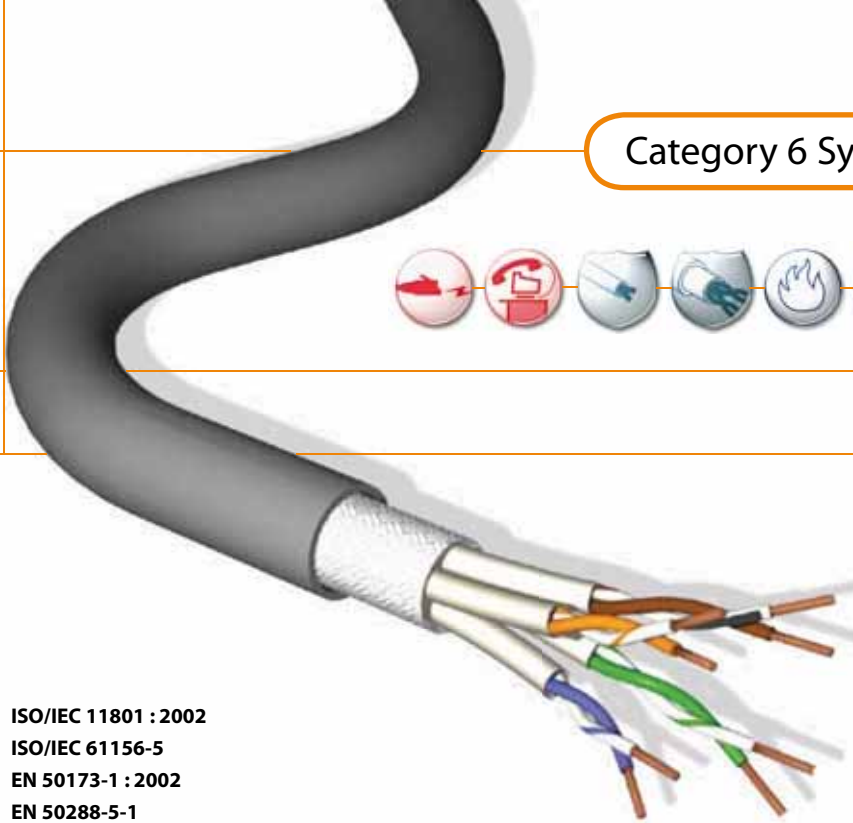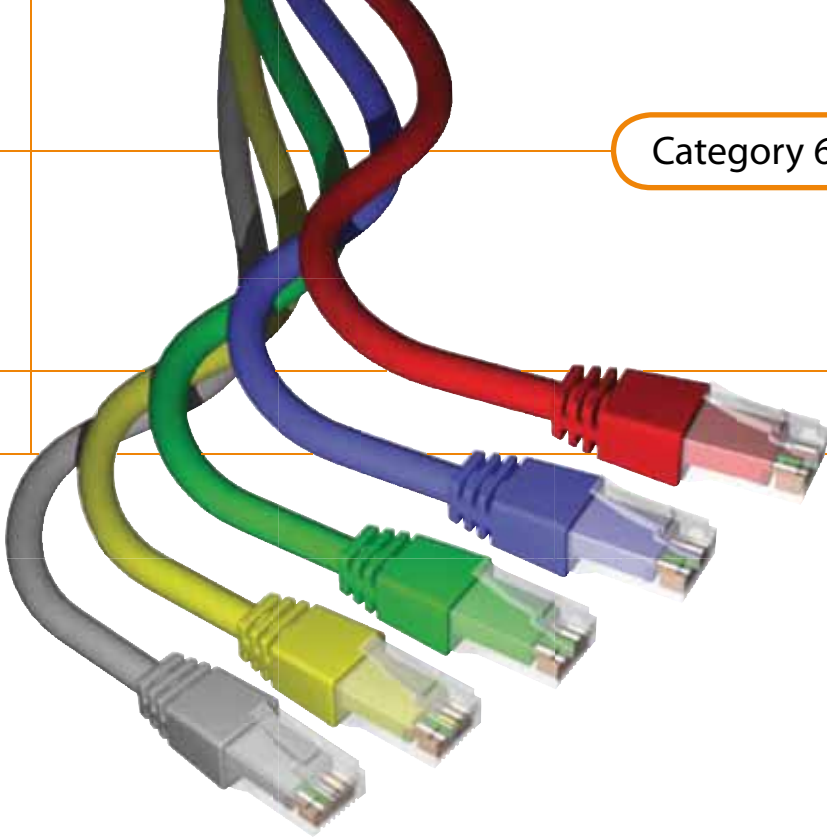| Electrical Characteristics @ 20°c	Specification	Typical Performance
Conductor Loop Resistance	Max 19 Ω / 100m	14 Ω / 100m
Conductor Resistance Unbalance	Max 2%	0.5%
Dielectric Strength	1.0kV dc or 0.7kV ac for 1 min	100% in process test
Insulation Resistance	>500MΩ @ 100-500 V test voltage	>500 MΩ.km
Capacitance Unbalance to Earth	Max 160 pF/100m	80 pF/100m
Velocity of Propagation	<537.6 nsec/100m @ 100MHz	537.6 nsec/100m @ 100MHz (NVP for hand held testers = 0.74)
Skew	Max 40 nsec/100m @ 100MHz	25 nsec/100m @ 100MHz
Mean Characteristic Impendance	100 Ω +/- 5 Ω @ 100MHz	100 Ω +/- 3 Ω @ 100MHz
Transfer Impendance	Max 100 mΩ/m @ 10MHz	30 mΩ/m @ 10MHz (ISO 61156 grade 1 cable)
Coupling Attenuation up to 1Ghz	Min 55 dB	75 dB

Frequency (MHz)		1	4	10	16	20	31.25	62.5	100	155	200	250	300	600
Insertion Loss (dB/100m)	Spec	2.1	3.8	6.0	7.6	8.5	10.7	15.5	19.9	25.3	29.1	33.0	na	na
	Typical	1.9	3.5	5.5	7.0	7.8	9.9	14.1	18.0	22.7	26.1	29.4	32.5	47.6
NEXT (dB)	Spec	66.0	65.3	59.3	56.2	54.8	51.9	47.4	44.3	41.4	39.8	38.3	na	na
	Typical	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	90.0	90.0
PSNEXT (dB)	Spec	64.0	63.3	57.3	54.2	52.8	49.9	45.4	42.3	39.4	37.8	36.3	na	na
	Typical	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	92.0	87.0	87.0
ELFEXT (dB/100m)	Spec	66.0	58.0	50.0	45.9	44.0	40.1	34.1	30.0	26.2	24.0	22.0	na	na
	Typical	90.0	89.0	85.0	81.0	76.0	72.0	67.0	60.0	52.0	50.0	49.0	40.0	35.0
PSELFEXT (dB/100m)	Spec	64.0	55.0	47.0	42.9	41.0	37.1	31.1	27.0	23.2	21.0	19.0	na	na
	Typical	88.0	86.0	82.0	78.0	73.0	69.0	64.0	57.0	49.0	47.0	46.0	37.0	32.0
Return Loss (dB/100m)	Spec	23.0	23.0	25.0	25.0	25.0	23.6	21.5	20.1	18.8	18.0	17.3	na	na
	Typical	30.0	30.0	30.0	30.0	30.0	27.0	25.0	24.0	22.0	21.0	20.0	19.0	17.0
ACR (dB/100m)	Typical	96.5	96.5	94.5	93.0	92.2	90.1	85.5	82.0	77.3	74.0	65.6	57.5	42.4
PSACR (dB/100m)	Typical	93.5	93.5	91.5	90.0	89.2	87.1	82.9	79.0	74.3	71.0	62.6	54.5	39.4

Product Part Numbering

Part Number	C6F/FTP	C6F/FTP-HF1	C6F/FTP-HF3
Outer Sheath	PVC	LSZH	LSZH
Construction	Simplex	Simplex	Simplex
Cable Weight	51.4 kg/km	54.3 kg/km	55.3 kg/km
Calorific Value	0.23 k Wh/m	0.20 k Wh/m	0.21 k Wh/m
Outer Diameter (nom)	7.3mm	7.3mm	7.4mm
Sheath Colour	Grey RAL 7037	Violet RAL 4005	Blue RAL 5015
Fire Safety Rating	IEC 60332-1-2	IEC 60332-1-2	IEC 60332-3-24
Acid Gas Emissions	na	IEC 60754-1	IEC 60754-1
Smoke Index	na	IEC 61034	IEC 61034
Packaging	WRL	WRL	WRL

ISO/IEC 11801 : 2002
ISO/IEC 61156-5
EN 50173-1 : 2002
EN 50288-5-1
ANSI/TIA/EIA 568B.2.1 : 2002

Sheath
TACW Braid
AI/PET Tape
Cellular Polyolefin Insulation
23 AWG PACW

Independent 3rd Party Certification (3P)

PRODUCT DESCRIPTION:
Cat6Plus S/FTP, 100 Ω, 4x2xAWG 23/1 premium grade Class E/Cat 6 cable to support Gigabit Ethernet protocol for installation in horizontal and backbone areas.

PRODUCT PERFORMANCE:
Core
Conductor: 23 AWG Plain Annealed Copper Wire
Insulation: Cellular Polyolefin
Diameter: 1.45mm Nominal
Pair: 2 of the above cores
Tape Screen: Individual pair wrapped with aluminium polyester tape, applied metal side out
Pair Colour: Blue-White, Orange-White, Green-White, Brown-White

Brand-Rex Copper Cables - Cat6Plus
Communication Cable, S/FTP, 100 Ω, 4x2xAWG 23/1

Final Assembly
Cable: 4 of the above pairs
Braid Screen: 0.127mm Tinned Annealed Copper Wire,
Sheath: PVC or LSZH compound

Electrical Characteristics @ 20°c	Specification	Typical Performance
Conductor Loop Resistance	Max 19 Ω / 100m	14 Ω / 100m
Conductor Resistance Unbalance	Max 2%	0.5%
Dielectric Strength	1.0kV dc or 0.7kV ac for 1 min	100% in process test
Insulation Resistance	>500MΩ.km @ 100-500 V test voltage	>5 GΩ.km
Capacitance Unbalance to Earth	Max 160 pF/100m	80 pF/100m
Velocity of Propagation	<537.6 nsec/100m @ 100MHz	445 nsec/100m @ 100MHz (NVP for hand held testers = 0.74)
Skew	Max 40 nsec/100m @ 100MHz	5 nsec/100m @ 100MHz
Mean Characteristic Impendance	100 Ω +/- 5 Ω @ 100MHz	100 Ω +/- 3 0hm @ 100MHz
Transfer Impendance	Max 100 mΩ/m @ 10 MHz	5 mΩ/m @ 10MHz (ISO 61156 grade 1 cable)
Coupling Attenuation up to 1Ghz	Min 55 dB	90 dB

Mechanical and Environmental
Temp - Installation: 0°c to +50°c
Temp - Operation: -20°c to +75°c
Max Tensile Load:
10kg per simplex cable (installation)
Mini Bend Radius:
8 x Outer Diameter (installation)
4 x Outer Diameter (operation)

Packaging
WRL   500m Wooden Reel
               1000m Wooden Reel

Frequency (MHz)		1	4	10	16	20	31.25	62.5	100	155	200	250	300	600
Insertion Loss (dB/100m)	Spec	2.1	3.8	6.0	7.6	8.5	10.7	15.5	19.9	25.3	29.1	33.0	na	na
	Typical	1.9	3.5	5.5	7.0	7.8	9.9	14.1	18.0	22.7	26.1	29.4	32.5	47.6
NEXT (dB)	Spec	66.0	65.3	59.3	56.2	54.8	51.9	47.4	44.3	41.4	39.8	38.3	na	na
	Typical	100.0	100.0	100.0	100.0	100.0	100.0	98.0	94.3	90.9	88.9	87.1	85.7	80.3
PSNEXT (dB)	Spec	64.0	63.3	57.3	54.2	52.8	49.9	45.4	42.3	39.4	37.8	36.3	na	na
	Typical	97.0	97.0	97.0	97.0	97.0	97.0	95.0	91.3	87.9	85.9	84.1	82.7	77.3
ELFEXT (dB/100m)	Spec	66.0	58.0	50.0	45.9	44.0	40.1	34.1	30.0	26.2	24.0	22.0	na6	na
	Typical	90.0	90.0	90.0	86.7	84.8	80.9	74.9	70.8	67.0	64.8	62.8	1.3	55.2
PSELFEXT (dB/100m)	Spec	64.0	55.0	47.0	42.9	41.0	37.1	31.1	27.0	23.2	21.0	19.0	na	na
	Typical	87.0	87.0	87.0	83.7	81.8	77.9	71.9	67.8	64.0	61.8	59.8	58.3	52.2
Return Loss (dB/100m)	Spec	23.0	23.0	25.0	25.0	25.0	23.6	21.5	20.1	18.8	18.0	17.3	na	na
	Typical	30.0	30.0	30.0	30.0	30.0	28.6	26.5	25.1	23.8	23.0	22.3	21.8	19.7
ACR (dB/100m)	Typical	96.5	96.5	94.5	93.0	92.2	90.1	83.9	76.3	68.1	62.8	57.7	53.3	32.6
PSACR (dB/100m)	Typical	93.5	93.5	91.5	90.0	89.2	87.1	80.9	73.3	65.1	59.8	54.7	50.3	29.6

Product Part Numbering

Part Number	C6STP	C6STP-D	C6STP-HF1	C6STP-HF1-D	C6STP-HF3	C6STP-HF3-D
Outer Sheath	PVC	PVC	LSZH	LSZH	LSZH	LSZH
Construction	Simplex	Duplex	Simplex	Duplex	Simplex	Duplex
Cable Weight	62.6 kg/km	122.0 kg/km	64.1kg/km	127.1 kg/km	65.1 kg/km	129.0 kg/km
Calorific Value	0.22 k Wh/m	0.42 k Wh/m	0.19 k Wh/m	0.39 k Wh/m	0.20 k Wh/m	0.43 k Wh/m
Outer Diameter (nom)	7.5mm	15 x 7.5mm	7.5mm	15 x 7.5mm	7.8mm	15.6 x 7.8mm
Sheath Colour	Grey RAL 7037	Grey RAL 7037	Violet RAL 4005	Violet RAL 4005	Blue RAL 5015	Blue RAL 5015
Fire Safety Rating	IEC 60332-1-2	IEC 60332-1-2	IEC 60332-1-2	IEC 60332-1-2	IEC 60332-3-24	IEC 60332-3-24
Acid Gas Emissions	na	na	IEC 60754-1	IEC 60754-1	IEC 60754-1	IEC 60754-1
Smoke Index	na	na	IEC 61034	IEC 61034	IEC 61034	IEC 61034
Packaging	WRL	WRL	WRL	WRL	WRL	WRL

The Brand-Rex 8 Point Patch Cord Promise

1. Cat6Plus patch cords employ independently verified Category 6 cable
2. Cat6Plus patch cords are manufactured using leading brand Category 6 conformant RJ-45 modular plugs
3. Cat6Plus patch cords are manufactured with a flexible strain relief boot as standard
4. Cat6Plus patch cords are manufactured using only quality approved assembly houses to the exacting requirements of Brand-Rex purchase specification
5. Cat6Plus patch cords are tested in accordance with our AQL plan for Category 6 standards conformance
6. Cat6Plus patch cords are available in screened and unscreened constructions
7. Cat6Plus patch cords carry a no quibble replacement guarantee*
8. Cat6Plus patch cords are incorporated within the Brand-Rex warranty programme

* Any Brand-Rex patch cord that fails to meet the specified requirements of Category 6 will be replaced free of charge

Compliant with ISO/IEC 61935-2

Brand-Rex Copper Patch Cords - Cat6Plus
Category 6 Blade Patch Cords

PRODUCT DESCRIPTION:
Brand-Rex Cat6Plus patch cords enable you to get the optimum performance from your cabling system. Our factory made and tested patch cords offer you guaranteed quality, and ensure that your system avoids the performance degradation which inferior alternatives will give you at high data rates. All patch cords are supplied with boots and ID tag.
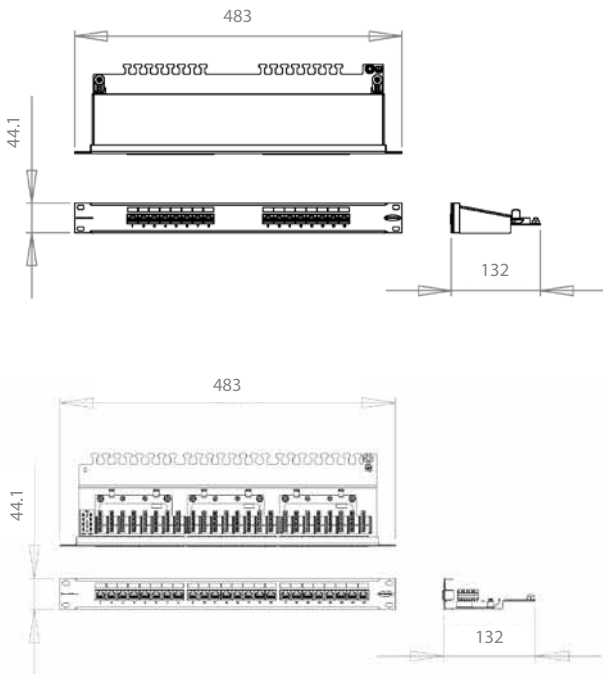
Part Number Format

C6C-PC-A-bbb-cde-F

A - Cord Type		bbb - Cord Length		cde - Colour Scheme			F - Speciality Tag	
U	24AWG UTP	**010**	1 metre	**(c) Cable**	**(d) Boot 1**	**(e) Boot 2**	**S**	Solid
S	27AWG STP	**020**	2 metre	**1** Red	**1** Red	**1** Red	**X**	Crossover
		030	3 metre	**4** Blue	**4** Blue	**4** Blue	**HB**	Halogen Free
		050	5 metre	**5** Green	**5** Green	**5** Green	**-**	Standard
		Additional lengths on request		**6** Yellow	**6** Yellow	**6** Yellow		
				8 Grey	**8** Grey	**8** Grey		
				Additional colours on request				

Product Part Numbering

	Red	Blue	Green	Yellow	Grey
24 AWG UTP - 1.0m	C6CPCU010-111HB	C6CPCU010-444HB	C6CPCU010-555HB	C6CPCU010-666HB	C6CPCU010-888HB
24 AWG UTP - 2.0m	C6CPCU020-111HB	C6CPCU020-444HB	C6CPCU020-555HB	C6CPCU020-666HB	C6CPCU020-888HB
24 AWG UTP - 3.0m	C6CPCU030-111HB	C6CPCU030-444HB	C6CPCU030-555HB	C6CPCU030-666HB	C6CPCU030-888HB
24 AWG UTP - 5.0m	C6CPCU050-111HB	C6CPCU050-444HB	C6CPCU050-555HB	C6CPCU050-666HB	C6CPCU050-888HB
27 AWG SFTP - 1.0m	C6CPCS010-188HB	C6CPCS010-488HB	C6CPCS010-588HB	C6CPCS010-688HB	C6CPCS010-888HB
27 AWG SFTP - 2.0m	C6CPCS020-188HB	C6CPCS020-488HB	C6CPCS020-588HB	C6CPCS020-688HB	C6CPCS020-888HB
27 AWG SFTP - 3.0m	C6CPCS030-188HB	C6CPCS030-488HB	C6CPCS030-588HB	C6CPCS030-688HB	C6CPCS030-888HB
27 AWG SFTP - 5.0m	C6CPCS050-188HB	C6CPCS050-488HB	C6CPCS050-588HB	C6CPCS050-688HB	C6CPCS050-888HB

Non standard colour and length options are available to order on request.

