



for a greener tomorrow



**MITSUBISHI  
ELECTRIC**

*Changes for the Better*

FACTORY AUTOMATION

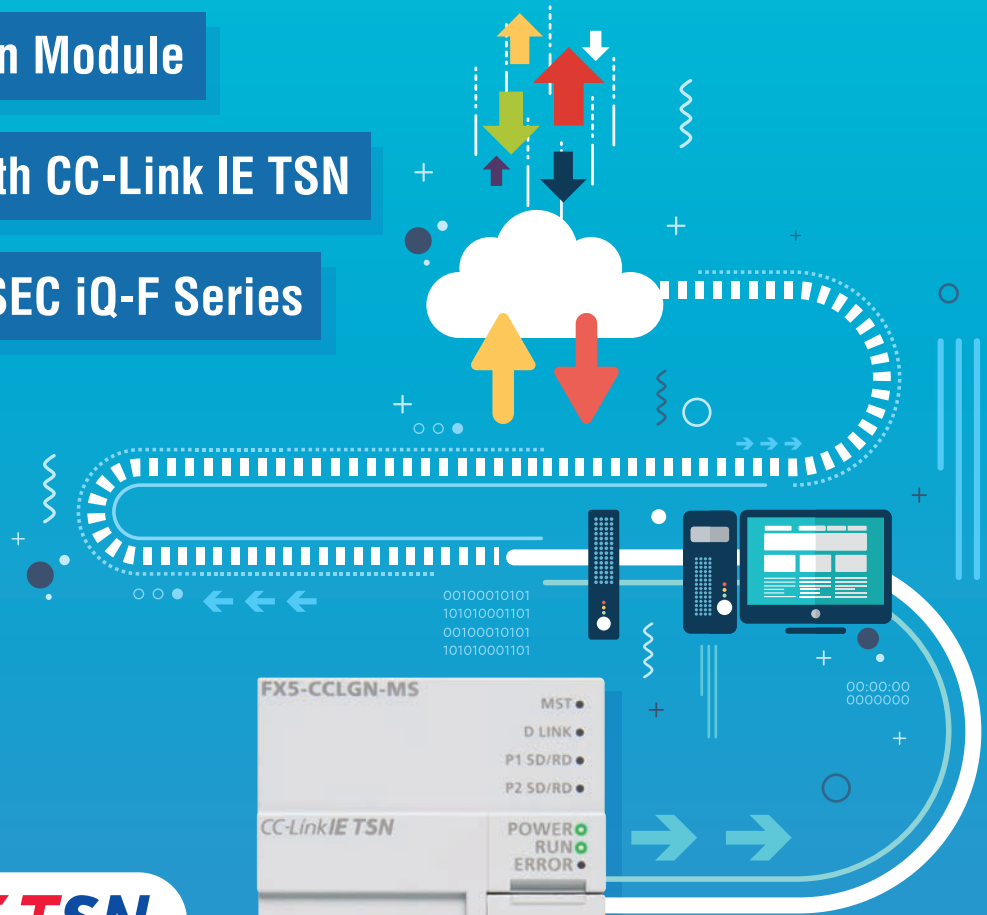
MELSEC iQ-F Series  
iQ Platform-compatible PLC  
FX5-CCLGN-MS

**MELSEC iQ-F**  
series

Communication Module

Compatible with CC-Link IE TSN

Added to MELSEC iQ-F Series



**CC-Link IE TSN**



**New**



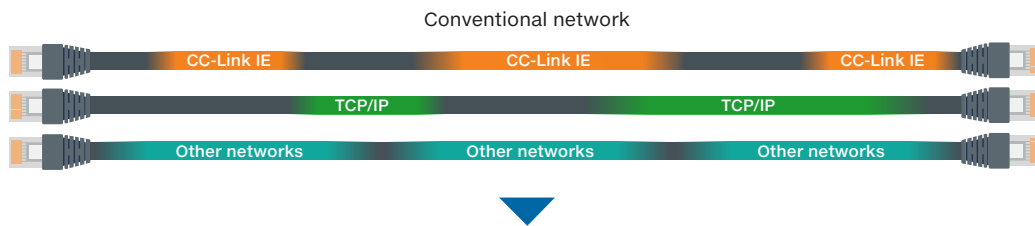
Now connect to more units, more widely.

Open integrated network for seamless communication.

