

# Industrial Ethernet Connectors

## XS5/XS6

### Support for Ethernet/IP, Ether-CAT, and Other Popular Networks Based on Ethernet

- A lineup of Tough RJ45 Connectors for use outside of panels and Environment-resistance Connectors with IP67 protection (M12).
- RJ45 Assembly Connectors are available for easy wiring onsite.
- SmartClick Connectors are used on Environment-resistance Connectors (M12) and provide compatibility with traditional screw connectors for one-touch (1/8 turn) connection.
- AWG22 cables that are suitable for wiring outside of panels are used for all models.



### Ordering Information

Appearance	Type	Cable length (m)	Model	
	Cable with Connector on One End (M12)	0.5	XS5H-T421-BM0-K	
		1	XS5H-T421-CM0-K	
		2	XS5H-T421-DM0-K	
		3	XS5H-T421-EM0-K	
		5	XS5H-T421-GM0-K	
		10	XS5H-T421-JM0-K	
		15	XS5H-T421-KM0-K	
	Cable with Connectors on Both Ends (M12/M12)	0.5	XS5W-T421-BM2-K	
		1	XS5W-T421-CM2-K	
		2	XS5W-T421-DM2-K	
		3	XS5W-T421-EM2-K	
		5	XS5W-T421-GM2-K	
		10	XS5W-T421-JM2-K	
		15	XS5W-T421-KM2-K	
	Cable with Connectors on Both Ends (M12/RJ45)	0.3	XS5W-T421-AMC-K	
		0.5	XS5W-T421-BMC-K	
		1	XS5W-T421-CMC-K	
		2	XS5W-T421-DMC-K	
		3	XS5W-T421-EMC-K	
		5	XS5W-T421-GMC-K	
		10	XS5W-T421-JMC-K	
	Cable with Connectors on Both Ends (RJ45/RJ45)	0.3	XS5W-T421-AMD-K	
		0.5	XS5W-T421-BMD-K	
		1	XS5W-T421-CMD-K	
		2	XS5W-T421-DMD-K	
		3	XS5W-T421-EMD-K	
		5	XS5W-T421-GMD-K	
		10	XS5W-T421-JMD-K	
	RJ45 Assembly Connector	---	XS6G-T421-1	
	M12 Connector for Panel Mounting	Rear locking	0.5	XS5P-T426-5
		Front locking	0.5	XS5P-T427-5

## Specifications

Type	Cable with Connector on One End (M12)	Cable with Connectors on Both Ends (M12/M12)	Cable with Connectors on Both Ends (M12/RJ45)	Cable with Connectors on Both Ends (RJ45/RJ45)	RJ45 Assembly Connector	M12 Connector for Panel Mounting
ItemModel	XS5H-T421-□M0-K	XS5W-T421-□M2-K	XS5W-T421-□MC-K	XS5W-T421-□MD-K	XS6G-T421-1	XS5P-T42□-5
Rated current	3 A			2.5 A		3 A
Rated voltage	30 V					
Contact resistance	20 mΩ max.					
Insulation resistance	500 MΩ min.					
Withstand voltage	1,000 VAC for 60 s (leak current: 1 mA max.)					
Ambient operating temperature	-25 to 70°C			-40 to 70°C		-25 to 70°C
Ambient storage temperature	-25 to 70°C			-40 to 70°C		-25 to 70°C
Protective structure	M12: IEC IP67, RJ45: IEC IP20					

## Materials and Finish

### Connectors

ItemType	M12	RJ45
Contact block	PBT plastic (UL94 V-0), light gray	PA plastic (UL94 V-0), black
Contacts	Phosphor bronze/nickel base, 0.4-μm gold plating	Phosphor bronze/nickel base, 1.4-μm gold plating
Fixtures	Zinc diecast, nickel plating	---
Cover	Soft PBT (UL94 V-0)	---
O-ring	Rubber	---

