

MICROSmart Micro Programmable Logic Controllers

High-performance quality programmable logic controller with world-class processing speed. Compact body packed with outstanding features. New slim type CPU module available with web server function, ideal for remote control. (FC5A-D12*1E)

- New FC5A slim type modules available with web server function, send email function, n:n communication by Modbus communication, PING function. Supports user web page. (FC5A-D12*1E)
- Equipped with a USB port (mini-B) and Ethernet port for easy maintenance, remote control and monitoring. (FC5A-D12*1E)
- World-class processing speed.
Logic Engine performance:
 - Basic instruction LOD 0.056 μ s
 - Advanced instruction MOV 0.167 μ s (FC5A slim type only)
- Equipped with Modbus ASCII/RTU master/slave function (FC5A).
- FC5A slim type expandable up to 512 I/O points (when expansion interface modules are used).
- Full line up of analog modules including 4-point analog output module.
- FC5A PID module with high accuracy and high functionality available.



Lloyd's Register (LR)
American Bureau of Shipping (ABS)
Det Norske Veritas (DNV)
Germanischer Lloyd (GL)



MicroSmart

FC5A CPU Modules

Model	High-speed Counter Pulse Output	Power	Input Type	Output Type	High-speed Transistor Output	Interface	I/O Points	Part No.	
Slim	• High-speed counter Maximum input frequency: 100 kHz • Pulse output Maximum output frequency: 100 kHz	24V DC	24V DC (Sink/Source)	Relay Output 2A 240V AC, 2A 30V DC, 2A	Sink Output 0.3A	Port 1 (RS232C)	8/8 points (Note) 496 points max.	FC5A-D16RK1	
					Source Output 0.3A			FC5A-D16RS1	
				Transistor Sink Output 0.3A			Port 1 (USB mini-B port) Ethernet port	8/4 points 492 points max.	FC5A-D32K3
				Transistor Source Output 0.3A					FC5A-D32S3
				Transistor Sink Output 0.3A		Port 1 (USB mini-B port) Ethernet port	8/4 points 492 points max.	FC5A-D12K1E	
				Transistor Source Output 0.3A				FC5A-D12S1E	
All-in-One	• High-speed counter Maximum input frequency: 50 kHz	12V DC	12V DC (Sink/Source)	Relay Output 2A 240V AC, 2A 30V DC, 2A	—	Port 1 (RS232C)	6/4 points	FC5A-C10R2D	
		100V to 240V AC (50/60 Hz)	24V DC (Sink/Source)				9/7 points	FC5A-C16R2D	
							14/10 points	FC5A-C24R2D	
							6/4 points	FC5A-C10R2	
		9/7 points					FC5A-C16R2		
		14/10 points 88 points max.					FC5A-C24R2		
		6/4 points					FC5A-C10R2C		
		9/7 points					FC5A-C16R2C		
		14/10 points 88 points max.					FC5A-C24R2C		

Note: Two points are transistor output and six points are relay outputs.

FC4A CPU Modules

Model	High-speed counter Pulse Output	Power	Input Type	Output Type	High-speed Transistor Output	I/O Points	Part No.
Slim	• High-speed counter Maximum input frequency: 20 kHz • Pulse output Maximum output frequency: 20 kHz	24V DC	24V DC (Sink/Source)	Transistor Sink Output 0.3A		12/8 points	FC4A-D20K3
				Transistor Source Output 0.3A		148 points max.	FC4A-D20S3
				Relay Output 2A 240V AC, 2A 30V DC, 2A	Sink Output 0.3A	12/8 points (Note)	FC4A-D20RK1
					Source Output 0.3A	244 points max.	
				Transistor Sink Output 0.3A		24/16 points	FC4A-D40K3
Transistor Source Output 0.3A		264 points max.	FC4A-D40S3				
All-in-One	• High-speed counter Maximum input frequency: 20 kHz	100V to 240V AC (50/60 Hz)	24V DC (Sink/Source)	Relay Output 2A 240V AC, 2A 30V DC, 2A	—	6/4 points	FC4A-C10R2
		9/7 points				FC4A-C16R2	
		14/10 points 88 points max.				FC4A-C24R2	
		6/4 points				FC4A-C10R2C	
		9/7 points				FC4A-C16R2C	
		14/10 points 88 points max.				FC4A-C24R2C	
		24V DC					

Note: Two points are transistor output and six points are relay outputs.

Flush
SilhouetteSwitches &
Pilot LightsDisplay
LightsLED
Illumination
UnitsDisplay
UnitsSafety
ProductsTerminal
BlocksComm.
Terminals

AS-Interface

Relays &
Timers

Sockets

Circuit
ProtectorsPower
SuppliesPLCs &
SmartRelayOperator
Interfaces

Sensors

Control
StationsExplosion
Protection

References

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Input Modules

Input Type	Input Points	Terminal	Part No.
24V DC (Sink/Source)	8 points	Removable Terminal Block	FC4A-N08B1
	16 points		FC4A-N16B1
	16 points	MIL Connector	FC4A-N16B3
	32 points		FC4A-N32B3
100 to 120V AC (50/60Hz)	8 points	Removable Terminal Block	FC4A-N08A11

Output Modules

Output Type	Output Points	Terminal	Part No.
Relay Output 240V AC/30V DC	8 points	Removable Terminal Block	FC4A-R08B1
	16 points		FC4A-R16B1
Transistor Sink Output 0.3A	8 points		FC4A-T08K1
Transistor Source Output 0.3A			FC4A-T08S1
Transistor Sink Output 0.1A	16 points		FC4A-T16K3
Transistor Source Output 0.1A			FC4A-T16S3
Transistor Sink Output 0.1A	32 points	MIL Connector	FC4A-T32K3
Transistor Source Output 0.1A			FC4A-T32S3

Mixed I/O Modules

Input Type	Output Type	I/O Points	Terminal	Part No.
24V DC (Sink/Source)	Relay Output 240V DC/30V DC, 2A	8 (4 in/4 out)	Removable Terminal Block	FC4A-M08BR1
		24 (16 in/8 out)	Non-removable Terminal Block	FC4A-M24BR2

Analog I/O Modules

Name	Input Type	Output Type	I/O Points	Terminal	Part No.
Analog I/O Module	Voltage (0 to 10V DC) Current (4 to 20mA)	Voltage (0 to 10V DC) Current (4 to 20mA)	2 inputs 1 output	Removal Terminal Block	FC4A-L03A1
	Thermocouple Resistance Thermometer				FC4A-L03AP1
Analog Input Module	Voltage (0 to 10V DC) Current (4 to 20mA)	—	2 inputs		FC4A-J2A1
	Voltage (0 to 10V DC) Current (4 to 20mA) Thermocouple Resistance Thermometer		4 inputs		FC4A-J4CN1
	Voltage (0 to 10V DC) Current (4 to 20mA)		8 inputs		FC4A-J8C1
	Thermistor (NTC, PTC)		8 inputs		FC4A-J8AT1
Analog Output Module	—	Voltage (–10 to +10V DC) Current (4 to 20mA)	2 outputs		FC4A-K2C1
		Voltage (0 to 10V DC) Current (4 to 20mA)	1 output		FC4A-K1A1
		Voltage (0 to 10V DC) Current (4 to 20mA)	4 outputs		FC4A-K4A1

PID Modules

Name	Terminal	Part No.
Relay Output Type × 2ch	Non-removable Terminal Block	FC5A-F2MR2
Voltage / Current Output Type × 2ch		FC5A-F2M2
User's Manual		FC9Y-B1283

AS-Interface Master Modules

Name	Terminal	Part No.
AS-interface Master Module	Removable Terminal Block	FC4A-AS62M

Web Server Unit

Name	Part No.
Web Server Unit	FC4A-SX5ES1E
Web Server Cable (10 cm)	FC4A-KC3C
User's Manual	FC9Y-B919

Expansion Interface Modules

Name	Part No.
Expansion Interface Master Module	FC5A-EXM1M
Expansion Interface Slave Module	FC5A-EXM1S
Expansion Interface Module	FC5A-EXM2
Expansion Interface Cable (1m)	FC5A-KX1C

HMI Module

Name	Part No.
HMI Module	For displaying and changing required operands FC4A-PH1
HMI Base Module	For mounting HMI module with slim type CPU module FC4A-HPH1

Expansion RS232C Communication Module

Type	Part No.
RS232C, 1 Port	FC5A-SIF2

Expansion RS485 Communication Module

Type	Part No.
RS485, 1 Port	FC5A-SIF4

Communication Modules (For Slim CPU)

Name	Part No.
RS232C Communication Module	Mini DIN Connector Type FC4A-HPC1
	Terminal Block Type FC4A-HPC2
RS485 Communication Module	Terminal Block Type FC4A-HPC3

Programming Software

Name	Part No.
Application Software Automation Organizer WindLDR V.6 or higher	SW1A-W1C
Programming and Monitoring Software WindLDR Ver. 5.*	FC9Y-LP2CDW

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Option

Name		Part No.		
RS232C Communication Adapter	Mini DIN Connector	FC4A-PC1		
RS485 Communication Adapter	Mini DIN Connector	FC4A-PC2		
RS485 Communication Adapter	Terminal Block	FC4A-PC3		
Clock Cartridge		FC4A-PT1		
Memory Cartridge	32 KB	FC4A-PM32		
	64 KB	FC4A-PM64		
	128 KB	FC4A-PM128		
RS232C/RS485 Converter		FC2A-MD1		
AC Adapter		PFA-1A31		
26-position Connector Socket	MIL connector for slim type CPU modules (package quantity 2)	FC4A-PMC26PN02		
20-position Connector Socket	MIL connector for I/O modules (package quantity 2)	FC4A-PMC20PN02		
10-position Terminal Block	For I/O modules (package quantity 2)	FC4A-PMT10PN02		
11-position Terminal Block		FC4A-PMT11PN02		
13-position Terminal Block	For slim CPU modules FC5A-D16R*1 (package quantity 2)	FC5A-PMT13PN02		
	For slim CPU modules FC4A-D20R*1 (package quantity 2)	FC4A-PMT13PN02		
16-position Terminal Block	For slim CPU modules FC5A-D16RK1/FC4A-D20RK1 (package quantity 2)	FC4A-PMTK16PN02		
	For slim CPU modules FC5A-D16RS1/FC4A-D20RS1 (package quantity 2)	FC4A-PMTS16PN02		
	For slim CPU modules FC5A-D12K1E (package quantity 2)	FC5A-PMTK16EPN02		
	For slim CPU modules FC5A-D12S1E (package quantity 2)	FC5A-PMTS16EPN02		
Analog Voltage Input Cable (1m long) (package quantity 2)		FC4A-PMAC2PN02		
Direct Mounting Strip (package quantity 5)		FC4A-PSP1PN05		
35-mm-wide DIN Rail (1m long)	Aluminium (package quantity 10)	BAA1000PN10		
	Steel (package quantity 10)	BAP1000PN10		
End Clip (package quantity 10)		BNL6PN10		
Computer Link Cable 4C (3m long)		FC2A-KC4C		
Modem Cable 1C (3m long)		FC2A-KM1C		
User Communication Cable 1C (2.4m long)		FC2A-KP1C		
USB Maintenance Cable (2m long, USB-mini B)		HG9Z-XCM42		
Panel Mount Extension Cable (1m long, USB-mini B)		HG9Z-XCE21		
O/I Communication Cable 1C (5m long) for connecting HG1F to MicroSmart port 1 and 2 (RS232C)		FC4A-KC1C		
O/I Communication Cable (3m long) for connecting HG1F to MicroSmart port 2 (RS232C)		HG9Z-XC183		
O/I Communication Cable 2C (5m long) for connecting HG2F/3F/4F to MicroSmart port 1 and 2 (RS232C)		FC4A-KC2C		
O/I Communication Cable (5m long) for connecting HG2F/3F/4F to MicroSmart port 2 (RS232C)		HG9Z-3C125		
O/I Communication Cable 1C (2.4m long) for connecting HG2G/3G to MicroSmart port 1 and 2 (RS232C)		FC2A-KP1C		
O/I Communication Cable 1C (5m long) for connecting HG2G/3G to MicroSmart port 1 and 2 (RS232C)		HG9Z-XC275		
O/I Communication Cable 1C (5m long) for connecting HG3G D-sub pin to MicroSmart port 1 and 2 (RS232C)		HG9Z-XC295		
I/O Terminal Cable	20-wire	Shielded	0.5m	FC9Z-H050A20
			1m	FC9Z-H100A20
			2m	FC9Z-H200A20
			3m	FC9Z-H300A20
		Non-shielded	0.5m	FC9Z-H050B20
			1m	FC9Z-H100B20
			2m	FC9Z-H200B20
			3m	FC9Z-H300B20
	26-wire	Shielded	0.5m	FC9Z-H050A26
			1m	FC9Z-H100A26
			2m	FC9Z-H200A26
			3m	FC9Z-H300A26
		Non-shielded	0.5m	FC9Z-H050B26
			1m	FC9Z-H100B26
			2m	FC9Z-H200B26
			3m	FC9Z-H300B26
User's Manual * (English)	MicroSmart User's Manual (FC5A) Automation Organizer	Basic & Advanced	FC9Y-B1138	
		Web Server CPU Module	FC9Y-B1278	
		PID Module	FC9Y-B1283	

* MicroSmart User's manual and manuals below (applicable to Automation Organizer) can be downloaded from <http://www.idec.com/japan/ao/>

- FC5A MicroSmart User's Manual Basic/Advanced/Web Server CPU module/PID module: Japanese, English, Chinese, German
- FC4A MicroSmart User's Manual: Japanese, English, Chinese, German, Spanish
- FC5A MicroSmart User's Manual (applicable to WindLDR V.5): Japanese, English, Chinese, German, Spanish
- FC4A MicroSmart User's Manual (applicable to WindLDR V.5): Japanese, English, Chinese, German, Spanish

MICROSmart Micro Programmable Logic Controllers

Specifications (CPU Modules)