6
250MHz

The Brand-Rex 8 Point Patch Cord Promise

1. Cat6Plus patch cords employ independently verified Category 6 cable
2. Cat6Plus patch cords are manufactured using leading brand Category 6 conformant RJ-45 modular plugs
3. Cat6Plus patch cords are manufactured with a flexible strain relief boot as standard
4. Cat6Plus patch cords are manufactured using only quality approved assembly houses to the exacting requirements of Brand-Rex purchase specification
5. Cat6Plus patch cords are tested in accordance with our AQL plan for Category 6 standards conformance
6. Cat6Plus patch cords are available in screened and unscreened constructions
7. Cat6Plus patch cords carry a no quibble replacement guarantee*
8. Cat6Plus patch cords are incorporated within the Brand-Rex warranty programme

   * Any Brand-Rex patch cord that fails to meet the specified requirements of Category 6 will be replaced free of charge

Compliant with ISO/IEC 61935-2

Brand-Rex Copper Patch Cords - Cat6Plus
Category 6 Patch Cords

PRODUCT DESCRIPTION:

Brand-Rex Cat6Plus patch cords enable you to get the optimum performance from your cabling system. Our factory made and tested patch cords offer you guaranteed quality, and ensure that your system avoids the performance degradation which inferior alternatives will give you at high data rates. All patch cords are supplied with boots and ID tag.

Part Number Format

C6C-PC-A-bbb-cde-F				
A - Cord Type	**bbb - Cord Length**	**cde - Colour Scheme**		**F - Speciality Tag**

A - Cord Type		bbb - Cord Length		cde - Colour Scheme						F - Speciality Tag	
U	24AWG UTP	010	1 metre	**(c) Cable**		**(d) Boot 1**		**(e) Boot 2**		S	Solid
S	27 AWG STP	020	2 metre	1	Red	1	Red	1	Red	X	Crossover
		030	3 metre	4	Blue	4	Blue	4	Blue	H	Halogen Free
		050	5 metre	5	Green	5	Green	5	Green	-	Standard
		Additional lengths on request		6	Yellow	6	Yellow	6	Yellow		
				8	Grey	8	Grey	8	Grey		
				Additional colours on request							

Product Part Numbering

	Red	Blue	Green	Yellow	Grey
24 AWG UTP - 1.0m	C6CPCU010-111H	C6CPCU010-444H	C6CPCU010-555H	C6CPCU010-666H	C6CPCU010-888H
24 AWG UTP - 2.0m	C6CPCU020-111H	C6CPCU020-444H	C6CPCU020-555H	C6CPCU020-666H	C6CPCU020-888H
24 AWG UTP - 3.0m	C6CPCU030-111H	C6CPCU030-444H	C6CPCU030-555H	C6CPCU030-666H	C6CPCU030-888H
24 AWG UTP - 5.0m	C6CPCU050-111H	C6CPCU050-444H	C6CPCU050-555H	C6CPCU050-666H	C6CPCU050-888H
27 AWG SFTP - 1.0m	C6CPCS010-111H	C6CPCS010-444H	C6CPCS010-555H	C6CPCS010-666H	C6CPCS010-888H
27 AWG SFTP - 2.0m	C6CPCS020-111H	C6CPCS020-444H	C6CPCS020-555H	C6CPCS020-666H	C6CPCS020-888H
27 AWG SFTP - 3.0m	C6CPCS030-111H	C6CPCS030-444H	C6CPCS030-555H	C6CPCS030-666H	C6CPCS030-888H
27 AWG SFTP - 5.0m	C6CPCS050-111H	C6CPCS050-444H	C6CPCS050-555H	C6CPCS050-666H	C6CPCS050-888H

Non standard colour and length options are available to order on request.

Brand-Rex Copper Connectivity - Cat6Plus Panels
Category 6 Panel with cable management

483

44.1

132

483

44.1

132

Product Part Numbering

	16 Port	24 Port
Shielded Panel LSA Style - Black	C6CPNLF160K2M	C6CPNLF240K2M
Shielded Panel LSA Style - Grey	C6CPNLF160K8M	C6CPNLF240K8M
Unshielded Panel LSA Style - Black	C6CPNLU160K2M	C6CPNLU240K2M
Unshielded Panel LSA Style - Grey	C6CPNLU160K8M	C6CPNLU240K8M
Unshielded Panel 110 Style - Black	C6CPNLU16012M	C6CPNLU24012M
Unshielded Panel 110 Style - Grey	C6CPNLU16018M	C6CPNLU24018M

PRODUCT DESCRIPTION:
The Cat6Plus 19" rack mounted patch panel offers true Category 6 component performance using a new patented contact pin array design. All panels are backward compatible. The modular jacks that are used in blocks of 8 are individually shielded to give superior shielding.

In addition to this, each panel has been designed with a cable management/strain relief feature built into the rear. All outlets are numerically identified with an additional writable surface for ease of port naming. Each panel is supplied with cable ties, panel mounting accessories and short form installation instructions.

PRODUCT CHARACTERISTICS:
Panel Width:	19" (483mm)
Panel Height:	1U (44.1mm)
Panel Depth:	132mm
Outlet Style:	Unkeyed RJ-45
Outlets:	16 or 24 ports
Colour:	RAL 9005 Black or RAL 7035 Grey
Punch Down Blocks:	LSA style IDC
Wiring Standard:	EIA/TIA 568A/B
Conformance:	Category 6 ANSI/EIA/TIA 568B.2.1 : 2002 ISO/IEC 11801 : 2002 EN50173-1 : 2002
Approval:	(3P) Independent 3rd Party Certification

Brand-Rex Copper Connectivity - Cat6Plus Jacks
Category 6 Snap-In-Jacks

PRODUCT DESCRIPTION:

The Brand-Rex Cat6Plus Snap-In-Jack offers true Category 6 component performance using a new patented contact array design. The jack is backward compatible and also fully compatible with all our UK and continental style faceplates and products. Jacks are supplied with a shortform installation instruction.
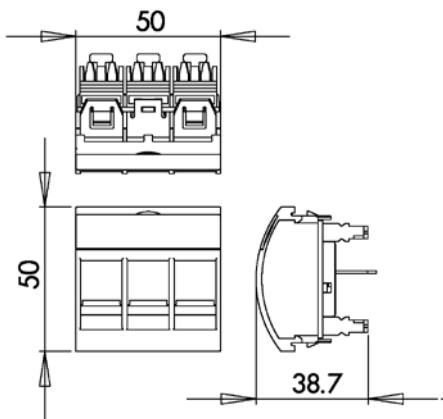
PRODUCT CHARACTERISTICS:

Outlet Style:	Unshielded and shielded Keystone type with RJ-45 ports
Cable Entry:	Top and Rear
Hole Plate Thickness:	Jack will clip into sheet material with a thickness of 1.6mm max.
Body Material:	High impact PBT UL94 - VO
Jack Contacts:	Phosphor Bronze
Plating:	50 µm gold over 100 µm of nickel
Punch Down Blocks:	LSA (Shielded) LSA or 110 (Unshielded) style IDC
IDC Contacts:	Phosphor Bronze
Wiring Standard:	EIA/TIA 568A/B
Conformance:	Category 6 ANSI/EIA/TIA 568B.2.1 : 2002 ISO/IEC 11801 : 2002 EN50173-1 : 2002
Approval:	(3P) Independent 3rd Party Certification

Product Part Numbering

	Unshielded	Shielded
LSA Style - Black	C6CJAKU0K2	C6CJAKF0K2
LSA Style - White	C6CJAKU0K3	-
110 Style - Black	C6CJAKU012	-
110 Style - White	C6CJAKU013	-

Other colours available on request.

Brand-Rex Copper Connectivity - Cat6Plus Outlets
Category 6 Triple Shuttered Outlet

Product Part Numbering

	Unshielded
Triple Outlet - White	C6CTWOU013

PRODUCT DESCRIPTION:

The Brand-Rex Cat6Plus Unshielded Triple Outlet offers a high density outlet solution with true Category 6 component performance. The outlet is backward compatible with our UK and continental UNI style faceplates providing a 3 or 6 RJ-45 solution for high density outlet installations.

Each outlet is fitted with a removable label protector with individual rear cable anchors and colour wiring detail. Every outlet is supplied in an easy tear pack with a shortform installation instruction, paper label and cable ties.

PRODUCT CHARACTERISTICS:

Outlet Style:	Unkeyed RJ-45
Faceplate Style:	UK / Continental UNI style compatible
Backbox:	Minimum 32mm depth
Colour:	RAL 9010 White
Weight:	46g
Body Material:	ABS
Jack Contacts:	Phosphor Bronze
Plating:	50µm gold over 100µm nickel
Punch Down Blocks:	110 Style IDC
Wiring Standard:	EIA/TIA 568A/B
Conformance:	Category 6 ANSI/EIA/TIA 568B.2.1:2002 ISO/IEC 11801:2002 EN50173-1:2002
Approval:	(3P) Independent 3rd Party Certification
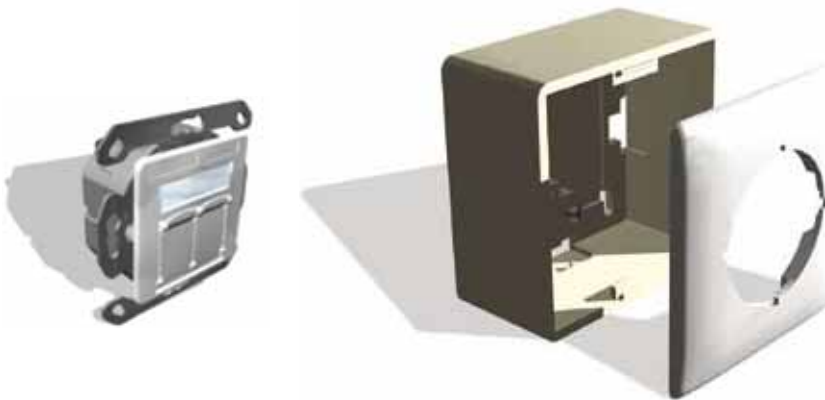
Brand-Rex Copper Connectivity - Cat6Plus Outlets
Category 6 European Style Outlet

69.90

69

33

80

40.5

80

35

80
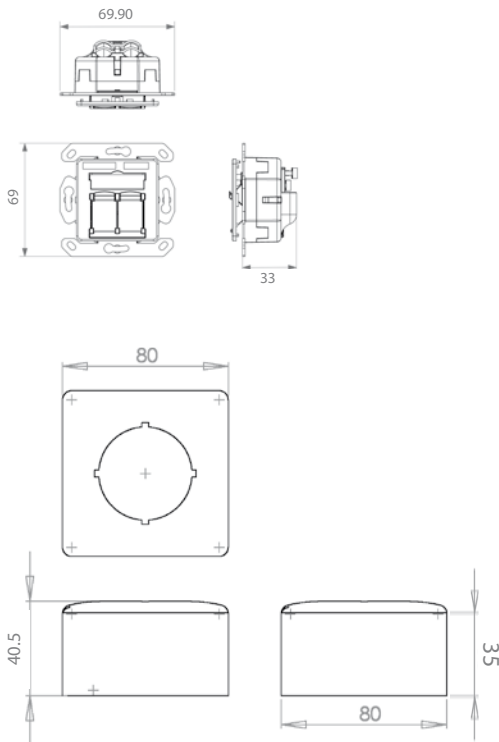
PRODUCT DESCRIPTION:

The Brand-Rex combined shielded outlet and RJ-45 socket has the same proven Category 6 performance as our Cat6Plus panels. Primarily designed for mounting into duct or trunking using a 45mm diameter hole, the outlet can be either flush or wall mounted by using the 80 x 80mm continental styled faceplate and 33mm back box.

PRODUCT CHARACTERISTICS:

Outlet Style:	Shielded Keystone type with unkeyed RJ-45 ports
Cable Entry:	Horizontal and Vertical
Colour:	RAL 1013 Ivory RAL 9010 White
Body Material:	High impact PPO UL94 - VO Zinc Alloy Diecast closed housing
Jack Contacts:	Phosphor Bronze
Plating:	50 µm gold over 100 µm of nickel
Punch Down Blocks:	LSA style IDC
IDC Contacts:	Phosphor Bronze
Wiring Standard:	EIA/TIA 568A/B
Conformance:	ISO/IEC 11801 : 2002, EIA/TIA 568B.2.1 : 2002 and EN50173-1 : 2002

Product Part Numbering

	White	Ivory
1 Way Shielded Outlet	C6CG145SU002	C6CG145SU001
2 Way Shielded Outlet	C6CG245SU002	C6CG245SU001
80mm x 80mm Faceplate and Back Box	MMCWDOSMA002	MMCWDOSMA001

Brand-Rex Copper Connectivity - Cat6Plus Cross-Connect
Category 6 Cross-Connect Tower Units

PRODUCT DESCRIPTION:
The tower mount frame provides a modular, high density, cross-connect and cable management system. The base tower is supplied as a 288 pair unit but the capacity can be increased using additional extension frames. Tower units are supplied with wiring bases and connector blocks for 288 pair.

PRODUCT CHARACTERISTICS:
Material: Mild steel,
              Black powder coated

Dimensions:
              288 pair mounting frame
              546.1 x 215.9 x 235.0mm

              288 pair extension mounting frame
              416.0 x 215.9 x 88.9mm

              Vertical cable organiser
              546.1 x 215.9 x 235.0mm

              Vertical cable organiser extension
              426.5 x 215.9 x 228.6mm

Product Part Numbering

110 Tower, 288 pair mounting frame	C6C110TWR288P
110 Tower, 288 pair extension mounting frame	C6C110TWR288PE

Brand-Rex Copper Connectivity - Cat6Plus Cross-Connect
Category 6 Cross-Connect Patchcord

PRODUCT DESCRIPTION:
Cross-connect patchcords are available in 110 to 110 style or 110 to RJ45 style.
The standard Category 6 110 connector is supplied in a 4 pair version only.

PRODUCT CHARACTERISTICS:

Conformance: Category 6
                ANSI/TIA/EIA 568B.2.1

Cord type: Grey 24AWG UTP 110 – 110

Dimensions: 50.2 x 30.9 x 9.0mm

Temperature Range: 0 to 50 °C (installation)
                   -20 to 75 °C (operational)

Product Part Numbering

	110 – 110	110 – RJ45
Cross Connect Patch Cord - 1.0m	C6C110110PC010	C6C110RJ4PC010
Cross Connect Patch Cord - 1.5m	C6C110110PC015	C6C110RJ4PC015
Cross Connect Patch Cord - 2.0m	C6C110110PC020	C6C110RJ4PC020
Cross Connect Patch Cord - 3.0m	C6C110110PC030	C6C110RJ4PC030
Cross Connect Patch Cord - 4.0m	C6C110110PC040	C6C110RJ4PC040
Cross Connect Patch Cord - 5.0m	C6C110110PC050	C6C110RJ4PC050

CAT6PLUS

Brand-Rex Copper Connectivity - Cat6Plus Cross-Connect
Category 5e Cross-Connect Patchcord

Product Part Numbering

Category 6 110 4 pair Insertion Tool	C6C1104PIT
Category 6 110 4 pair Replacement Head	C6C1104PITRH

PRODUCT DESCRIPTION:
To ensure correct termination of Brand-Rex's Category 6 Cross Connect solution it is advised to use a specially designed Insertion tool.
The insertion tool is used to simultaneously terminate the 4 pairs onto Category 6 Cross Connect wiring bases and underneath the Category 6 connector block. A Replacement Head is also available when the tool becomes worn.
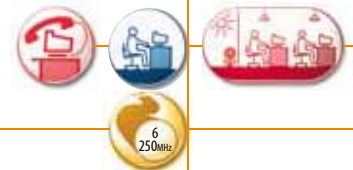
Brand-Rex Copper Connectivity - Cat6Plus Cross-Connect
Category 6 Cross-Connect Wiring Bases and Connector Blocks

PRODUCT DESCRIPTION:

Wiring Base

The Category 6 110 wiring base can be supplied as a 48, 96 or 288 pair version, with or without legs. It can also be supplied rack mounted as a 96, 192 or 288 pair version. Designation labels are included with the bases.

