FEATURES

- Universal 85 - 264V AC and 100 - 370V DC Input
- High efficiency, 4KVAC high isolation voltage
- Operating temperature range -40°C to +70°C
- Output short circuit, over-current, over-voltage protection
- Regulated output, low output ripple & noise
- High efficiency, high reliability
- Plastic case meets UL94V-0 flammability
- EMI performance meets CISPR32 / EN55032 CLASS B
- EN62368 safety approval

RS PRO Embedded Switch Mode Power Supplies

RS Stock No: 2067693

RS Professionally Approved Products bring to you professional quality parts across all product categories. Our product range has been tested by engineers and provides a comparable quality to the leading brands without paying a premium price.

Embedded Switch Mode Power Supplies (SMPS)

Product Description

Chassis mount Power supply features a universal AC input and DC input voltage, low power consumption, high efficiency, high efficiency, high reliability. It offers good EMC performance compliant to CISPR32/EN55032 and the safety certifications to EN62368 standards and are widely used in industrial, medical, instrumentation.

General Specifications

Mounting Type	Chassis mount
Package Type	Chassis mounting with screw terminals
MTBF	MIL-HDBK-217F@25°C > 300,000 h
Applications	Industrial control systems, instrumentation and electrical equipment

RS Stock	Input Voltage	Output Voltage	Output Current	Output Wattage	Efficiency (Typ)
2067693	85 to 264V ac 100 to 370V dc	+ 12V DC	5A	60W	86%

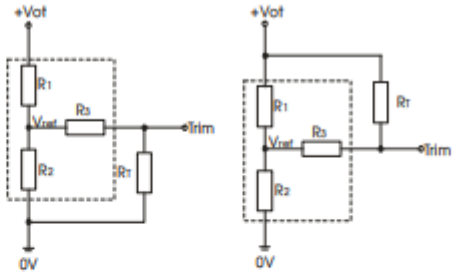
Electrical Specifications

Input Specification	
Voltage Range	85 to 264V ac, 100 to 370V dc
Frequency	47 to 63Hz
AC Current Rating	1.4A/115V ac, 0.8A/230V ac
Inrush Current	45A / 115V ac and 90A / 230V ac
Input Protection	3.15A/250V, slow blow built in

Output Specification	
Output voltage	12V
Rated Current	5A
Ripple & Noise (max.)	150mVp-p
Rated Power	60W
Max. Capacitor Load	10000uF
Voltage Tolerance	±2.0%
Line Regulation typ.	±0.5%
Load Regulation typ.	±1%
Minimum Load	0%

Hold Up Time	65ms/230V ac, 8ms/115V ac
Over Voltage Protection	12V output ≤16VDC (Output voltage clamp or turn off)
Over-current Protection	≥110%Io self-recovery
Short Circuit Protection	Hiccup, continuous, self-recovery
Switching Frequency	65Khz
Isolation	4KVAC

Trim Calculations



TRIM resistor connection (dashed line shows internal resistor network)

Calculating Trim resistor values:

$$\text{up: } R_T = \frac{aR_2}{R_2 - a} - R_3 \qquad a = \frac{Vref}{Vot - Vref} \cdot R_1$$

$$\text{down: } R_T = \frac{aR_1}{R_1 - a} - R_3 \qquad a = \frac{Vot - Vref}{Vref} \cdot R_2$$

R_T = Trim Resistor value;
a = self-defined parameter;
Vot = desired output voltage

