OMRON

Easy way to adopt IoT
for production equipment
IP67 Remote Terminal

IO-Link   **EtherNet/IP**™
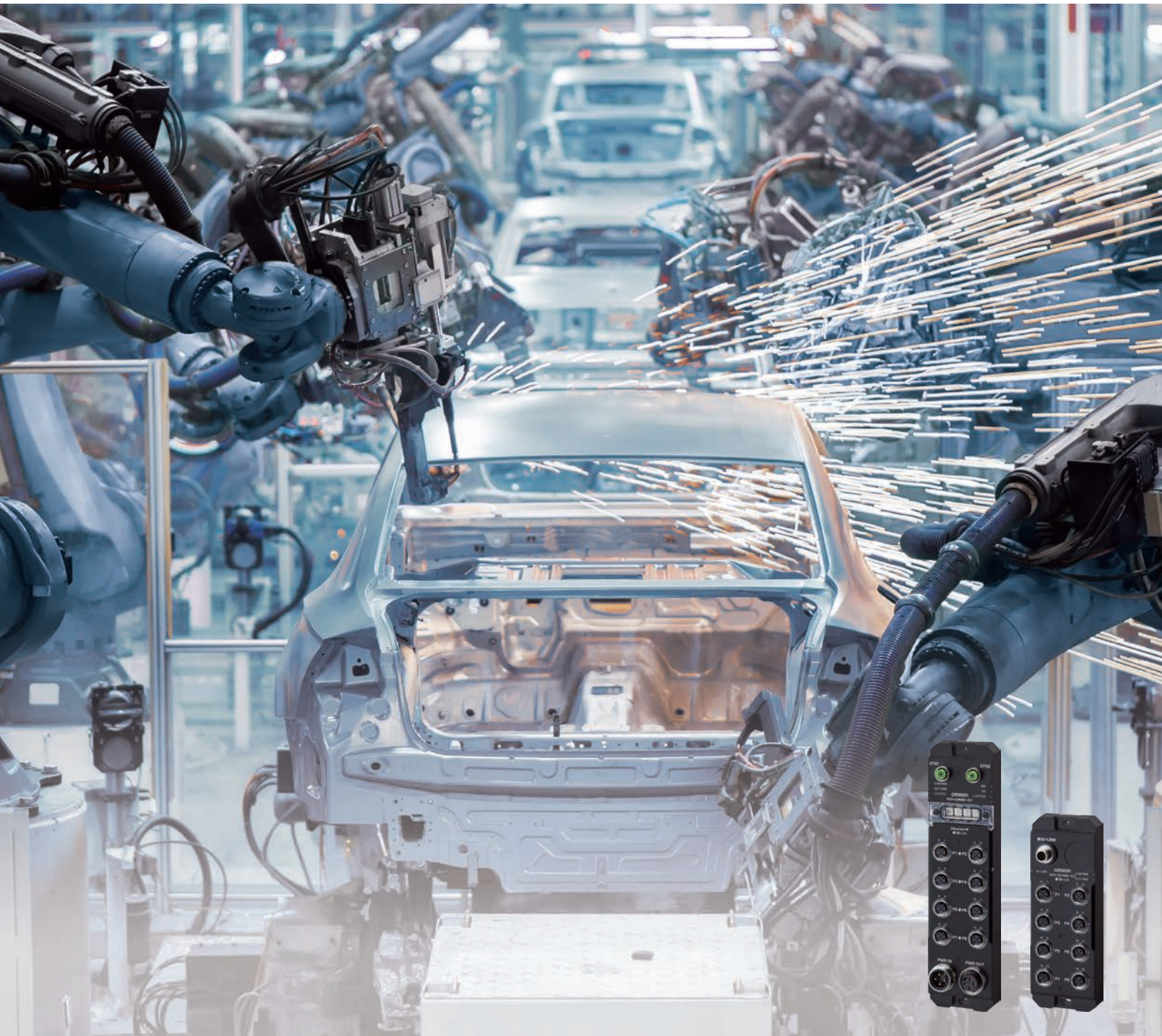
Streamline commissioning and maintenance efforts by 90%[*1]

In order to address the chronic shortage of engineers or utilize information technology at manufacturing sites, modern network technology is being rapidly adopted. However, since conventional methods cannot be used, some problems, such as increase in MTTR and commissioning time, are arising on production floors. As a solution to these problems, Omron analyzed unnecessary and inefficient work in production processes, and developed NXR Series that comes equipped with various functions to save time.

