

Remote I/O R30 Series

CC-Link INTERFACE MODULE

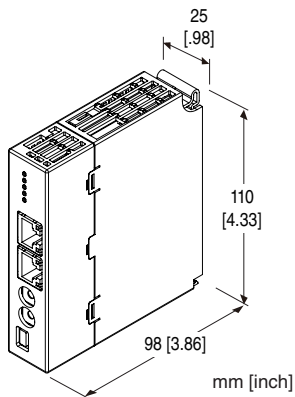
(CC-Link IE Field network)

Functions & Features

- Serves as a gateway for allowing CC-Link IE Field Network data to be handled by network modules that use different protocols.
- Recognized as an analog I/O mixed module by the network modules.
- Works as a slave station on CC-Link IE Field Network in the same manner as R30NCIE1.

Typical Applications

- A gateway for CC-Link IE Field and EtherCAT.



MODEL: R30GCIE1S[1]

ORDERING INFORMATION

- Code number: R30GCIE1S[1]
- Specify a code from below for [1].
(e.g. R30GCIE1S/Q)
- Specify the specification for option code /Q
(e.g. /C01)

COMMUNICATION MODE

S: Single

[1] OPTIONS

blank: none

/Q: With options (specify the specification)

SPECIFICATIONS OF OPTION: Q

COATING (For the detail, refer to M-System's web site.)

/C01: Silicone coating

/C02: Polyurethane coating

/C03: Rubber coating

CAUTION

Please use this unit with a network module (model: R30NECT1) of firmware version V1.04.10 or higher, and a network module (model: R30NCIE1) of firmware version V1.01.13 or higher.

RELATED PRODUCTS

- PC configurator software (model: R30CFG)
Downloadable at M-System's web site.
For connecting to PC, use commercially available Mini-B type USB cable. (provided by user)

GENERAL SPECIFICATIONS

Connection

CC-Link IE Field: RJ-45 connector

Internal bus: Via the Installation Base (model: R30BS)

Internal power: Via the Installation Base (model: R30BS)

Isolation: CC-Link IE Field to internal bus or internal power

Internal bus communication cycle: Approx. 1 msec.

Status indicator: RUN, RD, SD, D LINK, ERR, L ER, LINK
(Refer to the instruction manual.)

CC-Link IE Field COMMUNICATION

Protocol: IEEE 802.3

Transmission type: 1000BASE-T

Communication speed: 1 Gbps

Network cable: Cable conformed to CC-Link IE Field
Double shielded twist pair cable (CAT5e)

RJ-45 connector

Network topology: Line, star and ring

Max. number of stations: 120 (Total slave stations)
(Number of max. connectable slaves may vary depending on the master module. Refer to the instruction manual of the master module)

Max. station-to-station distance: 100 m

Station type: Remote device station

Link device: RX/RX 128 points, RWw/RWr 64 points

NetWork No.: 1 to 239 (factory default: 1)

INSTALLATION

Current consumption: 140 mA

Operating temperature: -10 to +55°C (14 to 131°F)

Storage temperature: -20 to +65°C (-4 to +149°F)

Operating humidity: 10 to 90 %RH (non-condensing)

Atmosphere: No corrosive gas or heavy dust

Mounting: Installation Base (model: R30BS)

Weight: 125 g (0.28 lb)

PERFORMANCE

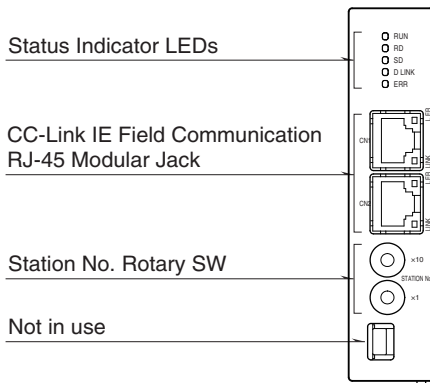
Insulation resistance: $\geq 100 \text{ M}\Omega$ with 500 V DC
Dielectric strength: 1500 V AC @ 1 minute (CC-Link IE Field to internal bus or internal power)
 1500 V AC @ 1 minute (power input to FE; isolated on the power supply module)

