

# AC-DC Din Rail Mountable Power Supply

## DR-50 SERIES, SINGLE PHASE INPUT

### Features

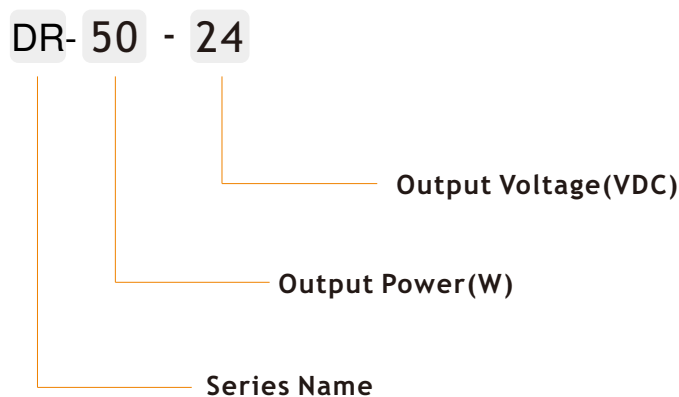
- 3 Year Warranty
- Universal Input 90~264Vac
- 100% Full Load Burn-in Test
- Cooling by Free Air Convection
- All Around Protections: Short Circuit, Over Voltage, Over Current, Over Temperature
- LED Indicator for DC Power On
- LED Indicator for DC Low



### Applications

- ✓ Process Control
- ✓ Traffic & Transportation System
- ✓ Factory Automation
- ✓ Other Industrial Applications

### Electrical



## Electrical

Part Number	Nominal Input Voltage	Output Voltage	Output Current	Ripple (Typ.)	Efficiency (Typ.)	Certificate
DR-50-12	100-240VAC	12V	4.2A	25mV	80%	CE, FCC, CB, UL, CUL
DR-50-24	100-240VAC	24V	2.2A	40mV	83%	CE, FCC, CB, UL, CUL
DR-50-48	100-240VAC	48V	1.1A	45mV	84%	CE, FCC, CB, UL, CUL

**NOTE:**

1. The ripple values are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with 0.1uF & 47uF parallel capacitor under ambient temperature 25°C at rated input voltage and rated load;
2. The efficiency values are measured under ambient temperature 25°C at rated input voltage and rated load.

**INPUT**

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
Input voltage		90		264	Vac
Input frequency		47		63	Hz
Input current	Full load, Vin=115Vac Full load, Vin=230Vac		1.06 0.52		A A
Inrush current	Cold start, Vin=115Vac			30	A
	Cold start, Vin=230Vac			60	A
Inrush current	<p>1. This product has built-in inrush limiting circuit to protect the circuit from surge current damages when the power is turned on. Malfunction can occur by repeating the input voltage on and off rapidly. Therefore, sufficient interval should be given between cycling the power on and off;</p> <p>2. To avoid connecting the switch or fuse to input terminal(outside of the power supply), more consideration should be given when selecting the parts that can endure the inrush current</p>				
Stand-by power consumption	Vin=230Vac		2		W
Surge voltage	L-N		2		KV

OUTPUT

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
Output voltage accuracy			±1		%
Output voltage adjustment range	DR-50-12		11.6-12.3		V
	DR-50-24		23.5-24.5		V
	DR-50-48		47.5-48.3		V
	Output voltage can be adjusted within above range by V-ADJ. variable resistance inside of the power supply. When output voltage exceeds the range, the power supply will be in failure or get into over voltage protection mode. To avoid the case that the output voltage is higher than rated voltage, output current should be used under rated current				
Minimum load		0			A
Line regulation	Vin from 100Vac to 240Vac		1		%
Load regulation	Vout from min. to max.		1		%
Turn-on delay time	Full load, Vin=115Vac		560		ms
Hold up time	Full load, Vin=115Vac		20		ms

## Protection

Short circuit	Shut off output voltage, the power supply will recover after the power is turned on again
Over voltage	DR-50-12: over voltage protection value 20V DR-50-24: over voltage protection value 33V DR-50-48: over voltage protection value 66V
	(1) When output voltage exceeds above over voltage protection value or reversal voltage occurs, the protection will be started and the output voltage will be cut off in order to protect the power supply; (2) The power supply will recover after the power is turned on again
Over current	DR-50-12: over current protection value 6A DR-50-24: over current protection value 3A DR-50-48: over current protection value 1.5A
	(1) When output voltage exceeds above over current protection value, the protection will be started and the output voltage will be cut off in order to protect the power supply; (2) The power supply will recover automatically after the fault condition is removed
Over temperature	Over temperature protection value: 100±10°C
	(1) When the ambient temperature exceeds above over temperature protection value, the protection will be started and the output voltage will be cut off in order to protect the power supply; (2) The power supply will recover after the power is turned on again

