

Programmable Logic Controllers

EHV+ Series

HITACHI
Inspire the Next

Full compliance with the
IEC61131-3 International Standard



EHV+ Series CPU modules

The EHV+ Series is a newly released, fully IEC61131-3 compliant PLC Series which offers effective programming features and reduced debugging and commissioning time.

CPU module “EHV+”

The powerful hardware performances of existing EHV Series are succeeded to EHV+, such as multi-programming port (USB, Ethernet, Serial), compatibility of I/O modules for EH-150 Series, high reliability, superior in quality and much more.

Programming software “EHV-CoDeSys”

EHV-CoDeSys is a professional development tool based on CoDeSys V3.4 by 3S.

Compared to standard CoDeSys, following components are additionally included in the installation file (setup.exe)

- Device description files (.xml) for EHV+ Series
- Special libraries for EHV+ Series. (get_error_info, Counter_interface, etc.)

Well over 200 renowned device manufacturers from different industrial sectors program their automation devices with CoDeSys. Today, CoDeSys is the widest-spread IEC61131-3 development tool in Europe and has established itself as the standard in controller and PLC programming. Advantages of CoDeSys are introduced as follows.

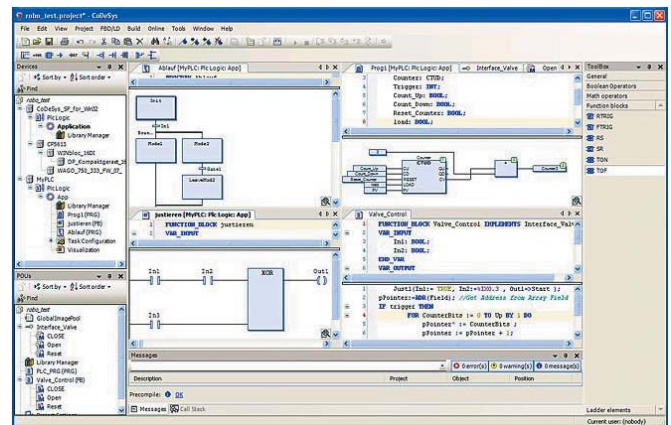
- Standardized programming style with 5 programming languages (LD, FBD, IL, ST, SFC).
- No need to study manufacturer’s specific programming way.
- Easy to start using Hitachi PLC for those who having;
 - No experience of PLC
 - Experience of other manufacturer’s programming
 - Experience of high level languages
- Same Variable names are shared by PLC, HMI, SCADA, and other I/O devices.
- Offline simulation function on programming software.

EHV+ CPU Series: Scalable memory size (4 Models)

- EHV-CPU1006 (64KB)
- EHV-CPU1025 (256KB)
- EHV-CPU1051 (512KB)
- EHV-CPU1102 (1024KB)



Hitachi version of CoDeSys by 3S-Smart Software Solutions GmbH



EHV+CPU module

User program memory
Max. 1,024KB

3 commutation ports

- Ethernet port (10BASE-T/100BASE-TX)
- USB port (Ver2.0 FullSpeed 12Mbps)
- Serial port (RS-232C/RS-422/RS-485)

User program is stored in non-volatile FLASH memory.
(Data is stored in volatile RAM memory retained by battery.)

7 Segment LED Display
Error code is displayed here.

The battery can be replaced easily with CPU module mounted.

Battery
Battery connector

The Ethernet and the Serial port have LEDs of communication status.

No. of I/O is Max.4224(using 64 pts module)

Power module
CPU module
I/O module
Basic base
Expansion cable
Input and output controller
Power module
Expansion base

A max. of 5 expansion base

EHV+ Series is small size but powerful PLC covering wide range of applications since it is possible to expand up to 5 expansion bases, which offers max. 4224 I/O points in 66 I/O modules.

Programming software “EHV-CoDeSys”

● Five programming language editors

The user can freely select among the 5 programming languages of the IEC61131-3 standard according to the intended purpose and the programmer’s skills and experience.

LD Ladder Diagram

FBD Function Block Diagram

SFC Sequential Function Chart

IL Instruction List

LD	bVar
ST	inst1.IN
JMPC	m1
CAL	inst1(PT:=t1, ET:>tout1)
LD	inst1.Q
ST	inst2.IN

ST Structured Text

```

1  a := a + 1;
2  tl(IN:=FALSE, PT:= T#5S);
3  tl(IN:=TRUE);
4  FOR i := 0 TO count DO
5  test_l_int();
6  END FOR
7  IF value < 7 THEN
8  WHILE value < 8 DO
9  value:=value+1;
10 END_WHILE;
11 END_IF;
```

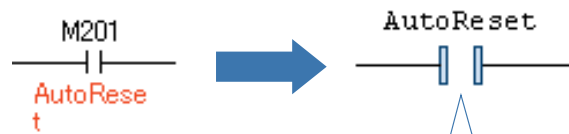
● Easy and efficient programming

Structured Programming

Task configuration and structured-based editors on POU (Program Organization Unit) enable flexible programming.

Programming with variable names

Programming with variable name enables you to be free from I/O addressing of PLC.



■ Specifications of EHV-CoDeSys

Item	Descriptions	
System requirements	RAM	1GB
	Operating system	Windows 2000 or higher(not yet released for the 64-bit platforms of Windows Vista and Windows 7)
	CPU	1GHz Pentium
	Hard disk	1GB
	Screen resolution	1024x768
Communication cables	USB	Standard USB cable (Type-B connector)
	Ethernet	UTP or STP cable (cat 5E)
	Serial	EH-VCB02

Minimal requirements for small projects with up to 100 POU's, 10 visualizations, 8 field bus devices.

● Debugging and commissioning features

Many of user-friendly debugging and commissioning features are supported.

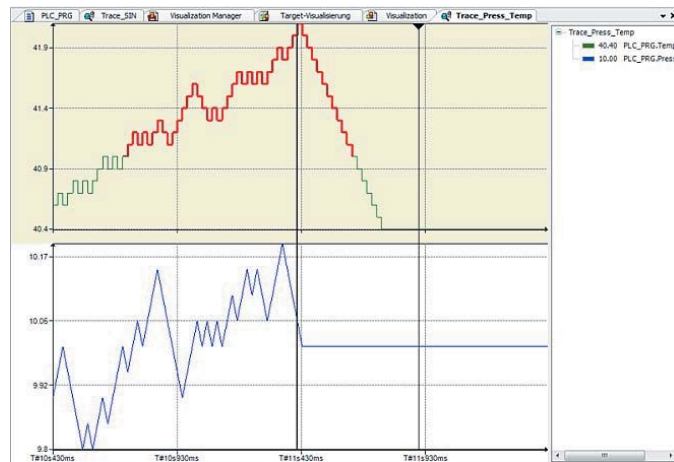
- Monitoring
- Forcing of variables
- Break points
- Single step execution
- Single cycle execution
- Flow control
- Online change
- Incremental compile
- Incremental download
- Sampling trace
- Simulation
- and much more.

Expression	Type	Value	Prepared value
StartTime	TIME	T#0ms	
S3	GEN		
MODE	GEN_MODE	GEN_MODE.SAWTOO...	
BASE	BOOL	FALSE	TRUE
PERIOD	TIME	T#1s	
CYCLES	INT	100	45
AMPLITUDE	INT	1000	
RESET	BOOL	FALSE	
OUT	INT	-280	

```

1.3 D (IN:=INT_TO_REAL(S6.Out 440) , TM:=10 , RESET:=FALSE) ;
1.4 B (ENABLE:=TRUE, TIMELOW:=t#4s , TIMEHIGH:=t#8s) ;
1.5 iSpecialSinus -833 := S12.Out 639 - S11.OUT 1472 ;
1.6 RETURN
    
```

Forcing of variables



Sampling trace

Visualization

In addition to the core programming functionality, EHV-CoDeSys offers powerful visualization functions such as an integrated graphical editor, which is useful for test, commissioning or diagnostic purpose.