48 Pair Wiring Base Kits

A typical kit for a 48 pair wiring base includes a basic wiring base and 12 off 4 pair connector blocks.

96 Pair Wiring Base Kits

A typical kit for a Rack Mounted 96 pair wiring base includes 2 off 48 pair wiring base and 24 off 4 pair connector blocks.

Connector Block

The 4 pair connector is specifically designed to exceed Category 6 performance, has a robust design and is colour coded for easy identification. The connector is supplied in bags of 10.

PRODUCT CHARACTERISTICS:

| Conformance: | Category 6 |
| | ANSI/TIA/EIA 568B.2.1 |

Connector Block

Material:	Flame retardent
	thermoplastic rated
	UL94V-0, off-white

Wiring Base

Material:	Flame retardent
	thermoplastic rated UL94V-0,
	off-white

| Contact Material: | Copper Alloy, tin plated |

Product Part Numbering

Category 6 110 wiring base 48 pair with legs	C6C110WB48PL
Category 6 110 wiring base 48 pair without legs	C6C110WB48P
Category 6 110 wiring base 48 pair with legs, Kit	C6C110WB48PLK
Category 6 110 wiring base 48 pair without legs, Kit	C6C110WB48PK
Category 6 110 wiring base 96 pair with legs	C6C110WB96PL
Category 6 110 wiring base 96 pair without legs	C6C110WB96P
Category 6 110 wiring base 96 pair with legs, Kit	C6C110WB96PLK
Category 6 110 wiring base 96 pair without legs, Kit	C6C110WB96PK
Category 6 110 wiring base 288 pair with legs	C6C110WB288PL
Category 6 110 wiring base 288 pair without legs	C6C110WB288P
Category 6 110 wiring base 288 pair with legs, Kit	C6C110WB288PLK
Category 6 110 wiring base 288 pair without legs, Kit	C6C110WB288PK
Category 6 110 wiring base 96 pair rack mounted, Kit	C6C110WB96PRK
Category 6 110 wiring base 192 pair rack mounted, Kit	C6C110WB192PRK
Category 6 110 wiring base 288 pair rack mounted, Kit	C6C110WB288PRK
Category 6 110 Connector Block	C6C110CB4P
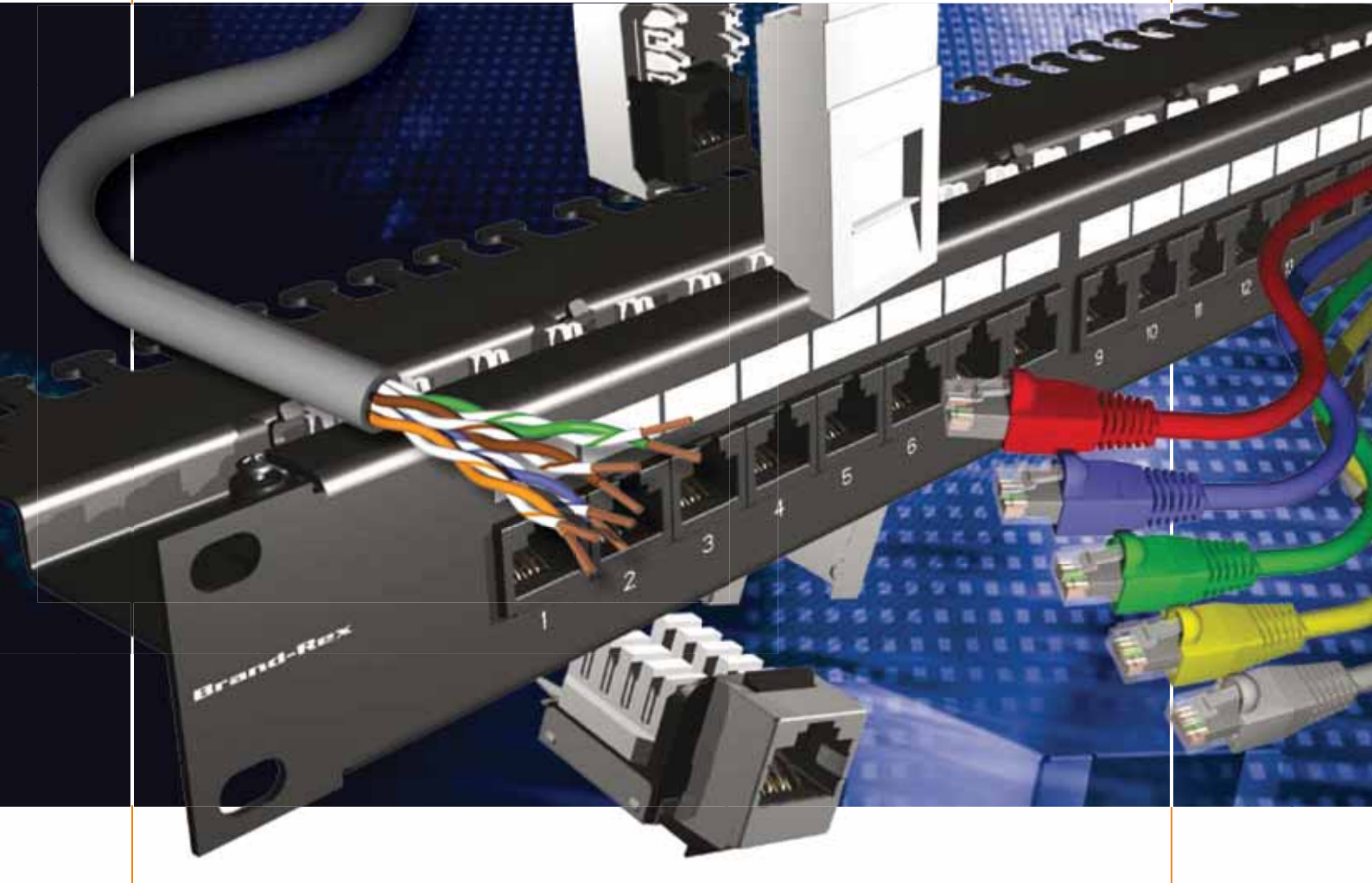
**BRAND-REX GIGAPLUS SYSTEM
(CATEGORY 5E - CLASS D):**

Key Features

• GigaPlus is a fully standards compliant open system

• GigaPlus exceeds the requirements of ISO/IEC 11801 : 2002 and EN 50173-1 : 2002 for Class D channels and ANSI/TIA/EIA 568B.2 : 2002 Category 5e

• GigaPlus is third certified by 3P and GHMT

• GigaPlus provides a secure, cost-effective and flexible Cat5e cabling system solution for running today's LAN protocols and high speed applications such as 1000Base-T

• Reduced Bit error rate as a result of system margins that exceed the Standards

• System available in both shielded and unshielded options

• GigaPlus is interoperable and backwards compatible

• GigaPlus can be installed within hostile environments, contact Brand-Rex for recommendations and advice

• GigaPlus is Power over Ethernet compatible and supports
  - VoIP
  - Wireless LAN access points
  - Security cameras

• GigaPlus is suitable for wireless node connection

The GigaPlus System

Structured wiring systems comprised of GigaPlus cables, patch cords and connectivity are designed to be compliant with the current sets of Class D / Category 5e published standards requirements as an absolute minimum. The systems support all protocols defined in current editions, and amendments, of ISO 11801 : 2002, ANSI TIA/EIA 568B.2 : 2002 and EN50173-1-1 : 2002 (including Gigabit Ethernet) and are fully backward compatible.

GigaPlus is a premium grade cabling system that is characterised to 200MHz. Its performance significantly exceeds the requirements specified in the current versions of the published standards for Class D / Category 5e.

Brand-Rex Copper Cables - GigaPlus Channel Performance
Shielded and Unshielded Systems

Central Computer Room

Copper Patch Panel

5 metres

5 metres

Wall/Floor Outlet

Building Riser

90 metres

Terminal
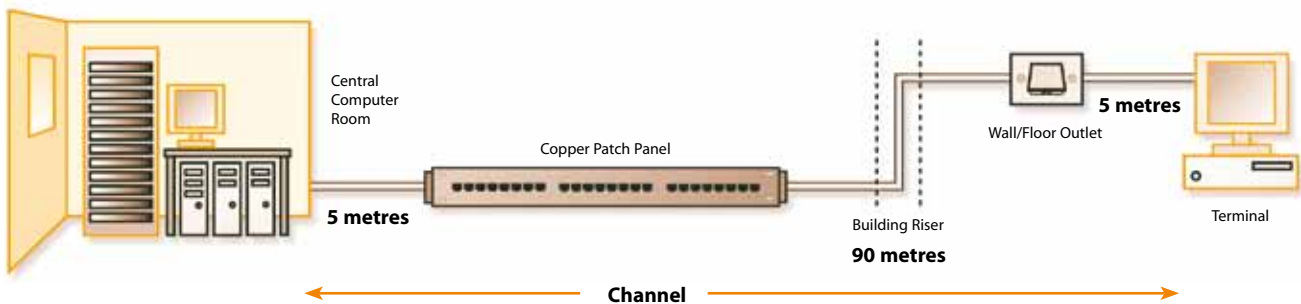
Channel

4 Connector Channel Performance

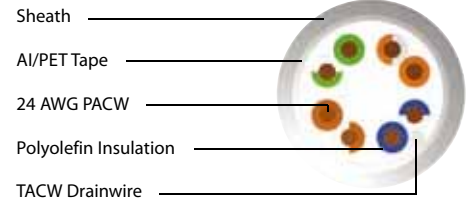| Frequency (MHz)		1	4	10	16	20	31.25	62.5	100	125	155	175	200	250
Attenuation (dB)	Typical	2.0	4.0	6.4	8.1	9.1	11.5	16.6	21.3	24.0	27.0	28.8	31.0	32.5
	Spec	2.3	4.6	7.3	9.3	10.4	13.2	19.1	24.7	na	na	na	na	na
NEXT (dB)	Typical	73.6	62.3	54.9	51.0	49.2	45.5	39.8	35.9	34.0	32.2	31.2	30.1	30.1
	Spec	60.0	53.5	47.0	43.6	42.0	38.7	33.6	30.1	na	na	na	na	na
PSNEXT (dB)	Typical	70.6	59.3	51.9	48.0	46.2	42.5	36.8	32.9	31.0	29.2	28.2	27.1	29.7
	Spec	57.0	50.5	44.0	40.6	39.0	35.7	30.6	27.1	na	na	na	na	na
Return Loss (dB)	Typical	22.0	22.0	22.0	22.0	22.0	20.1	17.1	15.0	14.0	13.1	12.6	12.0	11.8
	Spec	17.0	17.0	17.0	17.0	17.0	15.1	12.1	10.0	na	na	na	na	na
ELFEXT (dB)	Typical	70.0	57.9	50.0	45.9	44.0	40.1	34.1	30.0	28.0	26.2	25.1	24.0	26.4
	Spec	57.4	45.3	45.3	33.3	31.4	27.5	21.5	17.4	na	na	na	na	na
PSELFEXT (dB)	Typical	67.0	54.9	47.0	42.9	41.0	37.1	31.1	27.0	25.0	23.2	22.1	21.0	24.6
	Spec	54.4	54.4	37.4	30.3	28.4	24.5	18.5	14.4	na	na	na	na	na
Propagation Delay (ns)	Typical	520	510	505	503	502	501	500	500	500	500	500	500	505
	Spec	<555	<555	<555	<555	<555	<555	<555	<555	na	na	na	na	na
Delay Skew (ns)	Typical	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
	Spec	<50	<50	<50	<50	<50	<50	<50	<50	na	na	na	na	na
ACR (dB / 100m)	Typical	71.6	58.3	48.5	42.9	40.0	34.0	23.2	14.6	10.0	5.2	2.4	-0.9	-0.8
PSACR (dB / 100m)	Typical	68.6	55.3	45.5	39.9	37.0	31.0	20.2	11.6	7.0	2.2	-0.6	-3.9	-1.5
Alien NEXT (dB)	Typical	103.6	92.3	84.9	81.0	79.2	75.5	69.8	65.9	64.0	62.2	61.2	60.1	59.2

GIGAPLUS

5e
100MHz

ISO/IEC 11801 : 2002
ISO/IEC 61156-5
EN 50173-1 : 2002
EN 50288-3-1
ANSI/TIA/EIA 568B.2 : 2002

Brand-Rex Copper Cables - GigaPlus
Communication Cable, U/UTP, 100 Ω, 4x2xAWG 24/1

Electrical Characteristics @ 20°c	Specification	Typical Performance
Conductor Loop Resistance	Max 19 Ω / 100m	16 Ω / 100m
Conductor Resistance Unbalance	Max 2%	0.5%
Dielectric Strength	1.0kV dc or 0.7kV ac for 1 min	100% in process test
Insulation Resistance	>500MΩ.km @ 100-500 V test voltage	>5 GΩ.km
Capacitance Unbalance to Earth	Max 160 pF/100m	40 pF/100m
Velocity of Propagation	<534 nsec/100m @ 100MHz	496 nsec/100m @ 100MHz (NVP for hand held testers = 0.69)
Skew	Max 40 nsec/100m @ 100MHz	25 nsec/100m @ 100MHz
Mean Characteristic Impedance	100 Ω +/- 5 Ω @ 100MHz	100 Ω +/- 3 Ω @ 100MHz
Coupling Attenuation up to 1Ghz	Min 40 dB	50dB

Frequency (MHz)		1	4	10	16	20	31.25	62.5	100	155	200	250
Insertion Loss (dB/100m)	Spec	2.1	4.0	6.3	8.0	9.0	11.4	16.5	21.3	na	na	na
	Typical	1.8	3.6	5.8	7.4	8.3	10.5	15.3	19.8	25.4	29.4	33.4
NEXT (dB)	Spec	65.3	56.3	50.3	47.3	45.8	42.9	38.4	35.3	na	na	na
	Typical	73.3	64.3	58.3	55.2	53.8	50.9	46.4	43.3	40.4	38.8	37.3
PSNEXT (dB)	Spec	62.3	53.3	47.3	44.2	42.8	39.9	35.4	32.3	na	na	na
	Typical	71.3	62.3	56.3	53.2	51.8	48.9	44.4	41.3	38.4	36.8	35.3
ELFEXT (dB/100m)	Spec	63.8	51.8	43.8	39.7	37.8	33.9	27.9	23.8	na	na	na
	Typical	78.8	66.8	58.8	54.7	52.8	48.9	42.9	38.8	35.0	32.8	31.5
PSELFEXT (dB/100m)	Spec	60.8	48.8	40.8	36.7	34.8	30.9	24.9	20.8	na	na	na
	Typical	76.8	64.8	56.8	52.7	50.8	46.9	40.9	36.8	33.0	30.8	29.5
Return Loss (dB/100m)	Spec	na	23.1	25.0	25.0	25.0	23.6	21.5	20.1	na	na	na
	Typical	25.0	28.0	30.0	30.0	30.0	38.6	26.5	25.1	23.8	23.0	22.8
ACR (dB/100m)	Typical	71.5	60.7	52.5	47.8	45.5	40.4	31.1	23.5	15	9.4	3.9
PSACR (dB/100m)	Typical	69.5	58.7	50.5	45.8	43.5	38.4	29.1	21.5	13	7.4	1.9

Product Part Numbering

Part Number	GPU	GPU-D	GPU-HF1	GPU-HF1-D	GPU-HF3	GPU-HF3-D
Outer Sheath	PVC	PVC	LSZH	LSZH	LSZH	LSZH
Construction	Simplex	Duplex	Simplex	Duplex	Simplex	Duplex
Cable Weight	31.0 kg/km	62.0 kg/km	32.5kg/km	65.0 kg/km	44.0 kg/km	88.0 kg/km
Calorific Value	0.11 k Wh/m	0.22 k Wh/m	0.11 k Wh/m	0.22 k Wh/m	0.18 k Wh/m	0.36 k Wh/m
Outer Diameter (nom)	4.85mm	9.8 x 4.85mm	5.0mm	10.1 x 5.0mm	5.8mm	11.7 x 5.8mm
Sheath Colour	Grey RAL 7037	Grey RAL 7037	Violet RAL 4005	Violet RAL 4005	Blue RAL 5015	Blue RAL 5015
Fire Safety Rating	IEC 60332-1-2	IEC 60332-1-2	IEC 60332-1-2	IEC 60332-1-2	IEC 60332-3-24	IEC 60332-3-24
Acid Gas Emissions	na	na	IEC 60754-1	IEC 60754-1	IEC 60754-1	IEC 60754-1
Smoke Index	na	na	IEC 61034	IEC 61034	IEC 61034	IEC 61034
Packaging	RLX / WRL	WRL	RLX / WRL	WRL	WRL	WRL

Sheath

24 AWG PACW

Polyolefin Insulation

Independent 3rd Party Certification (3P)

PRODUCT DESCRIPTION:
GigaPlus U/UTP 100 Ω 4x2xAWG 24/1 premium grade Class D/Cat5e cable to support Gigabit Ethernet protocol for installation in horizontal and backbone areas.