Slim Type

Part No.	FC5A-D12K1E FC5A-D12S1E	FC5A-D16RK1 FC5A-D16RS1	FC5A-D32K3 FC5A-D32S3	FC4A-D20K3 FC4A-D20S3	FC4A-D20RK1 FC4A-D20RS1	FC4A-D40K3 FC4A-D40S3
Rated Power Voltage	24V DC					
Allowable Voltage Range	20.4 to 26.4V DC (including ripple)					
Maximum Input Current	700 mA (26.4V DC) *1			560 mA (26.4V DC) *1	700 mA (26.4V DC) *1	
Maximum Power Consumption	19W (26.4V DC) *1			14W (26.4V DC) *1	17W (26.4V DC) *1	
Allowable Momentary Power Interruption	10 ms (at 24V DC)					
Dielectric Strength	Between power and  terminals: 500V AC, 1 minute Between I/O and  terminals: 500V AC, 1 minute					
Insulation Resistance	Between power and  terminals: 10 MΩ minimum (500V DC megger) Between I/O and  terminals: 10 MΩ minimum (500V DC megger)					
Noise Resistance	DC power terminals: 1.0 kV, 50 ns to 1 μs I/O terminals (coupling clamp): 1.5 kV, 50 ns to 1 μs					
Inrush Current	50A maximum (24V DC)					
Power Supply Wire	UL1015, AWG22, UL1007 AWG18					
Operating Temperature	0 to 55°C					
Storage Temperature	-25 to +70°C (no freezing)					
Relative Humidity	Level RH1 (IEC61131-2), 10 to 95% (no condensation)					
Altitude	Operation: 0 to 2,000m, Transport: 0 to 3,000m					
Pollution Degree	2 (IEC60664-1)					
Corrosion Immunity	Free from corrosive gases					
Degree of Protection	IP20 (IEC60529)					
Grounding Wire	UL1015, AWG22, UL1007, AWG18					
Vibration Resistance	When mounted on a DIN rail or panel surface: 5 to 8.4 Hz amplitude 3.5 mm, 8.4 to 150 Hz acceleration 9.8 m/s ² (1G), 2 hours per axis on each of three mutually perpendicular axes (IEC61131-2)					
Shock Resistance	147 m/s ² (15G), 11 ms duration, 3 shocks per axis on three mutually perpendicular axes (IEC61131-2)					
Weight	200g	230g	190g	140g	185g	180g

*1: CPU module + 7 I/O modules

All-in-One Type

Part No.		FC5A-C10R2 FC5A-C10R2C FC5A-C10R2D	FC5A-C16R2 FC5A-C16R2C FC5A-C16R2D	FC5A-C24R2 FC5A-C24R2C FC5A-C24R2D	FC4A-C10R2 FC4A-C10R2C	FC4A-C16R2 FC4A-C16R2C	FC4A-C24R2 FC4A-C24R2C
Rated Power Voltage		AC power type: 100 to 240V AC, DC power type: 24V DC, 12V DC					
Allowable Voltage Range		AC power type: 85 to 264V AC, 24V DC power type: 20.4 to 28.8V DC (including ripple), 12V DC type: 10.2 to 18.0V DC					
Rated Power Frequency		AC power type: 50/60 Hz (47 to 63 Hz)					
Maximum Input Current		250 mA (85V AC) 160 mA (24V DC)	300 mA (85V AC) 190 mA (24V DC)	450 mA (85V AC) *2 360 mA (24V DC) *3	250 mA (85V AC) 160 mA (24V DC)	300 mA (85V AC) 190 mA (24V DC)	450 mA (85V AC) *2 360 mA (24V DC) *3
Maximum Power Consumption	AC Power	FC5A-C10R2/FC4A-C10R2: 30VA (264V AC), 20VA (100V AC) *4 FC5A-C16R2/FC4A-C16R2: 31VA (264 V AC), 22VA (100V AC) *4 FC5A-C24R2/FC4A-C24R2: 40VA (264V AC), 33VA (100V AC) *2					
	DC Power	FC5A-C10R2C/FC4A-C10R2C: 3.9W (24V DC) *5 FC5A-C16R2C/FC4A-C16R2C: 4.6W (24V DC) *5 FC5A-C24R2C/FC4A-C24R2C: 8.7W (24V DC) *3		FC5A-C10R2D: 2.8W (12V DC) *5 FC5A-C16R2D: 3.4W (12V DC) *5 FC5A-C24R2D: 4.2W (12V DC) *5			
Allowable Momentary Power Interruption		10 ms (rated power voltage)					
Dielectric Strength		Between power and ⊕ or ⊖ terminals: 1,500V AC, 1 minute Between I/O and ⊕ or ⊖ terminals: 1,500V AC, 1 minute					
Insulation Resistance		Between power and ⊕ or ⊖ terminals: 10 MΩ minimum (500V DC megger) Between I/O and ⊕ or ⊖ terminals: 10 MΩ minimum (500V DC megger)					
Noise Resistance		AC power terminals: 1.5 kV, 50 ns to 1 μs DC power terminals: 1.0 kV, 50 ns to 1 μs I/O terminals (coupling clamp): 1.5 kV, 50 ns to 1 μs					
Inrush Current		FC5A-C10R2/FC5A-C10R2C/ FC5A-C16R2/FC5A-C16R2C: 35A FC5A-C10R2D/FC5A-C16R2D: 20A		FC5A-C24R2/ FC5A-C24R2C: 40A FC5A-C24R2D: 20A	35A		40A
Power Supply Wire		UL1015 AWG22, UL1007 AWG18					
Operating Temperature		0 to 55°C					
Storage Temperature		-25 to +70°C (no freezing)					
Relative Humidity		Level RH1 (IEC61131-2), 10 to 95% (no condensation)					
Altitude		Operation: 0 to 2,000m, Transport: 0 to 3,000m					
Pollution Degree		2 (IEC60664-1)					
Corrosion Immunity		Free from corrosive gases					
Degree of Protection		IP20 (IEC60529)					
Ground		Ground resistance 100Ω (max.)					
Grounding Wire		UL1007, AWG16					
Vibration Resistance		When mounted on a DIN rail or panel surface: 5 to 8.4 Hz amplitude 3.5 mm, 8.4 to 150 Hz acceleration 9.8 m/s ² (1G), 2 hours per axis on each of three mutually perpendicular axes (IEC61131-2)					
Shock Resistance		147 m/s ² (15G), 11 ms duration, 3 shocks per axis on three mutually perpendicular axes (IEC61131-2)					
Weight		AC type: 230g DC type: 240g	AC type: 250g DC type: 260g	AC type: 305g DC type: 310g	AC type: 230g DC type: 240g	AC type: 250g DC type: 260g	AC type: 305g DC type: 310g

*2: CPU module (including 250 mA sensor power) + 4 I/O modules *3: CPU module + 4 I/O modules *4: CPU module (including 250 mA sensor power)

*5: CPU module

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Slim Type Function Specifications

Part No.		FC5A-D12K1E FC5A-D12S1E				FC5A-D16RK1 FC5A-D16RS1		FC5A-D32K3 FC5A-D32S3		FC4A-D20K3 FC4A-D20S3		FC4A-D20RK1 FC4A-D20RS1		FC4A-D40K3 FC4A-D40S3	
Control System		Stored program system													
Instruction Words		42 basic										35 basic			
		152 advanced				126 advanced		130 advanced		53 advanced		72 advanced			
Program Capacity *1		127.8 KB (21,300 steps)				62.4 KB (10,400 steps)				27 KB (4,500 steps)		31.2 KB (5,200 steps) *2			
User Program Storage		Flash ROM (10,000 times rewritable)				EEPROM (10,000 times rewritable)									
Processing Time	Basic Instruction	83 μs (1,000 steps)										1.65 ms (1,000 steps)			
	END Processing *3	0.35 ms										0.64 ms			
Expandable I/O Modules		7 modules + additional 8 modules using the expansion interface module										7 modules			
I/O Points	Input	8	Expansion: 224	8	Expansion: 224	16	Expansion: 224	12	Expansion: 128	12	Expansion: 224	24	Expansion: 224		
	Output	4	Additional: 256	8	Additional: 256	16	Additional: 256	8		8		16			
Internal Relay		2,048 points										1,024 points			
Shift Register		256 points										128 points			
Data Register		42,000 points				42,000 points *4				1,300 points					
Expansion Data Register		6,000 points										—		6,000 points	
Counter		256 points										100 points			
Timer (1-sec, 100-ms, 10-ms, 1-ms)		256 points										100 points			
RAM Backup	Backup Data	Internal relay, shift register, counter, data register, expansion data register													
	Backup Duration	Approx. 30 days (typical) at 25°C after backup battery fully charged													
	Battery	Lithium secondary battery													
	Charging Time	Approx. 15 hours for charging from 0% to 90% of full charge													
	Battery Life	5 years in cycles of 9-hour charging and 15-hour discharging													
	Replaceability	Not possible to replace battery													
Self-diagnostic Function		Power failure, watchdog timer, data link connection, user program ROM sum check, timer/counter preset value sum check, user program RAM sum check, keep data, user program syntax, user program writing, CPU module, clock IC, I/O bus initialize, user program execution													
Input Filter		Without filter, 3 to 15 ms (selectable in increments of 1 ms)													
Catch Input/Interrupt Input		Four inputs (I2 and I5) Minimum turn on pulse width: 40 μs maximum Minimum turn off pulse width: 150 μs maximum (I3 and I4) Minimum turn on pulse width: 5 μs maximum Minimum turn off pulse width: 5 μs maximum										Four inputs (I2 through I5) Minimum turn on pulse width: 40 μs maximum Minimum turn off pulse width: 150 μs maximum			
High-speed Counter	Maximum Counting Frequency and High-speed Counter Points	Total 4 points Single/two-phase selectable: 100 kHz (2 points) 													

Note: The maximum number of relay outputs that can be turned on simultaneously is 54 including those on the CPU module.

Modem communication not possible on FC5A-D12K1E/D12S1E modules.

*1: 1 step equals 6 bytes.

*2: Expandable up to 62.4 KB when a memory cartridge is used.

*3: Not including expansion I/O service time, clock function processing time, data link processing time, and interrupt processing time.

*4: Extra data registers D10000 through D49999 are enabled using WindLDR Function Area Settings, then run-time program download cannot be used.

*5: Maintenance communication (change monitor device values, upload/download user programs, download system program)

*6: Maintenance communication, user communication, modem communication, data link, Modbus ASCII/RTU master/slave communication (FC5A only).

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Main Features	Maintenance Communication Server	Downloading, uploading, and monitoring the user program using WindLDR via Ethernet
	TCP server	8 connections maximum. Each connection can be configured as Modbus TCP server, user communication server, or maintenance communication server.
	TCP Client	3 connections maximum. Each connection can be configured as Modbus TCP client or user communication client.
	Aquire Current Time from SNTP Server	Timezone can be specified.
	Sending email	Send emails containg register data. Number of emails: 255 To address: 512 characters maximum (Note 1) cc address: 512 characters maximum (Note 1) Subject :256 characters maximum Body: 1,500 characters maximum Supported encoding: ASCII, ISO-2022-JP, GB2312, ISO-8859-1, UTF-8 Note 1: If the email address length is 40 characters, 12 email addresses can be configured.
	Web Server	Monitoring PLC status and data register values using web browser. User web page area: 1 MB Authentication: Basic Authentication Compliant browser: Internet Explorer 7 and 8, Firefox 3
	PING	Number of remote hosts can be registered: 255

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All-in-One Type Function Specifications

Part No.		FC5A-C10R2 FC5A-C10R2C FC5A-C10R2D	FC5A-C16R2 FC5A-C16R2C FC5A-C16R2D	FC5A-C24R2 FC5A-C24R2C FC5A-C24R2D	FC4A-C10R2 FC4A-C10R2C	FC4A-C16R2 FC4A-C16R2C	FC4A-C24R2 FC4A-C24R2C		
Control System		Stored program system							
Instruction Words		42 basic			35 basic				
		103 advanced	103 advanced	115 advanced	38 advanced	40 advanced	48 advanced		
Program Capacity *1		13.8 KB (2,300 steps)	27 KB (4,500 steps)	54 KB (9,000 steps)	4.8 KB (800 steps)	15 KB (2,500 steps)	27 KB (4,500 steps)		
User Program Storage		EEPROM (10,000 times rewritable)							
Processing Time	Basic Instruction	1.16 ms (1,000 steps)			1.65 ms (1,000 steps)				
	END Processing *2	0.64 ms			0.64 ms				
Expandable I/O Module		—		4 modules	—		4 modules		
I/O Points	Input	6	9	14	Expansion: 64 *3	6	9	14	Expansion: 64
	Output	4	7	10		4	7	10	
Internal Relay		2,048 points			256 points	1,024 points			
Shift Register		128 points			64 points	128 points			
Data Register		2,000 points			400 points	1,300 points			
Expansion Data Register		—			—				
Counter		256 points			32 points	100 points			
Timer (1-sec, 100-ms, 10-ms, 1-ms)		256 points			32 points	100 points			
RAM Backup	Backup Data	Internal relay, shift register, counter, data register							
	Backup Duration	Approx. 30 days (typical) at 25°C after backup battery fully charged							
	Battery	Lithium secondary battery							
	Charging Time	Approx. 15 hours for charging from 0% to 90% of full charge							
	Battery Life	5 years in cycles of 9-hours charging and 15-hours discharging							
	Replaceability	Not possible to replace battery							
Self-diagnostic Function		Power failure, watchdog timer, data link connection, user program EEPROM sum check, timer/counter preset value sum check, user program RAM sum check, keep data, user program syntax, user program writing, CPU module, clock IC, I/O bus initialize, user program execution							
Input Filter		Without filter, 3 to 15 ms (selectable in increments of 1 ms)							
Catch Input/Interrupt Input		Four inputs (I2 through I5) Minimum turn on pulse width: 40 μs maximum Minimum turn off pulse width: 150 μs maximum							
High-speed Counter	Maximum Counting Frequency and High-speed Counter Points	Total 4 points Single/two-phase selectable: 50 kHz (1 point) Single-phase: 5 kHz (3 points)			Total 4 points Single/two-phase selectable: 20 kHz (1 point) Single-phase: 5 kHz (3 points)				
	Counting Range	0 to 65,535 (16 bits)							
	Operation Mode	Rotary encoder mode and adding counter mode							
Analog Potentiometer	Quantity	1 point		2 points	1 point		2 points		
	Data Range	0 to 255							
Analog Voltage Input	Quantity	—							
	Input Voltage Range								
	Input Impedance								
	Data Range								
Pulse Output	Quantity	—							
	Max. Frequency								
Sensor Power Supply (AC Power Type Only)	Output Voltage/Current	24V DC (+10% to -15%), 250 mA							
	Overload Detection	Not available							
	Isolation	Isolated from the internal circuit							
Port 1		RS232C – maintenance communication, user communications, Modbus ASCII/RTU slave communication (FC5A only)							
Port 2 Communication Adapter (option) *4		Possible	Possible	Possible	—	Possible	Possible		
Clock Cartridge (option)		Possible	Possible	Possible	Possible	Possible	Possible		
Memory Cartridge (option)		Possible	Possible	Possible	Possible	Possible	Possible		
HMI Module (option)		Possible	Possible	Possible	Possible	Possible	Possible		

*1: 1 step equals 6 bytes.