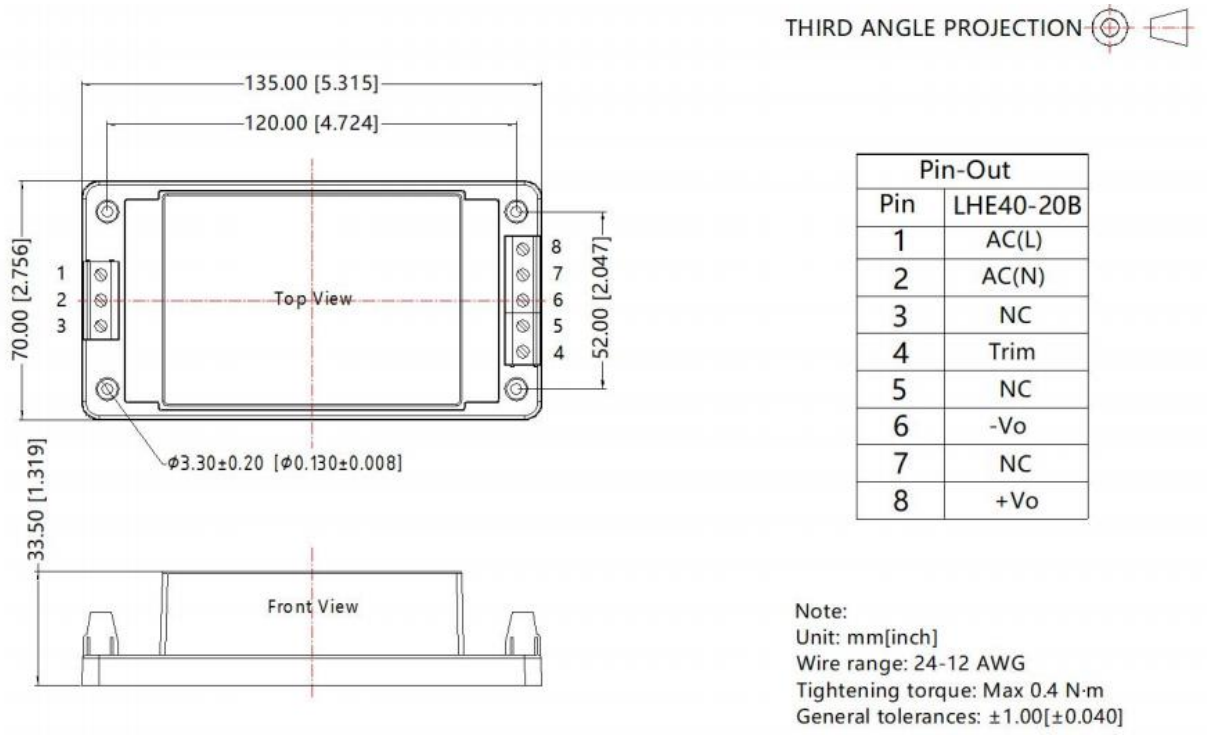
Vout nominal	R1 (kΩ)	R2 (kΩ)	R3 (kΩ)	Vref (V)	Vot (V)
5V	3.3	3.3	1	2.5	Resulting Trimmed Output voltage; range ≤ ±10%
12V	3.83	1	1	2.5	
15V	7.5	1.5	1	2.5	
24V	8.66	1	1	2.5	
48V	33	1.8	1	2.5	

EMC Specifications

Emissions	CE	CISPR32/EN55032 CLASS B	
	RE	CISPR32/EN55032 CLASS B	
Immunity	ESD	IEC/EN 61000-4-2 Contact ±6KV / Air ±8KV	Perf. Criteria B
	RS	IEC/EN61000-4-3 10V/m	perf. Criteria A
	EFT	IEC/EN61000-4-4 ±4KV	perf. Criteria B
	Surge	IEC/EN61000-4-5 line to line ±2KV/line to ground ±4KV	perf. Criteria B
		IEC/EN61000-4-5 line to line ±4KV/line to ground ±6KV (See Fig.2 for recommended circuit)	perf. Criteria B
	CS	IEC/EN61000-4-6 10Vr.m.s	perf. Criteria A
	Voltage dip, short interruption and voltage variation	IEC/EN61000-4-11 0%, 70%	perf. Criteria B

Mechanical Specifications

Overall Length	135mm
Overall Depth	38.5mm
Overall Width	70mm
Weight	400g (Typ.)



