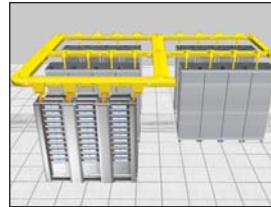


FiberRunner® 4x4 Routing System

PANDUIT® SPECIFICATION SHEET

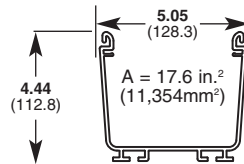
specifications

The 4x4 routing system shall be a system of channel, fittings, and brackets designed to segregate, route, and protect fiber optic and high performance copper cabling. Channel and fittings shall be assembled using pre-assembled couplers. A selection of spillout options shall be available that easily attach using the vertical tee. Fittings maintain a minimum 2" bend radius to protect against signal loss due to excessive cable bends. Available system colors shall be yellow, orange, and black. A full complement of brackets shall be available for attaching system components to ladder rack, threaded rod, auxiliary framing, strut, equipment racks, cabinets and raised floor pedestals.



technical information

Dimensions are in inches
(Dimensions in parentheses
are metric).



Open channel	Cable	No. of Cables
50% fill capacity:		
(4" pile up)	1.6mm	2824
	2.0mm	1807
	3.0mm	803
Fiber Optic		
Ribbon Interconnect	5.20mm	267
Category 6	6.35mm	179
Category 6A	7.57mm	126
Material:	Rigid PVC (Channel), ABS (Fittings)	
Flammability:	94V-0	
Approvals:	UL Listed to 2024A Optical Fiber Cable Routing Assemblies Compliant with the applicable tests in Telcordia GR-63-CORE Network Equipment Building Systems Level 3	
CSI spec form:	LP-CSISPEC-FR	

key features and benefits

Fastest installations	No bolts need to be tightened and no tools are required when installing the QuikLock™ Couplers; QuikLock™ Couplers and Brackets take less than five seconds to make a mechanically secure connection
Easy to maintain	Hinged channel cover installs easily and fully encloses the channel for cable protection; split hinged channel cover creates radiused 3/4" (19mm) opening for easy access to add or remove cables; the 4x4 hinged and split hinged channel covers will stay open between 30° and 90° to allow cable access even in height restricted areas Split fitting covers allow cable to be laid in without removing the fitting cover; the covers are also designed to prevent cables from coming out of the channel as cable is pulled through Hinged channel cover and split fitting covers protect cabling and provide fast and easy access for future cabling moves, adds, and changes
System strength	Robust system of channel, covers, fittings and other non-metallic system components, protect cable from physical damage; system includes full range of directional and spillout fittings
Versatility	Multiple spill out options include spill-over fittings and the vertical tee which accepts a three sided trumpet, transition to corrugated tubing and Panduit® FiberRunner® and Fiber-Duct™ Systems
Cable protection	Minimum 2" bend radius maintained throughout all fittings prevents excessive bends in fiber optic cabling

applications

The FiberRunner® 4x4 Routing System is a system of channel, fittings and brackets designed to segregate, route, and protect fiber optic and high performance copper cabling. It is suited for data center applications where cable is routed from distribution areas to equipment cabinets or racks. It is used in Telco Central Offices to route fiber optic jumper cables between fiber distribution frames and equipment bays. It can be deployed over the racks or in approved under floor applications. Channel and fittings are assembled using timesaving Panduit® QuikLock™ Couplers. A selection of spillout options is available that easily attach using the

vertical tee. Fittings maintain a 2" bend radius to protect against signal loss due to excessive cable bends. Available system colors are yellow, orange and black to differentiate various types of cabling. A full complement of QuikLock™ Brackets is available to attach system components to support structures found in all applications.

The FiberRunner® 4x4 Routing System is part of the Panduit complete fiber distribution system, which includes the FiberRunner® 24x4, 12x4, 6x4, and 2x2 Routing Systems, the Fiber-Duct™ 4x4 and 2x2 Routing Systems, Wyr-Grid™ Overhead Cable Tray System, cable management, and racks.

