

## Significantly reduces amount of wiring between Safety Light Curtains and Muting Sensors.

As of August 2008

- Provides IP67 protection against water and dust.
- Connection using connectors significantly reduces wiring work.
- The wiring status can be checked at a glance with the LED indicators.
- The Support Software can be connected, enabling on-site adjustment of a Light Curtain.





 Be sure to read the "Safety Precautions" on page 7 and the "Precautions for All Safety Sensors".

## Ordering Information

### Connector Terminal Box

Classification	Applicable models	Specification	Type	Model
Muting Terminals	F3SJ-A□□□□P□□	PNP	Model with Muting Sensor Output Mode	<b>F39-TC5P01</b>
	F3SJ-B□□□□P□□		Model with Override Mode	<b>F39-TC5P02</b>
	F3SJ-A□□□□N□□	NPN	Model with Muting Sensor Output Mode	<b>F39-TC5N01</b>
	F3SJ-B□□□□N□□		Model with Override Mode	<b>F39-TC5N02</b>

### Optional Accessories (Sold separately)

Classification	Appearance	Model
Short-circuit Connector		<b>F39-CN8</b>
Waterproof Covers		<b>XS2Z-22</b>

**Note:** One short-circuit connector is included with the F39-T□01 for Muting Sensors.

Three waterproof covers are included with a Connector Terminal Box with Muting Sensor Output Mode (F39-TC5□01) and four waterproof covers with a Connector Terminal Box with Override Mode (F39-TC5□02).

Order the above accessories only as spare parts.

## Specifications (Refer to Instruction Sheet for details.)

### Ratings

Rated voltage	24 VDC ±20% (at ambient temperature of 20°C)
Rated current	Power line: 2.4 A, Signal line: 0.3 A

### Characteristics

Contact resistance	40 mΩ max. (connector section)
Insulation resistance	After applying 500 VDC for 60 s: 100 MΩ min.
Vibration resistance	Speed: 10 Hz to 500 Hz to 10 Hz in 20 minutes. Simple vibration with full amplitude of 1.52 mm or 98 m/s <sup>2</sup> (whichever has the smaller amplitude) for two hours each in three directions X, Y, and Z (total of 6 hours). Measured while connector is connected.
Shock resistance	490 m/s <sup>2</sup> for 11 ms three times each along three axes, six directions X, Y, and Z (total of 18 times). Measured while connector is connected. (MIL-STD-202F Test 213B, Condition A)
Ambient operating temperature	-25 to 70°C (with no icing or condensation)
Ambient operating humidity	25% to 85% (with no icing or condensation)
Degree of protection	IP67
Accessories	Short-circuit connector (models with Muting Sensor outputs only), waterproof cover

