

Power Supplies

JAK Series

AC Input

Single Output, General-Purpose

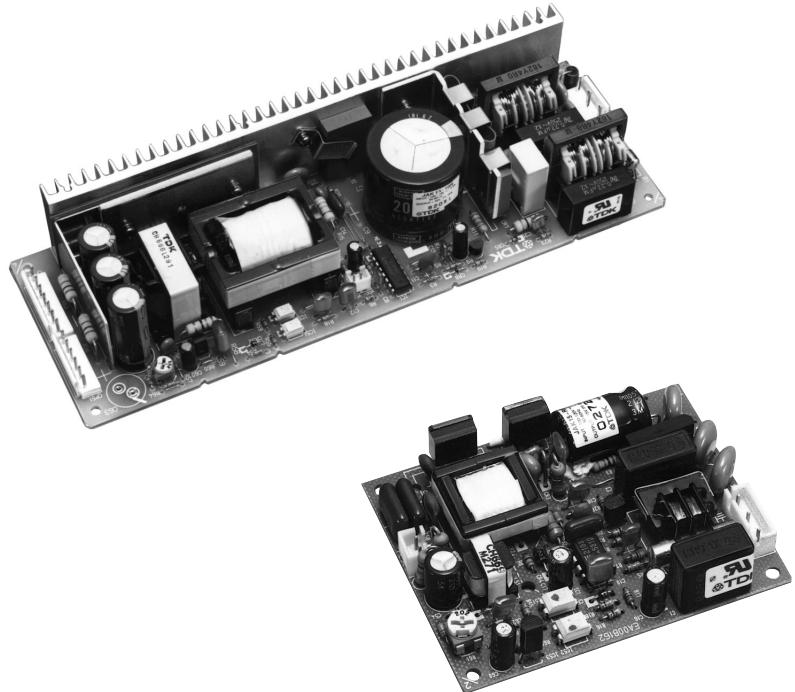
FEATURES

- Low profile, single output AC.100V input power supply.
- Compact open frame type.
- These low noise power supplies are FCC Class B standard compliant.
- Low price.

PART NUMBERS AND RATINGS

Output voltage(V)	10W type		15W type		25W type	
	Current(A)	Part No.	Current(A)	Part No.	Current(A)	Part No.
5	2	JAK05-2R0	3	JAK05-3R0	5	JAK05-5R0
12	0.84	JAK12-R84	1.3	JAK12-1R3	2.1	JAK12-2R1
15	0.67	JAK15-R67	1	JAK15-1R0	1.7	JAK15-1R7
24	0.42	JAK24-R42	0.63	JAK24-R63	1.1	JAK24-1R1

Output voltage(V)	50W type		100W type		150W type	
	Current(A)	Part No.	Current(A)	Part No.	Current(A)	Part No.
5	10	JAK05-10R	20	JAK05-20R	30	JAK05-30R
12	4.2	JAK12-4R2	8.4	JAK12-8R4	12.5	JAK12-13R
15	3.4	JAK15-3R4	6.7	JAK15-6R7	10	JAK15-10R
24	2.1	JAK24-2R1	4.2	JAK24-4R2	6.3	JAK24-6R3



