

# Data Center Solutions

Entrance Facility
Main Distribution Area
Horizontal and Equipment Distribution Areas

1st Edition





### **Data Center Solutions**

Entrance Facility
Main Distribution Area
Horizontal and Equipment Distribution Areas

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# AVAILABILITY DATA CENTER **NEEDS EFFICIENCY**

# Data Center Solutions

TE Connectivity (TE) jointly develops solutions with many of the world's leading data center equipment manufacturers. This, combined with global reach and innovative managed connectivity technology, puts us in a unique position to help our customers deliver on their business requirements by creating a resilient, efficient and agile data center infrastructure.

AGILITY. Networks constantly change and grow. Our Storage Area Management Solution (SAM) and Q3000 high-density fiber solutions can help ensure successful network upgrades and implementations with maximum ease and control.

AVAILABILITY. TE's managed connectivity solutions, including our AMPTRAC 9th wire technology and Quareo connection point identification technology can help increase uptime, resilience and service continuity by delivering an automated, real-time understanding of end-to-end network connectivity.

EFFICIENCY. Our energy saving MRJ21 cabling system, along with industryleading high density cable management solutions like our FiberGuide™ optical raceway, can help ensure stringent CAPEX and OPEX control.

#### HORIZONTAL AND EQUIPMENT DISTRIBUTION AREAS



**MRJ21 Patch Panel** 



**Fiber Panels** 



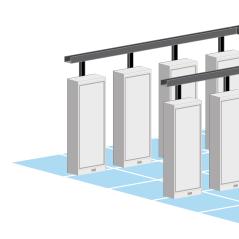
**Fiber Cable Assembly** 



**Shielded and Unshielded Copper Systems for** 10 Gigabit Ethernet Applications



**FiberGuide Optical Raceway** 



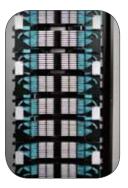






**Managed Connectivity** 

Quareo, AMPTRAC, Infrastructure Configuration Manager Software





**FiberGuide** Optical Raceway

Q-Frame



**MPO Cassette** 



Storage Area Management

#### **ENTRANCE FACILITY**

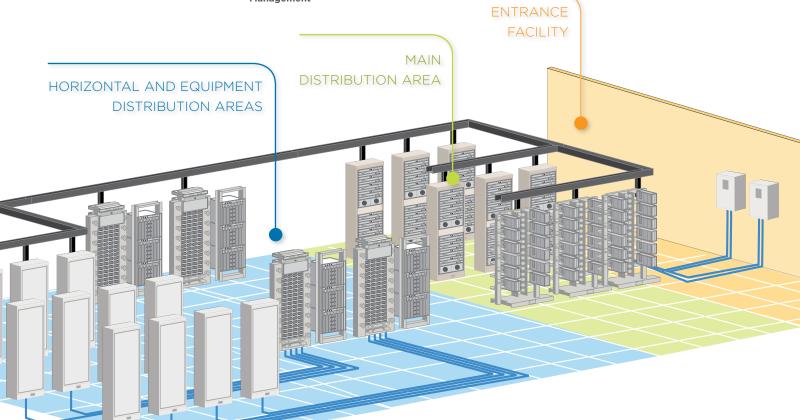


**HighBand Block** 





Fiber Panel Splice Cabinet









### ENTRANCE FACILITY

The entrance facility is the location for access provider equipment and demarcation points as well as the interface with campus cabling systems. Larger data centers may incorporate multiple entrance facilities. TE solutions provide termination, splice storage, and protection for service provider handoffs and backbone cabling that can help maximize data center bandwidth and uptime.



**HighBand Block** 



**Fiber Panel** 





**Splice Cabinet** 

	rianagement

Description			Part Number
FIBER			
Fiber Cabinet	OMX 600 platform, black	Cable exit up	MX6-BSPL-1440-U7
-iber Cabinet	OMX splice cabinet	Cable exit down  1 meter 2 meter 3 meter 5 meter 10 meter 1 meter 2 meter	MX6-BSPL-1440-D7
"h Detek Devel	24 mariking singlements CC		FL2-CB70024PW-2A02
iber Patch Panel	24-position, singlemode SC	Cable exit down  1 meter 2 meter 3 meter 5 meter 10 meter 1 meter 2 meter 3 meter 5 meter	FL2-CB80024AN-2C50
		1 meter	PAT-LCLC-PSOC001M
		2 meter	PAT-LCLC-PS0C002M
	LC-LC singlemode, 2 mm zipcord LC-LC connectors	3 meter	PAT-LCLC-PS0C003M
	zipcora Le Le connectors	5 meter	PAT-LCLC-PS0C005M
Fiber Patch Cords		10 meter	PAT-LCLC-PSOC010M
		1 meter	PAT-SCSC-PS0C001M
		2 meter	PAT-SCSC-PSOC002M
	SC to SC, duplex, 2.0 mm, plenum	3 meter	PAT-SCSC-PSOC003M
		5 meter	PAT-SCSC-PS0C005M
		10 meter	PAT-SCSC-PSOC010M
iber Rack	Q Frame 19" channel rack		1933559-1

#### COPPER

C DI 10//	2 post, 3" deep, 2 post rack		1933559-1
Copper Rack; 19"	4 post adjustable, 4 post rack	Single sided Double sided 6" 6" Combination Cat 6A Cat 6 Sludes (2) cable  Cable trough top (1) Cable trough bottom (1)	1933570-1
	Liamina atal 211 a an al	Single sided	1933532-1
Sauran Calda Mananana	Horizontal 2U panel	Double sided	1933533-1
Copper Cable Management	Davida sidad washinda asaa saa	6"	1933534-1
	Double-sided vertical manager	6" Combination	1933540-1
	700 in lift 12 lift	Cat 6A	6450 1 107-01
	6" Combination  Cat 6A  300-pair kit, 12-way kit	6450 1 101-10	
	12-way cable management kit; Incl management rings and (1) cover.	ustable, 4 post rack  I 2U panel  Ged vertical manager  Kit, 12-way kit  Cat 6A  Cat 6  Cat 6  Colle management kit; Includes (2) cable ent rings and (1) cover.  magement rings (2)  Cable trough top (1)	6450 1 103-10
HighBand Block	Cable management rings (2)		6450 2 156-20
	Cover (1)		6450 2 158-20
		Cable trough top (1)	6450 2 157-10
	Cable troughs	Cable trough bottom (1)	6450 2 157-20

See page 17 for more information regarding bulk cable and connectors.





