

## HC900 Hybrid Controller Assemblies

## Model Selection Guide

RACKS	MODEL NUMBER
4 I/O Slot Rack	900R04 - 0001
8 I/O Slot Rack	900R08 - 0101
12 I/O Slot Rack	900R12 - 0101
8 Slot Rack -Red. Power	900R08R - 0101
12 Slot Rack - Red. Power	900R12R - 0101
Redundant Power Status Module	900PSM - 0001
<b>Power Supplies</b>	
120/240VAC, 60W	900P01 -0001
120/240VAC, 28W <b>Note 5</b>	900P02 -0001
24Vdc, 60W	900P24 -0001
<b>CPU Assemblies</b>	
Controller C70 CPU Config. SW & Docs	900C71 - 0144-00
Controller C70 CPU <b>Note 1</b>	900C72 - 0144-00
Controller C50 CPU Config.SW & Docs	900C51 - 0244-00
Controller C50 CPU <b>Note 1</b>	900C52 - 0244-00
Controller C30 CPU Config. SW & Docs	900C31 - 0244-00
Controller C30 CPU <b>Note 1</b>	900C32 - 0244-00
I/O Scanner (for remote rack)	900C53 - 0244-00
<b>I/O Card Selections</b>	
Analog Input (8 channel)	900A01 - 0102
Analog Input Hi level (16ch)	900A16 - 0001
Analog Output, 0 to 20mA, (4 channel)	900B01 -0101
Analog Output, 0 to 20mA, (8 channel)	900B08-0001
Analog Output, 0 to 20mA, (16 channel)	900B16-0001
Digital Input, Contact type, (16 channel)	900G01 - 0102
Digital Input, 24VDC (16 channel)	900G02 - 0102
Digital Input, 120/240 VAC, (16 channel)	900G03 - 0102
Digital In, 120/240 VAC, 125VDC (16 channel-Isolated)	900G04 - 0001
Digital Input, 24VDC (32 channel)	900G32 - 0001
Digital Output, Relays ( 8 channel)	900H01 - 0102
Digital Output, 24VDC (16 channel)	900H02 - 0102
Digital Output, 120/240 VAC (8 channel)	900H03 - 0102
Digital Output, 24VDC (32 channel)	900H32 - 0001
Pulse/Freq/Quad (4chan, 1Quad)	900K01 - 0001

Terminal Blocks, Cables, Jumpers		MODEL NUMBER
Low Voltage Terminal Block (Euro style)	<b>Note 3</b>	900TEK - 0001
Low Voltage Terminal Block (Barrier Style)	<b>Note 3</b>	900TBK -0001
High Voltage Terminal Block (Euro style)	<b>Note 3</b>	900TER - 0001
High Voltage Terminal Block (Barrier Style)	<b>Note 3</b>	900TBR - 0001
Low voltage Terminal Block (36 pos)	<b>Note 3</b>	900TCK - 0001
Analog Input Remote Terminal Panel (RTP)	<b>Note 6</b>	900RTA - L001
Relay Output Remote Terminal Panel (RTP)	<b>Note 6</b>	900RTR - H001
DI, DO, AO Remote Terminal Panel (RTP)	<b>Note 6</b>	900RTS - 0001
Low Voltage RTP Cable (1.0M, 3.28ft.)	<b>Note 6</b>	900RTC - L010
Low Voltage RTP Cable (2.5M, 8.2ft.)	<b>Note 6</b>	900RTC - L025
Low Voltage RTP Cable (5.0M, 16.4ft.)	<b>Note 6</b>	900RTC - L050
High Voltage RTP Cable (1.0M, 3.28ft.)	<b>Note 6</b>	900RTC - H010
High Voltage RTP Cable (2.5M, 8.2ft.)	<b>Note 6</b>	900RTC - H025
High Voltage RTP Cable (5.0M, 16.4ft.)	<b>Note 6</b>	900RTC - H050
LV RTP Cable (32/16 channel) (1.0M, 3.28ft)	<b>Note 6</b>	900RTC - 3210
LV RTP Cable (32/16 channel) (2.5M, 8.2ft)	<b>Note 6</b>	900RTC - 3225
LV RTP Cable (32/16 channel) (5.0M, 16.4ft)	<b>Note 6</b>	900RTC - 3250
8 ch A/O RTP Cable (1M, 3.3ft)	<b>Note 6</b>	900RTC-B810
8 ch A/O RTP Cable (2.5M, 8.2ft)	<b>Note 6</b>	900RTC-B825
8 ch A/O RTP Cable (5.0M, 16.4ft)	<b>Note 6</b>	900RTC-B850
Filler Block Terminal Cover		900TNF - 0001
Shield Terminal Strip (package of 2)		900TSS - 0001
Terminal board jumpers (10, two pos jumpers)	<b>Note 4</b>	900J02 - 0001
Terminal board jumpers (10, ten pos jumpers)	<b>Note 4</b>	900J10 - 0001
<b>Manuals</b>		
Full document set on CD	<b>Note 2</b>	900ME1-0044-44
Full document set, hard copy - English	<b>Note 2</b>	900ME2-0044-44
<b>Software</b>		
HC Designer Config. Software CD		900W01-0044-44
HC Utilities Software/Documentation CD		900W02-0044-44
HC Historian Software		50045756-001

**Note 1:** Documentation and Hybrid Control Designer Configuration Software are not provided with this model. If required, specify CPU model numbers 900C71-NNNN-NN, 900C51-0NNN-NN, 900C31-0NNN-NN or order items separately.