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SPECIFICATIONS

10W TYPE

Part No.	JAK05-2R0	JAK12-R84	JAK15-R67	JAK24-R42
Output voltage, current ^{*1}	5V • 2A	12V • 0.84A	15V • 0.67A	24V • 0.42A
Maximum output power	W	10	10.1	10.1
Input requirements				
Input voltage Eac ^{*2}	V	85 to 132[Rating:100-120]		
Input frequency	Hz	47 to 66[Single phase]		
Input current	A	0.3max.[100V]		
Fuse rating	A	1.6[Internal]		
Surge current	A	40max.[100/120V]		
Leakage current	mA	0.5max.[100/120V]		
Efficiency	%	70typ.	72typ.	73typ.
Output characteristics				
Output voltage	V	5	12	15
Voltage variable range	V	4.5 to 5.5	10.8 to 13.2	13.5 to 16.5
Maximum output current ^{*1}	A	2	0.84	0.67
Overvoltage threshold	V	5.6 to 6.9	13.4 to 15.7	16.7 to 19
Overcurrent threshold	A	2.1min.	0.9min.	0.7min.
Voltage stability	Input variation	%	2max.(1typ.){Within the input voltage range}	
	Load variation	%	2max.(1typ.){10 to 100% load}	Total variation ±3max.(±1typ.)
	Temperature variation	%	2max.(1typ.){0 to +40°C}	
	Drift	%	0.5max.(0.1typ.){After input voltage ON for 30min to 8h}	
	Dynamic load	%/ms	±4max./1max.{50 to 100% sudden load change}	
	Ripple noise Ep-p	mV	120max.	190max.
	Start up time	ms	500max.[100V]	220max.
	Hold up time	ms	15min.(17typ.){100V}	310max.
Accessory equipment				
Operation indicator		None		
Overvoltage protection		Voltage shielding type, recovers upon reset(interval approx. 40s).		
Overcurrent protection		Fixed current and voltage threshold type, automatic recovery, but overcurrent of 1s min. is shielded.		
Remote ON-OFF		None		
Remote sensing		None		
Output voltage external variable function		None		
Standards				
Safety standards		UL1950D3 recognized.		
Noise terminal voltage		VCCI class 2, FCC class B compliant.		
Construction				
External dimensions HxWxL	mm	19×60×77		
Weight	g	65max.		
Mounting method		1 side(Open frame)		

^{*1} Current rating(maximum output current) is determined for -10 to +40°C. Derating is required when used outside this temperature range.

^{*2} When under load, output is cut off if the input voltage is below the minimum input voltage continuously for more than 1s.

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SPECIFICATIONS

15W TYPE

Part No.	JAK05-3R0	JAK12-1R3	JAK15-1R0	JAK24-R63
Output voltage, current ^{*1}	5V • 3A	12V • 1.3A	15V • 1A	24V • 0.63A
Maximum output power	W	15	15.6	15
Input requirements				
Input voltage Eac ^{*2}	V	85 to 132[Rating:100-120]		
Input frequency	Hz	47 to 66[Single phase]		
Input current	A	0.4max.[100V]		
Fuse rating	A	1.6[Internal]		
Surge current	A	40max.[100/120V]		
Leakage current	mA	0.5max.[100/120V]		
Efficiency	%	71typ.	72typ.	73typ.
Output characteristics				
Output voltage	V	5	12	15
Voltage variable range	V	4.5 to 5.5	10.8 to 13.2	13.5 to 16.5
Maximum output current ^{*1}	A	3	1.3	1
Overvoltage threshold	V	5.6 to 6.9	13.4 to 15.7	16.7 to 19
Overcurrent threshold	A	3.2min.	1.4min.	1.05min.
Voltage stability	Input variation	%	2max.(1typ.){Within the input voltage range}	
	Load variation	%	2max.(1typ.){10 to 100% load}	Total variation ±3max.(±1typ.)
	Temperature variation	%	2max.(1typ.){0 to +40°C}	
	Drift	%	0.5max.(0.1typ.){After input voltage ON for 30min to 8h}	
	Dynamic load	%/ms	±4max./1max.{50 to 100% sudden load change}	
	Ripple noise Ep-p	mV	120max.	190max.
	Start up time	ms	500max.[100V]	220max.
	Hold up time	ms	15min.(17typ.){100V}	310max.
Accessory equipment				
Operation indicator		None		
Overvoltage protection		Voltage shielding type, recovers upon reset(interval approx. 40s).		
Overcurrent protection		Fixed current and voltage threshold type, automatic recovery, but overcurrent of 1s min. is shielded.		
Remote ON-OFF		None		
Remote sensing		None		
Output voltage external variable function		None		
Standards				
Safety standards		UL1950D3 recognized.		
Noise terminal voltage		VCCI class 2, FCC class B compliant.		
Construction				
External dimensions HxWxL	mm	19×60×95		
Weight	g	85max.		
Mounting method		1 side(Open frame)		