## Environment

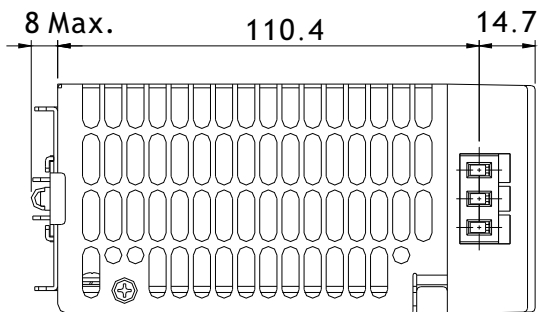
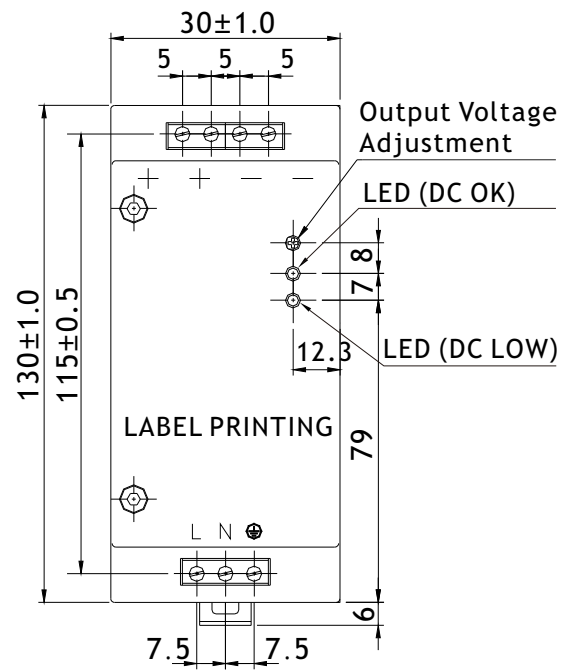
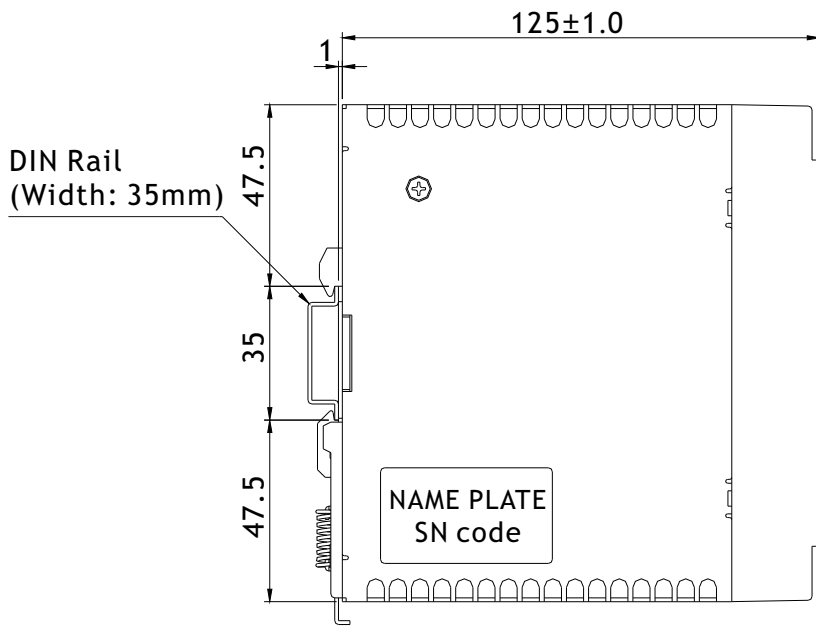
PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
Ambient operating temperature	Startup at rated voltage	-25		+70	°C
Operating relative humidity	Non condensing	20		95	%
Storage temperature	Humidity 5 ~ 95% RH	-40		+85	°C
MTBF	Full load, 220Vac input, 25°C ambient temperature	200			Khrs
DC-OK led	LED(Green) DC OK LED light will be ON when the power supply is properly operated				
DC-Low led	LED(Red) DC Low LED light will be ON: (1) when output voltage is below 85%(±2.5%) from the rated output voltage; (2) when get over voltage, over current, over temperature and short circuit fault				
Cooling	Free air convection				
Mounting method	Vertical				
Dimension(W x H x D)	30.0 x 130.0 x 125.0mm (1.18 x 5.12 x 4.92inch)				
Weight	570g				
Packing	18pcs/12.0kg/0.7cuft/carton Carton size 620 x 260 x 175mm(LxWxH)				

## Safety/EMC

Isolation voltage	I/P-O/P: 3KVac, I/P-FG: 1.5KVac, O/P-FG: 1.5KVac
Insulation resistance	100mΩ Max./500VDC
Safety	Design refer to UL60950-1, EN60950-1
EMC	EN 55022:2010+AC:2011 (CISPR 22:2008) ClassB EN 61000-3-2:2014 (IEC 61000-3-2:2014) EN 61000-3-3:2013 (IEC 61000-3-3:2013) EN 55024:2010 (CISPR 24:2010)

NOTE: Unless otherwise specified, all the above parameters are measured at ambient temperature of 25°C and Vin=100Vac to 240Vac.

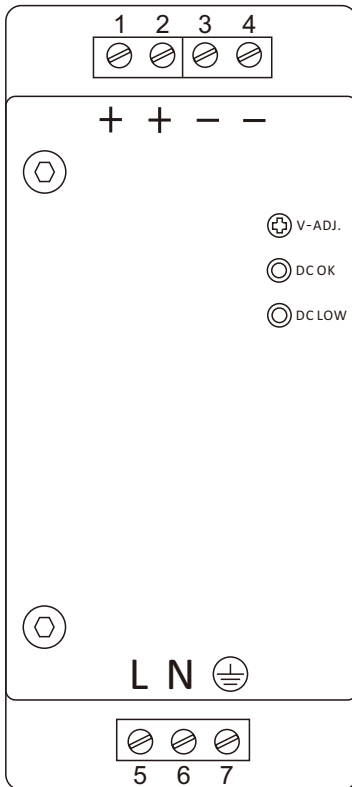
Mechanical



Unit: mm  
Tolerance: ±1.0



## Mechanical



Marking	No.	Assignment
+	1	DC(+) Output Terminal
+	2	
-	3	DC(-) Output Terminal
-	4	
L	5	AC(L) Input Terminal
N	6	AC(N) Input Terminal
⏏	7	AC Grounding Terminal
V-ADJ.	/	DC Output voltage adjustment trimmer
DC OK	/	DC Output OK indication LED(Green)
DC LOW	/	DC Output Low indication LED(Red)