AC – DC

Features

- Universal 80 - 305V AC or 100 - 430V DC input voltage
- Operating ambient temperature range: -40℃ to +85℃
- Low standby power consumption, high efficiency
- High I/O isolation test voltage up to 4000V AC
- Low ripple & noise
- Efficiency up to 92.5%
- Output: OSC, OCP, OVP
- Over-voltage class Ⅲ(designed to meet EN62477)

Image for Illustration Purpose
Models may vary

Ideal Power's 36LM75-23BxxR2 75W Enclosed AC/DC Switching Power Supply Series are certified to RoHS & EN 62368-1/IEC 62368-1/UL 62368-1 Standards and comply with the relevant Efficiency Regulations. These are primarily used in ITE, Audio & Video Industries and customised solutions are available upon request.

Selection Guide

Model No.*	Output Power (W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustment Range* (V)	Efficiency at 230VAC (%) Typ.	Max. Capacitive Load (μF)
36LM75-23B05R2	70	5V/14A	4.5-5.5	86.5	10000
36LM75-23B12R2	72	12V/6A	10.2-13.8	89	6000
36LM75-23B15R2	75	15V/5A	13.5-18	89	5000
36LM75-23B24R2	76.8	24V/3.2A	21.6-28.8	91	1500
36LM75-23B36R2	75.6	36V/2.1A	32.4-39.6	91	1000
36LM75-23B48R2	76.8	48V/1.6A	43.2-52.8	95.2	680
36LM75-23B54R2	75.6	54V/1.4A	48.6-59.4	92.5	680

Note: *Use suffix “C” for terminal with protective cover and suffix “Q” for conformal coating

Input Specifications

	Conditions		Min	Typ	Max	Unit
Input voltage range	AC input		80	--	305	VAC
	DC input		100	--	430	VDC
Input frequency			47	--	63	Hz
Input current	115V AC		--	--	2	A
	230V AC		--	--	1	
Inrush current	115V AC	Cold start	--	40	--	
	230V AC		--	75	--	
Leakage current	277V AC			<0.75mA		
Hot Plug				Unavailable		

Output Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Output Voltage Accuracy	Full load range	5V	--	±2	--	%
		12V/15V/24V/36V/48V/54V	--	±1	--	
Line Regulation	Rated load		--	±0.5	--	
Load Regulation	0% - 100% load	5V	--	±1	--	
		12V/15V/24V/36V/48V/54V	--	±0.5	--	
Ripple & Noise*	20MHz bandwidth (peak-to-peak value)	5V/12V/15V	--	120	--	mV
		24V	--	150	--	
		36V/48V/54V	--	200	--	
Temperature Coefficient	0℃to 50℃, 230VAC		--	±0.03	--	%/℃
Minimum Load			0	--	--	%
Stand-by Power Consumption	5V/12V/15V/24V		--	--	0.3	W
	36V/48V/54V		--	--	0.5	
Hold-up Time	115VAC		8	--	--	ms
	230VAC		55	--	--	
Short Circuit Protection	Recovery time <5s after the short circuit disappear.				Hiccup, continuous, self-recovery	
Over-current Protection	230VAC, rated load	Normal temperature, High temperature			120% - 200% Io, hiccup, self-recover	
		Low temperature			≥120% Io, hiccup, self-recover	
Over-voltage Protection	5V				≤6.3VDC (Output voltage clamp)	
	12V				≤16.2VDC (Hiccup, self-recovery)	
	15V				≤21.75VDC (Hiccup, self-recovery)	
	24V				≤33.6VDC (Hiccup, self-recovery)	
	36V				≤50VDC (Output voltage clamp)	
	48V				≤60VDC (Output voltage clamp)	
	54V				≤70VDC (Hiccup, self-recover)	

Note: *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.

