KCFa

HCA8C

High-speed and compact blocks

Controllable I/O:16~256 points
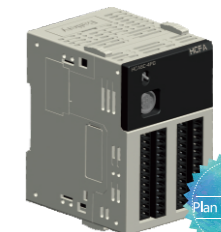Main Unit I/O : 16/32/64/96 points

■ HCA8C Main Units

HCA8C-8X8YR
HCA8C-8X8YT-P0
HCA8C-8X8YT-P3
HCA8C-8X8YT-P4
HCA8C-8X8YT-D2

Input: 8points
Output: 8points

HCA8C-16X16YT-P0
HCA8C-16X16YT-P3
HCA8C-16X16YT-P4

Input: 16points
Output: 16points

HCA8C-32X32YR
HCA8C-32X32YT-P4

Input: 32points
Output: 32points

HCFA
Plan to launch

■ Specifications

	Item	Specification
Power supply	Power supply (24V DC)	DC POWER: 24V DC, 350 mA
	Input Spec.	Support NPN (sink input type) and PNP (source input type)
	Output Spec.	Relay Output:2A/1 point, 8A/4 points COM, 8A/8 points COM, 250 VAC, 30 VDC or less Transistor Output: 0.5 A/1 point,0. 8A/4points COM, 1,6 A/8points COM, 5~30V DC
Performance	I/O extension	HCA8C Series input/output extension blocks can be connected. Up to 7 HCA8C Series special function units/blocks can be connected
	Built-in switch	Built-in RUN/STOP switch, RUN/STOP operation can also be realized by input terminal or peripheral device
	Data registers	General:8,000 points,Expansion:32,768 points,File:32,768 points(Memory cassette should be installed), Index:16 points
	Program memory	Built-in 64KM SRAM memory
	Clock function	Built-in real-time clock to have the time control
	Instruction	Support pulse outputs, high-speed processing, positioning, zero return Maximum number of input/output points is 256 points,.
	Processing speed	Standard:0.050µs/basic instruction + 0.170µs /applied instruction
	High speed processing	[I phase] 100kHz [2 phase] 50kHz 4-axis pulse output
	Max integrated I/O point	384 points (including input/output points of main units, input/output extension blocks, remote I/O)
	Auxiliary relay& timers	Auxiliary:7,680 points timer:512 points
	Counter	General:200 points (16 bit) 35 points (32 bit) High speed counters: [1 phase]100KHz/6 points,10KHz/2 points [2 phase]50KHz/2 point (4 times available) [I phase] 200kHz [2 phase] 100kHz with high speed adapter
Others	Remote debugging of program	Programming software enables you to remotely transfer the program and monitor the PLC operation through a modem connected to the RS-232C expansion board
	Write during RUN	The programming software for personal computer enables you to modify the program while the PLC is running.
	Communication ports	RS422/RS232/RS485
	Special expansion	Expansion modules with communication function and special function can be connected.
	Provided data communication	Programming communication, parallel link, MODBUS master/ slave station, PC link, inverter communication

HCA8C

High-speed and card-type unit

Controllable I/O:16~256 points
Main Unit I/O : 16/32/64/96 points

◆New High speed and ultrathin PLC
◆Ultra high-speed, More capacity, Max. Performance, More Function
◆Built-in 4 Pulse Train Outputs (100KHz / 200KHz)
◆Built-in six 100kHz & two 10kHz high speed counter
◆Built-in 2 Communication Ports (RS422 +Rs485)

■ Extension Device

Conversion blocks	Left-side extension blocks			Right-side extension blocks			
●Conversion blocks	●Communication blocks	●Temperature input	●Analog blocks	●Special extension blocks	●Input extension blocks	●Output extension blocks	●I/O extension blocks
HCA8C-CNV-TX2N needed for HCA8/TX2N series blocks	HCA8C-C24-ADP	HCA8C-4PT-4DP HCA8C-4PNK-ADP	HCA8C-4AD-ADP HCA8C-4DA-ADP HCA8C-3A-ADP	HCA8C-4AD HCA8C-4DA HCA8C-4PT HCA8C-4TC HCA8C-4WK HCA8C-2HC ……	HCA8C-8EX HCA8C-16EX HCA8C-16EX-C	HCA8C-8EYR HCA8C-8EYT HCA8C-8EYT-C HCA8C-16EYR HCA8C-16EYT HCA8C-16EYT-C	HCA8C-8EX8EYR HCA8C-8EX8EYT HCA8C-4EX4EYR HCA8C-4EX4EYT HCA8C-8EX8EYT-C
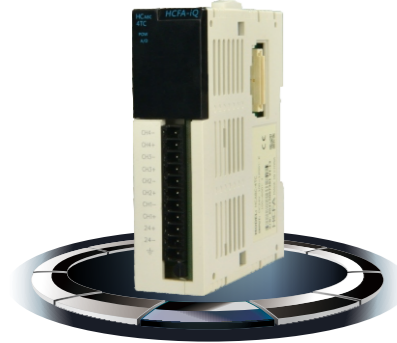
■ HCA8C-4TC / Thermocouple input block

1) Getting ℃ or ℉ data by reading appropriate buffer memories
Type K: -100 to 1200°C
Type J: -100 to 600°C
2) 4 input channels
3) Thermocouple type K or J sensor input block
4) Accurate Resolution Ratio: 0.1℃ or 0.72℉(type K) 0.1℃ or 0.54℉(type J)

