

Power Supplies

MRW Series

AC Input

Multi Output, General-Purpose

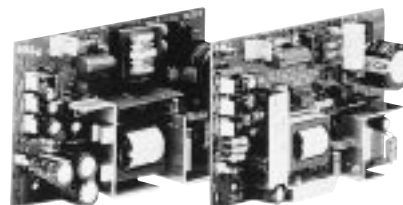
FEATURES

- This series of light weight power supplies handles a wide range of source voltages(not used for switching between AC.100 and 200V) and provides multiple output voltages.
- Open frame.
- MRW-140, MRW-150, MRW-151, MRW-160 and MRW-161 types are equipped with operation indicator lights.
- These low noise power supplies are FCC class B compliant.

PART NUMBERS AND RATINGS

Part No.	Maximum output power* (W)	Output voltage1 V1		Output voltage2 V2		Output voltage3 V3	
		Voltage(V)	Current(A)	Voltage (V)	Current (A)	Voltage (V)	Current (A)
MRW-140	25.4	+5	0.2 to 1	+12	0.3 to 1.7		
MRW-130	25.5	+5	0.5 to 1.5	+12	0.3 to 1.5[1.7, 10s]		
MRW-135	28	+5	0.5 to 2	+12	0.3 to 1.5[2.5, 3s]		
MRW-150	35	+5	1 to 2.2[Max.4]	+12	0.6 to 1.8[Max.2.5]	-12	0 to 0.1[Max.0.3]
MRW-151	35	+5	1 to 2.2[Max.4]	+15	0.5 to 1.4[Max.2]	-15	0 to 0.1[Max.0.25]
MRW-350	40	+5	0.5 to 3	+12	0.3 to 2	-12	0 to 0.1
MRW-351	40	+5	0.5 to 3	+15.6	0.3 to 1.6	-15	0 to 0.1
MRW-352	40	+3.3	0.5 to 4	+12	0.3 to 2	-12	0 to 0.1
MRW-160	50	+5	1 to 5[Max.6]	+12	0.6 to 2[Max.2.5]	-12	0 to 0.1[Max.0.5]
MRW-161	50	+5	1 to 5[Max.6]	+15	0.5 to 1.5[Max.2]	-15	0 to 0.1[Max.0.4]
MRW-170	65	+5	0.8 to 5[Max.7]	+12	0.3 to 1.7[Max.2.5]	-12	0.3 to 0.7[Max.2.5]
MRW-171	65	+5	0.8 to 5[Max.7]	+15.8	0.3 to 1.3[Max.2]	-15.8	0.3 to 1.3[Max.2]

* Total output power(sum of the respective[output voltage × output current] values) can not exceed this maximum output power.



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SPECIFICATIONS

Part No.		MRW-130	
Output voltage, current*1	V1	+5V • 1.5A	
	V2	+12V • 1.5A[Peak 1.7A, 10s max.]*4	
Maximum output power	W	25.5	
Input requirements			
Input voltage Eac	V	90 to 264	
Input frequency	Hz	47 to 66[Single phase]	
Input current	A	0.8max./0.5max.[100-120/200-240V]	
Fuse rating	A	2[Internal]	
Surge current	A	50max./100max.[100-120/200-240V, 25°C, cold start]	
Leakage current	mA	0.5max./0.75max.[100-120/200-240V]	
Efficiency	%	73typ.[100-120V]	
Output characteristics			
Output voltage	V	+5[V1]	+12[V2]
Voltage variable range	%	+5, −3	V2 varies simultaneously and in the same direction as V1
Maximum output current*1	A	1.5	1.5[Peak 1.7A, 10s]*4
Minimum output current*3	A	0.5	0.3
Output setting conditions	Voltage	V	5±0.02
Voltage stability	Current	A	1.5
	Input variation	%	1max.
	Load variation*2	%	2max.
	Temperature variation [0 to +50°C]	%	3max.
	Total variation	%	+4, −3max.
	Drift	%	0.5max.[25°C, input and output ratings, after input voltage ON for 30min to 8h]
	Dynamic load	%/ms	±4max./1max.[50 to 100% sudden load change]
Ripple Ep-p	mV	80max.	120max.
Ripple noise Ep-p	mV	150max.	290max.
Start up time	ms	700typ.	
Hold up time	ms	15typ./10min.[100V input], 25typ./20min.[120V input]	
Accessory equipment			
Operation indicator		None	
Overvoltage protection		Only 5V built-in protection, voltage shielding type(overvoltage threshold 5.8 to 6.9V), recovers upon reset.	
Overcurrent protection		28W min. total power type	
Remote ON-OFF		None	
Remote sensing		None	
Current balance		None	
Output voltage external variable function		None	
Standards			
Safety standards		UL1950, CSA C22.2 No.234, EN60950 (TÜV) approved.	
Noise terminal voltage		FCC class B, VDE0871 class B compliant.	
Construction			
External dimensions H×W×L	mm	35×80×100	
Weight	g	220max.	
Mounting method		Can be attached to 1 side.	
Case and cover		None	
Input and output cables		Sold separately(Part No.:4EU30B217)	