PRODUCT PERFORMANCE:
Core
Conductor: 24 AWG Plain Annealed Copper Wire
Insulation: Polyolefin
Diameter: 0.94mm Nominal
Pair: 2 of the above cores
Pair Colour: Blue-White, Orange-White, Green-White, Brown-White

Final Assembly
Cable: 4 of the above pairs
Sheath: PVC or LSZH compound

Mechanical and Environmental
Temp - Installation: 0°c to +50°c
Temp - Operation: -20°c to +75°c
Max Tensile Load:
10kg per simplex cable (installation)
Min Bend Radius:
8 x Outer Diameter (installation)
4 x Outer Diameter (operation)
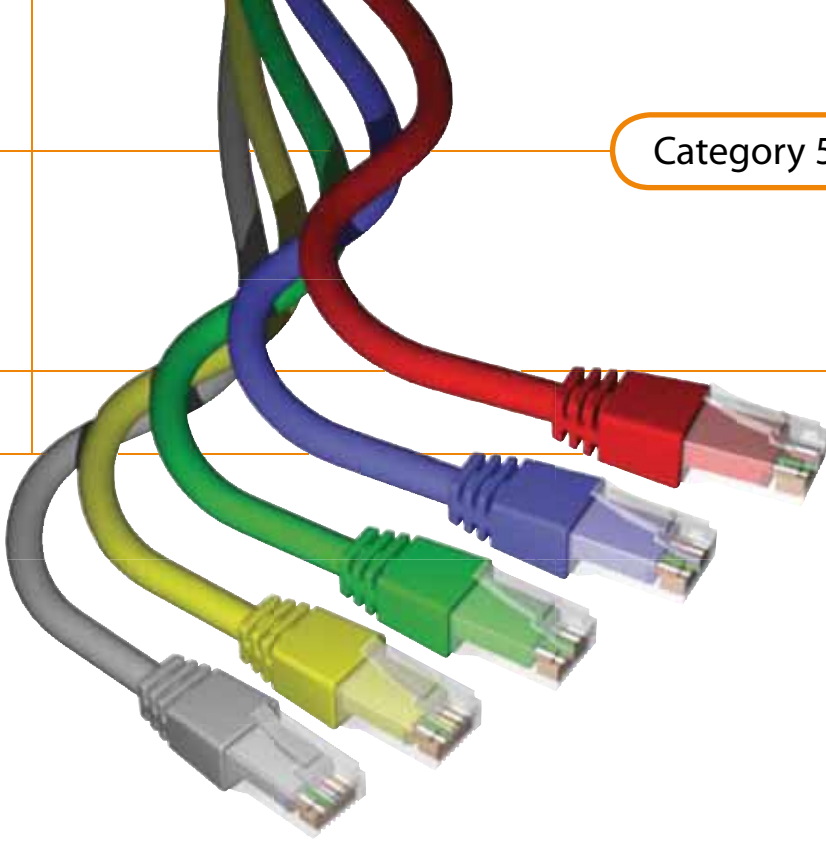
Packaging
RLX 305m Reelex Box
500m Reelex Box
WRL 500m Wooden Reel
1000m Wooden Reel

ISO/IEC 11801 : 2002
ISO/IEC 61156-5
EN 50173-1 : 2002
EN 50288-2-1
ANSI/TIA/EIA 568B.2 : 2002

Sheath
AI/PET Tape
24 AWG PACW
Polyolefin Insulation
TACW Drainwire

Independent 3rd Party Certification (3P)

PRODUCT DESCRIPTION:
GigaPlus F/UTP 100 Ω 4x2xAWG 24/1 premium grade Class D/Cat5e cable to support Gigabit Ethernet protocol combined with good EMI/RFI protection for installations in horizontal and backbone areas.

Brand-Rex Copper Cables - GigaPlus
Communication Cable, F/UTP, 100 Ω, 4x2xAWG 24/1

Electrical Characteristics @ 20°c	Specification	Typical Performance
Conductor Loop Resistance	Max 19 Ω / 100m	16 Ω / 100m
Conductor Resistance Unbalance	Max 2%	0.5%
Dielectric Strength	1.0kV dc or 0.7kV ac for 1 min	100% in process test
Insulation Resistance	>500MΩ.km @ 100-500 V test voltage	>5 GΩ.km
Capacitance Unbalance to Earth	Max 160 pF/100m	40 pF/100m
Velocity of Propagation	<537.6 nsec/100m @ 100MHz	496 nsec/100m @ 100MHz (NVP for hand held testers = 0.68)
Skew	Max 40 nsec/100m @ 100MHz	25 nsec/100m @ 100MHz
Mean Characteristic Impedance	100 Ω +/- 5 Ω @ 100MHz	100 Ω +/- 3 Ω @ 100MHz
Transfer Impedance	Max 100 mΩ/m @ 100 MHz	30 mΩ/m @ 10MHz (ISO 61156 grade 2 cable)
Coupling Attenuation up to 1Ghz	Min 55 dB	75 dB

PRODUCT PERFORMANCE:
Core

Conductor:	24 AWG Plain Annealed Copper Wire	
Insulation:	Polyolefin	
Diameter:	1.07mm Nominal	
Pair:	2 of the above cores	
Pair Colour:	Blue-White, Orange-White, Green-White, Brown-White	

Frequency (MHz)		1	4	10	16	20	31.25	62.5	100	155	200	250
Insertion Loss (dB/100m)	Spec	2.1	4.0	6.3	8.0	9.0	11.4	16.5	21.4	na	na	na
	Typical	2.0	3.8	6.0	7.6	8.6	10.8	15.8	20.4	26.1	30.3	34.5
NEXT (dB)	Spec	65.3	56.3	50.3	47.2	45.8	42.9	38.4	35.3	na	na	na
	Typical	73.3	64.3	58.3	55.2	53.8	50.9	46.4	43.3	40.4	38.3	37.3
PSNEXT (dB)	Spec	62.3	53.3	47.3	44.2	42.8	39.9	35.4	32.3	na	na	na
	Typical	70.3	61.3	55.3	52.2	50.8	47.9	43.4	40.3	37.4	35.8	34.3
ELFEXT (dB/100m)	Spec	63.8	51.8	43.8	39.7	37.8	33.9	27.9	23.8	na	na	na
	Typical	78.8	66.8	58.8	54.7	52.8	48.9	42.9	38.8	35.0	32.8	30.8
PSELFEXT (dB/100m)	Spec	60.8	48.8	40.8	36.7	34.8	30.9	24.9	20.8	na	na	na
	Typical	76.8	64.8	56.8	52.7	50.8	46.9	40.9	36.8	33.0	30.8	28.8
Return Loss (dB/100m)	Spec	na	23.0	25.0	25.0	25.0	23.6	21.5	20.1	na	na	na
	Typical	25.0	28.0	30.0	30.0	30.0	28.6	26.5	25.1	23.8	23.0	22.3
ACR (dB/100m)	Typical	71.3	60.5	52.3	47.6	45.2	40.0	30.6	22.9	14.3	8.5	2.9
PSACR (dB/100m)	Typical	68.3	57.5	49.3	44.6	42.2	37.0	27.6	19.9	11.3	5.5	-0.1

Final Assembly

Cable:	4 of the above pairs
Binder:	Wrapped with polyester tape, 100% coverage
Drainwire:	0.5mm Tinned Annealed Copper Wire
Tape Screen:	Wrapped with aluminium polyester tape, applied metal side in
Sheath:	PVC or LSZH compound

Mechanical and Environmental
Temp - Installation: 0°c to +50°c
Temp - Operation: -20°c to +75°c
Max Tensile Load:
10kg per simplex cable (installation)
Min Bend Radius:
8 x Outer Diameter (installation)
4 x Outer Diameter (operation)

Product Part Numbering

Part Number	GPF	GPF-D	GPF-HF1	GPF-HF1-D	GPF-HF3	GPF-HF3-D
Outer Sheath	PVC	PVC	LSZH	LSZH	LSZH	LSZH
Construction	Simplex	Duplex	Simplex	Duplex	Simplex	Duplex
Cable Weight	38.5 kg/km	77.0 kg/km	38.5kg/km	77.0 kg/km	54.6 kg/km	109.2 kg/km
Calorific Value	0.14 k Wh/m	0.28 k Wh/m	0.12 k Wh/m	0.24 k Wh/m	0.16 k Wh/m	0.32 k Wh/m
Outer Diameter (nom)	5.9mm	11.8 x 5.9mm	5.9mm	11.8 x 5.9mm	6.7mm	13.4 x 6.7mm
Sheath Colour	Grey RAL 7037	Grey RAL 7037	Violet RAL 4005	Violet RAL 4005	Blue RAL 5015	Blue RAL 5015
Fire Safety Rating	IEC 60332-1-2	IEC 60332-1-2	IEC 60332-1-2	IEC 60332-1-2	IEC 60332-3-24	IEC 60332-3-24
Acid Gas Emissions	na	na	IEC 60754-1	IEC 60754-1	IEC 60754-1	IEC 60754-1
Smoke Index	na	na	IEC 61034	IEC 61034	IEC 61034	IEC 61034
Packaging	RLX / WRL	WRL	RLX / WRL	WRL	WRL	WRL

Packaging
RLX   305m Reelex Box
WRL   500m Wooden Reel
            1000m Wooden Reel

5e 100MHz

ISO/IEC 11801 : 2002
ISO/IEC 61156-5
EN 50173-1 : 2002
EN 50288-2-1
ANSI/TIA/EIA 568B.2 : 2002

Sheath
TACW Braid
Al/PET Tape
24 AWG PACW
Polyolefin Insulation

Independent 3rd Party Certification (3P)

PRODUCT DESCRIPTION:
GigaPlus SF/UTP 100 Ω 4x2xAWG 24/1 premium grade Class D/Cat5e cable to support Gigabit Ethernet protocol combined with exceptional EMI/RFI protection for installations in horizontal and backbone areas.

Brand-Rex Copper Cables - GigaPlus
Communication Cable, SF/UTP, 100 Ω, 4x2xAWG 24/1

PRODUCT PERFORMANCE:
Core
Conductor: 24 AWG Plain Annealed Copper Wire
Insulation: Polyolefin
Diameter: 1.10mm Nominal
Pair: 2 of the above cores
Pair Colour: Blue-White, Orange-White, Green-White, Brown-White

Electrical Characteristics @ 20°c	Specification	Typical Performance
Conductor Loop Resistance	Max 19 Ω / 100m	16 Ω / 100m
Conductor Resistance Unbalance	Max 2%	0.5%
Dielectric Strength	1.0kV dc or 0.7kV ac for 1 min	100% in process test
Insulation Resistance	>500MΩ.km @ 100-500 V test voltage	>5 GΩ.km
Capacitance Unbalance to Earth	Max 160 pF/100m	40 pF/100m
Velocity of Propagation	<537.6 nsec/100m @ 100MHz	496 nsec/100m @ 100MHz (NVP for hand held testers = 0.68)
Skew	Max 40 nsec/100m @ 100MHz	25 nsec/100m @ 100MHz
Mean Characteristic Impedance	100 Ω +/- 5 Ω @ 100MHz	100 Ω +/- 3Ω @ 100MHz
Transfer Impedance	Max 100 mΩ/m @ 100 MHz	20 mΩ/m @ 10MHz (ISO 61156 grade 2 cable)
Coupling Attenuation up to 1Ghz	Min 55 dB	80 dB

Final Assembly
Cable: 4 of the above pairs
Binder: Wrapped with polyester tape, 100% coverage
Tape Screen: Wrapped with aluminium polyester tape, applied metal side out
Braid Screen:0.127mm Tinned Annealed Copper Wire
Sheath: PVC or LSZH compound

Frequency (MHz)		1	4	10	16	20	31.25	62.5	100	155	200	250
Insertion Loss (dB / 100m)	Spec	2.1	4.0	6.3	8.0	9.0	11.4	16.5	21.4	na	na	na
	Typical	2.0	3.8	6.0	7.6	8.6	10.8	15.8	20.4	26.1	30.3	34.5
NEXT (dB)	Spec	65.3	56.3	50.3	47.2	45.8	42.9	38.4	35.3	na	na	na
	Typical	73.3	64.3	58.3	55.2	53.8	50.9	46.4	43.3	40.4	38.3	37.3
PSNEXT (dB)	Spec	62.3	53.3	47.3	44.2	42.8	39.9	35.4	32.3	na	na	na
	Typical	70.3	61.3	55.3	52.2	50.8	47.9	43.4	40.3	37.4	35.8	34.3
ELFEXT (dB / 100m)	Spec	63.8	51.8	43.8	39.7	37.8	33.9	27.9	23.8	na	na	na
	Typical	78.8	66.8	58.8	54.7	52.8	48.9	42.9	38.8	35.0	32.8	30.8
PSELFEXT (dB / 100m)	Spec	60.8	48.8	40.8	36.7	34.8	30.9	24.9	20.8	na	na	na
	Typical	76.8	64.8	56.8	52.7	50.8	46.9	40.9	36.8	33.0	30.8	28.8
Return Loss (dB / 100m)	Spec	na	23.0	25.0	25.0	25.0	23.6	21.5	20.1	na	na	na
	Typical	25.0	28.0	30.0	30.0	30.0	28.6	26.5	25.1	23.8	23.0	22.3
ACR (dB / 100m)	Typical	71.3	60.5	52.3	47.6	45.2	40.0	30.6	22.9	14.3	8.5	2.9
PSACR (dB / 100m)	Typical	68.3	57.5	49.3	44.6	42.2	37.0	27.6	19.9	11.3	5.5	-0.1

Product Part Numbering

Part Number	GPS	GPS-D	GPS-HF1	GPS-HF1-D	GPS-HF3	GPS-HF3-D
Outer Sheath	PVC	PVC	LSZH	LSZH	LSZH	LSZH
Construction	Simplex	Duplex	Simplex	Duplex	Simplex	Duplex
Cable Weight	48.9 kg/km	97.8 kg/km	51.0kg/km	102.0 kg/km	58.8 kg/km	117.6 kg/km
Calorific Value	0.14 k Wh/m	0.28 k Wh/m	0.12 k Wh/m	0.24 k Wh/m	0.16 k Wh/m	0.32 k Wh/m
Outer Diameter (nom)	6.1mm	12.2 x 6.1mm	6.1mm	12.2 x 6.1mm	6.7mm	13.4 x 6.7mm
Sheath Colour	Grey RAL 7037	Grey RAL 7037	Violet RAL 4005	Violet RAL 4005	Blue RAL 5015	Blue RAL 5015
Fire Safety Rating	IEC 60332-1-2	IEC 60332-1-2	IEC 60332-1-2	IEC 60332-1-2	IEC 60332-3-24	IEC 60332-3-24
Acid Gas Emissions	na	na	IEC 60754-1	IEC 60754-1	IEC 60754-1	IEC 60754-1
Smoke Index	na	na	IEC 61034	IEC 61034	IEC 61034	IEC 61034
Packaging	WRL	WRL	WRL	WRL	WRL	WRL

Mechanical and Environmental
Temp - Installation: 0°c to +50°c
Temp - Operation: -20°c to +75°c
Max Tensile Load:
10kg per simplex cable (installation)
Min Bend Radius:
8 x Outer Diameter (installation)
4 x Outer Diameter (operation)

Packaging
WRL   500m Wooden Reel
        1000m Wooden Reel

GIGAPLUS

5e 100MHz

The Brand-Rex 7 Point Patch Cord Promise

1. GigaPlus patch cords are independently verified by 3P
2. GigaPlus patch cords are manufactured using leading brand Category 5e conformant RJ-45 modular plugs
3. GigaPlus patch cords are manufactured with a flexible strain relief boot as standard.
4. GigaPlus patch cords are tested in accordance with our AQL plan for Category 5e standards conformance
5. GigaPlus patch cords are available in screened and unscreened constructions
6. GigaPlus patch cords carry a no quibble replacement guarantee*
7. GigaPlus patch cords are incorporated within the Brand-Rex warranty programme

* Any Brand-Rex patch cord that fails to meet the specified requirements of Category 5e will be replaced free of charge

Compliant with ISO/IEC 61935-2

Brand-Rex Copper Patch Cords - GigaPlus
Category 5e Patch Cords with Blade Server Boot

PRODUCT DESCRIPTION:
Brand-Rex GigaPlus patch cords enable you to get the optimum performance from your cabling system. Our factory made and tested patch cords offer you guaranteed quality, and ensure that your system avoids the performance degradation that inferior alternatives will give you at high data rates. All patch cords are supplied with boots and ID tag.

