Features:

1. Universal Wide Input Voltage Range:85-264VAC/120-370VDC (305VAC works for 0.5 hours without damage)
1. Operating Temperature：-40℃~+85℃
2. Peak power: Supports a minimum of 150% of rated power
3. All-around Protection Function: SCP, OVP, OLP, OTP
4. Rich product series: DC-OK function and terminal wiring types are optional
5. Overvoltage level：III（IEC/EN 62368, IEC/EN 61558-1/2-16）
6. Compliant with SEMI F47 standard @ 200 Vac
7. Built in PFC circuit, with a PF value of up to 0.98
8. PCB protection: Three proof paint
9. 3-year warranty

Product Description

The DDM-240-xx-F series product is a 240W rail industrial power supply, with a wide range of AC/DC input and output voltages including 12V/36/24V/48V, which can adapt to different load application requirements to meet most industrial application needs. In addition, the product' s EMC and safety standards meet international standards such as IEC/EN/UL62368, IEC/EN 61558-1/2-16, IEC/EN/UL 61010, UL 508, GB4943, etc. High conversion efficiency, compact housing design, good heat dissipation, and all-round protection ensure the high reliability and stability of this series of products.

Applications

Industrial control, mechanical and electrical, electronic instruments, industrial automation devices, electronic equipment, semiconductor equipment, aging equipment, etc.

Selection Guide

Model	Output power (W)	Output voltage (V_{dc})	Output voltage adjustable range(V_{dc})	Output current (A)	Ripple and noise (mV)	Efficiency @230VAC (Typ.)	Maximum capacity Load(μF)
DDM-240(M/H)-12-F	240	12	12-15	0-20	100	94%	8000
DDM-240(M/H)-24-F	240	24	24-29	0-10	120	95.2%	8000
DDM-240(M/H)-36-F	240	36	36-42	0-6.66	150	95.5%	8000
DDM-240(M/H)-48-F	240	48	48-55	0-5	150	95.5%	8000

Note:[1] The M/H in the product models throughout the text represents spaces. The electrical performance of the three products remains basically the same except for the DC-OK function and terminal type, which are not consistent.

Model example:

Model	DC-OK function	Output terminal type
DDM-240-24-F	No DC-OK function	Screw terminal
DDM-240M-24-F	Equipped with DC- OK function	Screw terminal
DDM-240H-24-F	Equipped with DC- OK function	Spring terminal

Input Specifications

Parameter		Min.	Typ.	Max.	Notes
Input AC Voltage		85Vac		264Vac	305VAC works for 0.5 hours without damage
Rated Input AC Voltage		100Vac		240Vac	
Input DC Voltage		240Vac		370Vdc	
Input Frequency		47Hz		63Hz	
Maximum Input Current				2.6A	115Vac full load
				1.3A	230Vac full load
PF			0.98		115Vac full load
			0.95		230Vac full load
Leakage Current	Contact leakage current			0.5m A	230Vac/50Hz
	Earth leakage current			1.0m A	240Vac/60Hz
Irush current			15A		115Vac, cold start
			30A		220Vac, cold start

Output Specifications

Parameter	Min.	Typ.	Max.	Notes
Output Voltage Tolerance	-1%		±1%	
Line Regulation	-0.5%		+0.5%	
Load Regulation	-1%		+1%	
Turn On Delay Time			2500ms	115Vac full load
			1300ms	230Vac full load
Rise Time			60ms	115Vac full load
			60ms	230Vac full load
Hold up Time	16ms			115Vac full load
	16ms			230Vac full load

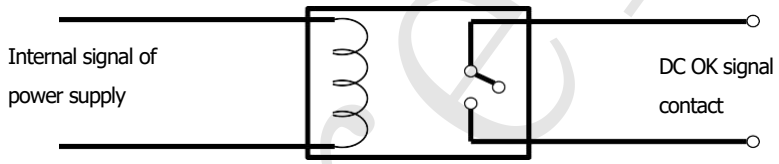
Efficiency:

Parameter	Min.	Typ.	Max.	Notes
Efficiency @115 Vac				
DDM-240(M/H)-12-F	91.0%	93.0%		Ambient temp.25±5°C，full load
DDM-240(M/H)-24-F	92.2%	94.2%		
DDM-240(M/H)-36-F	92.5%	94.5%		
DDM-240(M/H)-48-F	92.5%	94.5%		
Efficiency @230Vac				
DDM-240(M/H)-12-F	92.0%	94.0%		Ambient temp.25±5°C，full load
DDM-240(M/H)-24-F	93.2%	95.2%		
DDM-240(M/H)-36-F	93.5%	95.5%		
DDM-240(M/H)-48-F	93.5%	95.5%		

Function Overview:

Function	Functional Description
DC OK signal	Max specifications for client connected relays: 30Vac/0.5A, 30Vdc/1A(resistive load)

DC OK signal:



Power supply working normally: Relay DC OK signal contact closed

Power supply malfunction: Relay DC OK signal contact open

Protections:

Parameter channel		Min.	Typ.	Max.	Notes
Over load (output current greater than rated current)		105%		150%	Keep the output voltage above 80%
		150%			Constant current limit and automatic recovery within 3S, hiccup or turn off output voltage after 3S
Over voltage	12 VDC output	15VDC		18VDC	During power overvoltage protection, the output voltage remains constant; When the overvoltage fault is resolved, the output automatically returns to normal
	24 VDC output	30VDC		34VDC	
	36 VDC output	43VDC		50VDC	
	48 VDC output	56VDC		65VDC	
Over Temp.(Ambient temp.)			TBD		Output voltage hiccup mode protection during power over temperature protection; When the overheating fault is resolved, the output returns to normal
Short Circuit		When there is a short circuit fault at the output terminal, the output hiccup mode protection is activated When the short circuit fault is resolved, the power supply automatically returns to normal output.			

Safety & EMC:

Safety Category	Country/ Region	Item	Standards
UL/CUL	USA/ Canada	Safety Standard	UL 62368-1,UL508,UL61010-1,UL61010-2-201
			CAN/CSA C22.2 No. 62368-1:19
CE	Europe		EN 62368-1,EN61010-1,EN61010-2-201, EN 61558-1, EN 61558-2-16
CB	CB Scheme		IEC 62368-1, IEC 61010, IEC 61558-1, IEC 61558-2-16
CCC	China		GB 4943.1

Safety Category	Country/ Region	Item	Standards/Criteria
CB	CB Scheme	Safety Extra Low Voltage SELV	IEC 62368-1, IEC 61558-2-16
EN	Europe		EN 62368-1, EN 61558-2-16
CB	CB Scheme	Overvoltage level OVC III	IEC 62368-1 (2000m), IEC 61558-1(2000m), IEC 61558-2-16(2000m)
EN	Europe		EN 62368-1 (2000m), EN 61558-1(2000m), EN 61558-2-16(2000m)

Safety Category	Country/ Region	Item	Standards/Criteria	
FCC	USA/ Canada	Conducted Emission	FCC part 15(ANSI C63.4)	Class B
		Radiated Emission	FCC part 15(ANSI C63.4)	Class B
CE	Europe	Conducted Emission	EN 55032	Class B
		Radiated Emission	EN 55032	Class B
		Harmonic Current	EN 61000-3-2	Class A/D
		Voltage Flicker	EN 61000-3-3	
CCC	China	Conducted Emission	GB/T 9254.1	Class B
		Radiated Emission	GB/T 9254.1	Class B
		Harmonic Current	GB/T 17625.1	Class A/D