*1 Current rating(maximum output current) is determined for 0 to +50°C. Derating is required when used outside this temperature range.

*2 Load variation was determined only for the measured output. The non-measured output was kept fixed(1.5A for V1, 1.5A for V2).

*3 Normal output voltages might possibly not be maintained if outputs V1, V2 fall below these minimum current values.

*4 Load current should exceed 1.5A at +12V for time intervals no longer than 10s. The effective current should be kept below 1.5A.

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SPECIFICATIONS

Part No.		MRW-135		
Output voltage, current*1		V ₁	+5V • 2A	
		V ₂	+12V • 1.5A[Peak 2.5A, 3s max.]*4	
Maximum output power		W	28	
Input requirements				
Input voltage Eac		V	90 to 264	
Input frequency		Hz	47 to 66[Single phase]	
Input current		A	0.8max./0.5max.[100-120/200-240V]	
Fuse rating		A	2[Internal]	
Surge current		A	50max./100max.[100-120/200-240V, 25°C, cold start]	
Leakage current		mA	0.5max./0.75max.[100-120/200-240V]	
Efficiency		%	73typ.[100-120V]	
Output characteristics				
Output voltage		V	+5[V ₁] +12[V ₂]	
Voltage variable range		%	+5, −3 V ₂ varies simultaneously and in the same direction as V ₁ .	
Maximum output current*1		A	2 1.5[Peak 2.5A, 3s]*4	
Minimum output current*3		A	0.5 0.3	
Output setting Voltage		V	5±0.02 —	
Output setting conditions	Current	A	2 1.5	
	Input variation	%	1max. 1.5max.[90 to 132V/180 to 264V]	
	Load variation*2	%	2max. 3max.	
	Temperature variation [0 to +50°C]	%	2max. 3max.	
	Total variation	%	+4, −3max. ±5max.	
	Drift	%	0.5max.[25°C, input and output ratings, after input voltage ON for 30min to 8h]	
	Dynamic load	%/ms	±4max./1max.[50 to 100% sudden load change]	
Ripple Ep-p		mV	80max. 120max.	
Ripple noise Ep-p		mV	150max. 290max.	
Start up time		ms	750typ.	
Hold up time		ms	15typ./10min.[100V input], 25typ./20min.[120V input]	
Accessory equipment				
Operation indicator		None		
Overvoltage protection		Only 5V built-in protection, voltage shielding type(overvoltage threshold 5.8 to 6.9V), recovers upon reset.		
Overcurrent protection		41W min. total power type		
Remote ON-OFF		None		
Remote sensing		None		
Current balance		None		
Output voltage external variable function		None		
Standards				
Safety standards		UL1950, CSA ELECTRICAL BULLETIN No.1402C, EN60950 (TÜV) approved.		
Noise terminal voltage		FCC class B, VDE0871 class B compliant.		
Construction				
External dimensions H×W×L		mm	35×80×120	
Weight		g	300max.	
Mounting method		Can be attached to 1 side.		
Case and cover		—		
Input and output cables		Sold separately(Part No.:4EU20B241)		

*1 Current rating(maximum output current) is determined for 0 to +50°C. Derating is required when used outside this temperature range.

