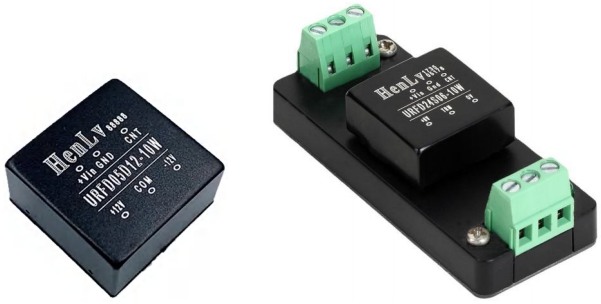
Features

- Wide voltage input 4:1
- Dual in-line (DIP) package,Din-rail series
- Operating temperature range:-40℃～+85℃
- Isolation voltage 1500VDC 0.5mA 1Minute
- Internal SMD design
- Metal aluminum shell, high flame retardant plastic shell package
- Heat dissipation method: natural cooling
- It has good shielding anti-interference performance and electromagnetic compatibility, lightning protection, output over current, short circuit protection, overheat protection, self-recovery and other functions

Product Picture

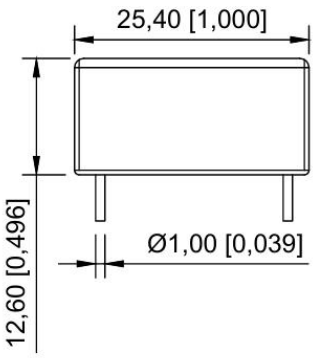


EMC-EN55032
EN55035
LVD-EN62368

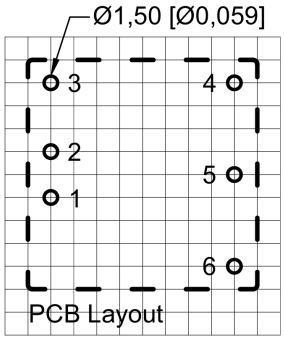
Dimensions

URFD_S(D)_-10WH2 Series Dimensions

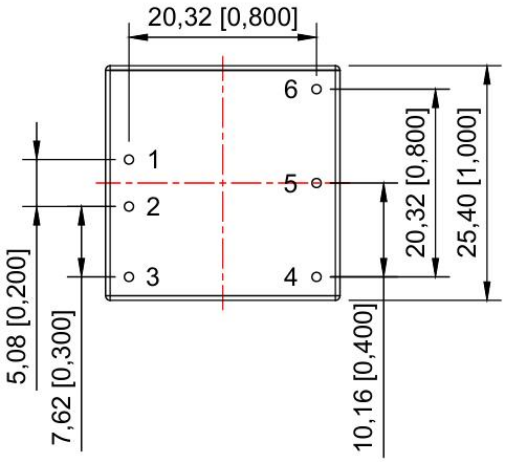
Front view



Top view



Note: The grid distance is 2.54*2.54mm



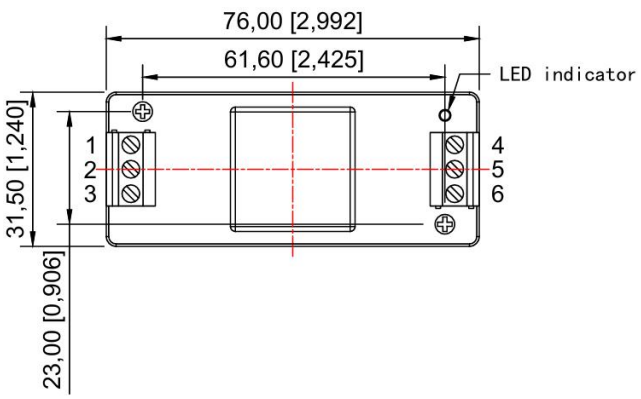
Bottom view

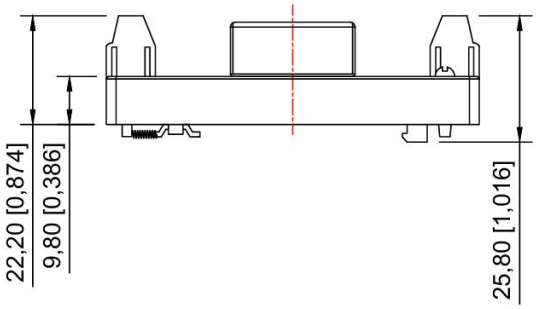
Pin mode		
Pin	Single(S)	Dual(D)
1	Vin	Vin
2	GND	GND
3	CNT	CNT
4	0V	-XXVDC
5	TRM	COM
6	+XXVDC	+XXVDC