Part Number Format

GPC-PC-A-bbb-cde-F

A - Cord Type		bbb - Cord Length		cde - Colour Scheme							F - Speciality Tag	
U	24AWG UTP	010	1 metre	**(c) Cable**		**(d) Boot 1**		**(e) Boot 2**			S	Solid
F	26AWG FTP	020	2 metre	1	Red	1	Red	1	Red		X	Crossover
S	26AWG STP	030	3 metre	4	Blue	4	Blue	4	Blue		HB	Halogen Free
		050	5 metre	5	Green	5	Green	5	Green		-	Standard
		Additional lengths on request		6	Yellow	6	Yellow	6	Yellow			
				8	Grey	8	Grey	8	Grey			
				Additional colours on request								

Product Part Numbering

	Red	Blue	Green	Yellow	Grey
24 AWG U/UTP - 1.0m	GPCPCU010-111HB	GPCPCU010-444HB	GPCPCU010-555HB	GPCPCU010-666HB	GPCPCU010-888HB
24 AWG U/UTP - 2.0m	GPCPCU020-111HB	GPCPCU020-444HB	GPCPCU020-555HB	GPCPCU020-666HB	GPCPCU020-888HB
24 AWG U/UTP - 3.0m	GPCPCU030-111HB	GPCPCU030-444HB	GPCPCU030-555HB	GPCPCU030-666HB	GPCPCU030-888HB
24 AWG U/UTP - 5.0m	GPCPCU050-111HB	GPCPCU050-444HB	GPCPCU050-555HB	GPCPCU050-666HB	GPCPCU050-888HB
26 AWG F/UTP - 1.0m	GPCPCF010-111HB	GPCPCF010-444HB	GPCPCF010-555HB	GPCPCF010-666HB	GPCPCF010-888HB
26 AWG F/UTP - 2.0m	GPCPCF020-111HB	GPCPCF020-444HB	GPCPCF020-555HB	GPCPCF020-666HB	GPCPCF020-888HB
26 AWG F/UTP - 3.0m	GPCPCF030-111HB	GPCPCF030-444HB	GPCPCF030-555HB	GPCPCF030-666HB	GPCPCF030-888HB
26 AWG F/UTP - 5.0m	GPCPCF050-111HB	GPCPCF050-444HB	GPCPCF050-555HB	GPCPCF050-666HB	GPCPCF050-888HB
26 AWG SF/UTP - 1.0m	GPCPCS010-111HB	GPCPCS010-444HB	GPCPCS010-555HB	GPCPCS010-666HB	GPCPCS010-888HB
26 AWG SF/UTP - 2.0m	GPCPCS020-111HB	GPCPCS020-444HB	GPCPCS020-555HB	GPCPCS020-666HB	GPCPCS020-888HB
26 AWG SF/UTP - 3.0m	GPCPCS030-111HB	GPCPCS030-444HB	GPCPCS030-555HB	GPCPCS030-666HB	GPCPCS030-888HB
26 AWG SF/UTP - 5.0m	GPCPCS050-111HB	GPCPCS050-444HB	GPCPCS050-555HB	GPCPCS050-666HB	GPCPCS050-888HB

Non standard colour and length options are available to order on request.

GIGAPLUS

5e
100MHz
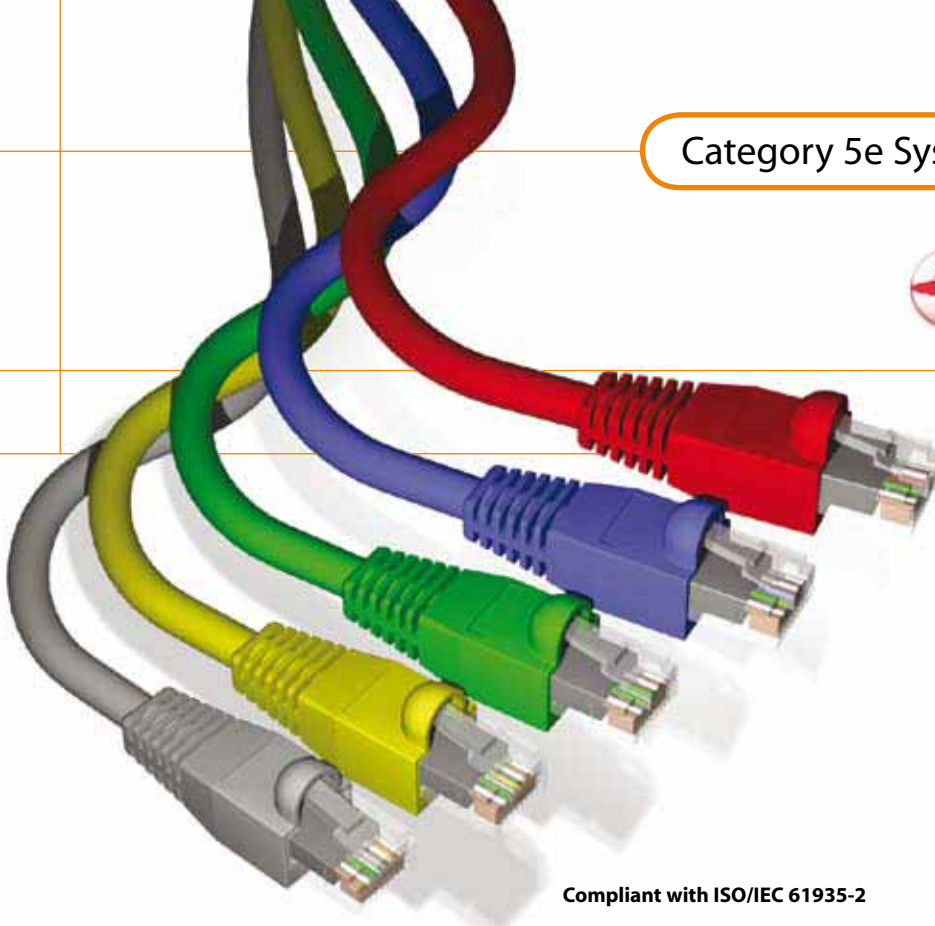
Compliant with ISO/IEC 61935-2

The Brand-Rex 7 Point Patch Cord Promise

1. GigaPlus patch cords are independently verified by 3P
2. GigaPlus patch cords are manufactured using leading brand Category 5e conformant RJ-45 modular plugs
3. GigaPlus patch cords are manufactured with a flexible strain relief boot as standard
4. GigaPlus patch cords are tested in accordance with our AQL plan for Category 5e standards conformance
5. GigaPlus patch cords are available in screened and unscreened constructions
6. GigaPlus patch cords carry a no quibble replacement guarantee*
7. GigaPlus patch cords are incorporated within the Brand-Rex warranty programme

   * Any Brand-Rex patch cord that fails to meet the specified requirements of Category 5e will be replaced free of charge

PRODUCT DESCRIPTION:
Brand-Rex GigaPlus patch cords enable you to get the optimum performance from your cabling system. Our factory made and tested patch cords offer you guaranteed quality, and ensure that your system avoids the performance degradation that inferior alternatives will give you at high data rates. All patch cords are supplied with boots and ID tag.

Brand-Rex Copper Patch Cords - GigaPlus
Category 5e Patch Cords with Standard Boot

Part Number Format

GPC-PC-A-bbb-cde-F

A - Cord Type		bbb - Cord Length		cde - Colour Scheme							F - Speciality Tag	
U	24AWG UTP	010	1 metre	**(c) Cable**		**(d) Boot 1**		**(e) Boot 2**			S	Solid
F	26AWG FTP	020	2 metre	1	Red	1	Red	1	Red		X	Crossover
S	26AWG STP	030	3 metre	4	Blue	4	Blue	4	Blue		H	Halogen Free
		050	5 metre	5	Green	5	Green	5	Green		-	Standard
		Additional lengths on request		6	Yellow	6	Yellow	6	Yellow			
				8	Grey	8	Grey	8	Grey			
				Additional colours on request								

Product Part Numbering

	Red	Blue	Green	Yellow	Grey
24 AWG U/UTP - 1.0m	GPCPCU010-111H	GPCPCU010-444H	GPCPCU010-555H	GPCPCU010-666H	GPCPCU010-888H
24 AWG U/UTP - 2.0m	GPCPCU020-111H	GPCPCU020-444H	GPCPCU020-555H	GPCPCU020-666H	GPCPCU020-888H
24 AWG U/UTP - 3.0m	GPCPCU030-111H	GPCPCU030-444H	GPCPCU030-555H	GPCPCU030-666H	GPCPCU030-888H
24 AWG U/UTP - 5.0m	GPCPCU050-111H	GPCPCU050-444H	GPCPCU050-555H	GPCPCU050-666H	GPCPCU050-888H
26 AWG F/UTP - 1.0m	GPCPCF010-111H	GPCPCF010-444H	GPCPCF010-555H	GPCPCF010-666H	GPCPCF010-888H
26 AWG F/UTP - 2.0m	GPCPCF020-111H	GPCPCF020-444H	GPCPCF020-555H	GPCPCF020-666H	GPCPCF020-888H
26 AWG F/UTP - 3.0m	GPCPCF030-111H	GPCPCF030-444H	GPCPCF030-555H	GPCPCF030-666H	GPCPCF030-888H
26 AWG F/UTP - 5.0m	GPCPCF050-111H	GPCPCF050-444H	GPCPCF050-555H	GPCPCF050-666H	GPCPCF050-888H
26 AWG SF/UTP - 1.0m	GPCPCS010-111H	GPCPCS010-444H	GPCPCS010-555H	GPCPCS010-666H	GPCPCS010-888H
26 AWG SF/UTP - 2.0m	GPCPCS020-111H	GPCPCS020-444H	GPCPCS020-555H	GPCPCS020-666H	GPCPCS020-888H
26 AWG SF/UTP - 3.0m	GPCPCS030-111H	GPCPCS030-444H	GPCPCS030-555H	GPCPCS030-666H	GPCPCS030-888H
26 AWG SF/UTP - 5.0m	GPCPCS050-111H	GPCPCS050-444H	GPCPCS050-555H	GPCPCS050-666H	GPCPCS050-888H

Non standard colour and length options are available to order on request.

5e
100MHz

Brand-Rex Copper Connectivity - GigaPlus Panels
Category 5e Panel - Unshielded

483

88.5

33.5

483

44.1

33.5
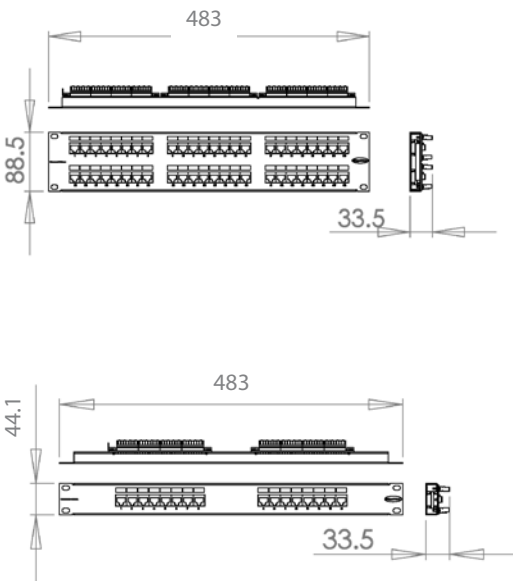
PRODUCT DESCRIPTION:
The GigaPlus 19" rack mounted patch panel offers true Category 5e component performance using patented state of the art printed circuit technology.
All outlets are numerically identified with an additional writable surface for ease of port naming. Each panel is supplied with cable ties, panel mounting accessories and short form installation instructions.

PRODUCT CHARACTERISTICS:
Panel Width: 19" (483mm)
Panel Height: 16 & 24 port 1U (44.1mm)
                    32 & 48 port 2U (88.5mm)
Panel Depth: 33.50mm
Outlet Style: Unkeyed RJ-45
Colour: RAL 9005 Black
                    or RAL 7035 Grey
Punch Down Blocks: Universal style IDC
Wiring Standard: EIA/TIA 568A/B
Conformance: ISO/IEC 11801 : 2002
                    ANSI/TIA/EIA 568B.2 : 2002
                    EN50173-1 : 2002

Product Part Numbering

	16 Port	24 Port	32 Port	48 Port
Universal IDC - Black	GPCPNLU16002	GPCPNLU24002	GPCPNLU32002	GPCPNLU48002
Universal IDC - Grey	GPCPNLU16008	GPCPNLU24008	GPCPNLU32008	GPCPNLU48008

Brand-Rex Copper Connectivity - GigaPlus Panels
Category 5e Panel - with Cable Management
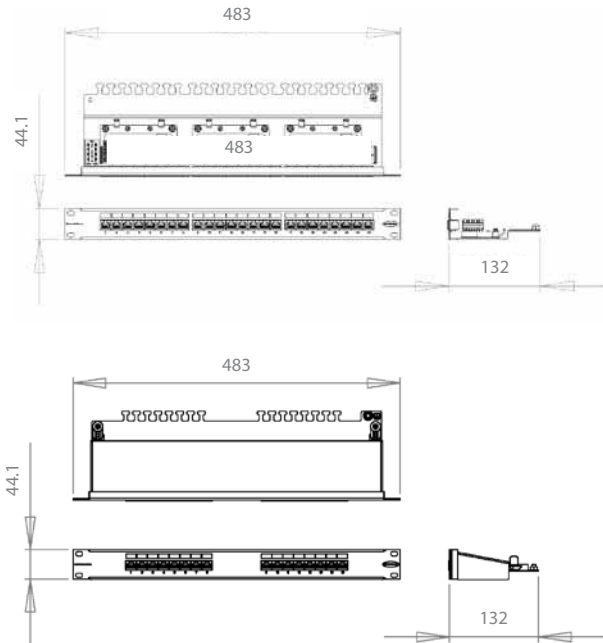
PRODUCT DESCRIPTION:

The GigaPlus 19" rack mounted patch panel offers true Category 5 component performance using patented state of the art printed circuit technology.

Available in 16 and 24 port versions, these panels have a cable management / strain relief feature built into the rear mounted grounding bar. All outlets are numerically identified with an additional writable surface for ease of port naming. Each panel is supplied with cable ties, panel mounting accessories and short form installation instructions.

PRODUCT CHARACTERISTICS:

Panel Width:	19" (483mm)
Panel Height:	1U (44.1mm)
Panel Depth:	132.0mm
Outlet Style:	Unkeyed RJ-45
Outlets:	16 or 24 ports
Colour:	RAL 9005 Black or RAL 7035 Grey
Punch Down Blocks:	LSA or 110 style IDC
Wiring Standard:	EIA/TIA 568A/B
Conformance:	ISO/IEC 11801 : 2002 ANSI/TIA/EIA 568B.2 : 2002 EN50173-1 : 2002

Product Part Numbering

	16 Port	24 Port
Unshielded Panel LSA Style - Black	GPCPNLU160K2M	GPCPNLU240K2M
Unshielded Panel LSA Style - Grey	GPCPNLU160K8M	GPCPNLU240K8M
Unshielded Panel 110 Style - Black	GPCPNLU16012M	GPCPNLU24012M
Unshielded Panel 110 Style - Grey	GPCPNLU16018M	GPCPNLU24018M
Shielded Panel LSA Style - Black	GPCPNLF160K2M	GPCPNLF240K2M
Shielded Panel LSA Style - Grey	GPCPNLF160K8M	GPCPNLF240K8M
Shielded Panel 110 Style - Black	GPCPNLF16012M	GPCPNLF24012M
Shielded Panel 110 Style - Grey	GPCPNLF16018M	GPCPNLF24018M

Brand-Rex Copper Connectivity - GigaPlus Jacks
Category 5e Snap-In Lead Frame Jacks - Shielded and Unshielded
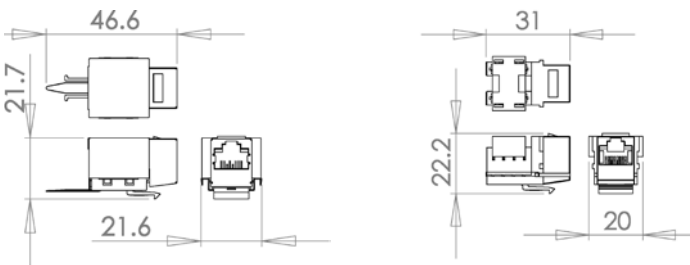
PRODUCT DESCRIPTION:
GigaPlus Shielded and Unshielded
Snap-In-Jacks offer true Category 5e component
performance. The jack is backward compatible
and also fully compatible with all our UK and
Continental style faceplates and products. Each
jack is supplied with a short form installation
instruction and stuffer cap.

PRODUCT CHARACTERISTICS:

Outlet Style: Shielded / Unshielded Keystone type with Unkeyed RJ-45 ports
Cable Entry: Top and Rear
Hole Plate Thickness: 1.60mm max
Body Material: Impact modified PPO UL94 - V0 rated
Jack Contacts: Phosphor Bronze
Plating: 50 µm gold over 100 µm nickel
Punch Down Blocks: 110 style IDC
IDC Contacts: Phosphor Bronze
Wiring Standard: EIA/TIA 568A/B
Conformance: ISO/IEC 11801 : 2002
ANSI/TIA/EIA 568B.2 : 2002
EN50173-1 : 2002

Dimensions: 46.6, 21.7, 21.6, 31, 22.2, 20

Product Part Numbering

	Unshielded	Shielded
110 Style	GPCJAKU013LF	GPCJAKF013LF

GIGAPLUS

5e 100MHz

Brand-Rex Copper Connectivity - GigaPlus Jacks
Category 5e Snap-In-Jacks - Shielded and Unshielded
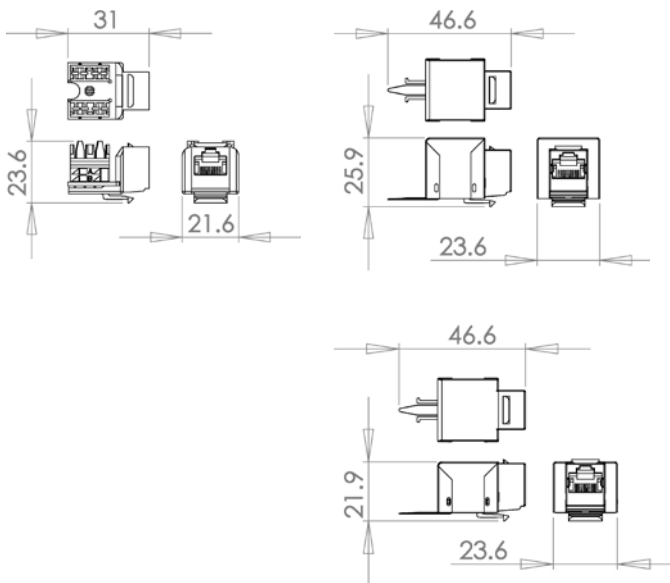
PRODUCT DESCRIPTION:

GigaPlus Shielded and Unshielded Snap-In-Jacks offer true Category 5e component performance. The jacks are backward compatible and also fully compatible with all our UK and Continental style faceplates and products. Each jack is supplied with a short form installation instruction and cable tie.