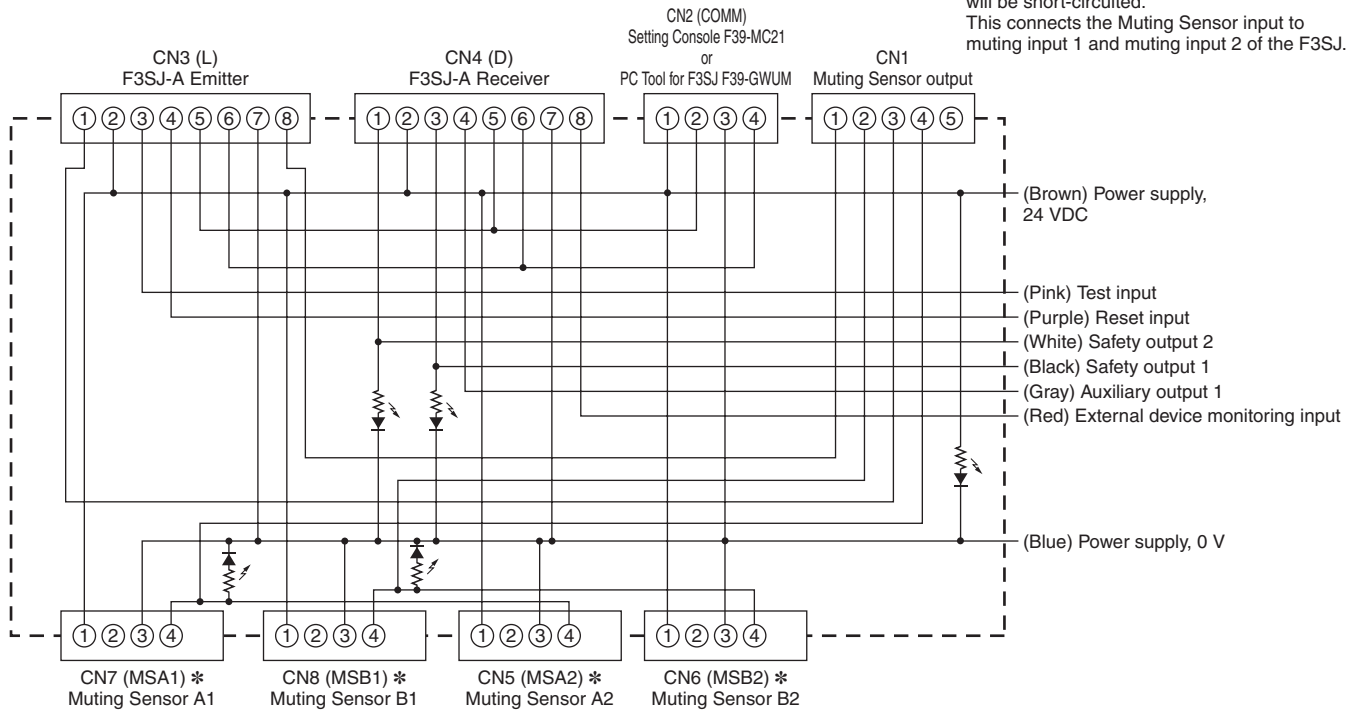
# Connections

## Internal Circuit Diagrams

### PNP

#### Model with Muting Sensor Output Mode F39-TC5P01

Note: When a short-circuit connector is connected to CN1, terminals 1 and 2, and terminals 3 and 4 will be short-circuited. This connects the Muting Sensor input to muting input 1 and muting input 2 of the F3SJ.