Overview of the I/O module lineup

Big variety of modules to meet various applications demands

DC and AC digital input and output modules



8/16 pts. Input module (terminal block)

- EH-XD8 : 8 pts. 24 VDC
- EH-XD16 : 16 pts. 24 VDC
- EH-XDL16 : 16 pts. 24 VDC
(Input lag 16ms)
- EH-XA16 : 16 pts. 100 to 120 VAC
- EH-XAH16 : 16 pts. 200 to 240 VAC



8/16 pts. Output module (terminal block)

- EH-YT8 : 8 pts. Transistor (sink)
- EH-YTP8 : 8 pts. Transistor (source)
- EH-YT16 : 16 pts. Transistor (sink)
- EH-YTP16 : 16 pts. Transistor (source)
- EH-YS4 : 4 pts. Triac
- EH-YS16 : 16 pts. Triac
- EH-YR12 : 12 pts. Relay
- EH-YR16 : 16 pts. Relay
- EH-YR8B : 8 pts. Isolated relay



32 pts. Input module (connector)

- EH-XD32 : 32 pts. 24 VDC



32 pts. Output module (connector)

- EH-YT32 : 32 pts. Transistor (sink)
- EH-YTP32 : 32 pts. Transistor (source)



64 pts. Input module (connector)

- EH-XD64 : 64 pts. 24 VDC



64 pts. Output module (connector)

- EH-YT64 : 64 pts. Transistor (sink)
- EH-YTP64 : 64 pts. Transistor (source)



32 pts. Input module (Spring type terminal block)

- EH-XD32E : 32 pts. 24 VDC
- EH-XDL32E : 32 pts. 24 VDC
(Input lag 16 ms)



32 pts. Output module (Spring type terminal block)

- EH-YT32E : 32 pts. Transistor (sink)
- EH-YTP32E : 32 pts. Transistor (source)

Analog input and output modules



Analog Input module

- EH-AX44 : 12-bit analog input, Current 4-20 mA, Voltage 0-10 V, 4 ch each
- EH-AX8V : 12-bit analog input, Voltage 0-10 V, 8 ch
- EH-AX8H : 12-bit analog input, Voltage -10 to 10 V, 8 ch
- EH-AX8I : 12-bit analog input, Current 4-20 mA, 8 ch
- EH-AX8IO : 12-bit analog input, Current 0-22 mA, 8 ch
- EH-AXH8M : 14-bit analog input, Current 0-22 mA / 4-22 mA, Voltage -10 to 10 V / 0-10 V, 8 ch

Analog Output module

- EH-AY22 : 12-bit analog output, Current 4-20 mA, Voltage 0-10 V, 2 ch each
- EH-AY4V : 12-bit analog output, Voltage 0-10 V, 4ch
- EH-AY4H : 12-bit analog output, Voltage -10 to 10 V, 4 ch
- EH-AY4I : 12-bit analog output, Current 4-20 mA
- EH-AY2H : 12-bit analog output, Voltage -10 to 10 V, 2 ch
- EH-AYH8M : 14-bit analog output, Current 0-22 mA / 4-22 mA, voltage 0-10 V, 8 ch

Temperature Detective Input module

- EH-PT4 : Signed 15-bit, Pt 100 / Pt 1000, 4 ch
- EH-TC8 : Signed 15-bit, Thermo-couple (K, E, J, T, B, R, S, N) 8 ch

Positioning and Counter modules



1-axis positioning module

- EH-POS : Open collector output
Line driver output



4-axis positioning module

- EH-POS4 : Line driver output



High speed counter module

- EH-CU : Maximum 100 kHz, 2 ch
- EH-CUE : Maximum 100 kHz, 1 ch

Specifications



CPU Module

Item	EHV-CPU1006	EHV-CPU1025	EHV-CPU1051	EHV-CPU1102
User program memory	64KB	256KB	512KB	1024KB
Source file memory	2MB	6MB		
Data memory (non retain)	256KB			
Data memory (retain)	16KB			
Data memory (Fieldbus)	16KB (2KB×8 = 1KW×8)			
No. of expansion base	0	5		
No. of I/O (using 64 pts module)	704	4,224		
Programming languages	IEC61131-3 compliant 5 languages LD : Ladder Diagram FBD : Function Block Diagram (incl. CFC: Continuous Function Chart) SFC : Sequential Function Chart IL : Instruction List ST : Structured Text			
I/O updating cycle	Refresh processing			
Communication	Protocol	CoDeSys V3 protocol		
	USB	USB 2.0 Full speed (Gateway*)		
	Ethernet	10BASE-T/100BASE-TX (Gateway*, Modbus-TCP client/server, Global network variables)		
	Serial	RS-232C/422/485 (Gateway*, Modbus-RTU master, General purpose)		
Switch, indications	Indications	RUN LED, ERR LED, 7-segment LED (2 digits)		
	RUN switch	STOP/ RUN (Remote RUN/STOP enabled when the switch position is in RUN.)		
	E.CLR button	Reset error information		
Calendar clock	Support (Built-in RTC)			
Battery	LIBAT-H (for RTC and RETAIN data)			
Maintenance function	Diagnosis (micro processor error, watch dog timer error, memory error, battery error, etc.)			

* Gateway: Communication with EHV-CoDeSys

Power Supply Module



Item		EH-PSA	EH-PSD
Input	Rated voltage	85 to 264V AC	21.6 to 26.4 V DC
	Current	1A maximum (85 to 264V AC)	1.25A maximum (24V DC)
	Inrush current	50 A maximum (Ta = 25°C), 100 A maximum (Ta = 55°C)	50 A maximum (Ta = 25°C), 100 A maximum (Ta = 55°C)
Output Current	5 V DC	3.8A	3.8A
	24 V DC	0.4A	—

Redundant Power Supply Module



Item		EH-PSR
Input	Rated voltage	85 to 264 V AC
	Current	1A maximum (85 to 264 V AC)
	Inrush current	50 A maximum (Ta = 25°C), 100 A maximum (Ta = 55°C)
Output Current	5 V DC	5.8A
	24 V DC	—

DC and AC Input Module



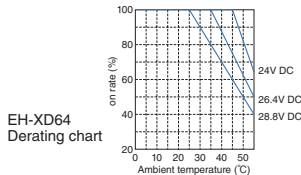
Item	Specification					
Type	EH-XD8	EH-XD16	EH-XDL16	EH-XA16	EH-XAH16	
Input specification	DC input			AC input		
Input voltage	24 V DC			100 to 120 V AC	200 to 240 V AC	
Allowable input voltage range	19.2 to 30 V DC			85 to 132 V AC	170 to 264 V AC	
Input impedance (Approximately)	3.5kΩ	5.9 kΩ		16 kΩ(50 Hz), 13 kΩ(60 Hz)	32 kΩ(50 Hz), 27 kΩ(60 Hz)	
Input current (Approximately)	6.9mA	4.0mA		4.8 to 7.6mA (100 V AC / 50Hz)	4.3 to 8.0mA (200 V AC / 50Hz)	
Operating voltage	ON voltage	15 V minimum			79 V AC	164 V AC
	OFF voltage	5 V maximum			20 V AC	40 V AC
Input lag	OFF→ON	5 ms maximum (4 ms TYP)		16 ms maximum (13 ms TYP)	15 ms maximum	
	ON→OFF	5 ms maximum (4 ms TYP)		16 ms maximum (13 ms TYP)	25 ms maximum	
Number of input points	8	16		16		
Number of inputs / common	8	16 (1 common, 2 terminals)				
Polarity	None			None		
Insulation method	Photocoupler insulation			Photocoupler insulation		
Input display	LED (green)			LED (green)		
External connection	Removable screw terminal block (M3)					
Internal current consumption (5 V DC)	30 mA	50 mA				

32-/64-point DC Input Module



EH-XD32

EH-XD64



EH-XD64 Derating chart

Item	Specification	
Type	EH-XD32	EH-XD64
Input specification	DC input	
Input voltage	24 V DC	
Allowable input voltage range	19.2 to 30 V DC	20.4 to 28.8 V DC
Input impedance	Approximately 5.6 kΩ	
Input derating	—	See the derating chart
Input current	Approximately 4.3 mA	
Operating voltage	ON voltage	15 V minimum
	OFF voltage	5 V maximum
Input lag	OFF→ON	5 ms maximum
	ON→OFF	5 ms maximum
Number of input points	32	64
Number of inputs / common	32 (1 common, 4 terminals)	32 (2 commons, 8 terminals)
Polarity	None	
Insulation method	Photocoupler insulation	
Input display	LED (green)*1	
External connection	Connector	
Internal current consumption (5 V DC)	60 mA	80 mA

* 1: There are 16 LED displays. Use the toggle switch to select a group of input points to be displayed.

32-point Spring type terminal DC Input Module



Item	Specification	
Type	EH-XD32E	EH-XDL32E
Input specification	DC input	
Input voltage	24 V DC	
Allowable input voltage range	20.4 to 28.8 V DC	
Input impedance	Approximately 5.6 kΩ	
Input current	Approximately 4.3mA (24VDC)	
Operating voltage	ON voltage	15 V minimum
	OFF voltage	5 V maximum
Input lag	OFF→ON	1 ms maximum
	ON→OFF	1 ms maximum
Number of input points	32	
Number of inputs / common	8 (4 commons, 8 terminals)	
Polarity	None	
Insulation isolation	Photocoupler insulation	
Input display	LED (green)*1	
External connection	Spring type terminal	
Internal current consumption (5 V DC)	60 mA	

* 1: There are 16 LED displays. Use the toggle switch to select a group of input points to be displayed.