### Cables

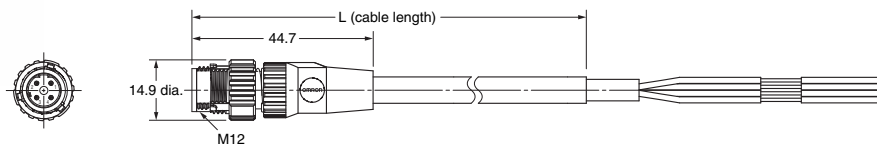
Specifications	UL CM PVC (double shielding) Cat. 5E
Cores and colors	AWG22 (0.26/7): Yellow, orange, white, and blue
Outer diameter	6.5 mm
Sheath color	Light blue

## Dimensions

(Unit: mm)

### Cable with Connector on One End (M12)

XS5H-T421-□M0-K

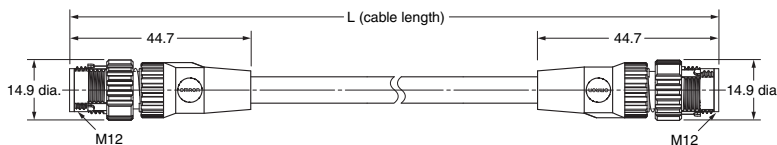


### Wiring

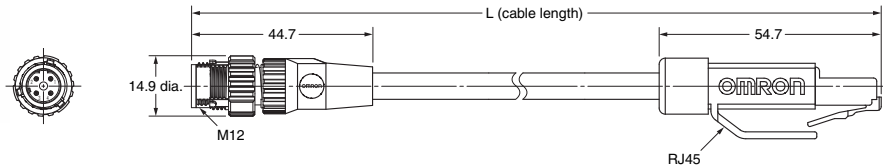
Terminal No.	Color
1	Yellow
2	White
3	Orange
4	Blue

### Cable with Connectors on Both Ends (M12/M12)

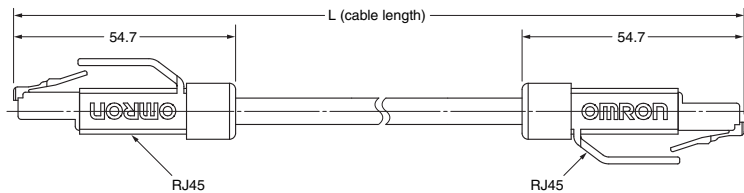
XS5W-T421-□M2-K



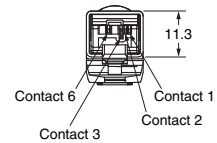
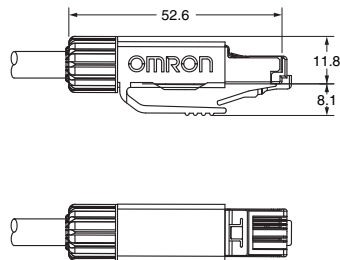
● Cable with Connectors on Both Ends (M12/RJ45)  
XS5W-T421-□MC-K



● Cable with Connectors on Both Ends (RJ45/RJ45)  
XS5W-T421-□MD-K



● Assembly Connector (RJ45)  
XS6G-T421-1

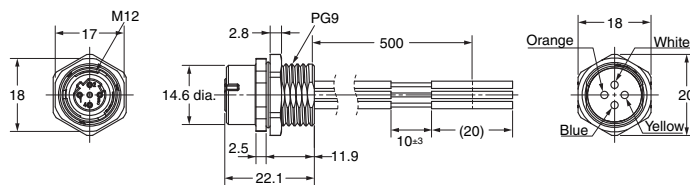


**Applicable wires**  
6.1 to 6.9 dia.  
Stranded wires: AWG22 to AWG24  
Solid wires: AWG22 to AWG23

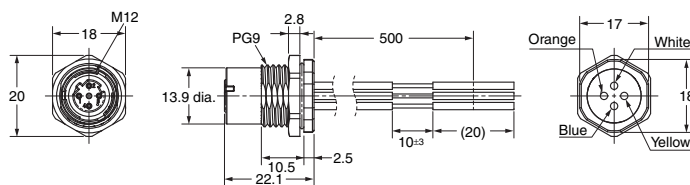
● M12 Connector for Panel mounting  
XS5P-T42□-5