*2 Load variation was determined only for the measured output. The non-measured output was kept fixed(1.5A for V1, 1.5A for V2).

*3 Normal output voltages might possibly not be maintained if outputs V1, V2 fall below these minimum current values.

*4 Load current should exceed 1.5A at +12V for time intervals no longer than 10s. The effective current should be kept below 1.5A.

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Part No.		MRW-140			
Output voltage, current*1	V1	+5V • 1A			
	V2	+12V • 1.7A			
Maximum output power	W	25.4			
Input requirements					
Input voltage Eac	V	90 to 264			
Input frequency	Hz	47 to 66[Single phase]			
Input current	A	0.7max./0.45max.[100-120/200-240V]			
Fuse rating	A	2[Internal]			
Surge current	A	50max./100max.[100-120/200-240V, 25°C, cold start]			
Leakage current	mA	0.5max./0.75max.[100-120/200-240V]			
Efficiency	%	73typ.			
Output characteristics					
Output voltage	V	+5[V1]	+12[V2]		
Voltage variable range	%	+5, −3	V2 varies simultaneously and in the same direction as V1.		
Maximum output current*1	A	1	1.7		
Minimum output current*3	A	0.2	0.3		
Output setting	Voltage	V	5.1±0.03		
Voltage stability	conditions	Current	A	1	1.7
		Input variation	%	1max.	1.5max.[90 to 132V/180 to 264V]
		Load variation*2	%	1.5max.	6max.
		Temperature variation [0 to +50°C]	%	2max.	2max.
		Total variation	%	+5, −1max.	±5max.
		Drift	%	0.5max.[25°C, input and output ratings, after input voltage ON for 30min to 8h]	
		Dynamic load	%/ms	±4max./1max.[50 to 100% sudden load change]	
Ripple Ep-p	mV	80max.	120max.		
Ripple noise Ep-p	mV	150max.	290max.		
Start up time	ms	500typ.			
Hold up time	ms	15typ./10min.[100V input], 25typ./20min.[120V input]			
Accessory equipment					
Operation indicator		None			
Overvoltage protection		Only 5V built-in protection, voltage shielding type(overvoltage threshold 5.8 to 6.9V), recovers upon reset.			
Overcurrent protection		26W min. total power type			
Remote ON-OFF		None			
Remote sensing		None			
Current balance		None			
Output voltage external variable function		None			
Standards					
Safety standards		—			
Noise terminal voltage		FCC class B, VDE0871 class B compliant.			
Construction					
External dimensions H×W×L	mm	27×100×160			
Weight	g	300max.			
Mounting method		Can be attached to 1 side.			
Case and cover		—			
Input and output cables		Sold separately(Part No.: 4EU40B153)			

*1 Current rating(maximum output current) is determined for 0 to +50°C. Derating is required when used outside this temperature range.

*2 Load variation was determined only for the measured output. The non-measured output was kept fixed(1.5A for V1, 1.5A for V2).

*3 Normal output voltages might possibly not be maintained if outputs V1, V2 fall below these minimum current values.