PRODUCT CHARACTERISTICS:

Outlet Style:	Shielded / Unshielded Keystone type with Unkeyed RJ-45 ports
Cable Entry:	Top and Rear
Hole Plate Thickness:	1.60mm max
Body Material:	Impact modified PBT UL94 - V0 rated
Jack Contacts:	Phosphor Bronze
Plating:	50 µm gold over 100 µm nickel
Punch Down Blocks:	110 or LSA style IDC
IDC Contacts:	Phosphor Bronze
Wiring Standard:	EIA/TIA 568A/B
Conformance:	ISO/IEC 11801 : 2002 ANSI/TIA/EIA 568B.2 : 2002 EN50173-1 : 2002

	Unshielded	Shielded
LSA Style - Black	GPCJAKU0K2	GPCJAKF0K2
LSA Style - White	GPCJAKU0K3	-
110 Style - Black	GPCJAKU012	GPCJAKF012
110 Style - White	GPCJAKU013	-

Other colours available on request.

GIGAPLUS

5e 100MHz
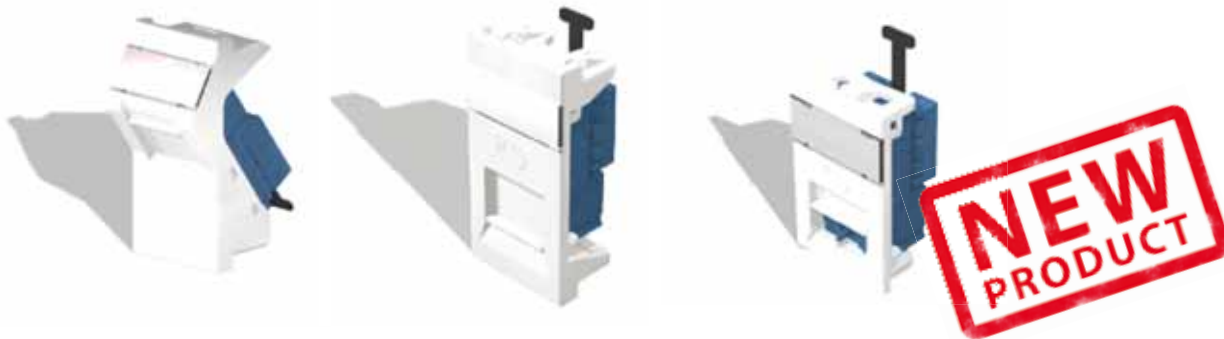
Brand-Rex Copper Connectivity - GigaPlus Modules
Category 5e Slimline Shuttered Modules - Shielded and Unshielded
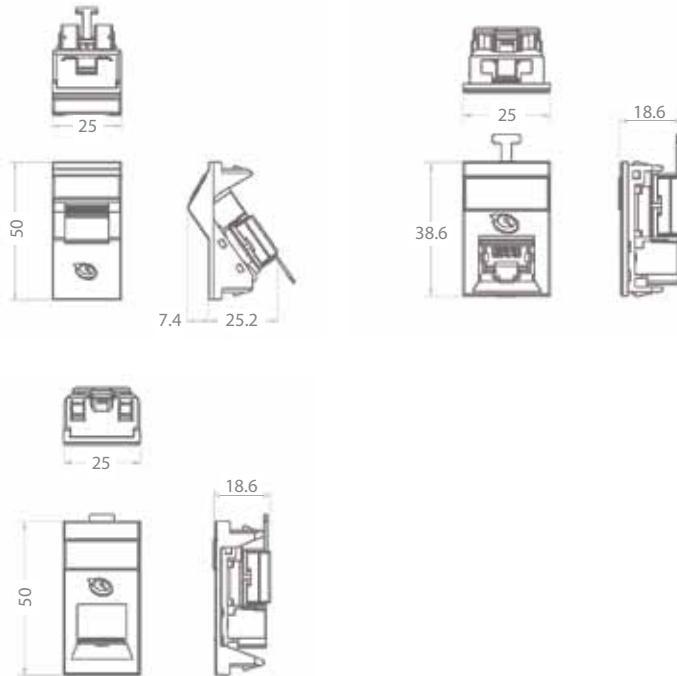
PRODUCT DESCRIPTION:

GigaPlus Slimline Shuttered Modules offer true Category 5e component performance and are fully compatible with Brand-Rex UK and continental UNI style faceplates and products, and are suitable for applications where internal back box space is limited. Each jack is supplied with a shortform installation instruction and a cable tie to attach the cable to the cable anchor. Modules are supplied with a colour code wiring label.

PRODUCT CHARACTERISTICS:

Outlet Style:	Shielded / Unshielded Keystone type with Unkeyed RJ-45 ports
Cable Entry:	Rear and Top
Colour:	Black or White
Body Material:	High impact ABS UL94 - VO
Jack Contacts:	Phosphor Bronze
Plating:	50 µm Gold over 100 µm of nickel
Punch Down Blocks:	Universal IDC
IDC Contacts:	Phosphor Bronze
Wiring Standard:	EIA/TIA 568B
Conformance:	ISO/IEC 11801 : 2002, ANSI/EIA/TIA 568B.2 : 2002 EN50173-1 : 2002

Product Part Numbering

	Unshielded	Shielded
50mm x 25mm Slimline Shuttered Module - White	GPCSL062UB03	GPCSL062SB03
50mm x 25mm Slimline Shuttered Module - Black	GPCSL062UB02	GPCSL062SB02
38mm x 25mm Slimline Shuttered Module - White	GPCSL06CUB03	GPCSL06CSB03
38mm x 25mm Slimline Shuttered Module - Black	GPCSL06CUB02	GPCSL06CSB02
50mm x 25mm Angled Slimline Shuttered Module - White	GPCSLA62UB03	GPCSLA62SB03
50mm x 25mm Angled Slimline Shuttered Module - Black	GPCSLA62UB02	GPCSLA62SB02
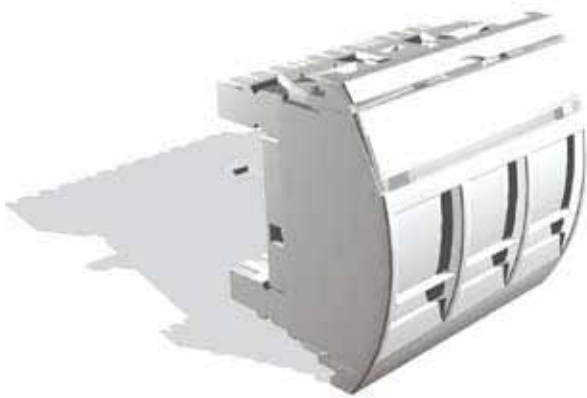
Brand-Rex Copper Connectivity - GigaPlus Outlets
Category 5e Triple Shuttered Outlet
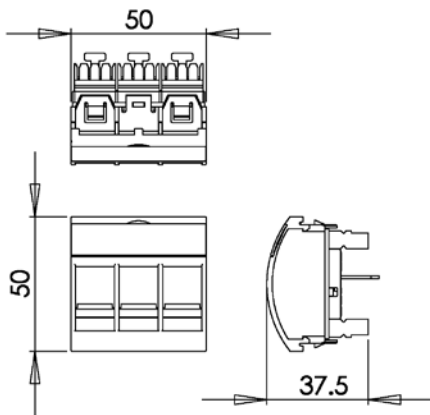
PRODUCT DESCRIPTION:
The Brand-Rex GigaPlus Unshielded Triple Outlet offers a high density outlet solution with true Category 5e component performance. The outlet is backward compatible with our UK and continental UNI style faceplates providing a 3 or 6 RJ-45 solution for high density outlet installations.

Each outlet is fitted with a removable label protector with individual rear cable anchors and colour wiring detail. Every outlet is supplied in an easy tear pack with a shortform installation instruction, paper label and cable ties.

PRODUCT CHARACTERISTICS:

Outlet Style:	Unkeyed RJ-45
Faceplate Style:	UK / Continental UNI style compatible
Backbox:	Minimum 32mm depth
Colour:	RAL 9010 White
Body Material:	ABS
Jack Contacts:	Phosphor Bronze
Plating:	50µm gold over 100µ nickel
Punch Down Blocks:	Universal 110/LSA Style IDC
Wiring Standard:	EIA/TIA 568A/B
Conformance:	Category 5e ANSI/EIA/TIA 568B.2:2002 ISO/IEC 11801:2002 EN50173-1:2002

50

50

37.5

Product Part Numbering

	Unshielded
Triple Shuttered Module - White	GPCTWOU003

GIGAPLUS

5e
100MHz
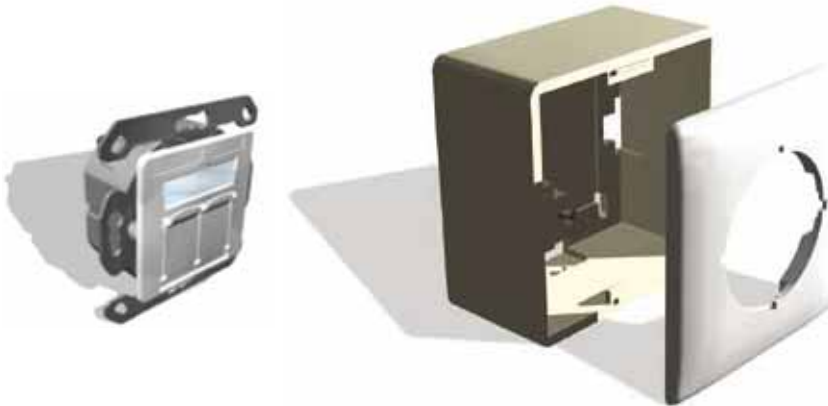
Brand-Rex Copper Connectivity - GigaPlus Outlets
Category 5e European Style Outlet

69.90

69

33

80

40.5

35

80
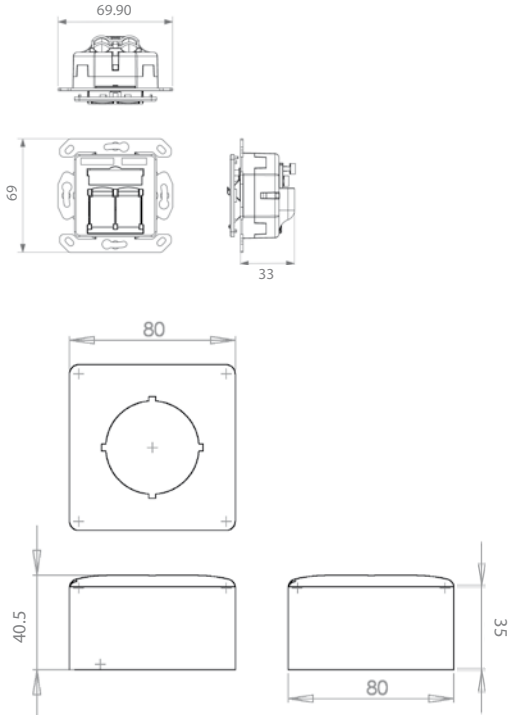
PRODUCT DESCRIPTION:
The Brand-Rex combined shielded outlet and RJ-45 socket has the same true Category 5e performance as our GigaPlus panels.
Primarily designed for mounting into duct or trunking using a 45mm diameter hole, the outlet can be either flush or wall mounted by using the 80 x 80mm continental styled faceplate and 33mm back box.

PRODUCT CHARACTERISTICS:

Outlet Style:	Shielded Keystone type with unkeyed RJ-45 ports
Cable Entry:	Horizontal or Vertical
Colour:	RAL 1013 Ivory or RAL 9010 White
Body Material:	High impact PPO UL94 - VO
Jack Contacts:	Phosphor Bronze
Plating:	50 µm gold over 100 µm of nickel
Punch Down Blocks:	LSA style IDC
IDC Contacts:	Phosphor Bronze
Wiring Standard:	EIA/TIA 568A/B
Conformance:	ISO/IEC 11801 : 2002 ANSI/TIA/EIA 568B.2 : 2002 EN50173-1 : 2002
Approval:	Product is approved by GHMT

Product Part Numbering

	White	Ivory
2 Way Shielded Outlet	GPCG245SU002	GPCG245SU001
80 x 80 Faceplate and Back Box	MMCWDOSMA002	MMCWDOSMA001

5e
100MHz

Brand-Rex Copper Connectivity - GigaPlus Cross Connect
Category 5e Cross Connect Tower Units

PRODUCT DESCRIPTION:
The tower mount frame provides a modular, high density, cross connect and cable management system. The base tower is supplied as a 300 pair unit but the capacity can be increased using additional extension frames. Tower units are supplied with wiring bases and connector blocks for 300 pair.

PRODUCT CHARACTERISTICS:
Material: Mild steel,
              Black powder coated
Dimensions:
              300 pair mounting frame
              546.1 x 215.9 x 235.0mm

              300 pair extension mounting frame
              416.0 x 215.9 x 88.9mm

              Vertical cable organiser
              546.1 x 215.9 x 235.0mm

              Vertical cable organiser extension
              426.5 x 215.9 x 228.6mm

Product Part Numbering

Cat5e 110 Tower, 300 pair mounting frame	GPC110TWR300P
Cat5e 110 Tower, 300 pair extension mounting frame	GPC110TWR300PE

5e
100MHz

Brand-Rex Copper Connectivity - GigaPlus Cross Connect
Category 5e Cross Connect Patch Cord

PRODUCT DESCRIPTION:
Cross connect patchcords are available in 110 to 110 style or 110 to RJ45 style. The standard Category 5e 110 connector can be supplied as a 4 pair or 1 pair version.

PRODUCT CHARACTERISTICS:

Conformance: Category 5e
ANSI/EIA/TIA 568B.2

Cord type: Grey 24AWG UTP

Dimensions: 50.2 x 30.9 x 9.0mm (4 pair)
57.5 x 7.4 x 9.0mm (1 pair)

Temperature Range: 0 to 50 °C (installation)
-20 to 75 °C (operational)

Product Part Numbering

	110 – 110 1 Pair	110 – 110 4 Pair	110 – RJ45
Cross Connect Patch Cord - 1.0m	GPC110110PC010-1	GPC110110PC010-4	GPC110RJ4PC010
Cross Connect Patch Cord - 1.5m	GPC110110PC015-1	GPC110110PC015-4	GPC110RJ4PC015
Cross Connect Patch Cord - 2.0m	GPC110110PC020 -1	GPC110110PC020-4	GPC110RJ4PC020
Cross Connect Patch Cord - 3.0m	GPC110110PC030-1	GPC110110PC030-4	GPC110RJ4PC030
Cross Connect Patch Cord - 4.0m	GPC110110PC040-1	GPC110110PC040-4	GPC110RJ4PC040
Cross Connect Patch Cord - 5.0m	GPC110110PC050 -1	GPC110110PC050-4	GPC110RJ4PC050

GIGAPLUS

5e
100MHz
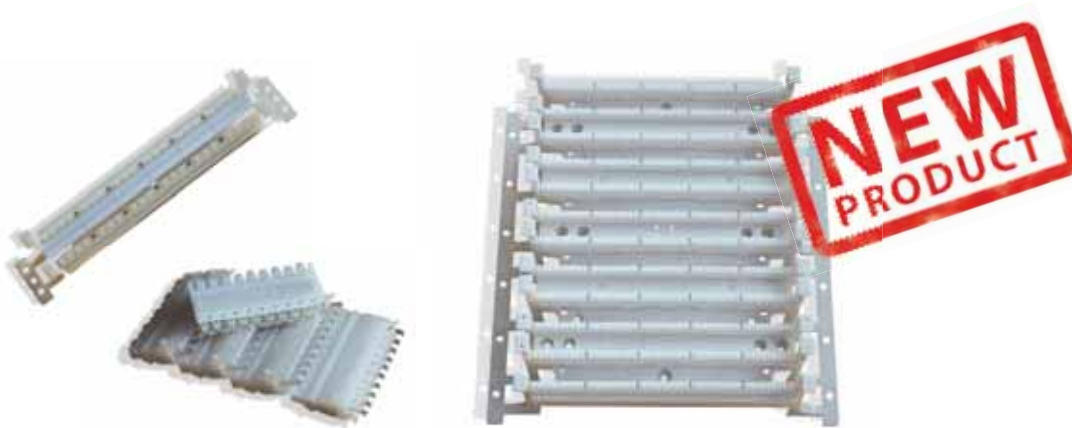
Brand-Rex Copper Connectivity - GigaPlus Cross Connect
Category 5e Cross Connect Wiring Bases and Connector

PRODUCT DESCRIPTION:

Wiring Base
The Category 5e 110-wiring base can be supplied as a 50, 100 or 300 pair version, with or without legs. It can also be supplied rack mounted as a 100, 200 or 300 pair version. Designation labels are included with the bases.

50 Pair Wiring Base Kits
A typical kit for a 50 pair wiring base includes a basic wiring base and 12 off 4 pair connector blocks. A typical kit for a Rack Mounted 100 pair wiring base includes 2 off 50 pair wiring base, 25 off 4 pair connector blocks and 5 off 5 pair connector blocks.

Connector Block
The connector can be supplied as a 4 or 5 pair version and is specifically designed to exceed Category 5e performance. It has a robust design and is colour coded for easy identification. The connector is supplied in bags of 10.

