

KEY FEATURES

- Switching Power Module for PCB Mountable
- Fully Encapsulated Plastic Case
- Universal Input Range 90-264VAC, 47-440 Hz
- Regulated Output and Low Ripple and Low Noise
- Isolation Class II
- Low Standby <0.5W
- CE, CB and UL Approval
- 3-Year Product Warranty



LF20W SERIES



ELECTRICAL SPECIFICATIONS

All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.

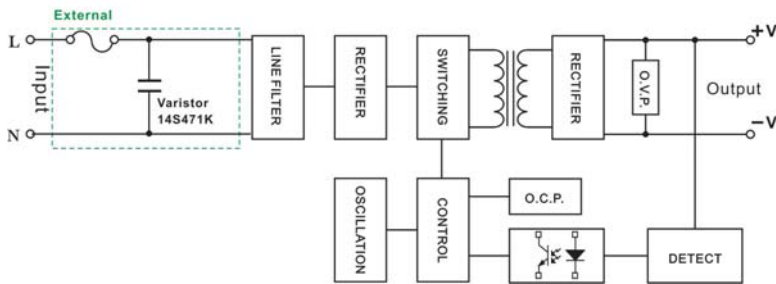
Model No.	FSP020LWVS3V3P	FSP020LWVS005P	FSP020LWVS012P	FSP020LWVS015P	FSP020LWVS024P
Max Output Wattage (W)	11.88W	18W	20W	20W	20W
Input	Voltage				
	90-264 VAC or 120-370 VDC				
	Frequency (Hz)				
	47-440 Hz				
	Current (Full load)				
385 mA max. (115 VAC) / 250 mA max. (230 VAC)					
Inrush Current (<2ms, Cold Start)					
20 A max. (115 VAC) / 40 A max. (230 VAC)					
External Fuse (mandatory)					
2 A slow blow type					
Output	Voltage (V.DC.)				
	3.3V				
	5V				
	12V				
	15V				
	24V				
	Voltage Accuracy				
	±2%				
	Current (mA) max				
	3600				
Maximum Capacitive Load (at 230VAC)					
4500uF					
3500uF					
470 uF					
330uF					
47uF					
Minimum Load					
0%					
Line Regulation (LL-HL) (typ.)					
±0.5%					
Load Regulation (5-100%) (typ.)					
±1%					
Ripple (Full load)					
75mV max (Vp-p)					
1% of Vout					
Noise (Full load)					
120mV max (Vp-p)					
1% of Vout					
Efficiency					
74%					
78%					
82%					
83%					
83%					
Hold-up Time(typ)					
12 ms (115VAC) / 56ms (230VAC)					
Protection	Over Power Protection				
	Hiccup technique, auto-recovery				
	Over Voltage Protection				
Zener diode clamp					
Short Circuit Protection					
Hiccup mode, indefinite (automatic recovery)					
Isolation	Input-Output (V.AC)				
3000V					
Environment	Operating Temperature				
	-40°C...+70°C (with derating)				
	Storage Temperature				
	-40°C...+85°C				
	Temperature Coefficient				
±0.02%/°C					
Humidity					
95% RH					
MTBF					
>400,000 h @ 25°C (MIL-HDBK-217F)					
Physical	Dimension (L x W x H)				
	2.07 x 1.08 x 0.93 Inches (52.5 x 27.5 x 23.5 mm) Tolerance ±0.5 mm				
	Case Material				
	Plastic resin (flammability to UL 94V-0)				
Weight					
59g					
Cooling Method					
Free air convection					
Safety	Agency Approvals				
CE, UL/cUL, CB					
EMC	EMI (Conducted & Radiated Emission)				
	EN 55032 class B				
EMS (Noise Immunity)					
EN 55024					

NOTE

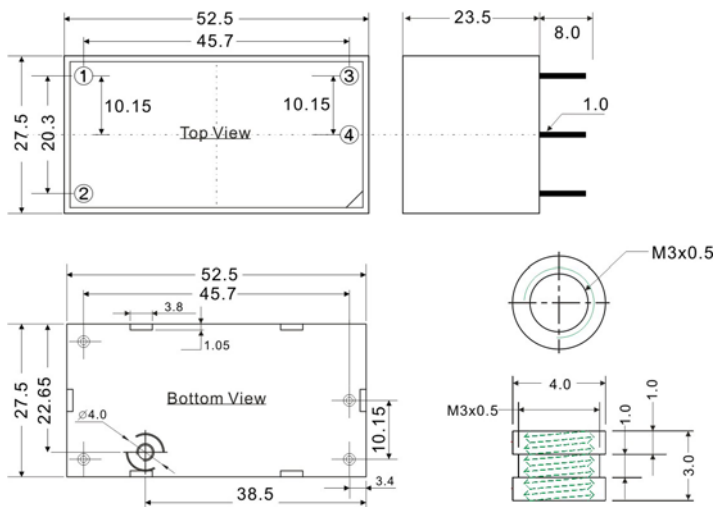
1. Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.
2. It's recommended to add Varistor 14S471K at L / N input side in parallel.

BLOCK DIAGRAM

Single Output



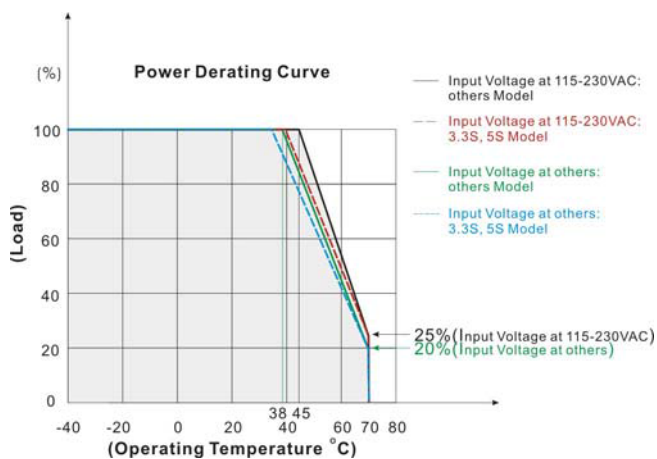
MECHANICAL DIMENSION (Top View)



PIN#	Single
1	AC IN (N)
2	AC IN (L)
3	+DC OUT
4	-DC OUT

DERATING

Maximum Torque 12 { 1.21 } (k g f . c m { N.m })



EFFICIENCY VERSUS LOAD