Note:
Size unit: mm[inch]　　Pin section tolerance: ±0.1[±0.004]　　Unmarked tolerance: ±0.25[±0.01]

URFD_S(D)_ZDK-10WH2 Series Dimensions

Top view





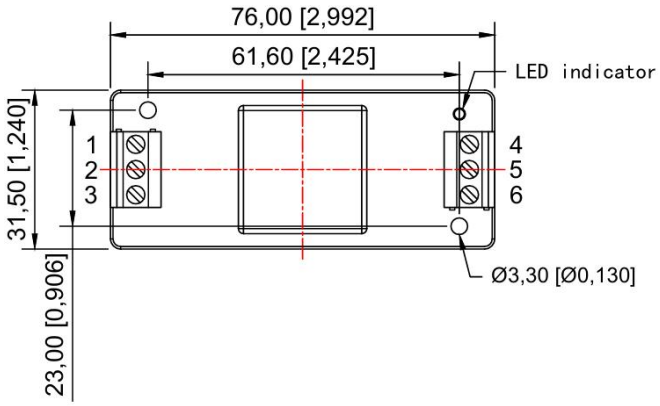
Front view

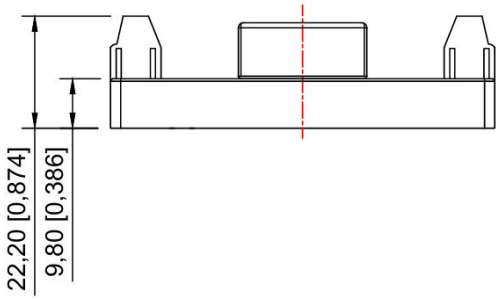
Pin mode		
Pin	Single(S)	Dual(D)
1	CNT	CNT
2	GND	GND
3	Vin	Vin
4	0V	-XXVDC
5	TRM	COM
6	+XXVDC	+XXVDC

Note:
Size unit: mm[inch]
Unmarked tolerance: ±0.25[±0.01]
Wiring strength: 24-12 AWG
Tightening torque: Max 0.4N-m
Guide rail type: TS35
The device layout is for reference only.

URFD_S(D)_ZD-10WH2 Series Dimensions

Top view





Front view

Pin mode		
Pin	Single(S)	Dual(D)
1	CNT	CNT
2	GND	GND
3	Vin	Vin
4	0V	-XXVDC
5	TRM	COM
6	+XXVDC	+XXVDC

Note:
Size unit: mm[inch]
Unmarked tolerance: ±0.25[±0.01]
Wiring strength: 24-12 AWG
Tightening torque: Max 0.4N-m
The device layout is for reference only.

Application

Railway communication, display, monitoring equipment, petrochemical, industrial control, remote DC power supply system, switching system and other communication equipment.

