Technical Information

Honeywell

ControlEdge HC900 IO Modules Specifications

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Overview

The Honeywell ControlEdge HC900 Controller is an advanced loop and logic controller offering a modular design sized to satisfy the control and data acquisition needs of a wide range of process equipment.

I/O Modules

The following I/O modules are available to create a custom control solution.

- 16 Channel Universal IO Module Galavanically isolated Input/Output to chassis (p.29)
- 8-point universal analog input modules: Galvanic isolation point to chassis inputs may be mixed on a module and may include multiple thermocouple types, RTDs, ohms, voltage or mill voltage types – all easily assigned using the Process Control Designer configuration tool. High point-to-point galvanic isolation simplifies installation and saves the expense of external isolation hardware (p.8).
- 16-point high level analog input module: each point is configurable for V or mA. Galvanically isolated point to chassis. Galvanically isolated point to point (p.12). 250-ohm shunt resistors can be added per channel.
- 4-point galvanically isolated analog output module. Galvanically isolated point to chassis supports from 0 to 20mA each (p.14).
- 8-point analog output, galvanically isolated in 2 groups of 4 points. Galvanically isolated point to chassis. Supports from 0 to 20mA each (p.15).
- 16-point analog output, galvanically isolated in 4 groups of 4 points. Galvanically isolated point to chassis. Supports from 0 to 20mA each (p.16).
- 16-point digital input modules: Contact closure type, DC Voltage, AC Voltage and AC/DC voltage types (p.17). Galvanically isolated in groups of 8 channel to chassis
- 32-point digital input module: DC voltage. Galvanically isolated point to chassis. Galvanically isolated in 2 groups of 16 points (p.2117).
- 8-point AC or 16-point DC digital output modules (sinking type). Galvanically isolated point to chassis. Galvanically isolated in 2 groups of 8 points (p.20).
- 32-point digital output: DC voltage (sourcing type). Galvanically isolated point to chassis. Galvanically isolated in 2 groups of 16 points (p.25).
- 8-point relay output module: four form C type and four form A type relays. Galvanically isolated point to chassis. Galvanically isolated relay to relay (p.22).
- 4 channel Pulse/Frequency/Quadrature I/O module. Galvanically isolated point to chassis (p.26).

Insert and Removal of I/O under Power

For ease of maintenance, the ControlEdge HC900 controller supports removing and inserting I/O modules from the module rack without removing power from the controller. Each module is sensed for validity by the controller and auto-configured on insertion.

Other Modules

In addition to I/O, the following modules are available.

- Scanner 1 module, single port (p.33)
- Scanner 2 Module, dual port (p.34)
- Universal AC Power Supply, 60W (p.6)
- Power Supply 24VDC, 60W (p.6)
- Redundant Switch Module (p.35)
- Power Status Module (p.35)

Failsafe

All ControlEdge 900 Platform I/O modules support a user specified failsafe value (analog) or state (digital) that the module outputs or inputs will assume if communication between the controller and the module is interrupted. Output modules are also disabled if the controller fails to start. Module diagnostics are not initiated if the control strategy does not call for the inputs or outputs on the modules to execute.

Failsafe is restricted to de-energize in safety applications.

Digital Input, 120/240 Vac (16 channel 125 Vdc)	T3C@ Ta = 60 deg. C T4 @ Ta = 40 deg. C
Digital Input Vdc (32 channel)	T3C@ Ta = 60 deg. C T4 @ Ta = 40 deg. C
Digital Output, Relay type (8 channel)	T5
Digital Output, 24 Vdc, (16 channel)	T4
Digital Output, 120/240 Vac (8 channel)	T4
Digital Output Vdc (32 channel)	T6
Pulse/Frequency/Quadrature (4 channel)	T5
Universal IO Module (16 channel)	T4