*2: Not including expansion I/O service time, clock function processing time, data link processing time, and interrupt processing time.

*3: Expansion modules cannot be connected to FC5A-C24R2D.

*4: Maintenance communication, user communication, Modem communication, data link, Modbus ASCII/RTU master/slave communication (FC5A only).

Note: The maximum number of relay outputs that can be turned on simultaneously is 33 including those on the CPU module.

Communication Port (Port 1) Specifications

CPU Module	FC5A-D12K1E/D12S1E	Slim CPU	All-in-One CPU
Standards	USB 2.0	EIA RS232C	
Maximum Baud Rate	USB 2.0	FC5A: 57,600 bps (maintenance communication) FC4A: 19,200 bps (maintenance communication)	
Cable	HG9Z-XCM42, HG9Z-XCE21	FC2A-KC4C, FC2A-KP1C, FC4A-KC1C, FC4A-KC2C	
Isolation between Internal Circuit and Communication Port	Not isolated	Not isolated	

Flush
SilhouetteSwitches &
Pilot LightsDisplay
LightsLED
Illumination
UnitsDisplay
UnitsSafety
ProductsTerminal
BlocksComm.
Terminals

AS-Interface

Relays &
Timers

Sockets

Circuit
ProtectorsPower
SuppliesPLCs &
SmartRelayOperator
Interfaces

Sensors

Control
StationsExplosion
Protection

References

MICROSmart Micro Programmable Logic Controllers

Slim Type Input Specifications

Part No.		FC5A-D12K1E FC5A-D12S1E		—	FC5A-D16RK1 FC5A-D16RS1		—	FC5A-D32K3 FC5A-D32S3		—			
		—		FC4A-D20K3 FC4A-D20S3		—	FC4A-D20RK1 FC4A-D20RS1		—	FC4A-D40K3 FC4A-D40S3			
Input Points		8 (8/1 common)		12 (12/1 common)		8 (8/1 common)		12 (12/1 common)		16 (8/1 common)		24 (12/1 common)	
Rated Input Voltage		24V DC sink/source input signal											
Input Voltage Range		20.4 to 26.4V DC											
Rated Input Current		FC5A		I0, I1, I3, I4, I6, I7: I2, I5, I10 to I17:		4.5 mA/point (24V DC) 7 mA/point (24V DC)							
		FC4A		I0, I1, I6, I7: I2 to I5, I10 to I27:		5 mA/point (24V DC) 7 mA/point (24V DC)							
Input Impedance		FC5A		I0, I1, I3, I4, I6, I7: I2, I5, I10 to I17:		4.9 kΩ 3.4 kΩ							
		FC4A		I0, I1, I6, I7: I2 to I5, I10 to I27:		5.7 kΩ 3.4 kΩ							
Turn ON Time		FC5A		I0, I1, I3, I4, I6, I7: I2 and I5: I10 to I17:		5 μs + filter value 35 μs + filter value 40 μs + filter value							
		FC4A		I0, I1, I6, I7: I2 to I5: I10 to I27:		35 μs + filter value 35 μs + filter value 40 μs + filter value							
Turn OFF Time		FC5A		I0, I1, I3, I4, I6, I7: I2 and I5: I10 to I17:		5 μs + filter value 150 μs + filter value 150 μs + filter value							
		FC4A		I0, I1, I6, I7: I2 to I5: I10 to I27:		45 μs + filter value 150 μs + filter value 150 μs + filter value							
Connector	On Mother Board	MC1.5/16-G-3.81BK (Phoenix Contact)		FL26A2MA (Oki Electric Cable)		MC1.5/13-G-3.81BK (Phoenix Contact)				FL26A2MA (Oki Electric Cable)			
	Insertion Durability	100 times minimum											
Isolation		Between input terminals: Not isolated Internal circuit: Optocoupler isolated											
Input Type		Type 1 (IEC61131-2)											
External Load for I/O Interconnection		Not needed											
Single Determination Method		Static											
Effect of Improper Input Connection		Both sinking and sourcing input signals can be connected, therefore reverse connection does not cause permanent damage. If any input exceeding the rated value is applied, permanent damage may be caused.											
Cable Length		3m in compliance with electromagnetic immunity											

All-in-One Type Input Specifications

Part No.	FC5A-C10R2 FC5A-C10R2C	FC5A-C16R2 FC5A-C16R2C	FC5A-C24R2 FC5A-C24R2C	FC5A-C10R2D	FC5A-C16R2D	FC5A-C24R2D
	FC4A-C10R2 FC4A-C10R2C	FC4A-C16R2 FC4A-C16R2C	FC4A-C24R2 FC4A-C24R2C	—	—	—
Input Points	6 (6/1 common)	9 (9/1 common)	14 (14/1 common)	6 (6/1 common)	9 (9/1 common)	14 (14/1 common)
Rated Input Voltage	24V DC sink/source input signal			12V DC sink/source input signal		
Input Voltage Range	20.4 to 28.8V DC			10.2 to 18.0V DC		
Rated Input Current	FC5A I0 and I1: 6.4 mA/point I2 to I7, I10 to I15: 7 mA/point (24V DC) FC4A I0 and I1: 11 mA I2 to I7, I10 to I15: 7 mA/point (24V DC)			I0 and I1: 6 mA I2 to I7, I10 to I15: 6 mA		
Input Impedance	FC5A I0 and I1: 3.7 kΩ I2 to I7, I10 to I15: 3.4 kΩ FC4A I0 and I1: 2.1 kΩ I2 to I7, I10 to I15: 3.4 kΩ			I0 and I1: 1.8 kΩ I2 to I7, I10 to I15: 2.0 kΩ		
Turn ON Time	FC5A I0 and I1: 2 μs + filter value I2 to I5: 35 μs + filter value I6, I7, I10 to I15: 40 μs + filter value FC4A I0 and I1: 35 μs + filter value I2 to I5: 35 μs + filter value I6, I7, I10 to I15: 40 μs + filter value			I0 and I1: 2 μs + filter value I2 to I5: 35 μs + filter value I6, I7, I10 to I15: 40 μs + filter value		
Turn OFF Time	FC5A I0 and I1: 16 μs + filter value I2 to I5: 150 μs + filter value I6, I7, I10 to I15: 150 μs + filter value FC4A I0 and I1: 45 μs + filter value I2 to I5: 150 μs + filter value I6, I7, I10 to I15: 150 μs + filter value			I0 and I1: 16 μs + filter value I2 to I5: 150 μs + filter value I6, I7, I10 to I15: 150 μs + filter value		
Isolation	Between input terminals: Not isolated Internal circuit: Optocoupler isolated					
Input Type	Type 1 (IEC61131-2)					
External Load for I/O Interconnection	Not needed					
Single Determination Method	Static			—		
Effect of Improper Input Connection	Both sinking and sourcing input signals can be connected, therefore reverse connection does not cause permanent damage. If any input exceeding the rated value is applied, permanent damage may be caused.					
Cable Length	3m in compliance with electromagnetic immunity					

MICROSmart Micro Programmable Logic Controllers

Transistor Sink and Source Output Specifications

Part No.		FC5A-D12K1E FC5A-D12S1E	—	FC5A-D16RK1 FC5A-D16RS1	FC5A-D32K3 FC5A-D32S3
		—	FC4A-D20RK1 FC4A-D20RS1	—	FC4A-D40K3 FC4A-D40S3
Transistor Output Points		4 (4/1 common)	2 (2/1 common)	2 (2/1 common)	16 (8/1 common)
Output Type	Transistor Sink	FC5A-D12K1E/D16RK1/D32K3 FC4A-D20K3/D20RK1/D40K3			
	Transistor Source	FC5A-D12S1E/D16RS1/D32S3 FC4A-D20S3/D20RS1/D40S3			
Rated Load Voltage		24V DC			
Operating Load Voltage Range		20.4 to 28.8V DC			
Rated Load Current		0.3A per output point			
Maximum Load Current		1A per common			
Voltage Drop (ON Voltage)		1V maximum (voltage between COM and output terminals when output is on)			
Inrush Current		1A			
Leakage Current		0.1 mA maximum			
Clamping Voltage		39V±1V			
Maximum Lamp Load		8W			
Inductive Load		L/R = 10 ms (28.8V DC, 1 Hz)			
External Current Draw		Sink output: 100 mA maximum, 24V DC (power voltage at the +V terminal) Source output: 100 mA maximum, 24V DC (power voltage at the -V terminal)			
Isolation		Between output terminal and internal circuit: Photocoupler isolated Between output terminals: Not isolated			
Connector on Mother Board		MC1.5/16-G-3.81BK (Phoenix Contact)	FL26A2MA (Oki Electric Cable)	MC1.5/16-G-3.81BK (Phoenix Contact)	FL26A2MA (Oki Electric Cable)
Connector Insertion/ Removal Durability		100 times minimum			
Output Delay	Turn ON Time	FC5A Q0 to Q2:	5 μs max.		
		Q3 to Q7, Q10 to Q17:	300 μs max.		
	Turn OFF Time	FC4A Q0, Q1:	5 μs max.		
		Q2 to Q7, Q10 to Q17:	300 μs max.		

Relay Output Specifications

Part No.		FC5A-C10R2 FC5A-C10R2C FC5A-C10R2D	FC5A-C16R2 FC5A-C16R2C FC5A-C16R2D	FC5A-C24R2 FC5A-C24R2C FC5A-C24R2D	FC5A-D16RK1 FC5A-D16RS1
		FC4A-C10R2 FC4A-C10R2C	FC4A-C16R2 FC4A-C16R2C	FC4A-C24R2 FC4A-C24R2C	FC4A-D20RK1 FC4A-D20RS1
Relay Output Points		4	7	10	6
Output Points per Common Line	COM0	3	4	4	—
	COM1	1	2	4	3
	COM2	—	1	1	2
	COM3	—	—	1	1
Output Type		1NO			
Maximum Load Current		2A per point 8A per common line			
Minimum Switching Load		1 mA/ 5V DC (reference value)			
Initial Contact Resistance		30 mΩ maximum			
Electrical Life		100,000 operations minimum (rated load 1,800 operations/hour)			
Mechanical Life		20,000,000 operations minimum (no load 18,000 operations/hour)			
Rated Load		240V AC/2A (resistive load, inductive load cos φ = 0.4) 30V DC/2A (resistive load, inductive load L/R = 7 ms)			
Dielectric Strength		Between output and terminals: 1,500V AC, 1 minute Between output terminal and internal circuit: 1,500V AC, 1 minute Between output terminals (COMs): 1,500V AC, 1 minute			
Connector on Mother Board		—			*1
Connector Insertion/ Removal Durability		—			100 times minimum

*1: MC1.5/16-G-3.81BK (Phoenix Contact)

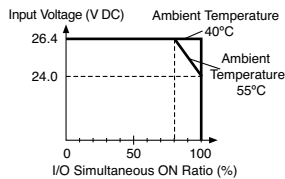
Flush Silhouette
Switches & Pilot Lights
Display Lights
LED Illumination Units
Display Units
Safety Products
Terminal Blocks
Comm. Terminals
AS-Interface
Relays & Timers
Sockets
Circuit Protectors
Power Supplies
PLCs & SmartRelay
Operator Interfaces
Sensors
Control Stations
Explosion Protection
References

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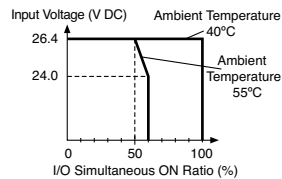
Input Usage Limits

Slim CPU

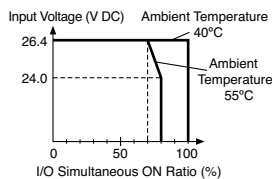
FC5A-D16RK1/D16RS1
FC5A-D12K1E/D12S1E



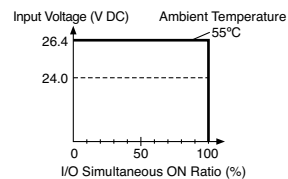
FC5A-D32K3/D32S3
FC4A-D40K3/D40S3



FC4A-D20K3/D20S3

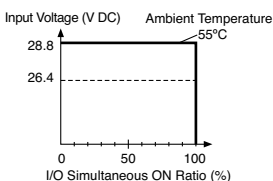


FC4A-D20RK1/D20RS1

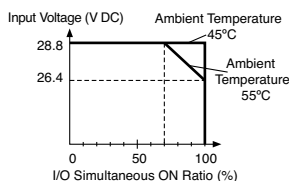


All-in-One CPU

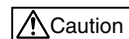
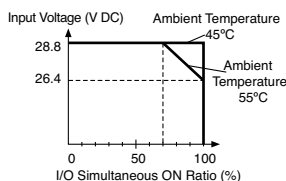
FC5A-C10R2
FC5A-C10R2C
FC4A-C10R2
FC4A-C10R2C



FC5A-C16R2
FC5A-C16R2C
FC4A-C16R2
FC4A-C16R2C



FC5A-C24R2
FC5A-C24R2C
FC4A-C24R2
FC4A-C24R2C

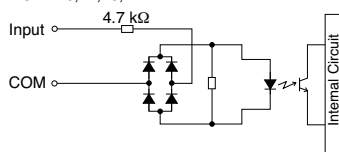


Caution
When using at an operating ambient temperature above 40°C, reduce the input voltage or the quantity of I/O points that turn on simultaneously.