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Part No.		MRW-150			MRW-151			
Output voltage, current *1	V ₁	+5V • 2.2A(4A)*4			+5V • 2.2A(4A)*4			
	V ₂	+12V • 1.8A(2.5A)*4			+15V • 1.4A(2A)*4			
	V ₃	−12V • 0.1A(0.3A)*4			−15V • 0.1A(0.25A)*4			
Maximum output power	W	35			35			
Input requirements								
Input voltage Eac	V	90 to 264						
Input frequency	Hz	47 to 66[Single phase]						
Input current	A	1max./0.5max.[100/200V, at maximum output power]						
Fuse rating	A	2.5[Internal]						
Surge current	A	50max./100max.[100/200V, 25°C, cold start]						
Leakage current	mA	0.5max./0.75max.[100/200V, 25°C, output rating]						
Efficiency	%	70typ.			70typ.			
Output characteristics								
Output voltage	V	+5[V ₁]	+12[V ₂]	−12[V ₃]	+5[V ₁]	+15[V ₂]	−15[V ₃]	
Voltage variable range	%	+5, −3	V ₂ varies simultaneously and in the same direction as V ₁ .		+5, −3	V ₂ varies simultaneously and in the same direction as V ₁ .		
Maximum output current*1	A	4	2.5	0.3	4	2	0.25	
Rated output current	A	2.2	1.8	0.1	2.2	1.4	0.1	
Minimum output current*2	A	1	0.6	0	1	0.5	0	
Output setting Voltage	V	5±0.02	—	—	5±0.02	—	—	
conditions Current	A	2.2	1.8	0.1	2.2	1.4	0.1	
Overvoltage threshold	V	5.8 to 6.9			5.8 to 6.9			
Voltage stability	Input variation	%	1typ.	1typ.	1typ.	1typ.	1typ.	
	Load variation*3	%	3typ.	5typ.	3typ.	5typ.	1typ.	
	Temperature variation [0 to +50°C]	%	2typ.	2typ.	1typ.	2typ.	2typ.	
	Total variation	%	+4, −2max.	±5max.	±6max.	+4, −2max.	+3, −8max. ±6max.	
	Drift	%	0.5max.[25°C, input and output ratings, after input voltage ON for 30min to 8h]					
	Dynamic load	%/ms	±4max./2max.[50 to 100% sudden load change]					
Ripple Ep-p	mV	50max.	80max.	30max.	80max.	120max.	30max.	
Ripple noise Ep-p	mV	150max.	290max.	290max.	150max.	350max.	350max.	
Start up time	ms	600max.[25°C, input and output ratings]			530max.[25°C, input and output ratings]			
Rise time	ms	20max.[25°C, input and output ratings]			10max.[25°C, input and output ratings]			
Hold up time	ms	15min.[25°C, input and output ratings]			15min.[25°C, input and output ratings]			
Accessory equipment								
Operation indicator		None						
Overvoltage protection		Only 5V built-in protection, voltage shielding type, recovers upon reset (interval approx. 45s).						
Overcurrent protection		36W min. total power type						
Remote ON-OFF		None						
Remote sensing		None						
Standards								
Safety standards		UL1950, CSA C22.2 No.234(MRW-151: CSA EB No.1402C), EN60950 (TÜV) approved.						
Noise terminal voltage		FCC class B, VDE0871 class B compliant.						
Construction								
External dimensions H×W×L	mm	30×100×160						
Weight	g	350max.						
Mounting method		1 side(Open frame)						
Case and cover		Frame/cover sold separately(Part No.: 2JF00B157/2JC0ZB156)						
Input and output cables		Sold separately(Part No.:4EU40B153)						

*1 Current rating(maximum output current) is determined for 0 to +50°C. Derating is required when used outside this temperature range.

*2 Normal output voltages might possibly not be maintained if outputs V2, V3 fall below V1 minimum current values.

*3 Load range

V1:1 to 2.2A, V2:0.6 to 1.8A, V3:0 to 0.1A

*4 At the maximum output current value within the parentheses, the sum of all output(V1,V2 and V3) power values can not exceed this maximum output power.