**XS5P-T426-5 (Rear Locking)**



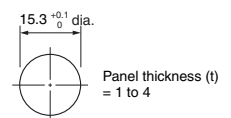
**XS5P-T427-5 (Front Locking)**



**Wiring**

Terminal No.	Color
1	Yellow
2	White
3	Orange
4	Blue

**Panel Cutout Dimension**



Note 1: The panel cutout dimension is the same for Front-locking and Rear-locking Connectors.

Note 2: Rotational positioning is not possible for connector rotation.

## ■ Safety Precautions

### Precautions for Correct Use

Do not use the Connectors in an atmosphere or environment that exceeds the specifications.

#### ● Connector Connection and Disconnection

- When connecting or disconnecting Connectors, be sure to hold the Connectors.
- Do not hold the cable when disconnecting Connectors.
- When joining Connectors, be sure to insert the plug all the way to the back of the socket before attempting to lock the Connectors.
- Do not use tools of any sort to join the Connectors. Always use your hands. Pliers or other tools may damage the Connectors.

#### ● Wiring

Lay the cables so that external force is not applied to the Connectors. Otherwise, the degree of protection (IP67) may not be achieved.

#### ● Degree of Protection for M12/SmartClick Connectors

- The degree of protection of Connectors (IP67) is not for a fully watertight structure. Do not use the Connectors underwater.
- Do not step on or place any objects on the Connectors. Doing so may damage the Connectors.

## ■ General Precautions

- Do not pull on the Connectors or cables with excessive force. Do not install the Connectors with a load placed directly on the joint or at the point where the wires connect to the Connector. The Connector may be damaged or the wires in the cable may be disconnected.
- Lay the cable where it will not be stepped on to prevent the wires in the cable from being disconnected and to protect the Connectors from being damaged. If the cable must be placed where it will be stepped on, install a protective cover.
- When bending cables, do not exceed the cable specifications.

- Application examples provided in this document are for reference only. In actual applications, confirm equipment functions and safety before using the product.
- Consult your OMRON representative before using the product under conditions which are not described in the manual or applying the product to nuclear control systems, railroad systems, aviation systems, vehicles, combustion systems, medical equipment, amusement machines, safety equipment, and other systems or equipment that may have a serious influence on lives and property if used improperly. Make sure that the ratings and performance characteristics of the product provide a margin of safety for the system or equipment, and be sure to provide the system or equipment with double safety mechanisms.

### OMRON Corporation Industrial Automation Company

Tokyo, JAPAN

Contact: [www.ia.omron.com](http://www.ia.omron.com)

#### Regional Headquarters

##### OMRON EUROPE B.V.

Wegalaan 67-69-2132 JD Hoofddorp  
The Netherlands  
Tel: (31)2356-81-300/Fax: (31)2356-81-388

##### OMRON ELECTRONIC COMPONENTS LLC

55 Commerce Drive, Suite B,  
Shaumburg, IL, 60173, U.S.A.  
Tel: (1) 847-882-2288/Fax: (1) 847-882-2192

##### OMRON ASIA PACIFIC PTE. LTD.

No. 438A Alexandra Road # 05-05/08 (Lobby 2),  
Alexandra Technopark,  
Singapore 119967  
Tel: (65) 6835-3011/Fax: (65) 6835-2711

##### OMRON (CHINA) CO., LTD.

Room 2211, Bank of China Tower,  
200 Yin Cheng Zhong Road,  
PuDong New Area, Shanghai, 200120, China  
Tel: (86) 21-5037-2222/Fax: (86) 21-5037-2200

#### Authorized Distributor:

© OMRON Corporation 2010 All Rights Reserved.  
In the interest of product improvement,  
specifications are subject to change without notice.