Channel and Cover

4x4 channel (6'):	FR4X4**6
4x4 hinged cover (6'):	FRHC4**6
4x4 split hinged cover (6'):	FRSHC4**6
Cable retainer:	FRCR4BL-X

Fittings, Split Covers, and Spillouts

QuikLock™ Coupler:	FRBC4X4**
Horizontal right angle:	FRRA4X4**
Right angle cover:	FRRASC4**
Horizontal 45°:	FRH454X4**
Horizontal 45° cover:	FRH45SC4**
Horizontal tee:	FRT4X4**
Horizontal tee cover:	FRTSC4**
4-way cross:	FRFWC4X4**
4-way cross cover:	FRFWCSC4**
End cap:	FREC4X4**
Inside vertical 90°:	FRIVRA4X4**
Inside vertical 45°:	FRIV454X4**
Outside vertical 45°:	FROV454X4**
Outside vertical 45° cover:	FROV45SC4**
Outside vertical 90°:	FROVRA4X4**
Outside vertical 90° cover:	FROVRASC4**
6x4 to 4x4 FiberRunner® Reducer Fitting:	FRRF6FR4**
6x4 to 4x4 FiberRunner® Reducer Fitting Cover:	FRRF6FR4SC**
4" FR to 2" FD:	FRRF4FD2**
4" FR to 4" FD:	FRRF4FD4**
Adapter to ADC	
4x4 FiberGuide™:	FRADC4X4BL
QuikLock™ Vertical Tee:	FRVT4X4**
3-sided vertical tee trumpet spillout:	FTR4X4**
2-port spillout to 1.5" I.D. corrugated tubing:	FIDT4X4BL
4x4 hinged duct vertical cable manager kit:	FRHD4KT**
4x4 hinged duct bend radius control trumpet:	TRC4HDBL
Low profile reducer 4x4 to 2x2 for vertical tee:	FRLPR42BL
Spill-over with 2x2 exit:	FRSPJ2X2**
Spill-over cover with 2x2 exit for 4x4 system:	FRSPJC24**
2x2 3-sided trumpet:	FTR2X2**
1-port spillout to 1.5" I.D. corrugated tubing:	FIDT2X2**
2x2 hinged duct vertical cable manager kit:	FRHD2KT**
2x2 FiberRunner® Bend Radius Control Trumpet:	TRC2HDBL
Spill-over with 4x4 exit:	FRSPJ4X4**
Spill-over cover with 4x4 exit for 4x4 system:	FRSPJC44**
4x4 3-sided trumpet:	FRTR4X4**
2-port spillout to 1.5" I.D. corrugated tubing:	FRIDT4X4**
1-port spillout to 1.5" I.D. corrugated tubing:	FR1.5IDE**
4x4 up spout:	FRUPS4X4**

QuikLock™ Mounting Brackets

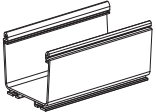
QL existing 1/2" thr rod brkt:	FR6TRBE12
QL existing 5/8" thr rod brkt:	FR6TRBE58
QL new 1/2" thr rod brkt:	FR6TRBN12
QL new 5/8" thr rod brkt:	FR6TRBN58
QL under floor brkt:	FR6USB
QL adjust ladder rack brkt:	FR6ALB
QL center support brkt 1/2":	FR6CS12
QL center support brkt 5/8":	FR6CS58
QL adjust C-brkt 1/2":	FR6ACB12
QL adjust C-brkt 5/8":	FR6ACB58
QL trapeze 3/8" brkt:	FR6TB38
QL trapeze 1/2" brkt:	FR6TB12
Two-piece ladder rack brkt 1/2" thr rod:	F2PCLB12
Two-piece ladder rack brkt 5/8" thr rod:	F2PCLB58
QL ladder rack brkt:	FR6LRB
QL "L" wall mount brkt:	FR6LB
QL NetFrame™ Rack Mount Brkt:	FRRMBNF58
QL adjust cabinet mount brkt:	FR6ACAB
Two-piece framing clip 5/8" thr rod to 9/16" C-channel aux. framing bars:	FRAFCS58
4 post rack brkt:	FR4PRB58

*ADC's 4x4 FiberGuide Management System is a product of ADC Telecommunications, Inc.