The main distribution area houses the main cross-connect as well as core routers and switches for local area network and storage area network infrastructures. TE offers high-density infrastructure solutions, such as the Q-Frame, and industry-leading cable management systems like the FiberGuide Optical Raceway, which can help maximize uptime and decrease operating costs in this area, where higher optical fiber cable counts require specialized solutions.





Managed Connectivity: Quareo, AMPTRAC, and Infrastructure Configuration Management Software

SIGMA-Link









**MPO Cassette** 

Storage Area Management

**FiberGuide** Optical Raceway

Q-Frame

Description			Part Number
FIBER			
		Q3200 Chassis: 1 RU, accommodates 2 blades	QUCH-1RU
	Q3000 Chassis	Q3400 Chassis: 2 RU, accommodates 4 blades	QUCH-2RU
Fiber Patch Panels; unmanaged		Q3800 Chassis: 4 RU, accommodates 8 blades	QUCH-4RU
iber i ateri i aneis, animanagea	Q3000 Blades	LC to MPO; 24 Duplex LC Ports (48 fiber) Distributed from 2 each 12 fiber MPO Connectors; OM3 Multimode	QUFB-48FDLCMM3HR
		MPO to MPO; 16 MPO ports with 12 fibers each (192 fibers); OM3/OM4	QUFB-192FMPOMMHR
		Q4200 Chassis, accomodates 2EA Q4 series blades	QCH-1RU
	Q4000 Chassis	Q4400 Chassis, accomodates 4EA Q4 series blades	QCH-2RU
		Q4800 Chassis, accomodates 8EA Q4 series blades QCH-4RU	
	0.4000 51. 1	LC-to-MPO Q4000 Chassis Blade; 24 Port Duplex LC; OM3	QFB-48FDLCMMMHR
Fiber Patch Panels; managed	Q4000 Blades	MPO-to-MPO Q4000 Chassis Blade; 16 Port MPO; OM3/OM4	QFB-192FMPOMMHR
	QCC-4; Chassis Controller for Q40	QCC-4; Chassis Controller for Q4000 Network Chassis	
	1 RU empty panel; accommodates 1 angle left and 1 angle right adapter packs		TFP-1TT00-000B
	2 RU empty panel; accommodates 2 angle left and 2	angle right adapter packs	TFP-2TT00-000B
	4 RU empty panel; accommodates 4 angle left and 4	angle right adapter packs	TFP-4TT00-000B
	Loaded with 12 multimode	Angle left	TFP-24MPLDQ2
FP MPO Cassettes	LC (aqua) adapters to 2 MPO adapters (total 24 fiber terminations or 12 ports)	Angle right	TFP-24MPRDQ2





Description			Part Number
	1 RU Empty panel; Accommodates	3 modular adapter packs; Black	RMG-1000-000B
MG Chassis	2 RU Empty panel; Accommodates 6 modular adapter packs; Black		RMG-2000-000B
ino chassis	4 RU Empty panel; Accommodate packs; includes cable managemen		RMG-4000-000B
	Loaded with 3 Multimode quad LC adapter (total 12 fiber terminations	·	RMG-12MPODQ4
MG MPO Cassette	Loaded with 6 Multimode quad LC adapter (total 12 fiber terminations	attes 6 modular adapter packs; Black attes 12 adapter ent bracket  LC adapters to 1 MPO ons or 6 ports)  LC adapters to 2 MPO ons or 6 ports)  Rack Mount Patch Enclosure, 2 R 32-port OM3  48-port OM3  32-port  48-port  64-port  9 meter (30')  12 meter (40')  15 meter (50')  18 meter (60')  10' (3.05 m)  50' (15.25 m)  100' (30.48 m)  10' (3.05 m)  50' (15.25 m)  100' (30.48 m)  10' (3.05 m)  50' (15.25 m)  100' (30.48 m)  10' (3.05 m)  50' (15.25 m)  100' (30.48 m)  1 meter  2 meters  3 meters  5 meters  1 meter  2 meters  3 meters  5 meters  5 meters	RMG-24MPODQ4
	SAM Rack Mount Optical Fiber Enclosures	Rack Mount Patch Enclosure, 2 RU	1553761-1
	Fan Fad Frada was 1 DU	32-port OM3	1553533-2
	Far End Enclosures; 1 RU	48-port OM3	1553533-1
		32-port	2193057-2
orage Area Management System	Hydra Kits; XG OM3 Multimode	48-port	2193057-3
AM)		64-port	2193057-4
		9 meter (30')	1553534-3
	MPO to MPO Trunk Cable	12 meter (40')	1553534-4
	Assemblies XG OM3	15 meter (50')	1553534-5
	18 meter (60')	1553534-6	
	5.5 mm Round Plenum 50/125 Micron laser	10' (3.05 m)	MRM-AF/AFEG010F
		50' (15.25 m)	MRM-AF/AFEG050F
re-terminated Fiber Cable Assemblies;	optimized to 300 meters	100' (30.48 m)	MRM-AF/AFEG100F
PO 12 Fiber Trunks (OFNP)	3 mm Round Plenum 50/125	50' (15.25 m) 100' (30.48 m)	MRM-AF/AFJG010F
	Micron laser optimized	50' (15.25 m)	MRM-AF/AFJG050F
	to 300 meters	dates 12 adapter nent bracket  CLC adapters to 1 MPO ions or 6 ports)  CLC adapters to 2 MPO ions or 6 ports)  CLC adapters to 2 MPO ions or 6 ports)  Rack Mount Patch Enclosure, 2 F  32-port OM3  48-port OM3  32-port  48-port  64-port  9 meter (30')  12 meter (40')  15 meter (50')  18 meter (60')  10' (3.05 m)  50' (15.25 m)  100' (3.048 m)  10' (3.05 m)  50' (15.25 m)  100' (3.048 m)  10' (3.05 m)  50' (15.25 m)  100' (3.048 m)  10' (3.05 m)  50' (15.25 m)  100' (3.048 m)  10' (3.05 m)  50' (15.25 m)  100' (3.048 m)  10' (3.05 m)  50' (15.25 m)  100' (3.048 m)  1 meter  2 meters  3 meters  1 meter  2 meters  1 meter  2 meters  3 meters	MRM-AF/AFJG100F
	5.5 mm Round Plenum	10' (3.05 m) 50' (15.25 m) 100' (30.48 m)	MRM-AF/AFEJ010F
	50/125 Micron laser	50' (15.25 m)	MRM-AF/AFEJ050F
e-terminated Fiber Cable Assemblies;	optimized to 300 meters	100' (30.48 m)	MRM-AF/AFEJ100F
PO 24 Fiber Trunks (OFNP)	3 mm Round Plenum 50/125	10' (3.05 m)	MRM-AF/AFMP010F
	Micron laser optimized	50' (15.25 m)	MRM-AF/AFMP050F
	to 300 meters	100' (30.48 m)	MRM-AF/AFMP100F
		1 meter	PAT-LCLC-R40C001M
		2 meters	PAT-LCLC-R40C002M
	OM4 LC Duplex to LC Duplex multimode ONFR,	3 meters	PAT-LCLC-R40C003M
	Duplex Hullimode ONER,	5 meters	PAT-LCLC-R40C005M
ber Patch Cords;		10 meters	PAT-LCLC-R40C0010N
GbE, 2 mm zipcord LC-LC connectors		1 meter	PAT-LCLC-R30C001M
		2 meters	PAT-LCLC-R30C002M
	OM3 LC Duplex to LC Duplex multimode OFNR	3 meters	PAT-LCLC-R30C003M
	Daplex mailimode Of Mix	5 meters	PAT-LCLC-R30C005M
	10 meters		PAT-LCLC-R30C0010M