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25W TYPE

Part No.	JAK05-5R0	JAK12-2R1	JAK15-1R7	JAK24-1R1
Output voltage, current ^{*1}	5V • 5A	12V • 2.1A	15V • 1.7A	24V • 1.1A
Maximum output power	W	25	25.2	26.4
Input requirements				
Input voltage Eac ^{*2}	V	85 to 132[Rating:100-120]		
Input frequency	Hz	47 to 66[Single phase]		
Input current	A	0.65max.[100V]		
Fuse rating	A	1.6[Internal]		
Surge current	A	40max.[100/120V, 25°C cold start]		
Leakage current	mA	0.5max.[100/120V]		
Efficiency	%	78typ.	79typ.	81typ.
Output characteristics				
Output voltage	V	5	12	15
Voltage variable range	V	4.5 to 5.5	10.8 to 13.2	13.5 to 16.5
Maximum output current ^{*1}	A	5	2.1	1.7
Overvoltage threshold	V	5.6 to 6.9	13.4 to 15.7	16.7 to 19
Overcurrent threshold	A	5.3min.	2.2min.	1.8min.
Voltage stability	Input variation	%	2max.(1typ.){Within the input voltage range}	
	Load variation	%	2max.(1typ.){10 to 100% load}	Total variation ±3max.(±1typ.)
	Temperature variation	%	2max.(1typ.){0 to +40°C}	
	Drift	%	0.5max.(0.1typ.){After input voltage ON for 30min to 8h}	
	Dynamic load	%/ms	±4max./1max.{50 to 100% sudden load change}	
	Ripple noise Ep-p	mV	120max.	190max.
	Start up time	ms	500max.[100V]	220max.
	Hold up time	ms	15min.(17typ.){100V}	310max.
Accessory equipment				
Operation indicator		None		
Overvoltage protection		Voltage shielding type, recovers upon reset(interval approx. 40s).		
Overcurrent protection		Fixed current and voltage threshold type, automatic recovery, but overcurrent of 1s min. is shielded.		
Remote ON-OFF		None		
Remote sensing		None		
Output voltage external variable function		None		
Standards				
Safety standards		UL1950D3 recognized.		
Noise terminal voltage		VCCI class 2, FCC class B compliant.		
Construction				
External dimensions HxWxL	mm	25×60×110		
Weight	g	150max.		
Mounting method		1 side(Open frame)		

^{*1} Current rating(maximum output current) is determined for -10 to +40°C. Derating is required when used outside this temperature range.

^{*2} When under load, output is cut off if the input voltage is below the minimum input voltage continuously for more than 1s.

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SPECIFICATIONS

50W TYPE

Part No.	JAK05-10R	JAK12-4R2	JAK15-3R4	JAK24-2R1
Output voltage, current ^{*1}	5V • 10A	12V • 4.2A	15V • 3.4A	24V • 2.1A
Maximum output power	W	50	50.4	51
Input requirements				
Input voltage Eac ^{*2}	V	85 to 132[Rating:100-120]		
Input frequency	Hz	47 to 66[Single phase]		
Input current	A	1.3max.[100V]		
Fuse rating	A	3.15[Internal]		
Surge current	A	40max.[100/120V, 25°C cold start]		
Leakage current	mA	0.5max.[100/120V]		
Efficiency	%	77typ.	79typ.	81typ.
Output characteristics				
Output voltage	V	5	12	15
Voltage variable range	V	4.5 to 5.5	10.8 to 13.2	13.5 to 16.5
Maximum output current ^{*1}	A	10	4.2	3.4
Overvoltage threshold	V	5.6 to 6.9	13.4 to 15.7	16.7 to 19
Overcurrent threshold	A	10.5min.	4.4min.	3.5min.
Voltage stability	Input variation	%	2max.(1typ.){Within the input voltage range}	
	Load variation	%	2max.(1typ.){10 to 100% load}	Total variation ±3max.(±1typ.)
Temperature variation	%	2max.(1typ.){0 to +40°C}		
	Drift	%	0.5max.(0.1typ.){After input voltage ON for 30min to 8h}	
Dynamic load	%/ms	±4max./1max.{50 to 100% sudden load change}		
Ripple noise Ep-p	mV	120max.	190max.	220max.
Start up time	ms	500max.[100V]		
Hold up time	ms	15min.(17typ.){100V}		
Accessory equipment				
Operation indicator		None		
Overvoltage protection		Voltage shielding type, recovers upon reset(interval approx. 40s).		
Overcurrent protection		Fixed current and voltage threshold type, automatic recovery, but overcurrent of 1s min. is shielded.		
Remote ON-OFF		None		
Remote sensing		None		
Output voltage external variable function		None		
Standards				
Safety standards		UL1950 recognized, Japan Electric/Electronic Products Control Law conformed.		
Noise terminal voltage		VCCI class 2, FCC class B compliant.		
Construction				
External dimensions HxWxL	mm	30×60×156		
Weight	g	220max.		
Mounting method		1 side(Open frame)		

^{*1} Current rating(maximum output current) is determined for -10 to +40°C. Derating is required when used outside this temperature range.