Safety Category	Country/ Region	Item	Standards/Criteria		
CE	Europe	Electro-static Discharge	EN 61000-4-2	Air 15 kV / Contact 8 kV	Criteria A
		Radiated Susceptibility	EN 61000-4-3	80MHz–1GHz 10V/m	Criteria A
		Electrical Fast Transient	EN 61000-4-4	±2KV	Criteria A
		Surge Immunity	EN 61000-4-5	CM±4KV/DM ±2KV	Criteria A
		Conducted Emission Immunity	EN 61000-4-6	20Vr.m.s	Criteria A
		Power Frequency Magnetic Field Immunity	EN 61000-4-8	30A/m,continuous	Criteria A
		Voltage Dips, Drops and Interruptions Immunity	EN 61000-4-11	100% drop,0.5 cycles	Criteria B
				20% drop,250 cycles	Criteria B
				30% drop,25 cycles	Criteria B
				100% interrupt,250 cycles	Criteria C
SEMI	Global	Voltage sag immunity	SEMIF47	80% of 200 Vac, 1000ms 70% of 200 Vac, 500ms 50% of 200 Vac, 200ms	Criteria A

Note:
The power supply is considered as a component which will be installed into a final equipment. All the EMC tests are be executed by mounting the unit on a metal plate with size 400mm*400mm*3mm. The final equipment must be re-confirmed that it still meets EMC directives.

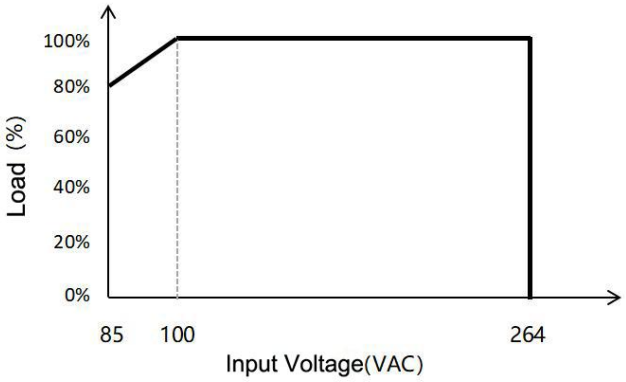
General Specification:

Parameter		Min.	Typ.	Max.	Notes
Isolation and voltage resistance[2]	Input-Output	4000 Vac			Test time 1 minute, leakage current less than 10mA
	Input-PE	2500 Vac			
	Output-PE	1500 Vac			
	Output to DC-OK	500 Vac			
Insulation impedance	Input-Output	100MΩ			Test Voltage：500Vdc
	Input-PE	100MΩ			
	Output-PE	100MΩ			
Working Temp.		-40℃		+85℃	Refer to "Derating Curve"
Working Humidity		20%RH		90%RH	Non-condensing
Storage Temp.		-40℃		+85℃	
Storage Humidity		10%RH		95%RH	Non-condensing
Altitude				5000m	5000m（Above 2000m, for every 100m increase, the ambient temperature decreases by 0.5 ℃）
Temp. Coefficient		-0.03%/℃		0.03%/℃	0～50℃
MTBF		300000H			25℃,MIL-HDBK-217F
Dimension		40*125*115mm			W * H * D
Net weight			TBD		
Package		TBD PCS/ TBDKg/CTN，Carton size：TBD(L)*TBD(W)*TBD(H)mm			

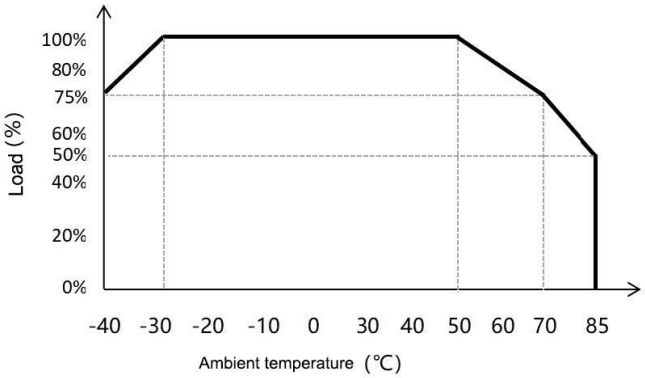
Note: [2] The minimum isolation withstand voltage of this product is 4000Vac. If higher testing standards are used, please contact our sales representative or FAE.