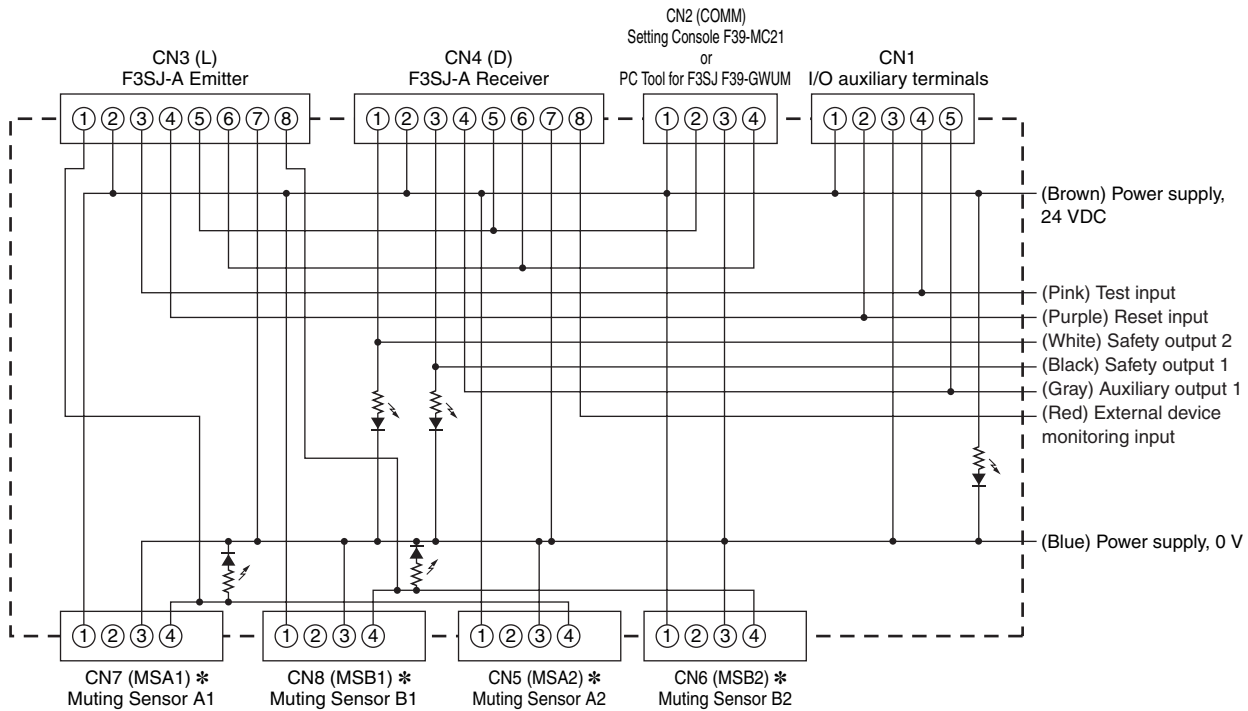


\* Use the following connecting cable to connect the Muting Sensors:

M12, 4-pin connector (Pin 1: +24 V, Pin 2: Not used, Pin 3: 0 V, Pin 4: Output)

When using a Through-beam Photoelectric Sensor, use an XS2R-D426-□11-F Y-joint with Socket and Plug or similar product to connect the transmitter and receiver.

#### Model with Override Mode F39-TC5P02



\* Use the following connecting cable to connect the Muting Sensors:

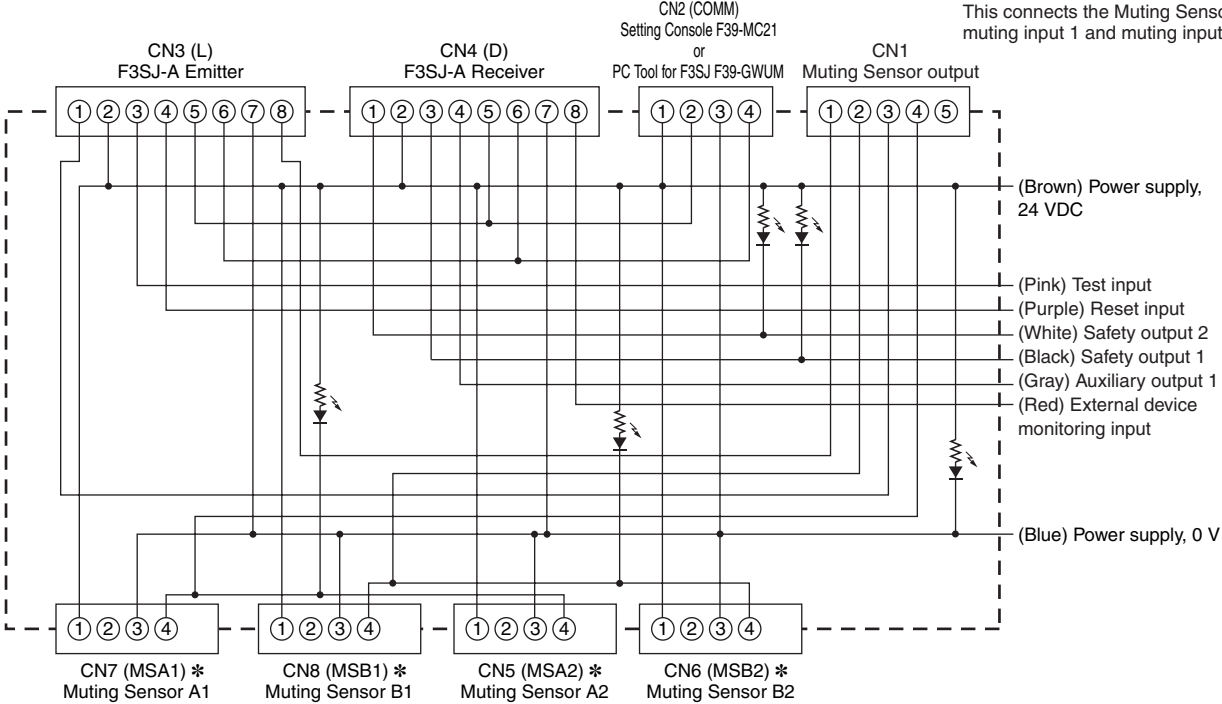
M12, 4-pin connector (Pin 1: +24 V, Pin 2: Not used, Pin 3: 0 V, Pin 4: Output)

When using a Through-beam Photoelectric Sensor, use an XS2R-D426-□11-F Y-joint with Socket and Plug or similar product to connect the transmitter and receiver.