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SPECIFICATIONS

Part No.		MRW-160			MRW-161			
Output voltage, current*1		V ₁	+5V • 5A(6A)*4			+5V • 5A(6A)*4		
		V ₂	+12V • 2A(2.5A)*4			+15V • 1.5A(2A)*4		
		V ₃	−12V • 0.1A(0.5A)*4			−15V • 0.1A(0.4A)*4		
Maximum output power		W	50			50		
Input requirements								
Input voltage Eac		V	90 to 264					
Input frequency		Hz	47 to 66[Single phase]					
Input current		A	1.3max./0.8max.[100-120/200-240V]					
Fuse rating		A	3[Internal]					
Surge current		A	50max./100max.[100-120/200-240V, 25°C, cold start]					
Leakage current		mA	0.5max./0.75max.[100-120/200-240V]					
Efficiency		%	75typ.			73typ.		
Output characteristics								
Output voltage		V	+5[V ₁]	+12[V ₂]	−12[V ₃]	+5[V ₁]	+15[V ₂]	−15[V ₃]
Voltage variable range		%	+5, −3	V ₂ varies simultaneously and in the same direction as V ₁ .		+5, −3	V ₂ varies simultaneously and in the same direction as V ₁ .	
Maximum output current*1		A	6	2.5	0.5	6	2	0.4
Rated output current		A	5	2	0.1	5	1.5	0.1
Minimum output current *2		A	1	0.6	0	1	0.5	0
Output setting conditions	Voltage	V	5±0.02	—	—	5±0.02	—	—
	Current	A	2.5	2	0.1	2.5	1.5	0.1
Voltage stability	Input variation	%	2max.	2max.	1max.	2max.	2max.	1max.
	Load variation*3	%	4max.	2max.	1max.	4max.	2max.	1max.
	Temperature variation [0 to +50°C]	%	2max.	2max.	1max.	2max.	2max.	1max.
	Total variation	%	±4max.	+6, −4max.	±6max.	±4max.	+8, −2max.	±6max.
	Drift	%	0.5max.[25°C, input and output ratings, after input voltage ON for 30min to 8h]					
Dynamic load		%/ms	±4max./1max.[50 to 100% sudden load change]					
Ripple Ep-p		mV	80max.	80max.	30max.	80max.	80max.	30max.
Ripple noise Ep-p		mV	150max.	290max.	290max.	150max.	350max.	350max.
Start up time		ms	500typ.					
Hold up time		ms	30typ./20min.					
Accessory equipment								
Operation indicator			None					
Overvoltage protection			Only 5V built-in protection, voltage shielding type(overvoltage threshold 5.8 to 6.9V), recovers upon reset.					
Overcurrent protection			60W min. total power type					
Remote ON-OFF			None					
Remote sensing			None					
Current balance			None					
Output voltage external variable function			None					
Standards								
Safety standards			UL1950, CSA ELECTRICAL BULLETIN No.1402C, EN 60950 (TÜV) approved.					
Noise terminal voltage			FCC class B, VDE0871 class B compliant.					
Construction								
External dimensions H×W×L		mm	38×100×160					
Weight		g	500max.					
Mounting method			Can be attached to 1 side.					
Case and cover			Frame/cover sold separately (Part No.: 2JF00B167/2JC0ZB166)					
Input and output cables			Sold separately(Part No.: 4EU40B153)					

*1 Current rating(maximum output current) is determined for 0 to +50°C. Derating is required when used outside this temperature range.

*2 Normal output voltages might possibly not be maintained if outputs V2, V3 fall below V1 minimum current values.

*3 Load variation will be specified from the minimum output current to the rated output current range.

*4 At the maximum output current value within the parentheses, the sum of all output(V1,V2 and V3) power values can not exceed this maximum output power.

