

FEATURES

- Universal 85 - 264V AC or 120 - 370VDC Input voltage
- Accepts AC or DC input (dual-use of same terminal)
- Operating ambient temperature range: -25°C to +70°C
- Built-in active PFC function
- High I/O isolation test voltage up to 4000VAC
- High efficiency, high reliability
- Output short circuit, over-current, over-voltage, over-temperature protection (Built-in constant current limiting circuit)
- Remote ON-OFF control
- Safety according to IEC/EN/UL62368, EN60335, EN61558, GB4943
- Over-voltage class III (designed to meet EN61558)
- Withstand 300VAC surge input for 5s
- Emissions meets CISPR32/EN55032 CLASS B without extra components



LMF75-20Bxx series is one of Mornsun's enclosed AC-DC switching power supply. It features universal AC input and at the same time accepts DC input voltage, cost-effective, built-in active PFC function, high efficiency and high reliability. These converters offer excellent EMC performance and meet IEC/EN61000-4, CISPR32/EN55032, IEC62368, UL62368, EN62368, EN60335, GB4943 standards and they are widely used in areas of industrial, LED, street light control, electricity, security, telecommunications, smart home etc.

Selection Guide

Certification	Part No.*	Output Power (W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range (V)	Efficiency at 230VAC (%) Typ.	Max. Capacitive Load (µF)
UL/CE/CCC	LMF75-20B05	75	5V/15A	4.75-5.5	82	10000
	LMF75-20B12	75.6	12V/6.3A	11.4-13.2	85	6000
	LMF75-20B15	75	15V/5A	14.3-16.5	86	5000
	LMF75-20B24	76.8	24V/3.2A	22.8-26.4	87	1500
	LMF75-20B48	76.8	48V/1.6A	45.6-52.8	89	680

Note: *Use suffix "C" for terminal with protective cover and suffix "Q" for conformal coating.

Input Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Input Voltage Range	AC input		85	--	264	VAC
	DC input		120	--	370	VDC
Input Voltage Frequency			47	--	63	Hz
Input Current	115VAC		--	--	1.0	A
	230VAC		--	--	0.6	
Inrush Current	115VAC		--	20	--	A
	230VAC		--	35	--	
Power Factor	115VAC		0.98	--	--	--
	230VAC		0.93	--	--	
Leakage Current	240VAC/60Hz		<2mA			
Hot Plug			Unavailable			

Output Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Output Voltage Accuracy	Full load range		--	±2.0	--	%
Line Regulation	Rated load		--	±0.5	--	
Load Regulation	0% - 100% load	5V	--	±1.0	--	
		12V/15V/24V/48V	--	±0.5	--	
Output Ripple & Noise*	20MHz bandwidth (peak-to-peak value)	5V/12V/15V/24V	--	--	120	mV
		48V	--	--	200	
Temperature Coefficient			--	±0.03	--	%/°C
Minimum Load	Full load range		0	--	--	%
Hold-up Time	230VAC		16	--	--	ms
Start-up Delay Time			--	--	3	s
Short Circuit Protection	Recovery time <3s after the short circuit disappear.		Constant current, continuous, self-recovery			
Over-current Protection			≥105%Io, self-recovery			
Over-voltage Protection	5V	≤7.0V (Output voltage turn off, re-power on for recovery)				
	12V	≤20V (Output voltage turn off, re-power on for recovery)				
	15V	≤25V (Output voltage turn off, re-power on for recovery)				
	24V	≤32.4V (Output voltage turn off, re-power on for recovery)				
	48V	≤60V (Output voltage turn off, re-power on for recovery)				
Over-temperature Protection*	Over-temperature Protection Activation		--	--	85	°C
	Over-temperature Protection Deactivation		50	--	--	
Remote Control	0-0.8VDC Power ON		0	--	0.8	VDC
	4-10VDC Power OFF		4	--	10	

Note: 1. *The "Tip and barrel method" is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor, please refer to Enclosed Switching Power Supply Application Notes for specific information.
2. *Over-temperature Protection needs to be tested under rated full load conditions.

General Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Isolation Test	Input -	Electric Strength Test for 1min., leakage current <10mA	2000	--	--	VAC
	Input - output		4000	--	--	
	output -		500	--	--	
Insulation Resistance	Input -	Environment Temperature: 25±5°C, Relative Humidity: <95%RH, non-condensing Testing Voltage: 500VDC	100	--	--	MΩ
	Input - output		100	--	--	
	output -		100	--	--	
Operating Temperature	5V		-25	--	+60	°C
	others		-25	--	+70	
Storage Temperature			-40	--	+85	
Storage Humidity			--	--	95	%RH
Operating Humidity	Non-condensing		20	--	90	
Power Derating	Operating Temperature Derating	-25°C to -20°C	4.0	--	--	% / °C
		+40°C to +60°C	2.0	--	--	
		+50°C to +70°C	2.0	--	--	
	Input Voltage Derating	85VAC-100VAC	1.33	--	--	% / VAC
100VAC-264VAC	0	--	--			
Safety Standard			Meet IEC/EN/UL62368/EN60335/EN61558/GB4943			
Safety Certification			IEC/EN62368/EN60335/EN61558/GB4943			
Safety Class			CLASS I			
MTBF	MIL-HDBK-217F@25°C		>300,000 h			