Description			Part Number
COPPER			
	Cat 6A AMP-TWIST	24-port straight	1933319-2
	Shielded Panel	48-port straight	1933320-2
		24-port dynamic angled	PP24AC6AT
	Cat 6A Unshielded	48-port dynamic angled	PP48AC6AT
Copper Patch Panels and Cassettes;	6A Shielded, Cat 6	SIGMA-Link patch panel	1-1671215-1
unmanaged		24-port straight	1375014-2
	Cat 6 SL Patch Panel Unshielded 48-port straight		1375015-2
	10 GbE Unshielded	10G MRJ21 patch panels and cassettes	2153049-1
	GbE Unshielded	MRJ21 48-port panel	1435971-1
		24-port AMPTRAC	1933327-1
		24-port AMPTRAC angled	1933329-1
	Category 6 Unshielded	48-port AMPTRAC	1933328-1
		48-port AMPTRAC angled	1933330-1
		24-port AMPTRAC	1933331-1
		24-port AMPTRAC angled	1933333-1
	Category 6A Shielded	48-port AMPTRAC	1933332-1
		48-port AMPTRAC 1933332-1 48-port AMPTRAC angled 1933334-1	
	(10/100/1000BASE T)	48-port	1777041-1
Copper Patch Panels; managed	(10/100/1000BASE-T)	48-port angled	1777053-1
	1152-port Analyzer		1-1591360-1
	24-port Scanning Module		1-1591363-0
		with Cat 6A U/UTP jacks	QCPP-24MC6AU
	Q2324 Network Panel; 24-port (1 RU) network panel	with Cat 6A STP jacks	QCPP-24MC6AS
	2 i pore (i ito) network pund	with Cat 6 U/UTP jacks	QCPP-24MC6U
		with Cat 6A U/UTP jacks	QCPP-48MC6AU
	Q2348 Network Panel; 48-port (2 RU) network panel	with Cat 6A STP jacks	QCPP-48MC6AS
	40 port (2 No) network panel	with Cat 6 U/UTP jacks	QCPP-48MC6U
Panel Controller	QPC-2 Panel controller for Q2000	Network Panels	QCPU-MPPM
	6A Shielded, without dust covers	Cat 6A AMP-TWIST 6A Shielded	1711342-2
Copper Jacks	6A Unshielded, TrueNet	Cat 6A AMP-TWIST 6A Unshielded	6830 1 835-XX*
	6 Unshielded, without dust covers	SL Series Cat 6 jacks	1375055-X*
	10 GbE Shielded	10G MRJ21 to 10G MRJ21	2111521-X <sup>0</sup>
	Cat 6A Shielded	10G SIGMA-Link	2111250-X <sup>0</sup>
Pre-terminated Copper Cable	Cat 6 Unshielded	SIGMA-Link	2111290-X <sup>0</sup>
Assemblies		MRJ21 to MRJ21	1499515-X <sup>0</sup>
	1 GbE	MRJ21 to 6 RJ45	1499520-X <sup>0</sup>
		Ultra Slim MRJ21 to MRJ21	1933960-X <sup>◊</sup>

X\* and XX\* denotes color X<sup>0</sup> denotes patch cord length See key on page 18 for details.