Transistor Output Module



Item	Specification				
	EH-YT8	EH-YT16	EH-YTP8	EH-YTP16	EH-YTP16S (with short-circuit protection)
Type	Transistor output (sink type)		Transistor output (source type)		
Rated load voltage	12 / 24 V DC (+10%, -15%)		12 / 24 V DC (+10%, -15%)		
Minimum switching current	1 mA		1 mA		
Leak current	0.1 mA		0.1 mA		
Maximum load current	1 point	0.5 A			
	1 common	2.4 A	4 A	2.4 A	4 A
Output response time	OFF → ON	0.3 ms maximum		0.3 ms maximum	
	ON → OFF	1 ms maximum		1 ms maximum	
Number of output points	8	16	8	16	
Number of outputs / common	8	16	8	16	
Surge removal circuit	Diode		Diode		Built-in
Fuse	4 A / common	8 A / common	4 A / common	8 A / common	None
Insulation method	Photocoupler insulation		Photocoupler insulation		
Output display	LED (green)		LED (green)		
External connection	Removable screw terminal block (M3)				
Internal current consumption (5 V DC)	30 mA	50 mA	30 mA	50 mA	
External power supply (For supplying power to the S terminal)	12 / 24 V DC (+10%, -15%) (maximum 30 mA)		12 / 24 V DC (+10%, -15%) (maximum 30 mA)		

32-/64-point DC Output Module



EH-YT32
EH-YTP32

EH-YT64
EH-YTP64

Item	Specification			
	EH-YT32	EH-YTP32	EH-YT64	EH-YTP64
Type	Transistor output (sink type)	Transistor output (source type)	Transistor output (sink type)	Transistor output (source type)
Rated load voltage	12 / 24 V DC (+10%, -15%)			
Minimum switching current	1 mA			
Leak current	0.1 mA maximum			
Maximum load current	1 point	0.2 A	0.1 A	
	1 common	4.0 A*1	3.2 A	
Output response time	OFF → ON	0.3 ms maximum		
	ON → OFF	1 ms maximum		
Number of output points	32		64	
Number of outputs / common	32 (1 common, 4 terminals)		32 (2 commons, 8 terminals)	
Surge removal circuit	Diode			
Fuse	10 A / 1 common		5 A / 1 common	
Insulation method	Photocoupler insulation			
Output display	LED (green)*2			
Short-circuit protection	Short-circuit protection function			
External connection	Connector			
Internal current consumption (5 V DC)	90 mA		120 mA	
External power supply (For supplying power to the S terminal)	12 / 24 V DC (+10%, -15%) (Maximum 100 mA)			

* 1: Total current for 4 common pins. The maximum current for 1 pin is 3A.

* 2: There are 16 LED displays. Use the toggle switch to select a group of input points to be displayed.

Spring type terminal DC Output Module



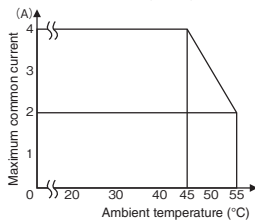
Item	Specification	
	EH-YT32E	EH-YTP32E
Type	Transistor output (sink type)	Transistor output (source type)
Rated load voltage	12 / 24 V DC (+10%, -15%)	
Minimum switching current	1 mA	
Leak current	0.1 mA maximum	
Maximum load current	1 point	0.2 A
	1 common	1.0 A
Output response time	OFF → ON	0.3 ms maximum
	ON → OFF	1 ms maximum
Number of output points	32	
Number of outputs / common	8 (4 commons, 4 terminals)	
Surge removal circuit	Diode	
Fuse	10 A / common	
Isolation system	Photocoupler insulation	
Output display	LED (green)*1	
Short-circuit protection	Built-in short-circuit protection function	
External connection	Spring type terminal	
Internal current consumption (5 V DC)	90 mA	
External power supply (For supplying power to the S terminal)	12 / 24 V DC (+10%, -15%) (maximum 30 mA)	

* 1: There are 16 LED displays. Use the toggle switch to select a group of input points to be displayed.

Relay and AC (SSR) Output Module



EH-YS16 Derating diagram



Item	Specification				
	EH-YR8B	EH-YR12	EH-YR16	EH-YS4	EH-YS16
Type	Independent relay output	Relay output		Triac output	
Output specification	100 / 240 V AC, 24 V DC		100 / 240V AC (85 to 250 V AC)		
Rated load voltage	1 mA (5V DC except after switching with excessive current)				
Minimum switching current	None		5mA maximum	2mA maximum	
Leak current	None		0.5A	0.3A	
Maximum load current	1 point	2A			0.5A
	1 common	2A	5A	8A	4A (Derating diagram)
Output response time	OFF→ON	10 ms maximum			1ms maximum
	ON→OFF	10 ms maximum			1ms + 1/2 cycles maximum
Number of output points	8	12	16	4	16
Number of outputs / common	1 (each output separated)	12 (1 common, 2 terminals)	16 (1 common, 2 terminals)	4	16 (1 common, 2 terminals)
Surge removal circuit	Varistor (voltage characteristic of varistor : 423~517 V)	None		Varistor	
Fuse	None			4 A / 1 common	6.3 A / 1 common*1
Insulation method	Relay insulation	Photocoupler insulation	Relay insulation	Photo-triac insulation	
Output display	LED (green)				
External connection	Removable screw terminal block (M3)				
Internal current consumption (5 V DC)	220 mA	40 mA	430 mA	70mA	250mA
Externally supplied power (For driving relays)	Not used	24 V DC (+10%, -5%) (maximum 70 mA)	Not used	Not used	Not used

* 1: Install an external fuse at each load.

Terminal Block for 32/64 points I/O Module



Features

- With one cable, the terminal block can be connected to a 32/64-point I/O module.
- Width of the terminal block is 40mm. It saves installation space.
- Terminal screws are retention-type. A closed-loop terminal connector can be easily attached without removing a screw.
- The terminal block can be snapped on a DIN rail.
- Connection cables between the terminal block and a 32/64-point I/O module are available.



Item	Specification
Type	HPX7DS-40V6
Number of terminals	40
Terminal width	7.62
Applicable cable	Max. 1.25mm ²
Tightening torque	0.5 - 0.75N·m
Terminal screw	M3 x 6L
Rated voltage	125 V
Rated current	1 A
Dielectric withstand voltage	500 V AC for 1 minute (Against ground: 1000 V AC for 1 minute)
Insulation resistance	1000 M Ω or more between charge and ground (500 V mega)
Vibration resistance	10 - 50Hz / dual-amplitude 1.5 mm
Shock resistance	491m/S ² (50G) minimum

Cables for 32/64-point Module

With a connector at each end		With a connector at one end	
Type	Cable length	Type	Cable length
EH-CBM01W	1 m	EH-CBM01	1 m
EH-CBM03W	3 m	EH-CBM03	3 m
EH-CBM05W	5 m	EH-CBM05	5 m
EH-CBM10W	10 m	EH-CBM10	10 m



Analog Input Module (12 bit)

Item		Specification				
Type		EH-AX44	EH-AX8V	EH-AX8H	EH-AX8I	EH-AX8IO
Current input range		4 to 20 mA (Ch. 0 to 3)	—		4 to 20 mA	0 to 22 mA
Voltage input range		0 to 10 V DC (Ch. 4 to 7)	0 to 10 V DC	-10 to 10 V DC	—	
Resolution		12 bits				
Conversion time		5 ms maximum				
Overall accuracy		±1% or less (of full-scale value)				
Input impedance	Current input	Approximately. 100Ω	—		Approximately. 100Ω	
	Voltage input	Approximately. 100 kΩ				
Insulation	Channel-internal circuit	Photocoupler insulation				
	Between channels	No insulation				
Number of channels	Current input	4	—		8	
	Voltage input	4	8		—	
External connection		Removable screw terminal block (M3)				
Internal current consumption (5 V DC)		100 mA				
External power supply		24 V DC (+20%, -15%) 0.15 A (0.4 A at power On)				
External wiring		2-core shield wire (20 m (65.62 ft.) maximum)				

Analog Output Module (12 bit)

Item		Specification				
Type		EH-AY22	EH-AY4V	EH-AY4H	EH-AY2H	EH-AY4I
Voltage output range		0 to 10 V DC (Ch. 0 to 1)	0 to 10 VDC	-10 to 10 V DC		—
Current output range		4 to 20 mA (Ch. 2 to 3)	—			4 to 20 mA
Resolution		12 bits				
Conversion time		5 ms maximum				
Overall accuracy		±1% or less (of full-scale value)				
External load resistor	Voltage output	10 kΩ minimum				
	Current output	0 to 500Ω	—			0 to 350Ω
Insulation	Channel-internal circuit	Photocoupler insulation				
	Between channels	No insulation				
Number of channels	Voltage output	2	4	2		—
	Current output	2	—			4
External connection		Removable screw terminal block (M3)				
Internal current consumption (5 V DC)		100 mA				130 mA
External power supply		24 V DC (+20%, -15%) 0.15 A (0.5 A at power On)				
External wiring		2-core shield wire (20 m (65.62 ft.) or less)				

Resistance Temperature Detectable Input Module

Item		Specification	
Type		EH-PT4	
Temperature-sensing element		Platinum resistance temperature detector Pt 100 (JIS C 1604-1989) / Pt 1000	
Temperature conversion data		Signed 15 bits	
Accuracy *1	-20°C to 40°C (Pt 100)	±0.1°C @ 25°C ±0.5°C (0 to 55°C)	
	-50°C to 400°C (Pt 100)	±0.6°C @ 25°C ±3°C (0 to 55°C)	
	-50°C to 400°C (Pt 1000)	±0.8°C @ 25°C ±6°C (0 to 55°C)	
Temperature measuring range		-20 to +40°C / -50 to +400°C (2 mA constant current system)	
Number of input points		4	
Conversion time		Approximately 0.5 second per four inputs	
Insulation	Between input and internal circuit	Photocoupler insulation	
	Between inputs	No insulation	
External Connection		Removal terminal block (M3)	
Unused terminal processing		Unused terminals (for current, voltage and ground) should be shorted at the terminal block (Temperature conversion data for one of the four values is H7FFF)	
External wiring register		The maximum total wiring resistance from current terminal to ground terminal is 2 Ω.	
External wiring		3 cores shielded cable	
Additional function		Linearization	
Resolution	-20°C to 40°C (Pt 100)	0.0024°C	
	-50°C to 400°C (Pt 100)	0.024°C	
	-50°C to 400°C (Pt 1000)	0.024°C	
Internal current consumption (5 V DC)		160mA	
Externally supplied power		24 V DC ±10%, Maximum current consumption is 70mA	

* 1: Accuracy 10 minutes after power on.

