

## HXDN-120W SERIES



## FEATURES

- DC O/P Voltage Adjustable
- Protections: Short circuit/Overload/Over voltage/Over temperature
- High efficiency and low power dissipation
- Installation: DIN Rail TS-35/7.5 & 15
- Universal AC Input:90-264V
- Built-in DC OK relay contact
- Free Air Convection Design
- 4 Years Warranty
- Works on DC Input (120~370VDC) also

IS 13252 (Part 1) 2010/  
IEC 60950-1:2005  
R-62006220  
www.bis.gov.in



HXDN-120 is metal case power family designed with slim housing and for full range AC input from 90 VAC to 264VAC. The series are single phase power supply, providing adjustable DC output voltage. They have high efficiency and operate in wide temperature range. The series can widely used for industrial automation & control systems, varied equipments etc.

## SELECTION GUIDE

Product Model	DC Voltage	Rated Current(max)	Rated Power
HXDN-120-12	12V	10A	120W
HXDN-120-24	24V	5A	120W
HXDN-120-48	48V	2.5A	120W

## INPUT CHARACTERISTICS

Parameter	Units	Model
NOMINAL INPUT VOLTAGE	100-240 VAC	
VOLTAGE RANGE	90~264VAC,120~370VDC	
FREQUENCY RANGE	47~63Hz	
EFFICIENCY(TYP.)	85.5%	HXDN-120-12
	88%	HXDN-120-24
	89%	HXDN-120-48
No Load Power Consumption	0.7W max.	
AC CURRENT(TYP.)	2.25A/115VAC	
	1.3A/230VAC	
INRUSH CURRENT(TYP.)	20A/115VAC, Cold Start	
	35A/230VAC, Cold Start	
LEAKAGE CURRENT	1mA max.	
START-UP WITH CAPACITION LOADS	30000 $\mu$ F min	

## OUTPUT CHARACTERISTICS

Parameter	Units	Model
RIPPLE & NOISE(MAX.)	100mVp-p	HXDN-120-12
	120mVp-p	HXDN-120-24
	150mVp-p	HXDN-120-48
VOLTAGE TOLERANCE	$\pm$ 2.0%	

Parameter	Units	Model
LINE REGULATION	±0.5%	
LOAD REGULATION	±2.0%	
SET-UP, RISE & HOLD UP TIME	2500ms max. / 60ms max. / 10ms Typ. 115VAC at full load	
	1200ms max. / 60ms max. / 16ms Typ. 230VAC at full load	
VOLTAGE ADJ. RANGE	12~14V	HXDS-120-12
	24~28V	HXDS-120-24
	48~55V	HXDS-120-48

## PROTECTION

Parameter	Units	Model
OVER LOAD	105 ~ 150% rated output power	
	Protection Type: Hiccup mode, recovers automatically after fault condition is removed	
OVER VOLTAGE	14 ~ 17V	HXDN-120-12
	29 ~ 33V	HXDN-120-24
	56 ~ 65V	HXDN-120-48
REVERSE OVER VOLTAGE	Protection Type : Shut down o/p voltage, re-power to recover	
	12.5 ~ 13.5V	HXDN-120-12
	24.5 ~ 25.5V	HXDN-120-24
	48.5 ~ 49.5V	HXDN-120-48
	Protection Type: Shut down o/p voltage, re-power to recover	
OVER TEMPERATURE	Protection Type: Shut down o/p voltage, re-power to recover after temperature goes down	
INTERNAL FUSE AT L PIN	F5 A /250V	
SHORT CIRCUIT	Protection Type: Hiccup mode, recovers automatically after fault condition is removed	

## FUNCTION

Parameter	Units
DC OK Relay Contact Ratings(max)	60VDC/0.3A, 30VDC/1A, 30VAC/0.5A resistive load