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SPECIFICATIONS

Part No.		MRW-170			MRW-171		
Output voltage, current*1	V ₁	+5V • 5A(7A)*4			+5V • 5A(7A)*4		
	V ₂	+12V • 1.7A(2.5A)*4			+15.8V • 1.3A(2A)*4		
	V ₃	−12V • 1.7A(2.5A)*4			−15.8V • 1.3A(2A)*4		
Maximum output power	W	65			65		
Input requirements							
Input voltage Eac	V	85 to 264					
Input frequency	Hz	47 to 66[Single phase]					
Input current	A	1.7max./0.9max.[100/200V]					
Fuse rating	A	3.15[Internal]					
Surge current	A	50max./100max.[115/230V, 25°C, cold start]					
Leakage current	mA	0.5max./0.75max.[115/230V, 25°C, output rating]					
Efficiency	%	70typ.			70typ.		
Output characteristics							
Output voltage	V	+5[V ₁]	+12[V ₂]	−12[V ₃]	+5[V ₁]	+15.8[V ₂]	−15.8[V ₃]
Voltage variable range	V	—					
Maximum output current*1	A	7	2.5	2.5	7	2	2
Rated output current	A	5	1.7	1.7	5	1.3	1.3
Minimum output current*2	A	0.8	0.3	0.3	0.8	0.3	0.3
Output setting	Voltage	V	5±0.02	—	5±0.02	—	—
conditions	Current	A	5	1.7	5	1.3	1.3
Overvoltage threshold	V	5.8 to 6.9			5.8 to 6.9		
Voltage stability	Input variation	%	1typ.	1typ.	1typ.	1typ.	1typ.
	Load variation*3	%	3.5typ.	5typ.	5typ.	3.5typ.	5typ.
	Temperature variation [0 to +50°C]	%	2typ.	3.5typ.	3.5typ.	2typ.	3.5typ.
	Total variation	%	±4max.	+8, −7max.	+8, −7max.	±4max.	+8, −7max.
	Drift	%	0.5max.[25°C, input and output ratings, after input voltage ON for 30min to 8h]				
	Dynamic load	%/ms	±4max./0.5max.[50 to 100% sudden load change]				
Ripple Ep-p	Source	mV	30max.	30max.	30max.	30max.	30max.
	Switching	mV	50max.	50max.	50max.	50max.	50max.
Ripple noise Ep-p	mV	150max.	250max.	250max.	150max.	250max.	250max.
Start up time	ms	600typ.[115V]					
Hold up time	ms	20typ./15min.[115V]					
Accessory equipment							
Operation indicator		None					
Overvoltage protection		Only 5V built-in protection, voltage shielding type, recovers upon reset.					
Overcurrent protection		66W min. total power type					
Remote ON-OFF		None					
Remote sensing		None					
Standards							
Safety standards		UL1950, CSA C22.2 No.234, EN60950 (TÜV) approved.					
Noise terminal voltage		FCC class B, VDE0871 class B compliant.					
Construction							
External dimensions	H×W×L	mm	38×100×160				
Weight	g	450max.					
Mounting method		1 side(Open frame)					
Case and cover		—					
Input and output cables		—					

*1 Current rating(maximum output current) is determined for 0 to +50°C. Derating is required when used outside this temperature range.

*2 Normal output voltages might possibly not be maintained if outputs V2, V3 fall below V1 minimum current values.

*3 Load variation will be specified from the minimum output current to the rated output current range.

*4 At the maximum output current value within the parentheses, the sum of all output(V1, V2 and V3) power values can not exceed this maximum output power.