## Features of CC-Link IE TSN (1)

### What's CC-Link IE TSN?

CC-Link IE TSN enables IT system information communication to be mixed in while performing cyclic communication to ensure real-time communication. With its flexible system architecture allowing extensive setups of various devices and excellent maintenance functions, CC-Link IE TSN is an ideal network for constructing IIoT infrastructure across the whole factory. IIoT: Industrial Internet of Things



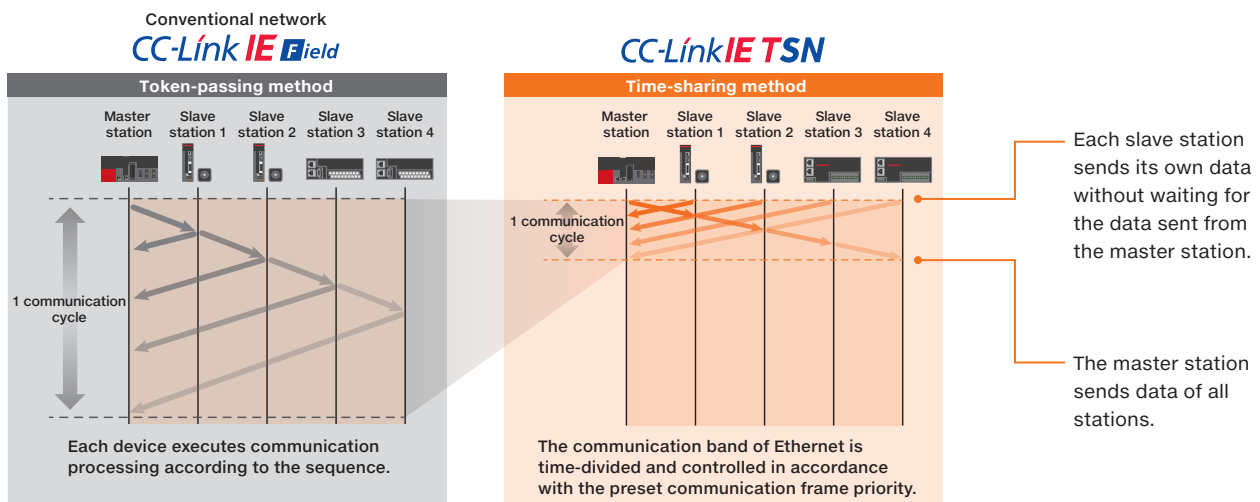
All networks can be mixed on the same trunk cable. Reliable control communication is realized.



## Features of CC-Link IE TSN (2)

### Realizes high-speed communication using time-division method

Each device performs time synchronization, and input and output communication frames are sent at the same time in time-divided communication cycles to achieve high speed.



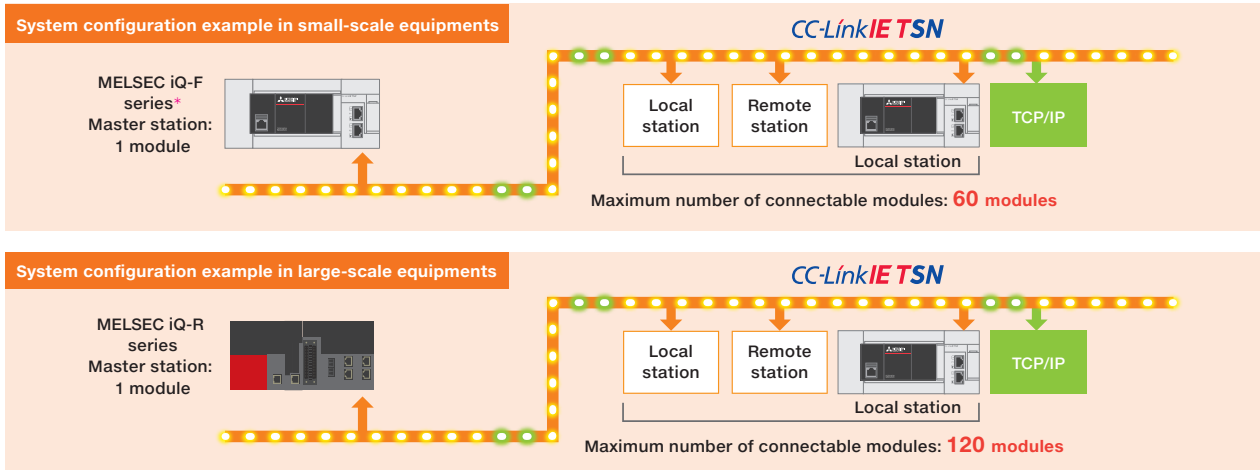


**CC-Link IE TSN  
Master/Local  
Module**  
FX5-CCLGN-MS

## Features of MELSEC iQ-F Series CC-Link IE TSN Module

- POINT 1** **Realizes simple network configuration**  
 Conventionally, settings had to be performed individually for each network, but since these products allow TCP/IP communication to be mixed on the same trunk cable, the whole system can be integrated as one network.
- POINT 2** **Enables high-speed, high-accuracy communication**  
 CC-Link IE TSN technology enables high-speed, high-accuracy bidirectional communication with slave stations having a minimum synchronization cycle of 250 μs. Setting the communication cycle for each slave station improves communication efficiency.