## ENVIRONMENT

Parameter	Units
WORKING TEMP	-20 ~ +70 °C (Refer to "Derating curve")
START-UP TESTED TEMP.	-30°C (full load max.)
WORKING HUMIDITY	20 ~ 95% RH non-condensing
STORAGE TEMP., HUMIDITY	-40 ~ +85 °C, 10 ~ 95% RH
MTBF	Conducted by Parts Stress Analysis Prediction
	453.3K hrs min. MIL-HDBK-217F (25°C)
TEMP. COEFFICIENT	±0.03%/ °C (0 ~ 50 °C)
VIBRATION	Class II; According to EN62368-1;altitude up to 2000 meters
	Each along X,Y, Z axes; Mounting: compliance to IEC60068-2-6
OVER VOLTAGE CATEGORY	Class II
POLLUTION DEGREE	2

## SAFETY AND ELECTROMAGNETIC COMPATIBILITY

Parameter	Units
SAFETY STANDARDS	BS/EN62368-1
WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC
ISOLATION RESISTANCE	I/P-O/P,I/P-FG,O/P-FG:>100M Ohms/500VDC/25°C/70%RH
EMC EMISSION	Compliance to BS EN/EN55032 , BS EN/EN61000-3-2,-3
EMC IMMUNITY	Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN55035, BS
	EN/EN61000-6-2(BS EN/EN50082-2)

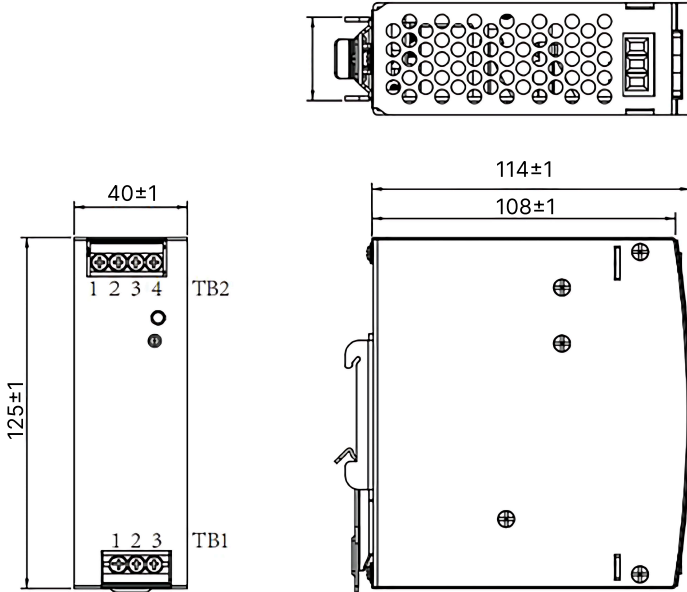
## NOTE

1. All parameters NOT specially mentioned at 230VAC input, rated load and 25°C of ambient temperature.
2. Ripple & noise are measured from peak to peak with bandwidth limit of 20MHz (0.1uF and 47uF/50V parallel capacitor under DC output full load, AC nominal input 25°C ).
3. Installation clearances : top with 40mm, bottom with 20mm, left and right with 5mm. Increase the space to 10-15mm when the adjacent device is heat source.
4. Derating may be needed under low input voltage .Please check the derating curve for more details.
5. The ambient temperature derating of 3.5°C/1000m for operating altitude higher than 2000m(6500ft).

## MECHANICAL & PACKING

Parameter	Units
Housing material	Aluminium / steel
Dimensions(HXWXD)	125×40×114mm(4.92×1.57×4.49inch) / 3.54in
Weight	0.61kg
Connection Method	Input & Output, Screw connection
Terminal	Input 3 pins / Output 4 pins
Wire	Input 30-10AWG / 0.5-4.0mm <sup>2</sup>
	Output 26-10AWG / 0.34-4.0mm <sup>2</sup>
Stripping length	Input 7.5-8.5mm, Output 7.2mm
Tightening torque	Input 0.5Nm, Output 0.5Nm
Mounting Rail	Standard TS35 DIN Rail in accordance with EN60715
Inner box	1pcs / box, 14.7 * 5.6 * 14cm / 5.79 * 2.2 * 5.51in
Outer carton	20pcs/carton, 31.5 * 30 * 30cm / 12.4 * 11.81 * 11.81in

