

MELSENSOR  
Code Reader

**e-Factory**



**MELSENSOR**

# GLOBAL IMPACT OF MITSUBISHI ELECTRIC



Through Mitsubishi Electric's vision, "Changes for the Better" are possible for a brighter future.

## *Changes for the Better*

"Changes for the Better" represents the Mitsubishi Electric Group's attitude to "always strive to achieve something better", as we continue to change and grow. Each one of us shares a strong will and passion to continuously aim for change, reinforcing our commitment to creating "an even better tomorrow".

Mitsubishi Electric is involved in many areas including the following:

### **Energy and Electric Systems**

A wide range of power and electrical products from generators to large-scale displays.

### **Electronic Devices**

A wide portfolio of cutting-edge semiconductor devices for systems and products.

### **Home Appliance**

Dependable consumer products like air conditioners and home entertainment systems.

### **Information and Communication Systems**

Commercial and consumer-centric equipment, products and systems.

### **Industrial Automation Systems**

Maximizing productivity and efficiency with cutting-edge automation technology.

Our advances in AI and IoT are adding new value to society in diverse areas from automation to information systems. The creation of game-changing solutions is helping to transform the world, which is why we are honored to be recognized in the 2019 "Forbes Digital 100" as one of world's most influential digital corporations.



# Code reader quickly reads various codes, realizing easier traceability

Compact-size code readers can read even challenging codes.  
Quality control and traceability are realized in various production lines.



## INDEX

Features	04
Application examples	06
Code reader	08
System configuration	13
Configuration tool	14
Product List	16
Specifications	17
External dimensions	20
Support	23

Powered by  
**COGNEX**

This product is manufactured by Cognex Corporation.

In the e-F@ctory, data read by code readers are utilized for quality control and traceability. Mitsubishi Electric code readers are highly compatible with Mitsubishi Electric factory automation products. Read data are seamlessly coordinated with the edge computing level, realizing TCO\*<sup>1</sup> reduction.

## Highest read rates for any challenging codes

Powerful algorithm can decode even the most damaged 2-D codes, scratched, poorly printed 1-D codes and codes with reflection.

Challenging codes such as on shiny, highly reflective, mirror or high-speed moving surfaces can be read.

## Auto-tuning allows easy setup

Auto-tuning function enables automatic focusing and lighting adjustment.

Optimum setup according to the environment is easily done just by pressing a button.

## Enhanced compatibility with Mitsubishi Electric programmable controllers

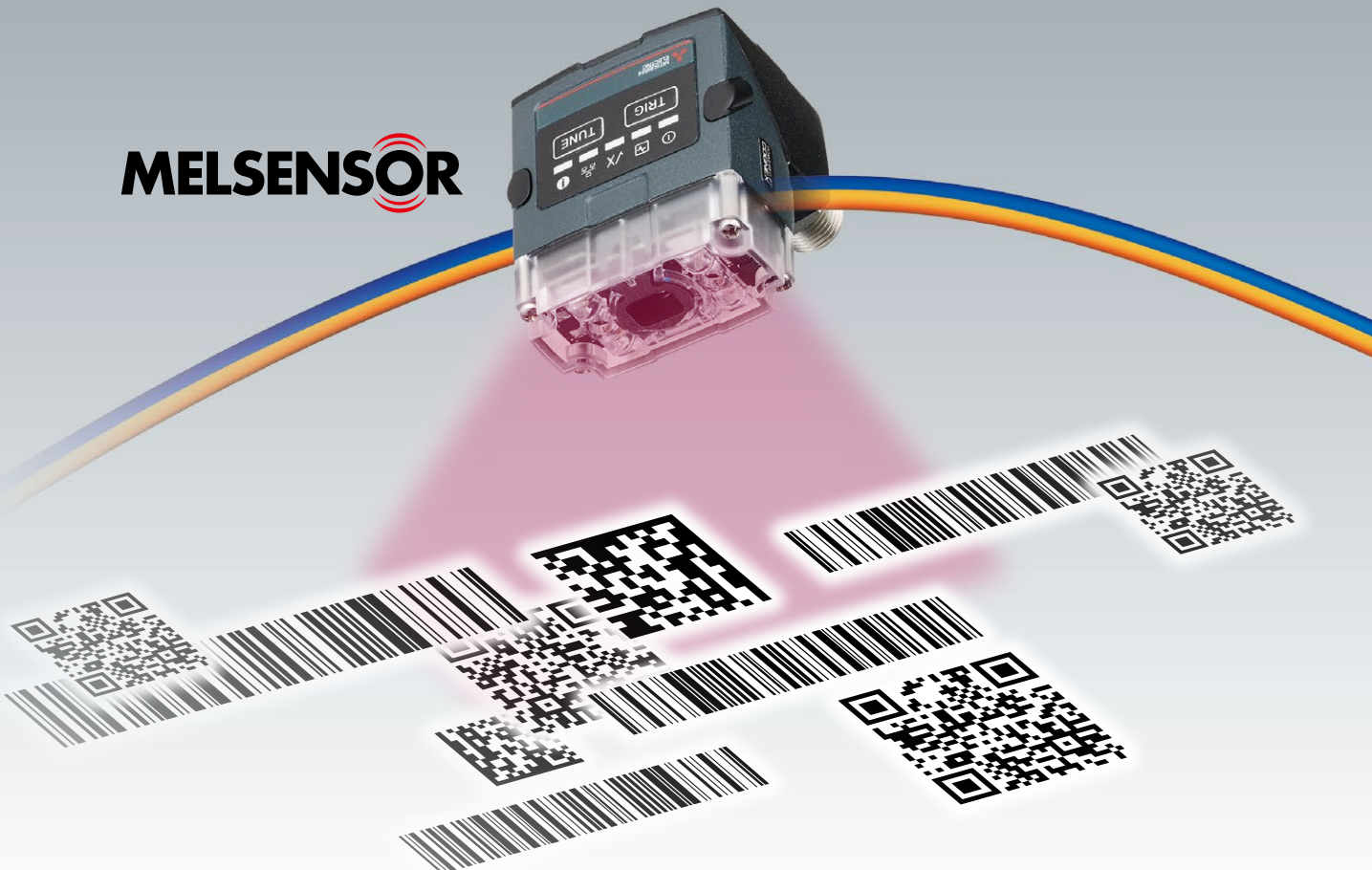
Mitsubishi Electric code readers which support CC-Link IE Field Network Basic and SLMP communication are highly compatible with factory automation products such as Mitsubishi Electric programmable controllers.

Supporting iQSS\*<sup>2</sup>, code readers are automatically detected on the engineering tool, reducing configuration time.