From	Design	Setup and commissioning	Operation	Maintenance

To				

Simple and quick setup and commissioning
Reduced by 90% [*1]

Stable operation by visualizing communication quality

Short MTTR by easy replacement and quick recovery
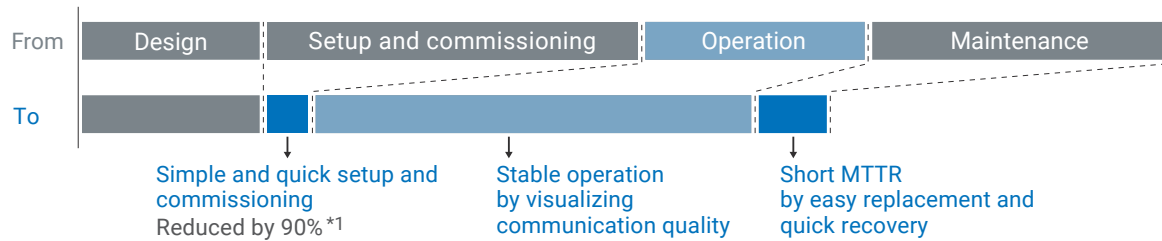
IP67 Remote Terminal

No control panel required

EtherNet/IP
• Built-in L2 switching hub

Network

I/O connector

IO-Link
Selectable by setting
• 8 IO-Link ports
• 16 digital inputs/outputs

Power supply connector

7/8-inch connector
• I/O power supply, unit power supply
• Through-wiring

IO-Link Master Unit

LED indicator:
Color universal design

Enlarged view of I/O connector

IO-Link

• 16 digital inputs
or
• 16 digital inputs/outputs

IO-Link I/O Hub

Reduced wiring system

Adding the IO-Link I/O hub simplifies wiring while providing the capability of data utilization.

IO-Link master

Controller

Data utilization via IO-Link

IO-Link sensor or actuator

IO-Link master

EtherNet/IP

Simple wiring using I/O hub

I/O hub   16 I/Os

Standard sensor or actuator

I/O hub   16 I/Os
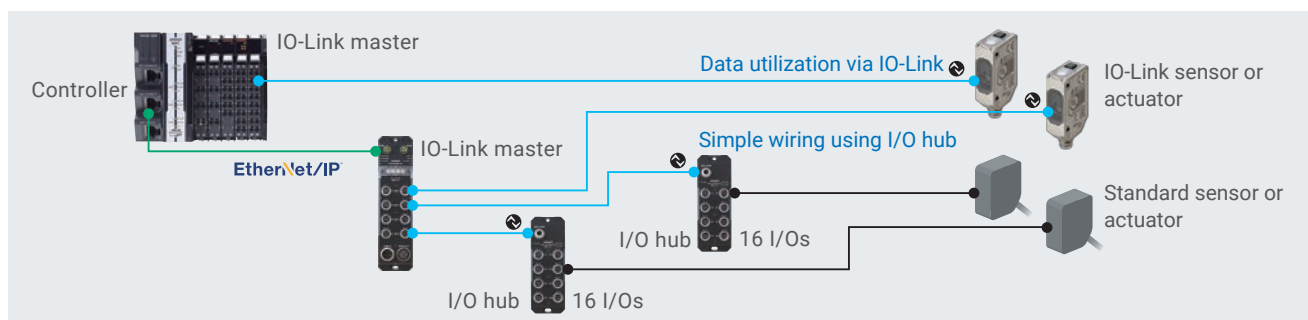
Simple and quick setup and commissioning