Analog Input Module (14 bit)

Item		Specification	
Model name		EH-AXH8M	
Input range (Selected by the switch.)		Voltage 0 to 10 V DC / -10 to 10 V DC Current 0 to 22 mA / 4 to 22 mA	
Resolution (Selected by the switch)	0 to 10 V 0 to 22 mA	Voltage 1 mV or 1/16384 (14 bits) Current 0.002 mA or 1/16384 (14 bits)	
Conversion time		8.9 ms / 8 channels	
Overall accuracy		Voltage ±0.5% maximum (Full scale) Current ±0.8% maximum (Full scale)	
Linearity		±0.1% maximum (Full scale)	
Input filter (Selected by the switch)	Enable	Approx. 90 ms (to reach 90% after step input)	
	Disable	18 ms maximum (to reach 90% after step input)	
Input impedance	Voltage Current	Differential 200 kΩ 249Ω	
Isolation	Between channel and internal bus	Photo coupler	
	Between channels	Not isolated	
Number of channel		Differential voltage input 8 ch. or Current input 8 ch. (selected per 4 ch.)	
Wiring		Removable screw terminal block (M3)	
Internal current consumption (5 V DC)		70mA	
External power supply		24 V DC (+20%, -15%) 0.04 A (0.3 A at power on)	
Cable		Shielded pair cable (Max. 20m)	

Analog Output Module (14 bit)

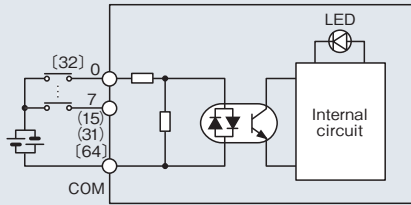
Item		Specification	
Model name		EH-AYH8M	
Output range (Selected by the switch)		Voltage 0 to 10 V DC Current 0 to 22 mA / 4 to 22 mA	
Resolution (Selected by the switch)		Voltage 1 mV or 1/16384 (14 bits) Current 0.002 mA or 1/16384 (14 bits)	
Conversion time		8.9 ms / 8 channels	
Overall accuracy		±0.8% maximum (Full scale)	
Linearity		±0.2% maximum (Full scale, in range 0 to 10V / 0.05 to 22mA)	
Output filter (Selected by the switch)	Disable	18 ms maximum (to reach 90% of set value)	
	Enable	200 ms maximum (to reach 90% of set value)	
Output impedance	Voltage Current	Min. 10 kΩ Max. 400Ω	
Isolation	Between channel and internal bus	Photo coupler	
	Between channels	Not isolated	
Number of output channel		Voltage output 8 ch. or Current output 8 ch. (selected per 4 ch.)	
Wiring		Removable screw terminal block (M3)	
Internal current consumption (5 V DC)		70mA	
External power supply		24 V DC (+20%, -15%) 0.15 A (0.4 A at power on)	
Cable		Shielded pair cable (Max. 20m)	

Thermocouple Input Module

Item		Specification	
Type		EH-TC8	
Number of input points		8	
Type of sensor		K, E, J, T, B, R, S, N (Selected by the setting switch on the PWB)	
Insulation		Photocoupler (Channel - internal circuit)	
Conversion time		860 ms / 8 channels or 108 ms / 8 channels (Selected by the setting switch on the PWB)	
Temperature conversion data		15 bits binary data (Negative values are indicated in two's complements)	
Resolution		0.1°C/0.1°F (Selected by the setting switch on the PWB), 1°C/1°F (B, R, S)	
Accuracy		+/- 0.3 to 1.0% FS	
Error detection		Turn on LED and Value 7FFFH (Each channel)	
Internal current consumption (5 V DC)		70mA	
External power source		24 V DC	

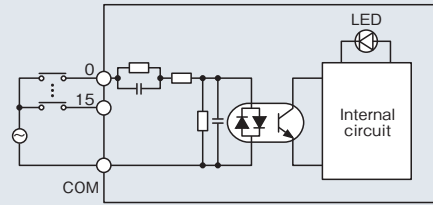
Internal Circuit Diagram

DC Input (8,16,32 and 64 points)



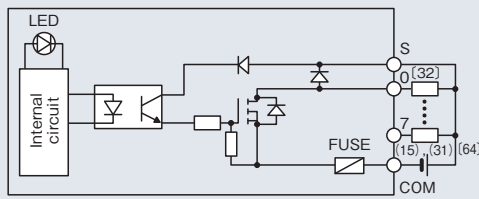
Model: EH-XD8, EH-XD16, EH-XDL16, EH-XD32, EH-XD64

AC Input (16 points)



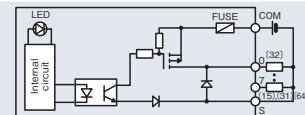
Model: EH-XA16, EH-XAH16

Transistor Output (8,16, 32 and 64 points) Sink Type

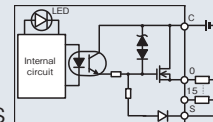


Model: EH-YT8, EH-YT16, EH-YT32, EH-YT64

Transistor Output (8,16, 32 and 64 points) Source Type

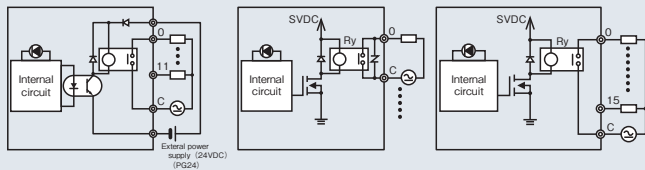


Model: EH-YTP8, EH-YTP16, EH-YTP32, EH-YTP64



Model: EH-YTP16S

Relay Output (8, 12 and 16 points)

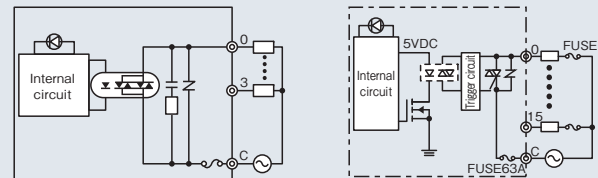


Model: EH-YR12

Model: EH-YR8B

Model: EH-YR16

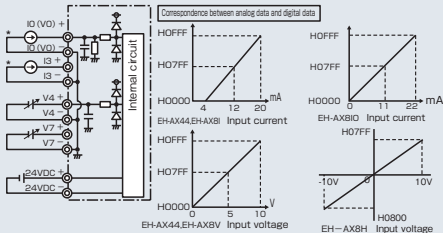
AC (SSR) Output (4 points)



Model: EH-YS4

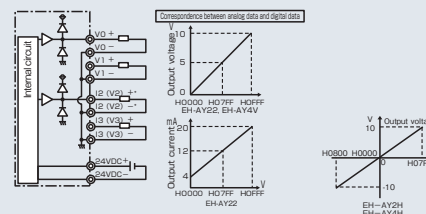
Model: EH-YS16

Analog Input



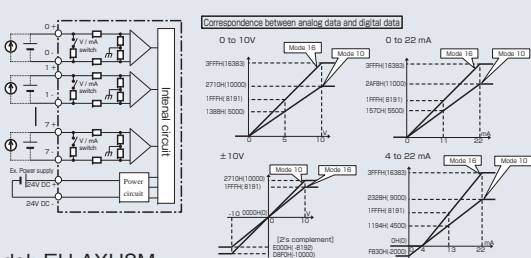
Model: EH-AX44, EH-AX8V, EH-AX8H, EH-AX8I, EH-AX8IO

Analog Output



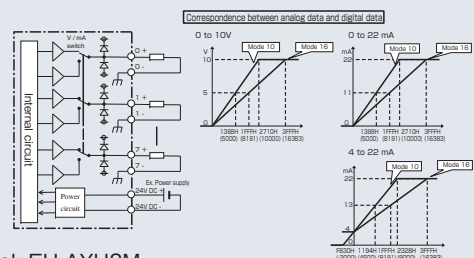
Model: EH-AY22, EH-AY2, EH-AY4V, EH-AY4H, EH-AY4I

Analog Input (EH-AXH8M)



Model: EH-AXH8M

Analog Output (EH-AYH8M)