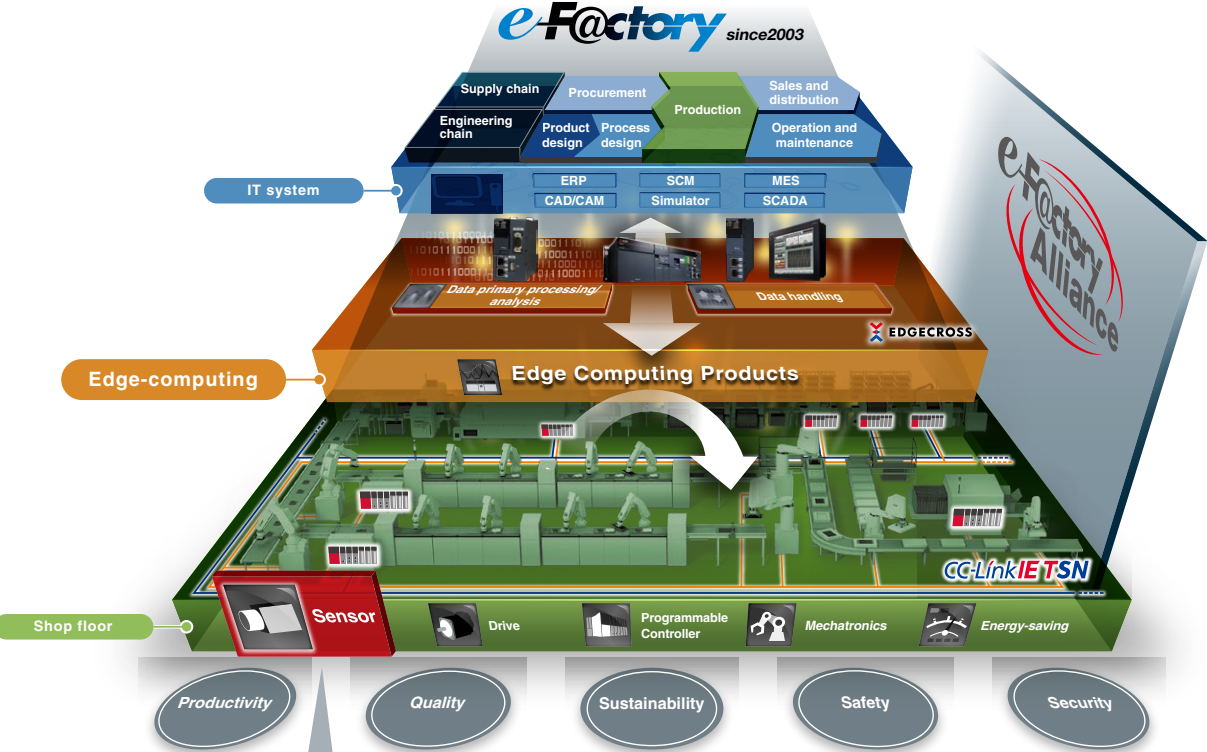
\*1. Total Cost of Ownership

\*2. iQ Sensor Solution

**MELSENSOR**

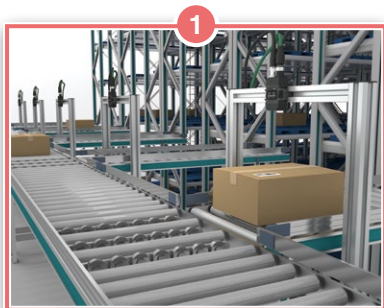
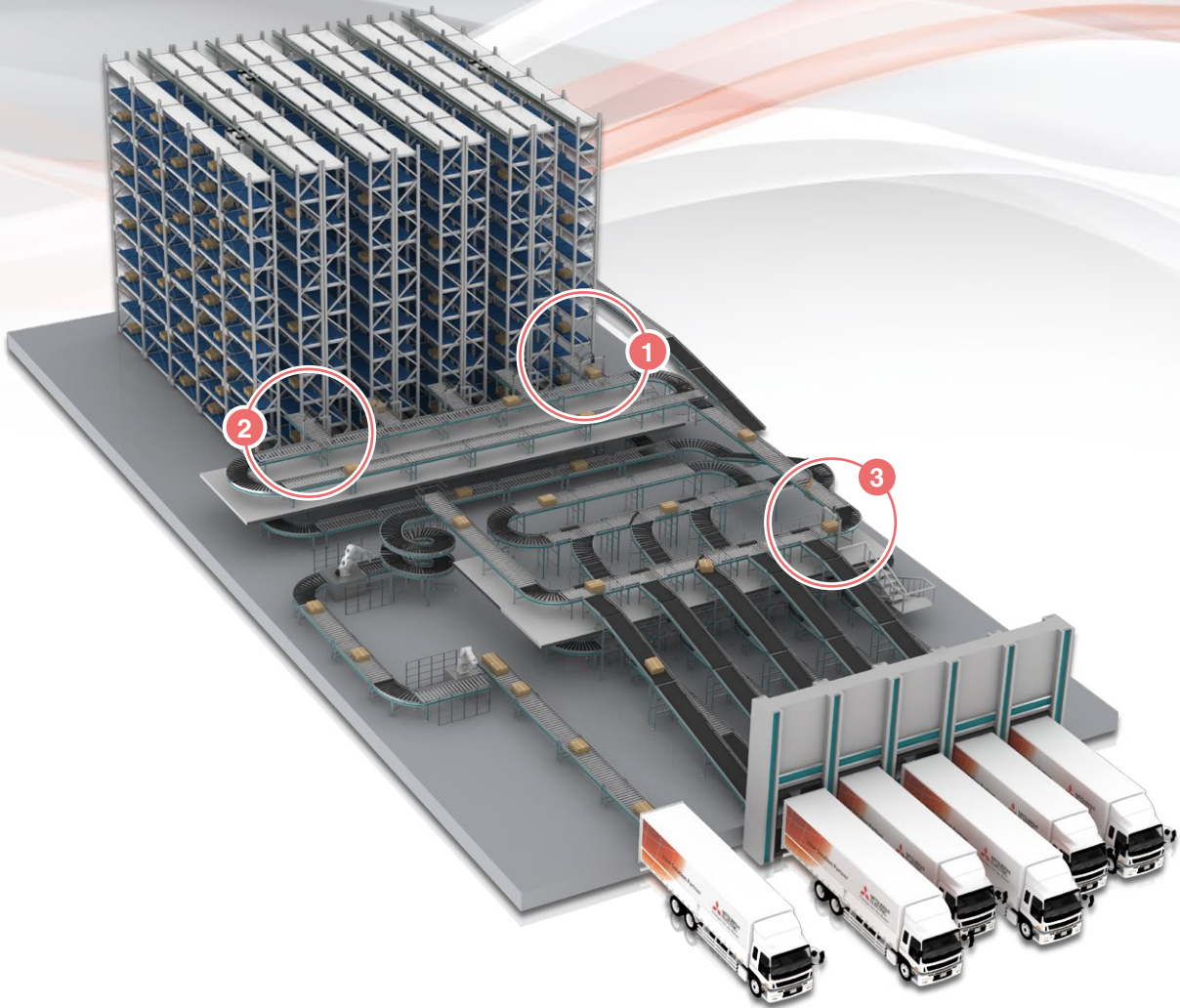


e-F@ctory is the Mitsubishi Electric solution for improving the performance of any manufacturing enterprise by enhancing productivity, and reducing the maintenance and operations costs together with seamless information flow throughout the plant by using a combination of factory automation and IT technologies.

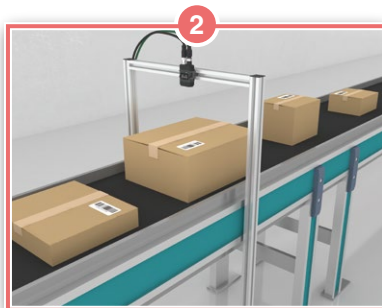


# Realize automated sorting and inventory management

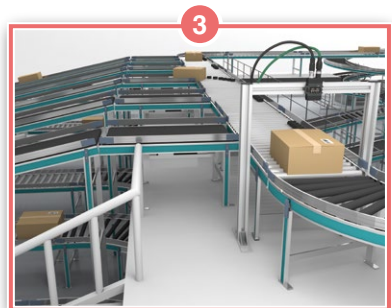
Logistics industry



**1 Barcode inventory management**  
Easily manage inventory by reading codes on goods.



**2 Codes in different orientations and locations**  
Reads codes with variations in orientation and location.



**3 Automated sorting**  
Automatically sort cartons according to products by reading codes on cartons.

## Automotive industry



### ■ Decode challenging codes

Reads codes on cylindrical forms and metal surfaces with light and dark adjustment. In addition, codes on mirror and shiny surfaces with reflection can be read.

## Electric/electronics industry



### ■ Batch read multiple codes

With its wide field-of-view coverage, the code reader can read multiple codes on all electric boards simultaneously.

## Food industry



### ■ Scan codes moving at high speed

Reads codes on high-speed moving objects. If within the visual field, the code reader can scan codes in various positions or orientations.

## Pharmaceutical industry



### ■ Check product type

Reading barcodes on products prevents other products from being mixed.

# Fixed-mount code reader



## Read various codes

CF26 CF37

The code reader is equipped with 2-D code reading algorithm PowerGrid and 1-D code image processing algorithm HotBarsII. PowerGrid technology provides reliable reading of challenging 2-D codes which exhibit damage to or complete elimination of the finder pattern, clocking pattern, and quiet zone. In addition, HotBarsII delivers reading of reflected, damaged or poorly printed 1-D codes as small as 0.8 pixels per module.





## Reliably read codes with difficult conditions

A combination of high-powered light, polarized front cover and liquid lens provides a good reading condition. Codes at long working distances, on high-speed application, on round, shiny, highly reflective, or specular surfaces can be reliably read.



Codes on the round surface



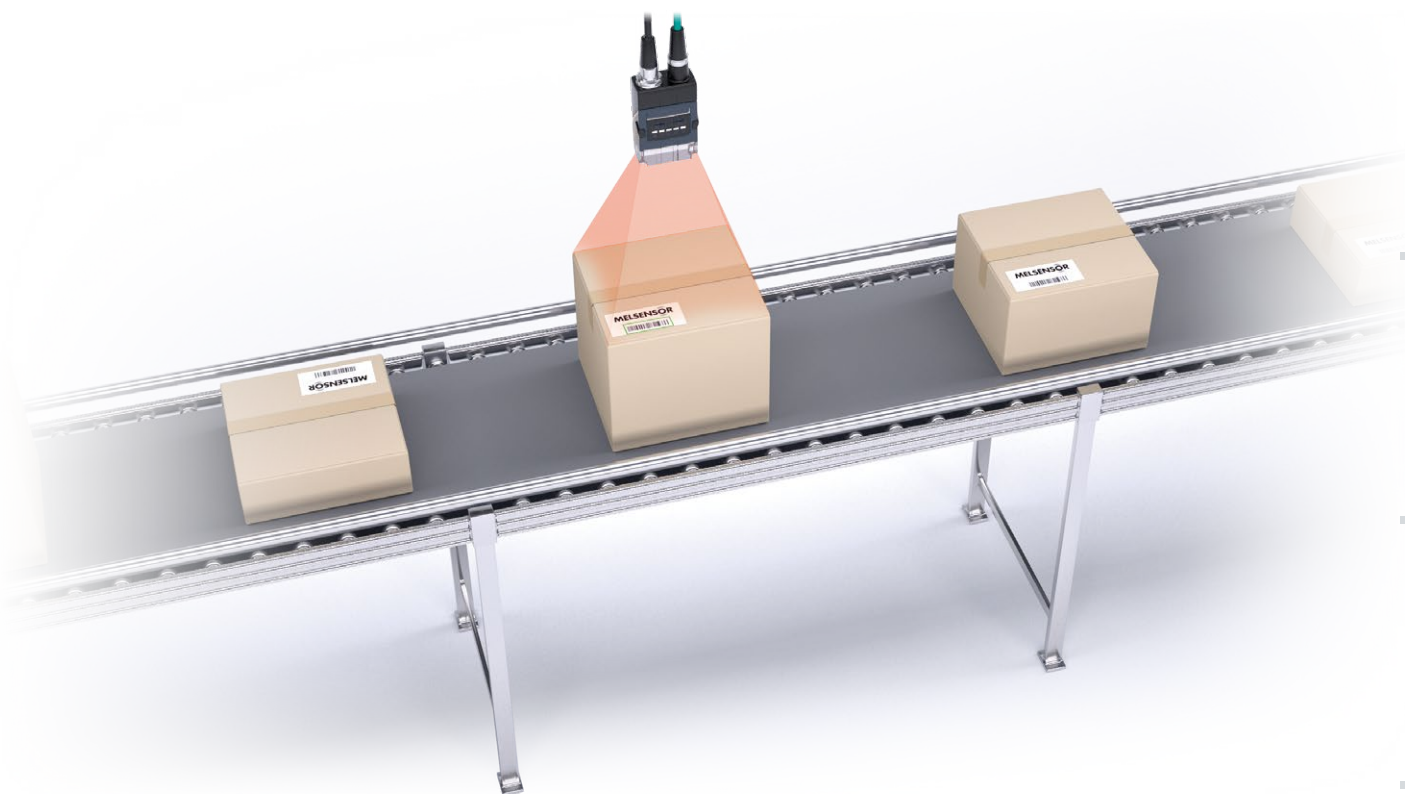
Codes on the shiny and highly reflective surface



Codes moving at high speed

## Codes at different places and heights

With a wide field-of-view and unique algorithm, the code reader can read codes in different places and depths. This is ideal for codes at different reading distances such as cartons with varying heights on the moving conveyor.



## Easy installation reduces setup cost

CF26

CF37

### ■ Embedded autofocus function

Pressing a button on the code reader quickly sets the optimum focus automatically. Manual focus setting is unnecessary, simplifying the setup.

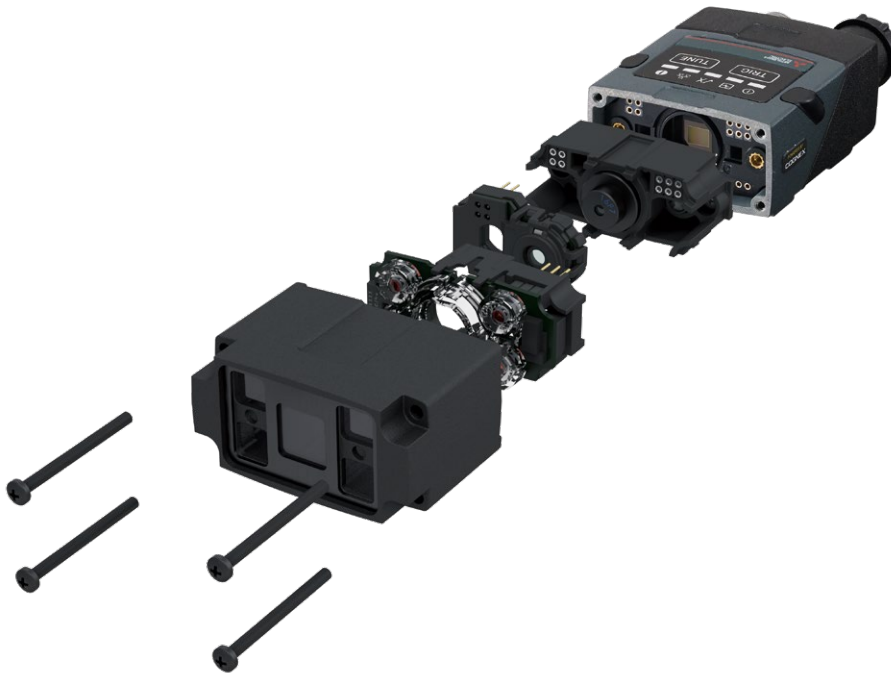
### ■ Integrated code reader

#### • High-power illumination is integrated

Four high-powered red LED illuminations provide an optimum illumination condition. The code reader has integrated lighting and does not require angle adjustment of illumination. Additionally, hardware cost can be reduced by eliminating the need for separate illumination.