PRODUCT CHARACTERISTICS:

Conformance:	Category 5e
	ANSI/EIA/TIA 568B.2

Connector Block

Material:	Flame retardent thermoplastic rated UL94V-0, off-white

Wiring Base

Material:	Flame retardent thermoplastic rated UL94V-0, off-white
Contact Material:	Copper Alloy, tin plated

Product Part Numbering

Category 5e 110 wiring base 50 pair with legs	GPC110WB50PL
Category 5e 110 wiring base 50 pair without legs	GPC110WB50P
Catetgory 5e 110 wiring base 50 pair with legs, Kit	GPC110WB50PLK
Category 5e 110 wiring base 50 pair without legs, Kit	GPC110WB50PK
Category 5e 110 wiring base 100 pair with legs	GPC110WB100PL
Category 5e 110 wiring base 100 pair without legs	GPC110WB100P
Category 5e 110 wiring base 100 pair with legs, Kit	GPC110WB100PLK
Category 5e 110 wiring base 100 pair without legs, Kit	GPC110WB100PK
Category 5e 110 wiring base 300 pair with legs	GPC110WB300PL
Category 5e 110 wiring base 300 pair without legs	GPC110WB300P
Category 5e 110 wiring base 300 pair with legs, Kit	GPC110WB300PLK
Category 5e 110 wiring base 300 pair without legs, Kit	GPC110WB300PK
Category 5e 110 wiring base 100 pair rack mounted, Kit	GPC110WB100PRK
Category 5e 110 wiring base 200 pair rack mounted, Kit	GPC110WB200PRK
Category 5e 110 wiring base 300 pair rack mounted, Kit	GPC110WB300PRK
Category 5e 110 Connector Block – 4 Pair	GPC110CB4P
Category 5e 110 Connector Block – 5 Pair	GPC110CB5P

MORE
HEADROOM?
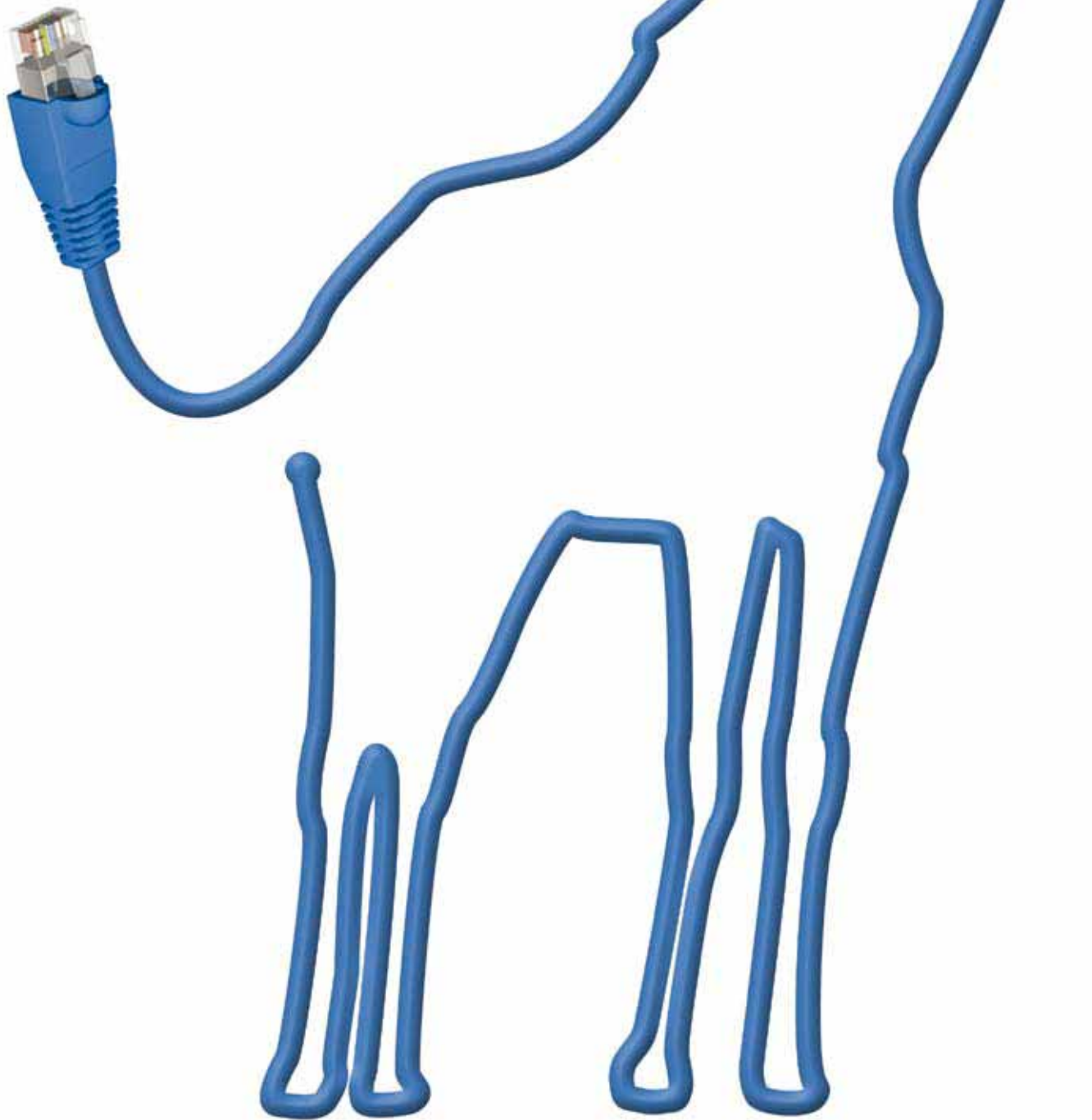
Structured cabling systems manufactured by Brand-Rex are designed to offer exceptional performance, underpinned by the most comprehensive 25-year warranty on the market. In an area where aesthetics are no guarantee of quality, Brand-Rex offers high quality and reliable solutions for copper and optical cabling.

Brand-Rex – performance through design excellence.
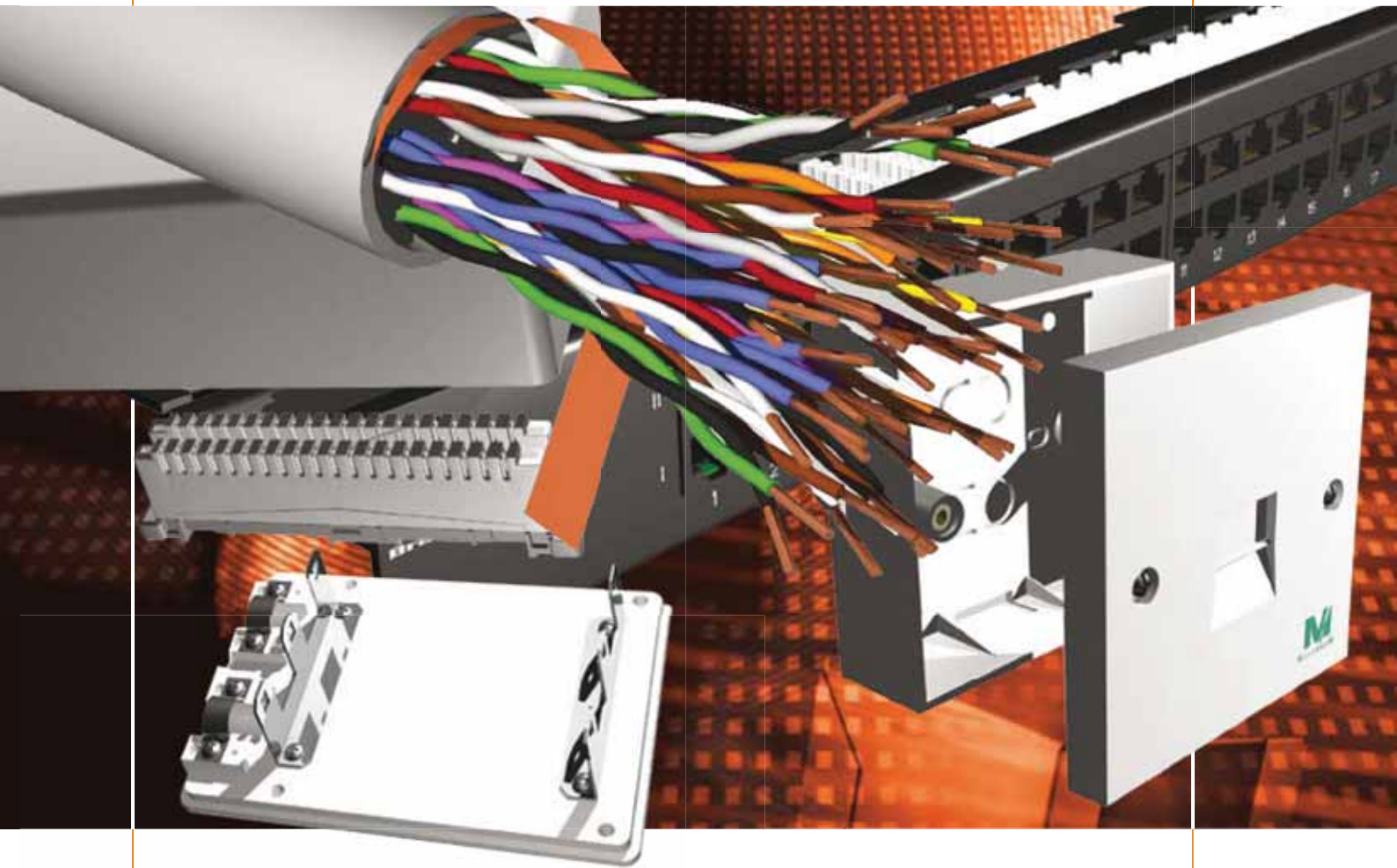
Brand-Rex

**BRAND-REX VOICE SYSTEM
(CATEGORY 3 - CLASS C):**

The Brand-Rex Voice System is a comprehensive system of high quality Voice products forming part of the Brand-Rex range and is therefore backed by a 25 year system warranty for total peace of mind

• Compact 1U 25 and 50 port voice panels that give maximum configurable connections at both front and rear

• Category 3 voice cable for higher performance voice links

• Network termination boxes (30 pair, 50 pair & 100 pair) plus 10 pair disconnection strips

• A full range of accessories providing total installed voice solutions

Sheath

Polyolefin Insulation

PET Tape

Annealed Copper Core
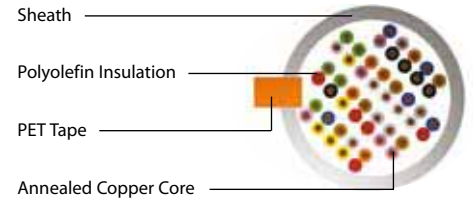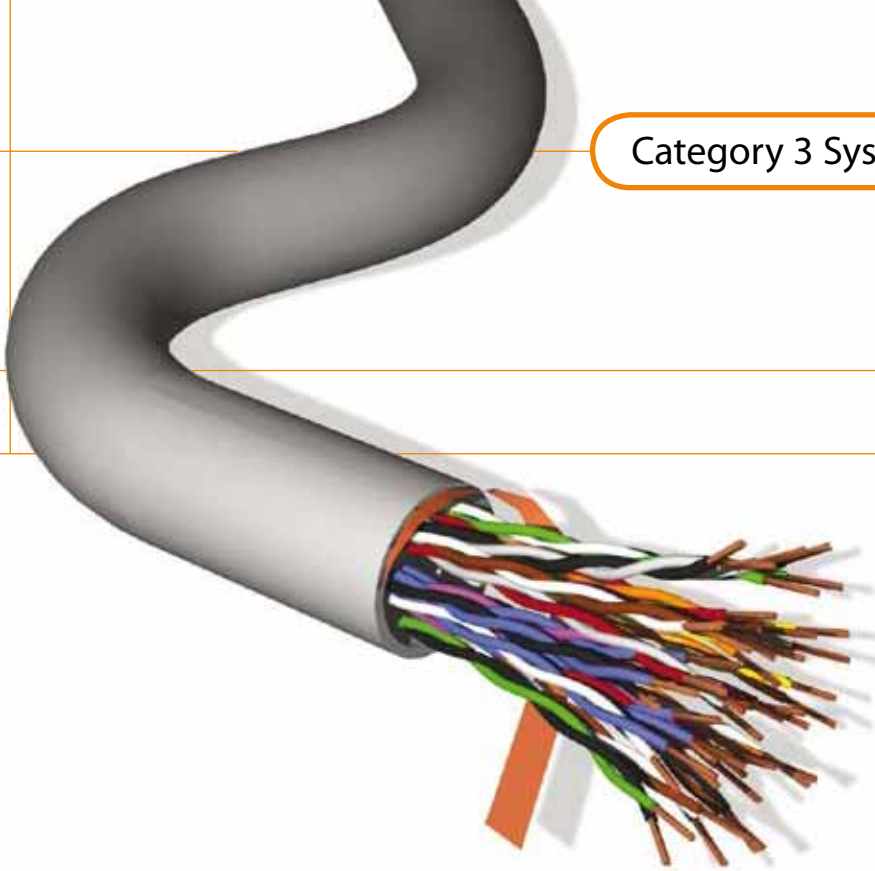
Brand-Rex Copper Cables - VOICE
24 AWG U/UTP MultiPair Sheathed Cable

PRODUCT DESCRIPTION:
Brand-Rex VOICE cables consist of 0.51mm Polyolefin insulated conductors formed into one or more units of twisted pairs. The units are identified with coloured binders and are assembled to form the cable core. The core may be protected with one or more layers of dielectric material and is covered by a protective LSZH sheath.

PRODUCT CHARACTERISTICS:

Core:

Conductor:	Annealed copper, 0.51mm Diameter
Insulation:	Polyolefin
Cabling Element:	Twisted Pair
Colour Code:	See Table 1 opposite

Final Assembly:

Core Stranding:	25 pair units Unit Binders (see Table 2)
Binder:	Wrapped with polyester tape, 100% coverage
Sheath:	LSZH compound

ELECTRICAL CHARACTERISTICS (@ 20°C):

Conductor Resistance:	Max 9.38 Ωs / 100m	
Max. Attenuation:	1 MHz	2.6 dB / 100m
	4 MHz	5.6 dB / 100m
	8 MHz	8.5 dB / 100m
	10 MHz	9.7 dB / 100m
	16 MHz	13.1 dB/ 100m
Mutual Capacitance:	6.6 nF / 100m 1KHz	
Capacitance Unbalance:	330 pF / 100m 1KHz	
Characteristic Impedance:	100+/- 15 Ωs	
NEXT (Max dB Power Sum in 25 pair units)	1 MHz	41 dB
	4 MHz	32 dB
	8 MHz	27 dB
	10 MHz	26 dB
	16 MHz	23 dB
Conformance:	Category 3 ANSI/EIA/TIA 568B.2 : 2002	

Table 1: Pair Colour Code

Pair Number	Colour - Conductor 1	Colour - Conductor 2
1	White	Blue
2	White	Orange
3	White	Green
4	White	Brown
5	White	Grey
6	Red	Blue
7	Red	Orange
8	Red	Green
9	Red	Brown
10	Red	Grey
11	Black	Blue
12	Black	Orange
13	Black	Green
14	Black	Brown
15	Black	Grey
16	Yellow	Blue
17	Yellow	Orange
18	Yellow	Green
19	Yellow	Brown
20	Yellow	Grey
21	Violet	Blue
22	Violet	Orange
23	Violet	Green
24	Violet	Brown
25	Violet	Grey

Table 2: Unit Binder Colour Code

Unit Number	Binding Colour	Pair Number (25 pair units)
1	Blue-White	1-25
2	Orange-White	26-50
3	Green-White	51-75
4	Brown-White	76-100
5	Grey-White	101-125
6	Blue-Red	126-150
7	Orange-Red	151-175
8	Green-Red	176-200

Product Part Numbering

Part Number	25 Pair	50 Pair	100 Pair
Part Number	C3U25PRHF1	C3U50PRHF1	C3U100PRHF1
Outer Sheath	LSZH	LSZH	LSZH
Cable Weight	155 kg/km	290 kg/km	550 kg/km
Outer Diameter (nom)	9.50mm	13.0mm	18.0mm
Sheath Colour	Grey RAL 7035	Grey RAL 7035	Grey RAL 7035
Fire Safety Rating	IEC 60332-1	IEC 60332-1	IEC 60332-1

Brand-Rex Copper Connectivity - VOICE
Unshielded Panels

483

44.1

142
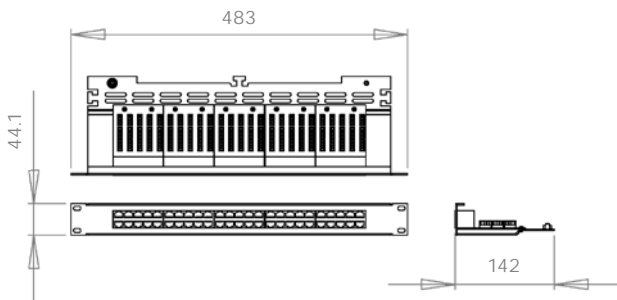
PRODUCT DESCRIPTION:

The 19" rack mounted patch panel is available in 25 and 50 port versions, both have a slimline 1U footprint suitable for compact installations maximising rack space. These panels are supplied with cable ties, earth lead, cable manager, mounting bolts and short form instructions.

The rear of the panel offers a choice of between 60 and 150 voice pairs to suit a variety of PBX (Private Branch eXchange) systems and direct line connections.

This offers maximum flexibility for connection to both future and existing PBX installations.