Description			Part Number
	Cat 6A Shielded	Cat 6A F/UTP SlimLine Patch Cords	1933882-X <sup>◊</sup>
Copper Patch Cords	Cat 6A Unshielded	TrueNet UTP Patch Cords	6645-2-825-X <sup>◊</sup>
	Cat 6 Unshielded	Cat 6 U/UTP SlimLine Patch Cords	1933118-X <sup>0</sup>
ACCESSORIES (Fiber and Copp	er)		
		4x4 system	FGSB-MSHS-A
		4x6 system	FGSB-MSHS-B
	Horizontal straight section (6')	4x12 system	FGSB-MSHS-F
		4x24 system	FGSB-MSHS-H
	4-Inch Express Exit Unit, base wit	h base cover.	FGSB-MEXP-E-A/B/F
FiberGuide Fiber Raceway; Black	Island-T with single 12		FGSB-ISLAND-H/F
		4x4 system	FGSB-MFAW-A
		4x6 system	FGSB-MFAW-B
	Snap-fit junction	4x12 system	FGSB-MFAW-F
	4x24 system	FGSB-MFAW-H	
		Q-Frame rack kit	Q-OFX-V
	19-Inch, requires rack 1933559-1 Channel rack		ADCRACKBLK73
Fiber Rack; Q Frame		Left	Q-OFX-GL
	End guard kit Right		Q-OFX-GR
	2 post, 3" deep, 2 Post Rack		1933559-1
Equipment Rack; 19"	4 post adjustable, 4 Post Rack		1933570-1
		Single Sided	1933532-1
	Horizontal 2U Panel	Double Sided	1933533-1
Copper Cable Management	5 11 11 11 11	6"	1933534-1
	Double-sided vertical manager	6" Combination	1933540-1
	12 Multimode LC (Aqua)	Angle Left	TFP-24APLQ2
TED Chandend Adentes Deels	adapters (24 terminations)	Angle Right	TFP-24APRQ2
FFP Standard Adapter Packs	12 Singlemode LC/UPC (Blue)	Angle Left	TFP-24APLQ5
	adapters (24 terminations)	Angle Right	TFP-24APRQ5
DMC Multimode Adentes Only De-li-	LC Quad adapters, aqua color, 6 a 24 fiber ports per adapter pack	adapters or	RMG-24ADPQ4
RMG Multimode Adapter Only Packs	LC Quad adapters, aqua color, 6 a 12 fiber ports per adapter pack	adapters or	RMG-12ADPQ2

X\* and XX\* denotes color X<sup>0</sup> denotes patch cord length See key on page 18 for details.

See page 17 for more information regarding bulk cable and connectors.





#### HORIZONTAL DISTRIBUTION AREA

The horizontal distribution area serves as the distribution point for horizontal cabling and houses cross-connects and equipment for delivering cable to the Equipment Distribution Area. TE solutions offer the ability to manage both copper and fiber within the same environment, allowing maximum flexibility in the architectures that can be deployed.







**Fiber Cable** 

MRJ21 Patch Panel

**Fiber Panels** 











SIGMA-Link

**Shielded and Unshielded Copper Systems for** 10 Gigabit Ethernet Applications

**FiberGuide** Optical Raceway

Part Number

**COPPER** 1933319-2 24-Port Straight Cat 6A AMP-TWIST Shielded Panel 48-Port Straight 1933320-2 PP24AC6AT 24-port dynamic angled Cat 6A Unshielded 48-port dynamic angled PP48AC6AT 6A Shielded, Cat 6 SIGMA-link Patch Panel 1-1671215-1 **Copper Patch Panels and Cassettes** 10G MRJ21 Patch Panels 10 GbE unshielded 2153049-1 and cassettes 24-Port Straight 1375014-2 Cat 6 SL Patch Panel Unshielded 48-Port Straight 1375015-2 GbE unshielded MRJ21 48-port panel 1435971-1 with Cat 6A U/UTP jacks QCPP-24MC6AU Q2324 Network Panels with Cat 6A STP jacks QCPP-24MC6AS 24-port (1 RU) with Cat 6 U/UTP jacks QCPP-24MC6U Copper Patch Panels; managed with Cat 6A U/UTP jacks QCPP-48MC6AU Q2348 Network Panels with Cat 6A STP jacks QCPP-48MC6AS 48-port (2 RU) with Cat 6 U/UTP jacks QCPP-48MC6U **Panel Controller** QPC-2 Panel controller for Q2000 Network Panels QCPU-MPPM 6A Shielded, without dust covers Cat 6A AMP-TWIST 6A Shielded 1711342-2 Copper Jacks 6A Unshielded, TrueNet Cat 6A AMP-TWIST 6A Unshielded 6830 1835-XX\* 6 Unshielded, without dust covers 1375055-X\* SL Series Cat 6 jacks XG Shielded 10G MRJ21 to 10G MRJ21 2111521-X<sup>0</sup> Cat 6A Shielded 10G SIGMA-Link 2111250-X<sup>0</sup> Cat 6 Unshielded SIGMA-Link 2111290-X<sup>0</sup> **Pre-terminated Copper Cable Assemblies** MRJ21 to MRJ21 1499515-X<sup>0</sup> 1 GbE MRJ21 to 6 RJ45 1499520-X<sup>0</sup> Ultra Slim MRJ21 to MRJ21 1933960-X<sup>0</sup> Cat 6A F/UTP SlimLine 1933882-X<sup>0</sup> 6A Shielded Patch Cords **Copper Patch Cords** 6645-2-825-X<sup>0</sup> 6A Unshielded TrueNet UTP Patch Cords 6 Unshielded Cat 6 U/UTP SlimLine Patch Cords 1933118-X<sup>0</sup>



