

■ Features

- 220VAC only (up to 265VAC) models available
- Built-in active PFC function
- Constant current design, No Flicker
- Protections: Short circuit, open circuit, over-load, over-current
- Through EMC, safety testing, but with the whole lamp safety certification.
- IP20 design
- No load power consumption <0.5W
- High reliability, low cost
- 3 years warranty

■ Applications

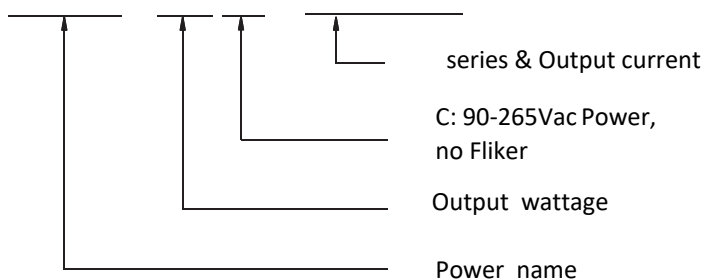
- T8/T5 LED tube

■ Description

HAD028CXN series is a 8W-36W economical AC/DC LED power supply series. Incorporating a built-in active PFC design, It provides a high Power Factor value with flicker free. In addition, with no-load low power consumption be less than 0.5W , Wide output voltage 54-110V, and the setup time less than 500ms. According to customer request adjust output current max up to 260mA.

■ Model Encoding

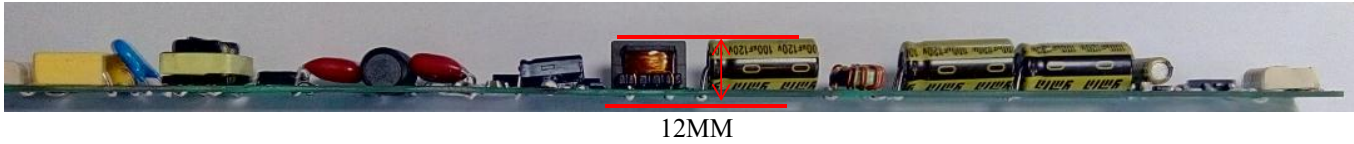
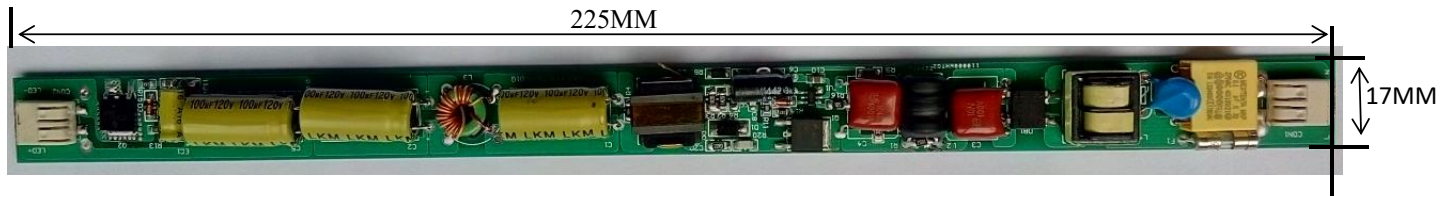
HAD 028 C XN - XXX