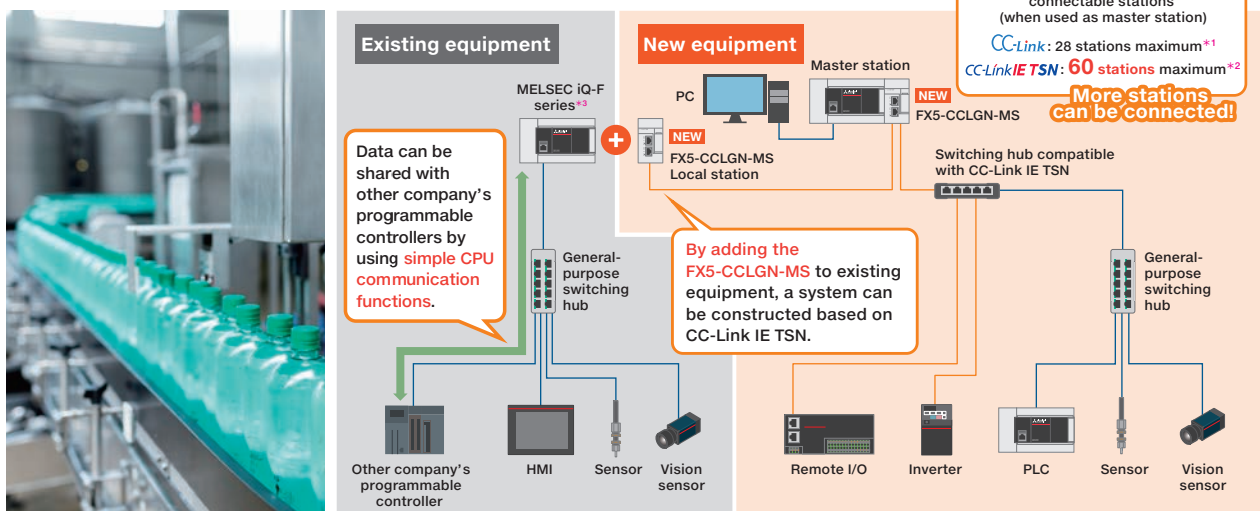
The CC-Link IE TSN master/local module FX5-CCLGN-MS can be introduced into a wide variety of equipment for small-scale control to large-scale control.



\*: Supported only by FX5U/FX5UC.

## Application example: Equipment monitoring in a food factory

Why not use the CC-Link IE TSN master/local module FX5-CCLGN-MS when introducing a small-scale device or new equipment? Adding the FX5-CCLGN-MS to existing equipment as a local station enables integrated monitoring.



\*1: Up to 14 remote I/O stations and up to a total of 14 intelligent device stations and remote device stations can be connected.  
 \*2: Up to a total of 60 remote stations and local stations can be connected.  
 \*3: Supported only by FX5U/FX5UC.

— CC-Link IE TSN  
 — General-purpose Ethernet

# PROGRAMMABLE CONTROLLERS

## MELSEC iQ-F Series

### General Specifications

(General specifications other than those listed below are the same as those of the connected CPU module.)

Item	Specifications
Operating ambient temperature*	-20 to 55°C
Withstand voltage	500 V AC for 1 minute
Insulation resistance	10 MΩ or higher by 500 V DC insulation resistance tester

\*: When using the FX5-CCLGN-MS manufactured in December 2020 or earlier, the operating ambient temperature is -20 to 50°C. The operating ambient temperature of the programmable controller system is the same.

### Power Supply Specifications

Item	Specifications
Power supply voltage	24 V DC +20%/-15%
Allowable instantaneous power failure time	Operation continues for an instantaneous power failure of 1 ms or less.
Current consumption	220 mA

### Performance Specifications

Item	Description
Station number	Master station: 0, Local station: 1 to 120
Number of connectable modules	One module can be connected to the CPU module for each station type. Master station: 1, Local station: 1
Maximum number of link points per network	RX, RY 16 K points each (16384 points each, 2 K bytes each) RWr, RWw 8 K points each (8192 points each, 16 K bytes each)
Maximum number of link points per station*	Master station RX, RY 8 K points each (8192 points each, 1 K bytes each) RWr, RWw 4 K points each (4096 points each, 8 K bytes each) Local station RX, RY 16 K points each (16384 points each, 2 K bytes each) RWr, RWw 8 K points each (8192 points each, 16 K bytes each)
Communication speed	1 Gbps
Minimum synchronization cycle	250.00 μs
Authentication Class	Authentication Class B device
Maximum number of connectable stations	When used as a master station 61 When used as a local station 121
Communication cable	Ethernet cable which satisfies standard: Category 5e or higher, straight cable (double shielded, STP)
Overall cable distance	Line topology 12000 m (when 121 stations are connected) Others Depends on the system configuration.
Maximum station-to-station distance	100 m
Network number setting range	1 to 239
Network topology	Line topology, star topology (Coexistence of line topology and star topology is also possible.)
Communication method	Time sharing method
Transient transmission capacity	1920 bytes
Number of occupied input/output points	8 points