Automatic setting of IO-Link parameters on the configuration tool and transfer of remote terminal and IO-Link device settings from the controller significantly reduce setup time by 90% [1].
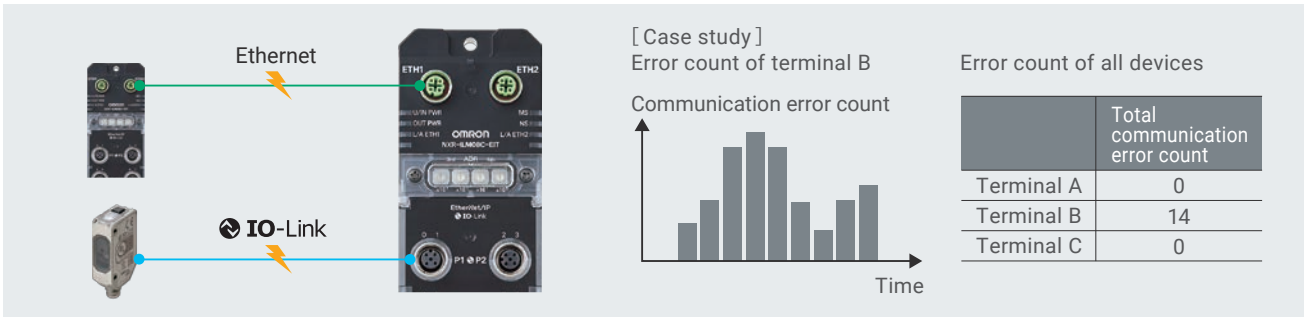
[1]. Compared with Omron's NX Series in May 2020.

① Select the device

② Click the OK button
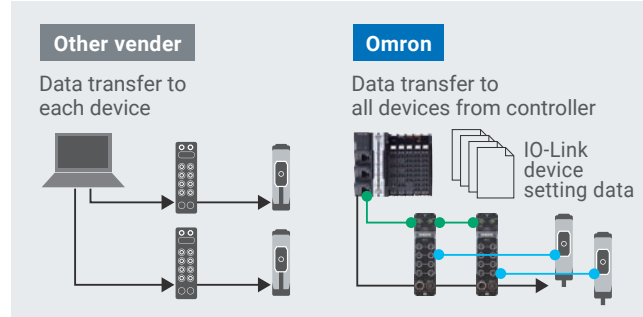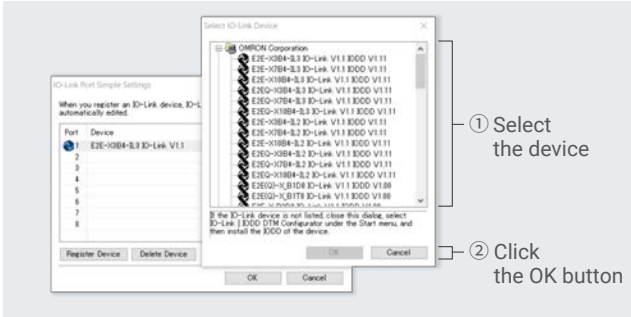
Just select devices to update all parameters at the same time.Simple configuration prevents human errors.

Other vender
Data transfer to each device

Omron
Data transfer to all devices from controller

IO-Link device setting data

Configuring all devices at once from the controller eliminates the need to configure each device individually, greatly cutting down setup time.