^{*2} When under load, output is cut off if the input voltage is below the minimum input voltage continuously for more than 1s.

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SPECIFICATIONS

100W TYPE

Part No.	JAK05-20R	JAK12-8R4	JAK15-6R7	JAK24-4R2
Output voltage, current ^{*1}	5V • 20A	12V • 8.4A	15V • 6.7A	24V • 4.2A
Maximum output power	W	100	100.8	100.5
Input requirements				
Input voltage Eac	V	85 to 132[Rating:100-120]		
Input frequency	Hz	47 to 66[Single phase]		
Input current	A	2.5max.[100V]		
Fuse rating	A	5[Internal]		
Surge current	A	25max.[100/120V, 1st surge current, reset after roughly 10s min.]		
Leakage current	mA	0.5max.[100/120V]		
Efficiency	%	81typ.	83typ.	84typ.
Output characteristics				
Output voltage	V	5	12	15
Voltage variable range	V	4.5 to 5.5	10.8 to 13.2	13.5 to 16.5
Maximum output current ^{*1}	A	20	8.4	6.7
Overvoltage threshold	V	5.6 to 6.9	13.4 to 15.7	16.7 to 19
Overcurrent threshold	A	21min.	8.9min.	7.1min.
Voltage stability	Input variation	%	2max.(1typ.){Within the input voltage range}	
	Load variation	%	2max.(1typ.){10 to 100% load}	Total variation ±3max.(±1typ.)
	Temperature variation	%	2max.(1typ.){0 to +40°C}	
	Drift	%	0.5max.(0.1typ.){After input voltage ON for 30min to 8h}	
	Dynamic load	%/ms	±4max./1max.{50 to 100% sudden load change}	
	Ripple noise Ep-p	mV	120max.	190max.
	Start up time	ms	500max.[100V]	220max.
	Hold up time	ms	15min.(23typ.){100V}	310max.
Accessory equipment				
Operation indicator		None		
Overvoltage protection		Voltage shielding type, recovers upon reset(interval approx. 40s).		
Overcurrent protection ^{*2}		Fixed current and voltage threshold type, automatic recovery, but overcurrent of 1s min. is shielded.		
Remote ON-OFF		None		
Remote sensing		None		
Output voltage external variable function		None		
Standards				
Safety standards		UL1950 recognized, Japan Electric/Electronic Products Control Law conformed.		
Noise terminal voltage		VCCI class 2, FCC class B compliant.		
Construction				
External dimensions HxWxL	mm	35×60×222		
Weight	g	550max.		
Mounting method		1 side(Open frame)		

^{*1} Current rating(maximum output current) is determined for -10 to +40°C. Derating is required when used outside this temperature range.

^{*2} Output can stop if input voltage drops below the minimum value continuously for over 1min during supply of power to load.