**DRAWING AND LABEL**



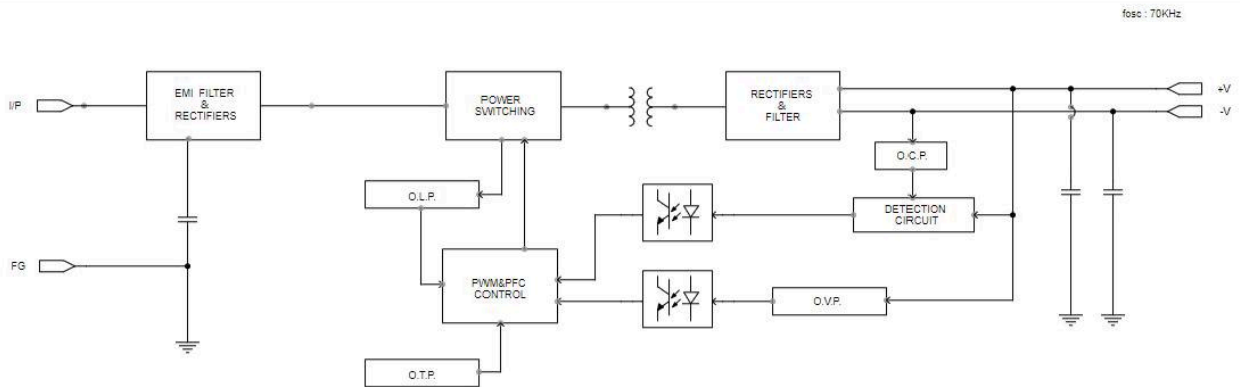
Terminal Pin No Assignment (TB1)

Pin No	Assignment
1	FG
2	AC/N or DC-
3	AC/L or DC+

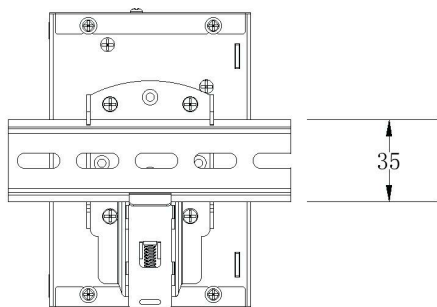
Terminal Pin No Assignment (TB2)

Pin No	Assignment
1,2	DC OUTPUT -V
3,4	DC OUTPUT +V

**BLOCK DIAGRAM**

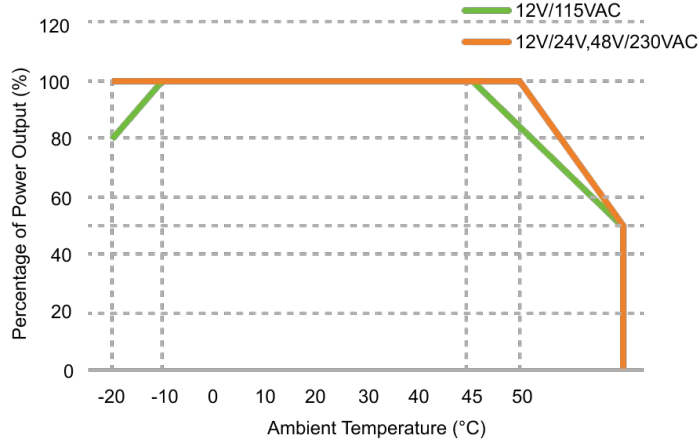


**INSTALLATION INSTRUCTION**



ADMISSIBLE DIN-RAIL: TS35/7.5 OR TS35/15  
(For reference only. Not included with unit.)

**DERATING CURVE**



**OUTPUT DERATING VS INPUT VOLTAGE**

