

Chapter 8 Power supply modules

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8 Power supply modules

In this chapter, it will be described that the power supply modules of MASTER-K series.

8.1 Selection of power supply module

When select a power supply module of PLC system, it should be considered that the total current consumption of CPU module, digital I/O modules, special purpose modules, and communication modules. If the power capacity of power supply module is smaller than the total current consumption of PLC system, it may cause a malfunction on operation. The following table shows a current consumption of MASTER-K 200S/300S/1000S series.

8.1.1 K200S

(unit : mA)

Module	Catalog No.	Current consumption	Module	Catalog No.	Current consumption
CPU	K3P-07AS	170	A/D conversion	G6F-AD2A	50
	K3P-07BS	210	D/A conversion	G6F-DV2A	50
	K3P-07CS	170		G6F-DI2A	50
12/24VDC input	G6I-D21A	40	High speed counter	G6F-HSCA	220
	G6I-D22A	70	Positioning	G6F-POPA	345
	G6I-D22B	70	Cnet link	G6L-CU2A	140
	G6I-D24A	75		G6L-CU4A	180
	G6I-D24B	75	Fnet I/F	G6L-FUEA	215
110VAC input	G6I-A11A	41	Fnet remote I/F	G6L-RBEA	215
220VAC input	G6I-D21A	41			
Relay output	G6Q-RY1A	210			
	G6Q-RY2A	400			
Transistor output	G6Q-TR2A	180			
	G6Q-TR2B	170			
	G6Q-TR4A	140			
	G6Q-TR4B	145			
Triac output	G6Q-SS1A	190			
12/24VDC input + Relay output	G6H-DR2A	270			

8.1.2 K300S

Module	Catalog No.	Current consumption	Module	Catalog No.	Current consumption
CPU	K4P-15AS	130	A/D conversion	G4F-AD2A	400
12/24VDC input	G4I-D22A	70		G4F-AD3A	500
	G4I-D22B	70	D/A conversion	G4F-DA1A	450
	G4I-D24A	125		G4F-DV2A	400
	G4I-D24B	125		G4F-DI2A	680
	G4I-D28A	250		G4F-DV3A	700
24VDC input	G4I-D22C	70	High speed counter	G4F-DI3A	60
	G4I-D24C	125		G4F-HSCA	300
110VAC input	G4I-A12A	70	Positioning	G4F-POPA	400
220VAC input	G4I-A22A	70		G4F-POPB	400
Relay output	G4Q-RY2A	100	Thermo couple	G4F-TC2A	450
Triac output	G4Q-SS2A	330	RTD	G4F-RD2A	600
	G4Q-SS2B	330	PID control	G4F-PIDA	200
Transistor output	G4Q-TR2A	120	Analog timer	G4F-AT3A	00
	G4Q-TR2B	120	Cnet link	G4L-CUEA	100
	G4Q-TR4A	160	Fnet I/F	G4L-FUEA	160
	G4Q-TR4B	160	Fnet remote I/F	G4L-RBEA	150
	G4Q-TR8A	320			
Interrupt input	G4F-INTA	65			
12/24VDC input + Relay output	G4H-DR2A	170			
12/24VDC input + TR output	G4H-DT2A	190			

8.1.3 K1000S

Module	Catalog No.	Current consumption	Module	Catalog No.	Current consumption
CPU	K7P-30AS	130	A/D conversion	G3F-AD4A	700
12/24VDC input	G3I-D22A	70		G3F-AD4B	540
	G3I-D24A	125		G3F-AD3A	500
	G3I-D24B	120	D/A conversion	G3F-DV4A	350
24VDC input	G3I-D24C	125		G3F-DI4A	250
110VAC input	G3I-A12A	70		G3F-DV3A	700
	G3I-A14A	120		G3F-DI3A	60
220VAC input	G3I-A22A	70	High speed counter	G3F-HSCA	300
	G3I-A24A	120	Positioning	G3F-POPA	400
Relay output	G3Q-RY2A	100		G3F-POAA	700
	G3Q-RY4A	200	Thermo couple	G3F-TC4A	450
Triac output	G3Q-SS2A	330	RTD	G3F-RD3A	800
	G3Q-SS4A	600	PID control	G3F-PIDA	300
Transistor output	G3Q-TR2A	120	Analog timer	G3F-AT3A	300
	G3Q-TR4A	200	Cnet link	G3L-CUEA	100
	G3Q-TR4B	200	Fnet I/F	G3L-FUEA	170
	G3Q-TR8A	300		G3L-FUOA	130
	G3Q-TR8B	300	Fnet remote I/F	G3L-RBEA	160
Interrupt input	G3F-INTA	200		G3L-RBOA	130