Description



# HORIZONTAL DISTRIBUTION AREA

Description			Part Number
		with Cat 6A U/UTP jacks	QCPP-24MC6AU
Q2000 Chassis and Blades	Q2324 Network Panels 24-port (1 RU)	with Cat 6A STP jacks	QCPP-24MC6AS
	24-port (1 RO)	with Cat 6 U/UTP jacks	QCPP-24MC6U
		with Cat 6A U/UTP jacks	QCPP-48MC6AU
	Q2348 Network Panels	with Cat 6A STP jacks	QCPP-48MC6AS
	48-port (2 RU)	with Cat 6 U/UTP jacks	QCPP-48MC6U
FIBER			
		Q3200 Chassis: 1 RU, accommodates 2 blades	QUCH-1RU
	Q3000 Chassis	Q3400 Chassis: 2 RU, accommodates 4 blades	QUCH-2RU
Fiber Patch Panels; unmanaged		Q3800 Chassis: 4 RU, accommodates 8 blades	QUCH-4RU
,	Q3000 Blades	LC to MPO; 24 Duplex LC Ports (48 fiber) Distributed from 2 each 12 fiber MPO Connectors; OM3 Multimode	QUFB-48FDLCMM3HR
		MPO to MPO; 16 MPO ports with 12 fibers each (192 fibers); OM3/OM4	QUFB-192FMPOMMHR
	Q4000 Chassis	Q4200 Chassis, accomodates 2EA Q4 series blades	QCH-1RU
		Q4400 Chassis, accomodates 4EA Q4 series blades	QCH-2RU
		Q4800 Chassis, accomodates 8EA Q4 series blades	QCH-4RU
Fiber Patch Panales managed		LC-to-MPO Q4000 Chassis Blade; 24 Port Duplex LC; OM3	QFB-48FDLCMMMHR
Fiber Patch Panels; managed	Q4000 Blades	MPO-to-MPO Q4000 Chassis Blade; 16 Port MPO; OM3/OM4	QFB-192FMPOMMHR
	1 RU empty panel; accommodates 1 angle left and 1 a	1 RU empty panel; accommodates 1 angle left and 1 angle right adapter packs	
	2 RU empty panel; accommodates 2 angle left and 2	2 RU empty panel; accommodates 2 angle left and 2 angle right adapter packs	
	4 RU empty panel; accommodates 4 angle left and 4	4 RU empty panel; accommodates 4 angle left and 4 angle right adapter packs	
	Loaded with 12 multimode	Angle left	TFP-24MPLDQ2
FP MPO Cassettes	LC (aqua) adapters to 2 MPO adapters (total 24 fiber terminations or 12 ports)	Angle right	TFP-24MPRDQ2
DMC Charait	1 RU Empty panel; Accommodate	s 3 modular adapter packs; Black	RMG-1000-000B
	2 RU Empty panel; Accommodate	2 RU Empty panel; Accommodates 6 modular adapter packs; Black	
RMG Chassis	4 RU Empty panel; Accommodate packs; includes cable managemer	· ·	RMG-4000-000B
NAC MDO Course	Loaded with 3 Multimode quad Loadeter (total 12 fiber termination		RMG-12MPODQ4
RMG MPO Cassette	Loaded with 6 Multimode quad LC adapters to 2 MPO adapter (total 12 fiber terminations or 6 ports)		RMG-24MPODQ4





## HORIZONTAL DISTRIBUTION AREA

Description			Part Number
	5.5 mm Round Plenum 50/125 Micron laser	10' (3.05 m)	MRM-AF/AFEJ010F
		50' (15.25 m)	MRM-AF/AFEJ050F
re-terminated Fiber Cable Assemblies:	optimized to 300 meters	100' (30.48 m)	MRM-AF/AFEJ100F
PO 24 Fiber Trunks (OFNP)	3 mm Round Plenum 50/125	10' (3.05 m)	MRM-AF/AFMP010F
	Micron laser optimized	50' (15.25 m)	MRM-AF/AFMP050F
	to 300 meters	100' (30.48 m)	MRM-AF/AFMP100F
	5.5 mm Round Plenum	10' (3.05 m)	MRM-AF/AFEG010F
	50/125 Micron laser	50' (15.25 m)	MRM-AF/AFEG050F
re-terminated Fiber Cable Assemblies;	optimized to 300 meters	100' (30.48 m)	MRM-AF/AFEG100F
PO 12 Fiber Trunks (OFNP)	3 mm Round Plenum 50/125 Micron laser optimized	10' (3.05 m)	MRM-AF/AFJG010F
		50' (15.25 m)	MRM-AF/AFJG050F
	to 300 meters	100' (30.48 m)	MRM-AF/AFJG100F
		1 meter	PAT-LCLC-R40C001M
		2 meters	PAT-LCLC-R40C002M
	OM4 LC Duplex to LC Duplex multimode ONFR,	3 meters	PAT-LCLC-R40C003M
	Sapiox mailimodo ora ri,	5 meters	PAT-LCLC-R40C005M
ber Patch Cords;		10 meters	PAT-LCLC-R40C0010M
GbE, 2 mm zipcord LC-LC connectors		1 meter	PAT-LCLC-R30C001M
		2 meters	PAT-LCLC-R30C002M
	OM3 LC Duplex to LC Duplex multimode OFNR	3 meters	PAT-LCLC-R30C003M
	Sapiox maternode of MI	5 meters	PAT-LCLC-R30C005M
		10 meters	PAT-LCLC-R30C0010M

#### **ACCESSORIES (Fiber and Copper)**

	Horizontal straight section (6')	4x4 system	FGSB-MSHS-A
		4x6 system	FGSB-MSHS-B
		4x12 system	FGSB-MSHS-F
		4x24 system FGSB-MSHS-H	
illan Cuida Filan Baarnan Black	4-Inch Express Exit Unit, base wit	4-Inch Express Exit Unit, base with base cover FGSB-MEXI	
FiberGuide Fiber Raceway; Black	Island-T with single 12		FGSB-ISLAND-H/F
		4x4 system	FGSB-MFAW-A
	Constant in the constant	4x6 system	FGSB-MFAW-B
	Snap-fit junction	4x12 system	FGSB-MFAW-F
		4x24 system	FGSB-MFAW-H
	2 post, 3" deep, 2 post rack		1933559-1
quipment Rack; 19"	4 post adjustable, 4 post rack		1933570-1
	10 : 1	Q-Frame rack kit	Q-OFX-V
Tavingant Basks O Excess	19-inch	Channel rack	ADCRACKBLK73
Equipment Rack; Q Frame	End guard kit	Left	Q-OFX-GL
	Ena guara kit	Right	Q-OFX-GR
	Horizontal 2U Panel	Single Sided	1933532-1
Campay Cabla Managamant	Horizontal zo Panel	Double Sided	1933533-1
Copper Cable Management	Double-Sided Vertical Manager	6"	1933534-1
		6" Combination	1933540-1

X\* and XX\* denotes color X<sup>0</sup> denotes patch cord length See key on page 18 for details.