#### • Liquid lens

The code reader uses liquid lenses which do not have any moving parts that can wear out or fail, thereby reducing maintenance cost.



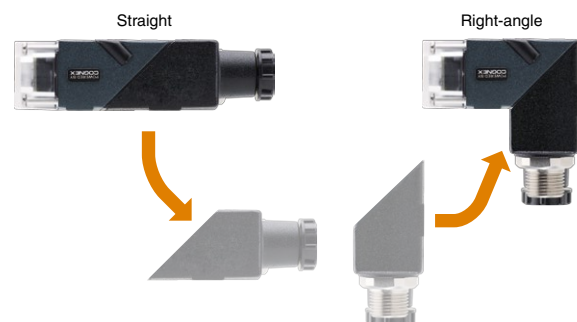
## Customizable according to installation conditions

CF26

CF37

### ■ Configuration can be changed according to the installation space

The configuration can be changed between in-line and right-angle. By changing the configuration according to the installation space, the code reader can be installed by the wall or in tight spaces where wiring orientation is constrained.



### ■ Compact palm size

The CF26-SR is a compact size with 44.0 × 22.5 × 79.3 (mm) and can be used in a tight installation space.

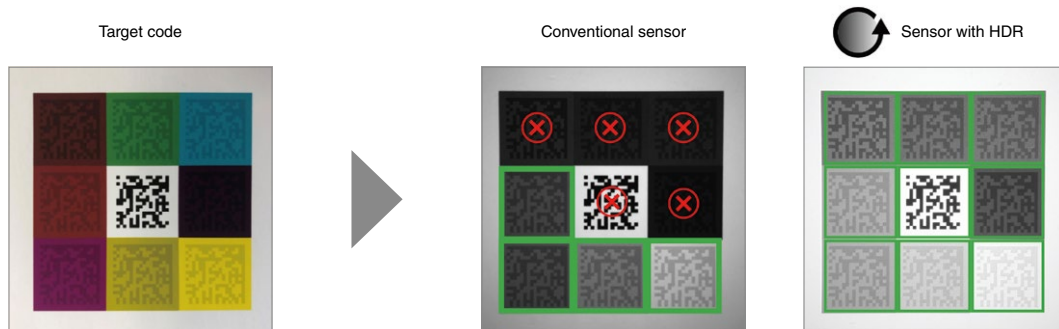
## High Dynamic Range (HDR) image processing

CF26

CF37

HDR imaging uses the latest CMOS image sensor technology to globally enhance image quality, resulting in greater depth-of-field, faster line speeds, and improved code handling.

With HDR technology enhancing contrast, the CF37 can read difficult codes which are unreadable with a conventional sensor resulting in low contrast images.

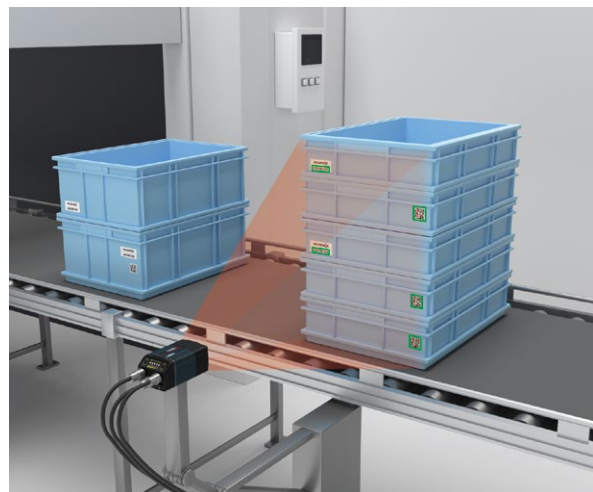


## High resolution

CF26

CF37

The CF37 achieves higher resolution and a wider field-of-view as compared with the CF26. With its greater field-of-view coverage, one sensor can read multiple codes simultaneously as well as codes on the objects with different heights.

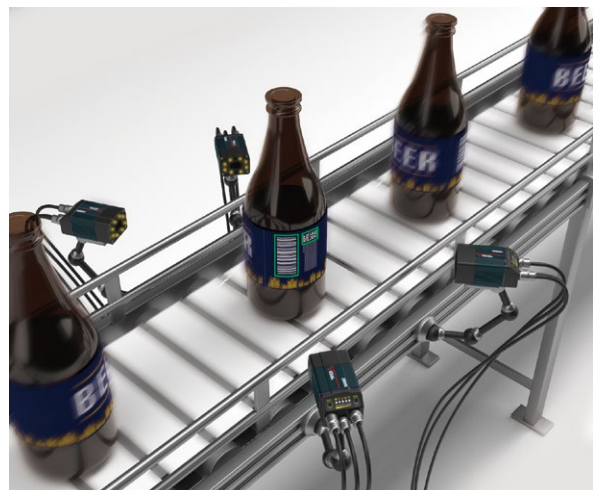


## High-speed decoding

CF26

CF37

Equipped with a multi-core processor and high-speed engine, high-speed code reading performance has been further improved. This is useful for applications containing high-speed conveyors where product codes must be read in quick succession.



## Compatible with Mitsubishi Electric factory automation products

CF26 CF37

The code reader which supports CC-Link IE Field Network Basic, SLMP, and iQSS\*1 is compatible with Mitsubishi Electric programmable controllers. Controlling, monitoring, and outputting results of the code reader can be done just by turning on/off of the programmable controller device data.

### ■ CC-Link IE Field Network Basic compatible

Equipped with CC-Link IE Field Network Basic interface, setting to connect with a programmable controller is easily done and read results can be acquired via the network.

### ■ Data transfer realizes traceability

Recognition result images of the coder reader can be transferred to the HMI (GOT) and IT system. Read results including code images failed to read and recognized images are transferred to the IT system to save, allowing analysis and diagnosis.

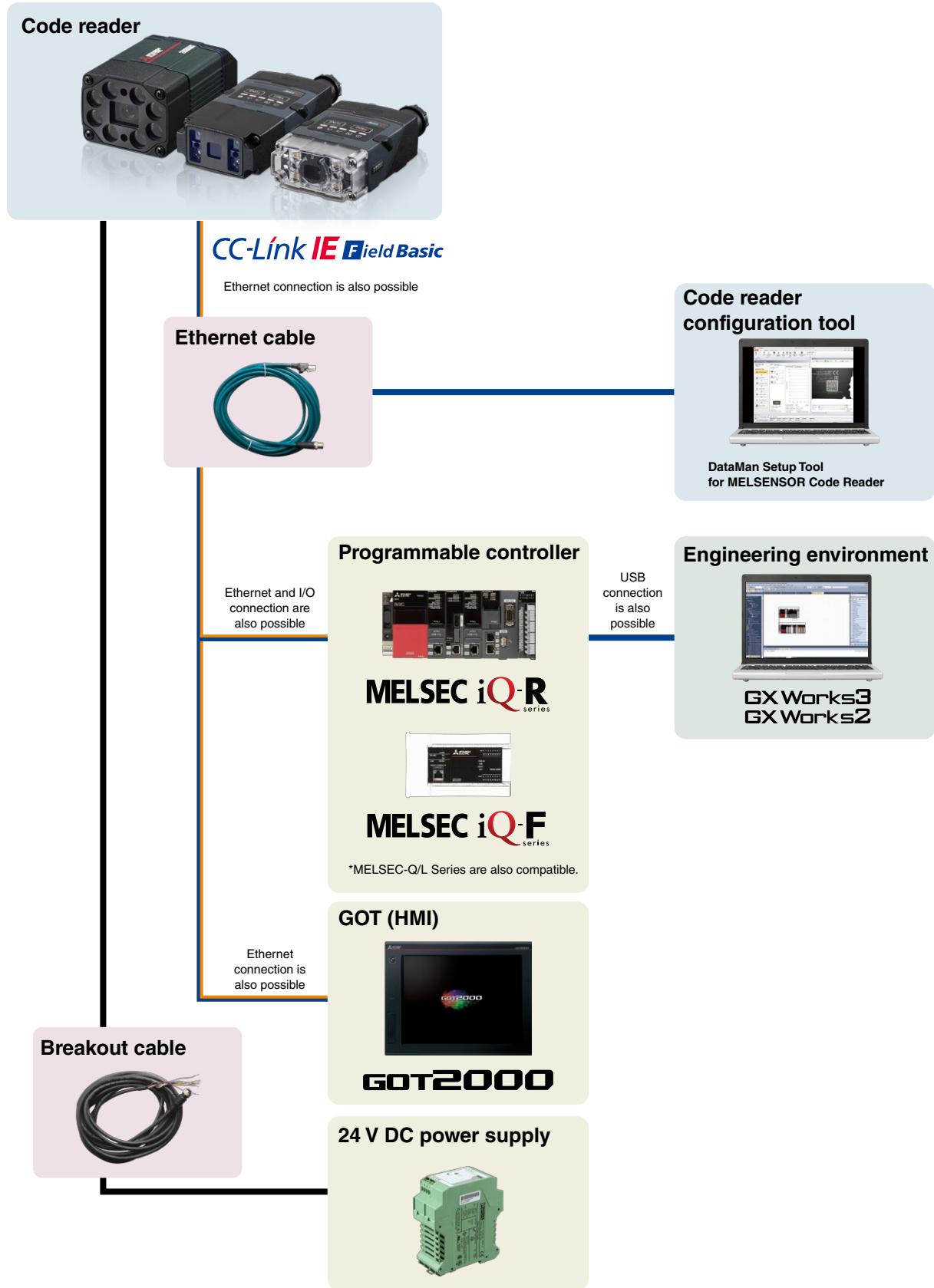


### ■ iQSS compatible

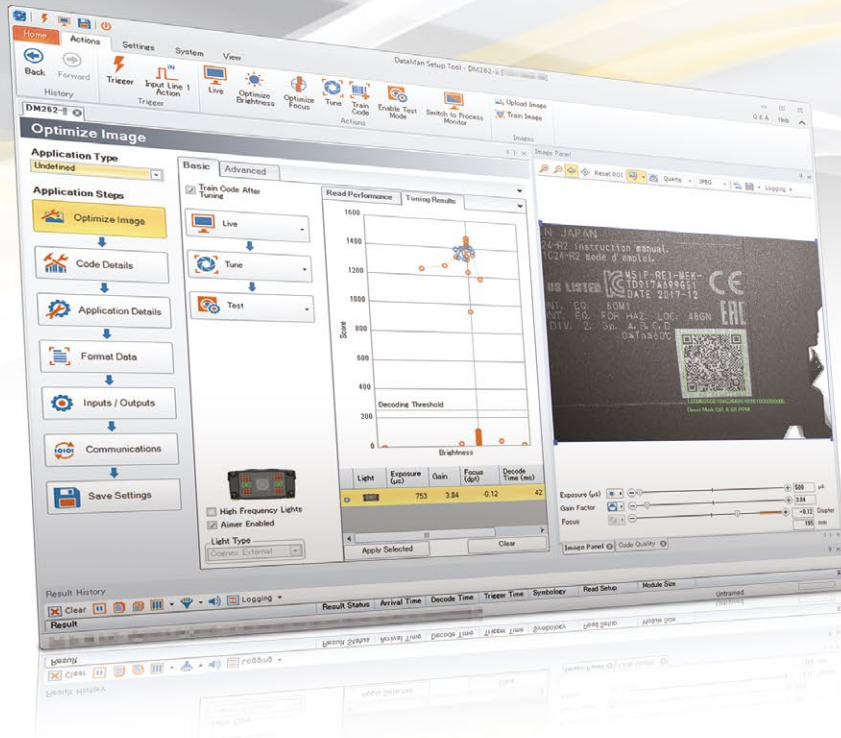
Supporting iQSS, the code reader is automatically detected on the engineering tool. Tool link-up function enables reduction in total cost in development/setup/operation/maintenance.