**NPN**

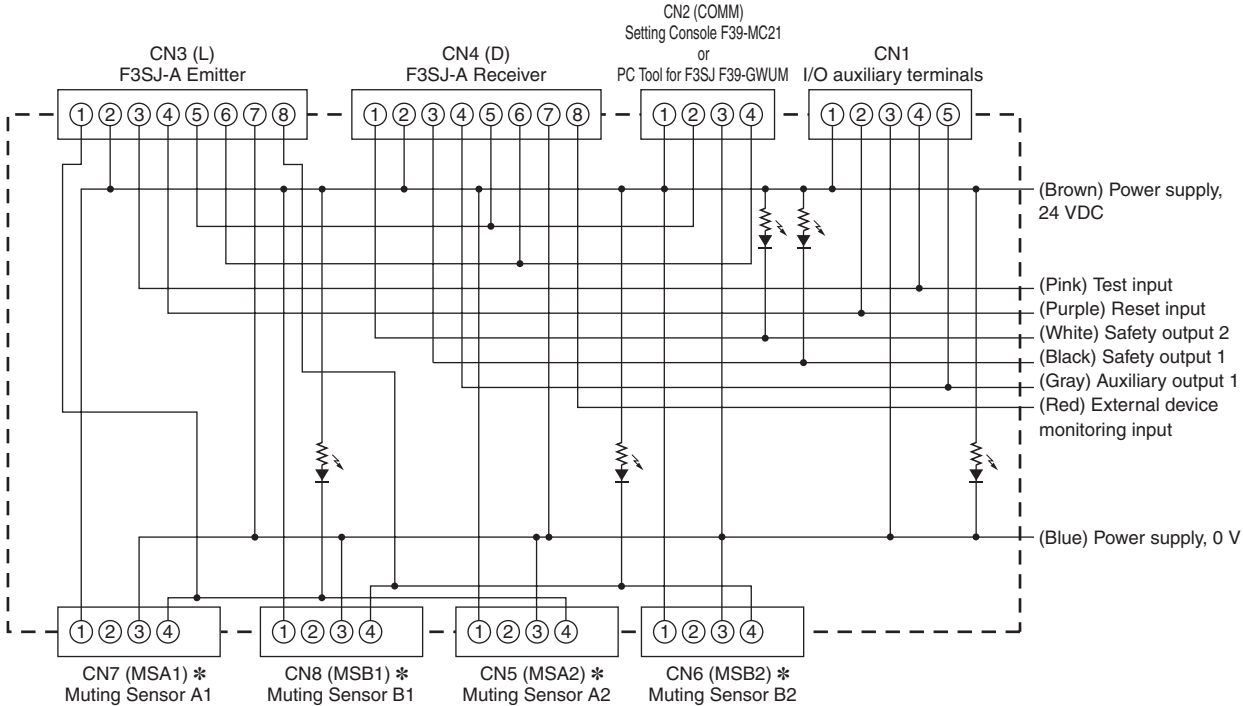
**Model with Muting Sensor Output Mode F39-TC5N01**

Note: When a short-circuit connector is connected to CN1, terminals 1 and 2, and terminals 3 and 4 will be short-circuited. This connects the Muting Sensor input to muting input 1 and muting input 2 of the F3SJ.



\* Use the following connecting cable to connect the Muting Sensors:  
 M12, 4-pin connector (Pin 1: +24 V, Pin 2: Not used, Pin 3: 0 V, Pin 4: Output)  
 When using a Through-beam Photoelectric Sensor, use an XS2R-D426-□11-F Y-joint with Socket and Plug or similar product to connect the transmitter and receiver.