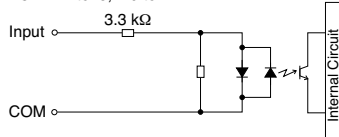
Input Internal Circuit

Slim CPU

FC5A: I0, I1, I3, I4, I6, I7
FC4A: I0, I1, I6, I7

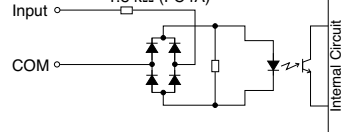


FC5A: I2, I5, I10 to I17
FC4A: I2 to I5, I10 to I27

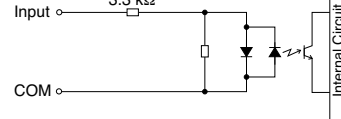


All-in-One CPU

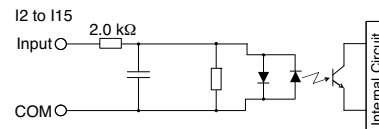
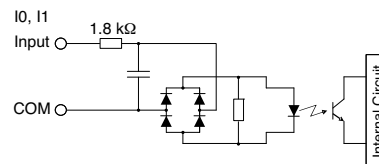
I0, I1
3.3 kΩ (FC5A)
1.8 kΩ (FC4A)



I2 to I15
3.3 kΩ



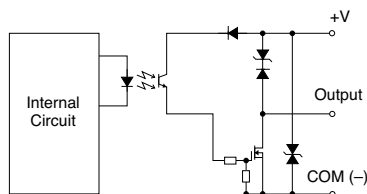
FC5A All-in-One CPU 12V DC Type



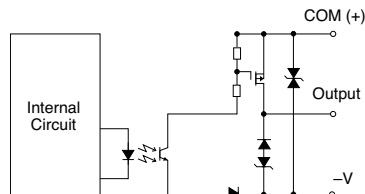
Output Internal Circuit

Slim CPU

Sink Output



Source Output



MICROSmart Micro Programmable Logic Controllers

Specifications (Option)

Communication Adapter/Module Specifications

Part No.	FC4A-PC1 FC4A-HPC1	FC4A-PC2 FC4A-HPC2	FC4A-PC3 FC4A-HPC3
Standards	EIA RS232C	EIA RS485	EIA RS485
Maximum Baud Rate	FC5A: 57,600 bps FC4A: 19,200 bps	FC5A: 57,600 bps FC4A: 19,200 bps	FC5A: 57,600 bps FC4A: 19,200 bps (38,400 bps *2)
Maintenance Communication	Possible	Possible	Possible
User Communication	Possible	Possible *3	Possible *3
Data Link Communication	—	Possible	Possible
Half-duplex Communication	—	Possible	Possible
Maximum Cable Length	Special cable *4	Special cable *5	200m
Quantity of Slave Stations	—	31	31
Isolation between Internal Circuit and Communication Port	Not isolated		
RS485 Cable	Cable	—	Twisted-pair shielded cable with a minimum core wire of 0.3 mm ²
	Conductor Resistance		85 Ω/km maximum
	Shield Resistance		20 Ω/km maximum

*1: Maximum speed is 115,200 bps for FC5A-D12*1E.

*2: Maximum speed when data link is used.

*3: FC5A (all types), FC4A-D20RK1, FC4A-D20RS1, FC4A-D40K3, FC4A-D40S3

*4: FC2A-KC4C, FC2A-KM1C, FC4A-KC1C, FC4A-KC2C, FC2A-KP1C

*5: FC2A-KP1C

Expansion Serial Communication Module

General Specifications

(Expansion RS232C Communication Module)

Part No.	FC5A-SIF2
No. of Port	1
Synchronization	Synchronization Start-stop synchronization
Electrical Characteristics	Electrical Characteristics EIA RS232C compliant
Maximum Delay in One Scan	Approx. 4 ms
Operating Temperature	0 to 55°C
Relative Humidity	10 to 95% (no condensation)
Recommended Cable Specifications	Shielded multi-core cable: 24AWG x 6 Dielectric strength: 2,000V AC/min Insulation resistance: 100 MΩ/km
Recommended Cable	KIDU-SB 24 AWG×6C (Nihon Electric Wire & Cable)
Connector on Mother Board	MC1.5/10-G-3.81BK (Phoenix Contact) Applicable terminal block: FC4A-PMT10P
Connector Insertion/Removal Durability	100 times minimum
Isolation from Internal Circuit	Transformer isolated
Quantity of Applicable Expansion RS232C Communication Modules	All-in-One 24-I/O type CPU module: 3 maximum *1 Slim type CPU module: 5 maximum
Internal Current Draw	40 mA (5V/24V DC) *5
Weight	100g

Note: FC5A-SIF2 cannot be connected to FC4A CPU modules.

*1: FC5A All-in-One 24-I/O CPU module cannot use the FC5A-SIF2/SIF4 module in combination with the function modules listed in the table below. When using these modules in combination with the FC5A-SIF2/SIF4 module, use the slim type CPU module.

Function Modules	Part No.
Analog Modules	FC4A-L03A1, FC4A-L03AP1, FC4A-J2A1, FC4A-K1A1, FC4A-J4CN1, FC4A-J8C1, FC4A-J8AT1, FC4A-K2C1, FC4A-K4A1
AS-Interface Master Module	FC4A-AS62M

*5: 85 mA (5V DC), 0 mA (24V DC) when the communication module version is lower than V200.

HMI Module Specifications

Part No.	FC4A-PH1
Power Voltage	5V DC (supplied from the CPU module)
Weight	20g

Memory Cartridge Specifications

Part No.	FC4A-PM32	FC4A-PM64 *6	FC4A-PM128 *6
Memory Type	EEPROM		
Accessible Memory Capacity	32 KB	64 KB	128 KB
Hardware for Storing Data	CPU Module		
Software for Storing Data	WindLDR		
Quantity of Stored Programs	One user program can be stored on one memory cartridge		

*6: Even when using a large-capacity memory cartridge, the program capacity of the CPU module takes effect, except when using FC4A-D20RK1, FC4A-D20RS1, FC4A-D40K3, and FC4A-D40S3 CPU modules, the program capacity expands to 64KB.

Clock Cartridge Specifications

Part No.	FC4A-PT1
Accuracy	±30 sec/month (typical) at 25°C
Backup Duration	Approx. 30 days (typical) at 25°C after backup battery fully charged
Battery	Lithium secondary battery
Charging Time	Approx. 10 hours for charging from 0% to 90% of full charge
Replaceability	Not possible to replace battery

(Expansion RS485 Communication Module)

Part No.	FC5A-SIF4
No. of Port	1
Synchronization	Synchronization Start-stop synchronization
Electrical Characteristics	Electrical Characteristics EIA RS485 compliant
Maximum Baud Rate	115,200 bps
Operating Temperature	0 to 55°C
Relative Humidity	10 to 95% (no condensation)
Recommended Cable Specifications	Shielded twisted pair cable: 22 AWG (0.3 mm ² x 2P) Conductor Resistance: 67 MΩ/km maximum (at 20°C)
Connector on Mother Board	MC1.5/10-G-3.81BK (Phoenix Contact) Applicable terminal block: FC4A-PMT10P
Connector Insertion/Removal Durability	100 times minimum
Isolation from Internal Circuit	Transformer isolated
Quantity of Applicable Expansion RS485C Communication Modules	All-in-One 24-I/O type CPU module: 3 maximum *1 Slim type CPU module: 5 maximum
Internal Current Draw	40 mA (5V/24V DC)
Weight	100g

Note: FC5A-SIF4 cannot be connected to FC4A CPU modules.

Communication Specifications

Part No.	FC5A-SIF2	FC5A-SIF4
Maximum Baud Rate	1,200/2,400/4,800/9,600/19,200/38,400/57,600 (*4)/115,200 (*4)	
Maintenance Communication	Possible *2	
Modbus Communication	Modbus ASCII master Modbus ASCII slave Modbus RTU master Modbus RTU slave	
Data Link	—	Possible *3
Max Cable Length	10m	1,200m
Quantity of Slave Stations	1	31

*2: Run-time program download is not possible.

*3: Data Link can be used only on one of the communication ports.

*4: Can be used when the communication module is version V200 or higher.

Specifications (I/O Modules)

Input Module Specifications

Part No.		FC4A-N08B1		FC4A-N16B1		FC4A-N16B3		FC4A-N32B3		FC4A-N08A11	
Input Points		8 (8/1 common)		16 (16/1 common)				32 (16/1 common)		8 (4/1 common)	
Rated Input Voltage		24V DC sink/source input signal								100 to 120V AC (50/60 Hz)	
Input Voltage Range		20.4 to 28.8V DC								85 to 132V AC	
Rated Input Current		7 mA/point (24V DC)			5 mA/point (24V DC)			17 mA/point (120V AC, 60 Hz)			
Input Impedance		3.4 kΩ			4.4 kΩ			0.8 kΩ (60 Hz)			
ON Voltage		15V minimum								79V minimum	
OFF Voltage		5V maximum								20V maximum	
ON Current		4.2 mA minimum (at 15V DC)			3.2 mA minimum (at 15V DC)			—			
OFF Current		1.2 mA maximum			0.9 mA maximum			—			
Turn ON Time		4 ms								25 ms	
Turn OFF Time		4 ms								30 ms	
Isolation		Between input terminals: Not isolated Internal circuit: Photocoupler isolated								Between input terminals in the same common: Not isolated Between input terminals in different commons: Isolated Between input terminals and internal circuits: Photocoupler isolated	
External Load for I/O Interconnection		Not needed								Not needed	
Single Determination Method		Static								Static	
Effect of Improper Input Connection		Both sink and source input signals can be connected. If any input exceeding the rated value is applied, permanent damage may be caused.								If any input exceeding the rated value is applied, permanent damage may be caused.	
Cable Length		3m in compliance with electromagnetic immunity								—	
Connector on Mother Board		MC1.5/10-G-3.81BK (Phoenix Contact)			FL20A2MA (Ok Electric Cable)			MC1.5/11-G-3.81BK (Phoenix Contact)			
Connector Insertion/Removal Durability		100 times minimum									
Applicable Ferrule		1-wire: AI 0.5-8 WH (Phoenix Contact) 2-wire: AI-TWIN 2x0.5-8 WH (Phoenix Contact)			—			—			
Internal Current Draw	All Inputs ON	25 mA (5V DC)		40 mA (5V DC)		35 mA (5V DC)		65 mA (5V DC)		60 mA (5V DC), 0 mA (24V DC)	
	All Inputs OFF	5 mA (5V DC)		5 mA (5V DC)		5 mA (5V DC)		10 mA (5V DC)		30 mA (5V DC), 0 mA (24V DC)	
Internal Power Consumption (at 24V DC while all inputs ON)		0.17W		0.27W		0.24W		0.44W		—	
Weight		85g		100g		65g		100g		80g	

Transistor Output Module Specifications

Part No.		FC4A-T08K1 FC4A-T08S1	FC4A-T16K3 FC4A-T16S3	FC4A-T32K3 FC4A-T32S3
Output Points		8 (8/1 common)	16 (16/1 common)	32 (16/1 common)
Output Type		FC4A-T□K□: Transistor sink output FC4A-T□S□: Transistor source output		
Rated Load Voltage		24V DC		
Operating Load Voltage Range		20.4 to 28.8V DC		
Maximum Load Current		0.3A per point	0.1A per point	
		3A per common	1A per common	
Voltage Drop (ON Voltage)		1V maximum (voltage between COM and output terminals when output is on)		
Inrush Current		1A maximum		
Clamping Voltage		39V±1V		
Maximum Lamp Load		8W		
Inductive Load		L/R = 10 ms (28.8V DC, 1 Hz)		
External Current Draw		FC4A-T□K□: 100 mA maximum, 24V DC (power voltage at the +V terminal) FC4A-T□S□: 100 mA maximum, 24V DC (power voltage at the -V terminal)		
Isolation		Between output terminal and internal circuit: Photocoupler isolated Between output terminals: Not isolated		
Connector on Mother Board		MC1.5/10-G-3.81BK (Phoenix Contact)	FL20A2MA (Oki Electric Cable)	
Connector Insertion/ Removal Durability		100 times minimum		
Applicable Ferrule		1-wire: AI 0.5-8 WH (Phoenix Contact) 2-wire: AI-TWIN 2x0.5-8 WH (Phoenix Contact)	—	
Internal Current Draw	All outputs ON	10 mA (5V DC) 20 mA (24V DC)	10 mA (5V DC) 40 mA (24V DC)	20 mA (5V DC) 70 mA (24V DC)
	All outputs OFF	5 mA (5V DC) 0 mA (24V DC)	5 mA (5V DC) 0 mA (24V DC)	10 mA (5V DC) 0 mA (24V DC)
Internal Power Consumption (at 24V DC while all outputs ON)		0.55W	1.03W	1.82W
Output Delay	Turn ON Time	300 μs maximum		
	Turn OFF Time	300 μs maximum		
Weight		85g	70g	105g

Relay Output Module Specifications

Part No.		FC4A-R081	FC4A-R161
Output Points		8 (4/1 common)	16 (8/1 common)
Output Type		1NO	
Maximum Load Current		2A per point	
		7A per common	8A per common
Minimum Switching Load		1 mA/ 5V DC (reference value)	
Initial Contact Resistance		30 mΩ maximum	
Electrical Life		100,000 operations minimum (rated load 1,800 operations/hour)	
Mechanical Life		20,000,000 operations minimum (no load 18,000 operations/hour)	
Rated Load		240V AC/2A (resistive load, inductive load cos φ = 0.4) 30V DC/2A (resistive load, inductive load L/R = 7 ms)	
Dielectric Strength		Between output and ⊕ or ⊖ terminals: 1,500V AC, 1 minute Between output terminal and internal circuit: 1,500V AC, 1 minute Between output terminals (COMs): 1,500V AC, 1 minute	
Connector On Mother Board		MC1.5/11-G-3.81BK (Phoenix Contact)	MC1.5/10-G-3.81BK (Phoenix Contact)
Connector Insertion/ Removal Durability		100 times minimum	
Applicable Ferrule		1-wire: AI 0.5-8 WH (Phoenix Contact) 2-wire: AI-TWIN 2x0.5-8 WH (Phoenix Contact)	
Internal Current Draw	All outputs ON	30 mA (5V DC) 40 mA (24V DC)	45 mA (5V DC) 75 mA (24V DC)
	All outputs OFF	5 mA (5V DC) 0 mA (24V DC)	5 mA (5V DC) 0 mA (24V DC)
Internal Power Consumption (at 24V DC while all outputs ON)		1.16W	2.10W
Weight		110g	145g

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Mixed I/O Module Specifications