\*1. For details, please refer to "Sensor solution iQ Sensor Solution catalog (L(NA)16029ENG)".

# System configuration



# DataMan Setup Tool for MELSENSOR Code Reader

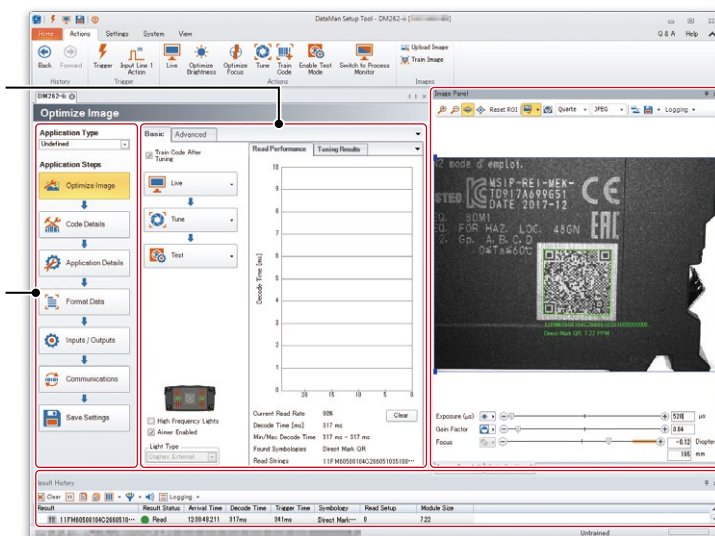


## Easy setup with configuration tool

Application settings are easily done with DataMan Setup Tool for MELSENSOR Code Reader just by setting each process such as code reader connection, adjustment, reading test in the order of the left navigation.

The screen changes according to the selected application step. Various settings can be easily set by clicking a mouse.

By following user friendly step instructions from the top to the bottom, settings are easily done.

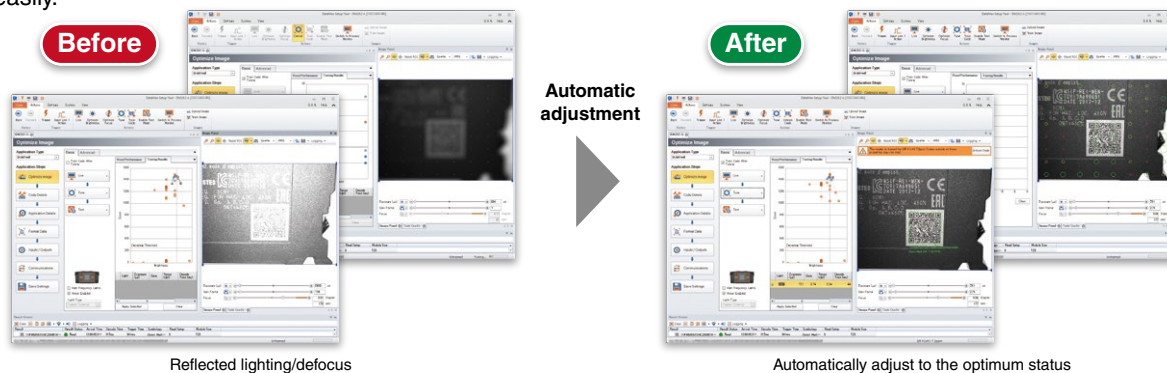


Displays a captured image. When reading a code, a captured image is displayed graphically and read character strings are also shown.

Displays the history of read character strings.

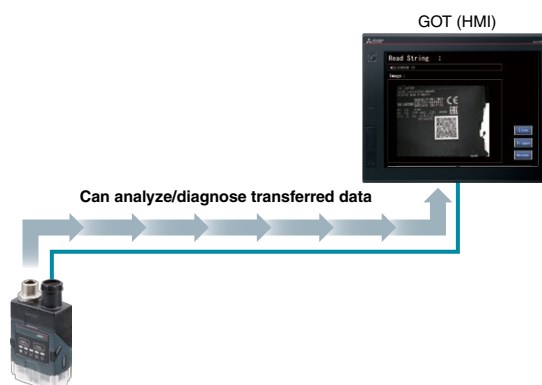
## Easier setting with automatic adjustment

Auto-tuning function enables automatic focusing and lighting adjustment. Optimum setup according to the environment is easily done just by pressing a button on the code reader. Even novice users can make settings easily.



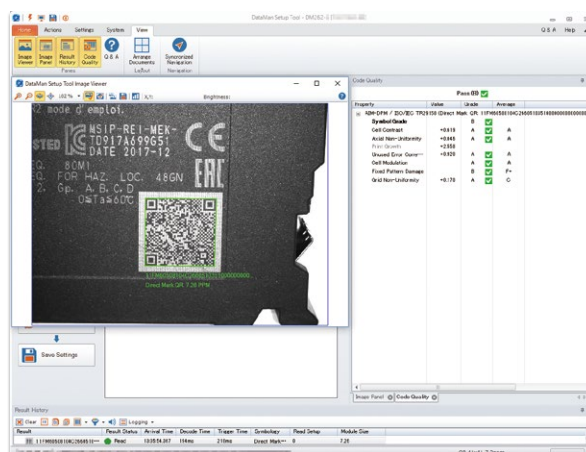
## Save history of acquired codes

Recognition result images of the coder reader can be transferred to the HMI (GOT) and IT system. By analyzing and diagnosing the transferred data, the cause of reading failure is identified, allowing improvement.



## Check change in code quality

Printing statuses of acquired codes are output with interim grades. Change in code quality can be checked in real-time, allowing utilization for preventive maintenance



Note: For details on how to obtain the configuration tool, please contact your local Mitsubishi Electric sales office or representative.

# Product List

## Code reader

Name	Model	Outline
CF26	CF26-SR	Short distance (40...200 mm), 6.2 mm liquid lens, clear lens cover
	CF26-LR	Long distance (80...1000 mm), 16 mm liquid lens, half-polarized extended lens cover
CF37	CF37-SR	Short distance (40...1000 mm), 10.3 mm liquid lens, polarized lens cover
	CF37-LR	Long distance (80...2300 mm), 24 mm liquid lens, polarized lens cover

## Option product

\*Option products are manufactured by Cognex Inc.

Type	Model	Outline
Lens		
Liquid lens	DM260-KIT-16LL	16 mm liquid lens set for CF26-LR (16 mm F7.0 liquid lens, liquid lens module, high-powered red illumination, half-polarized extended lens cover)
	DMLN-10LL-SMT	Liquid lens module, pre-focused (10.3 mm, with wrench) for CF37-SR
	DMLN-C24F10-LL	24 mm F10 liquid lens module for CF37-LR
Lens cover		
Lens cover	DM150-CVR-CLR	Clear lens cover for CF26-SR
	DM150-CVR-ESD	Clear lens cover with electrostatics protection for CF26-SR
	DM260-LENS-62CVR-F	Polarized lens cover for CF26-SR
	DM260-LENS-16CVR	Un-polarized extended lens cover for CF26-LR
	DM260-LENS-16CVR-P	Half-polarized extended lens cover for CF26-LR
Lens cover with integrated LED	DM260-LENS-16CVR-F	Fully polarized extended lens cover for CF26-LR
	DM360-HPIL-RE-P	Polarized red LED HPIL ESD-safe cover for a 10.3 mm liquid lens*1 for CF37-SR
	DMLT-HPIL-RE-P	Polarized red LED HPIL and ESD-safe cover for a 24 mm liquid lens*2 for CF37-LR
Mounting bracket		
Mounting bracket	DM100-UBRK-000	General-purpose mounting bracket
	DM100-PIVOTM-00	Pivot mounting bracket
Cable		
Breakout cable	CCB-M12X12FS-05	5 m cable, M12 connector⇔12 stranded wires, unshielded cable, straight
	CCB-PWRIO-05 (R)	5 m cable, M12 connector⇔12 stranded wires, shielded twisted-pair cable, straight (right-angle)
	CCB-PWRIO-10 (R)	10 m cable, M12 connector⇔12 stranded wires, shielded twisted-pair cable, straight (right-angle)
	CCB-PWRIO-15 (R)	15 m cable, M12 connector⇔12 stranded wires, shielded twisted-pair cable, straight (right-angle)
Ethernet cable	CCB-84901-2001-01	0.6 m cable, M12 connector⇔RJ-45 connector, straight
	CCB-84901-2001-02	2 m cable, M12 connector⇔RJ-45 connector, straight
	CCB-84901-2001-05	5 m cable, M12 connector⇔RJ-45 connector, straight
	CCB-84901-2001-10	10 m cable, M12 connector⇔RJ-45 connector, straight
	CCB-84901-2001-15	15 m cable, M12 connector⇔RJ-45 connector, straight
	CCB-84901-2002-02	2 m cable, M12 connector⇔RJ-45 connector, right-angle
	CCB-84901-2002-05	5 m cable, M12 connector⇔RJ-45 connector, right-angle
	CCB-84901-2002-10	10 m cable, M12 connector⇔RJ-45 connector, right-angle

\*1. RiskGroup Red LED Exempt acc. IEC 62471, RiskGroup, Green LED Aimer Exempt acc. IEC 62471

\*2. RiskGroup Red LED low risk acc. IEC 62471, RiskGroup, Green LED Aimer Exempt acc. IEC 62471



# Specifications

## General specifications

Item	CF26	CF37
Operating ambient temperature	0...40°C	
Storage ambient temperature	-10...60°C	-20...80°C
Maximum humidity	Less than 95% RH, non-condensing	
Vibration resistance	IEC 60068-2-6: A vibration of 10 G (10...500 Hz at 100 m/s <sup>2</sup> with 15 mm width) was applied to each of the three main axes for 2 hours.	IEC 60068-2-6: A vibration of 10 G (10...500 Hz at 100 m/s <sup>2</sup> with 15 mm width) was applied to each of the three main axes for 2 hours.
Shock resistance	IEC 60068-2-27: 1000 half sinusoidal shocks with 11 G in 10 ms were applied.	IEC 60068-2-27: A shock of 80 G (800 m/s <sup>2</sup> at 11 ms, half-sinusoidal) was applied to each of the three main axes 18 times.
Protective structure	IP65	IP67
Installation location*1	Outside a control panel	