**Model with Override Mode F39-TC5N02**



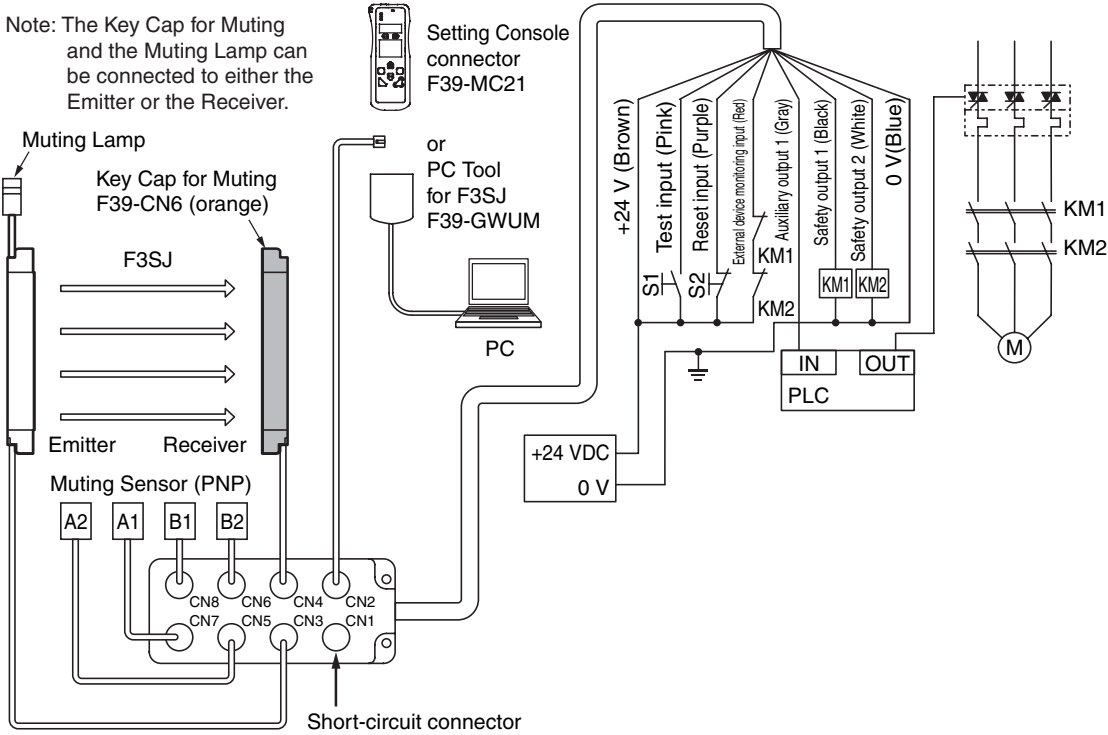
\* Use the following connecting cable to connect the Muting Sensors:  
 M12, 4-pin connector (Pin 1: +24 V, Pin 2: Not used, Pin 3: 0 V, Pin 4: Output)  
 When using a Through-beam Photoelectric Sensor, use an XS2R-D426-□11-F Y-joint with Socket and Plug or similar product to connect the transmitter and receiver.

Wiring Diagrams

PNP

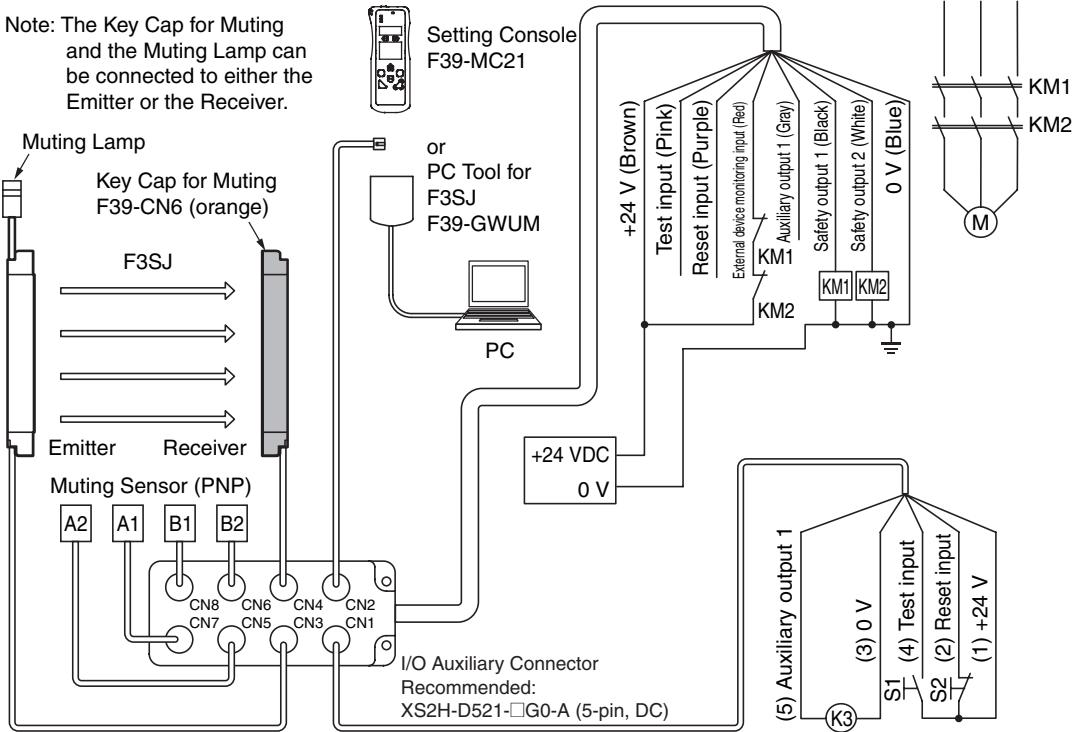
Model with Muting Sensor Output Mode F39-TC5P01

