

## Split-Core AC/DC Current Transducers

# JM21NH-XXX-XXX series

The **JM21XXNH** series, featuring split-core AC/DC current transducers, merges advanced amplification techniques with Hall elements to provide cutting-edge technology that significantly reduces DC offset. This series also encompasses an integrated isolated DC/DC converter that operates on a single power supply, either +24VDC or an optional +12VDC, enhancing the safety and efficiency of installations substantially.

Designed to precisely measure a wide range of primary currents from 5A to 250A, this series excels in managing both AC and DC currents.

With the ability to convert primary input currents into various accurate secondary output options, such as 4-20 mA DC, 0-5 V DC and 0-10 V DC this transducer is ideal for a multitude of industrial applications, especially in the field of current measurement and monitoring.

The **JM21XXNH** series is renowned for its unparalleled precision and versatility, offering cost-effective solutions while simplifying the installation process to significantly reduce both time and labor costs. The implementation of safer installation methods further minimizes potential risks, leading to substantial long-term savings in maintenance and operational costs.

Overall, the JM21XXNH series is a high-precision, efficiency-enhancing product that ensures optimal safety and cost-efficiency in various industrial settings.



**Built-in isolated  
DC/DC converter**

- UL60950-1 certified
- CSA/CAN C22.2 No. 60950-1-07 certified
- IEC/EN60950-1 certified
- IEC/EN60601-1 certified\*
- EN55032 compliant



### Main characteristics

- Choice of primary current ranges: 5 to 250A
- Choice of standard output types: 4-20 mA DC, 0-5 V DC and 0-10 V DC
- Accuracy: <1% of nominal primary current
- Bandwidth: 50/60 Hz

### Applications

- Automation and Supervision
- Safety and Condition Monitoring
- HVAC & Pumps
- Refrigeration / Small Industrial Motors
- Fans / Lighting

#### DC Motor Monitoring

- Spot over current conditions before the machine fails.
- Sense clogged filters or blocked intake to DC driven pumps.

### Features

- Operating range: -20°C to +60°C
- Isolation test voltage: 3kV RMS / 50Hz / 1min
- Sensing aperture: 21mm (for non-contact measurement)
- UL94-V0 recognized materials

### Advantages

- High isolation between primary and secondary circuits
- Compact case
- Cost-effective solution
- Easy installation

### Notice

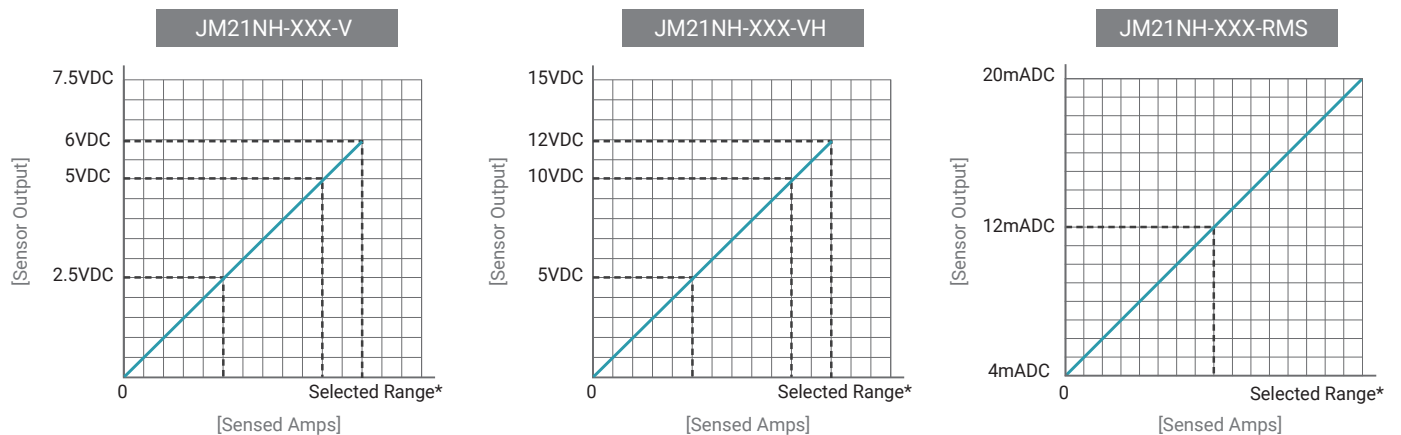
- This product is not intended for life or safety applications.
- Do not install this product in hazardous or classified locations.
- The installer is responsible for conformance to all applicable codes.
- Install this product inside an electrical enclosure that is safe from fire.
- If you impact the core contact surface, internal core material could be damaged.
- Please use only the original output screws. Not recommended to replace it with anything else.
- Clean the contact surface and make sure to remove all debris on the contact parts.
- Be careful of damaging or breaking the core.

