

Power Supplies

TRM-GB Series

AC Input
Multi Output, Long Life

FEATURES

- The 30W/125W types are floating. 5V and NV terminals of the 30W type are floating.
- Remote sensing(125W type only).
- Remote ON-OFF.
- These low noise power supplies are CISPR standard compliant.



PART NUMBERS AND RATINGS

Part No.	Input voltage Eac(V)	Output power (W)	Current (A)						
			Output voltage 5V	-5V	-9V	+12V	-12V	+15V	-15V
TRM-021GB	85 to 132	32.2	0 to 5	—	—	0 to 0.3	0 to 0.3	—	—
TRM-022GB	85 to 132	34	0 to 5	—	—	—	—	0 to 0.3	0 to 0.3
TRM-023GB	85 to 132	30.1	0 to 5	0 to 0.3	—	0 to 0.3	—	—	—
TRM-024GB	85 to 132	31	0 to 5	0 to 0.3	—	—	—	0 to 0.3	—
TRM-025GB	85 to 132	31.3	0 to 5	—	0 to 0.3	0 to 0.3	—	—	—
TRM-031GB	85 to 132	74	2 to 10	—	—	0.2 to 1	0.2 to 1	—	—
TRM-032GB	85 to 132	80	2 to 10	—	—	—	—	0.2 to 1	0.2 to 1
TRM-033GB	85 to 132	67	2 to 10	0.2 to 1	—	0.2 to 1	—	—	—
TRM-041GB	85 to 132	123	0 to 15	—	—	0 to 2	0 to 2	—	—
TRM-042GB	85 to 132	123	0 to 15	—	—	—	—	0 to 1.6	0 to 1.6
TRM-043GB	85 to 132	120	0 to 15	0 to 3	—	0 to 2.5	—	—	—

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AC Input

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SPECIFICATIONS

30W TYPE

Part No.		TRM-021GB	TRM-022GB	TRM-023GB	TRM-024GB	TRM-025GB
		5V • 5A	5V • 5A	5V • 5A	5V • 5A	5V • 5A
Output voltage, current*		+12V • 0.3A	+15V • 0.3A	+12V • 0.3A	+15V • 0.3A	+12V • 0.3A
		−12V • 0.3A	−15V • 0.3A	−5V • 0.3A	−5V • 0.3A	−9V • 0.3A
Maximum output power	W	32.2	34	30.1	31	31.3
Input requirements						
Input voltage Eac	V	85 to 132[Rating: 100-115]				
Input frequency	Hz	47 to 440[Single phase][Rating: 50-60]				
Input capacitance	VA	100max.[At maximum output power]				
Fuse rating	A	3.15[Internal]				
Surge current	A	15max./17max.[25°C, 100/115V, output rating, 1st surge current, reset after roughly 5s min.]				
Leakage current	mA	0.5max.(0.3typ.)[25°C, input and output ratings]				
Efficiency	%	74typ.[25°C, input and output ratings]				
Output characteristics						
Output voltage	V	5, +12, −12	5, +15, −15	5, +12, −5	5, +15, −5	5, +12, −9
Maximum output current*	A	5, 0.3, 0.3	5, 0.3, 0.3	5, 0.3, 0.3	5, 0.3, 0.3	5, 0.3, 0.3
Voltage variable range	V	5V: 4.25 to 5.5, ±NV: Fixed				
Overvoltage threshold	V	5V: 5.8 to 6.9				
Overcurrent threshold	A	5V: 5.5 to 6.9, ±NV: 0.33 to 0.6				
Voltage stability	Input/output variation	%	0.8max.(0.5typ.)[Within the input voltage range]			Total variation 2max.(1.3typ.)
	Load variation	%	0.8max.(0.4typ.)[10 to 100% load]			
	Temperature variation	%	1.2max.(0.4typ.)[0 to +50°C]			
	Drift	%	0.5max.[25°C, input and output ratings, after input voltage ON for 30min to 8h]			
	Ripple Ep-p	mV	5V: 75max., ±NV: 10max.			
	Noise Ep-p	mV	Output voltage×1%+50max.[50MHz max., including ripple]			
Dynamic load	%/ms	±4/1max.[50 to 100% sudden load change]				
Start up time	ms	100max.(50typ.)[25°C, input and output ratings]				
Hold up time	ms	20min.(30typ.)[25°C, input and output ratings]				
Accessory equipment						
Overvoltage protection		Only 5V built-in protection, voltage shielding type, recovers upon reset, set value fixed.				
Overcurrent protection		5V: Fixed current and voltage threshold type, ±NV: Higher overcurrent detection point at low load, automatic recovery, set value fixed.				
Remote ON-OFF		None				
Remote sensing		None				
Standards						
Safety standards		—				
Noise terminal voltage		CISPR standard compliant.				
Construction						
External dimensions H×W×L	mm	130×35×146				
Weight	kg	0.65max.				
Mounting method		Can be attached to 4 sides.				
Case material		Aluminum(Phosphoric acid anodized surface)				