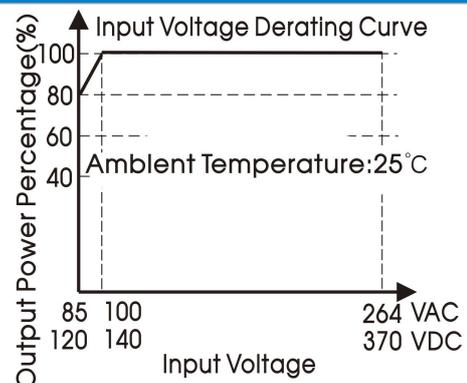
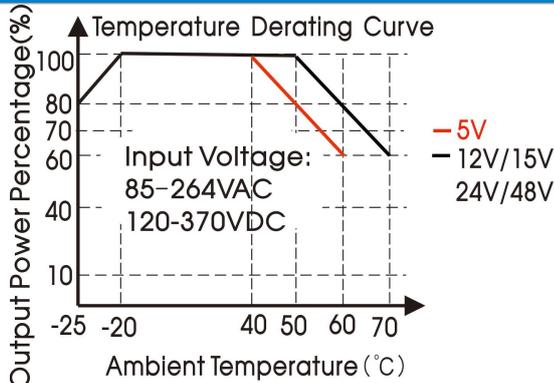
Mechanical Specifications

Case Material	Metal (AL1100, SGCC)
Dimensions	159.00 x 97.00 x 30.00mm
Weight	380g (Typ.)
Cooling Method	Free air convection

Electromagnetic Compatibility (EMC)

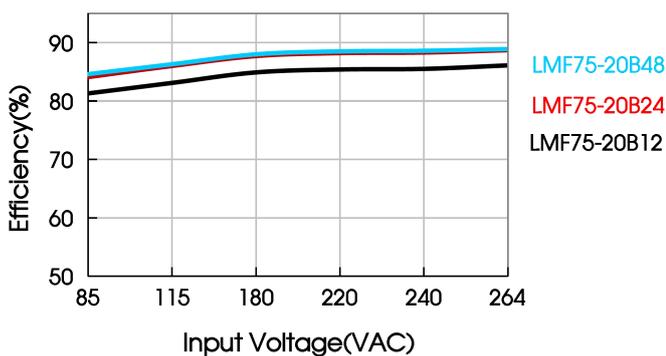
Emissions	CE	CISPR32/EN55032	CLASS B	
	RE	CISPR32/EN55032	CLASS B	
	Harmonic Current	IEC/EN61000-3-2	CLASS A	
Immunity	ESD	IEC/EN 61000-4-2	Contact ±6KV/Air ±8KV	Perf. Criteria B
	RS	IEC/EN 61000-4-3	10V/m	perf. Criteria A
	EFT	IEC/EN 61000-4-4	±2KV	perf. Criteria B
	Surge	IEC/EN 61000-4-5	line to line ±1KV/line to ground ±2KV	perf. Criteria B
	CS	IEC/EN61000-4-6	10 Vr.m.s	perf. Criteria A
	DIP	IEC/EN61000-4-11	0%, 70%	perf. Criteria B

Product Characteristic Curve

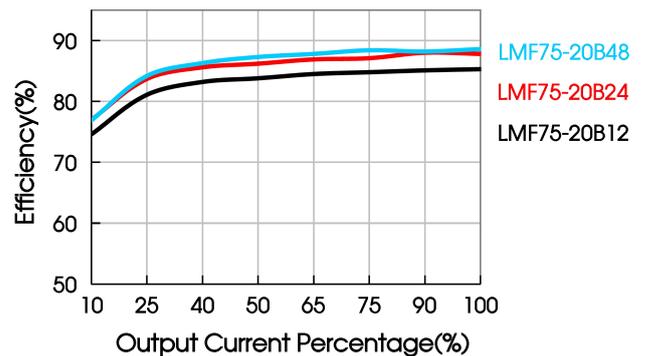


Note: 1. With an AC input voltage between 85-100VAC and a DC input between 120-140VDC the output power must be derated as per the temperature derating curves;
2. This product is suitable for applications using natural air cooling; for applications in closed environment please consult Mornsun FAE.