STANDARDS & APPROVALS

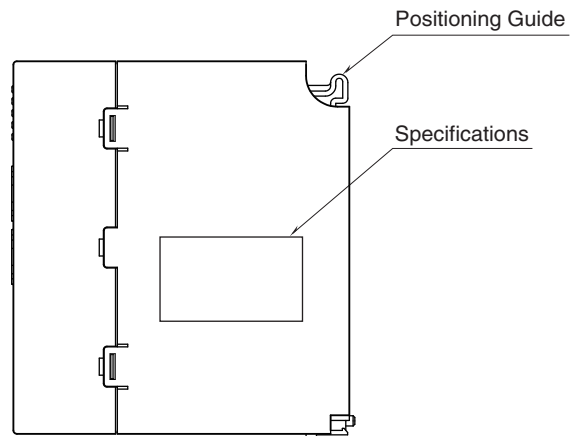
EU conformity:
 EMC Directive
 EMI EN 61000-6-4
 EMS EN 61000-6-2
 RoHS Directive

EXTERNAL VIEW

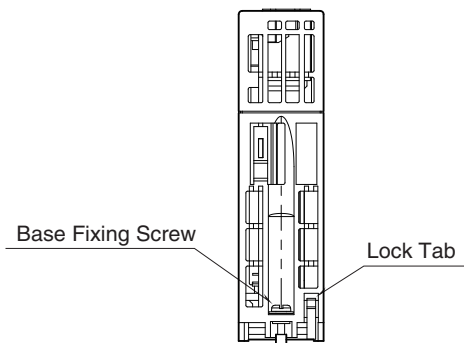
FRONT VIEW



SIDE VIEW



BOTTOM VIEW



TRANSMISSION DATA DESCRIPTIONS

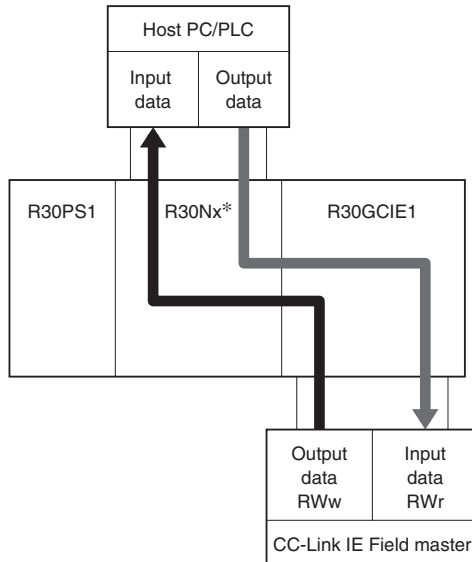
Number of transmission data: 4 points (4 words) for input; 4 points (4 words) for output

This unit is equivalent to an analog I/O mixed module (AIO4) of R30 series, and is recognized as an I/O module by Interface module (e.g. model: R30NECT1).

Station type: Remote device station

Link device: RX/RX 128 points, RWw/RWr 64 points

• DATA FLOW



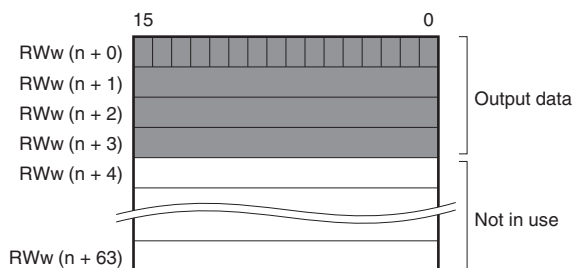
* R30Nx: R30 Interface module

■ OUTPUT DATA

The figure below shows details of data transmitted to Host PC/PLC from Interface module.

[CC-Link IE Field master] → [R30GCIE1] → [R30 internal bus] → [R30 interface module] → [Host PC/PLC]

Output data (RWw) from CC-Link IE Field master is transmitted as Input data to Host PC/PLC.



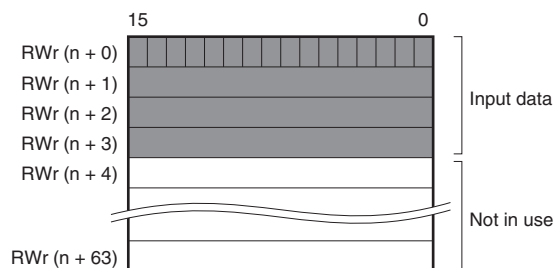
n: initial device

■ INPUT DATA

The figure below shows details of data received by Interface module from Host PC/PLC.