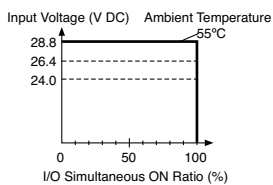
Part No.		FC4A-M08BR1	FC4A-M24BR2
Input Specifications	Input Points	4 (4/1 common)	16 (16/1 common)
	Rated Input Voltage	24V DC sink/source input signal	
	Input Voltage Range	20.4 to 28.8V DC	
	Rated Input Current	7 mA/point (24V DC)	
	Input Impedance	3.4 kΩ	
	ON Voltage	15V minimum	
	OFF Voltage	5V maximum	
	ON Current	4.2 mA minimum (at 15V DC)	
	OFF Current	1.2 mA maximum	
	Turn ON Time	4 ms (24V DC)	
	Turn OFF Time	4 ms (24V DC)	
	Isolation	Between input terminals: Not isolated Internal circuit: Photocoupler isolated	
	External Load for I/O Interconnection	Not needed	
	Signal Determination Method	Static	
Effect of Improper Input Connection	Both sinking and sourcing input signals can be connected. If any input exceeding the rated value is applied, permanent damage may be caused.		
Cable Length	3m in compliance with electromagnetic immunity		
Output Specifications	Output Points	4 (4/1 common)	8 (4/1 common)
	Output Type	1NO	
	Maximum Load Current	2A per point 7A per common	
	Minimum Switching Load	1 mA/ 5V DC (reference value)	
	Initial Contact Resistance	30 mΩ maximum	
	Electrical Life	100,000 operations minimum (rated load 1,800 operations/hour)	
	Mechanical Life	20,000,000 operations minimum (no load 18,000 operations/hour)	
	Rated Load	240V AC/2A (resistive load, inductive load cos φ = 0.4) 30V DC/2A (resistive load, inductive load L/R = 7 ms)	
	Dielectric Strength	Between output and ⊕ or ⊖ terminals: 1,500V AC, 1 minute	
		Between output terminal and internal circuit: 1,500V AC, 1 minute	
		Between output terminals (COMs): 1,500V AC, 1 minute	
Connector on Mother Board		MC1.5/11-G-3.81BK (Phoenix Contact)	Input: F6018-17P (Fujicon) Output: F6018-11P (Fujicon)
Connector Insertion/Removal Durability		100 times minimum	Not removable
Applicable Ferrule		1-wire: AI 0.5-8 WH (Phoenix Contact), 2-wire: AI-TWIN 2x0.5-8 WH (Phoenix Contact)	
Internal Current Draw	All I/Os ON	25 mA (5V DC), 20 mA (24V DC)	65 mA (5V DC), 45 mA (24V DC)
	All I/Os OFF	5 mA (5V DC), 0 mA (24V DC)	10 mA (5V DC), 0 mA (24V DC)
Internal Power Consumption (at 24V DC while all I/Os are ON)		0.65W	1.52W
Weight		95g	140g

Flush Silhouette
Switches & Pilot Lights
Display Lights
LED Illumination Units
Display Units
Safety Products
Terminal Blocks
Comm. Terminals
AS-Interface
Relays & Timers
Sockets
Circuit Protectors
Power Supplies

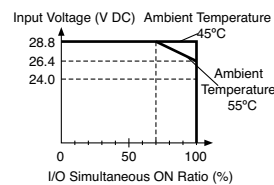
PLCs & SmartRelay
Operator Interfaces
Sensors
Control Stations
Explosion Protection
References

Input Usage Limits

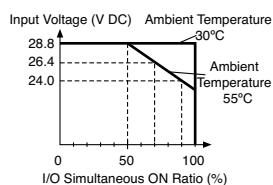
FC4A-N08B1



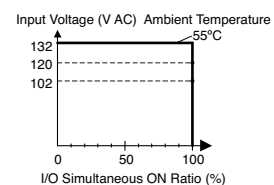
FC4A-N16B1



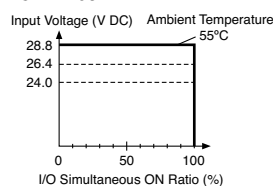
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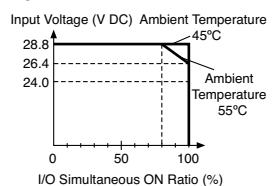
FC4A-N08A11



FC4A-M08BR1

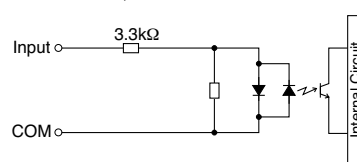


FC4A-M24BR2

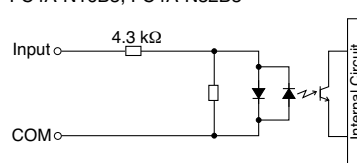


Input Internal Circuit

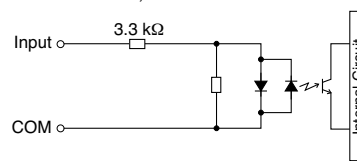
FC4A-N08B1, FC4A-N16B1



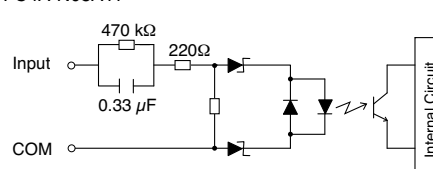
FC4A-N16B3, FC4A-N32B3



FC4A-M08BR1, FC4A-M24BR2

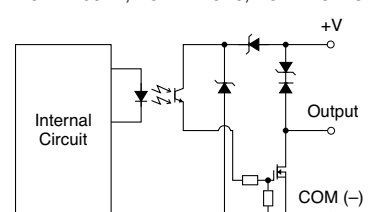


FC4A-N08A11

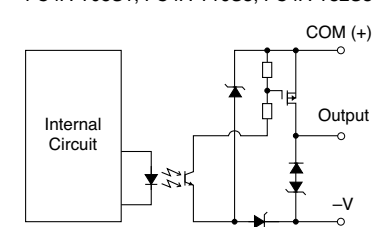


Output Internal Circuit

FC4A-T08K1, FC4A-T16K3, FC4A-T32K3



FC4A-T08S1, FC4A-T16S3, FC4A-T32S3



Caution

When using at an operating ambient temperature above 40°C, reduce the input voltage or the quantity of I/O points that turn on simultaneously.

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Specifications (Analog I/O Modules)

Analog I/O Module Specifications

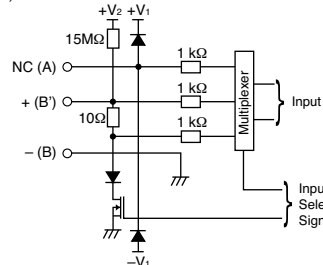
Part No.	FC4A-L03A1	FC4A-L03AP1	FC4A-J2A1	FC4A-J4CN1	FC4A-J8C1	FC4A-J8AT1	FC4A-K4A1	FC4A-K1A1	FC4A-K2C1
Input Points	2	2	2	4	8	8	—	—	—
Output Points	1	1	—	—	—	—	4	1	2
Power Voltage	24V DC								
Allowable Voltage Range	20.4 to 28.8V DC								
External Current Draw * (24V DC)	50 (45) mA (Note)	50 (40) mA (Note)	40 (35) mA (Note)	55 mA	50 mA	55 mA	130 mA	40 mA	85 mA
Connector on Mother Board	MC1.5/11-G-3.81BK (Phoenix Contact)			MC1.5/10-G-3.81BK (Phoenix Contact)			MC1.5/11-G-3.81BK (Phoenix Contact)		MC1.5/10-G-3.81BK (Phoenix Contact)
Connector Insertion/Removal Durability	100 times minimum								
Applicable Ferrule	1-wire: AI 0.5-8 WH (Phoenix Contact), 2-wire: AI-TWIN 2x0.5-8 WH (Phoenix Contact)								
Internal Power Consumption (5V DC)	50 mA	50 mA	50 mA	50 mA	40 mA	45 mA	65 mA	50 mA	60 mA
Internal Power Consumption (at 24V DC while all I/Os are ON)	0.34W	0.34W	0.34W	0.34W	0.27W	0.30W	0.44W	0.34W	0.40W
Weight	100g (85g) (Note)			140g	140g	125g	100g	100g (85g) (Note)	110g

* The external current draw is the value when all the analog inputs are used and the analog output value is at 100%.

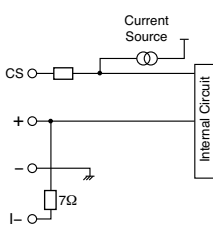
Note: Values in () represent analog I/O modules earlier than version 200.

Input Circuit

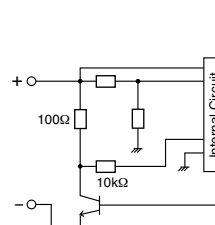
FC4A-L03A1, FC4A-L03AP1
FC4A-J2A1



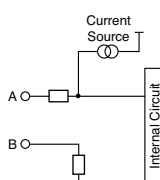
FC4A-J4CN1



FC4A-J8C1



FC4A-J8AT1



Analog Input Specifications (1)

Part No.	FC4A-L03A1, FC4A-J2A1		FC4A-L03AP1	
Input Signal Type	Voltage Input 0 to 10V DC	Current Input 4 to 20 mA	Resistance Thermometer Pt100 3-wire type (-100 to 500°C)	Thermocouple Type K (0 to 1,300°C) Type J (0 to 1,200°C) Type T (0 to 400°C)
Input Impedance	1 MΩ minimum	10Ω	1 MΩ minimum	1 MΩ minimum
Input Detection Current	—	—	1.0 mA maximum	—
AD Conversion	Sampling Duration Time	10 (20) ms maximum (Note 1)	20 ms maximum	10 (20) ms maximum (Note 1)
	Sampling Repetition Time	20 ms maximum	40 (20) ms maximum (Note 1)	20 ms maximum
	Total Input System Transfer Time	60 (105) ms + 1 scan time (Note 1)	80 (200) ms + 1 scan time (Note 1)	60 (200) ms + 1 scan time (Note 1)
	Type of Input	Single-ended input	Differential input	
	Operating Mode	Self-scan		
Input Error	Conversion Method	Σ Δ type ADC		
	Maximum Error at 25°C	±0.2% of full scale		±0.2% of full scale plus cold junction compensation error (±4°C maximum)
	Temperature Coefficient	±0.006% of full scale /°C		
	Repeatability after Stabilization Time	±0.5% of full scale		
	Non-linearity	±0.2% of full scale		
Data	Maximum Error	±1% of full scale		
	Digital Resolution	4096 increments (12 bits)	6,000 increments (14 bits)	Type K: 13,000 increments (14 bits) Type J: 12,000 increments (14 bits) Type T: 4,000 increments (12 bits)
	Input Value of LSB	2.5 mV	4 μA	K: 0.100°C/0.180°F (0.325°C) J: 0.100°C/0.180°F (0.300°C) T: 0.100°C/0.180°F (0.100°C) (Note 2)
	Data Type in Application Program	Default: 0 to 4,095 Optional: -32,768 to 32,767 (selectable for each channel) *1		
	Monotonicity	Yes		
Noise Resistance	Input Data Out of Range	Detectable *2		
	Maximum Temporary Deviation during Electrical Noise Tests	±3% maximum when a 500V clamp voltage is applied to the power supply and I/O lines *3		
	Input Filter	No		
Noise Resistance	Recommended Cable for Noise Immunity	Twisted pair shielded cable		—
	Crosstalk	2 LSB maximum		

Note 1: Values in () represent analog I/O modules earlier than version 200.

Note 2: Minimum values represent analog input data in Celsius and Fahrenheit. Values in () represent analog I/O modules earlier than version 200.

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Analog Input Specifications (1) (Continued)

Part No.	FC4A-L03A1, FC4A-J2A1		FC4A-L03AP1
Isolation	Between input and power circuit: Isolated Between input and internal circuit: Photocoupler-isolated		
Effect of Improper Input Connection	No damage		
Maximum Permanent Allowed Overload (No Damage)	13V DC	40 mA	—
Selection of Analog Input Signal Type	Using programming software		
Calibration or Verification to Maintain Rated Accuracy	Impossible		

*1: The data processed in the analog I/O module can be linear-converted to a value between -32,768 and 32,767. The optional range designation, and analog I/O data minimum and maximum values can be selected using data registers allocated to analog I/O modules.

*2: When an error is detected, a corresponding error code is stored to a data register allocated to analog I/O operating status.

*3: The accuracy of the thermocouple input is not guaranteed when noise is applied.

Analog Input Specifications (2)

Part No.		FC4A-J4CN1, FC4A-J8C1		FC4A-J4CN1		FC4A-J8AT1		
Input Signal Type		Voltage Input	Current Input	Thermocouple	Resistance Thermometer	NTC Thermistor	PTC Thermistor	
Input Range		0 to 10V DC	4 to 20 mA	Type K (0 to 1,300°C) Type J (0 to 1,200°C) Type T (0 to 400°C)	Pt100, Pt1000 3-wire type (-100 to 500°C) Ni100, Ni1000 3-wire type (-60 to 180°C)	-50 to 150°C		
Input Impedance		1 MΩ	7 Ω (FC4A-J4CN1) 100 Ω (FC4A-J8C1)	1 MΩ	—	—		
Input Detection Current		—	—	—	0.1 mA	0.1 mA		
AD Conversion	Sampling Duration Time	2 ms maximum						
	Sampling Repetition Time	FC4A-J4CN1: 10 ms maximum FC4A-J8C1: 2 ms maximum		30 ms maximum	10 ms maximum	2 ms × channels		
	Total Input System Transfer Time	FC4A-J4CN1: 50 ms × channels + 1 scan time FC4A-J8C1: 8 ms × channels + 1 scan time		85 ms × channels + 1 scan time	50 ms × channels + 1 scan time	10 ms × channels + 1 scan time		
	Type of Input	Single-ended input						
	Operating Mode	Self-scan						
	Conversion Method	Σ Δ type ADC (FC4A-J4CN1), Successive approximation register method (FC4A-J8C1, FC4A-J8AT1)						
	Input Error	Maximum Error at 25°C	±0.2% of full scale		±0.2% of full scale +cold junction compensation error (±3°C maximum)	Pt100, Ni100: ±0.4% of full scale Pt1000, Ni1000: ±0.2% of full scale	±0.2% of full scale	
	Cold Junction Compensation Error	—	—	±3°C maximum	—	—		
	Temperature Coefficient	±0.005% of full scale/°C						
	Repeatability after Stabilization Time	±0.5% of full scale						
	Non-linearity	±0.04% of full scale					Non-linear	
	Maximum Error	±1% of full scale						
Data	Digital Resolution	50,000 increments (16 bits)		Type K: Approx. 24,000 increments (15 bits) Type J: Approx. 33,000 increments (15 bits) Type T: Approx. 10,000 increments (14 bits)	Pt100: Approx. 6,400 increments (13 bits) Pt1000: Approx. 64,000 increments (16 bits) Ni100: Approx. 4,700 increments (13 bits) Ni1000: Approx. 47,000 increments (16 bits)	Approx. 4,000 increments (12 bits)		
	Input Value of LSB	0.2 mV	0.32 μA	Type K: 0.058°C Type J: 0.038°C Type T: 0.042°C	Pt100: 0.086°C Pt1000: 0.0086°C Ni100: 0.037°C Ni1000: 0.0037°C	0.05°C		
	Data Type in Application Program	Default: 0 to 50,000 Optional: -32,768 to 32,767 (selectable for each channel) *1					Default: 0 to 4,000 Optional: -32,768 to 32,767 (selectable for each channel) *1 Resistance: 0 to 10,000	
	Monotonicity	Yes						
	Input Data Out of Range	Detectable *2						
Noise Resistance	Maximum Temporary Deviation during Electrical Noise Tests	±3% maximum (when a 500V clamp voltage is applied to the power supply and I/O lines)			Not assured	±3% maximum (when a 500V clamp voltage is applied to the power supply and I/O lines)		
	Input Filter	Software						
	Recommended Cable for Noise Immunity	Twisted pair cable		—				
	Crosstalk	2 LSB maximum						
Isolation		Between input and power circuit: Isolated Between input and internal circuit: Optocoupler-isolated						
Effect of Improper Input Connection		No damage						
Maximum Permanent Allowed Overload (No Damage)		11V DC	22 mA DC	—				
Selection of Analog Input Signal Type		Using programming software						
Calibration or Verification to Maintain Rated Accuracy		Impossible						

*1: The data processed in the analog I/O module can be linear-converted to a value between -32,768 and 32,767. The optional range designation, and analog I/O data minimum and maximum values can be selected using data registers allocated to analog I/O modules.