\*1. Do not install it in the following places:

- Where the ambient temperature or humidity exceed the applicable ranges
- Where condensation occurs due to sudden temperature changes
- Where there is corrosive or flammable gas
- Where there are a lot of conductible dust, iron filings, or salt
- Where in danger of organic solvents, such as benzene, thinner, and alcohol or strong alkaline substances such as caustic soda to adhere
- Where subject to much vibration or shock
- Where in danger of liquid such as water, oil, or chemicals to adhere

## Performance specifications

Item	CF26-SR	CF26-LR	CF37-SR	CF37-LR
Supported codes				
1-D code	Code 128, Code 25, Code 93, Code 39, PharmaCode, Codabar, Interleaved 2 of 5, UPC/EAN/JAN, MSI		Code 128, Code 25, Code 93, Code 39, Codabar, Interleaved 2 of 5, UPC/EAN, MSI	
2-D code	Data Matrix (ECC 0, 50, 80, 100, 140, 200), QR Code, Micro QR Code, MaxiCode, Aztec Code, VeriCode*2		Data Matrix (ECC 0, 50, 80, 100, 140, 200), QR Code, Micro QR Code, MaxiCode, Aztec Code	
Stacked code	PDF 417, EAN.UCC Composite, Micro PDF 417, DataBar		PDF 417, Micro PDF 417	
Reading direction	All directions			
Reading direction for 1-D code	All directions			
Algorithm	1DMax, 2DMax (PowerGrid technology is available), HotBarsII			
Reading algorithm	1DMax, 2DMax (PowerGrid technology is available), HotBarsII			
Optical characteristic				
Image sensor	1/3 inch CMOS, 4.8 mm x 3.6 mm (W x H), 3.75 μm sq.pixels, global shutter		1/1.8 inch CMOS, 7.2 mm x 5.4 mm (W x H), 3.45 μm sq.pixels	
Lens	S-mount/6.2 mm F: 5, liquid lens	S-mount/16 mm F: 7, liquid lens	S-mount/10.3 mm F: 5, liquid lens	C-mount/24 mm F: 10, liquid lens
Image resolution (pixels)	1280 x 960		2048 x 1536	
Processing speed				
Maximum image acquisition speed*3 (frame/s)	45		55	
Maximum decode rate (code/s)	45			
Power supply				
Power supply requirements	External power supply: 24 V DC ±10% LPS or NEC class 2 only		External power supply: 24 V DC ±10% LPS or NEC class 2 only	
Current consumption	Typ. 0.25 A, Max. 1.0 A*4		Typ. 0.3 A, Max. 1.5 A*4	
Input/output				
Input 0 (trigger)	Opto-isolated image acquisition trigger input x 1			
	Voltage (V DC)	ON: 15...25 (standard 24), OFF: 0...5 (standard 0)		ON: 15...28 (standard 24), OFF: 0...5 (standard 0)
	Current (mA)	4.2/24 V DC		
Input 1*5 (general-purpose input)	Opto-isolated general-purpose input x 1			
	Voltage (V DC)	ON: 15...25 (standard 24), OFF: 0...5 (standard 0)		ON: 15...28 (standard 24), OFF: 0...5 (standard 0)
	Current (mA)	4.2/24 V DC		
Output 0...3	Opto-isolated general-purpose output x 4			
	Voltage (V DC)	28 maximum through external load		26.4 maximum through external load
	Current	ON: Max. 50 mA (sink or source) OFF: Leakage current Max. 100 μA External load resistance: 150 Ω/12 V DC, 470 Ω/24 V DC		ON: Max. 50 mA (sink or source) OFF: Leakage current Max. 100 μA External load resistance: 200 Ω/12 V DC
Communication				
Communication	RS-232 (R x D, T x D (TIA/EIA-232-F compliant)), Ethernet, CC-Link IE Field Network Basic, SLMP, FTP		RS-232 (R x D, T x D (TIA/EIA-232-F compliant)), Ethernet, CC-Link IE Field Network Basic, SLMP, MODBUS®/TCP, FTP, EtherNet/IP™	
RS-232 communication method	Full-duplex communication or half-duplex communication			
Ethernet communication speed	10/100 Mbps		10/100/1000 Mbps	
Others				
Material	Aluminum			
Installation	M3 screw hole x 4			
External dimensions (mm)	Straight-configuration: 44.0 x 22.5 x 79.3 Right-angle configuration: 44.0 x 52.0 x 49.3	Straight-configuration: 44.0 x 22.5 x 94.5 Right-angle configuration: 44.0 x 52.0 x 64.5	54.0 x 42.0 x 91.4	
Weight (kg)	0.14	0.19	0.28	0.29

\*2. A license needs to be purchased from Veritec Iconix Ventures Inc.

\*3. Maximum frame rate at minimum exposure

\*4. May be reached if the optics module operates while reading a code.

\*5. The CF37 supports input 1 to 3.

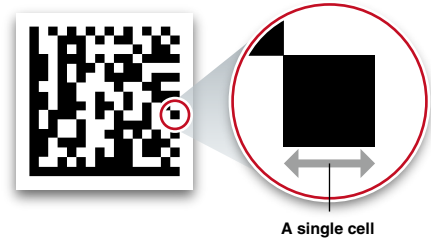
## Working distance

The distance from a lens to an inspection target is referred to as “working distance”, and an area where a code reader can see at that distance is referred to as “field of view.”

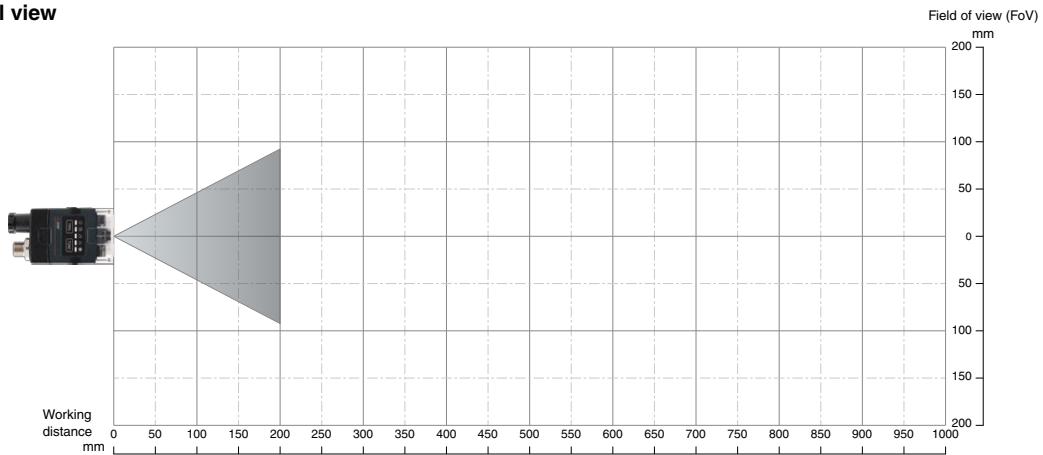
### ■ CF26-SR (6.2 mm lens)

Minimum code sizes that can be read in each working distance (unit: mm)

Working distance	Minimum size for 1-D code	Minimum size for 2-D code
40	0.0508	0.0762
65	0.0508	0.1016
105	0.127	0.1778



#### Horizontal view

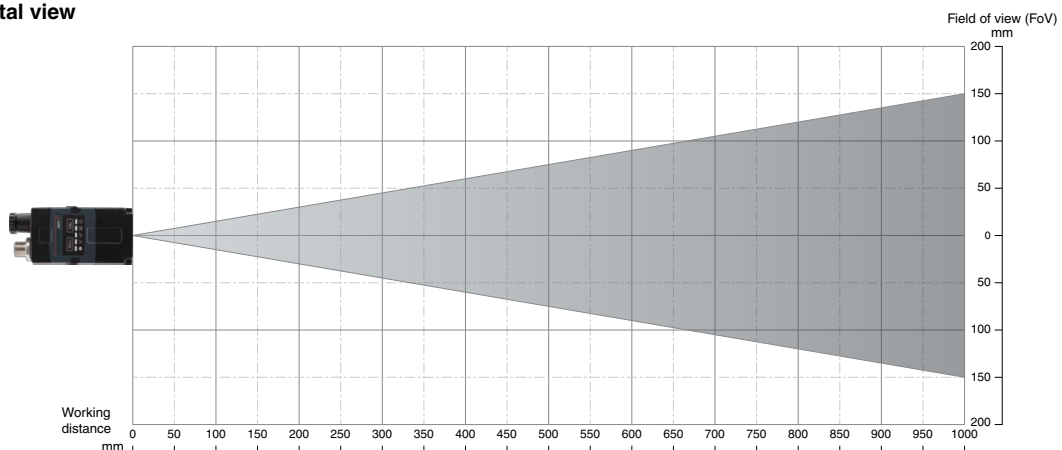


### ■ CF26-LR (16 mm lens)

Minimum code sizes that can be read in each working distance (unit: mm)

Working distance	Minimum size for 1-D code	Minimum size for 2-D code
80	0.0508	0.0508
150	0.0508	0.0762
190	0.0508	0.1016
225	0.0762	0.1016
375	0.1016	0.1778
500	0.1524	0.254
1000	0.381	0.508

#### Horizontal view

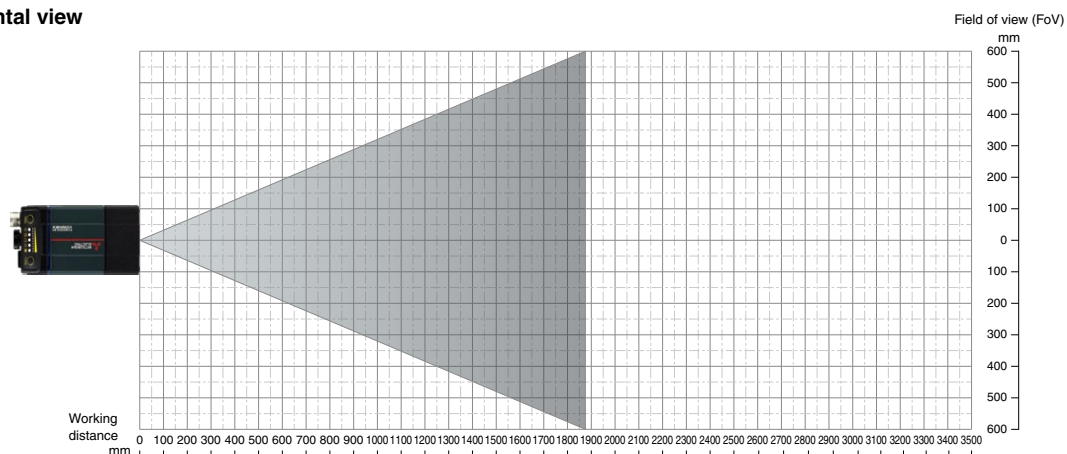


## ■ CF37-SR (10.3 mm lens)

Working distance in which the code cell size is readable (unit: mm)

Code cell size	Working distance for 1-D code	Working distance for 2-D code
0.1524	445	307
0.2032	591	408
0.254	738	509
0.3302	958	660
0.381	1104	761
0.508	1471	1013