Cat. No. G019-E1-02

1008

# Terms and Conditions of Sale

1. **Offer; Acceptance.** These terms and conditions (these "Terms") are deemed part of all quotes, agreements, purchase orders, acknowledgments, price lists, catalogs, manuals, brochures and other documents, whether electronic or in writing, relating to the sale of products or services (collectively, the "Products") by Omron Electronics LLC and its subsidiary companies ("Omron"). Omron objects to any terms or conditions proposed in Buyer's purchase order or other documents which are inconsistent with, or in addition to, these Terms.
2. **Prices; Payment Terms.** All prices stated are current, subject to change without notice by Omron. Omron reserves the right to increase or decrease prices on any unshipped portions of outstanding orders. Payments for Products are due net 30 days unless otherwise stated in the invoice.
3. **Discounts.** Cash discounts, if any, will apply only on the net amount of invoices sent to Buyer after deducting transportation charges, taxes and duties, and will be allowed only if (i) the invoice is paid according to Omron's payment terms and (ii) Buyer has no past due amounts.
4. **Interest.** Omron, at its option, may charge Buyer 1-1/2% interest per month or the maximum legal rate, whichever is less, on any balance not paid within the stated terms.
5. **Orders.** Omron will accept no order less than \$200 net billing.
6. **Governmental Approvals.** Buyer shall be responsible for, and shall bear all costs involved in, obtaining any government approvals required for the importation or sale of the Products.
7. **Taxes.** All taxes, duties and other governmental charges (other than general real property and income taxes), including any interest or penalties thereon, imposed directly or indirectly on Omron or required to be collected directly or indirectly by Omron for the manufacture, production, sale, delivery, importation, consumption or use of the Products sold hereunder (including customs duties and sales, excise, use, turnover and license taxes) shall be charged to and remitted by Buyer to Omron.
8. **Financial.** If the financial position of Buyer at any time becomes unsatisfactory to Omron, Omron reserves the right to stop shipments or require satisfactory security or payment in advance. If Buyer fails to make payment or otherwise comply with these Terms or any related agreement, Omron may (without liability and in addition to other remedies) cancel any unshipped portion of Products sold hereunder and stop any Products in transit until Buyer pays all amounts, including amounts payable hereunder, whether or not then due, which are owing to it by Buyer. Buyer shall in any event remain liable for all unpaid accounts.
9. **Cancellation; Etc.** Orders are not subject to rescheduling or cancellation unless Buyer indemnifies Omron against all related costs or expenses.
10. **Force Majeure.** Omron shall not be liable for any delay or failure in delivery resulting from causes beyond its control, including earthquakes, fires, floods, strikes or other labor disputes, shortage of labor or materials, accidents to machinery, acts of sabotage, riots, delay in or lack of transportation or the requirements of any government authority.
11. **Shipping; Delivery.** Unless otherwise expressly agreed in writing by Omron:
  - a. Shipments shall be by a carrier selected by Omron; Omron will not drop ship except in "break down" situations.
  - b. Such carrier shall act as the agent of Buyer and delivery to such carrier shall constitute delivery to Buyer;
  - c. All sales and shipments of Products shall be FOB shipping point (unless otherwise stated in writing by Omron), at which point title and risk of loss shall pass from Omron to Buyer; provided that Omron shall retain a security interest in the Products until the full purchase price is paid;
  - d. Delivery and shipping dates are estimates only; and
  - e. Omron will package Products as it deems proper for protection against normal handling and extra charges apply to special conditions.
12. **Claims.** Any claim by Buyer against Omron for shortage or damage to the Products occurring before delivery to the carrier must be presented in writing to Omron within 30 days of receipt of shipment and include the original transportation bill signed by the carrier noting that the carrier received the Products from Omron in the condition claimed.