*2: When an error is detected, a corresponding error code is stored to a data register allocated to analog I/O operating status.

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Analog Output Specifications

Part No.		FC4A-K4A1	FC4A-L03A1	FC4A-L03AP1	FC4A-K1A1	FC4A-K2C1	
Output Range		Voltage	0 to 10V DC				−10 to 10V DC
		Current	4 to 20 mA				
Load	Impedance		Voltage output: 1 kΩ minimum Current output: 300Ω maximum				
	Load Type		Resistive load				
DA Conversion	Settling Time		2 ms/ch	10 ms	10 ms	10 ms	1 ms/ch
	Total Output System Transfer Time		2 ms/ch + 1 scan time	10 ms + 1 scan time	10 ms + 1 scan time	10 ms + 1 scan time	1 ms × channels + 1 scan time
Output Error	Maximum Error at 25°C		±0.2% of full scale				
	Temperature Coefficient		±0.015% of full scale/°C				±0.005% of full scale/°C
	Repeatability after Stabilization Time		±0.5% of full scale				
	Output Voltage Drop		±1% of full scale				
	Non-linearity		±0.2% of full scale				
	Output Ripple		20 mV maximum				±0.1% of full scale
	Overshoot		0%				
	Total Error		±1% of full scale				
Data	Digital Resolution		4096 increments (12 bits)				50,000 increments (16 bits)
	Output Value of LSB	Voltage	2.5 mV				0.4 mV
		Current	4 μA				0.32 μA
	Data Type in Application Program		Default: 0 to 4,095 (voltage, current)				−25,000 to 25,000 (voltage) 0 to 50,000 (current)
			Optional: −32,768 to 32,767 (selected for each channel) *1				
	Monotonicity		Yes				
Current Loop Open		Undetectable					
Noise Resistance	Maximum Temporary Deviation during Electrical Noise Tests		±3% maximum when a 500V clamp voltage is applied to the power and I/O lines				
	Recommended Cable for Noise Immunity		Twisted pair shielded cable				Twisted pair cable
	Crosstalk		2LSB maximum	None			2 LSB maximum
Isolation	Between output and power circuit		Isolated				
	Between output and internal circuit		Photocoupler-isolated				
Effect of Improper Output Connection			No damage				
Selection of Analog Output Signal Type			Using software programming				
Calibration or Verification to Maintain Rated Accuracy			Impossible				

*1: The data processed in the analog I/O module can be linear-converted to a value between -32,768 and 32,767. The optional range designation, and analog I/O data minimum and maximum values can be selected using data registers allocated to analog I/O modules.

MICROSmart Micro Programmable Logic Controllers

Specifications (PID Module)

Part No.		FC5A-F2MR2	FC5A-F2M2
Control Mode	Independent PID Control	Possible	
	Heating/Cooling Control	Possible (overlapping deadband settings available) *	
	Difference Input Temperature Control	Possible *	
	Cascade Control	Possible *	
Input Points		2ch	2ch
Types of Inputs	Thermocouple	K, J, R, S, B, E, T, N, PL-II, C (W/Re5-26) External resistance: 100Ω maximum However, external resistance of B input: 40Ω maximum	
	Resistance Thermometer	Pt100, JPt100, 3-wire type Allowable conductor resistance (per wire): 10Ω maximum	
	Current Input	0 to 20 mA DC, 4 to 20 mA DC Input impedance: 50Ω Maximum permanent allowed overload (no damage): 50 mA maximum	
	Voltage Input	0 to 1V DC Input impedance: 1MΩ minimum Maximum permanent allowed overload (No damage): 5V DC Allowable output impedance: 2 kΩ 0 to 5V DC, 1 to 5V DC, 0 to 10V DC Input impedance: 100kΩ minimum Maximum permanent allowed overload (No damage): 15V DC maximum Allowable output impedance: 100Ω maximum	
AD Conversion	Sampling Duration Time	100 ms	
	Sampling Repetition Time	125 ms	
	Type of Input	Differential input	
	Conversion Method	Σ Δ type ADC	
Maximum Error at 25°C	Thermocouple Input	±0.2% of full scale or ±2°C (4°F), whichever is greater However, R, S inputs: 0 to 200°C (0 to 400°F): ±6°C (12°F) B input: 0 to 300°C (0 to 600°F) Accuracy is not guaranteed. K, J, E, T, N inputs: Less than 0°C (32°F): ±0.4% of full scale	
	Resistance Thermometer Input	±0.1% of full scale or ±1°C (2°F), whichever is greater	
	Voltage/Current Inputs	±0.2% of full scale	
Input Accuracy (at 0 to 55°C)	Thermocouple Input	±0.7% of full scale However, R, S input: 0 to 200°C (0 to 400°F): ±6°C (12°F) B input: 0 to 300°C (0 to 600°F) Accuracy is not guaranteed. K, J, E, T, N inputs: Less than 0°C (32°F): ±0.9% of full scale	
	Resistance Thermometer Input	±0.6% of full scale	
	Voltage/Current Inputs	±0.7% of full scale	
Noise Resistance	Maximum Temporary Deviation during Electrical Noise Tests	Voltage input, current input ±3% maximum when a 500V clamp voltage is applied to the power supply and I/O lines Thermocouple, Resistance Thermometer Not assured	
	Input Filter	None	
	Recommended Cable for Noise Immunity	Twisted pair cable	
	Cross Talk	None	
Isolation		Between input and power circuit: Transformer Isolated Between input and internal circuit: Optocoupler isolated	
Data Accuracy		Maximum error at 25°C±Minimum digital resolution of each input range	
Cold Junction Temperature Compensation Accuracy		±1°C at 0 to 55°C	
Sampling Period		125 ms	
Output Points		2ch	
Output		Relay output 1NO Rated load 5A 250V AC/30V DC (resistive load) 3A 250V AC (inductive load cos φ=0.4) Minimum open/closed load: 10 mA 5V DC Electrical life: 100,000 cycles (at the maximum rating of resistive load)	Non-contact voltage output (for SSR drive) 12V DC±15% Maximum 40 mA (short circuit protected) Leakage current: 0.3 mA maximum
			Analog current output 4 to 20 mA DC Maximum Error: ±0.5% Full Scale at 25°C ±1.0% Full Scale at 55°C Load resistance: 550Ω maximum Analog output digital resolution: 1,000 LSB input value: 0.016 mA
Noise Resistance	Maximum Temporary Deviation during Electrical Noise Tests	—	±3% maximum when a 500V clamp voltage is applied to the power supply and I/O lines
	Recommended Cable for Noise Immunity	—	Twisted pair cable
	Cross Talk	—	None
Isolation		Between output and power circuit: Transformer Isolated	Between output and power circuit: Transformer Isolated Between output and internal circuit: Optocoupler isolated
Power Voltage		24V DC (External power), 5V DC (Internal power)	
Allowable Voltage Range		20.4 to 28.8V DC	
External Power Consumption		Approx. 3.5W maximum	
Internal Power Consumption (at 24V DC while all I/Os are on)		65mA (5V DC)	
Connector on Mother Board		Input: F6018-17P (Fujicon)	Output: F6018-11P (Fujicon)
Weight (approx.)		140g	

* Dual channel input is required for one loop control.

MICROSmart Micro Programmable Logic Controllers

Input Range

Input		Input Range (Digital Resolution)		Input Value of LSB
Input Type	K	-200 to 1,370°C	-328 to 2,498°F	1°C (°F)
		-200.0 to 400.0°C	-328.0 to 752.0°F	0.1°C (°F)
	J	-200 to 1,000°C	-328 to 1,832°F	1°C (°F)
	R	0 to 1,760°C	32 to 3,200°F	1°C (°F)
	S	0 to 1,760°C	32 to 3,200°F	1°C (°F)
	B	0 to 1,820°C	32 to 3,308°F	1°C (°F)
	E	-200 to 800°C	-328 to 1,472°F	1°C (°F)
	T	-200.0 to 400.0°C	-328.0 to 752.0°F	0.1°C (°F)
	N	-200 to 1,300°C	-328 to 2,372°F	1°C (°F)
	PL-II	0 to 1,390°C	32 to 2,534°F	1°C (°F)
	C (W/Re5-26)	0 to 2,315°C	32 to 4,199°F	1°C (°F)
	Pt100	-200.0 to 850.0°C	-328.0 to 1,562.0°F	0.1°C (°F)
		-200 to 850°C	-328 to 1,562°F	1°C (°F)
	JPt100	-200.0 to 500.0°C	-328.0 to 932.0°F	0.1°C (°F)
		-200 to 500°C	-328 to 932°F	1°C (°F)
	4 to 20mA DC	-2,000 to 10,000 (12,000 increments)		1.333 µA
	0 to 20mA DC	-2,000 to 10,000 (12,000 increments)		1.666 µA
	0 to 1V DC	-2,000 to 10,000 (12,000 increments)		0.083 mA
	0 to 5V DC	-2,000 to 10,000 (12,000 increments)		0.416 mA
	1 to 5V DC	-2,000 to 10,000 (12,000 increments)		0.333 mA
	0 to 10V DC	-2,000 to 10,000 (12,000 increments)		0.833 mA

Expansion Interface Module Specifications

Part No.		FC5A-EXM1M (Expansion Interface Master Module)	FC5A-EXM1S (Expansion Interface Slave Module)	FC5A-EXM2 (Expansion Interface Module)
Rated Power Voltage		—	24V DC (supplied from external power)	24V DC (supplied from external power)
Allowable Voltage Range		—	20.4 to 26.4V DC (including ripple)	20.4 to 26.4V DC (including ripple)
Current Draw (Internal Power/External Power)		Internal power (supplied from CPU module): 90 mA (5V DC) 0 mA (24V DC)	Internal power (supplied from CPU module): 0 mA (5V DC) 0 mA (24V DC) External power: With I/O modules 750 mA (26.4V DC) *1	Internal power (supplied from CPU module): 50 mA (5V DC) 0 mA (24V DC) External power: With I/O modules 750 mA (26.4V DC) *1
Maximum Power Consumption (External Power) *1		—	19W (26.4V DC)	19W (26.4V DC)
Allowable Momentary Power Interruption		—	10 ms minimum (24V DC)	10 ms minimum (24V DC)
I/O Expansion		Between CPU module and expansion interface module Connectable CPU modules: FC5A-D16RK1/D16RS1/D32K3/D32S3/D12K1E/D12S1E Connectable I/O modules: 7 maximum Beyond the expansion interface module Connectable I/O modules: 8 digital I/O modules maximum (AC input modules are not applicable) *2		
Maximum I/O Refresh Time *3		3.6 ms		2.8 ms
Communication between CPU Module and Expansion Interface Module		Asynchronous communication (I/O refresh of I/O modules on both sides of the expansion interface module is asynchronous.)		
Isolation from Internal Circuit		Only communication interface part is isolated		Not isolated
EMC Compliant Cable Length		1m (FC5A-KX1C)		—
Power Supply Connector	Connector on Mother Board	—	MKDSN1.5/3-5.08-BK (Phoenix Contact)	MSTB2.5/3-GF-5.08BK (Phoenix Contact)
	Connector Insertion/Removal Durability	—	—	100 times minimum
Expansion Cable Connector	Connector on Mother Board	FCN-365P024-AU (Fujitsu Component)		—
	Connector Insertion/Removal Durability	100 times minimum		—
Weight		70g	135g	140g

*1: Power consumption by the expansion interface module and eight I/O modules.

*2: The maximum number of relay outputs that can be turned on simultaneously is 54 points.

*3: Maximum I/O refresh time of the expansion interface module. D8252 stores the refresh time.