### Horizontal view

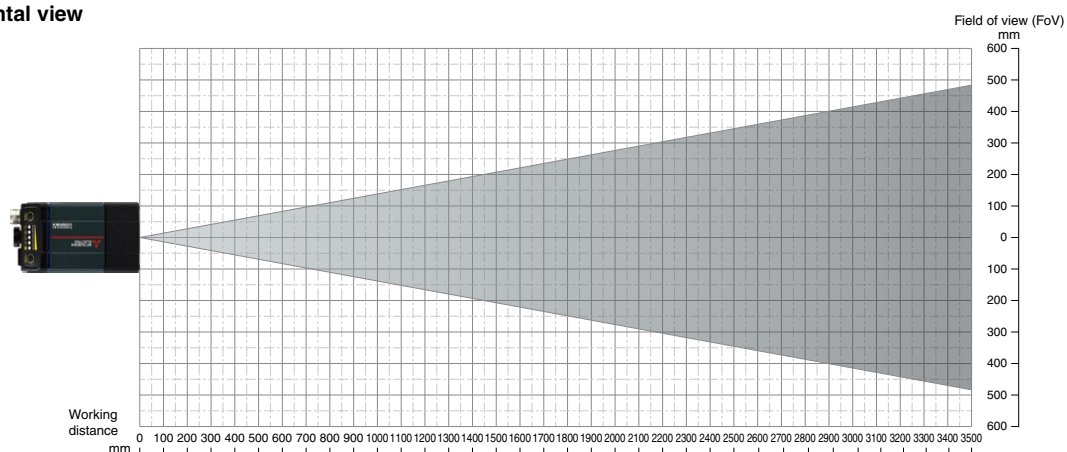


## ■ CF37-LR (24 mm lens)

Working distance in which the code cell size is readable (unit: mm)

Code cell size	Working distance for 1-D code	Working distance for 2-D code
0.1524	1029	709
0.2032	1370	944
0.254	1711	1178
0.3302	2223	1530
0.381	2564	1764
0.508	3417	2351

### Horizontal view

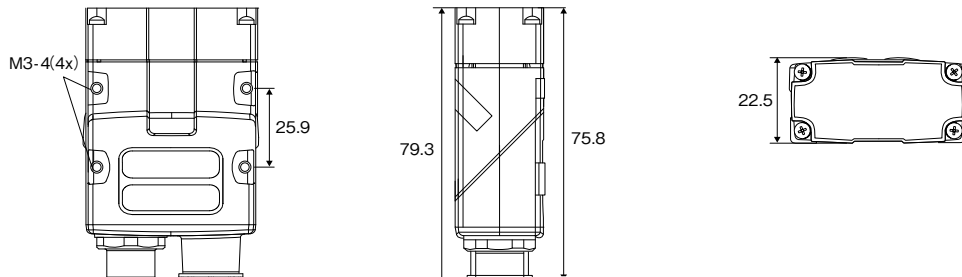


# External dimensions

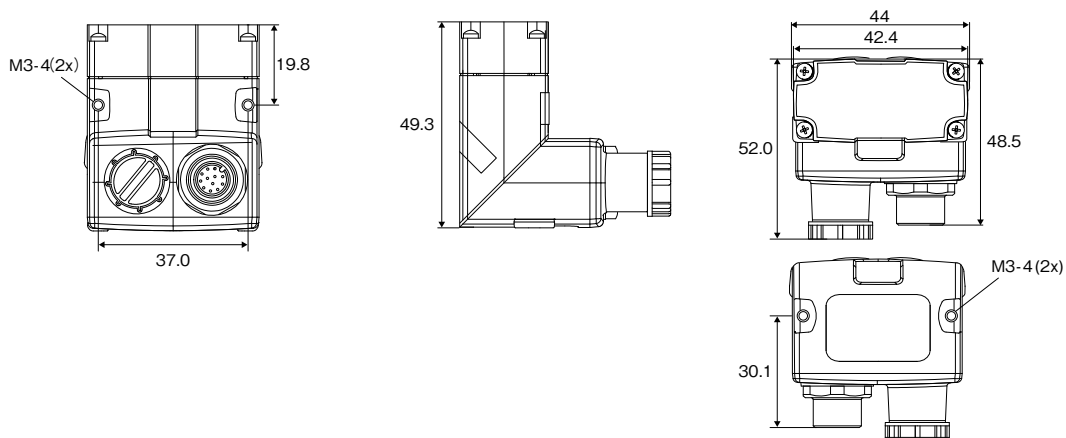
(Unit: mm)

## ■ CF26-SR

### Straight-configuration

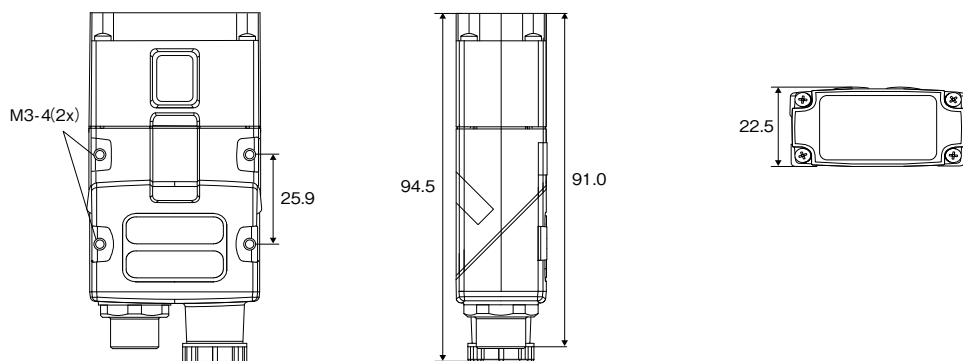


### Right-angle configuration

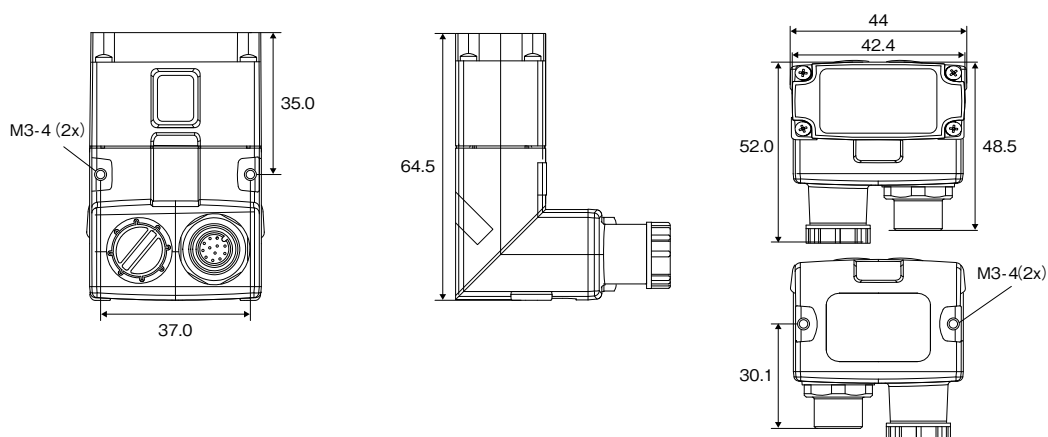


## CF26-LR

### Straight-configuration

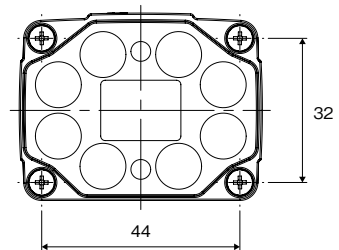
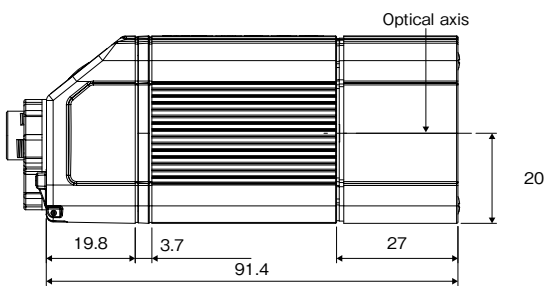
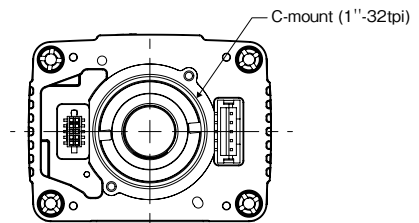
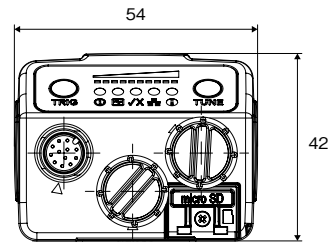
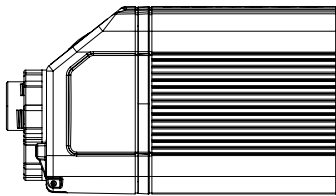
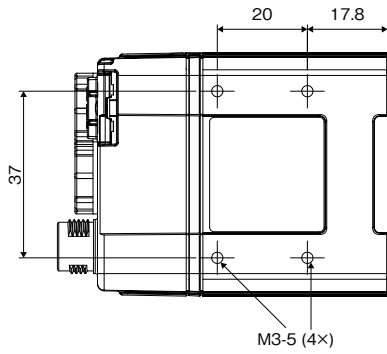


### Right-angle configuration



(Unit: mm)

■ CF37-SR, CF37-LR



# Extensive global support coverage providing expert help whenever needed

## ■ Global FA centers

### ■ EMEA

#### Europe FA Center

MITSUBISHI ELECTRIC EUROPE B.V. Polish Branch  
Tel: +48-12-347-65-81

#### Germany FA Center

MITSUBISHI ELECTRIC EUROPE B.V. German Branch  
Tel: +49-2102-486-0 / Fax: +49-2102-486-1120

#### UK FA Center

MITSUBISHI ELECTRIC EUROPE B.V. UK Branch  
Tel: +44-1707-27-8780 / Fax: +44-1707-27-8695

#### Czech Republic FA Center

MITSUBISHI ELECTRIC EUROPE B.V. Czech Branch  
Tel: +420-255 719 200

#### Italy FA Center

MITSUBISHI ELECTRIC EUROPE B.V. Italian Branch  
Tel: +39-039-60531 / Fax: +39-039-6053-312

#### Russia FA Center

MITSUBISHI ELECTRIC (RUSSIA) LLC ST.  
Petersburg Branch  
Tel: +7-812-633-3497 / Fax: +7-812-633-3499

#### Turkey FA Center

MITSUBISHI ELECTRIC TURKEY A.S. Umraniye Branch  
Tel: +90-216-526-3990 / Fax: +90-216-526-3995

### ■ Asia-Pacific

#### China

##### Beijing FA Center

MITSUBISHI ELECTRIC AUTOMATION (CHINA) LTD.  
Beijing FA Center  
Tel: +86-10-6518-8830 / Fax: +86-10-6518-2938

##### Guangzhou FA Center

MITSUBISHI ELECTRIC AUTOMATION (CHINA) LTD.  
Guangzhou FA Center  
Tel: +86-20-8923-6730 / Fax: +86-20-8923-6715