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SPECIFICATIONS

150W TYPE

Part No.	JAK05-30R	JAK12-13R	JAK15-10R	JAK24-6R3
Output voltage, current*1	5V • 30A	12V • 12.5A	15V • 10A	24V • 6.3A
Maximum output power	W	150	150	151.2
Input requirements				
Input voltage Eac	V	85 to 132[Rating:100-120]		
Input frequency	Hz	47 to 66[Single phase]		
Input current	A	3.5max.[100V]		
Fuse rating	A	6.3[Internal]		
Surge current	A	25max.[100/120V, 1st surge current, reset after roughly 10s min.]		
Leakage current	mA	0.5max.[100/120V]		
Efficiency	%	80typ.	83typ.	84typ.
Output characteristics				
Output voltage	V	5	12	15
Voltage variable range	V	4.5 to 5.5	10.8 to 13.2	13.5 to 16.5
Maximum output current*1	A	30	12.5	10
Overvoltage threshold	V	5.6 to 6.9	13.4 to 15.7	16.7 to 19
Overcurrent threshold	A	31.5min.	13.2min.	10.5min.
Voltage stability	Input variation	%	2max.(1typ.){Within the input voltage range}	
	Load variation	%	2max.(1typ.){10 to 100% load}	Total variation ±3max.(±1typ.)
	Temperature variation	%	2max.(1typ.){0 to +40°C}	
	Drift	%	0.5max.(0.1typ.){After input voltage ON for 30min to 8h}	
	Dynamic load	%/ms	±4max./1max.{50 to 100% sudden load change}	
	Ripple noise Ep-p	mV	120max.	190max.
	Start up time	ms	500max.[100V]	220max.
	Hold up time	ms	15min.(23typ.){100V}	310max.
Accessory equipment				
Operation indicator		None		
Overvoltage protection		Voltage shielding type, recovers upon reset(interval approx. 60s).		
Overcurrent protection*2		Fixed current and voltage threshold type, automatic recovery, but overcurrent of 1s min. is shielded.		
Remote ON-OFF		None		
Remote sensing		None		
Output voltage external variable function		None		
Standards				
Safety standards		UL1950 recognized, Japan Electric/Electronic Products Control Law conformed.		
Noise terminal voltage		VCCI class 2, FCC class B compliant.		
Construction				
External dimensions HxWxL	mm	47×75×222		
Weight	g	700max.		
Mounting method		1 side(Open frame)		

*1 Current rating(maximum output current) is determined for -10 to +40°C. Derating is required when used outside this temperature range.

*2 Output can stop if input voltage drops below the minimum value continuously for over 1min during supply of power to load.

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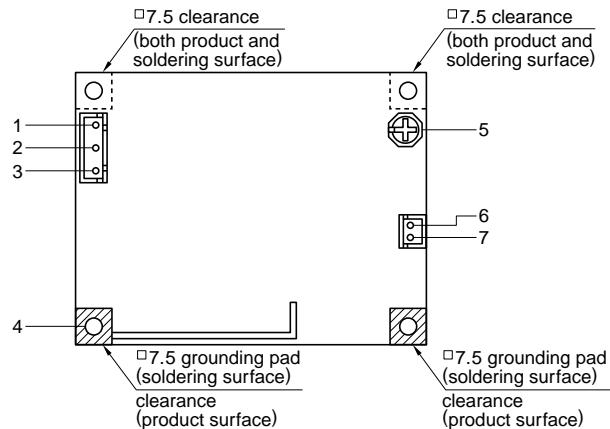
AC Input

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TERMINAL DESIGNATIONS AND FUNCTIONS

JAK10W



Terminal No. 1: Input terminal(No. 1 pin of CP1)

Live line. Fuse is built in.

Terminal No. 2: Input terminal(No. 3 pin of CP1)

Neutral line

Terminal No. 3: Input terminal(No. 5 pin of CP1)

Ground

Terminal No. 4: Ground

Connect with input terminal(No. 5 pin of CP1). If the power supply is connected electrically to equipment via the spacer, etc., the spacer material should be electrically conductive(spacer contact surface=6mm max. dia.).

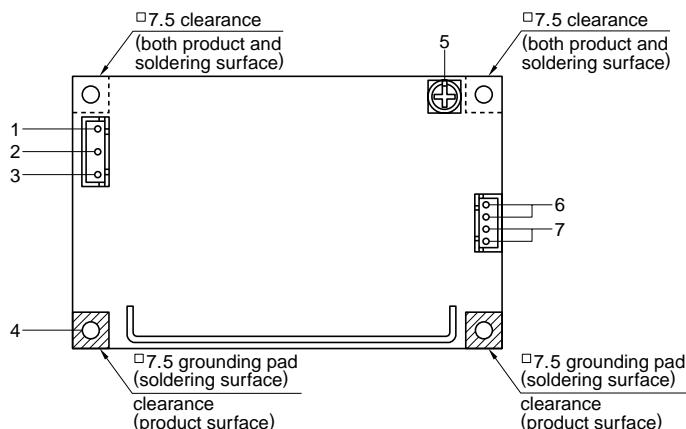
Terminal No. 5: Output voltage adjustment

Clockwise rotation increases output voltage.

