HLK-20D2405C

MODULO DC-DC 24V A 5V 4A 20W

Multiple specifications of power module options

MULTIPLE SPECIFICATIONS AVAILABLE

24V (wide voltage 9-36V) input / single-channel regulated output

MODEL	POWER	VOLTAGE	CURRENT
HLK-20D2405C	20W	5V	4000mA
HLK-20D2412C	20W	12V	1667mA
HLK-20D2415C	20W	15V	1333mA
HLK-20D2424C	20W	24V	833mA

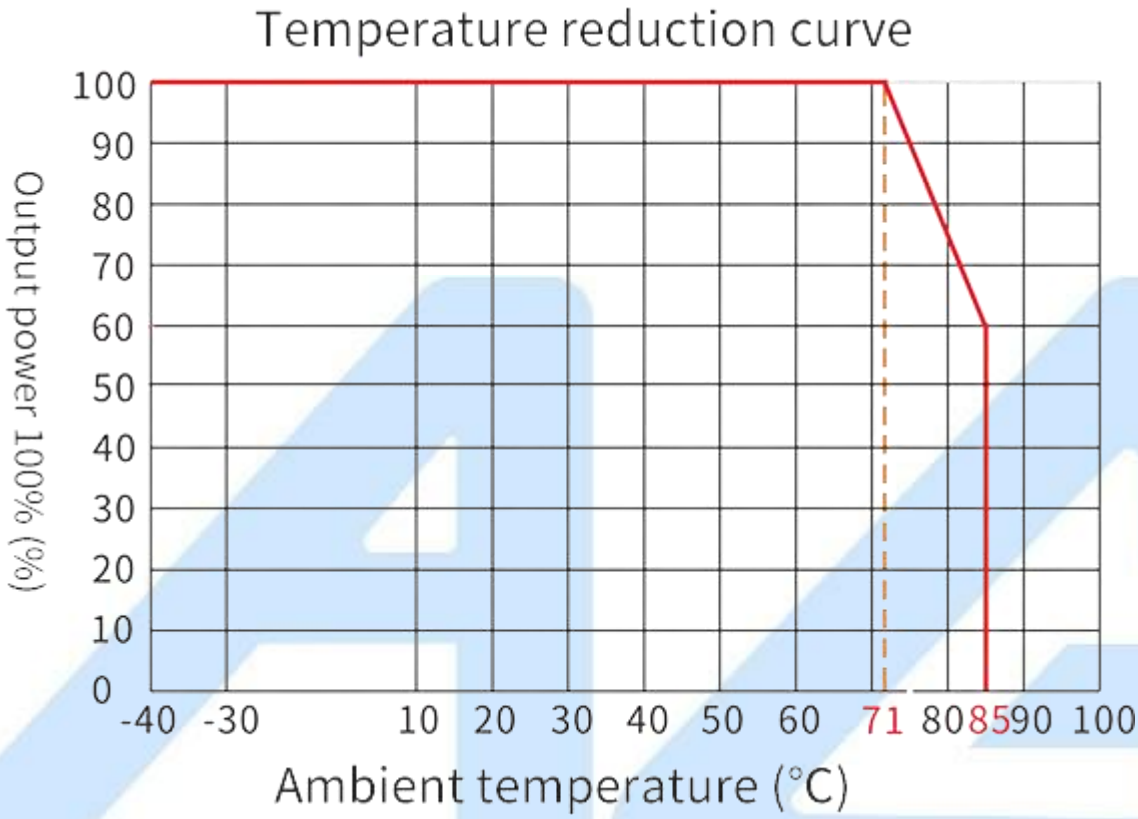
*The same series of products have the same size and pins

*International standard pin size 50.8×25.4×11mm

Product features

- Wide range input (4:1) voltage 9~36VDC, output 20W
- Input and output isolation withstand voltage 1500VDC
- Ultra-fast start: 1ms (typical value)
- High efficiency, conversion efficiency up to 91% (Typ)
- Operating temperature range: -40°C~+85°C
- Metal shell, low output ripple
- Good output short circuit and over current protection and self-recovery
- International standard pin, PCB board in-line installation
- Potting and sealing with high-quality environmentally friendly waterproof and thermal conductive glue, dustproof, moistureproof, shockproof and flame retardant
- Meet UL/CE/EMC and safety testing requirements
- Can be used in medical, industrial control, electric power, instrumentation, communication, railway and other fields