Selection Guide

Model	Input (VDC)	Output (Vo±2%)	Full-load output current (mA)	Efficiency (%)	Isolation (VDC)	Weight (g±0.5)	Certification
URFD_S3.3-10WH2	12(9-36) 24(18-72) 110(40-160)	3.3	3030	⩾76	1500		
URFD_S05-10WH2		5	2000	⩾76	1500		
URFD_S12-10WH2		12	833	⩾78	1500		
URFD_S15-10WH2		15	667	⩾78	1500		
URFD_S18-10WH2		18	556	⩾80	1500		
URFD_S24-10WH2		24	417	⩾83	1500		
URFD_S48-10WH2		28	358	⩾85	1500		
URFD_D05-10WH2		±5	±1000	⩾76	1500		
URFD_D12-10WH2		±12	±417	⩾78	1500		
URFD_D15-10WH2		±15	±334	⩾78	1500		
URFD_D18-10WH2		±18	±278	⩾80	1500		
URFD_S3.3ZD(K)-10WH2		3.3	3030	⩾76	1500		
URFD_S05ZD(K)-10WH2		5	2000	⩾76	1500		
URFD_S12ZD(K)-10WH2		12	833	⩾78	1500		
URFD_S15ZD(K)-10WH2		15	667	⩾78	1500		
URFD_S18ZD(K)-10WH2		18	556	⩾80	1500		
URFD_S24ZD(K)-10WH2		24	417	⩾83	1500		
URFD_S48ZD(K)-10WH2		28	358	⩾85	1500		
URFD_D05ZD(K)-10WH2		±5	±1000	⩾76	1500		
URFD_D12ZD(K)-10WH2		±12	±417	⩾78	1500		
URFD_D15ZD(K)-10WH2		±15	±334	⩾78	1500		
URFD_D18ZD(K)-10WH2		±18	±278	⩾80	1500		

Note: The company for customers to customize any input and output module power supply, if you have special needs, please call our company, unless otherwise specified, input =Vi, the characteristics of the module power supply should meet the requirements of Table 1, and applicable to the full temperature range (-40℃⩽Tc⩽85℃)

Mechanical Specifications

Size	25.40 x 25.40 x 12.60 mm， ZD(K)：76.00 x 31.5 mm

Electrical Characteristics

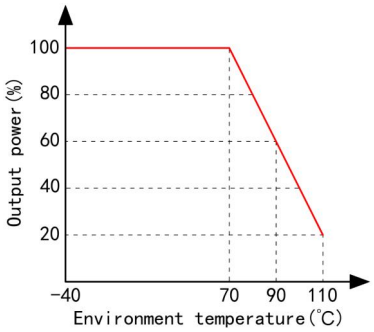
Characteristic	Symbol	Conditions Vi ,-40℃≤Tc≤85 (Unless otherwise specified)	Min	Max	Unit
Output Voltage	Vo	Full load	Vo-2%	Vo+2%	V
Output Current	Iomax	—	—	P(Power)/U(Output voltage)	A
Output Ripple Voltage	Vp-p	Full load，Vi，BW=20MHz，Normal temperature	100	240	mV
Output Noise Voltage	Vp-p	Full load，Vi，BW=20MHz，Normal temperature	120	480	mV
Voltage Regulation	Sv	Vimin、Vi、Vimax，Full load	—	＜2%	%
Load Adjustment Rate	Si	Vi，Io=(10%~100%)Iomax	—	＜1%	%
Efficiency	η	Vi，Full load，Normal temperature	76	—	%
Insulation Resistance	Rl	Input-output, insulation 500VDC	1000	—	MΩ

General Specifications

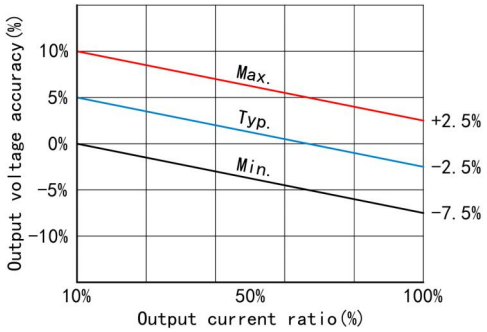
EMC Specifications	Magnetic field sensitivity test	GB-4943
	Electrostatic discharge sensitivity test	GB-4943
	Radiation sensitivity test	GB-4943
	Conduction sensitivity test	GB-4943
Temperature Drift	≤0.02%/℃	
Storage Temperature	-40℃~125℃	
Input Frequency	270KHz~400KHz	
Humidity	10%~90%RH	
MTBF	＞500000 H	