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

Power Supplies

TRM-GB Series

AC Input

Multi Output, Long Life

SPECIFICATIONS

75W TYPE

Part No.		TRM-031GB	TRM-032GB	TRM-033GB
Output voltage, current*1	V1	+5V • 10A	+5V • 10A	+5V • 10A
	V2	+12V • 1A	+15V • 1A	+12V • 1A
	V3	−12V • 1A	−15V • 1A	−5V • 1A
Maximum output power	W	74	80	67
Input requirements				
Input voltage Eac	V	85 to 132[Rating: 100-115]		
Input frequency	Hz	47 to 440[Single phase][Rating: 50-60]		
Input capacitance	VA	220max.[At maximum output power]		
Fuse rating	A	4[Internal]		
Surge current	A	15max./17max.[25°C, 100/115V, output rating, 1st surge current, reset after roughly 10s min.]		
Leakage current	mA	0.5max.(0.3typ.)[25°C, input and output ratings]		
Efficiency	%	78typ.[25°C, input and output ratings]		
Output characteristics				
Output voltage	V	5, +12, −12	5, +15, −15	5, +12, −5
Maximum output current*1	A	10, 1, 1	10, 1, 1	10, 1, 1
Minimum output current*2	A	2, 0.2, 0.2	2, 0.2, 0.2	2, 0.2, 0.2
Output current setting condition	A	6, 0.6, 0.6	6, 0.6, 0.6	6, 0.6, 0.6
Voltage variable range	V	5V: 4.5 to 5.5, ±NV: Changes at the same time and in the same direction to 5V.		
Overvoltage threshold	V	5V: 5.8 to 6.9		
Overcurrent threshold	A	5V: 11 to 15, ±NV: 1.1 to 1.6		
Voltage stability	Input/output variations	% 5V:±1max.,±NV:±3max.[Within the input voltage range, minimum and maximum output current range]		
	Temperature variation	% ±1max.(0.4typ.)[0 to +50°C]		
	Drift	% 0.5max.[25°C, input and output ratings, after input voltage ON for 30min to 8h]		
	Ripple Ep-p	mV 5V: 60max. 12V: 100max. 15V: 100max.		
	Noise Ep-p	mV Output voltage×1%+50max.[50MHz max., including ripple]		
	Cross variation	% 5V:±1max.[±NV load variation: 20 to 100%], ±NV: ±4max.[5V load variation: 50 to 100%]		
Dynamic load	%/ms	±4max./2max.[50 to 100% sudden load change]		
Start up time	ms	150max.(100typ.)[25°C, input and output ratings]		
Hold up time	ms	20min.(30typ.)[25°C, input and output ratings]		
Accessory equipment				
Overvoltage protection		Only 5V built-in protection, voltage shielding type, recovers upon reset, set value fixed.		
Overcurrent protection		Fixed current and voltage threshold type, automatic recovery, set value fixed.		
Remote ON-OFF		Yes(For RC(−) terminal, same potential as 0V terminal.)		
Remote sensing		None		
Standards				
Safety standards		—		
Noise terminal voltage		CISPR standard compliant.		
Construction				
External dimensions H×W×L	mm	130×55×224		
Weight	kg	1.4max.		
Mounting method		Can be attached to 4 sides.		
Case material		Aluminum(Phosphoric acid anodized surface)		

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

*2 When the current is less than the minimum output current, the nominal voltage output may not be produced.