Terminal No. 6: + output terminal(No. 2 pin of CP51)

Terminal No. 7: - output terminal(No. 1 pin of CP51)

JAK15W



Terminal No. 1: Input terminal(No. 1 pin of CP1)

Live line. Fuse is built in.

Terminal No. 2: Input terminal(No. 3 pin of CP1)

Neutral line

Terminal No. 3: Input terminal(No. 5 pin of CP1)

Ground

Terminal No. 4: Ground

Connect with input terminal(No. 5 pin of CP1). If the power supply is connected electrically to equipment via the spacer, etc., the spacer material should be electrically conductive(spacer contact surface=6mm max. dia.).

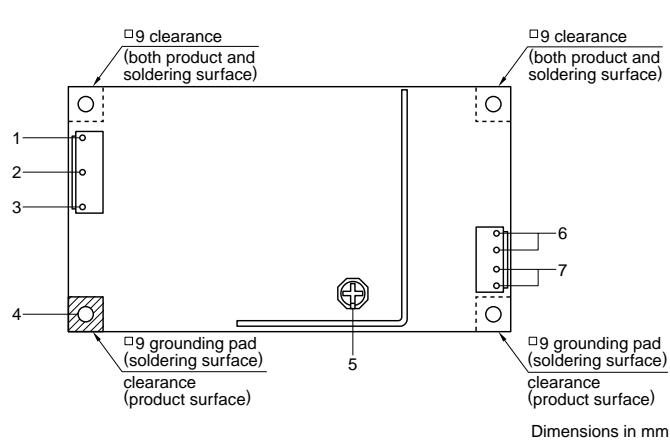
Terminal No. 5: Output voltage adjustment

Clockwise rotation increases output voltage.

Terminal No. 6: + output terminals(No. 3 and 4 pins of CP51)

Terminal No. 7: - output terminals(No. 1 and 2 pins of CP51)

JAK25W



Terminal No. 1: Input terminal(No. 5 pin of CP1)

Live line. Fuse is built in.

Terminal No. 2: Input terminal(No. 3 pin of CP1)

Neutral line

Terminal No. 3: Input terminal(No. 1 pin of CP1)

Ground

Terminal No. 4: Ground

Connect with input terminal(No. 1 pin of CP1). If the power supply is connected electrically to equipment via the spacer, etc., the spacer material should be electrically conductive(spacer contact surface=6mm max. dia.).

Terminal No. 5: Output voltage adjustment

Clockwise rotation increases output voltage.

Terminal No. 6: + output terminals(No. 1 and 2 pins of CP51)

Terminal No. 7: - output terminals(No. 3 and 4 pins of CP51)

Power Supplies

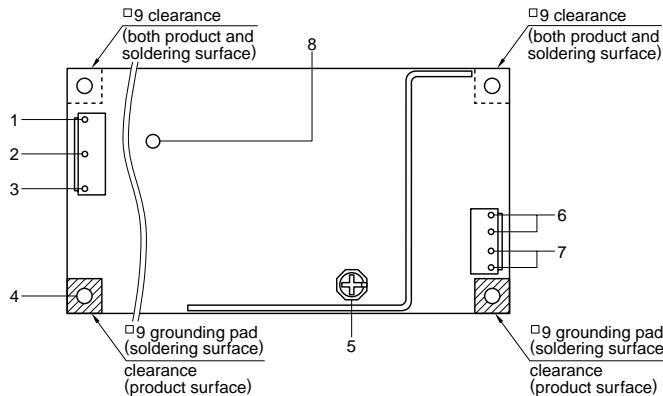
AC Input

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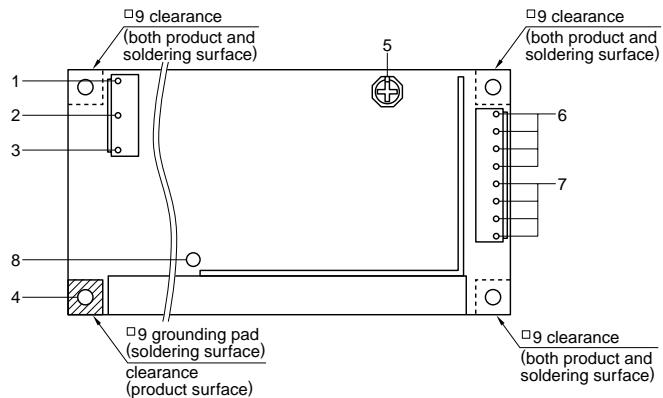
JAK Series