**Note 2:** A full documentation set on CD is provided with CPU 900C51-00NN-NN and 900C31-00NN-NN. If additional copies or if a hard copy manual set is desired, specify them as separate items. The manual set contains one each of all HC900 product manuals. Doc

**Note 3:** Terminal blocks for I/O modules must be ordered separately. Two styles are available for each of the two types--Euro style and Barrier style. The type of terminal block (gold and tin contacts) must be matched to the appropriate I/P board type. S

Card Type	Terminal Blocks	
Analog Input (8 channel)	900TEK-0001	900TBK-0001
Analog Output, 0 to 20mA, (4 channel)	900TEK-0001	900TBK-0001
Analog Output, 0 to 20mA, (8 channel)	900TCK - 0001	
Analog Output, 0 to 20mA, (16 channel)	900TCK - 0001	
Digital Input, Contact type, (16 channel)	900TEK-0001	900TBK-0001
Digital Input, 24VDC (16 channel)	900TEK-0001	900TBK-0001
Digital Input, 120/240 VAC, (16 channel)	900TER-0001	900TBR-0001
Digital In, 120/240VAC 125VDC (16ch Iso)	900TCK - 0001	
Digital Output, Relays (8 channel)	900TER-0001	900TBR-0001
Digital Output, 24VDC (16 Channel)	900TEK-0001	900TBK-0001
Digital Output, 120/240 VAC (8 channel)	900TER-0001	900TBR-0001

**Note 4:** Jumpers available for Barrier Style terminals only.

**Note 5:** How to choose an AC Power Supply

	A	B	C	D	E
Module type	<i>Enter Quantity</i>	Max Current @ 5 V	Max Current @ 24 V	<i>Calculate 5V current (D = A * B)</i>	<i>Calculate 24V current (E = A * C)</i>
Controller (C30)	( )	820 mA	0 mA	( )	( 0 )
Controller (C50)	( )	930 mA	0 mA	( )	( 0 )
Controller (C70)	( )	1150 mA	0 mA	( )	( 0 )
Controller (C70R)	( )	1500 mA	0 mA	( )	( 0 )
Scanner 1 Port	( )	670 mA	0 mA	( )	( 0 )
Scanner 2 Port	( )	770 mA	0 mA	( )	( 0 )
Power Status Module (PSM)	( )	22 mA	0 mA	( )	( 0 )
Analog Input(8 pts)	( )	40 mA	25 mA	( )	( )
Analog Input(16 pts)	( )	75 mA	50 mA	( )	( )
Analog Output(4 pts) <sup>*</sup>	( )	40 mA	200 mA	( )	( )
Analog Output(8 pts) <sup>***</sup>	( )	225 mA	350 mA	( )	( )
Analog Output(16 pts) <sup>***</sup>	( )	350 mA	700 mA	( )	( )
AC Digital Input (16 pts)	( )	130 mA	0 mA	( )	( 0 )
DC Digital Input (16 pts)	( )	130 mA	0 mA	( )	( 0 )
Contact Input (16 pts)	( )	130 mA	40 mA	( )	( )
DC Digital Input (32 pts)	( )	215 mA	0 mA	( )	( 0 )
AC Digital Output (8 pts)	( )	220 mA	0 mA	( )	( 0 )
DC Digital Output (16 pts)	( )	340 mA	0 mA	( )	( 0 )
DC Digital Output (32 pts)	( )	235 mA	0 mA	( )	( 0 )
Relay Output (8 pts)	( )	110 mA	100 mA	( )	( )
Pulse/Frequency/Quadrature <sup>**</sup>	( )	110 mA	250 mA	( )	( )
*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. Use 0 mA for 24V value when using an external 24V supply.				Total mA @ 5V =	Total mA @ 24V=
Complete columns A, D and E above. Is column D total mA @ 5V less than 2000mA? Yes/No Is column E total mA @ 24V less than 900mA? Yes/No If the answers to 1 <u>and</u> 2 are YES, go to 4. If the answer to 1 <u>or</u> 2 is NO, use power supply 900P01-0001. Multiply 5V total by 5.1. ( ) Multiply 24V total by 24.5. ( ) Sum results of 4 and 5. ( ) Divide results of 6 by 1000 ( ) Is the result of 7 less than 28? Yes/No If the answer to 8 is Yes, use power supply 900P02-0001 If the answer to 8 is No, use power supply 900P01-0001				( )	( )

**Note 6**

Using the table below, select a Remote Terminal Panel and Cable Assembly to match the module type.

<b>Module Types</b>	<b>Module Model</b>	<b>Remote Terminal Panel</b>	<b>Acceptable Cables</b>
Analog Input Module	900A01 – 010X	900RTA – L001	900RTC – L010 900RTC – L025 900RTC – L050
Relay Output Module	900H01 – 010X	900RTR – H001	900 RTC – H010 900 RTC – H025 900 RTC – H050
Analog Output Module Contact Discrete Input Module DC Discrete Input Module DC Discrete Output Module	900B01 – 010X 900G01 – 010X 900G02 – 010X 900H02 – 010X	900RTS - 0001	900RTC – L010 900RTC – L025 900RTC – L050
AC Discrete Input Module AC Discrete Output Module	900G03 - 010X 900H03 – 010X	900RTS - 0001	900 RTC – H010 900 RTC – H025 900 RTC – H050
Digital Input , 32 channel Digital Output, 32 Channel Analog Input, 16 Channel	900G32-000X 900H32-000X 900A16-000X	900RTS - 0001 (2 required)	900RTC – 3225 900RTC – 3210 900RTC - 3250
Analog Output Module 8 Channel	900B08-0001	900RTS - 0001	900RTC – B810 900RTC – B825 900RTC – B850
Analog Output Module 16 Channel	900B16-0001	900RTS – 0001 (2 required)	900RTC – 3225 900RTC – 3210 900RTC - 3250