Model: EH-AYH8M

Communication and Network Module

PROFIBUS® Master/Slave Module

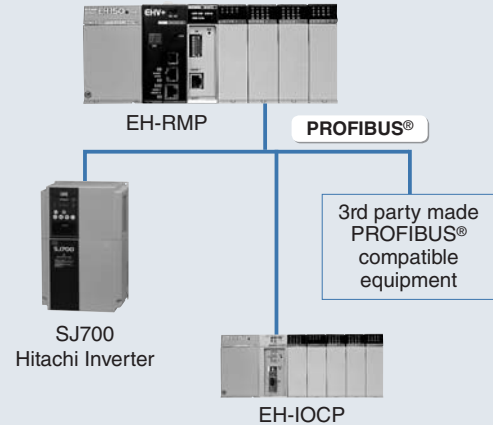
System configuration



EH-RMP



EH-IOCP



General Specifications

Item	Specification	
	EH-RMP	EH-IOCP
Current consumption	5 V DC, 600 mA	
Mounted slot position	Only slot 0 to 7 on basic base	CPU Slot

Performance specifications

Item	Specification
	EH-RMP
Number of installed units	8 units / CPU (slot 0 to 7 only)
Number of supported slave units	Maximum of 124 units. However, a repeater is required to connect 32 or more units.
Number of output words	256 words
Number of input words	256 words
Baud rate: Segment length	9.6 kbps : 1,200 m 19.2 kbps : 1,200 m 45.45 kbps : 1,200 m 93.75 kbps : 1,200 m 187.5 kbps : 1,000 m 500 kbps : 400 m 1,500 kbps : 200 m 3 Mbps : 100 m 6 Mbps : 100 m 12 Mbps : 100 m
Self-diagnostics	System ROM / RAM check Watchdog timer
GSD file	File name: Hita1004.gsd Please contact Hitachi sales office.

Item	Specification
	EH-IOCP
Number of installed I/O modules	16 units / EH-IOCP (use the EH-IOCH2 to install 9 or more units.)
Node address setting range	1 to 99
Input/output capacity	208 words
Data update time	5 ms
Baud rate: Segment length	9.6 kbps : 1,200 m 19.2 kbps : 1,200 m 93.75 kbps : 1,200 m 187.5 kbps : 1,000 m 500 kbps : 400 m 1,500 kbps : 200 m 3 Mbps : 100 m 6 Mbps : 100 m 12 Mbps : 100 m
Self-diagnostics	System ROM / RAM check Watchdog timer
GSD file	File name: Hita049.gsd Please contact our sales department.

Note : Please prepare the configuration software for set-up.

Supported I/O List

The I/O modules that are supported by the EH-IOCP are as follows:

Type	Input size (word)	Output size (word)
EH-XD8	1	0
EH-XD16		
EH-XDL16		
EH-XA16		
EH-XAH16		
EH-XD32	2	0
EH-XD32E		
EH-XDL32E		
EH-XD64		
EH-PT4		
EH-AX44	8	0
EH-AX8V		
EH-AX8H		
EH-AX8I		

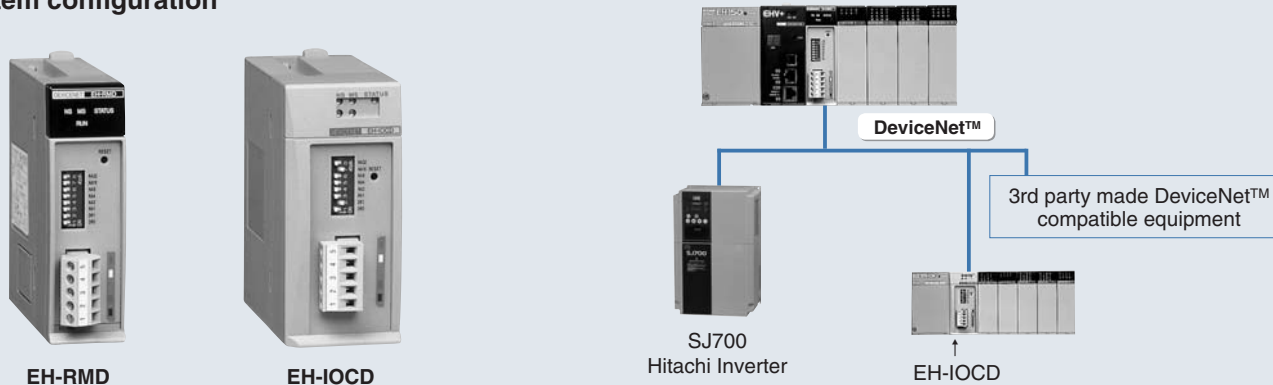
Type	Input size (word)	Output size (word)
EH-AX8IO	8	0
EH-AXH8M		
EH-TC8		
EH-YT8		
EH-YT16		
EH-YTP8	0	1
EH-YTP16		
EH-YTP16S		
EH-YS4		
EH-YS16		
EH-YR8B	0	1
EH-YR12		
EH-YR16		

Type	Input size (word)	Output size (word)
EH-YT32	0	2
EH-YTP32		
EH-YT32E		
EH-YTP32E		
EH-YT64		
EH-YTP64	0	4
EH-AY22		
EH-AY4V		
EH-AY4H		
EH-AY4I		
EH-AYH8M	0	8
EH-POS		
EH-POS4		
EH-CU		
EH-CUE		

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DeviceNet™ Master/Slave Module

● System configuration



General Specifications

Item	Specification	
	EH-RMD	EH-IOCD
Internal current consumption	5 V DC, 280 mA	5 V DC, 320 mA
External power supply	100 (3. 94) 24 V DC ± 10% (supplied from communication connector)	
Mounted slot position	Only slot 0 to 7 on basic base	CPU Slot

Performance Specifications

Item	Specification			
	EH-RMD			
	LINK mode			
No. of installed units	8 units (slot 0 to 7 only)			
No. of slave-connected units	63 units			
I/O assignment	LINK			
Output data	256 words			
Input data	256 words			
Communication protocol	DeviceNet 2.0 standard			
Supported connections	1) Poll I/O connection 2) Bit strobe I/O connection 3) Cyclic I/O connection 4) Change of state (COS) I/O connection 5) Explicit message connection			
Connection mode	1) Multi-drop connection 2) Multi-branch connection using T branch			
Communication speed	500 k / 250 k / 125 kbps (set by DIP switches)			
Cable	Dedicated DeviceNet Cable			
Communication distance	Communication speed	Maximum network length	Each sub-line length	Total sub-line length
	500 kbps	100 m or less	6 m or less	39 m or less
	250 kbps	250 m or less	6 m or less	78 m or less
	125 kbps	500 m or less	6 m or less	156 m or less
The maximum network length shows the value when a thick trunk cable is used.				

Note : Please prepare the configuration software "RSNet Worx™ for DeviceNet" (Rookwell Software co.,Ltd.) for set-up.

Item	Specification			
	EH-IOCD			
Number of installed I/O modules	16 units / EH-IOCD (Use the EH-IOCH2 to install 9 or more units.)			
Output data	256 words			
Input data	256 words			
Communication protocol	DeviceNet 2.0 standard			
Supported connections	Poll I/O connection / Bit Strobe I/O connection / Cyclic I/O connection / Change of state (COS) I/O connection / Explicit message connection			
Connection mode	Multi-drop connection / Multi-drop connection using T branch			
Baud rate	500 k / 250 k / 125 kbps (switched by DIP switches)			
Cable	Dedicated DeviceNet Cable (see Note below)			
Communication distance	Communication speed	Maximum network length	Each sub-line length	Total sub-line length
	500 kbps	100 m or less	6 m or less	39 m or less
	250 kbps	250 m or less	6 m or less	78 m or less
	125 kbps	500 m or less	6 m or less	156 m or less
The maximum network length shows the value when a thick trunk cable is used.				

Node Address and Communication Speed Settings

Node address	NA1	NA2	NA4	NA8	NA16	NA32
0	OFF	OFF	OFF	OFF	OFF	OFF
1	ON	OFF	OFF	OFF	OFF	OFF
2	OFF	ON	OFF	OFF	OFF	OFF
•						
62	OFF	ON	ON	ON	ON	ON
63	ON	ON	ON	ON	ON	ON
Baud rate	DR0			DR1		
125	OFF			OFF		
250	ON			OFF		
500	OFF			ON		
	ON			ON		

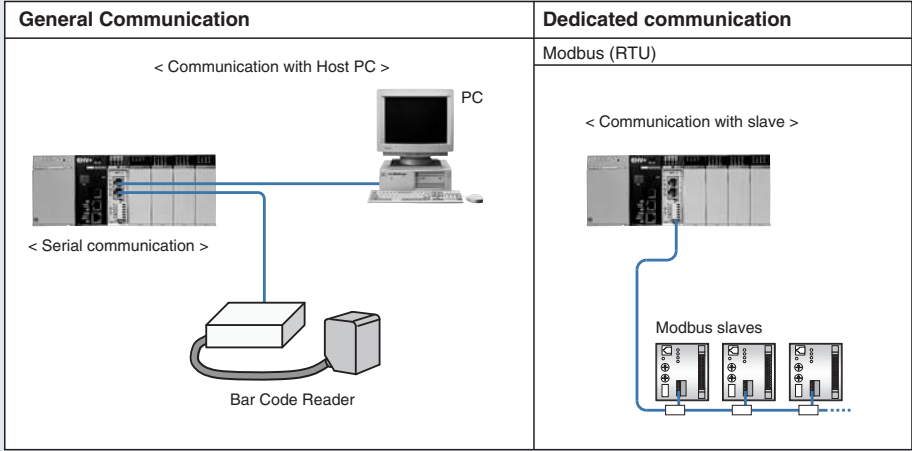
Supported I/O Modules

The I/O modules that are supported by the EH-IOCD are as follows:

Type	Input size (word)	Output size (word)
EH-XD8		
EH-XD16		
EH-XDL16	1	0
EH-XA16		
EH-XAH16		
EH-XD32		
EH-XD32E	2	0
EH-XDL32E		
EH-XD64	4	0
EH-PT4	4	0
EH-AX44		
EH-AX8V		
EH-AX8H		
EH-AX8I	8	0
EH-AX8IO		
EH-AXH8M		
EH-TC8		
EH-YT8		
EH-YT16		
EH-YTP8		
EH-YPT16		
EH-YTP16S		
EH-YS4	0	1
EH-YS16		
EH-YR8B		
EH-YR12		
EH-YR16		
EH-YT32		
EH-YTP32		
EH-YT32E	0	2
EH-YTP32E		
EH-YT64		
EH-YTP64	0	4
EH-AY22		
EH-AY2H		
EH-AY4V		
EH-AY4H	0	8
EH-AY4I		
EH-AYH8M		
EH-POS		
EH-POS4	4	4
EH-CU		
EH-CUE	5	3

Serial communication Module

System configuration



General Specifications

Item	Specification
	EH-S10
Interface	RS-232C × 1
Communication mode	RS-232C/422/485 × 1
Communication speed(bps)	Half-duplex
Maximum communication data	300/ 600/ 1200/ 2400/ 4800/ 9600/ 19200/ 38400/ 57600
Communication protocol	Maximum 1024 byte
	Non-protocol
	Modbus RTU master

Positioning, Counter Module

Counter Module



Item		Specification		
Type		EH-CU	EH-CUE	
Counter specification	Maximum number of count	32 bit (0 to 4, 294, 967, 295)		
	Maximum frequency	100 kHz (25 kHz when multiple of 4)		
	Count mode	Select via dip switch settings. (Common to both channels for the EH-CU.) 2 phases; 1 phase (cw/ccw, ck, U/D); 2 phases, multiplication by 4		
	Number of channels	2 channels	1 channel	
	Differential current	4 mA or higher		
	Differential input voltage		12 to 24 VDC	
		Minimum ON voltage	10 V DC	
	Maximum OFF voltage	4 V DC		
	Insulation method	Photocoupler		
	Number of input points 3 points × 2 channels	A: A, CW, CK	Phase difference of each channel (A - B) during 2-phase counting +45 to +125 when up, -45 to -125 when down	
		B: B, CCW, U/D M: Marker (z)		
	Minimum counter pulse width	ON: 4 μs or higher, OFF: 4 μs or higher		
	Minimum marker pulse width	10 μs or higher (Detected via ON edge)		
	External wiring cable	Type: EH-CUC**		
External wiring	Wired with twisted pair wires and batch shielded wires			
Output voltage	12 / 24 V DC (30 VDC maximum)			
Load current	20 mA / point maximum			
Output method	Open collector output			
Minimum load current	1 mA			
Output delay time	ON → OFF	1 ms maximum		
	OFF → ON	1 ms maximum		
Voltage drop when ON	1.5 V maximum			
Number of external output points	Normal counter	4 points / module	2 points / module	
	Ring counter	Current value = Set Value 1 or current value > Set Value 1 Current value = Set Value 2		
Leak current	0.5 mA maximum			
Polarity	(-) common within the module			
External power supply	12 / 24 VDC (30 VDC maximum)			
Insulation method	Photocoupler			
Internal current consumption	5 V 310 mA			

1-axis Positioning Module



Item		Specification			
Type		EH-POS			
Functional specification	Number of control axes	1-axis			
	Highest frequency	400 k pulse/s			
	Positioning data	Capacity	256 points		
		Setting procedures	Sequence program		
	Positioning	Method	Absolute system / Absolute system + increment system / Increment system		
		Positioning command	Pulse specification / μm specification / inch specification / degree specification		
		Speed command		Automatic, manual, home position return	
				6.25 pulse/s to 400 k pulse/s μm/s, inch/s, degree/s input function	
		Speed stage	10 stages		
		Acceleration / deceleration system		Trapezoid acceleration / deceleration	
				S-curve acceleration / deceleration (3-stage acceleration / deceleration)	
		Acceleration / deceleration time	1 to 65,535 ms		
		Backlash	0 to 255 pulse		
		High / low limit setting	+2,147,483,647 to -2,147,483,648 pulse		
Pulse output method		Pulse chain (CW / CCW) / Clock + direction signal (CK / direction)			
		(Use dip switches 1 and 2 to select the pulse output method and to switch between positive and negative logic for the selected method.)			
Pulse output procedures	Open collector output (Photocoupler insulation) / Line driver output (Photocoupler insulation)				
Home position return function	Arbitrary origin / Low speed origin return / High speed origin return 1 / High speed origin return 2 / Absolute value encoder home position return				
Manual (JOG) operation	Possible				
Teaching	Pulse output by manual input signal				
Operation when the CPU has stopped	Operation may be performed via I/O setting or using the positioner.				
Absolute value encoder input	Supports the Σ series and Σ II series by Yasukawa Denki and the P series by Sanyo Denki, AD series by Hitachi.				
I/O interface specification	Output	Pulse train (CW / CCW) output	1. Open collector output Photocoupler insulation (30 V DC maximum, 30 mA resistive load)		
		Clock + direction signal (CK / direction) Pulse output	2. Line driver output Photocoupler insulation (5 V DC)		
		Maximum leakage current	100 μA maximum		
		Maximum voltage drop at ON	0.8 V maximum (at output current 30 mA)		
	Input	Input voltage	10.8 to 30 V DC		
		Input impedance	Approximately 2.2 kΩ		
		Operation voltage	Minimum ON voltage	9 V	
			Maximum OFF voltage	3.6 V	
		Input lag	ON → OFF	1 ms maximum	
		OFF → ON	1 ms maximum		
Polarity	Only the encoder signal input uses the plus common inside the module. Other inputs do not specify polarity.				
Insulation method	Photocoupler				
Internal current consumption	5 V DC, 300 mA				
External power supply	5 V DC ±5%, 100 mA (For pulse chain output) 24 V DC, 10 mA/point (For external control input)				

Note 1: Stopping the CPU during operation causes the motor to decelerate and come to a stop.

2: The maximum travel per single movement is 2,147,483,647 pulses. When an operation attempts to move beyond the maximum travel, the motor decelerates and stops at the maximum travel position.

4-axis Positioning Module



Item		Specification	
Type		EH-POS4	
Number of controlled axes		4-axis	
Number of interpolation axes		Linear interpolation : up to 4 axes Circular interpolation : 2 axes	
Maximum speed		1 M pulse/ s	
Positioning data	Number of positioning points	Maximum 256 points/ axis (storage in the module)	
	Setting method	Ladder Program	
Positioning	Positioning mode	1) Absolute mode 2) Absolute and Incremental 3) Incremental	
	Positioning Unit	1) Pulse 2) μm 3) inch 4) degree	
	Speed unit	1 pulse/ s - 1M pulse/ s (Auto, Manual, Homing) $\mu\text{m/s}$, inch/s , degree/s (selectable by common parameter)	
	Number of speed stage	Maximum 256 stages (in continuous operation)	
	Acceleration and Deceleration	Linear S-curve (3 types)	
	Acceleration and Deceleration time	1 up to 65 535 ms	
	Backlash	0 - 65 535 pulses	
	Operation range	-2,147,483,648 up to + 2,147,483,647 pulses -214,748,364.8 up to + 214,748,364.7 μm -21,474.83648 up to + 21,474.83647 inch -21,474.83648 up to + 21,474.83647 degree	
	Pulse train signal	1) 2 Pulse signal (CW pulse and CCW pulse) 2) Pulse and Direction signal (PLS and SIG) (Selectable by common parameter)	
	Output method	Line driver	
Homing		1) Free home position 2) Low speed homing 3) High speed homing 1 (Off edge stop) 4) High speed homing 2 (Phase Z input stop) 5) Absolute encoder homing	
Applied servo amp in absolute homing		Hitachi AD series	
Manual operation		Manual command	
Teaching function		Teaching command	
Operation on CPU stopping		Available	
Output	Pulse & Sign	Line driver (SN75158(TI))	
	"High" voltage	Minimum 2.4 V	
	"Low" voltage	Maximum 0.4 V	
Phase input	Phase Z input and Absolute encoder serial signal	Line driver (input impedance: 220 Ω)	
Input	Input voltage	20.4 up to 28.8 V DC	
	Input impedance	Approx. 5.6 k Ω	
	Input current	Approx. 4.3 mA (24 V DC)	
	Operation voltage	"ON" voltage	Minimum 15 V DC
		"OFF" voltage	Maximum 5 V DC
	Delay	"ON" to "OFF"	Maximum 1 ms
		"OFF" to "ON"	Maximum 1 ms
Polarity isolation	No		
Consumption current		5 V DC , 850 mA (supplied from Power module)	
External power supply		24 V DC, approx. 4.3 mA /point (for external input)	

Note: When CPU is turned "RUN" to "STOP" or "STOP" to "RUN", the servo motor stops.