##### Shanghai FA Center

MITSUBISHI ELECTRIC AUTOMATION (CHINA) LTD.  
Shanghai FA Center  
Tel: +86-21-2322-3030 / Fax: +86-21-2322-3000

##### Tianjin FA Center

MITSUBISHI ELECTRIC AUTOMATION (CHINA) LTD.  
Tianjin FA Center  
Tel: +86-22-2813-1015 / Fax: +86-22-2813-1017

#### Taiwan

##### Taipei FA Center

SETSUYO ENTERPRISE CO., LTD.  
Tel: +886-2-2299-9917 / Fax: +886-2-2299-9963

#### Korea

##### Korea FA Center

MITSUBISHI ELECTRIC AUTOMATION KOREA CO., LTD.  
Tel: +82-2-3660-9632 / Fax: +82-2-3664-0475

#### Thailand

##### Thailand FA Center

MITSUBISHI ELECTRIC FACTORY AUTOMATION  
(THAILAND) CO., LTD.  
Tel: +66-2682-6522-31 / Fax: +66-2682-6020

#### ASEAN

##### ASEAN FA Center

MITSUBISHI ELECTRIC ASIA PTE. LTD.  
Tel: +65-6470-2480 / Fax: +65-6476-7439

#### Malaysia

##### Malaysia FA Center

Malaysia FA Center  
Tel: +60-3-7626-5080 / Fax: +60-3-7658-3544

#### Indonesia

##### Indonesia FA Center

PT. MITSUBISHI ELECTRIC INDONESIA  
Cikarang Office  
Tel: +62-21-2961-7797 / Fax: +62-21-2961-7794

#### Vietnam

##### Hanoi FA Center

MITSUBISHI ELECTRIC VIETNAM COMPANY LIMITED  
Hanoi Branch Office  
Tel: +84-24-3937-8075 / Fax: +84-24-3937-8076

##### Ho Chi Minh FA Center

MITSUBISHI ELECTRIC VIETNAM COMPANY LIMITED  
Tel: +84-28-3910-5945 / Fax: +84-28-3910-5947

#### Philippines

##### Philippines FA Center

MELCO Factory Automation Philippines Inc.  
Tel: +63-(0)2-8256-8042

#### India

##### India Ahmedabad FA Center

MITSUBISHI ELECTRIC INDIA PVT. LTD.  
Ahmedabad Branch  
Tel: +91-7965120063

##### India Bangalore FA Center

MITSUBISHI ELECTRIC INDIA PVT. LTD.  
Bangalore Branch  
Tel: +91-80-4020-1600 / Fax: +91-80-4020-1699

##### India Chennai FA Center

MITSUBISHI ELECTRIC INDIA PVT. LTD.  
Chennai Branch  
Tel: +91-4445548772 / Fax: +91-4445548773

##### India Coimbatore FA Center

MITSUBISHI ELECTRIC INDIA PVT. LTD.  
Coimbatore Branch  
Tel: +91-422-438-5606

##### India Gurgaon FA Center

MITSUBISHI ELECTRIC INDIA PVT. LTD.  
Gurgaon Head Office  
Tel: +91-124-463-0300 / Fax: +91-124-463-0399

##### India Pune FA Center

MITSUBISHI ELECTRIC INDIA PVT. LTD.  
Pune Branch  
Tel: +91-20-2710-2000 / Fax: +91-20-2710-2100

### ■ Americas

#### USA

##### North America FA Center

MITSUBISHI ELECTRIC AUTOMATION, INC.  
Tel: +1-847-478-2469 / Fax: +1-847-478-2253

#### Mexico

##### Mexico City FA Center

MITSUBISHI ELECTRIC AUTOMATION, INC.  
Mexico Branch  
Tel: +52-55-3067-7511

##### Mexico FA Center

MITSUBISHI ELECTRIC AUTOMATION, INC.  
Queretaro Office  
Tel: +52-442-153-6014

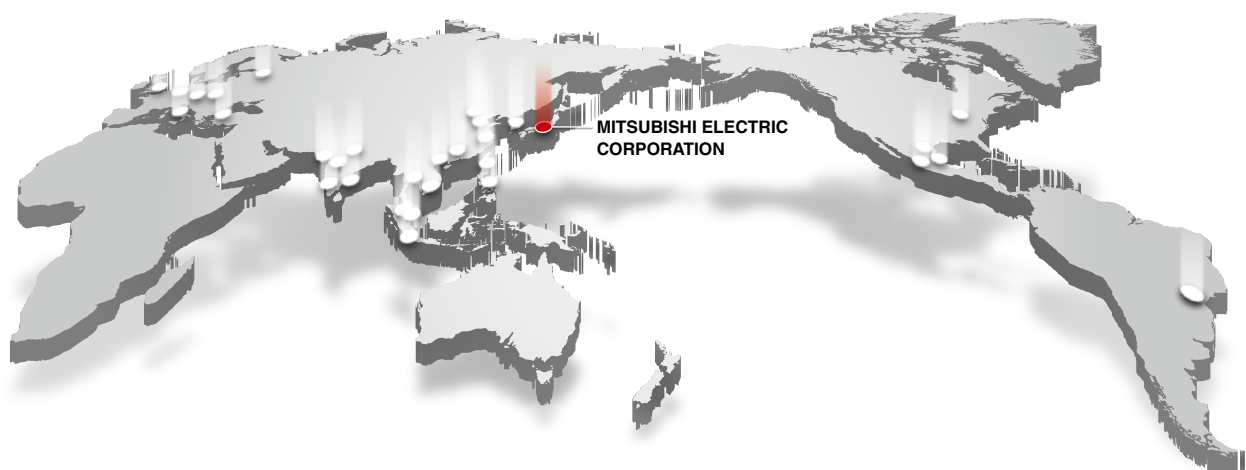
##### Mexico Monterrey FA Center

MITSUBISHI ELECTRIC AUTOMATION, INC.  
Monterrey Office  
Tel: +52-55-3067-7521

#### Brazil

##### Brazil FA Center

MITSUBISHI ELECTRIC DO BRASIL COMERCIO E  
SERVICOS LTDA.  
Tel: +55-11-4689-3000 / Fax: +55-11-4689-3016



# Factory Automation Global website

Mitsubishi Electric Factory Automation provides a mix of services to support its customers worldwide. A consolidated global website is the main portal, offering a selection of support tools and a window to its local Mitsubishi Electric sales and support network.

## ■ From here you can find:

- Overview of available factory automation products
- Library of downloadable literature
- Support tools such as online e-learning courses, terminology dictionary, etc.
- Global sales and service network portal
- Latest news related to Mitsubishi Electric factory automation

**Mitsubishi Electric Factory Automation  
Global website:  
[www.MitsubishiElectric.com/fa](http://www.MitsubishiElectric.com/fa)**



## Online e-learning

An extensive library of e-learning courses covering the factory automation product range has been prepared. Courses from beginner to advanced levels of difficulty are available in various languages.



### ■ Beginner level

Designed for newcomers to Mitsubishi Electric Factory Automation products gaining a background of the fundamentals and an overview of various products related to the course.

### ■ Basic to Advanced levels

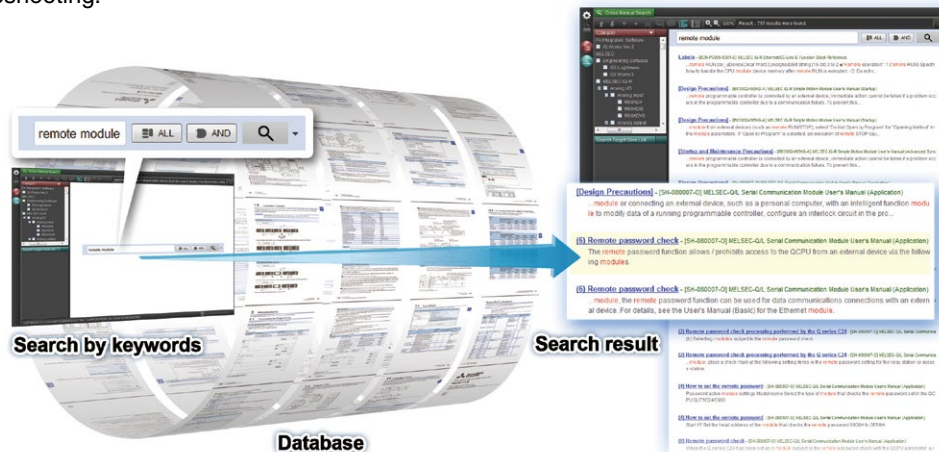
These courses are designed to provide education at all levels. Various different features are explained with application examples providing an easy and informative resource for in-house company training.



# Innovative next-generation, e-Manual

## e-Manual Viewer

The e-Manual viewer is a next-generation digital manual offered by Mitsubishi Electric that consolidates factory automation products manuals into an easy-to-use package with various useful features integrated into the viewer. The e-Manual allows multiple manuals to be cross-searched at once, further reducing time for setting up products and troubleshooting.



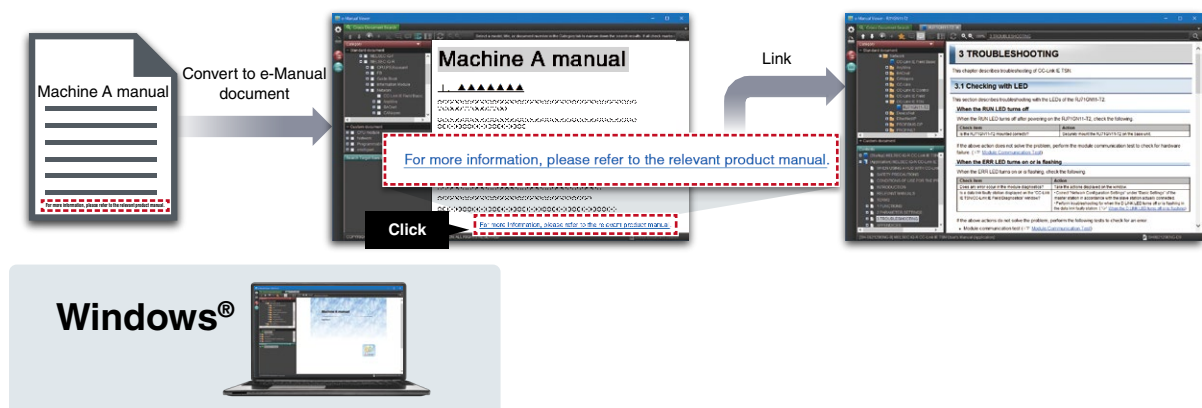
### Key features included

- One-stop database containing all required manuals, with local file cache
- Included with GX Works3 engineering software
- Also available in tablet version
- Easily download manuals all at once
- Multiple users can share the latest manuals and knowhow with document sharing function
- Directly port sample programs within manuals to GX Works3
- Downloaded manuals are usable offline



## e-Manual Create

e-Manual Create is software for converting word files and chm files to e-Manual documents. e-Manual Create allows users to directly refer to Mitsubishi Electric e-Manuals from user's customized device maintenance manuals and such, supporting quick troubleshooting and reduction in document creation process.



\* To obtain the Windows® version of e-Manual Viewer and e-Manual Create, please contact your local Mitsubishi Electric sales office or representative.