General Specifications

Item		Operating Conditions		Min.	Typ.	Max.	Unit
Isolation Test	Input - ⏚	Electric strength test for 1min. Leakage current <5mA		2000	--	--	VAC
	Input - output			4000	--	--	
	output - ⏚			1250	--	--	
Insulation Resistance	Input - ⏚	At 500VDC		100	--	--	MΩ
	Input - output			100	--	--	
	output - ⏚			100	--	--	
Operating Temperature				-30	--	+70	℃
Storage Temperature				-40	--	+85	
Operating Humidity		Non-condensing		20	--	90	%RH
Storage Humidity				--	--	95	
Switching Frequency				--	65	--	kHz
Power Derating	Operating temperature derating	5V	+40℃to +70℃	1.3	--	--	%/℃
			+70℃to +85℃	2	--	--	
		Others	+50℃to +85℃	1.33	--	--	
		-40℃to -30℃		0.71	--	--	
	Input voltage derating	80VAC - 100VAC		**1.33**	--	--	%/VAC
		277VAC - 305VAC		**0.71**	--	--	
Safety Standard	Design refers to IEC/EN/UL/BS EN62368-1, EN60335-1, EN61558-1, EN62477, GB4943.1						
Safety Class							CLASS I
MTBF	MIL-HDBK-217F@25℃						>300,000 h

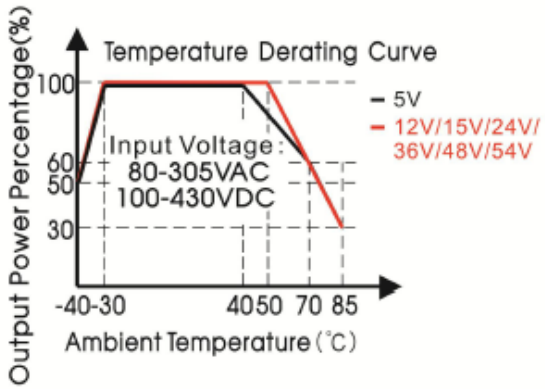
Mechanical Specifications

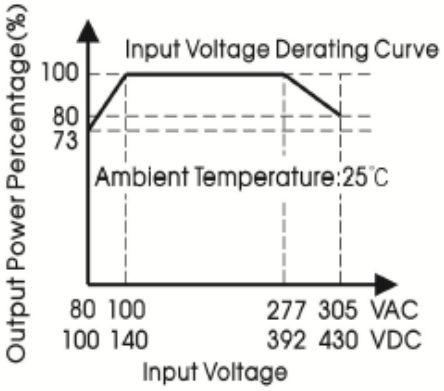
Case material	Metal (AL1100, SGCC)
Dimension	99.00 x 82.00 x 30.00 mm
Weight	220g (Typ.)
Cooling method	Free air convection

Electromagnetic Compatibility (EMC)

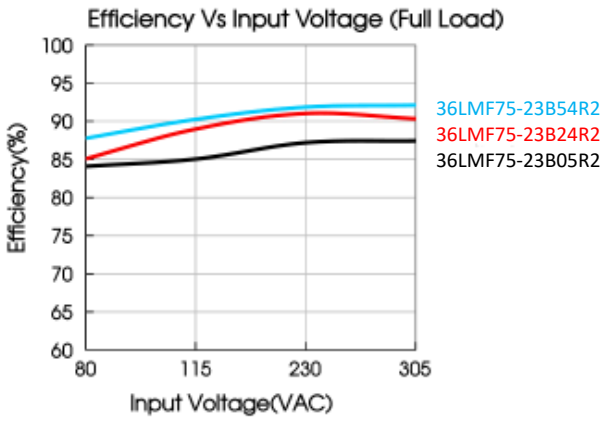
Emissions	CE	CISPR32/EN55032	CLASS B	
	RE	CISPR32/EN55032	CLASS B	
	Harmonic Current	IEC/EN61000-3-2	CLASS A	
Immunity	ESD	IEC/EN 61000-4-2	Contact ±6KV/Air ±8KV	Perf. Criteria A
	RS	IEC/EN 61000-4-3	10V/m	Perf. Criteria A
	EFT	IEC/EN 61000-4-4	±4KV	Perf. Criteria A
	Surge	IEC/EN 61000-4-5	line to line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