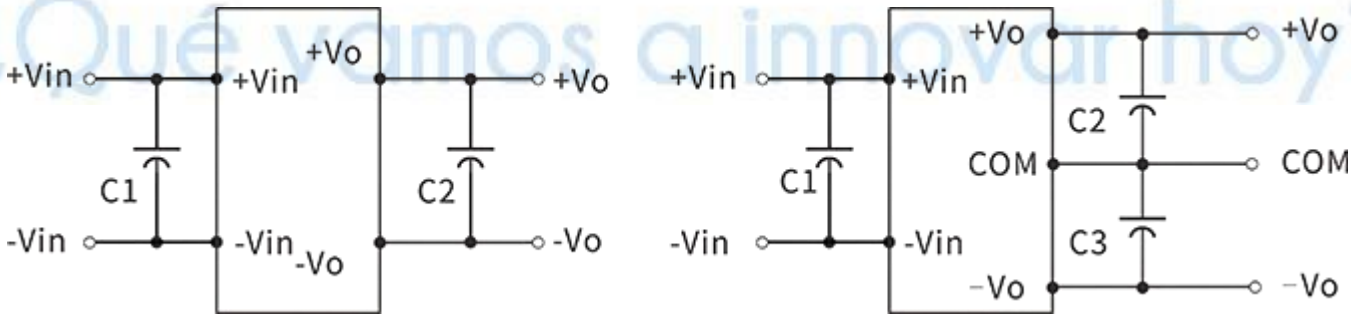
Working environment temperature and load characteristics



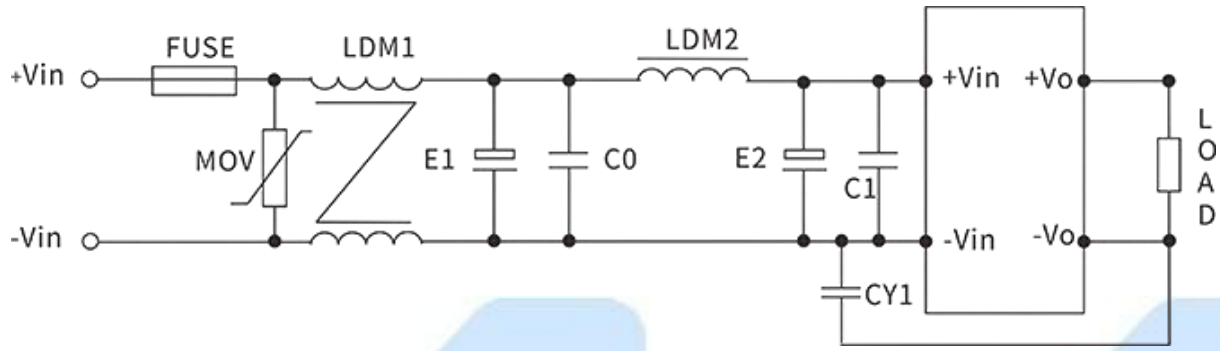
Typical application circuit

Recommended test circuit

Generally recommended capacitance: C1: 47-100μF; C2, C3: 10-22μF.
All DC/DC converters of this series are tested according to the recommended test circuit shown in the figure below before leaving the factory.
If it is required to further reduce the input and output ripple, the input and output external capacitors C1, C2, C3 can be increased or selected in series with capacitors with a small equivalent impedance, but the capacitance cannot be greater than the maximum capacitive load of the product.



EMC solution-recommended circuit



Recommended parameters:

FUSE: Connect the corresponding fuse according to customer needs

MOV varistor: 14D560K

LDM1/common mode inductance: 10mH

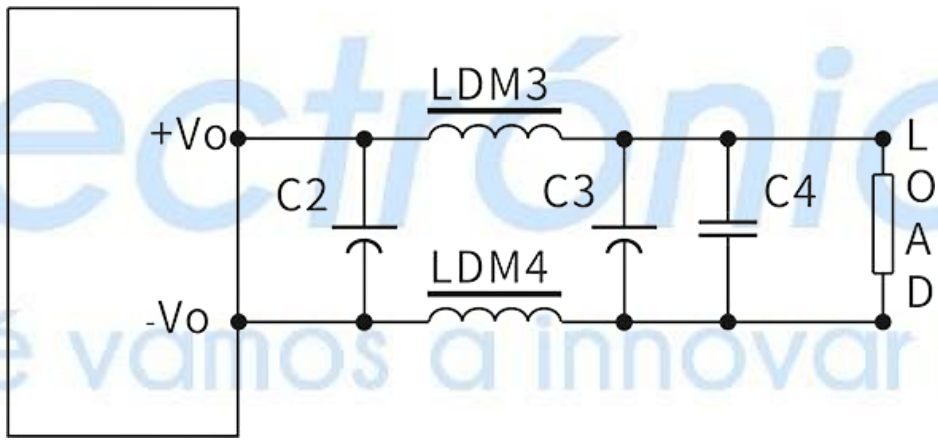
E1, E2 electrolytic capacitors: 220μF/50V

E1, E2 electrolytic capacitor: 220μF/50VC0, C1 ceramic capacitor: 1μF/50V

LDM2 differential mode inductor: 10uH

CY1 safety Y2 capacitor: 1nF/250Vac

Output filter peripheral recommended circuit



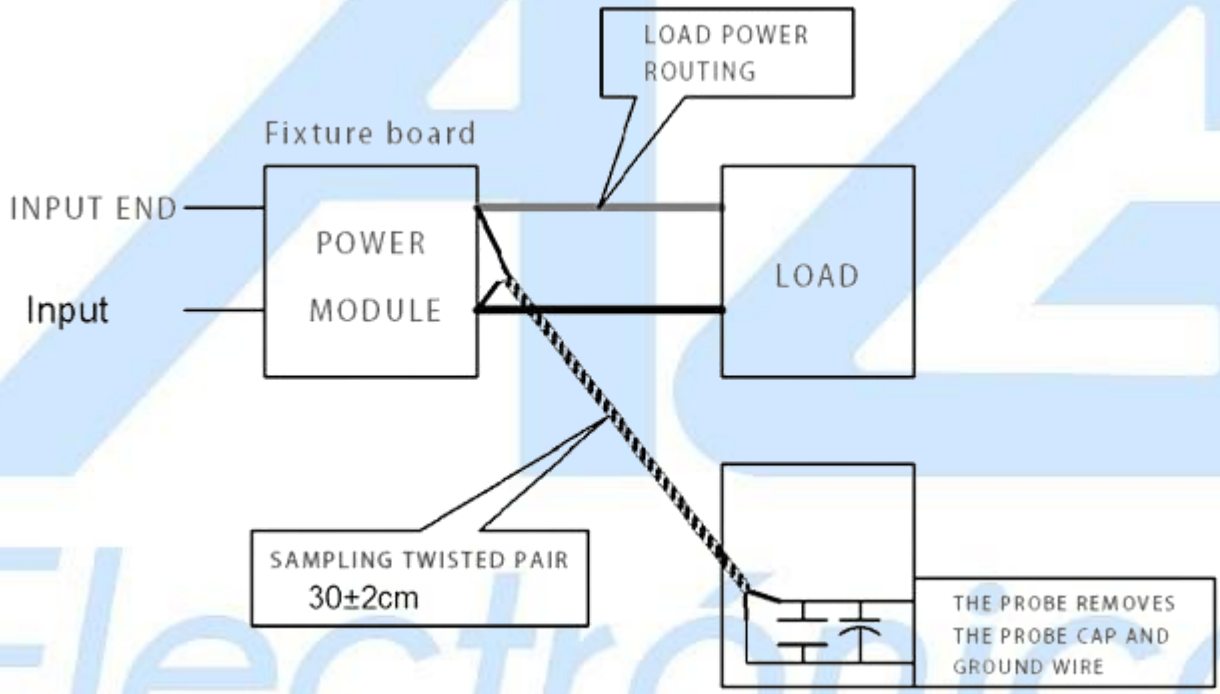
Note:
1. C2 and C3 use high frequency and low resistance electrolytic capacitors, and the total capacity cannot exceed the maximum capacitive load marked in the manual, otherwise the module will not start normally.
2. For capacitive load, a minimum load of 3% must be guaranteed, otherwise it will cause abnormal

output of the module.