Note: The Key Cap for Muting and the Muting Lamp can be connected to either the Emitter or the Receiver.



Model with Override Mode F39-TC5P02

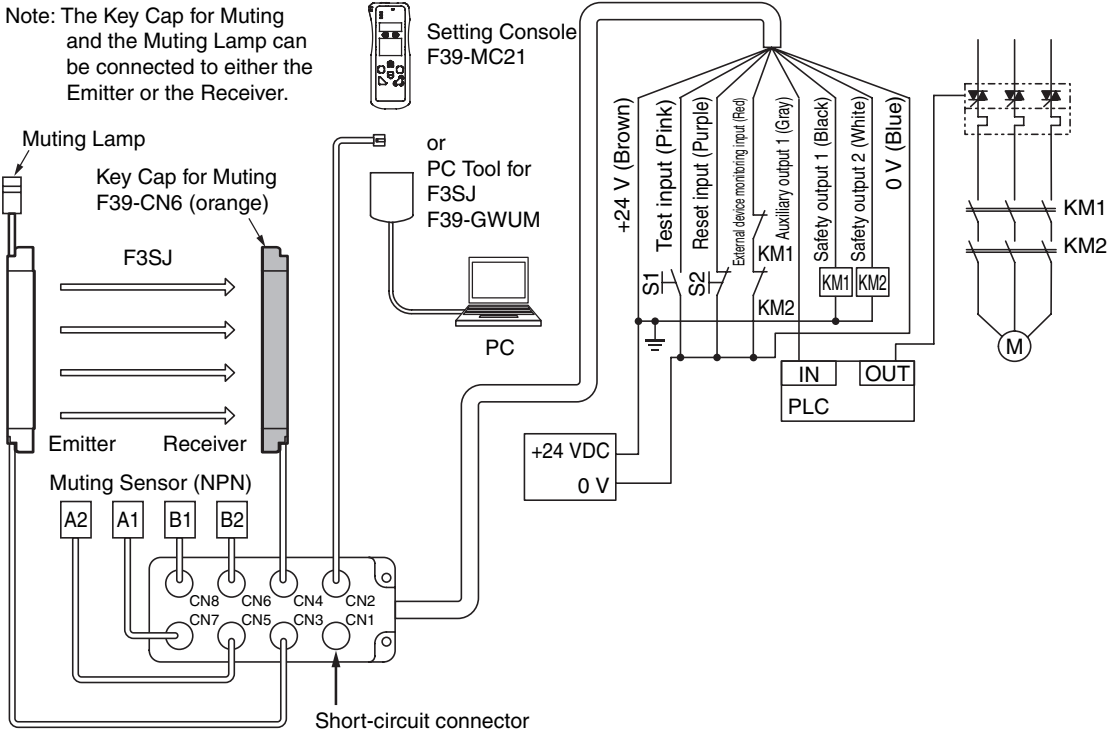
Note: The Key Cap for Muting and the Muting Lamp can be connected to either the Emitter or the Receiver.