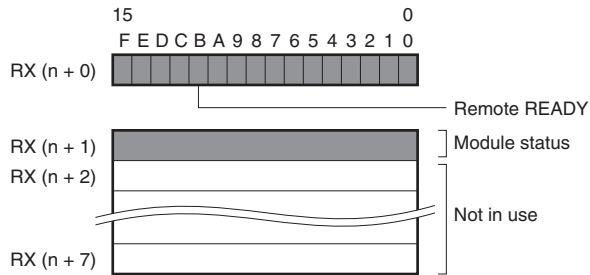
[Host PC/PLC] → [R30 interface module] → [R30 internal bus] → [R30GCIE1] → [CC-Link IE Field master]

Output data from Host PC/PLC is transmitted as Input data (RWr) to CC-Link IE Field master.



n: initial device

■ STATUS



n: initial device

- RX(n+0)0 to 7 is reservation area, RX(n+0)B is used as Ready signal, and the bit is "1" when this module is operating normally. RX(n+0)8 to A and RX(n+0)C to F are not in use.

• Module Status

RX(n + 1)0 indicates communication status of this unit.

1 = Normal communication

0 = Communication error / timeout

RX(n + 1)1 indicates internal communication status.

1 = Normal communication

0 = Communication stop / communication error

RX(n + 1)2 indicates communication status of field bus built in the interface module.

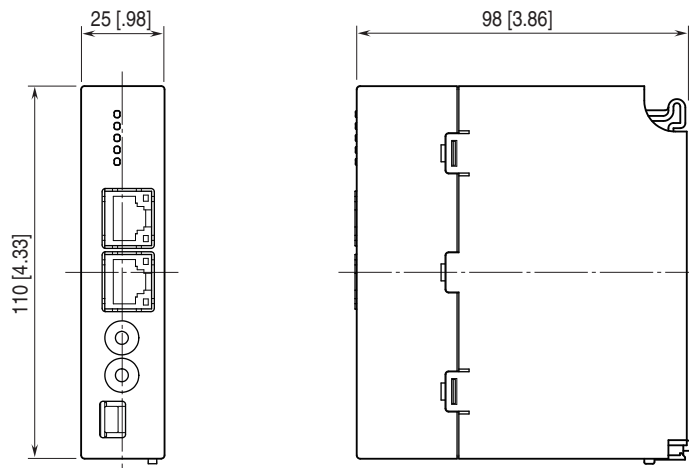
1 = Normal communication

0 = Communication stop / communication error / timeout

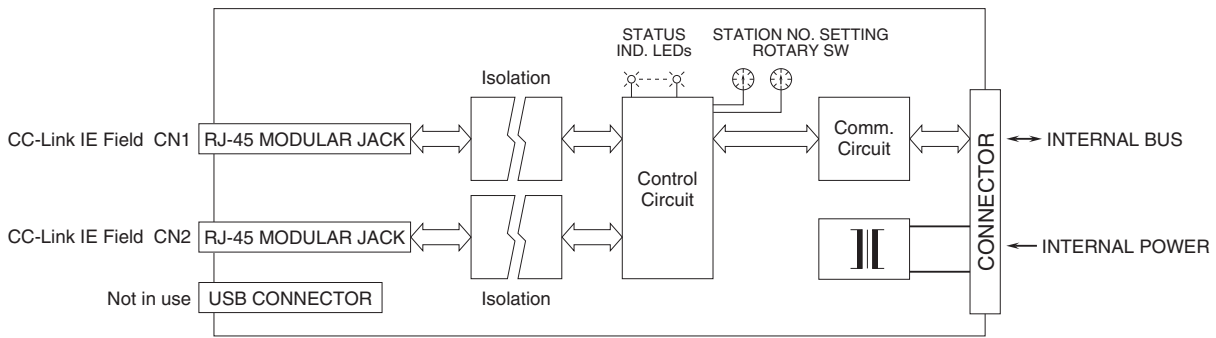
RX(n + 1)3 to F are not in use.

Link devices other than the above are not in use.

EXTERNAL DIMENSIONS unit: mm [inch]



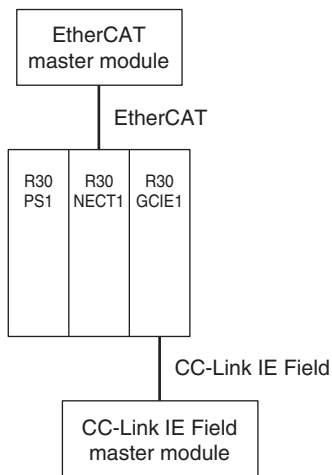
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



CN1 and CN2 of RJ-45 modular jacks for CC-Link IE Field network can be connected in any order.

SYSTEM CONFIGURATION EXAMPLES

The below figure shows a system configuration example in which CC-Link IE Field data is converted into EtherCAT data by using this unit as a gateway.



Specifications are subject to change without notice.