### **EQUIPMENT DISTRIBUTION AREA**

Serving as the home to both storage area network and local area network equipment, space in the equipment distribution area is at a premium. And, due to virtualization, today's data centers require more components in less space than ever before. This drives the need for high-density interconnect solutions like TE's Q-Frame as well as versatile cable management solutions, like FiberGuide, to manage cable along the row.







Fiber Cable

MRJ21 Patch Panel

**Fiber Panels** 







SIGMA-Link Shielded and Unshielded Copper Systems for 10 Gigabit Ethernet Applications

**FiberGuide** Optical Raceway

Description	Part Number		
COPPER			
	C I CA AMP TMUCT CL : I I I	24-Port straight	1933319-2
	Cat 6A AMP-TWIST Shielded	48-Port straight	1933320-2
		24-port dynamic angled	PP24AC6AT
	Cat 6A Unshielded	48-port dynamic angled	PP48AC6AT
Copper Patch Panel and Cassettes	6A Shielded, Cat 6	SIGMA-Link	1-1671215-1
	10 GbE unshielded	10G MRJ21	2153049-1
	Cat C Clahialah	24-Port straight	1375014-2
	Cat 6 SL unshielded	48-Port straight	1375015-2
	GbE unshielded	MRJ21 48-port panel	1435971-1
		with Cat 6A U/UTP jacks	QCPP-24MC6AU
	Q2324 Network Panels 24-port (1 RU)	with Cat 6A STP jacks	QCPP-24MC6AS
Samuel Batala Banala and		with Cat 6 U/UTP jacks	QCPP-24MC6U
Copper Patch Panels; managed	Q2348 Network Panels 48-port (2 RU)	with Cat 6A U/UTP jacks	QCPP-48MC6AU
		with Cat 6A STP jacks	QCPP-48MC6AS
		with Cat 6 U/UTP jacks	QCPP-48MC6U
	6A Shielded (without dust covers)	Cat 6A AMP-TWIST 6A Shielded	1711342-2
Copper Jacks	6A Unshielded, TrueNet	Cat 6A AMP-TWIST 6A Unshielded	6830 1 835-XX
	6 Unshielded (without dust covers)	SL Series Cat 6 jacks	1375055-X
	6A Shielded	Cat 6A F/UTP SlimLine	1933882-X <sup>0</sup>
Copper Patch Cords	6A Unshielded	TrueNet UTP	6645-2-825-X <sup>0</sup>
	6 Unshielded	Cat 6 U/UTP SlimLine	1933118-X <sup>0</sup>
	10 GbE Shielded	10G MRJ21 to 10G MRJ21	2111521-X <sup>0</sup>
	Cat 6A Shielded	10G SIGMA-Link	2111250-X <sup>0</sup>
re-terminated Copper Cable Assemblies	Cat 6 Unshielded	SIGMA-Link	2111290-X <sup>0</sup>
re-terminated Copper Cable Assemblies		MRJ21 to MRJ21	1499515-X <sup>◊</sup>
	1 GbE	MRJ21 to 6 RJ45	1499520-X <sup>0</sup>
		Ultra Slim MRJ21 to MRJ21	1933960-X <sup>0</sup>

 $X^*$  and  $XX^*$  denotes color  $X^0$  denotes patch cord length See key on page 18 for details.





