EtherCAT Field Network Controllers

PCON-C/CG  ACON-C/CG

High-speed communication to eliminate the bottlenecks of networks. PCON/ACONs are now available in EtherCAT-ready versions.

Features

<table>
<thead>
<tr>
<th></th>
<th>High-speed communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>EtherCAT is a 100-Mbps field network based on Ethernet technology designed to achieve higher speed/shorter period than other field networks. EtherCAT lets you improve the productivity of your operations.</td>
</tr>
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<th>Wire-saving</th>
</tr>
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<td>2</td>
<td>EtherCAT controllers input and output data to/from the master via an Ethernet cable. This not only reduces the number of wires, but also prevents mis-wiring and achieves greater ease of maintenance.</td>
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<th>Operate by Remote I/O mode (position table movements) or through Direct Control</th>
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<td>When operating an actuator you can choose to communicate with the controller in a mode most suited for the application. Remote I/O mode allows the selection of movements that have been predefined (varying positions, speeds, and other conditions) in the controller’s position data table, whereas with Direct Control, these values may be specified directly to controller from the host.</td>
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</table>
**Item Specification**

**Communication protocol** Dedicated EtherCAT protocol

**Physical layer** 100BASE-TX (IEEE802.3)

**Communication period** Automatically set according to the master

**Communication cable length** Not to exceed 100 m between each pair of controllers

**Slave type** I/O slave

**Settable node addresses** 0 to 127 (17 to 80 if Omron’s master (CJ1W-NC82) is connected)

**Communication cable** Straight cable of category 5e or above (Double-shield cable braided with aluminum tape is recommended)

**Connectors** RJ45 connector x 2 (1 for input, 1 for output)

**Connection** Daisy-chain only

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**Model Items**

**PCON (Series)**

- **Positioner type** Conforming to safety category compatible type

- **Motor type** Incremental

- **Encoder type** EtherCAT

- **I/O type** No cable

- **I/O cable length** 0

- **Power voltage** DC24V

**ACON (Series)**

- **Positioner type** Conforming to safety category compatible type

- **Motor type** Incremental

- **Encoder type** EtherCAT

- **I/O type** No cable

- **I/O cable length** 0

- **Power voltage** DC24V

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**System Configuration (Connection Example)**

Omron’s master CJ1W-NC82

- If IAI’s controllers are used exclusively, up to 128 controllers can be connected to a network.

- If Omron’s master (CJ1W-NC82) is connected, up to 64 controllers can be connected.

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**EtherCAT Communication Specifications**

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**External Dimensions – PCON-C/CG, ACON-C/CG**

Example of industrial Ethernet connector VS-08-RJ45-5-IP20 (Phoenix Contact)

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* For detailed explanations of EtherCAT, refer to the operation manual for the programmable controller in which the master unit is installed.

* Synchronous control is not possible because the distribution clock of EtherCAT is not supported.

* Configuration connections for systems based on Omron’s EtherCAT master have been verified by IAI. If a master manufactured by other company is used, the customer is advised to follow the connection instructions provided by the manufacturer. When an Omron master is used, a network will be established automatically, for all others, manual configuration is required.

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The versions of teaching tools supporting EtherCAT are listed below:

- **PC software**: V8.02.00.00 or later • CON-PT/PG: V1.20 or later

- **CON-T/G**: V1.10 or later • RCM/E/F: V2.20 or later

* If you are using any of these teaching tools of an earlier version, please contact IAI.

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* PCON-C/CG controllers and ACON-C/CG controllers have the same dimensions.