Typical Characteristic Curves

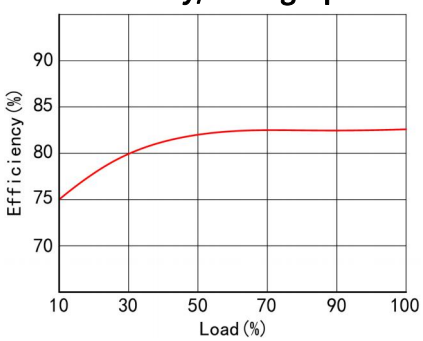
Temperature chart



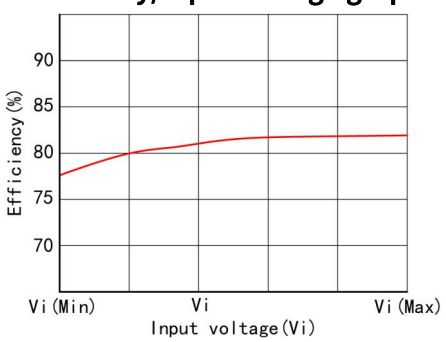
Error envelope graph



Efficiency/Load graph

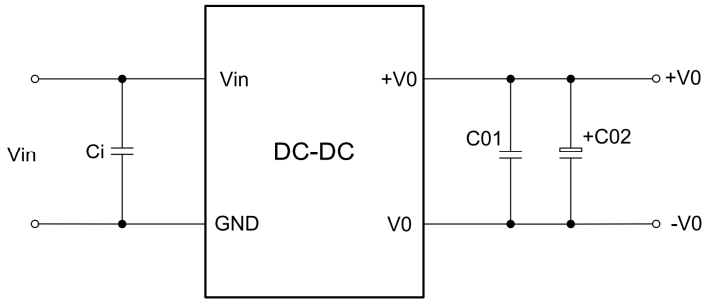


Efficiency/Input voltage graph



Typical Application

Design Reference



Recommendation Test

Filter: In some circuits that are sensitive to noise and ripple, an external filter capacitor can be connected to the DC/DC input and output terminals to reduce the impact of ripple on the system, but the value of the filter capacitor should be appropriate, if the capacitor is too large, it is likely to cause startup problems, for each output, under the condition of ensuring safe and reliable operation, the maximum capacitance of the filter capacitor can be referred to the external capacitance table. In order to obtain very low ripple, an "LC" filter network can be connected to the input and output end of the DC/DC converter, so that the filtering effect will be better, and it should be noted that the size of the inductance value and the frequency of the "LC" filter network should be staggered from the frequency of the DC/DC module power supply to avoid mutual interference. For each output, under safe and reliable working conditions, the recommended capacitive load value is shown in (Table 1).

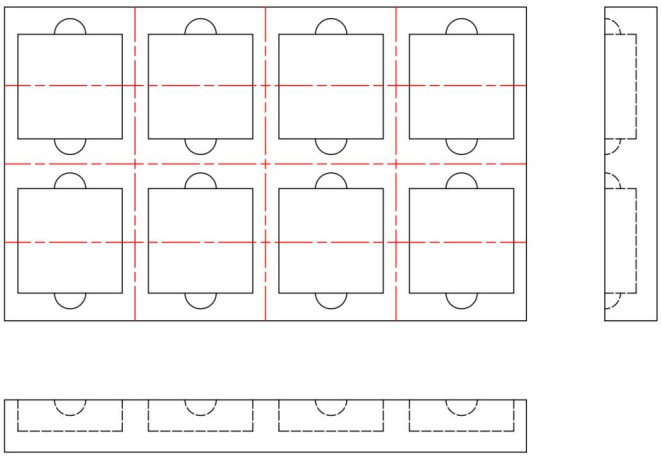
Single Vout	Cout	Dual Vout	Cout
5-12VDC	22-68uF	±5-±12VDC	4.7-22uF
24-48VDC	10-47uF	±24-±48VDC	4.7-10uF

Recommended output max capacitive load value table (Table 1)

Precautions

Package

This series of modules are packed in shockproof and anti-static foam.



Transport

The package containing the module is allowed to be transported by any means of transport, which should avoid direct rain and snow and mechanical damage.

Store

The module should be stored in a warehouse where the ambient temperature is -40 degrees ~ 125 degrees, the relative humidity is 10%~90%, and the surrounding environment is free from acidic, alkaline and other harmful gases.

Note: The above are the performance indicators of the product series listed in this manual. Some indicators of non-standard products may exceed the above requirements, so if there is any inconsistency between the manual and the product specification documents, please refer to the specification documents. If you have special needs, please contact us directly.