TERMINAL DESIGNATIONS AND FUNCTIONS

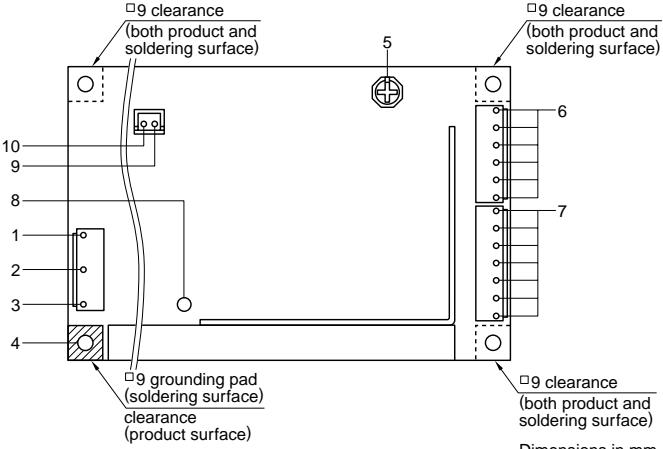
JAK50W



JAK100W



JAK150W



Terminal No. 1: Input terminal(No. 5 pin of CP1)

Live line. Fuse is built in.

Terminal No. 2: Input terminal(No. 3 pin of CP1)

Neutral line

Terminal No. 3: Input terminal(No. 1 pin of CP1)

Ground

Terminal No. 4: Ground

Connect with input terminal(No. 1 pin of CP1). If the power supply is connected electrically to equipment via the spacer, etc., the spacer material should be electrically conductive(spacer contact surface=6mm max. dia.).

Terminal No. 5: Output voltage adjustment

Clockwise rotation increases output voltage.

Terminal No. 6: + output terminals(No. 1 and 2 pins of CP51)

Terminal No. 7: -output terminals(No. 3 and 4 pins of CP51)

Terminal No. 8: Spacer mounting hole

A spacer should be used that is constructed from an insulating material(spacer contact surface=6mm max. dia.).

Terminal No. 1: Input terminal(No. 5 pin of CP1)

Live line. Fuse is built in.

Terminal No. 2: Input terminal(No. 3 pin of CP1)

Neutral line

Terminal No. 3: Input terminal(No. 1 pin of CP1)

Ground

Terminal No. 4: Ground

Connect with input terminal(No. 1 pin of CP1). If the power supply is connected electrically to equipment via the spacer, etc., the spacer material should be electrically conductive(spacer contact surface=6mm max. dia.).

Terminal No. 5: Output voltage adjustment

Clockwise rotation increases output voltage.

Terminal No. 6: + output terminals(No. 1 to 4 pins of CP51)

Terminal No. 7: -output terminals(No. 5 to 8 pins of CP51)

Terminal No. 8: Spacer mounting hole

A spacer should be used that is constructed from an insulating material(spacer contact surface=6mm max. dia.).

Terminal No. 1: Input terminal(No. 5 pin of CP1)

Live line. Fuse is built in.

Terminal No. 2: Input terminal(No. 3 pin of CP1)

Neutral line

Terminal No. 3: Input terminal(No. 1 pin of CP1)

Ground

Terminal No. 4: Ground

Connect with input terminal(No. 1 pin of CP1). If the power supply is connected electrically to equipment via the spacer, etc., the spacer material should be electrically conductive(spacer contact surface=6mm max. dia.).

Terminal No. 5: Output voltage adjustment

Clockwise rotation increases output voltage.

Terminal No. 6: + output terminal(No. 1 to 6 pins of CP51)

Terminal No. 7: -output terminal(No. 1 to 7 pins of CP52)

Terminal No. 8: Spacer mounting hole

A spacer should be used that is constructed from an insulating material(spacer contact surface=6mm max. dia.).

Terminal No. 9: VCC terminal(No. 1 pin of CP2)

VCC+

Terminal No. 10: VCC terminal(No. 2 pin of CP2)

VCC-

15±2V should be applied to the VCC terminals if JAK power supplies are used in parallel. An isolated external DC power supply should be used to apply this voltage to the VCC terminals.