SPECIFICATION SHEET

MODEL		HAD028CXN-260					
OUTPUT	RATED CURRENT	260mA					
	OPERATING VOLTAGE RANGE Note.5	54~110V					
	CURRENT ACCURACY Note.3	2.00%					
	RATED POWER	30W					
	RIPPLE & NOISE (max.) Note.2	200mv					
	NO LOAD OUTPUT VOLTAGE (max.)	No-load overvoltage protection					
	SETUP TIME	500ms / 220VAC at full load;					
INPUT	VOLTAGE RANGE Note.4	185~265VAC					
	FREQUENCY RANGE	47 ~ 63Hz					
	POWER FACTOR (Typ.)	PF \geq 0.95/220VAC, PF $>$ 0.95/265VAC(at full load)(Please refer to "Power Factor Characteristic" curve)					
	TOTAL HARMONIC DISTORTION	THD $<$ 20% when output loading \leq 70% ;THD $<$ 25% when full output loading					
	EFFICIENCY (Typ.)	87%					
	AC CURRENT (Typ.)	0.15A/220VAC					
	INRUSH CURRENT(Typ.)	COLD START 10A (twidth=75 μ s measured at 50% Ipeak) at 220VAC					
	MAX. No. of PSUs on 16A CIRCUIT BREAKER						
	LEAKAGE CURRENT						
PROTECTION	SHORT CIRCUIT	Hiccup mode, recovers automatically after fault condition is removed.					
	OVER TEMPERATURE	Hiccup mode, recovers automatically after temperature goes down.					
ENVIRONMENT	WORKING TEMP.	-30 ~ +40 $^{\circ}$ C					
	WORKING HUMIDITY	20 ~ 70% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-40 ~ +80 $^{\circ}$ C, 10 ~ 95% RH					
	TEMP. COEFFICIENT	N/A					
	VIBRATION	N/A					
SAFETY & EMC	SAFETY STANDARDS						
	WITHSTAND VOLTAGE	N/A					
	ISOLATION RESISTANCE	N/A					
	EMC EMISSION	Compliance to EN55015, GB17743, GB17625.1, EN61000-3-2 Class C (\geq 75% load) ; EN61000-3-3					
	EMC IMMUNITY	Compliance to EN61547, light industry level, criteria B (Surge 2KV)					
OTHERS	MTBF	N/A					
	DIMENSION	225*17*12mm (L*W*H)					
	PACKING						
NOTE	<p>1. All parameters NOT specially mentioned are measured at 220VAC input, rated load and 25$^{\circ}$C of ambient temperature.</p> <p>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.</p> <p>3. Please see AC input voltage drop vs. output current characteristics table.</p> <p>4. Derating may be needed under low input voltage, please check the static characteristic for more details.</p> <p>5. Constant current operation region is within 50% ~100% rated output voltage. This is the suitable operation region for LED related applications, but please reconfirm special electrical requirements for some specific system design.</p> <p>6. The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete system.</p> <p>7. Direct connecting to LEDs is suggested, but is not suitable for using additional drivers.</p>						

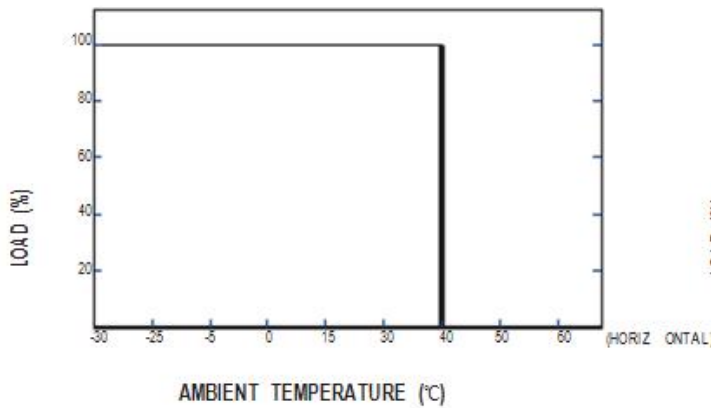
Mechanical Specification



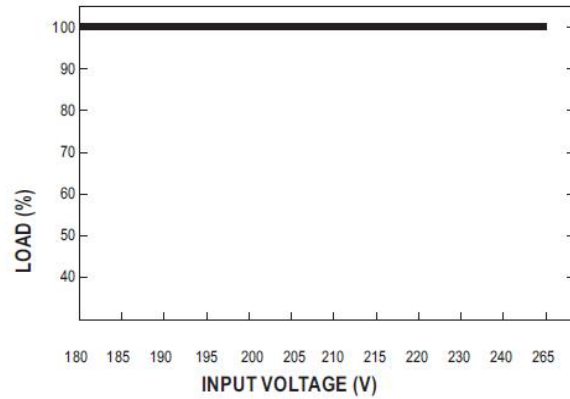
Block Diagram



Derating Curve

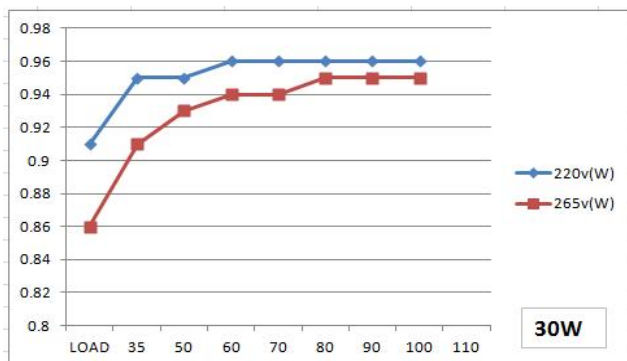


Static Characteristics



Power Factor Characteristic

260MA LOAD



EFFICIENCY vs LOAD

260MA LOAD