**NPN**

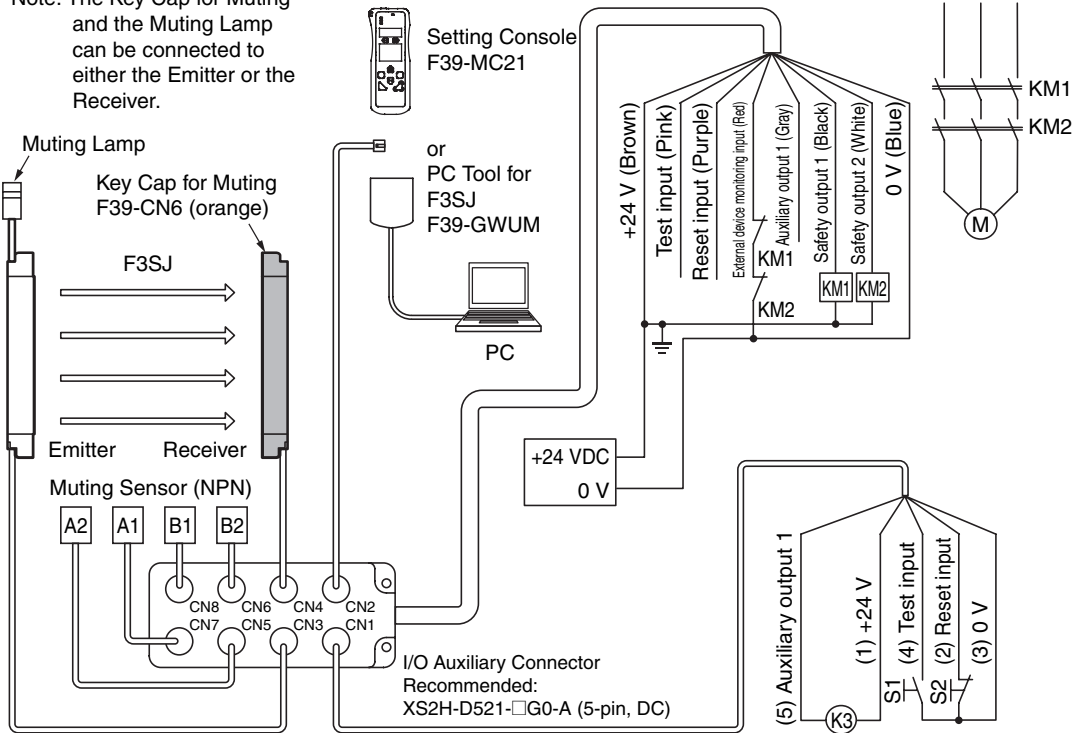
**Model with Muting Sensor Output Mode F39-TC5N01**

Note: The Key Cap for Muting and the Muting Lamp can be connected to either the Emitter or the Receiver.



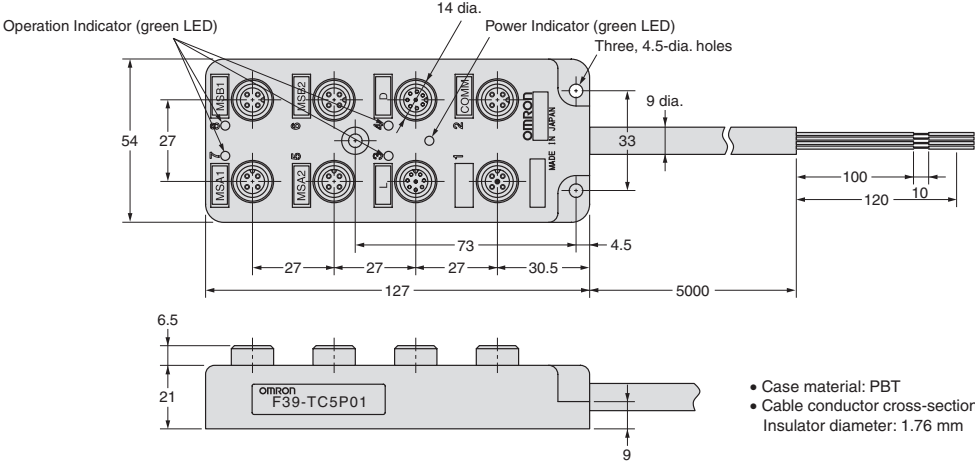
**Model with Override Mode F39-TC5N02**

Note: The Key Cap for Muting and the Muting Lamp can be connected to either the Emitter or the Receiver.