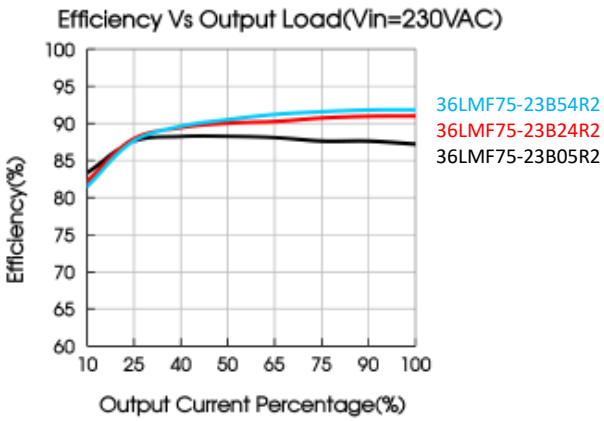
Characteristic Curve





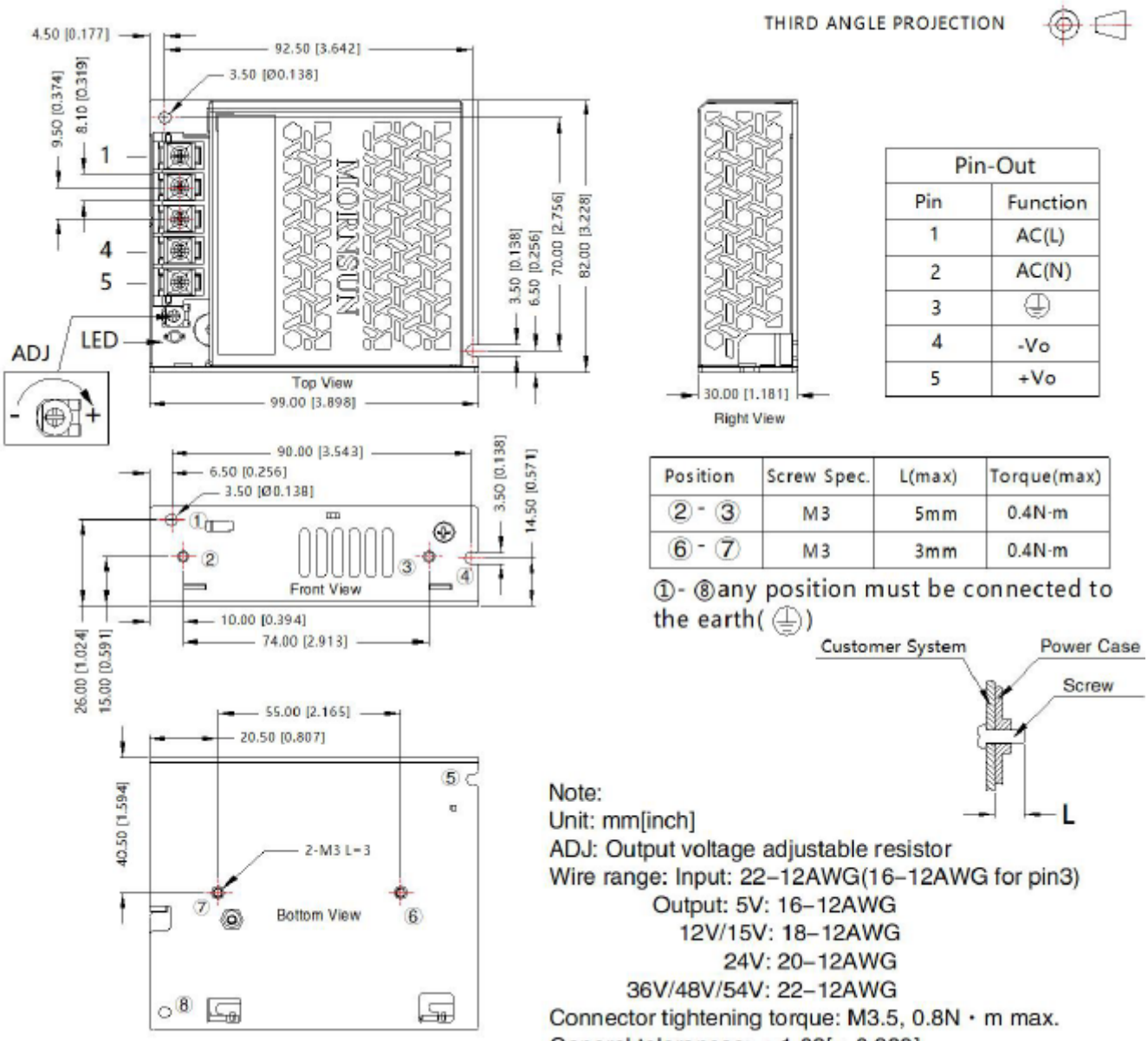
Note: 1.With an AC input voltage between 80 - 100VAC/277 - 305VAC and a DC input between 100 - 140VDC/392 - 430VDC the output power must be derated as per the temperature derating curves:
2.This product is suitable for applications using natural air cooling:





Dimensions and Recommended Layout

36LM75-23BxxR2, 36LM75-23BxxR2-Q Series



Pin-Out	
Pin	Function
1	AC(L)
2	AC(N)
3	⏚
4	-Vo
5	+Vo

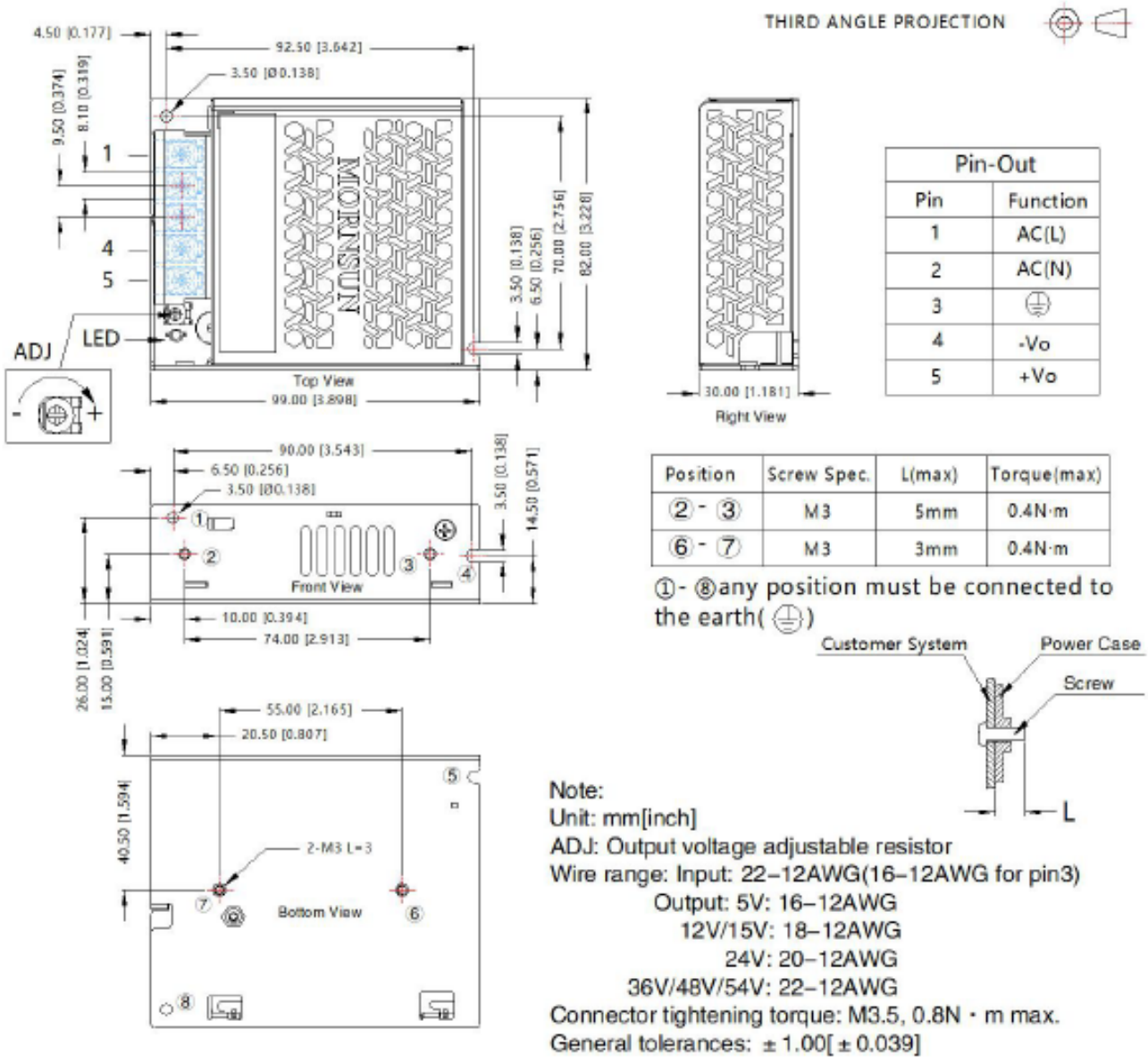
Position	Screw Spec.	L(max)	Torque(max)
② - ③	M3	5mm	0.4N·m
⑥ - ⑦	M3	3mm	0.4N·m