8.2 Specifications

8.2.1 K200S series

Item		GM6-PAFA	GM6-PAFB	GM6-PAFC	GM6-PDFA	GM6-PDFB
Input	Rated voltage	100 ~ 240 VAC			12 ~ 24 VDC	
	Rated frequency	50 ~ 60 Hz			-	
	Rated current	0.7 / 0.35 A (110 / 220 VAC)		0.8 / 0.4 A	1.5 / 0.7 A (12 / 24 VDC)	
	Inrush current	Max. 30 A		Max. 50 A	Max. 40 A	
	Efficiency	65% or more (with rated load)			65% or more (with rated load)	
	Fuse	3A/250VAC (slow blown type)		5A/250VAC	-	
	Dropout tolerance	20msec or less			1msec or less	
Output	Output voltage	5VDC / 24VDC	5VDC / ±15VDC	5VDC / 24VDC	5VDC	5VDC / ±15VDC
	Output current	5VDC : 2A 24VDC : 0.3A	5VDC : 2A +15VDC : 0.5A -15VDC : 0.2A	5VDC : 3.5A 24VDC : 0.3A	5VDC : 2A	5VDC : 3A +15VDC : 0.5A -15VDC : 0.2A
	Over current protection	5VDC : 2.2A 24VDC : 0.33A	5VDC : 2.2A +15VDC : 0.55A -15VDC : 0.22A	5VDC : 4.0A 24VDC : 0.33A	5VDC : 2.2A	5VDC : 3.3A +15VDC : 0.55A -15VDC : 0.22A
Indicator		LED (Turns on when output voltage is normal)				
Wire specification		0.75 ~ 2mm ²				
Weight1		320 g		400 g	400 g	

Caution

When a K200S system includes an A/D or D/A module, GM6-PAFB or GM6-PDFB module should be chosen for the power supply. Otherwise, A/D or D/A module can not operate due to lack of ±15VDC power supply.

8.2.2 K300S series

Item		GM4-PA1A	GM4-PA2A	GM4-PA1B	GM4-PA2A	GM4-PD3A
Input	Rated voltage	110VAC	220VAC	110VAC	220VAC	24VDC
	Rated frequency	50 ~ 60 Hz				-
	Rated current	1.3 A	0.8 A	0.65 A	0.35 A	1.2A
	Inrush current	Max. 40 A				Max. 100A
	Efficiency	65% or more (with rated load)				
	Fuse	3A/250VAC (slow blown type)				5A/250VAC
	Dropout tolerance	20msec or less				1msec or less
Output	Output voltage	5VDC / 24VDC				5VDC
	Output current	5VDC : 5A 24VDC : 0.7A		5VDC : 3A 24VDC : 0.5A		5VDC : 4A
	Over current protection	5VDC : 5.6A 24VDC : 0.8A		5VDC : 3.2A 24VDC : 0.6A		5VDC : 4.4A
Indicator		LED (Turns on when output voltage is normal)				
Wire specification		0.75 ~ 2mm ²				
Weight1		400 g				

8.2.3 K1000S series

Item		GM3-PA1A	GM3-PA2A	GM3-PD3A
Input	Rated voltage	110VAC	220VAC	24VDC
	Rated frequency	50 ~ 60 Hz		
	Rated current	2.5 A	1.5 A	2.6 A
	Inrush current	Max. 40 A		
	Efficiency	65% or more (with rated load)		
	Fuse	3A/250VAC (slow blown type)		
	Dropout tolerance	20msec or less		
Output	Output voltage	5VDC / 24VDC		
	Output current	5VDC : 5A 24VDC : 1.5A	5VDC : 5A 24VDC : 1.5A	5VDC : 6A 24VDC : Bypass
	Over current protection	5VDC : 5.75A 24VDC : 1.6A	5VDC : 5.75A 24VDC : 1.6A	5VDC : 6.5A 24VDC : Bypass
Indicator		LED (Turns on when output voltage is normal)		
Wire specification		0.75 ~ 2mm ²		
Weight1		700 g		

8.3 Parts names and descriptions