Item	Centigrade (°C)		Fahrenheit (°F)	
	Getting ℃ or ℉ data by reading appropriate buffer memories			
Input signal	Getting ℃ or ℉ data by reading appropriate buffer memories			
Rated temperature range	Type K	-100℃ to+1200℃	Type K	-100℃ to +1200℃
	Type J	-100℃ to +600℃	Type J	-100℃ to +600℃
Digital output	Type K	-1000 to 12000	Type K	-1480 to 21920
	Type J	-1000 to 6000	Type J	-1480 to 11120
Resolution	Type K	0.1℃	Type K	0.72℉
	Type J	0.1℃	Type J	0.54℉
Total accuracy calibration point	± (0.5% full scale +1°C)			
	Freezing point of pure water: 0°C /32℉			
Conversion speed	(4ms ± 2%) × 4 channels (unused channels are not converted)			
Power supply	24V DC +20% -15% 50mA (It is necessary to connect a 24 V DC power supply to the terminal block.)			
Insulation method	• The photocoupler is used to insulate the analog input area from the PLC • DC/DC converter is used to insulate the power supply from analog input area. • Channels are not insulated from each other.			
Occupied points	8 points (can be either inputs or outputs)			
Applicable PLC	HCA8C			

■ HCA8C-4PT / Platinum resistance input block

1) Input range: -100 to 600 °C, Resolution: 0.1 °C, Overall accuracy: 1%
2) 4 input channels

Item	A8C-4PT	
	Getting ℃ or ℉ data by reading appropriate buffer memories	
Input signal	4 input channels, 3-wire PT100	
Sensor current	0.5mA Sensor: 100Ω PT100	
Rated temperature range	Centigrade (°C)	Fahrenheit (°F)
	-100℃ to +600℃	-148℉ to +1112℉
Digital output	16 bit binary stored	
	-1000 to +6000	-1480 to +11120
Resolution	0.1℃	0.18℉
Overall accuracy	±1% full scale	
Conversion speed	4 channel 54ms	

■ HCA8C-2HC / High speed counter block

1) 2 phase encoder input , 3 input signals
2) Frequency measurement function, Max. 60K
3) Counting range: When 32-bit is specified : -2,147,483,648 to +2,147,483,647
                 When 16-bit is specified : 0 to 65,535

Item			Specification	
Input signal	Signal level (select by dial switch)	Phase A Phase B PRESET	[A24+],[B24+],[P24+]	24V DC±10%, 8mA or less
			[A12+],[B12+],[P12+]	12V DC±10%, 8mA or less
			[A5+],[B5+],[P5+]	3.0V to 5.5V DC, 12.5mA or less
		DISABLE	[Xd24]	10.8V to 26.4V DC 15mA or less
			[Xd5]	5V DC±10%, 8mA or less
	Max. frequency	1-phase input	1 input	200kHz
			2 inputs	100kHz
		2-phase input	1 edge count	100kHz
			2 edge count	200kHz
			4 edge count	200kHz
	Frequency measurement		Max. frequency	60kHz
Counting specification	Range		When 32-bit is specified : -2,147,483,648 to +2,147,483,647 When 16-bit is specified : 0 to 65,535.	
	Comparison type		When the present value of the counter matches with the compare value, the output is set ON in 30μs and is switched OFF by a reset command in 100μs.	
Output signal	Output type		Transistor output	
	Output capacity		5V to 24V DC 0.5A	
	Occupied I/O points		8 points ((can be either inputs or outputs)	

■ HCA8C-2LC / Loading and tension input block

1) 2-channel 4-wire or 6-wire load cell
2) 24 bits internal resolution
3) Communication ports RS485, with MODBUS function

Item	Specification
Rated voltage/ power consumption	DC24V (+10% -10%) / 2W
Voltage range limit	≤ 30VDC
Max. current consumption	104 mA
Input signal range	±40mVDC
Sensibility	+5VDC ±10%
Internal resolution	24 bit
Communication ports	RS-485
Applicable sensor type	4-wire or 6-wire load
Temperature deviation	±0.1uV/℃
Linearity error	≤0.02%
Response time	2,10,25,50,160ms× the number of channels × averaging number
Load Cell eigenvalues	0 ~ 8 mV/V
Max. output current	5VDC * 300 mA
Allowable load capacity	≥40 Ω
Common mode rejection (50/ 60Hz)	Typical value 100dB
Insulation method	• The photocoupler is used to insulate the analog input area from the PLC • DC/DC converter is used to insulate the power supply from analog input area. • Channels are not insulated from each other.
Connection with HCA8C main unit	Connected to the right side of main unit. The block No.(0 ~ 7) is numbered automatically from the one closest to the main unit.

■ HCA8C-4WK / Temperature control block

1) 4-channel temperature controller integrated into one block
2) Built-in 4 CT input, with function of heater disconnection alarm
3) Built-in MODBUS protocol, 16 blocks can be connected in parallel.
4) Balanced automatic heating
5) Interference suppression
6) Support temperature input, 4 channels are insulated from each other.
7) Sampling period: 0.25s. High speed sampling processing.

Item	Specification
Power supply voltage	21. 6~26. 4V DC (Permissible voltage change range)
Power consumption	Max. 140mA(24VDC)
Sensor input	1. Temperature, current, low-voltage input: a) Thermocouple input K/J/E/T/R/S/B/N type b) Platinum resistance input Pt100/JPt100 (3-wire) c) DC voltage input 0~10mV/100mV/1V DC d) DC current input 4~20mA DC /0~20mA DC 2. High-voltage input: a) DC voltage input (0~5V DC / 1~5V DC / 0~10V DC) Input impedance: 1M Ω
Number of inputs	4 points. Sampling period: 0.25s
Input accuracy	± 1 degree (Type K thermocouple)
Control method	ON/ OFF control
Control output	Relay contacts output/ voltage pulse output/ current output/ triac output
Special function	Alarm/ heater disconnection detection/ MODBUS communication
Ambient temperature	-10~50°C (No condensation or freezing)
Ambient humidity	25~85%RH
Temperature when stored	-25~65°C (No condensation or freezing)