①- ⑧any position must be connected to the earth(⏚)

Note:
Unit: mm[inch]
ADJ: Output voltage adjustable resistor
Wire range: Input: 22–12AWG(16–12AWG for pin3)
Output: 5V: 16–12AWG
12V/15V: 18–12AWG
24V: 20–12AWG
36V/48V/54V: 22–12AWG
Connector tightening torque: M3.5, 0.8N · m max.
General tolerances: ±1.00[±0.039]

Dimensions and Recommended Layout (continued)

36LM75-23BxxR2-C Series



Pin-Out	
Pin	Function
1	AC(L)
2	AC(N)
3	⏚
4	-Vo
5	+Vo

Position	Screw Spec.	L(max)	Torque(max)
② - ③	M3	5mm	0.4N·m
⑥ - ⑦	M3	3mm	0.4N·m

①- ⑧any position must be connected to the earth(⏚)

Note:
Unit: mm[inch]
ADJ: Output voltage adjustable resistor
Wire range: Input: 22–12AWG(16–12AWG for pin3)
Output: 5V: 16–12AWG
12V/15V: 18–12AWG
24V: 20–12AWG
36V/48V/54V: 22–12AWG
Connector tightening torque: M3.5, 0.8N · m max.
General tolerances: ±1.00[±0.039]

Notes:

1. For additional information on Product Packaging please refer to www.idealpower.co.uk.
2. Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25℃, humidity<75%RH with nominal input voltage and rated output load.
3. The room temperature derating of 5℃/1000m is needed for operating altitude greater than 2000m.
4. All index testing methods in this datasheet are based on our company corporate standards.
5. To improve the efficiency at high input voltage, there will be audible noise generated, but it does not affect product performance and reliability.
6. We can provide product customization service, please contact our technicians directly for specific information.
7. Products are related to laws and regulations: see "Features" and "EMC".
8. The out case needs to be connected to the earth (⏚) of system when the terminal equipment in operating.
9. Our products shall be classified according to ISO14001 and related environmental laws and regulations and shall be handled by qualified units.