Dimensions and Weight

Item	Module Number	Dimension	Weight
4 I/O slot Rack[1,2]	900R04-0200	137mm H* x 266.7mm W x 151.7mm D 5.4” H* x 10.5” W x 6.0” D	2104g
8 I/O slot Rack[1,2]	900R08-0200	137mm H* x 419.1mm W x 151.7mm D 5.4” H* x 16.5” W x 6.0” D	3126g
8 I/O slot Rack with redundant power support[1,2]	900R08R-0200	137mm H* x 530.9mm W x 151.7mm D 5.4” H* x 20.9” W x 6.0” D	4422g
12 I/O slot Rack[1,2]	900R12-0200	137mm H* x 571.5mm W x 151.7mm D 5.4” H* x 22.5” W x 6.0” D	4072g
12 I/O slot Rack with redundant power support[1,2]	900R12R-0200	137mm H* x 683.3mm W x 151.7mm D 5.4” H* x 26.9” W x 6.0” D	5252g
Redundant CPM Rack[1,2]	900RR0-0101	137mm H* x 261.6mm W x 151.7mm D 5.4” H* x 10.3” W x 6.0” D	1751g
CPU, ControlEdge 900	900C30-0460/ 900C30S-0460	137mm H x 38.1mm W 5.4" H* x 1.5" W	350g
	900C50-0460/ 900C50S-0460	137mm H x 38.1mm W 5.4" H* x 1.5" W	360g
	900C70-0460/ 900C75-0460/ 900C70S-0460/ 900C75S-0460	137mm H x 38.1mm W 5.4" H* x 1.5" W	400g
Scanner, ControlEdge 900	900S50-0460/ 900S50S-0460	137mm H x 38.1mm W 5.4" H* x 1.5" W	360g
	900S75-0460/ 900S75S-0460	137mm H x 38.1mm W 5.4" H* x 1.5" W	400g
4 port serial communications module, 2 x RS232, 2 x RS485	900ES1-0100	137mm H x 35.6mm W 5.4" H* x 1.4" W	350g
SIL UIO	900U02-0100	134mm H x 33.1mm W 5.3” H* x 1.3” W	260g
Universal AI -RTD, TC, V, 8 Ch	900A01-0202	137mm H x 35.6mm W 5.4” H* x 1.4” W	210g
Analog Input hi level, 16 Ch	900A16-0103	137mm H x 35.6mm W 5.4” H* x 1.4” W	397g
Analog Output, 0 to 20mA, 4 Ch	900B01-0301	137mm H x 35.6mm W 5.4” H* x 1.4” W	408g
Analog Outputs 0 to 20mA, 8 Ch	900B08-0202	137mm H x 35.6mm W 5.4” H* x 1.4” W	400g

These new hardware model numbers are revised for supporting a temperature of -40 to +70 Deg C. The new models are completely backward compatible and can also be used as replacement / spare for old hardware models being phased out. The changes to hardware model numbers and the affected parts are as per table below.

For all new orders starting 1st August 2022, Honeywell recommends users to buy these new models for ControlEdge 900 hardware (PLC / UOC / HC900). The old models will be moved to **'Phase Out'** status in SAP / web-channel to restrict order entry, once the inventory is depleted at Honeywell factories, affiliates and HUBCO.

You can order the existing old models while their inventory lasts, post which all orders will be moved to new part numbers.

	Old Model Number (Phased out)	**New Model Number (-40 to +70 Deg C)**
CPM, Control Processor, ControlEdge 900	900CP1-0200	900CP1-0300
EPM, Expansion Processor, ControlEdge 900	900SP1-0200	900SP1-0300
Digital Input Module, 24VDC (32 channel)	900G32-0101	900G32-0301
Digital Output Module, 24VDC (32 channel)	900H32-0102	900H32-0302
4 I/O slot rack - Non redundant power	900R04-0200	900R04-0300
8 I/O slot rack - Non redundant power	900R08-0200	900R08-0300
8 I/O slot rack -redundant power	900R08R-0200	900R08R-0300
12 I/O slot rack - Non redundant power	900R12-0200	900R12-0300
12 I/O slot rack - redundant power	900R12R-0200	900R12R-0300
Redundant Controller rack (PLC/UOC/HC900)	900RR0-0200/ 900RR0-0101	900RR0-0300
1 I/O slot rack Non redundant	900R01-0100	900R01-0300
Redundant Power, Rack Extension Kit	900RPE-0200	900RPE-0300
Power Supply Module, 120/240VAC, 60W	900P01–0301	900P01–0701
ControlEdge Universal I/O Module	900U01-0100	900U01-0100 (*No change)
Power Status Module, Redundant	900PSM-0200	900PSM-0200 (*No change)
PLC SERIAL COMM MODULE	900ES1-0100	900ES1-0100 (*No change)

Key deliverables for ControlEdge PLC R174.1 release are:

- **Robust support for MasterLogic IO to increase resiliency for high performance applications e.g. discrete, equipment OEMs, water, infrastructure, migration of competitive PLC systems etc.**
  - Support DHCP, ML I/O adapter will get IP address from PLC downlink through DHCP server
  - Support Hot Swap, ML200 allows to replace modules on process
  - Support Dual Power, ML200 supports dual power for redundancy in one rack
  - Provide detail diagnostics on diagnostics page in CE Builder like 900 I/O

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PRODUCT: 900R08R-0200 / CONTROLEDGE HC900 EIGHT-SLOT I/O RACK WITH REDUNDANT POWER SUPPORT

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