Stable operation by visualizing communication quality

Quantified Ethernet and IO-Link communication statuses allow you to find network cabling errors before operation. During operation, the communication statuses can be monitored, making it possible to check the system before it suddenly stops.
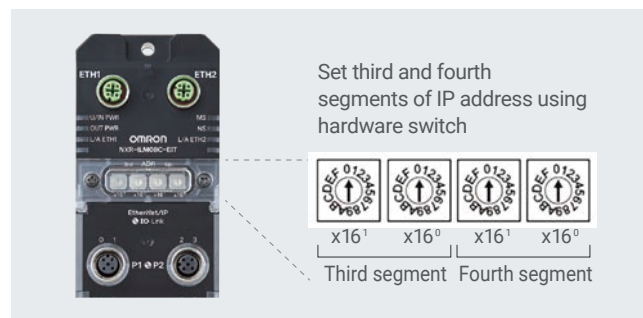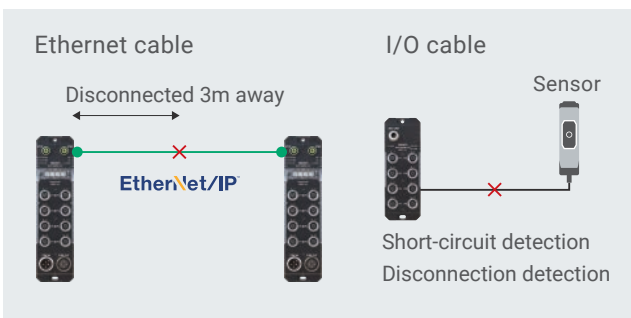
Ethernet

IO-Link

[Case study]
Error count of terminal B

Communication error count

Time

Error count of all devices

	Total communication error count
Terminal A	0
Terminal B	14
Terminal C	0

Short MTTR by easy replacement and quick recovery

I/O cable and communication cable diagnostics

The remote terminal reports approximate locations of disconnections or short circuits in Ethernet cables, and detects disconnections or short circuits in I/O cables.

Ethernet cable

Disconnected 3m away

EtherNet/IP

I/O cable

Sensor

Short-circuit detection
Disconnection detection

Replacement without software

The IP address can be set using the hardware switch, without using special software.

Set third and fourth segments of IP address using hardware switch

$x16^1$ $x16^0$ $x16^1$ $x16^0$

Third segment   Fourth segment

Ordering Information

Product name	Number of IO-Link ports	Degree of protection	Port connection	Model
IO-Link Master Unit for EtherNet/IP	8	IP67	M12 connector (A-cording, female)	NXR-ILM08C-EIT

Product name	Number of inputs/outputs	Degree of protection	I/O connector	Model
IO-Link I/O Hub	16 inputs	IP67	8 M12 connectors (A-cording, female)	NXR-ID166C-IL2
	16 inputs/outputs			NXR-CD166C-IL2

Specifications

Product name	Item		Specification
IO-Link Master Unit for EtherNet/IP	EtherNet/IP communications	Baud rate, Ethernet physical layer	10 Mbps/100 Mbps, 100BASE-TX/10BASE-T
		Ethernet switch	Layer 2 Ethernet switch
		Functions	Communication cable diagnostics
			Network statistical information acquisition
			QuickConnect
			DLR (Device Level Ring), ring node
	IO-Link port	Connector, number of ports	Class A, 8 ports
		Baud rate	COM1: 4.8 kbps, COM2: 38.4 kbps, COM3: 230.4 kbps
	Digital inputs in SIO (DI) Mode	Number of inputs	16
		Short-circuit protection, short-circuit detection	Provided
	Digital outputs in SIO (DI) Mode	Number of outputs	16
		Short-circuit protection, short-circuit detection	Provided

Product name	Item		Specification
IO-Link I/O Hub	IO-Link	Baud rate	COM2: 38.4 kbps
	Digital inputs	Number of inputs	16 (digital input hub), 0 to 16 (digital input/output hub)
		Short-circuit protection, short-circuit detection, disconnection detection	Provided
	Digital outputs	Number of outputs	0 to 16 (digital input/output hub)
		Short-circuit protection, short-circuit detection, disconnection detection	Provided

Note: Do not use this document to operate the Unit.

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