SIL System

Description	Model Number	SIL Compatible*
Racks		
4 I/O Slot Rack	900R04 – 0200	Yes
8 I/O Slot Rack	900R08 – 0200	Yes
12 I/O Slot Rack	900R12 – 0200	Yes
8 Slot Rack -Red. Power	900R08R – 0200	Yes
12 Slot Rack - Red. Power	900R12R – 0200	Yes
Redundant CPU Rack	900RR0 – 0101	Yes
Controllers		
Controller C30 CPU – SIL	900C30S – 0360-00	Yes
Controller C50 CPU – SIL	900C50S – 0360-00	Yes
Controller C70 CPU – SIL	900C70S – 0360-00	Yes
Controller C75 CPU – SIL	900C75S – 0360-00	Yes
I/O Scanner – 1 Port (1 per I/O rack) - SIL	900S50S – 0360-00	Yes
I/O Scanner – 2 Port (1 per I/O rack) - SIL	900S75S – 0360-00	Yes
Documentation		
Full Document set on CD – SIL	900ME1S – 0060-00	Yes
Full document set, SIL hard copy – English	900ME2S – 0060-00	Yes
I/O Modules		
Analog Input (8 channel)	900A01-0202	Yes
Analog Input Hi level (16channel)	900A16-0101	Yes
Analog Output, 0 to 20mA, (4 channel)	900B01-0301	Yes
Analog Output, 0 to 20mA, (8 channel)	900B08-0202	Yes
Analog Output, 0 to 20mA, (16 channel)	900B16-0202	Yes
Digital Input, Contact type, (16 channel)	900G01-0202	Yes
Digital Input, 24VDC (16 channel)	900G02-0202	Yes
Digital Input, 120/240 VAC, (16 channel)	900G03-0202	Yes
Digital In, 120/240 VAC, 125VDC (16 channel-Isolated)	900G04-0101	Yes
Digital Input, 24VDC (32 channel)	900G32-0101	Yes
Digital Output, Relays (8 channel)	900H01-0202	Yes
Digital Output, 24VDC (16 channel)	900H02-0202	Yes
Digital Output, 120/240 VAC (8 channel)	900H03-0202	Yes
Digital Output, 24VDC (32 channel)	900H32-0102	Yes
Pulse/Freq/Quad (4chan, 1Quad)	900K01-0201	May be used in Safety systems on the Process Worksheet ONLY.

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Technical Information

Honeywell

ControlEdge HC900 IO Modules Specifications

51-52-03-41, April 2021



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.

How to choose an AC Power Supply

Module	ControlEdge HC900 Hardware Power (Watts)	Field Power (Watts)	Total Power (Watts)
Controller C30 and C30S	6.0	0.0	6.0
Controller C50 and C50S	6.0	0.0	6.0
Controller C70 and C70S	7.1	0.0	7.1
Controller C75 and C75S	7.8	0.0	7.8
Redundancy switch module (RSM)	0.1	0.0	0.1
Power Status Module (PSM)	0.1	0.0	0.1
Scanner 1 Port (S50/S50S)	3.9	0.0	3.9
Scanner 2 Port (S75/S75S)	5.0	0.0	5.0
Analog Input (Universal)	0.8	0.0	0.8
Analog Input (High level)	1.6	0.0	1.6
Analog Output (4 points)*	5.1	0.0	5.1
Analog Output (8 pts. internal 24V)***	9.4	0.0	9.4
Analog Output (8 pts. external 24V)***	1.1	8.3	9.4
Analog Output (16 pts. internal 24V)***	18.3	0.0	18.3
Analog Output (16 pts. external 24V)***	1.7	16.6	18.3
Contact Input	1.6	0.0	1.6
Relay Output	3.0	0.0	3.0
16 pt DC In (@ 24V)	0.7	2.6	3.3
16 pt DC In (@ 32V)	0.7	5.1	5.7
32 pt DC In (@ 24V)	1.1	3.1	4.2
32 pt DC In (@ 32V)	1.1	5.1	6.2
16 pt DC Out	1.7	1.2	2.9
32 pt DC Out	1.2	1.8	3.0
AC In (@120V)	0.7	1.9	2.6
AC In (@240V)	0.7	7.7	8.3
AC/DC In	0.7	7.7	8.3
AC Out	1.1	12.0	13.1
PFQ**	6.7	0.1	6.8
Universal IO (16 Pts)	2.45	4.5	6.95

*Limit 10 Analog Output modules per I/O rack.

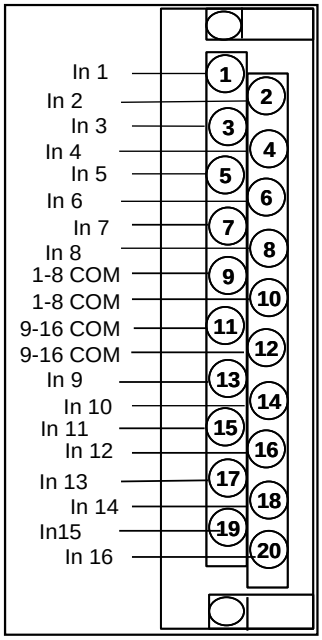
** Limit 4 PFQ modules per I/O rack.

***Limit 2 16-pt. modules per rack.

***Limit 5 8-pt. modules per rack with internal power supply.

Digital Input Module - DC Voltage type (900G02-xxxx)

The DC Digital Input module provides two groups of 8 inputs, each with a pair of terminals for connection to common. DC power applied between the common terminal and an input cause the input to turn ON. There is a green LED state indicator for each channel on the module to indicate when a digital input is ON. A green blinking status LED on the module indicates when the module is being scanned. An amber blinking status LED indicates when channels are forced and a red status LED when module diagnostics exist. Logic in the controller allows the state to be inverted when necessary.



Inputs per module	16 (sinking)
Input Voltage Range	10 VDC to 32 VDC
Peak Voltage	32 VDC
AC Frequency	N/A
Galvanic Isolation	2 groups of 8 inputs (42.4VDC max.)
ON Voltage Level	9.5 VDC minimum
OFF Voltage Level	3.5 VDC maximum
Input Impedance	2.6 K ohms nominal
Input Current	2.3 mA @ 12 VDC 6.9 mA @ 24 VDC nominal
Minimum ON Current	1.0 mA
Maximum OFF Current	0.7 mA
OFF to ON response time*	4 ms max
ON to OFF response time*	4 ms max
Power Supply Loading	5V; 130mA max 24V; 0mA

*excluding controllers scan time and excluding transmission time from module to backplane

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PRODUCT: 900G02-0202 / CONTROLEDGE HC900 16-CHANNEL 24 VDC DIGITAL INPUT MODULE

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