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Part No.		MRW-350			MRW-351			MRW-352		
Output voltage, current *1	V ₁	+5V • 3A			+5V • 3A			+3.3V • 4A		
	V ₂	+12V • 2A			+15.6V • 1.6A			+12V • 2A		
	V ₃	−12V • 0.1A			−15V • 0.1A			−12V • 0.1A		
Maximum output power	W	40			40			40		
Input requirements										
Input voltage Eac	V	90 to 264								
Input frequency	Hz	47 to 66[Single phase]								
Input current	A	0.9max./0.55max.[100/240V]								
Fuse rating	A	2[Internal]								
Surge current	A	50max./100max.[115/230V, 25°C, cold start]								
Leakage current	mA	0.5max./0.75max.[115/230V, 25°C, output rating]								
Efficiency	%	70typ.								
Output characteristics										
Output voltage	V	+5[V ₁]	+12[V ₂]	−12[V ₃]	+5[V ₁]	+15.6[V ₂]	−15[V ₃]	+3.3[V ₁]	+12[V ₂]	−12[V ₃]
Voltage variable range	V	—								
Maximum output current *1	A	3	2	0.1	3	1.6	0.1	4	2	0.1
Minimum output current*2	A	0.5	0.3	0	0.5	0.3	0	0.5	0.3	0
Output setting Voltage	V	5±0.02	—	—	5±0.02	—	—	3.3±0.02	—	—
conditions Current	A	3	2	0	3	1.6	0	4	2	0
Overvoltage threshold	V	5.8 to 6.9			5.8 to 6.9			5.8 to 6.9		
Voltage stability	Input variation	%	1typ.	1typ.	1typ.	1typ.	1typ.	1typ.	1typ.	1typ.
	Load variation*3	%	2typ.	4typ.	1typ.	2typ.	4typ.	1typ.	2typ.	4typ.
	Temperature variation [0 to +50°C]	%	2typ.	3.5typ.	1typ.	2typ.	3.5typ.	1typ.	2typ.	3.5typ.
	Total variation	%	±3.5max. ±7max.		±7max.		±3.5max. ±7max.		±7max. ±4max.	
	Drift	%	0.5max.[25°C, input and output ratings, after input voltage ON for 30min to 8h]							
Ripple Ep-p	Dynamic load	%/ms	±4max./0.5typ.[50 to 100% sudden load change]							
	Source	mV	30max.	100max.	10max.	30max.	120max.	10max.	30max.	100max.
	Switching	mV	25max.	20max.	20max.	25max.	20max.	20max.	25max.	20max.
Ripple noise Ep-p	mV	150max.	250max.	250max.	150max.	250max.	250max.	200max.	250max.	250max.
Start up time	ms	500typ.[120V]								
Hold up time	ms	20typ./15min.[120V]								
Accessory equipment										
Operation indicator		None								
Overvoltage protection		Only 5V built-in protection, voltage shielding type, recovers upon reset.								
Overcurrent protection		41W min. total power type								
Remote ON-OFF		None								
Remote sensing		None								
Standards										
Safety standards		UL1950, CSA C22.2 No.234, EN60950 (TÜV) approved.								
Noise terminal voltage		FCC class B, VDE0871 class B compliant.								
Construction										
External dimensions H×W×L	mm	36.75×76×127								
Weight	g	240max.								
Mounting method		1 side(Open frame)								
Case and cover		—								
Input and output cables		—								

*1 Current rating(maximum output current) is determined for 0 to +50°C. Derating is required when used outside this temperature range.

*2 Normal output voltages might possibly not be maintained if outputs V₂, V₃ fall below V₁ minimum current values.

*3 Load variation will be specified from the minimum output current to the rated output current range.

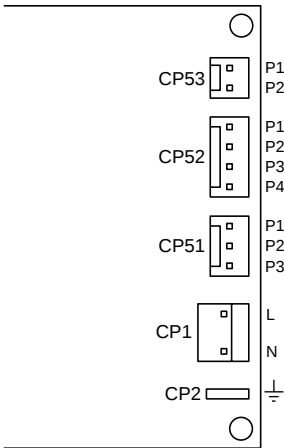
Power Supplies

AC Input
Multi Output, General-Purpose

MRW Series

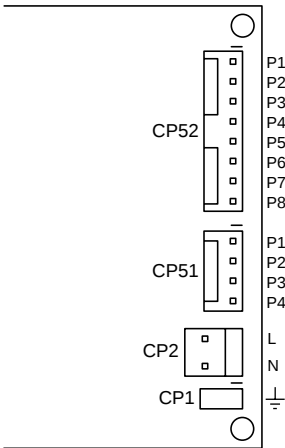
TERMINAL DESIGNATIONS AND FUNCTIONS

MRW-130



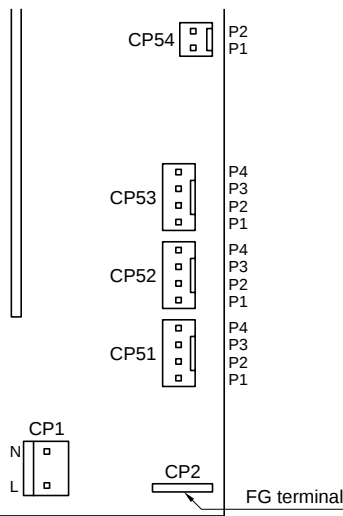
CP1	2	Input(L)
	1	Input(N)
CP2	1	FG
CP51	P1	$\bar{A} $
	P2	COMMON
	P3	V ₂
CP52	P1	COMMON
	P2	V ₂
	P3	COMMON
CP53	P1	COMMON
	P2	V ₁