MICROSmart Micro Programmable Logic Controllers

Web Server Unit

General Specifications

Part No.	FC4A-SX5ES1E
Rated Power Voltage	24V DC
Allowable Voltage Range	20.4 to 26.4V DC
Current Draw	70 mA
Allowable Momentary Power Interruption	10 ms maximum
Dielectric Strength	500V AC, 1 minute
Insulation Resistance	10 MΩ minimum (500V DC megger)
Noise Resistance	DC power terminal: 1.0 kV, 50 ns to 1 μs Ethernet cable: 0.5 kV, 50 ns to 1 μs (coupling clamp)
Inrush Current	4A maximum
Operating Temperature	0 to 55°C
Storage Temperature	-40 to +70°C (no freezing)
Relative Humidity	10 to 95% (no condensation)
Pollution Degree	2 (IEC 60664-1)
Corrosion Immunity	Free from corrosive gases
Degree of Protection	IP20 (IEC60529)
Vibration Resistance	When mounted on a DIN rail: 5 to 8.4 Hz amplitude 3.5 mm 8.4 to 150 Hz acceleration 9.8 m/s ² (1G) 2 hours in each of 3 axes
Shock Resistance	147 m/s ² (15G), 3 shocks each in 3 axes
Weight (approx.)	150g

Connectable Devices

Programmable Controllers: FC5A, FC4A, FC3A

Operator Interfaces: (RS232C communication with PLC through Ethernet) HG2F, HG2S, HG1F

Interface Specifications

Communication	RS232C <=> Ethernet conversion function
Ethernet Specifications	Electrical characteristics: Complies with IEEE802.3 Transmission speed: 10BASE-T/100BASE-TX (Not CE compliant) Communication protocol: IP/ICMP/ARP Ethernet protocol: TCP/SMTP/HTTP/Telnet No. of TCP connections: 1
Serial Interface Specifications	Electrical characteristics: EIA RS232C Transmission speed: 9,600 to 115,200 bps Synchronization: Asynchronous Communication protocol: Full duplex Transmission control: RTS/CTS, XON/OFF, None
Connection Method	Ethernet interface: RJ45 Serial interface: Mini DIN 8-pin connector Cable Part No.: FC4A-KC3C
Major Functions	Remote maintenance: Uploading, downloading and monitoring using WindLDR via Ethernet
	Web server: Configure the web server module using Internet Explorer etc. Reading and writing PLC operands using Java applet. Web file area: 512 KB Compliant browser: Internet Explorer 6.0 Netscape Navigator 7.2
	Ethernet user communication: User communication using Ethernet Message transmission: Registered outgoing message 32 message types 63 characters maximum per message 2 email addresses 64 address characters maximum
Option	Utility CD: Configuration file, PLC operand monitor sample programs, sample program configuration instructions, instruction manual (English/German/Spanish/Japanese/Chinese)

Flush Silhouette
Switches & Pilot Lights
Display Lights
LED Illumination Units
Display Units
Safety Products
Terminal Blocks
Comm. Terminals
AS-Interface
Relays & Timers
Sockets
Circuit Protectors
Power Supplies
PLCs & SmartRelay
Operator Interfaces
Sensors
Control Stations
Explosion Protection
References

Instructions

Basic Instructions

Symbol	Function	Qty of Bytes		
		FC5A Slim Type	FC5A All-in-One Type	FC4A
AND	Series connection of NO contact	4	4	4
AND LOD	Series connection of circuit blocks	4	5	5
ANDN	Series connection of NC contact	4	4	4
BPP	Restores the result of bit logical operation which was saved temporarily	4	2	2
BPS	Saves the result of bit logical operation temporarily	4	5	5
BRD	Reads the result of bit logical operation which was saved temporarily	4	3	3
CC=	Equal to comparison of counter current value	10 to 12	7	7
CC≥	Greater than or equal to comparison of counter current value	10 to 12	7	7
CDP	Dual pulse reversible counter (0 to 65,535)	12 to 14	4	4
CDPD	Double-word dual pulse reversible counter (0 to 4,294,967,295)	12 to 14	4	—
CNT	Adding counter (0 to 65,535)	12 to 14	4	4
CNTD	Double-word adding counter (0 to 4,294,967,295)	12 to 14	4	—
CUD	Up/down selection reversible counter (0 to 65,535)	12 to 14	4	4
CUDD	Double-word up/down selection reversible counter (0 to 4,294,967,295)	12 to 14	4	—
DC=	Equal to comparison of data register value	10 to 14	8	8
DC≥	Greater than or equal to comparison of data register value	10 to 14	8	8
END	Ends a program	4	2	2
JEND	Ends a jump instruction	4	4	4
JMP	Jumps a designated program area	6	4	4
LOD	Stores intermediate results and reads contact status	4	6	6
LODN	Stores intermediate results and reads inverted contact status	4	6	6
MCR	Ends a master control	4	4	4
MCS	Starts a master control	4	4	4
OR	Parallel connection of NO contact	4	4	4
OR LOD	Parallel connection of circuit blocks	4	5	5
ORN	Parallel connection of NC contact	4	4	4
OUT	Outputs the result of bit logical operation	4	6	6
OUTN	Output the inverted result of bit logical operation	4	6	6
RST	Resets output, internal relay, or shift register bit	4	6	6
SET	Sets output, internal relay, or shift register bit	4	6	6
SFR	Forward shift register	10	6	6
SFRN	Reverse shift register	10	6	6
SOTD	Falling-edge differentiation output	4	5	5
SOTU	Rising-edge differentiation output	4	5	5
TIM	Subtracting 100-ms timer (0 to 6553.5 sec)	12 to 14	4	4
TIMO	Subtracting 100-ms off-delay timer (0 to 6553.5 sec)	12 to 14	4	—
TMH	Subtracting 10-ms timer (0 to 655.35 sec)	12 to 14	4	4
TMHO	Subtracting 10-ms off-delay timer (0 to 655.35 sec)	12 to 14	4	—
TML	Subtracting 1-sec timer (0 to 65535 sec)	12 to 14	4	4
TMLO	Subtracting 1-sec off-delay timer (0 to 65535 sec)	12 to 14	4	—
TMS	Subtracting 1-ms timer (0 to 65.535 sec)	12 to 14	4	4
TMSO	Subtracting 1-ms off-delay timer (0 to 65.535 sec)	12 to 14	4	—

MICROSmart Micro Programmable Logic Controllers

Advanced Instructions

Symbol	Function	Slim Type			All-in-One Type		
		FC5A -D12K1E, D12S1E	—	FC5A -D16RK1, -D16RS1, -D32K3, -D32S3	FC5A -C10R2, C10R2C	FC5A -C16R2, C16R2C	FC5A -C24R2, C24R2C
		—	FC4A -D20K3, -D20S3	FC4A -D20RK1, -D20RS1, -D40K3, -D40S3	FC4A -C10R2, -C10R2C	FC4A -C16R2, -C16R2C	FC4A -C24R2, -C24R2C
NOP	No Operation	x	x	x	x	x	x
MOV	Move	x	x	x	x	x	x
MOVN	Move Not	x	x	x	x	x	x
IMOV	Indirect Move	x	x	x	x	x	x
IMOVN	Indirect Move Not	x	x	x	x	x	x
BMOV	Block Move	x	—	x	*	*	*
IBMV	Indirect Bit Move	x	—	x	*	*	*
IBMVN	Indirect Bit Move Not	x	—	x	*	*	*
NSET	N Data Set	x	—	*	*	*	*
NRS	N Data Repeat Set	x	—	*	*	*	*
XCHG	Exchange	x	—	*	*	*	*
TCCST	Timer/Counter Current Value Store	x	—	*	*	*	*
CMP=	Compare Equal To	x	x	x	x	x	x
CMP< >	Compare Unequal To	x	x	x	x	x	x
CMP<	Compare Less Than	x	x	x	x	x	x
CMP>	Compare Greater Than	x	x	x	x	x	x
CMP<=	Compare Less Than or Equal To	x	x	x	x	x	x
CMP>=	Compare Greater Than or Equal To	x	x	x	x	x	x
ICMP>=	Interval Compare Greater Than or Equal to	x	—	x	*	*	*
LC=	Load Compare Equal To	x	—	*	*	*	*
LC< >	Load Compare Unequal To	x	—	*	*	*	*
LC<	Load Compare Less Than	x	—	*	*	*	*
LC>	Load Compare Greater Than	x	—	*	*	*	*
LC<=	Load Compare Less Than or Equal To	x	—	*	*	*	*
LC>=	Load Compare Greater Than or Equal To	x	—	*	*	*	*
ADD	Addition	x	x	x	x	x	x
SUB	Subtraction	x	x	x	x	x	x
MUL	Multiplication	x	x	x	x	x	x
DIV	Division	x	x	x	x	x	x
INC	Increment	x	—	*	*	*	*
DEC	Decrement	x	—	*	*	*	*
ROOT	Root	x	x	x	x	x	x
SUM	Sum	x	—	*	*	*	*
RNDM	Random	x	—	*	*	*	*
ANDW	AND Word	x	x	x	x	x	x
ORW	OR Word	x	x	x	x	x	x
XORW	Exclusive OR Word	x	x	x	x	x	x
SFTL	Shift Left	x	x	x	x	x	x
SFTR	Shift Right	x	x	x	x	x	x
BCDLS	BCD Left Shift	x	—	x	*	*	*
WSFT	Word Shift	x	—	x	*	*	*
ROTL	Rotate Left	x	x	x	x	x	x
ROTR	Rotate Right	x	x	x	x	x	x
HTOB	Hex to BCD	x	x	x	x	x	x
BTOH	BCD to Hex	x	x	x	x	x	x
HTOA	Hex to ASCII	x	x	x	x	x	x
ATOH	ASCII to Hex	x	x	x	x	x	x
BTOA	BCD to ASCII	x	x	x	x	x	x
ATOB	ASCII to BCD	x	x	x	x	x	x
ENCO	Encode	x	—	x	*	*	*
DECO	Decode	x	—	x	*	*	*
BCNT	Bit Count	x	—	x	*	*	*
ALT	Alternate Output	x	—	x	*	*	*
CVDT	Convert Data Type	x	—	*	*	*	*
DTDV	Data Divide	x	—	*	*	*	*
DTCB	Data Combine	x	—	*	*	*	*
SWAP	Data Swap	x	—	*	*	*	*
WKTIM	Week Timer	x	x	x	x	x	x
WKTBL	Week Table	x	x	x	x	x	x
DISP	Display	x	x	x	—	—	x
DGRD	Digital Read	x	x	x	—	—	x
TXD1	Transmit 1	—	x	x	x	x	x
TXD2	Transmit 2	x	x	x	*	x	x
TXD3	Transmit 3	x	—	*	—	*	*
TXD4	Transmit 4	x	—	*	—	*	*
TXD5	Transmit 5	x	—	*	—	*	*
TXD6	Transmit 6	x	—	*	—	—	—
TXD7	Transmit 7	x	—	*	—	—	—
ETXD	Transmit Over Ethernet	x	—	—	—	—	—

x: Available

*: Available on the FC5A only

y: Available on the FC5A-D32K3 and FC5A-D32S3 only

Flush Silhouette
Switches & Pilot Lights
Display Lights
LED Illumination Units
Display Units
Safety Products
Terminal Blocks
Comm. Terminals
AS-Interface
Relays & Timers
Sockets
Circuit Protectors
Power Supplies
PLCs & SmartRelay
Operator Interfaces
Sensors
Control Stations
Explosion Protection
References

MICROSmart Micro Programmable Logic Controllers

Advanced Instructions (continued)

Symbol	Function	Slim Type			All-in-One Type		
		FC5A -D12K1E, D12S1E	—	FC5A -D16RK1, -D16RS1, -D32K3, -D32S3	FC5A -C10R2, C10R2C	FC5A -C16R2, C16R2C	FC5A -C24R2, C24R2C
		—	FC4A -D20K3, -D20S3	FC4A -D20RK1, -D20RS1, -D40K3, -D40S3	FC4A -C10R2, -C10R2C	FC4A -C16R2, -C16R2C	FC4A -C24R2, -C24R2C
RXD1	Receive 1	—	x	x	x	x	x
RXD2	Receive 2	x	x	x	*	x	x
RXD3	Receive 3	x	—	*	—	—	*
RXD4	Receive 4	x	—	*	—	—	*
RXD5	Receive 5	x	—	*	—	—	*
RXD6	Receive 6	x	—	*	—	—	—
RXD7	Receive 7	x	—	*	—	—	—
ERXD	Receive Over Ethernet	x	—	—	—	—	—
LABEL	Label	x	x	x	x	x	x
LJMP	Label Jump	x	x	x	x	x	x
LCAL	Label Call	x	x	x	x	x	x
LRET	Label Return	x	x	x	x	x	x
DJNZ	Decrement Jump Non-zero	x	—	*	*	*	*
DI	Disable Interrupt	x	—	x	*	*	*
EI	Enable Interrupt	x	—	x	*	*	*
IOREF	I/O Refresh	x	x	x	x	x	x
HSCRFB	High-speed Counter Refresh	x	—	*	*	*	*
FRQRF	Frequency Measurement Refresh	x	—	*	*	*	*
COMRF	Communication Refresh	x	—	*	—	—	*
XYFS	XY Format Set	x	x	x	*	*	x
CVXTY	Convert X to Y	x	x	x	*	*	x
CVYTX	Convert Y to X	x	x	x	*	*	x
AVRG	Average	x	—	*	*	*	*
PULS1	Pulse Output 1	x	x	x	—	—	—
PULS2	Pulse Output 2	x	x	x	—	—	—
PULS3	Pulse Output 3	x	—	√	—	—	—
PWM1	Pulse Width Modulation 1	x	x	x	—	—	—
PWM2	Pulse Width Modulation 2	x	x	x	—	—	—
PWM3	Pulse Width Modulation 3	x	—	√	—	—	—
RAMP1	Ramp Pulse Output 1	x	x	x	—	—	—
RAMP2	Ramp Pulse Output 2	x	—	√	—	—	—
ZRN1	Zero Return 1	x	—	x	—	—	—
ZRN2	Zero Return 2	x	—	x	—	—	—
ZRN3	Zero Return 3	x	—	√	—	—	—
PID	PID Control	x	x	x	—	—	x
DTML	1-sec Dual Timer	x	—	x	*	*	*
DTIM	100-ms Dual Timer	x	—	x	*	*	*
DTMH	10-ms Dual Timer	x	—	x	*	*	*
DTMS	1-ms Dual Timer	x	—	x	*	*	*
TTIM	Teaching Timer	x	—	x	*	*	*
RUNA	Run Access	x	x	x	—	—	x
STPA	Stop Access	x	x	x	—	—	x
RAD	Degree to Radian	x	—	*	*	*	*
DEG	Radian to Degree	x	—	*	*	*	*
SIN	Sine	x	—	*	*	*	*
COS	Cosine	x	—	*	*	*	*
TAN	Tangent	x	—	*	*	*	*
ASIN	Arc Sine	x	—	*	*	*	*
ACOS	Arc Cosine	x	—	*	*	*	*
ATAN	Arc Tangent	x	—	*	*	*	*
LOGE	Natural Logarithm	x	—	*	*	*	*
LOG10	Common Logarithm	x	—	*	*	*	*
EXP	Exponent	x	—	*	*	*	*
POW	Power	x	—	*	*	*	*
FIFO	FIFO Format	x	—	*	*	*	*
FIEX	First-In Execute	x	—	*	*	*	*
FOEX	First-Out Execute	x	—	*	*	*	*
NDSRC	N Data Search	x	—	*	*	*	*
TADD	Time Addition	x	—	*	*	*	*
TSUB	Time Subtraction	x	—	*	*	*	*
HTOS	HMS to Sec	x	—	*	*	*	*
STOH	Sec to HMS	x	—	*	*	*	*
HOURL	Hour Meter	x	—	*	*	*	*
PING	Ping	x	—	—	—	—	—
EMAIL	Send Email	x	—	—	—	—	—

x: Available

*: Available on the FC5A only

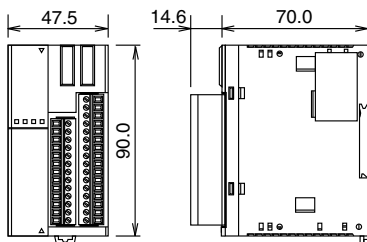
√: Available on the FC5A-D32K3 and FC5A-D32S3 only

MICROSmart Micro Programmable Logic Controllers

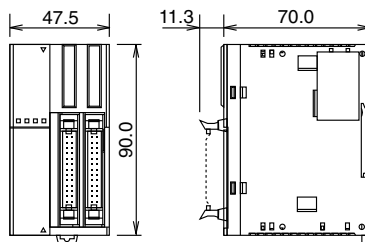
Dimensions

All dimensions in mm.