## Specifications

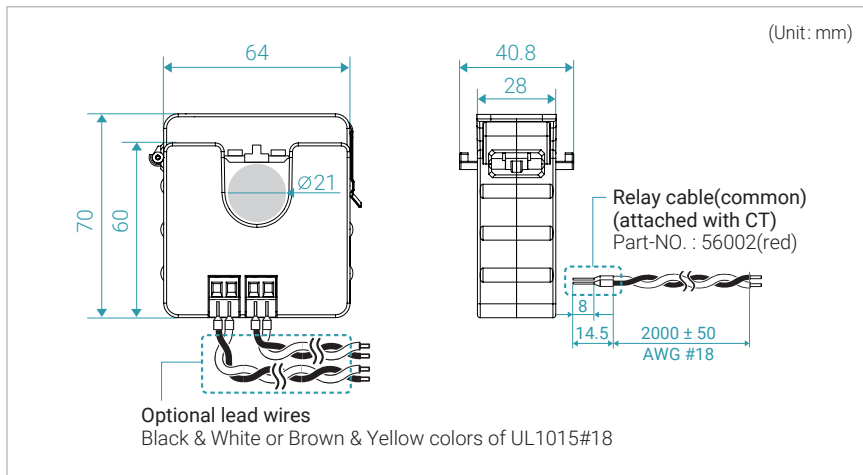
(F=50/60Hz)

Model	JM21NH-XXX-V / JM21NH-XXX-VH					JM21NH-XXX-RMS				
Output current	0-5VDC / 0-10VDC					4~20mADC				
Power supply	Single power supply (24V), ±10% *option: Single power supply (12V)					Single power supply(24V), ±10%				
Rating current (Arms)	5	10	20	25	50	75	100	150	200	250
Power Consumption	0.005W(Max)					0.25W(Max)				
Maximum current	120%(continuous)									
Accuracy	<1% of nominal primary Current									
Response time	0.1ms (typ)									
Output ripple	Within 5% of output									
Withstand voltage	AC3000V(50/60Hz), 1min (between core and output terminal in a lump)									
Insulation Resistance	DC500V, ≥100M Ω (between core and output terminal in a lump)									
Operating temperature	-20°C~ +50°C, ≤80%RH,, no condensation, for indoor assembly, free direction for setting									
Storage temperature	-30°C~ +90°C, ≤85%RH, no condensation									
Fitting repeatability	100 times									
Input and Output Connector	EK508V									
Mass	approximately 75g									