Power Supplies

TRM-GB Series

AC Input

Multi Output, Long Life

SPECIFICATIONS

125W TYPE

Part No.		TRM-041GB	TRM-042GB	TRM-043GB
Output voltage, current*	V ₁	5V • 15A	5V • 15A	5V • 15A
	V ₂	12V • 2A	15V • 1.6A	12V • 2.5A
	V ₃	12V • 2A	15V • 1.6A	5V • 3A
Maximum output power	W	123	123	120
Input requirements				
Input voltage Eac	V	85 to 132[Rating: 100-115]		
Input frequency	Hz	47 to 440[Single phase][Rating:50-60]		
Input capacitance	VA	300max.[At maximum output power]		
Fuse rating	A	6[Internal]		
Surge current	A	15max./17max.[25°C, 100/115V, output rating, 1st surge current, reset after roughly 15s min.]		
Leakage current	mA	0.5max.(0.3typ.)[25°C, input and output ratings]		
Efficiency	%	78typ.[25°C, input and output ratings]		
Output characteristics				
Output voltage	V	5, 12, 12	5, 15, 15	5, 12, 5
Maximum output current*	A	15, 2, 2	15, 1.6, 1.6	15, 2.5, 3
Voltage variable range	V	5V: 4 to 5.5, 12V: 9.5 to 13.5, 15V: 12 to 16.5		
Overvoltage threshold	V	5V: 5.8 to 6.9, 12V: 13.7 to 15.7, 15V: 17 to 19		
Overcurrent threshold	A	5V(V ₁): 16.5 to18.8, V ₂ , V ₃ : Maximum current ×(110 to 140%)		
Voltage stability	Input variation	%	0.8max.(0.5typ.)[Within the input voltage range]	
	Load variation	%	0.8max.(0.4typ.)[0 to 100% load]	
	Temperature variation	%	1.2max.(0.4typ.)[0 to +50°C]	
	Drift	%	0.5max.[25°C, input and output ratings, after input voltage ON for 30min to 8h]	
	Ripple Ep-p	mV	5V: 50max. 12V: 80max. 15V: 80max.	
	Noise Ep-p	mV	Output voltage×1%+50max.[50MHz max., including ripple]	
Dynamic load	%/ms	±4/1max.[50 to 100% sudden load change]		
Start up time	ms	200max.(100typ.)[25°C, input and output ratings]		
Hold up time	ms	20min.(30typ.)[25°C, input and output ratings]		
Accessory equipment				
Overvoltage protection	Voltage shielding type, recovers upon reset, set value fixed.			
Overcurrent protection	Fixed current and voltage threshold type, automatic recovery, adjustable for 5V(V ₁) and fixed for others.			
Remote ON-OFF	Yes(For RC(V ₁). RC(V ₂ , V ₃) are independent.)			
Remote sensing	Only for 5V(V ₁)			
Standards				
Safety standards	—			
Noise terminal voltage	CISPR standard compliant.			
Construction				
External dimensions H×W×L	mm	130×103×224		
Weight	kg	2.5max.		
Mounting method	Can be attached to 4 sides.			
Case material	Aluminum(Phosphoric acid anodized surface)			

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

Power Supplies

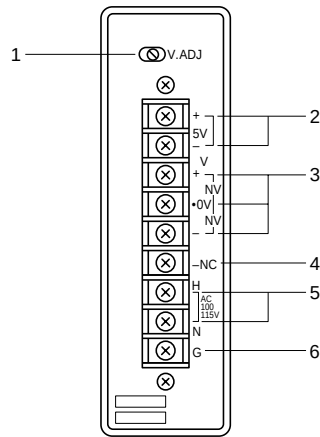
AC Input

Multi Output, Long Life

TRM-GB Series

TERMINAL DESIGNATIONS AND FUNCTIONS

30W TYPE



Terminal No. 1: 5V output voltage adjustment trim(V.ADJ)
Adjusts 5V output voltage.

Terminal No. 2: 5V output terminals(5V, +, -)*
Connect to load.

Terminal No. 3: $\pm$ NV DC output terminals(+, 0V, -)*
Connect to load.

Terminal No. 4: No connection(NC)

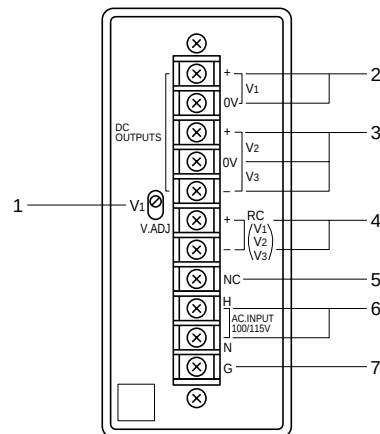
This is an empty terminal. Do not connect.

Terminal No. 5: AC input terminals(H, N, AC.INPUT100/115V)
Connect to AC. 100/115V single phase power supply.

Terminal No. 6: Frame ground terminal(G)
Connect to earth ground. This is connected to the case.

*5V output terminals and the $\pm$ NV DC output terminals are floating.

75W TYPE



Terminal No. 1: V₁ output voltage adjustment trim(V₁, V.ADJ)
Adjusts V₁ output voltage($\pm$ NV DC output voltage changes simultaneously in the same direction.).

Terminal No. 2: V₁ DC output terminals(V₁, +, 0V)
Connect to load.