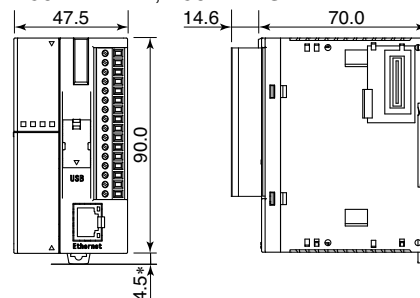
FC5A-D16RK1, FC5A-D16RS1
FC4A-D20RK1, FC4A-D20RS1



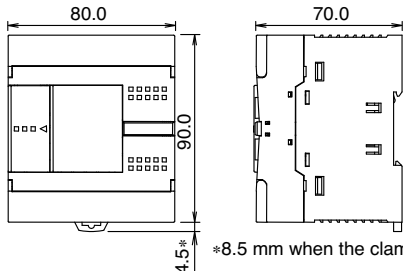
FC5A-D32K3, FC5A-D32S3
FC4A-D40K3, FC4A-D40S3



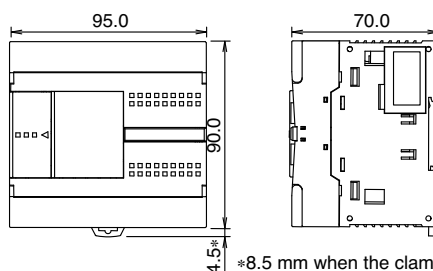
FC5A-D12K1E, FC5A-D12S1E



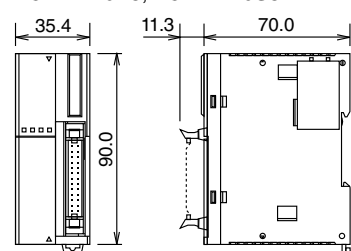
FC5A-C10R2, FC5A-C16R2
FC5A-C10R2C, FC5A-C16R2C
FC5A-C10R2D, FC5A-C16R2D
FC4A-C10R2, FC4A-C16R2
FC4A-C10R2C, FC4A-C16R2C



FC5A-C24R2, FC5A-C24R2C, FC5A-C24R2D
FC4A-C24R2, FC4A-C24R2C

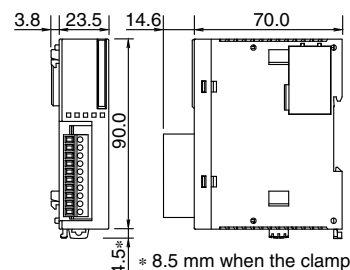


FC4A-D20K3, FC4A-D20S3

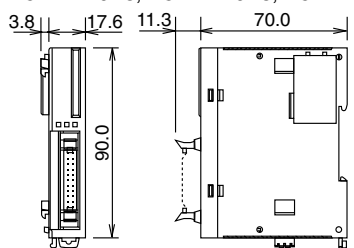


*8.5 mm when the clamp is pulled out.

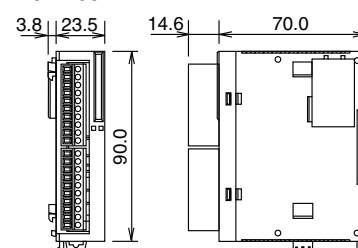
FC5A-SIF2, FC5A-SIF4,
FC4A-AS62M, FC4A-N08A11
FC4A-J2A1, FC4A-N08B1
FC4A-K1A1, FC4A-R081
FC4A-K2C1, FC4A-T08K1
FC4A-L03A1, FC4A-T08S1
FC4A-L03AP1 FC4A-K4A1
FC4A-M08BR1



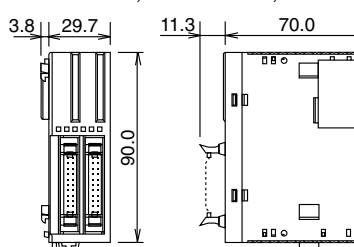
FC4A-N16B3, FC4A-T16K3, FC4A-T16S3



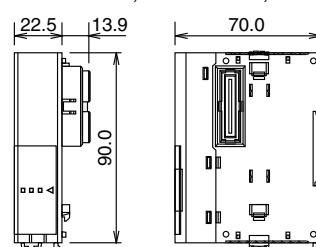
FC4A-N16B1, FC4A-R161
FC4A-J4CN1, FC4A-J8C1
FC4A-J8AT1



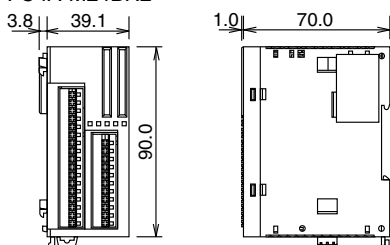
FC4A-N32B3, FC4A-T32K3, FC4A-T32S3



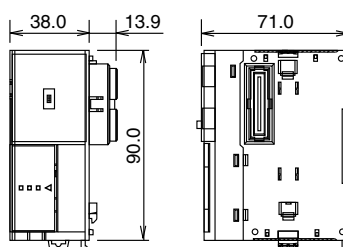
FC4A-HPC1, FC4A-HPC2, FC4A-HPC3



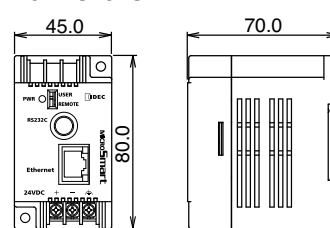
FC5A-F2MR2, FC5A-F2M2
FC4A-M24BR2



FC4A-HPH1

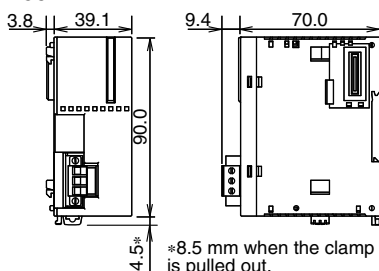


FC4A-SX5ES1E

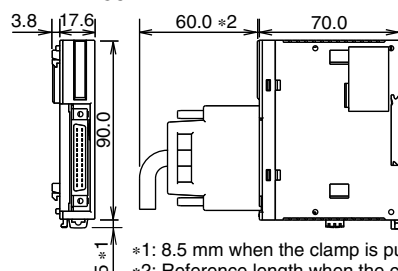


*5.6 mm when the clamp is pulled out.

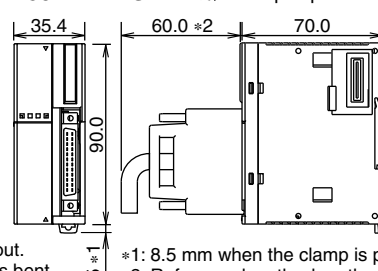
FC5A-EXM2



FC5A-EXM1M



FC5A-EXM1S



*8.5 mm when the clamp is pulled out.

*1: 8.5 mm when the clamp is pulled out.
*2: Reference length when the cable is bent.

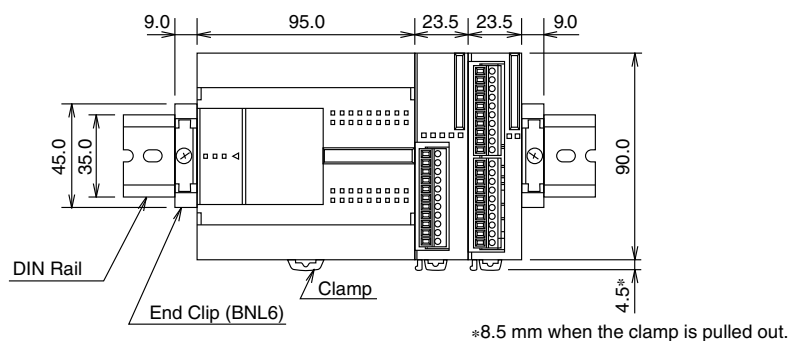
*1: 8.5 mm when the clamp is pulled out.
*2: Reference length when the cable is bent.

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Sensors
Control Stations
Explosion Protection
References

MICROSmart Micro Programmable Logic Controllers

Example

The following figure illustrates a system setup consisting of the all-in-one 24-I/O type CPU module, an 8-point relay output module, and a 16-point DC input module mounted on a 35-mm-wide-DIN rail using BNL6 end clips.



Mounting Hole Layout

FC5A-C10R2
FC5A-C10R2C
FC5A-C10R2D
FC5A-C16R2
FC5A-C16R2C
FC5A-C16R2D
FC4A-C10R2
FC4A-C10R2C
FC4A-C16R2
FC4A-C16R2C

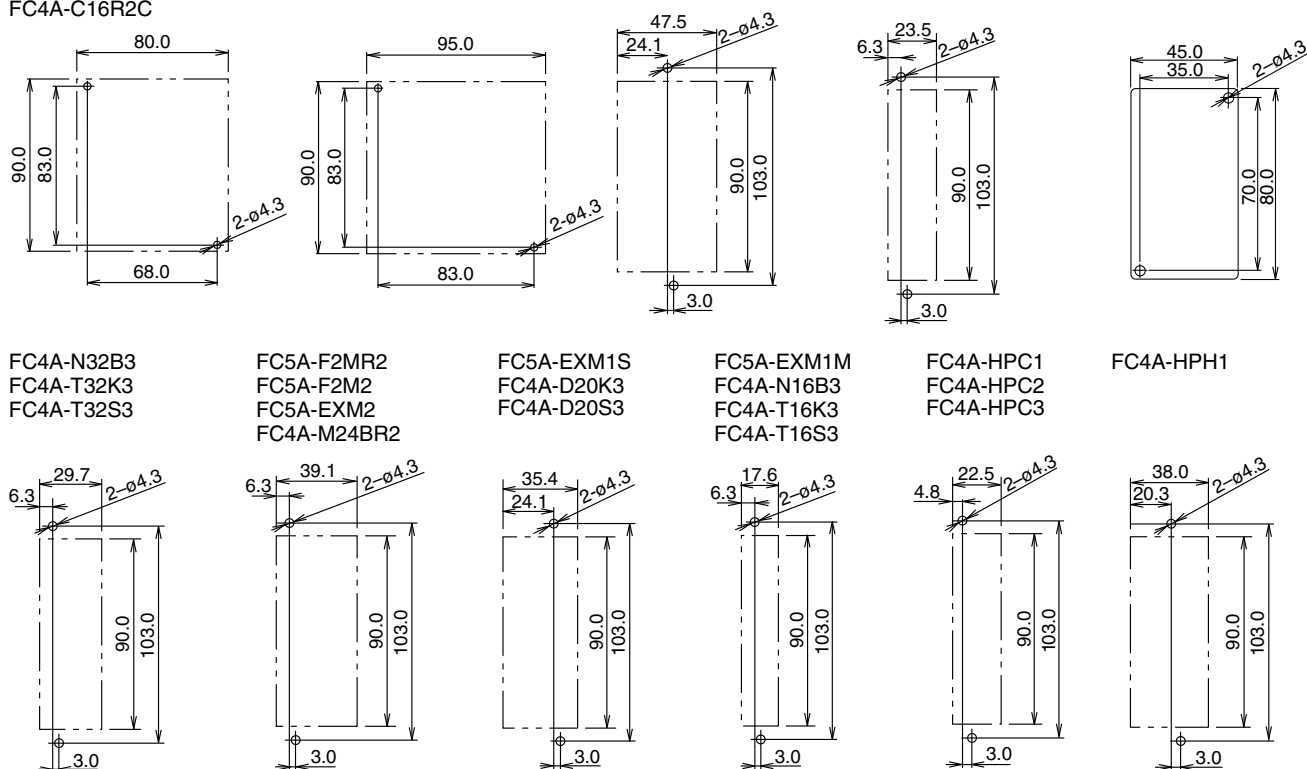
FC5A-C24R2
FC5A-C24R2C
FC5A-C24R2D
FC4A-C24R2
FC4A-C24R2C

FC5A-D12K1E
FC5A-D12S1E
FC5A-D16RK1
FC5A-D16RS1
FC5A-D32K3
FC5A-D32S3
FC4A-D20RK1
FC4A-D20RS1
FC4A-D40K3
FC4A-D40S3

FC5A-SIF2,
FC4A-AS62M
FC4A-J2A1
FC4A-J4CN1
FC4A-J8AT1
FC4A-J8C1
FC4A-K1A1
FC4A-K2C1
FC4A-L03A1
FC4A-L03AP1
FC4A-M08BR1

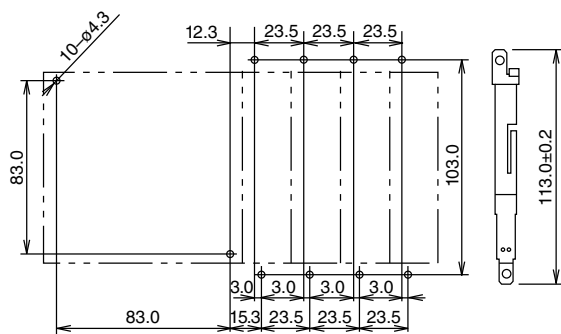
FC5A-SIF4
FC4A-N08A11
FC4A-N08B1
FC4A-N16B1
FC4A-R081
FC4A-R161
FC4A-T08K1
FC4A-T08S1
FC4A-K4A1

FC4A-SX5ES1E

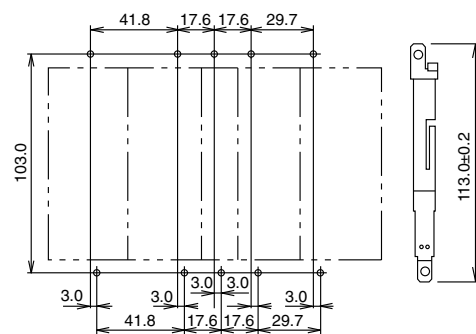


Example

Mounting hole layout for FC5A-C24R2 or FC4A-C24R2 and four 23.5mm-wide I/O modules



Mounting hole layout from left, FC4A-HPH1, FC4A-D20K3, FC4A-N16B3, FC4A-N32B3, and FC4A-M24R2 modules



All dimensions in mm.

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