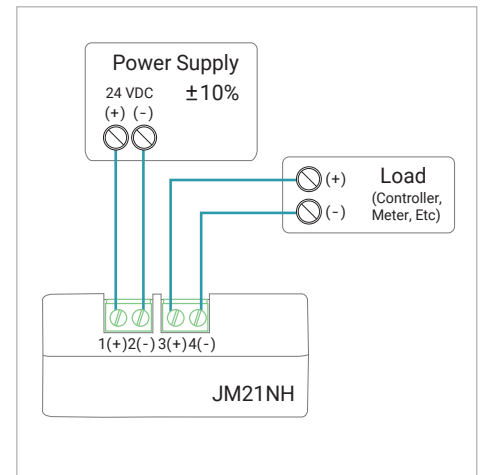
## Output Ampere Data



## Dimensions



## Connections

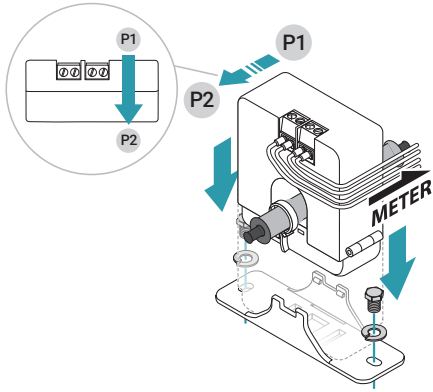


## Accessory Option

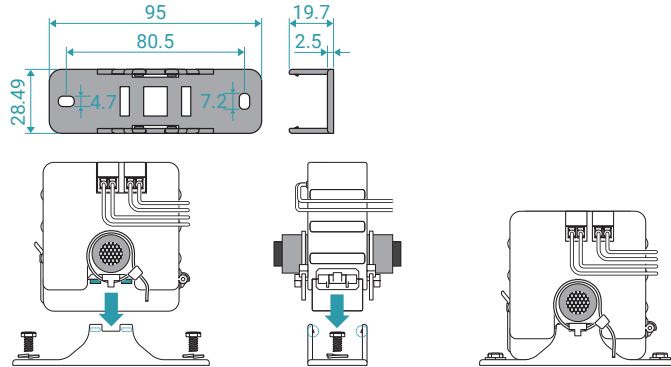
(Unit : mm)

### Panel Mounting

Tighten screws on the hole to mount bracket and install current transducers

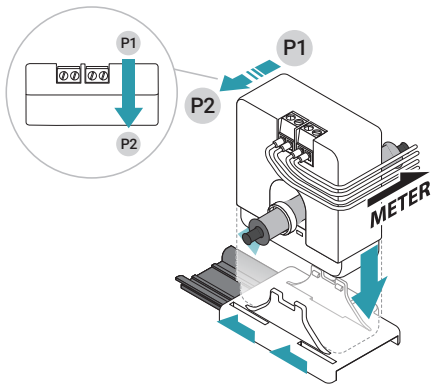


• Dimensions (unit: mm)

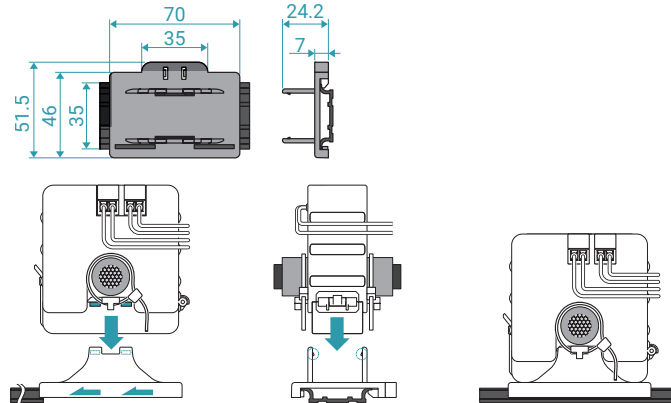


### Din Rail Mounting

Mount the bracket on the rail and install current transducers



• Dimensions (unit: mm)



## Safety & Danger Notes



The J&D CTs are UL/EN 61010-1, CE, RoHS compliant and certified, are also conformed up to Pollution degree 2, 600Vac CAT III rated devices.

Please be sure that Failure to follow these instructions can result in serious injury and/or cause damage.

The transducer shall be used in electric/electronic equipment in accordance with the operating instructions of all related systems and component manufacturers with respect to applicable standards and safety requirements. Follow corresponding national regulations and safe electrical work practices.

This equipment must only be installed and serviced by qualified personnel. And the qualified personnel is one who has skills and knowledge related to the construction and operation of this electrical equipment and installations, and has received safety training to recognize and avoid the hazards involved. In addition, the installation and maintenance shall be done with the main power supply disconnected except if there are no hazardous live parts in or in close proximity to the system and if the applicable national regulations are fully observed.



When operating the transducer, there may be dangerous active voltages (e.g. primary conductor) in certain parts of the module. Users should make sure to take all necessary steps to protect against electric shock. The transducer is a built-in device containing conductive parts that are inaccessible after installation.

Therefore, a protective enclosure or additional insulation barrier is necessary.

Safe and trouble-free operation of this converter can only be guaranteed if transport, storage and installation are carried out correctly and operation and maintenance are carried out carefully.

## Remark

- $I_o$  is positive when  $I_p$  flows in the direction of the arrow. (o : output, p : primary current)
- Temperature of the primary conductor should not exceed 50°C(122°F).
- Dynamic performances (di/dt and delay time) are the best with a single bar when the primary hole is completely filled.