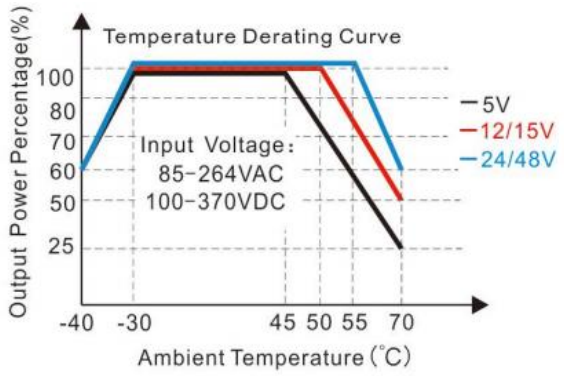
Pin-Out	
Pin	LHE40-20B
1	AC(L)
2	AC(N)
3	NC
4	Trim
5	NC
6	-Vo
7	NC
8	+Vo

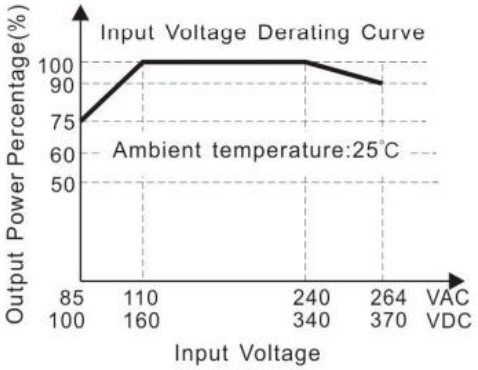
Note:
Unit: mm[inch]
Wire range: 24-12 AWG
Tightening torque: Max 0.4 N·m
General tolerances: ±1.00[±0.040]

Operation Environment Specifications

Storage Humidity	95% RH
Cooling	Natural convection
Operating Temperature Range	-40 to 70°C
Storage Temperature Range	-40 to 85°C
Power Derating	-40 to -30°C 4% /°C
	55 to 70°C 2.5% /°C
	85Vac to 100Vac 1.0% /VAC
	240Vac to 264Vac 0.42% /VAC

Derating

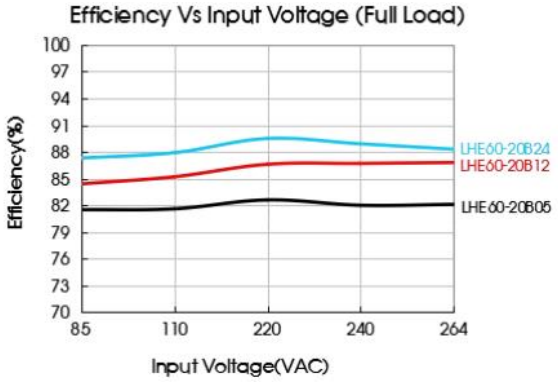


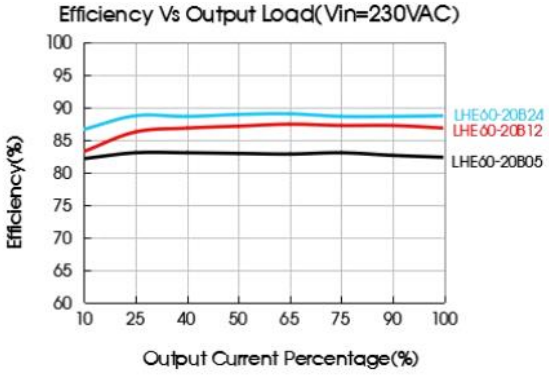


With an AC input between 85-100V/240-264Vac and a DC input between 100-160V/340-370Vdc, the output power must be derated as per temperature derating curves

This product is suitable for applications using natural air cooling.

Efficiency





Approvals

Safety Standard	EN62368 approval

Additional Information

Custom Tariff Number	85044030

Notes

1. **Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25℃, humidity<75% with nominal input voltage and rated output load.**
2. **All index testing methods in this datasheet are based on our Company's corporate standards.**
3. **Products are related to laws and regulations: see "Features" and "EMC"**
4. **Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified un**