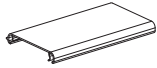
**Substitute: YL = Yellow, OR = Orange, BL = Black

FiberRunner® 4x4 Routing System

Channel and Cover



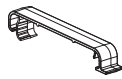
FR4X4**6



FRHC4**6

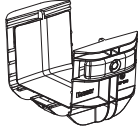


FRSHC4**6

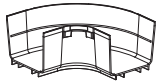


FRCR4BL-X

Fittings, Split Covers, and Spillouts



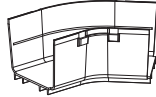
FRBC4X4**



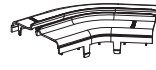
FRRA4X4**



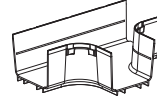
FRRASC4**



FRH454X4**



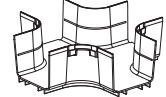
FRH45SC4**



FRT4X4**



FRTSC4**



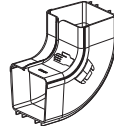
FRFWC4X4**



FRFWCSC4**



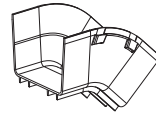
FREC4X4**



FRIVRA4X4**



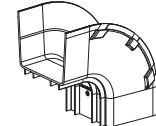
FRIV454X4**



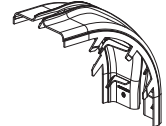
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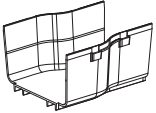
FROV45SC4**



FROVRA4X4**



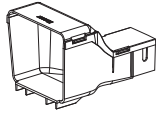
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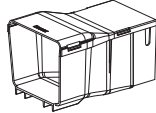
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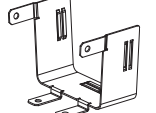
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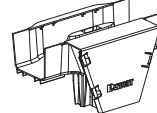
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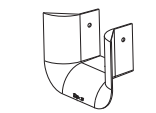
FRRF4FD4**



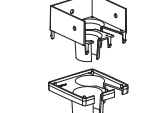
FRADC4X4BL



FRVT4X4**



FTR4X4**



FIDT4X4BL**



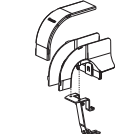
FRHD4KT**



TRC4HDBL



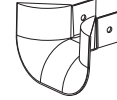
FRLPR42BL



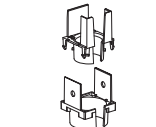
FRSPJ2X2**



FRSPJC24**



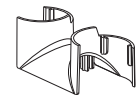
FTR2X2**



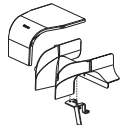
FIDT2X2**



FRHD2KT**



TRC2HDBL



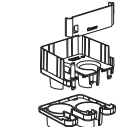
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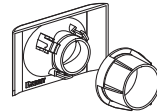
FRSPJC44**



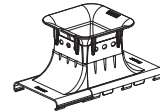
FRTR4X4**



FRIDT4X4**

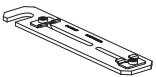


FR1.5IDE**

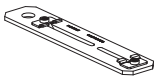


FRUPS4X4**

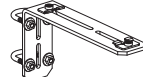
QuikLock™ Mounting Brackets



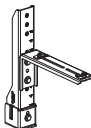
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FR6TRBE58



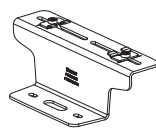
FR6TRBN12
FR6TRBN58



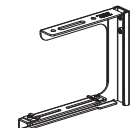
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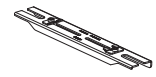
FR6ALB



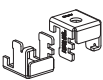
FR6CS12
FR6CS58



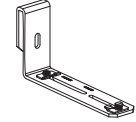
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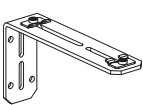
FR6TB38
FR6TB12



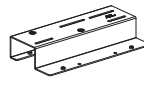
F2PCLB12
F2PCLB58



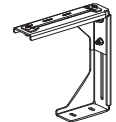
FR6LRB



FR6LB



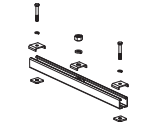
FRRMBNF58



FR6ACAB



FRAFC58



FR4PRB58

**Substitute: YL = Yellow, OR = Orange, BL = Black

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WW-FRSP03

9/2010

Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «**JONHON**», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «**FORSTAR**».



JONHON

«**JONHON**» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«**FORSTAR**» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



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