13. **Warranties.** (a) **Exclusive Warranty.** Omron's exclusive warranty is that the Products will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Omron (or such other period expressed in writing by Omron). Omron disclaims all other warranties, express or implied. (b) **Limitations.** OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCTS. BUYER ACKNOWLEDGES THAT IT ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE. Omron further disclaims all warranties and responsibility of any type for claims or expenses based on infringement by the Products or otherwise of any intellectual property right. (c) **Buyer Remedy.** Omron's sole obligation hereunder shall be, at Omron's election, to (i) replace (in the form originally shipped with Buyer responsible for labor charges for removal or replacement thereof) the non-complying Product, (ii) repair the non-complying Product, or (iii) repay or credit Buyer an amount equal to the purchase price of the non-complying Product; provided that in no event shall Omron be responsible for warranty, repair, indemnity or any other claims or expenses regarding the Products unless Omron's analysis confirms that the Products were properly handled, stored, installed and maintained and not subject to contamination, abuse, misuse or inappropriate modification. Return of any Products by Buyer must be approved in writing by Omron before shipment. Omron Companies shall not be liable for the suitability or unsuitability or the results from the use of Products in combination with any electrical or electronic components, circuits, system assemblies or any other materials or substances or environments. Any advice, recommendations or information given orally or in writing, are not to be construed as an amendment or addition to the above warranty. See <http://www.omron247.com> or contact your Omron representative for published information.
14. **Limitation on Liability; Etc.** OMRON COMPANIES SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE OR STRICT LIABILITY. Further, in no event shall liability of Omron Companies exceed the individual price of the Product on which liability is asserted.
15. **Indemnities.** Buyer shall indemnify and hold harmless Omron Companies and their employees from and against all liabilities, losses, claims, costs and expenses (including attorney's fees and expenses) related to any claim, investigation, litigation or proceeding (whether or not Omron is a party) which arises or is alleged to arise from Buyer's acts or omissions under these Terms or in any way with respect to the Products. Without limiting the foregoing, Buyer (at its own expense) shall indemnify and hold harmless Omron and defend or settle any action brought against such Companies to the extent based on a claim that any Product made to Buyer specifications infringed intellectual property rights of another party.
16. **Property; Confidentiality.** Any intellectual property in the Products is the exclusive property of Omron Companies and Buyer shall not attempt to duplicate it in any way without the written permission of Omron. Notwithstanding any charges to Buyer for engineering or tooling, all engineering and tooling shall remain the exclusive property of Omron. All information and materials supplied by Omron to Buyer relating to the Products are confidential and proprietary, and Buyer shall limit distribution thereof to its trusted employees and strictly prevent disclosure to any third party.
17. **Export Controls.** Buyer shall comply with all applicable laws, regulations and licenses regarding (i) export of products or information; (ii) sale of products to "forbidden" or other proscribed persons; and (iii) disclosure to non-citizens of regulated technology or information.
18. **Miscellaneous.** (a) **Waiver.** No failure or delay by Omron in exercising any right and no course of dealing between Buyer and Omron shall operate as a waiver of rights by Omron. (b) **Assignment.** Buyer may not assign its rights hereunder without Omron's written consent. (c) **Law.** These Terms are governed by the law of the jurisdiction of the home office of the Omron company from which Buyer is purchasing the Products (without regard to conflict of law principles). (d) **Amendment.** These Terms constitute the entire agreement between Buyer and Omron relating to the Products, and no provision may be changed or waived unless in writing signed by the parties. (e) **Severability.** If any provision hereof is rendered ineffective or invalid, such provision shall not invalidate any other provision. (f) **Setoff.** Buyer shall have no right to set off any amounts against the amount owing in respect of this invoice. (g) **Definitions.** As used herein, "including" means "including without limitation"; and "Omron Companies" (or similar words) mean Omron Corporation and any direct or indirect subsidiary or affiliate thereof.