Google Play is a trademarks of Google LLC.  
App Store is a service mark of Apple Inc.  
DataMan is a trademarks or registered trademarks of Cognex Corporation.  
EtherNet/IP is a trademarks of ODVA, Inc.  
IOS is a registered trademark of Cisco in the U.S. and other countries and is used under license.  
Microsoft is a registered trademark of Microsoft Corporation in the United States and other countries.  
MODBUS is a registered trademark of Schneider Electric USA, Inc.  
QR Code is a trademark or a registered trademark of DENSO WAVE INCORPORATED in JAPAN, the United States and/or other countries.  
All other company names and product names used in this document are trademarks or registered trademarks of their respective companies.

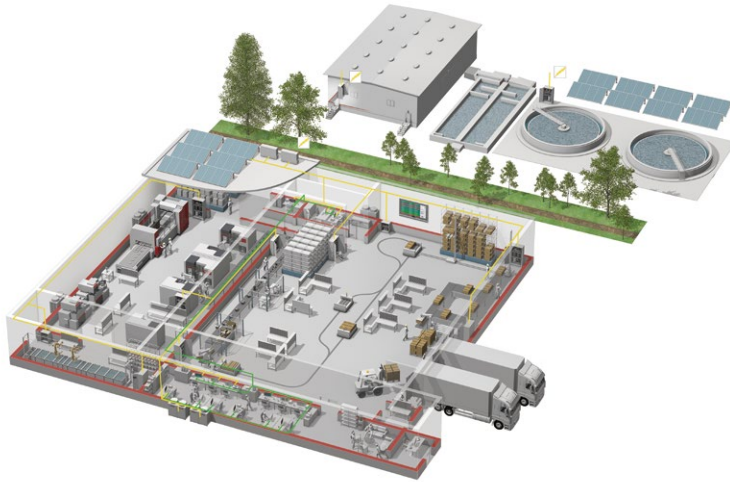
#### Precautions before use

This publication explains the typical features and functions of the products herein and does not provide restrictions or other information related to usage and module combinations. Before using the products, always read the product user manuals. Mitsubishi Electric will not be held liable for damage caused by factors found not to be the cause of Mitsubishi Electric; opportunity loss or lost profits caused by faults in Mitsubishi Electric products; damage, secondary damage, or accident compensation, whether foreseeable or not, caused by special factors; damage to products other than Mitsubishi Electric products; or any other duties.

#### For safe use

- To use the products given in this publication properly, always read the relevant manuals before beginning operation.
- The products have been manufactured as general-purpose parts for general industries, and are not designed or manufactured to be incorporated in a device or system used in purposes related to human life.
- Before using the products for special purposes such as nuclear power, electric power, aerospace, medicine or passenger-carrying vehicles, consult with Mitsubishi Electric.
- The products have been manufactured under strict quality control. However, when installing the products where major accidents or losses could occur if the products fail, install appropriate backup or fail-safe functions in the system.

# YOUR SOLUTION PARTNER



Mitsubishi Electric offers a wide range of automation equipment from PLCs and HMIs to CNC and EDM machines.

## A NAME TO TRUST

Since its beginnings in 1870, some 45 companies use the Mitsubishi name, covering a spectrum of finance, commerce and industry.

The Mitsubishi brand name is recognized around the world as a symbol of premium quality.

Mitsubishi Electric Corporation, established in 1921, is active in space development, transportation, semi-conductors, energy systems, communications and information processing, audio visual equipment and home electronics, building and energy management and automation systems, and has 183 factories, laboratories and offices worldwide in over 140 countries.

This is why you can rely on Mitsubishi Electric automation solution - because we know first hand about the need for reliable, efficient, easy-to-use automation and control in our own factories.

As one of the world's leading companies with a global turnover of over 4 trillion Yen (over \$40 billion), employing over 146,000 people, Mitsubishi Electric has the resource and the commitment to deliver the ultimate in service and support as well as the best products.



Low-voltage Power Distribution Products



Transformers, Med-voltage Distribution Products



Power Monitoring and Energy Saving Products



Power (UPS) and Environmental Products



Compact and Modular Controllers



Servos, Motors and Inverters



Visualization: HMIs



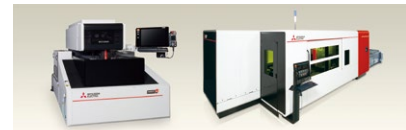
Edge Computing Products



Numerical Control (NC)



Collaborative and Industrial Robots



Processing machines: EDM, Lasers

\* Not all products are available in all countries.

Country/Region	Sales office	Tel/Fax
USA	MITSUBISHI ELECTRIC AUTOMATION, INC. 500 Corporate Woods Parkway, Vernon Hills, IL 60061, U.S.A.	Tel : +1-847-478-2100 Fax : +1-847-478-2253
Mexico	MITSUBISHI ELECTRIC AUTOMATION, INC. Mexico Branch Boulevard Miguel de Cervantes Saavedra 301, Torre Norte Piso 5, Ampliacion Granada, Miguel Hidalgo, Ciudad de Mexico, Mexico, C.P.115200	Tel : +52-55-3067-7512
Brazil	MITSUBISHI ELECTRIC DO BRASIL COMERCIO E SERVICOS LTDA. Avenida Adelino Cardana, 293, 21 andar, Bethaville, Barueri SP, Brasil	Tel : +55-11-4689-3000 Fax : +55-11-4689-3016
Germany	MITSUBISHI ELECTRIC EUROPE B.V. German Branch Mitsubishi-Electric-Platz 1, 40882 Ratingen, Germany	Tel : +49-2102-486-0 Fax : +49-2102-486-7780
UK	MITSUBISHI ELECTRIC EUROPE B.V. UK Branch Travellers Lane, UK-Hatfield, Hertfordshire, AL10 8XB, U.K.	Tel : +44-1707-28-8780 Fax : +44-1707-27-8695
Ireland	MITSUBISHI ELECTRIC EUROPE B.V. Irish Branch Westgate Business Park, Ballymount, Dublin 24, Ireland	Tel : +353-1-4198800 Fax : +353-1-4198890
Italy	MITSUBISHI ELECTRIC EUROPE B.V. Italian Branch Centro Direzionale Colleoni - Palazzo Sirio, Viale Colleoni 7, 20864 Agrate Brianza (MB), Italy	Tel : +39-039-60531 Fax : +39-039-6053-312
Spain	MITSUBISHI ELECTRIC EUROPE, B.V. Spanish Branch Carretera de Rubi, 76-80-Apdo. 420, E-08190 Sant Cugat del Valles (Barcelona), Spain	Tel : +34-935-65-3131 Fax : +34-935-89-1579
France	MITSUBISHI ELECTRIC EUROPE B.V. French Branch 25, Boulevard des Bouvets, 92741 Nanterre Cedex, France	Tel : +33-1-55-68-55-68 Fax : +33-1-55-68-57-57
Czech Republic	MITSUBISHI ELECTRIC EUROPE B.V. Czech Branch, Prague Office Pekarska 621/7, 155 00 Praha 5, Czech Republic	Tel : +420-255-719-200
Poland	MITSUBISHI ELECTRIC EUROPE B.V. Polish Branch ul. Krakowska 48, 32-083 Balice, Poland	Tel : +48-12-347-65-00
Sweden	MITSUBISHI ELECTRIC EUROPE B.V. (Scandinavia) Hedvig Mollersgata 6, 223 55 Lund, Sweden	Tel : +46-8-625-10-00 Fax : +46-46-39-70-18
Russia	MITSUBISHI ELECTRIC (RUSSIA) LLC St. Petersburg Branch Piskarevsky pr. 2, bld 2, lit "Sch", BC "Benua", office 720; 195027 St. Petersburg, Russia	Tel : +7-812-633-3497 Fax : +7-812-633-3499
Turkey	MITSUBISHI ELECTRIC TURKEY A.S. Umraniye Branch Serifali Mah. Kale Sok. No:41 34775 Umraniye - Istanbul, Turkey	Tel : +90-216-969-2500 Fax : +90-216-661-4447
UAE	MITSUBISHI ELECTRIC EUROPE B.V. Dubai Branch Dubai Silicon Oasis, P.O.BOX 341241, Dubai, U.A.E.	Tel : +971-4-3724716 Fax : +971-4-3724721
South Africa	ADROIT TECHNOLOGIES 20 Waterford Office Park, 189 Witkoppen Road, Fourways, South Africa	Tel : +27-11-658-8100 Fax : +27-11-658-8101
China	MITSUBISHI ELECTRIC AUTOMATION (CHINA) LTD. Mitsubishi Electric Automation Center, No.1386 Hongqiao Road, Shanghai, China	Tel : +86-21-2322-3030 Fax : +86-21-2322-3000
Taiwan	SETSUYO ENTERPRISE CO., LTD. 6F, No.105, Wugong 3rd Road, Wugu District, New Taipei City 24889, Taiwan	Tel : +886-2-2299-2499 Fax : +886-2-2299-2509
Korea	MITSUBISHI ELECTRIC AUTOMATION KOREA CO., LTD. 7F to 9F, Gangseo Hangang Xi-tower A, 401, Yangcheon-ro, Gangseo-Gu, Seoul 07528, Korea	Tel : +82-2-3660-9569 Fax : +82-2-3664-8372
Singapore	MITSUBISHI ELECTRIC ASIA PTE. LTD. 307 Alexandra Road, Mitsubishi Electric Building, Singapore 159943	Tel : +65-6473-2308 Fax : +65-6476-7439
Thailand	MITSUBISHI ELECTRIC FACTORY AUTOMATION (THAILAND) CO., LTD. 12th Floor, SV.City Building, Office Tower 1, No. 896/19 and 20 Rama 3 Road, Kwaeng Bangpongpan, Khet Yannawa, Bangkok 10120, Thailand	Tel : +66-2682-6522-31 Fax : +66-2682-6020
Vietnam	MITSUBISHI ELECTRIC VIETNAM COMPANY LIMITED Unit 01-04, 10th Floor, Vincom Center, 72 Le Thanh Ton Street, District 1, Ho Chi Minh City, Vietnam	Tel : +84-28-3910-5945 Fax : +84-28-3910-5947
Indonesia	PT. MITSUBISHI ELECTRIC INDONESIA Gedung Jaya 8th Floor, JL. MH. Thamrin No.12, Jakarta Pusat 10340, Indonesia	Tel : +62-21-31926461 Fax : +62-21-31923942
India	MITSUBISHI ELECTRIC INDIA PVT. LTD. Pune Branch Emerald House, EL-3, J Block, M.I.D.C., Bhosari, Pune-411026, Maharashtra, India	Tel : +91-20-2710-2000 Fax : +91-20-2710-2100
Australia	MITSUBISHI ELECTRIC AUSTRALIA PTY. LTD. 348 Victoria Road, P.O. Box 11, Rydalmere, N.S.W 2116, Australia	Tel : +61-2-9684-7777 Fax : +61-2-9684-7245

**MITSUBISHI ELECTRIC CORPORATION**  
HEAD OFFICE: TOKYO BLDG., 2-7-3, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN  
[www.MitsubishiElectric.com](http://www.MitsubishiElectric.com)