Recommended parameters:

Device code	5V output	9V/12V/15V output	24V output
LDM3/4 inductance	1μH	2.2μH	4.7μH
C2/3 electrolytic capacitor	220μF	100μF	68μF
C4 ceramic capacitor	1μF/50V		

Ripple & noise test: twisted pair method 20MHz bandwidth

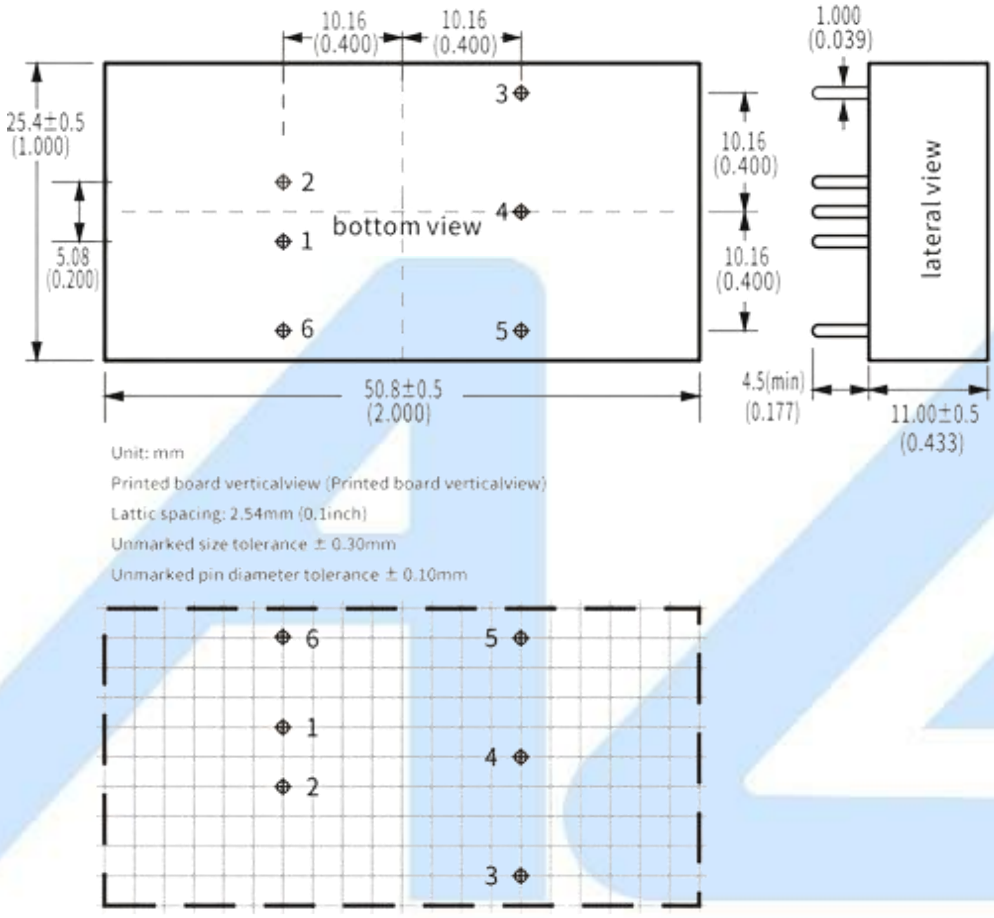


Testing method:

1. Ripple noise is connected using 12# twisted pair, the oscilloscope bandwidth is set to 20MHz, 100M bandwidth probe, and 0.1uF polypropylene capacitor and 47uF high frequency low resistance electrolytic capacitor are connected in parallel to the probe end, and the oscilloscope sampling uses Sample sampling mode .

2. Connect the power input terminal to the input power supply, and the power output is connected to the electronic load through the fixture board. For testing, use a 30cm±2cm sampling line to sample directly from the power output port. The power line selects the corresponding wire diameter wire with insulation according to the output current. (As shown in FIG)

Dimensions & Weight



Pin description:

1: +Vin input positive; 2: -Vin input negative; 3: CTRL remote control terminal; 4: Trim voltage regulator terminal; 5: -V0 output negative; 6: +V0 output positive

*Note: If the definition of each pin of the power module is not consistent with the selection manual, the marking on the physical label shall prevail.

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ACOTACIÓN: N/A	http://www.agelectronica.com	ESCALA: N/A	REALIZO: OGJ REV: JFRR
TOLERANCIA: N/A	MODULO DC-DC 24V A 5V 4A 20W		
TOLERANCIA: N/A	Fecha: 18/05/2022	**No. Parte: HLK-20D2405C**	

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