PRODUCT CHARACTERISTICS:

Panel Width:	19" (483mm)
Panel Height	1U (44.45mm)
Panel Depth:	142.0mm
Outlet Style:	Unkeyed RJ45
Outlets:	4 pin or 6 pin
Colour:	RAL 9005 Black or RAL 7035 Grey
Punch Down Blocks:	LSA style IDC
Conformance:	Category 3 ANSI/EIA/TIA 568B.2 : 2002

Product Part Numbering

Part Number	25 Port	50 Port
4 Pin - Black	C5CPNLU254PK2	C5CPNLU504PK2
4 Pin - Grey	C5CPNLU254PK8	C5CPNLU504PK8
6 Pin - Black	CPCPNLU256PK2	CPCPNLU506PK2

Brand-Rex Copper Systems - VOICE Connectivity

PRODUCT DESCRIPTION:
Brand-Rex VOICE includes a range of surface mounted telecom boxes for multipair cable termination, surface mounted outlets, 50 x 25 mm UK styled faceplate modules and line adaptor fly leads.

Termination Boxes
The range of termination boxes are available in a number of sizes to accommodate up to 10 x 10 pair disconnect termination modules. Each box has been designed for easy access with internal pair management and knockout cable entry to provide a simple cost effective solution for termination and incoming voice lines.

These units can be fitted before and after a PBX (Private Branch eXchange) telephone system providing for the removal or replacement of the PBX unit with minimal disruption to incoming and outgoing connections.

Telecom Outlet (LJU)
Available in PSTN, PBX or Secondary units, this product has a UK style telephone socket and LSA style IDC cable termination. Supplied as a standard UK style 68 x 68mm faceplate, this outlet comes with a removable 21mm deep backbox, faceplate mounting screws and installation instructions.

25 x 50mm Telecom Faceplate Module
As with our standard telecom outlet, this product is also available in PSTN, PBX or secondary units, with the same UK style telephone socket and LSA style IDC cable termination. This unit has been designed to mount in the Brand-Rex modular range of faceplates.

Telecom Fly Lead Adaptor
PSTN, PBX or secondary units are available with 150 mm leads to convert an RJ-45 data outlet into a standard UK style telephone outlet.

RANGE CHARACTERISTICS:

Telephone Outlet:	UK style 601 (6 pin) with a right hand latch position
Punchdown:	LSA style IDC

Product Part Numbering

	White
Wall Mount Dist Box - 3 Block (150 x 104 x 55)	MMCWDBU03001
Wall Mount Dist Box - 5 Block (129 x 160 x 90)	MMCWDBU05001
Wall Mount Dist Box - 10 Block (318 x 209 x 122)	MMCWDBU10001
Disconnection Block - 10 Pair	MMCDISU10PK001
10 Pair Disconnect Block Label Holder	MMCLBL10PU001
PSTN Master Single Outlet LJU Surface Mount	MMCLJUWMPSTN001
PBX Master Single Outlet LJU Surface Mount	MMCLJUWMPABX001
Secondary Single Outlet LJU Surface Mount	MMCLJUWMSEC001
PSTN 25 x 50mm LJU	LJUPSTN001
PBX 25 x 50mm LJU	LJUPBX001
Secondary 25 x 50mm LJU	LJUSEC001
PSTN Fly Lead Adaptor	LAUPSTNMSP001
PBX Fly Lead Adaptor	LAUPBXM001
Secondary Fly Lead Adaptor	LAUSEC001

Not all parts are shown

**BRAND-REX COPPER
SYSTEMS ACCESSORIES:**

• A comprehensive range of structured
cabling system accessories to complement
any Brand-Rex structured cabling system

Cat 5e Cat 6 Cat AC6 Cat 7

Brand-Rex Copper Connectivity - Snap-In-Jack Modular Panels
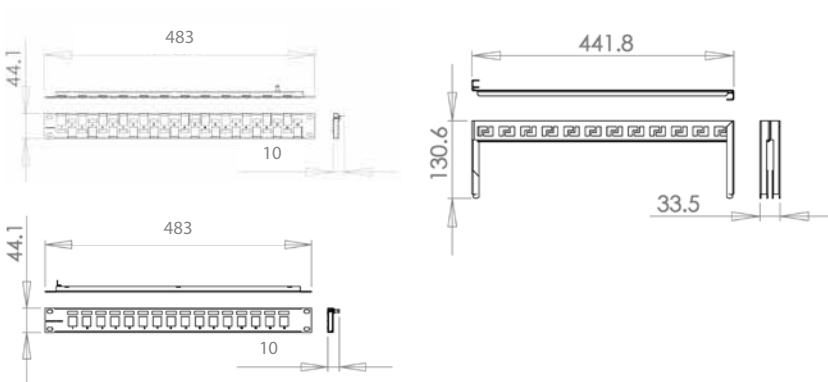
PRODUCT DESCRIPTION:

The Brand-Rex 19" Modular Panel is a rack mounted Snap-In-Jack panel that has been designed with a double skin to provide flush mounted jacks. The rear of the panel has been plated for grounding to the chassis on shielded systems. All outlets are numerically identified with an additional writable surface for ease of port naming.

PRODUCT CHARACTERISTICS:

Panel Width:	19" (483mm)
Panel Height:	16 and 24 port 1U (44.1mm)
	32 port 2U (88.5mm)
	48 port 3U (133.2mm)
Panel Depth:	44.0mm (including jacks)
Panel Depth:	135.0mm (including management)
Colour:	RAL 9005 Black or RAL 7035 Grey
Application:	Suitable for both shielded and unshielded applications when used in conjunction with Brand-Rex approved Snap-In-Jacks. It is recommended that a minimum of one cable manager is used per 1U of modular panel

Product Part Numbering

	16 Port	24 Port	32 Port	48 Port
Modular Snap In Jack Panel - Black	MMCPNLX16SIJ2	MMCPNLX24SIJ2	MMCPNLX32SIJ2	MMCPNLX48SIJ2
Modular Snap In Jack Panel - Grey	MMCPNLX16SIJ8	MMCPNLX24SIJ8	MMCPNLX32SIJ8	MMCPNLX48SIJ8
Modular Panel Cable Manager - Black	MMCACCCMSIJ2			
Modular Panel Cable Manager - Grey	MMCACCCMSIJ8			

Note: Panels supplied empty, Snap-In-Jacks must be purchased separately.

Cat 5e   Cat 6   Cat AC6   Cat 7

Brand-Rex Copper Connectivity - Blank Panels

PRODUCT DESCRIPTION:

1U and 2U blank panels are used to complete any installation in a cabinet. Designed to complement the Brand-Rex range of patch panels, they provide a more aesthetically pleasing finish and offer improved user safety.

PRODUCT CHARACTERISTICS:

1U Rack Mounted

Panel Width:	19" (483mm)
Panel Height:	1U (44.1mm)
Panel Depth:	12.50mm
Colour:	RAL 9005 Black or RAL 7035 Grey
Material:	2.5mm Mild Steel

2U Rack Mounted

Panel Width:	19" (483mm)
Panel Height:	2U (88.5mm)
Panel Depth:	12.50mm
Colour:	RAL 9005 Black or RAL 7035 Grey
Material:	2.5mm Mild Steel
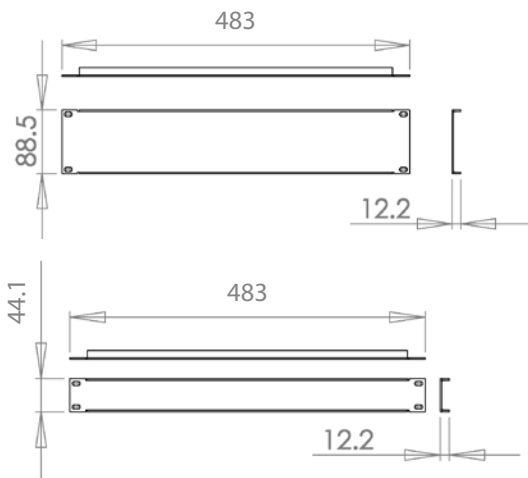
Product Part Numbering

	Black	Grey
1U Rack Mounted Blank Panel	MMCACCCM004	MMCACCCM104
2U Rack Mounted Blank Panel	MMCACCCM005	MMCACCCM105

Cat 5e   Cat 6   Cat AC6   Cat 7

Brand-Rex Copper Connectivity - Cable Management Accessories

PRODUCT DESCRIPTION:

To ensure neat and tidy installations, a range of cable management products is available. These products are either 19" rack mounted or side mounted.

PRODUCT CHARACTERISTICS:

1U 5 Ring Rack Mounted

Panel Width:	19" (483mm)
Panel Height:	1U (44.45mm)
Panel Depth:	65.2mm
Ring Dimensions:	60mm x 40mm x 13mm
Colour:	RAL 9005 Black or RAL 7035 Grey
Material:	2.5mm Mild Steel

1U Rack Mounted with brush

Panel Width:	19" (483mm)
Panel Height:	1U (44.1mm)
Panel Depth:	50mm
Colour:	RAL 9005 Black or RAL 7035 Grey
Material:	1.5mm Mild Steel

2U Rack Mounted

Panel Width:	19" (483mm)
Panel Height:	2U (88.5mm)
Panel Depth:	75mm
Ring Dimensions:	75mm x 75mm x 13mm
Colour:	RAL 9005 Black or RAL 7035 Grey
Material:	2.5mm Mild Steel

Side Mounted Vertical and Horizontal

Ring Dimensions (V):	44mm x 23mm x 50mm
Ring Dimensions (H):	44mm x 23mm x 80mm
Colour:	RAL 9005 Black or RAL 7035 Grey
Material:	2.5mm Mild Steel
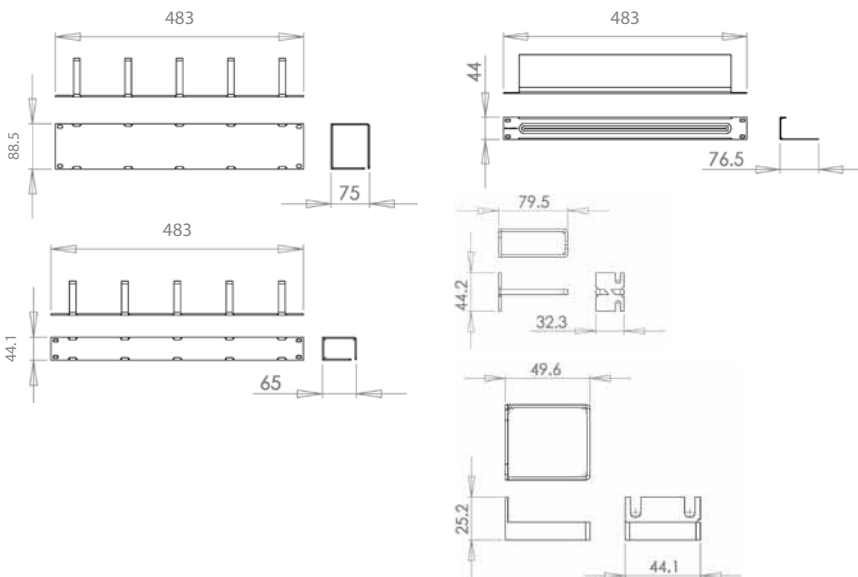
Product Part Numbering

	Black	Grey
1U Rack Mounted - 5 ring	MMCACCCM001	MMCACCCM101
1U Rack Mounted with brush	MMCACCCM006	MMCACCCM106
2u Rack Mounted - 5 ring	MMCACCCM007	MMCACCCM107
Side Mounted - Horizontal	MMCACCCM003	MMCACCCM103
Side Mounted - Vertical	MMCACCCM002	MMCACCCM102

Cat 5e | Cat 6 | Cat AC6 | Cat 7

Brand-Rex Copper Connectivity - UK Styled Plastic
Outlets and Accessories
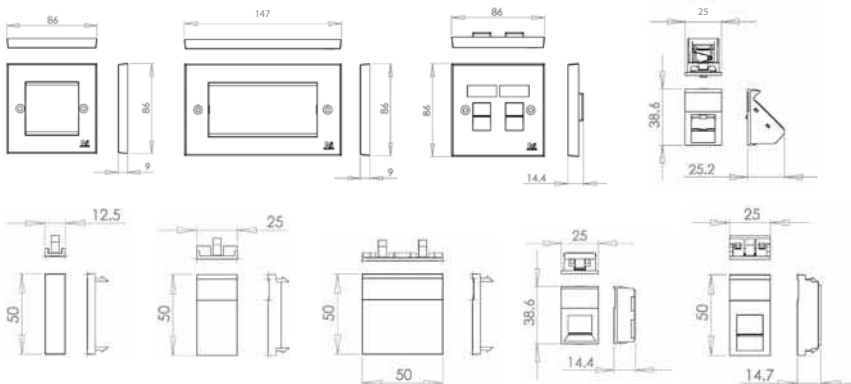
Product Part Numbering

	White
25 x 50mm Shuttered Faceplate Module	MMCWDOUNI062
25 x 50mm Angled Faceplate Module	MMCANG0623
25 x 38mm Shuttered Floorbox Module	MMCWDO06C001
25 x 38mm Angled Floorbox Shuttered Module	MMCANG06C3
25 x 50mm Faceplate Blank	MMCWDOUNI042
25 x 38mm Floorbox Blank	MMCBLK06C001
50 x 50mm Faceplate Blank	MMCWDOUNI040
12.5 x 50mm Faceplate Blank	MMCWDOUNI052
86 x 86mm Single Port Shuttered Faceplate	MMCWDOUNI070
86 x 86mm Double Port Shuttered Faceplate	MMCWDOUNI071
86 x 86mm Single Gang Modular Faceplate	MMCWDOUNI030
86 x 147mm Double Gang Modular Faceplate	MMCWDOUNI031
32mm Deep, Single Gang Backbox	MMCSGBB32001
44mm Deep, Single Gang Backbox	MMCSGBB44001
32mm Deep, Double Gang Backbox	MMCDGBB32002
44mm Deep, Double Gang Backbox	MMCDGBB44002

Not all products are shown

PRODUCT DESCRIPTION:
Brand-Rex supplies a comprehensive range of plastic accessories to provide an outlet solution for wall, trunking and floorbox applications. These accessories have been designed to be used in conjunction with Brand-Rex Snap-In Jacks.

All UK style faceplates are supplied with M3.5 mounting screws and are available in both modular or low cost shuttered versions.

Backboxes can also be supplied to allow for retrofit application where outlets are required to be surface mounted.

Floorbox modules and blanks have been designed to clip into a 1.0 - 2.0mm thick plate with a standard 22 x 37mm floorbox cut-out.

PRODUCT CHARACTERISTICS:
Material:	ABS
Colour:	White
Faceplate Type:	Single or Double Gang
Modular Range:	1 - 4 outlets
Shuttered Range:	1 or 2 outlets

Brand-Rex Copper Connectivity - Snap-In-Jack Modules

PRODUCT DESCRIPTION:

Brand-Rex single and double Snap-In Jack Modules have been designed to accept the standard Brand-Rex Snap-In Jacks and are fully compatible with the 'Legrand Mosaic' and our continental UNI style faceplates.

PRODUCT CHARACTERISTICS:

Dimensions:	45mm x 45mm
Depth:	14.75mm
Label:	White paper with clip in clear cover
Body Material:	ABS
Colour:	Off White
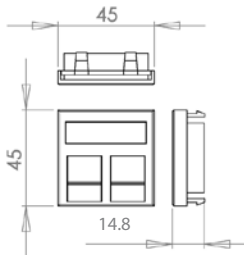
Product Part Numbering

	Off White
1 Way Snap-In Jack Module	MMCUNILGS45001
2 Way Snap-In Jack Module	MMCUNILGD45001

Cat 5e   Cat 6

Cross-Connect Cable Management

PRODUCT DESCRIPTION:
The cable management range compliments the set of Cross-connect components offered by Brand-Rex. The horizontal cable organisers can be supplied with or without legs and also as a 19" rack mounted version.

PRODUCT CHARACTERISTICS:
Dimensions:
Horizontal Cable Organiser with Legs
271.8 x 46.7 x 111.0mm

Horizontal Cable Organiser without Legs
214.9 x 44.0 x 64.0mm

Horizontal Cable Organiser rack mounted
482.6 x 44.0 x 75.2mm

Organiser Material: Flame retardant thermoplastic rated UL94V-0, off-white

Product Part Numbering

Horizontal Cable Organiser with Legs	CMH110L
Horizontal Cable Organiser without Legs	CMH110
Horizontal Cable Organiser Rack Mounted	CMH110R
Vertical Cable Organiser for 110 Tower	CMV110TWR
Vertical Cable Organiser Extension for 110 Tower	CMV110TWRE

Brand-Rex Copper Components - Consumables and Tools
Consumables and Tools

PRODUCT DESCRIPTION:
Within the standard Brand-Rex product range is a set of standard tools for the safe and efficient termination of copper cables.
These tools are available for both LSA and 110 style IDC connectors.

Also available is a Brand-Rex Jack Gripper to hold Snap-In-Jacks during termination.

Product Part Numbering

	Part Number
IDC Punchdown Tool Handle (blades sold separately)	MMCD914
Punchdown Tool Blade - 110	MMCACC110
Punchdown Tool Blade - LSA	MMCACCLSA
Jack Gripper	MMCJH002

Product Part Number Index

Product Part Number Index

25 YEAR
SYSTEM WARRANTY

Available for complete structured cabling
systems when installed by an authorised
Brand-Rex partner. Systems must include
Brand-Rex cable, panels, outlets & patch cords.

10GPLUS

U-MEDIAPLUS

CAT6PLUS

GIGAPLUS

VOICE

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