Typical Curve:

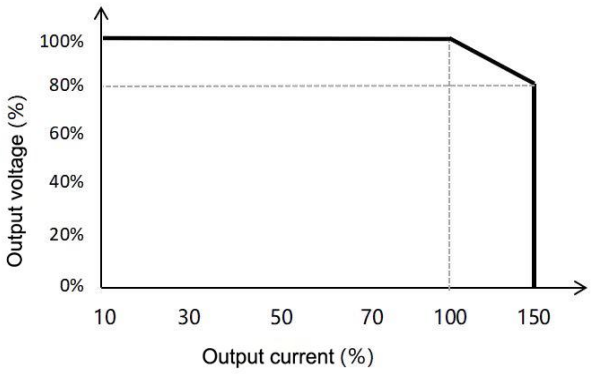
Input voltage vs output load



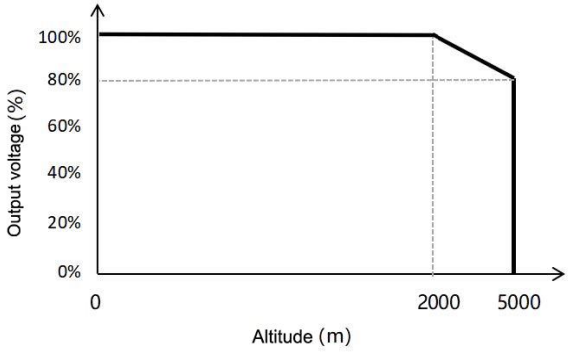
Working temperature vs. output load



Output current vs output voltage



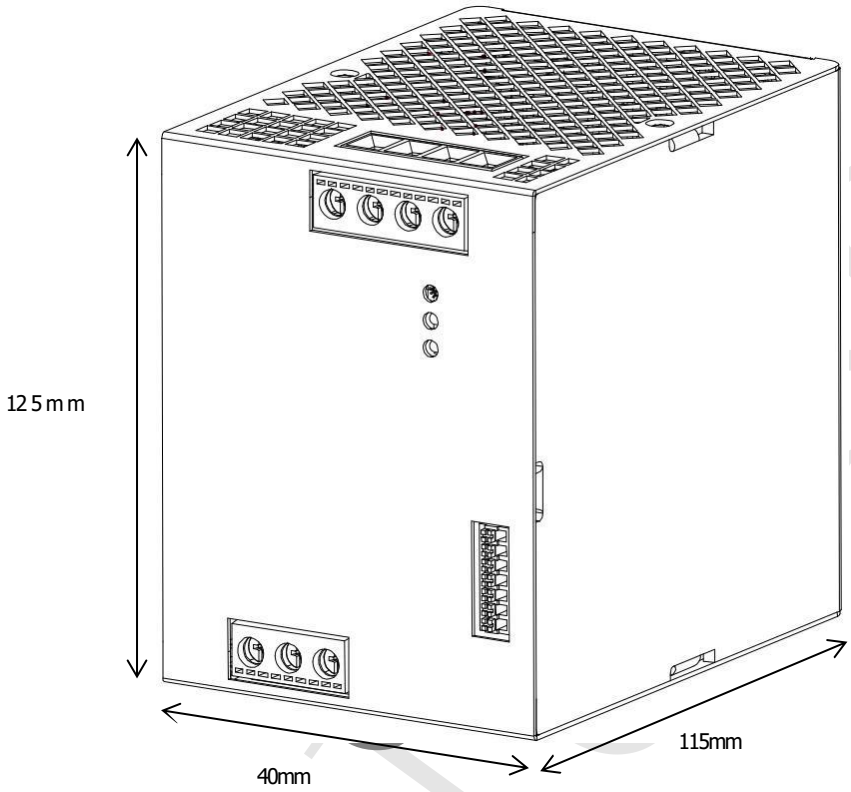
Working altitude vs. output load



Note:

1. At -40 ℃, the output voltage slowly builds up during the startup process, and the product's output voltage returns to normal after a maximum of 30 minutes of operation
2. If you need to know more detailed test data when applying, please contact our technical support to obtain application notes for the corresponding product.
3. This product is suitable for use in natural air convection environments. If used in a closed environment, please consult our technical support personnel.

Mechanical Drawing:



Input/output pin function

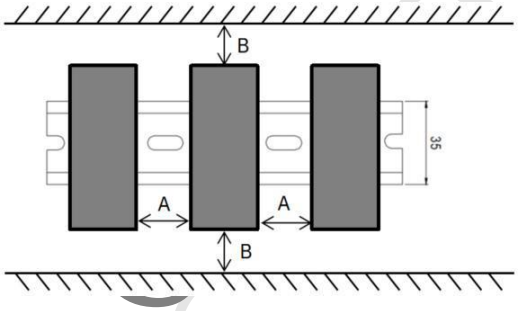
Pin	Function	Screw torque requirements
L	AC LINE	Screw：M3*6 Torque：6Kgf.cn(0.6N.m)
N	AC NEUTRAL	
⏚	EARTH	
V-	DC output-	Screw：M4*7 Torque：12Kgf.cn(1.2N.m)
V-	DC output-	
V+	DC output+	
V+	DC output+	

Pin	Function
DC OK1	DC OK Relay Contact
DC OK2	DC OK Relay Contact
GND	GND
GND	GND

Installation requirements:
Applicable orbit and space requirements:

TS-35/7.5 or TS-35/15 Din Rail

Space	m m	inch
A	20	0.8
B	100	3.9



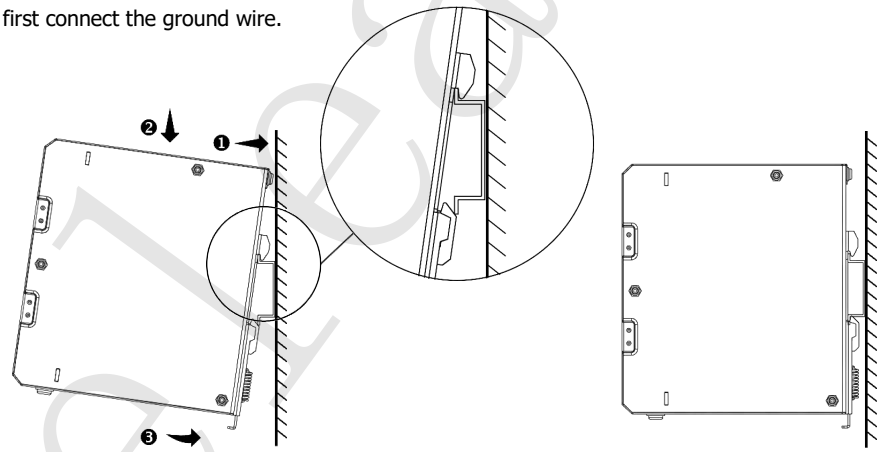
Installation:

①Align the product buckle with the track

②Push the product body downwards into the guide rail

③Push this product towards the track until you hear a snap sound

Connect the relevant wires, be sure to first connect the ground wire.



Disassemble:

Before dismantling, be sure to remove the live wire and the ground wire at the end.

① Use a screwdriver or other tool to push the buckle downwards.

② While the buckle is pushed downwards, promote the product outward so that the bottom of the buckle is off the track.

③ Push the product upwards until it is completely off track.