Dimensions

- F39-TC5P01
- F39-TC5P02
- F39-TC5N01
- F39-TC5N02



## Safety Precautions

### WARNING

The muting and override functions disable equipment safety functions. Use separate procedures to ensure safety when the muting and override functions are operating.

Position the Muting Sensors so that a distinction can be made between the entry of an object or a human. If the muting function were to operate when a human passed through, it may cause serious injury.

Install a Muting Lamp where it can be seen from all work locations, so that workers can check the status of the muting and override functions.

Muting times must be precisely set according to the application by qualified personnel who have received appropriate training. In particular, if the muting time limit is to be set to infinity, the person who makes the setting must bear responsibility.

Use two independent input devices for the muting inputs.

Install the F3SJ, Muting Sensors, or a protective wall so that workers cannot enter hazardous areas while muting is in effect, and set muting times.

Install override switches where they can be seen from the hazardous area, and where they cannot be operated from within the hazardous area. Before starting an override, check to make sure that nobody is within the hazardous area.

## Precautions for Safe Use

### Installation Conditions

- Connector tightening torque: 0.39 to 0.49 N·m
- Panel mounting tightening torque: 0.6 to 0.8 N·m  
(use metric 4 screws)

### Handling

- Make sure that the power is turned OFF before connecting or disconnecting the connector.
- Make sure that fasteners are tightened properly by hand. (0.39 to 0.49 N·m)  
The use of pliers may cause damage. If the screws are not tightened properly, the degree of protection may not be obtained, and the screws may come loose from vibration.
- If the cables are connected with the polarity reversed, the load will not operate, or the operation indicator will not light.
- Make sure that signal lines are always connected through a load.
- Use Sensors that meet the specifications.
- Do not pull on the connectors and cables. Doing so may damage the connector or break the cable.
- To avoid breaking the cable and damaging the connector, install them in a location where there is no danger of stepping on them. If you must install them in a location where they might be stepped on, place a protective cover on them.
- When installing the product, do not bend the cable where it is connected to the product.
- If you must bend the cable, make sure that the bend radius is greater than 60 mm.
- If you are not going to install Sensors and switches, place waterproof covers (XS2Z-22) on the connectors to protect the contact surface.

### Storage

Observe the following points when storing the product for an extended period of time.

1. Make sure that the storage location is well protected against dust and humidity.
2. Do not store the product close to areas where ammonia or sulfurization gas is generated.

## Terms and Conditions Agreement

### Read and understand this catalog.

Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

### 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.omron.com/global/> or contact your Omron representative for published information.

### 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.

### 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.

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 PRODUCT(S) IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

### Programmable Products.

Omron Companies shall not be responsible for the user's programming of a programmable Product, or any consequence thereof.

### 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.

### 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.

### 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.



# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Omron:

[F39-GWUM](#) [F39-CN6](#)



## Стандарт Электрон Связь

Мы молодая и активно развивающаяся компания в области поставок электронных компонентов. Мы поставляем электронные компоненты отечественного и импортного производства напрямую от производителей и с крупнейших складов мира.

Благодаря сотрудничеству с мировыми поставщиками мы осуществляем комплексные и плановые поставки широчайшего спектра электронных компонентов.

Собственная эффективная логистика и склад в обеспечивает надежную поставку продукции в точно указанные сроки по всей России.

Мы осуществляем техническую поддержку нашим клиентам и предпродажную проверку качества продукции. На все поставляемые продукты мы предоставляем гарантию .

Осуществляем поставки продукции под контролем ВП МО РФ на предприятия военно-промышленного комплекса России , а также работаем в рамках 275 ФЗ с открытием отдельных счетов в уполномоченном банке. Система менеджмента качества компании соответствует требованиям ГОСТ ISO 9001.

Минимальные сроки поставки, гибкие цены, неограниченный ассортимент и индивидуальный подход к клиентам являются основой для выстраивания долгосрочного и эффективного сотрудничества с предприятиями радиоэлектронной промышленности, предприятиями ВПК и научно-исследовательскими институтами России.

С нами вы становитесь еще успешнее!

### Наши контакты:

**Телефон:** +7 812 627 14 35

**Электронная почта:** [sales@st-electron.ru](mailto:sales@st-electron.ru)

**Адрес:** 198099, Санкт-Петербург,  
Промышленная ул, дом № 19, литера Н,  
помещение 100-Н Офис 331