Terminal No. 3: $\pm$ NV DC output terminals(V₂, V₃, +, 0V, -)
Connect to load.

Terminal No. 4: Remote ON-OFF terminals(RC, +, -)

Output is turned ON-OFF by disconnecting-connecting the RC terminals(output ON when open). RC(-) terminal has the same level as the 0V terminal.

Terminal No. 5: No connection(NC)

This is an empty terminal. Do not connect.

Terminal No. 6: AC input terminals(H, N, AC.INPUT100/115V)
Connect to AC.100/115V single phase power supply.

Terminal No. 7: Frame ground terminal(G)
Connect to earth ground. This is connected to the case.

• All 0V terminals are connected internally.

Power Supplies

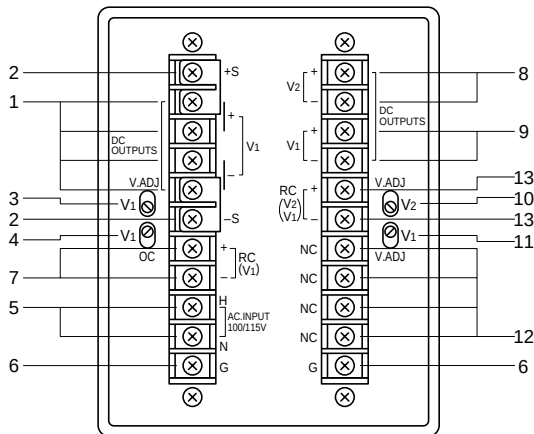
AC Input

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TRM-GB Series

TERMINAL DESIGNATIONS AND FUNCTIONS

125W TYPE



Terminal No. 1: V1 DC output terminals(V1, +, -)
Connect to load.

Terminal No. 2: Remote sensing terminals(+S, -S)
These are normally jumpered. When controlling voltage to the load, please remove jumper, and wire these.

Terminal No. 3: V1 output voltage adjustment trim(V1, V.ADJ)
Adjusts V1 output voltage.

Terminal No. 4: V1 output overcurrent adjustment trim(V1, OC)
Adjusted at the factory prior to shipment.

Terminal No. 5: AC input terminals(H, N, AC.INPUT 100/115V)
Connect to AC.100/115V single phase power supply.

Terminal No. 6: Frame ground terminal(G)
Connect to earth ground. This is connected to the case.

Terminal No. 7: V1 output remote ON-OFF terminals(RC(V1), +, -)
Output is turned ON-OFF by disconnecting-connecting the RC terminals(output ON when open). The RC(V1)(-) terminal has the same level as the -S terminal.

Terminal No. 8: V2 DC output terminals(V2, +, -)
Connect to load.

Terminal No. 9: V3 DC output terminals(V3, +, -)
Connect to load.

Terminal No. 10: V2 output voltage adjustment trim(V2, V.ADJ)
Adjusts V2 output voltage.

Terminal No. 11: V3 output voltage adjustment trim(V3, V.ADJ)
Adjusts V3 output voltage.

Terminal No. 12: No connection(NC)
This is an empty terminal. Do not connect.

Terminal No. 13: V2, V3 output remote ON-OFF terminals(RC(V2, V3), +, -)
V2, V3 outputs are turned ON-OFF by disconnecting-connecting the RC terminals(output ON when open). The RC(V2, V3)(-) terminal has the same level as the V2(-)terminal.

- All outputs are floating.

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微波光电部专业代理经销高频、微波、光纤、光电元器件、组件、部件、模块、整机；电磁兼容元器件、材料、设备；微波 CAD、EDA 软件、开发测试仿真工具；微波、光纤仪器仪表。欢迎国外高科技微波、光纤厂商将优秀产品介绍到中国、共同开拓市场。长期大量现货专业批发高频、微波、卫星、光纤、电视、CATV 器件：晶振、VCO、连接器、PIN 开关、变容二极管、开关二极管、低噪晶体管、功率电阻及电容、放大器、功率管、MMIC、混频器、耦合器、功分器、振荡器、合成器、衰减器、滤波器、隔离器、环行器、移相器、调制解调器；光电子器件和组件：红外发射管、红外接收管、光电开关、光敏管、发光二极管和发光二极管组件、半导体激光二极管和激光器组件、光电探测器和光接收组件、光发射接收模块、光纤激光器和光放大器、光调制器、光开关、DWDM 用光发射和接收器件、用户接入系统光收发器件与模块、光纤连接器、光纤跳线/尾纤、光衰减器、光纤适配器、光隔离器、光耦合器、光环行器、光复用器/转换器；无线收发芯片和模组、蓝牙芯片和模组。

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