## EQUIPMENT DISTRIBUTION AREA

Description			Part Number	
	00704 No. 1 5 1	with Cat 6A U/UTP jacks	QCPP-24MC6AU	
Q2000 Network Panels; managed	Q2324 Network Panels 24-port (1 RU)	with Cat 6A STP jacks	QCPP-24MC6AS	
	, , ,	with Cat 6 U/UTP jacks	QCPP-24MC6U	
	00740.44.4.5	with Cat 6A U/UTP jacks	QCPP-48MC6AU	
	Q2348 Network Panels 48-port (2 RU)	with Cat 6A STP jacks	QCPP-48MC6AS	
	,	with Cat 6 U/UTP jacks	QCPP-48MC6U	
IBER				
		Q3200 Chassis: 1 RU, accommodates 2 blades	QUCH-1RU	
	Q3000 Chassis	Q3400 Chassis: 2 RU, accommodates 4 blades	QUCH-2RU	
		Q3800 Chassis: 4 RU, accommodates 8 blades	QUCH-4RU	
ber Patch Panels; unmanaged		LC to LC; 24 Duplex LC Ports (48 fiber); OM3/OM4 Multimode	QUFB-48FDLCLMMHR	
	Q3000 Blades	LC to MPO; 24 Duplex LC Ports (48 fiber) Distributed from 2ea 12 fiber MPO Connectors; OM3 Multimode	QUFB-48FDLCMM3HR	
		MPO to MPO; 16 MPO ports with 12 fibers each (192 fibers); OM3/OM4	QUFB-192FMPOMMHR	
	Q4000 Chassis	Q4200 Chassis, accomodates 2EA Q4 series blades	QCH-1RU	
		Q4400 Chassis, accomodates 4EA Q4 series blades	QCH-2RU	
		Q4800 Chassis, accomodates 8EA Q4 series blades	QCH-4RU	
	Q4000 Blades	LC-to-MPO Q4000 Chassis Blade; 24 Port Duplex LC; OM3	QFB-48FDLCMMMHR	
iber Patch Panels; managed	Q4000 Blades	MPO-to-MPO Q4000 Chassis Blade; 16 Port MPO; OM3/OM4	QFB-192FMPOMMHR	
	QCC-4; Chassis Controller for Q4000 Network Chassis		QCPU-MCB	
		1 RU empty panel, black; accommodates 1 angle left and 1 angle right adapter packs	TFP-1TT00-000B	
	TFP Chassis	2 RU empty panel, black; accommodates 2 angle left and 2 angle right adapter packs	TFP-2TT00-000B	
		4 RU empty panel, black; accommodates 4 angle left and 4 angle right adapter packs	TFP-4TT00-000B	
ED MDO Cassattas	Loaded with 12 multimode LC (aqua) adapters to 2 MPO	Angle left	TFP-24MPLDQ2	
FP MPO Cassettes	adapters (total 24 fiber terminations or 12 ports)	Angle right	TFP-24MPRDQ2	
	1 RU Empty panel; Accommodates 3 modular adapter packs; Black		RMG-1000-000B	
1G Chassis	2 RU Empty panel; Accommodate	2 RU Empty panel; Accommodates 6 modular adapter packs; Black		
		4 RU Empty panel; Accommodates 12 adapter packs; includes cable management bracket		
MG MDO Cassatta		RMG MPO Cassette, loaded with 3 multimode quad LC adapters to 1 MPO adapter (total 12 fiber terminations or 6 ports)		
MG MPO Cassette		RMG MPO Cassette, loaded with 6 multimode quad LC adapters to 2 MPO adapter (total 12 fiber terminations or 6 ports)		





# EQUIPMENT DISTRIBUTION AREA

Description			Part Number
	5.5 mm Round Plenum 50/125 Micron laser optimized to 300 meters	10' (3.05 m)	MRM-AF/AFEG010F
		50' (15.25 m)	MRM-AF/AFEG050F
re-terminated Fiber Cable Assemblies;		100′ (30.48 m)	MRM-AF/AFEG100F
IPO 12 Fiber Trunks (OFNP)	3 mm Round Plenum 50/125	10' (3.05 m)	MRM-AF/AFJG010F
	Micron laser optimized	50' (15.25 m)	MRM-AF/AFJG050F
	to 300 meters	100' (30.48 m)	MRM-AF/AFJG100F
	5.5 mm Round Plenum	10' (3.05 m)	MRM-AF/AFEJ010F
	50/125 Micron laser	50' (15.25 m)	MRM-AF/AFEJ050F
re-terminated Fiber Cable Assemblies;	optimized to 300 meters	100' (30.48 m)	MRM-AF/AFEJ100F
PO 24 Fiber Trunks (OFNP)	3 mm Round Plenum 50/125 Micron laser optimized to 300 meters	10' (3.05 m)	MRM-AF/AFMP010F
		50' (15.25 m)	MRM-AF/AFMP050F
		100′ (30.48 m)	MRM-AF/AFMP100F
	OM4 LC Duplex to LC Duplex multimode ONFR,	1 meter	PAT-LCLC-R40C001M
		2 meters	PAT-LCLC-R40C002M
		3 meters	PAT-LCLC-R40C003M
		5 meters	PAT-LCLC-R40C005M
ber Patch Cords;		10 meters	PAT-LCLC-R40C0010M
GbE, 2 mm zipcord LC-LC connectors		1 meter	PAT-LCLC-R30C001M
	OM3 LC Duplex to LC Duplex multimode OFNR	2 meters	PAT-LCLC-R30C002M
		3 meters	PAT-LCLC-R30C003M
		5 meters	PAT-LCLC-R30C005M
		10 meters	PAT-LCLC-R30C0010M

#### **ACCESSORIES (Fiber and Copper)**

		4x4 system	FGSB-MSHS-A
		4x6 system	FGSB-MSHS-B
	Horizontal straight section (6')	4x12 system	FGSB-MSHS-F
		4x24 system	FGSB-MSHS-H
ikangui da Eikan Baassan Blask	4-Inch Express Exit Unit, base wit	4-Inch Express Exit Unit, base with base cover	
iberGuide Fiber Raceway; Black	Island-T with single 12		FGSB-ISLAND-H/F
		4x4 system	FGSB-MFAW-A
	anan fit lunation	4x6 system	FGSB-MFAW-B
	snap-fit Junction	4x12 system	FGSB-MFAW-F
		4x24 system	FGSB-MFAW-H
envisore Pools 10"	2 post, 3" deep, 2 Post Rack	2 post, 3" deep, 2 Post Rack	
quipment Rack; 19"	4 post adjustable, 4 Post Rack		1933570-1
	Horizontal 2U Panel	Single Sided	1933532-1
Cannay Calala Managamant	Horizontal 20 Panel	Double Sided	1933533-1
Copper Cable Management	Dauble Cided Vertical Manager	6"	1933534-1
	Double-Sided Vertical Manager	6" Combination	1933540-1
Equipment Rack; Q Frame	19-inch	Q-Frame rack kit	Q-OFX-V
	19-INCH	Channel rack	ADCRACKBLK73
	End guard kit	Left	Q-OFX-GL
	Ena guara kit	Right	Q-OFX-GR





### BULK CABLE AND CONNECTORS

TE Connectivity's bulk cable and connectors are essential to meet the requirements of today's high speed data networks. TE, the world leader in pre-terminated fiber components, offers a wide array of connectors and patching solutions—all backed by the industry's most comprehensive warranty.