## Certain Precautions on Specifications and Use

1. **Suitability of Use.** Omron Companies shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Product in the Buyer's application or use of the Product. At Buyer's request, Omron will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Product. This information by itself is not sufficient for a complete determination of the suitability of the Product in combination with the end product, machine, system, or other application or use. Buyer shall be solely responsible for determining appropriateness of the particular Product with respect to Buyer's application, product or system. Buyer shall take application responsibility in all cases but the following is a non-exhaustive list of applications for which particular attention must be given:
  - (i) Outdoor use, uses involving potential chemical contamination or electrical interference, or conditions or uses not described in this document.
  - (ii) Use in consumer products or any use in significant quantities.
  - (iii) Energy control systems, combustion systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, and installations subject to separate industry or government regulations.
  - (iv) Systems, machines and equipment that could present a risk to life or property. Please know and observe all prohibitions of use applicable to this Product.

NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY OR IN LARGE QUANTITIES WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON'S PRODUCT IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.
2. **Programmable Products.** Omron Companies shall not be responsible for the user's programming of a programmable Product, or any consequence thereof.
3. **Performance Data.** Data presented in Omron Company websites, catalogs and other materials is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of Omron's test conditions, and the user must correlate it to actual application requirements. Actual performance is subject to the Omron's Warranty and Limitations of Liability.
4. **Change in Specifications.** Product specifications and accessories may be changed at any time based on improvements and other reasons. It is our practice to change part numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the Product may be changed without any notice. When in doubt, special part numbers may be assigned to fix or establish key specifications for your application. Please consult with your Omron's representative at any time to confirm actual specifications of purchased Product.
5. **Errors and Omissions.** Information presented by Omron Companies has been checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors or omissions.

**OMRON INDUSTRIAL AUTOMATION • THE AMERICAS HEADQUARTERS** • Schaumburg, IL USA • 847.843.7900 • 800.556.6766 • [www.omron247.com](http://www.omron247.com)

**OMRON CANADA, INC. • HEAD OFFICE**

Toronto, ON, Canada • 416.286.6465 • 866.986.6766 • [www.omron247.com](http://www.omron247.com)

**OMRON ELECTRONICS DE MEXICO • HEAD OFFICE**

México DF • 52.55.59.01.43.00 • 001.800.556.6766 • [mela@omron.com](mailto:mela@omron.com)

**OMRON ELECTRONICS DE MEXICO • SALES OFFICE**

Apodaca, N.L. • 52.81.11.56.99.20 • 001.800.556.6766 • [mela@omron.com](mailto:mela@omron.com)

**OMRON ELETRÔNICA DO BRASIL LTDA • HEAD OFFICE**

São Paulo, SP, Brasil • 55.11.2101.6300 • [www.omron.com.br](http://www.omron.com.br)

**OMRON ARGENTINA • SALES OFFICE**

Cono Sur • 54.11.4783.5300

**OMRON CHILE • SALES OFFICE**

Santiago • 56.9.9917.3920

**OTHER OMRON LATIN AMERICA SALES**

54.11.4783.5300

**OMRON EUROPE B.V.** • Wegalaan 67-69, NL-2132 JD, Hoofddorp, The Netherlands. • Tel: +31 (0) 23 568 13 00 • Fax: +31 (0) 23 568 13 88 • [www.industrial.omron.eu](http://www.industrial.omron.eu)

*Authorized Distributor:*

**Automation Systems**

- Programmable logic controllers (PLC) • Human machine interfaces (HMI) • Remote I/O
- Industrial PC's • Software

**Motion & Drives**

- Motion controllers • Servo systems • AC drives

**Control Components**

- Temperature controllers • Power supplies • Timers • Counters • Programmable relays
- Digital panel indicators • Electromechanical relays • Monitoring products • Solid-state relays
- Limit switches • Pushbutton switches • Low voltage switch gear

**Sensing & Safety**

- Photoelectric sensors • Inductive sensors • Capacitive & pressure sensors
- Cable connectors • Displacement & width-measuring sensors • Vision systems
- Safety networks • Safety sensors • Safety units/relay units • Safety door/guard lock switches