MRW-135



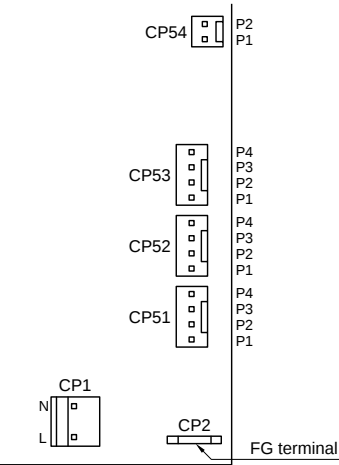
CP1	1	FG
CP2	2	Input(L)
	1	Input(N)
CP51	P1	V ₂
	P2	COMMON
	P3	V ₁
	P4	COMMON
CP52	P1	COMMON
	P2	COMMON
	P3	V ₁
	P4	V ₁
	P5	COMMON
	P6	COMMON
	P7	V ₂
	P8	V ₂

MRW-140



CP1	2	Input(L)
	1	Input(N)
CP2	1	FG
CP51	P1	V ₁
	P2	COMMON
	P3	V ₂
CP52	P1	V ₁
	P2	COMMON
	P3	V ₂
CP53	P1	V ₁
	P2	COMMON
	P3	V ₂
CP54	P1	COMMON
	P2	POWER OK SIGNAL

MRW-150, 151, 160, 161



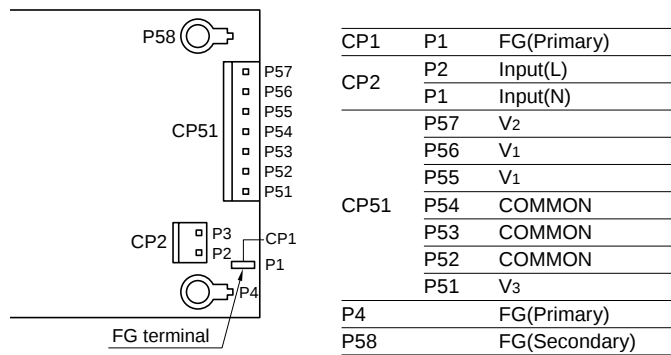
CP1	1	Input(L)
CP2	2	Input(N)
	1	FG
CP51	P1	V ₁
	P2	COMMON
	P3	V ₂
CP52	P1	V ₁
	P2	COMMON
	P3	V ₂
CP53	P1	V ₁
	P2	COMMON
	P3	V ₂
CP54	P1	COMMON
	P2	POWER OK SIGNAL

Power Supplies

AC Input
Multi Output, General-Purpose

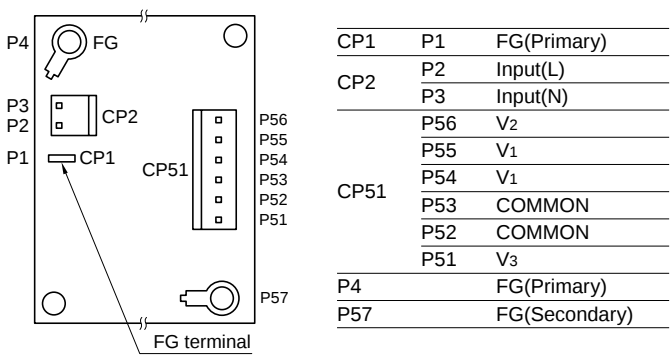
MRW Series

TERMINAL DESIGNATIONS AND FUNCTIONS MRW-170, 171



- AC input terminals(L, N)
Connect to AC.100/120V or 200/240V single phase power supply.
- Frame ground terminal(G)
Connect to earth ground. This is connected to the case.
- DC output terminals(V₁, V₂, V₃)
Wire to loads.

MRW-350, 351, 352



- DC output common terminal(COMMON)
Wire to loads.
- Power OK signal output terminal(POWER OK SIGNAL)
Signal is output when +5V output voltage exceeds 4.5V(applyes to MRW-140, MRW-150, MRW-151, MRW-160 and MRW-161).