Efficiency Vs Input Voltage (Full Load)

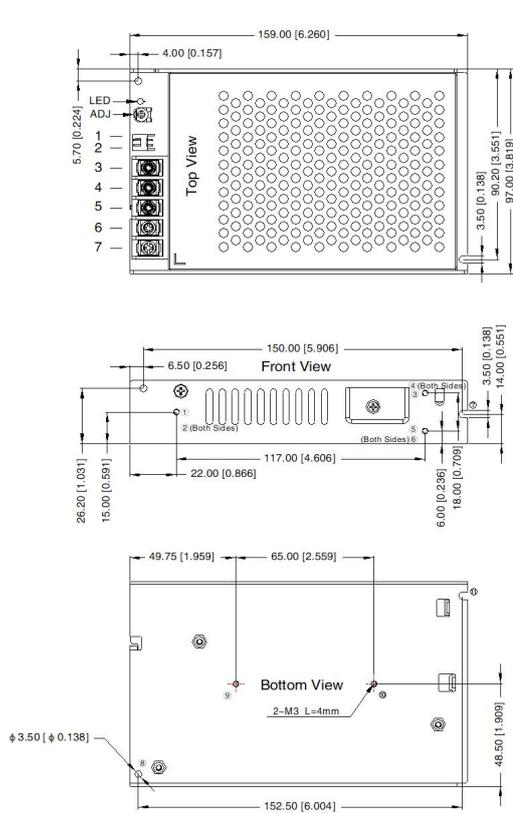


Efficiency Vs Output Load (Vin=230VAC)

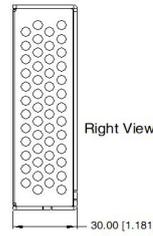


Dimensions and Recommended Layout

LMF75-20Bxx, LMF75-20Bxx-Q Series



THIRD ANGLE PROJECTION

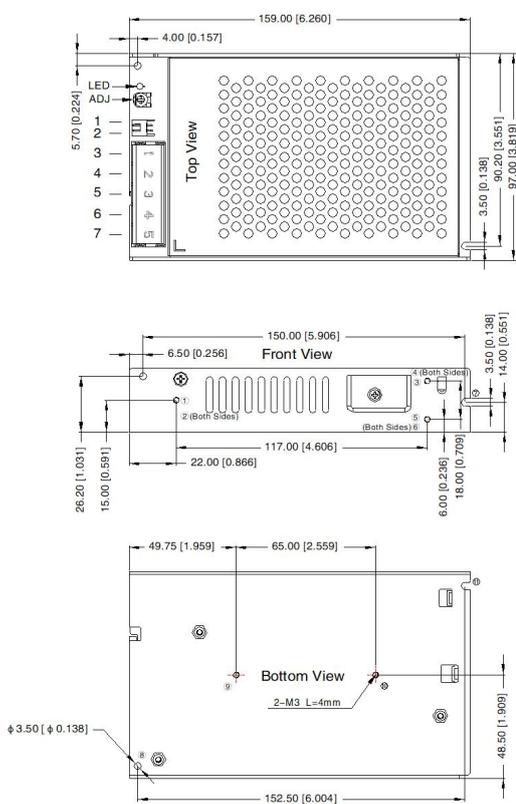


Pin-Out	
Pin	Function
1	RC+
2	RC-
3	+Vo
4	-Vo
5	⊥
6	AC(N)
7	AC(L)

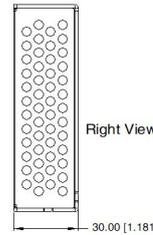
CN1:KANGDAO TJC3-NAWD-2P or the same spec.			
Pin	Function	Connector	Terminal
1	RC+	KANGDAO XH25001-2Y or the same spec.	KANGDAO XH2.54-TE or the same spec.
2	RC-		

Note:
Unit: mm[inch]
Wire range: 22-12AWG
Tightening torque: M3.5 , 0.8N·m
General tolerances: ±1.00[±0.039]
①-② any position must be connected to PE

LMF75-20Bxx-C Series



THIRD ANGLE PROJECTION



Pin-Out	
Pin	Function
1	RC+
2	RC-
3	+Vo
4	-Vo
5	⊥
6	AC(N)
7	AC(L)

CN1:KANGDAO TJC3-NAWD-2P or the same spec.			
Pin	Function	Connector	Terminal
1	RC+	KANGDAO XH25001-2Y or the same spec.	KANGDAO XH2.54-TE or the same spec.
2	RC-		

Note:
Unit: mm[inch]
Wire range: 22-12AWG
Tightening torque: M3.5 , 0.8N·m
General tolerances: ±1.00[±0.039]
①-② any position must be connected to PE

Note:

1. For additional information on Product Packaging please refer to www.mornsun-power.com. Packaging bag number: 58220111;
2. Unless otherwise specified, parameters in this datasheet were measured under the conditions of $T_a=25^{\circ}\text{C}$, humidity<75%RH with nominal input voltage and rated output load;
3. All index testing methods in this datasheet are based on our company corporate standards;
4. In order to improve the efficiency at high input voltage, there will be audible noise generated, but it does not affect product performance and reliability;
5. We can provide product customization service, please contact our technicians directly for specific information;
6. Products are related to laws and regulations: see "Features" and "EMC";
7. The out case needs to be connected to PE (\perp) of system when the terminal equipment in operating;
8. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units;
9. The power supply is considered a component which will be installed into a terminal equipment. All EMC tests should be confirmed with the final equipment. Please consult our FAE for EMC test operation instructions.

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