MRJ21 Patch Panel

Shielded and Unshielded Copper Systems for 10 Gigabit Ethernet Applications

Description			Part Number
		6 Fiber	7-1553308-3
	OS1 Singlemode optical fiber interconnect cable OFNP	12 Fiber	7-1553312-3
	interconnect capie of th	24 Fiber	7-1553314-3
Bulk Fiber Cable	OS1 Singlemode optical fiber	12 Fiber	7-1553311-3
	interconnect cable OFNR	24 Fiber	3-1553313-9
	Armored Cable	12 Fiber Armored Cable OM3 OFNP	3-1777117-7
		12 Fiber Armored Singlemode	4-1777117-7
	XG OM3 Riser (OFNR)	24 Fibers/Unit	3-1553313-9
	AG OMS RISER (OFINE)	12 Fibers/Unit	3-1553315-9
. II <b>- I</b> I - <b>O</b>     - O   -	VC OM7 Planus- (OFNP)	24 Fibers/Unit	3-1553314-9
Bulk Fiber Cable; 24 Fiber (OFNR and OFNP), XG OM3 and OM4	XG OM3 Plenum (OFNP)	12 Fibers/Unit	3-1553316-9
50/125 Multimode Optical Fiber Distribution Cable	VC 0144 B: (051B)	24 Fibers/Unit	4-1553313-9
distribution Cable	XG OM4 Riser (OFNR)	12 Fibers/Unit	4-1553315-9
	XG OM4 Plenum (OFNP)	24 Fibers/Unit	4-1553314-9
		12 Fibers/Unit	4-1553316-9
Bulk Fiber Cable; 12 Fiber (OFNR and OFNP), XG OM3 and OM4 50/125 Multimode Optical Fiber Distribution Cable	XG OM3 Riser (OFNR)	12 Fibers/Unit	3-1553311-9
	XG OM3 Plenum (OFNP)	12 Fibers/Unit	3-1553312-9
	XG OM4 Riser (OFNR)	12 Fibers/Unit	4-1553311-9
	XG OM4 Plenum (OFNP)	12 Fibers/Unit	4-1553312-9
Bulk Fiber Cable; 6 Fiber (OFNR	XG OM3 Riser (OFNR)	6 Fibers/Unit	3-1553307-9
and OFNP), XG OM3 and OM4 50/125 Multimode Optical Fiber	XG OM3 Plenum (OFNP)	6 Fibers/Unit	3-1553308-9
Distribution Cable	XG OM4 Riser (OFNR)	6 Fibers/Unit	4-1553307-9
	XG OM4 Plenum (OFNP)	6 Fibers/Unit	4-1553308-9
		Cat 6A F/UTP plenum	1499416-X
	6A Shielded	Cat 6A F/UTP riser	1499389-X
		Cat 6A U/UTP plenum	10G-A6TP-XX02
Bulk Copper Cable	6A Unshielded	Cat 6A U/UTP riser	10G-A6TR-XX02
		Cat 6 UTP plenum	219567-X
	6 Unshielded	Cat 6 UTP riser	219560-X





#### **BULK CABLE AND CONNECTORS**

Description			Part Number
	VC 047 : (0545)	24 fibers/unit	3-1553313-9
	XG OM3 riser (OFNR)	12 fibers/unit	3-1553315-9
		24 fibers/unit	3-1553314-9
24 Fiber (OFNR and OFNP); XG	XG OM3 plenum (OFNP)	12 fibers/unit	3-1553316-9
DM3 and OM4 50/125 multimode optical fiber distribution cable		24 fibers/unit	4-1553313-9
	XG OM4 riser (OFNR)	12 fibers/unit	4-1553315-9
	VC 0M4   (0FND)	24 fibers/unit	4-1553314-9
	XG OM4 plenum (OFNP)	12 fibers/unit	4-1553316-9
	XG OM3 riser (OFNR)	12 fibers/unit	3-1553311-9
12 Fiber (OFNR and OFNP); XG	XG OM3 plenum (OFNP)	12 fibers/unit	3-1553312-9
OM3 and OM4 50/125 multimode optical fiber distribution cable	XG OM4 riser (OFNR)	12 fibers/unit	4-1553311-9
	XG OM4 plenum (OFNP)	12 fibers/unit	4-1553312-9
	OFNP	6 fiber	7-1553308-3
		12 fiber	7-1553312-3
OS1 Singlemode Optical Fiber Interconnect Cable OFNP		24 fiber	7-1553314-3
	0.5115	12 fiber	7-1553311-3
	OFNR	24 fiber	3-1553313-9
Armored Cable; 12 fiber armored ca	la la	OM3 OFNP	3-1777117-7
Armored Cable; 12 liber armored Ca	able	Singlemode	4-1777117-7
Fiber Connectors	10 GbE, TE LIGHT CRIMP PLUS LC, SC, Duplex SC, XG OM3 and OM4 multimode LIGHT CRIMP PLUS connectors	Duplex LC Clip, Package of 6	1754371-2
	XG		6754483-4
		XG secure red	1985960-1
LIGHT CRIMP PLUS	LC F0/10F VC	XG secure yellow	1985960-2
	LC, 50/125 XG	XG secure green	1985960-3
		XG secure blue	1985960-4

#### JACK COLORS AND PATCH CORD LENGTH

Jack Colors

 $X^*$  denotes color: 1 = Almond 2 = Black 3 = White 4 = Gray 5 = Orange 6 = Blue 7 = Red 8 = Yellow 9 = Green 1-0 = Violet 5 = Orange

1-1 = Electrical Ivory 1-3 = Alpine White

XX\* denotes color: 01 = White 02 = Ivory 03 = Gray 04 = Black 05 = Red

> 10 = Orange 06 = Blue 07 = Green 08 = Yellow 09 = Purple

22 = Electrical Ivory

Patch Cord Length

 $X^{\Diamond}$  denotes Patch Cord length: -3 = 3 ft -5 = 5 ft -7= 7 ft 1--0 = 10 ft 1--2 = 12 ft 1--5 = 15 ft 2--0 = 20 ft 2--5 = 25 ft