Components List

Item	Model name	Specification	Internal current consumption (5V AC)(mA)	I/O type	CE	UL	Remarks	
CPU module	EHV-CPU1006	Program capacity 64 KB, Max. 704 I/O points(*1), Ethernet port/Serial port/USB port	750	—	☆			
	EHV-CPU1025	Program capacity 256 KB, Max. 4,224 I/O points(*1), Ethernet port/Serial port/USB port	750	—	☆			
	EHV-CPU1051	Program capacity 512 KB, Max. 4,224 I/O points(*1), Ethernet port/Serial port/USB port	750	—	☆			
	EHV-CPU1102	Program capacity 1,024 KB, Max. 4,224 I/O points(*1), Ethernet port/Serial port/USB port	750	—	☆			
Power supply module	EH-PSA	Input 100 to 240 V AC, Output 5 V DC 3.8 A, 24 V DC 0.4 A	—	—	☆	☆		
	EH-PSD	Input 21.6 to 26.4 V DC, Output 5 V DC 3.8 A	—	—	☆	☆		
	EH-PSR	Input 100 to 240 V AC, Output 5 V DC 5.8 A (for redundant Power Supply)	—	—	☆	☆		
Base unit	EH-BS3A	3 I/O modules installed	200	—	☆	☆	Commonly used for basic or expansion base	
	EH-BS5A	5 I/O modules installed	200	—	☆	☆		
	EH-BS6A	6 I/O modules installed	200	—	☆	☆		
	EH-BS8A	8 I/O modules installed	200	—	☆	☆		
	EH-BS11A	11 I/O modules installed	200	—	☆	☆		
	EH-BS8R	8 I/O modules installed(for redundant Power Supply)	200	—	☆	☆		
I/O controller	EH-IOCH2	I/O control module (1 unit / expansion base)	80	—	☆	☆	Mounted CPU position	
Input module	EH-XD8	8 points, 24 V DC input, Removable terminal block	30	16DI	☆	☆		
	EH-XD16	8 points, 24 V DC input, Removable terminal block	50	16DI	☆	☆		
	EH-XDL16	16 points, 24 V DC input Removable terminal block (Input lag 16ms)	50	16DI	☆	☆		
	EH-XA16	16 points, 100 to 120 V AC input, Removable terminal block	50	16DI	☆	☆		
	EH-XAH16	16 points, 200 to 240 V AC input, Removable terminal block	50	16DI	☆	☆		
	EH-XD32	32 points, 24 V DC input, Connector	60	32DI	☆	☆		
	EH-XDL32	32 points, 24 V DC input, Connector (Input lag 16ms)	60	32DI	☆	☆		
	EH-XD32E	32 points, 24 V DC input, Spring type terminal block	60	32DI	☆	☆		
	EH-XDL32E	32 points, 24 V DC input, Spring type terminal block (Input lag 16ms)	60	32DI	☆	☆		
	EH-XD64	64 points, 24 V DC input, Connector	80	64DI	☆	☆		
Output module	EH-YT8	8 points, Transistor output 12/24 V DC, Removable terminal block (sink type)	30	16DO	☆	☆		
	EH-YTP8	8 points, Transistor output 12/24 V DC, Removable terminal block (source type)	30	16DO	☆	☆		
	EH-YT16	16 points, Transistor output 12/24 V DC, Removable terminal block (sink type)	50	16DO	☆	☆		
	EH-YTP16	16 points, Transistor output 12/24 V DC, Removable terminal block (source type)	50	16DO	☆	☆		
	EH-YT32	32 points, Transistor output, 12/24 V DC, Connector (sink type)	90	32DO	☆	☆		
	EH-YTP32	32 points, Transistor output, 12/24 V DC, Connector (source type)	90	32DO	☆	☆		
	EH-YT32E	32 points, Transistor output, 12/24 V DC, Spring type terminal block (Sink type logic)	90	32DO	☆	☆		
	EH-YTP32E	32 points, Transistor output, 12/24 V DC, Spring type terminal block (Source type logic)	90	32DO	☆	☆		
	EH-YT64	64 points, Transistor output, 12/24 V DC, Connector (sink type)	120	64DO	☆	☆		
	EH-YTP64	64 points, Transistor output, 12/24 V DC, Connector (source type)	120	64DO	☆	☆		
	EH-YR8B	8 points, Independent Relay output, 100/240 V AC, 24 V DC, Removable terminal block	220	16DO	☆			
	EH-YR12	12 points, Relay output, 100/240 V AC, 24 V DC, Removable terminal block	40	16DO	☆	☆		
	EH-YR16	16 points, Relay output, 100/240 V AC, 24 V DC, Removable terminal block	430	16DO	☆	☆		
	EH-YS4	4 points, Triac output , 100/240 V AC, Removable terminal block	70	16DO	☆	☆		
EH-YS16	16 points, Triac output , 100/240 V AC, Removable terminal block	250	16DO	☆				
Analog input module	EH-AX44	12-bit analog input, Current 4-20 mA, Voltage 0-10 V,4ch each	100	8AI	☆	☆		
	EH-AX8V	12-bit analog input, Voltage 0-10 V,8ch	100	8AI	☆	☆		
	EH-AX8H	12-bit analog input, Voltage -10 to 10 V,8ch	100	8AI	☆	☆		
	EH-AX8I	12-bit analog input, Current 4-20mA, 8ch	100	8AI	☆	☆		
	EH-AX8IO	12-bit analog input, Current 0-22mA, 8ch	100	8AI	☆	☆		
	EH-AXH8M	14-bit analog input, Current 0-22 mA/4-22 mA, Voltage -10 to 10 V/0-10 V,8ch	70	8AI	☆	☆		
	EH-PT4	Signed 15-bit, Pt 100/Pt 1000, 4ch	160	4AI	☆	☆		
	EH-TC8	Signed 15-bit, Thermo-couple (K,E,J,T,B,R,S,N) 8ch	70	8AI	☆	☆		
	EH-AY22	12-bit analog output, Current 4-20 mA, Voltage 0-10 V,2ch each	100	8AO	☆	☆		
	EH-AY2H	12-bit analog output, Voltage -10 to 10V, 2ch	100	8AO	☆	☆		
Analog output module	EH-AY4V	12-bit analog output, Voltage 0-10 V,4ch	100	8AO	☆	☆		
	EH-AY4H	12-bit analog output, Voltage -10 to 10 V,4ch	100	8AO	☆	☆		
	EH-AY4I	12-bit analog output, Current 4-20mA	130	8AO	☆	☆		
	EH-AYH8M	14-bit analog output, Current 0-22 mA/4-22 mA, voltage 0-10 V,8ch	70	8AO	☆	☆		
	Counter module	EH-CU	High speed counter input, Maximum frequency of 100 kHz, 2 channels, 1/2-phase switchable, 4-point open collector output	310	CU/E	☆	☆	
		EH-CUE	High speed counter input, Maximum frequency of 100 kHz, 1 channel, 1/2-phase switchable, 2-point open collector output	310	CU/E	☆	☆	
Positioning module	EH-POS	1-axis positioning module	300	POS/4	☆	☆		
	EH-POS4	4-axis positioning module	850	POS/4	☆	☆		
Communication module	EH-SIO	Serial Communication Module (RS-232C, RS-422/485)	250	SIO	☆	☆		
	EH-RMD	DeviceNet master modul, 256/256 words I/O	280	RMP	☆	☆		
	EH-IOCD	DeviceNet slave module, 256-word input and 256- word output	320	—	☆	☆	Mounted CPU position	
	EH-RMP	PROFIBUS-DP master module, 256/256 words I/O	600	RMP	☆	☆		
Dummy module	EH-IOCP	PROFIBUS slave module, 208-word input and 208- word output	600	—	☆	☆	Mounted CPU position	
	EH-DUM	Module for open slots	—	Empty	—	—		
Battery	LIBAT-H	Lithium battery	—	—	—	—		