\*: The maximum number of points for all link devices may not be used simultaneously depending on the number of slave stations, or the number of points and assignments of the link devices that are set in the "Network Configuration Settings" of the "Basic Settings".

### Performance Specifications of Ethernet

Item	Description
Data transmission speed	1 Gbps
Communication mode	1000BASE-T Full-duplex
Interface	RJ45 connector (Auto MDI/MDI-X)
Maximum frame size	1518 bytes
Maximum segment length	100 m*1
Number of cascade connections	1000BASE-T *2
IP version	IPv4
Number of simultaneous open connections (maximum number of connections)	Connection with MELSOFT products 8 connections*3 Connection to SLMP-compatible devices

\*1: For maximum segment length (length between switching hubs), consult the manufacturer of the switching hub used.

\*2: Consult the manufacturer of the switching hub used.

\*3: In the case of one connection per device, up to eight devices can be connected.

### Safety Warning

To ensure proper use of the products in this document, please be sure to read the instruction manual prior to use.

### FX5-CCLGN-MS Support Conditions

Applicable CPU modules	FX5U/FX5UC: Ver. 1.210 or later
Applicable engineering tool	GX Works3: Ver. 1.065T or later

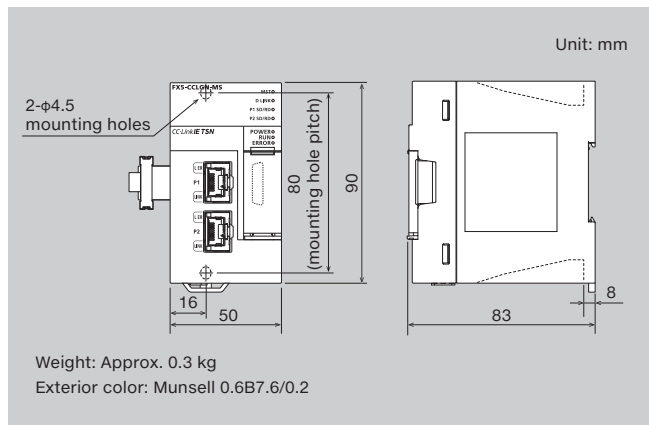
### Differences in specifications from MELSEC iQ-R Series CC-Link IE TSN module (RJ71GN11-T2)

Item	FX5-CCLGN-MS	RJ71GN11-T2
Station type	Master station or local station	Master station or local station
Maximum number of link points per station	Master station RX, RY 8192 points each RWr, RWw 4096 points each	16384 points each 8192 points each
	Local station RX, RY 16384 points each RWr, RWw 8192 points each	16384 points each 8192 points each
Communication speed	1 Gbps/100 Mbps*1	1 Gbps/100 Mbps
Minimum synchronization cycle	250.00 μs	125.00 μs
Maximum number of connectable stations	When used as master station: 61 stations	121 stations
Communication by SLMP	Server	Server/client
Access to other stations using engineering tool	Supported*2	Supported
Multi-cast mode	Supported	Supported
Network topology	Line topology, star topology (coexistence of line topology and star topology is also possible.)	Line topology, star topology (coexistence of line topology and star topology is also possible.), ring topology
Communication with safety station	Unsupported	Supported
CIA-402 CAN profile operation	Unsupported	Supported

\*1: 100 Mbps will be supported in the future.

\*2: Accessible within the same network.

### External Dimensions



### Product List

Item	Specifications
FX5-CCLGN-MS	FX5-CCLGN-MS master/local module for CC-Link IE TSN
FX5-U-CCIETSN-E	MELSEC iQ-F FX5 User's Manual (CC-Link IE TSN) Model code: 09R739
FX5U-U-HW-E	MELSEC iQ-F FX5U User's Manual (Hardware) Model code: 09R536
FX5UC-U-HW-E	MELSEC iQ-F FX5UC User's Manual (Hardware) Model code: 09R558

### Registration

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In some cases, trademark symbols such as "™" or "®" are not specified in this document.

# MITSUBISHI ELECTRIC CORPORATION

HEAD OFFICE: TOKYO BLDG., 2-7-3, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN

[www.MitsubishiElectric.com](http://www.MitsubishiElectric.com)