* 1: When 64 points I/O module is used

Components List

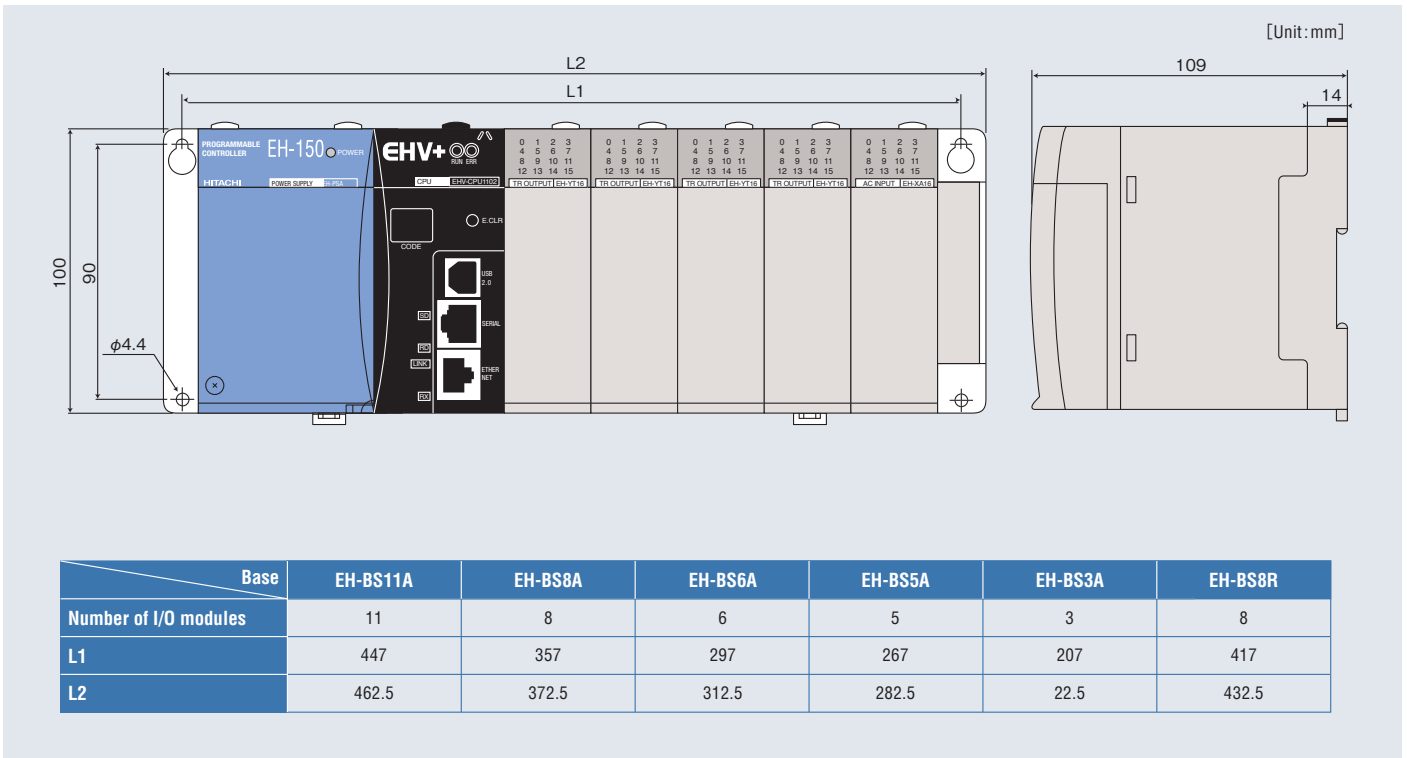
Item	Model name	Specification	Internal current consumption (5V AC)(mA)	I/O type	CE	UL	Remarks
Expansion cable	EH-CB05A	Length:0.5m (basic / expansion base to I/O controller)	—	—	☆	☆	
	EH-CB10A	Length:1m (basic / expansion base to I/O controller)	—	—	☆	☆	
	EH-CB20A	Length:2m (basic / expansion base to I/O controller)	—	—	☆	☆	
Programing	EHV-CDS	EHV-CoDeSys IEC61131-3 full compliant programming software	—	—	—	—	
	EH-VCB02	Direct connection cable between EHV-CPU**** (serial port RJ-45) and a personal computer(D sub9) 2m		—			
Terminal block	HPX7DS-40V6	Terminal for 32 / 64 points I/O module	—	—	☆	☆	
I/O cable for 32/64 points module (connector in both ends)	EH-CBM01W	Length: 1m, (32 / 64 pts. module to HPX7DS-40V6)	—	—	—	—	* 2
	EH-CBM03W	Length: 3m, (32 / 64 pts. module to HPX7DS-40V6)	—	—	—	—	* 2
	EH-CBM05W	Length: 5m, (32 / 64 pts. module to HPX7DS-40V6)	—	—	—	—	* 2
	EH-CBM10W	Length: 10m, (32 / 64 pts. module to HPX7DS-40V6)	—	—	—	—	* 2
I/O cable for 32/64 points module (connector and open ends)	EH-CBM01	Length: 1m, (32 / 64 pts. module to external terminal block)	—	—	—	—	* 2
	EH-CBM03	Length: 3m, (32 / 64 pts. module to external terminal block)	—	—	—	—	* 2
	EH-CBM05	Length: 5m, (32 / 64 pts. module to external terminal block)	—	—	—	—	* 2
	EH-CBM10	Length: 10m, (32 / 64 pts. module to external terminal block)	—	—	—	—	* 2
Cable for counter Input module	EH-CUC01	Length: 1m	—	—	—	—	
	EH-CUC02	Length: 2m	—	—	—	—	
	EH-CUC03	Length: 3m	—	—	—	—	
	EH-CUC04	Length: 4m	—	—	—	—	
	EH-CUC05	Length: 5m	—	—	—	—	

* 2: Rated withstand voltage is 30 V. Be sure to use with 32 / 64 I/O modules in the cabinet PLC installed.

General Specifications

Item		Specification
Power voltage	AC receiving power	100/110/120 V AC (50/60Hz) , 200/220/240 V AC (50/60Hz)
	DC receiving power	24 V DC
Power voltage fluctuation range		85 to 264 V AC wide range 21.6 to 26.4 V DC
Allowable instantaneous power failure		85 to 100 V AC: for a momentary power failure of less than 10 ms, operation continues 100 to 264 V AC: for a momentary power failure of less than 20 ms, operation continues
Operating ambient temperature		0 to 55°C (Storage ambient temperature -10 to 75°C)
Operating ambient humidity		20 to 90% RH (no condensation) (Storage ambient humidity 10 to 90% RH (no condensation))
Vibration resistance		Conforming to IEC (EN) 61131-2 (147m/s ² , 3 times in each 3 directions X,Y,Z)
Noise resistance		<ul style="list-style-type: none"> ○ Noise voltage 1,500 Vpp Noise pulse width 100 ns, 1 μs (Noise created by the noise simulator is applied across the power supply module's input terminals. This is determined by this company's measuring methods.) ○ Based on NEMA ICS3-304 (with the exception of input module) ○ Static noise: 3,000 V at metal exposed area
Insulation resistance		20 MΩ or more between the AC external terminal and case ground (FE) terminal (based on 500 V DC mega)
Dielectric withstand voltage		1,500 V AC for 1 minute between the AC external terminal and case ground (FE) terminal
Grounding		Class D grounding (ground with power supply module)
Usage environment		No corrosive gases, no excessive dust
Structure		Open, wall-mount type
Cooling		Natural air cooling

Dimensions



Network



Germany

Hitachi Europe GmbH

Industrial Components & Equipment Group
Am Seestern 18
D-40547 Düsseldorf
TEL: (49) (211) 5283-0
FAX: (49) (211) 5283-649
<http://www.hitachi-eu.com/>
<http://www.hitachi-ds.com/>

U.S.A

Hitachi America, Ltd.

Industrial Systems Division
50 Prospect Avenue
Tarrytown, NY 10591-4698
TEL: (1) (914) 631-0600
FAX: (1) (914) 631-3672
<http://www.hitachi.us/>

China

Hitachi East Asia Limited

4th Floor, North Tower
World Finance Centre, Harbour City
Canton Road, Tsim Sha Tsui, Kowloon
Hong Kong
TEL: (852) 2735-9218
FAX: (852) 2375-3192

Hitachi (China) Ltd.

18th Floor, Beijing Fortune Building,
5 Dong San Huan Bei Lu,
Chao Yang District, Beijing 100004, China
TEL: (86) (10) 6590-8111
FAX: (86) (10) 6590-8110
<http://www.hitachi.com.cn/>

Hitachi (Shanghai) Trading Co., Ltd.

1408, Rui Jin Building,
No.205, Maoming Road(S)
Shanghai, 200020
TEL: (86) (21) 6472-1002
FAX: (86) (21) 6472-4990
<http://www.hitachi.com.cn/>

Hitachi East Asia Limited Taipei Branch

3rd Floor, Hung Kuo Building No.167
Tun-Hwa North Road, Taipei (105), Taiwan
TEL: (886) (2) 2718-8777
FAX: (886) (2) 2718-8180

Singapore

Hitachi Asia Ltd.

Power & Industrial Systems Group
24 Jurong Port Road
#03-05, Office Block
CWT Distripark
Singapore 619097
TEL: (65) (6271)-6086
FAX: (65) (6278)-4521
<http://www.hitachi.com.sg/>

Thailand

Hitachi Asia (Thailand) Co., Ltd.

18th Floor, Ramaland Building
952 Rama IV Road, Bangrak
Bangkok 10500
TEL: (66) (2) 632-9292
FAX: (66) (2) 632-9299
<http://www.hitachi.co.th/>

Australia

Hitachi Australia Pty Ltd.

Level 3, 82 Waterloo Road
NORTH RYDE NSW 2113
Australia
TEL: (61) (2) 9888-4100
FAX: (61) (2) 9888-4188
<http://www.hitachi.com.au/>

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Hitachi Industrial Equipment Systems Co., Ltd.

For further information, please contact your nearest sales representative.



ISO 14001
JQA-EM5428



ISO 9001
JQA-1000

The EH-150 series PLCs are produced at the factory registered under the ISO 14001 standard for environmental management system and the ISO 9001 standard for quality management system.