

C Series Single Channel Frequency Transmitter



→ Introductions

This frequency transmitter converts the frequency signals to current or voltage signals. DIN rail power supply function can be selected in ordering.

The input, output, and power supply are galvanically isolated from each other. It can be interfaced with all kinds of device, such as DCS, PLC and other systems.

→ Parameters

Power supply:

Connection type: Terminals (9+, 10-) or DIN rail connector
Rated voltage: 18 V DC ~ 60 V DC (Recommended voltage: 24 V DC)

Input (1, 2):

Input signal: frequency
Switching point:
Low level: 0 ~ 2 V; High level: 4 ~ 30 V (The other trigger point need to be ordered)

Frequency range: ≤ 100 kHz

Pulse width: ≥ 5 μs

Input resistance: ≥ 10 kΩ

Resolution:

Input frequency < 1 kHz: 0.1 Hz

Input frequency ≥ 1 kHz: 1 Hz

Distribution:

24 V DC: Distribution voltage ≥ 22 V at 20mA

12 V DC: Distribution voltage ≥ 11 V at 20mA

Output (5, 6; 7, 8):

Output current: 0(4) ~ 20 mA; 0 ~ 10 mA

Output voltage: 0(1) ~ 5 V; 0 ~ 10 V

Load resistance:

0(4) ~ 20 mA: ≤ 550 Ω; 0 ~ 10 mA: ≤ 1.1 kΩ

0(1) ~ 5 V: ≥ 1 MΩ; 0 ~ 10 V: ≥ 2 MΩ

Output ripple: ≤ 5 mV_{rms} (Load resistance: 250 Ω)

Transmission characteristics:

Accuracy: ± 0.1% F.S. (25 °C ± 2 °C)

Response time: ≤ 0.5 s

Temperature drift: 30 ppm/°C

Electromagnetic compatibility: Accordance to IEC 61326-3-1

Dielectric strength (1 mA leakage current, 1 minute test time):

≥ 1500 V AC (Input /Output/Power supply)

Insulation resistance: ≥ 100 MΩ (Input /Output/Power supply)

Ambient conditions:

Operation temperature: -20 °C ~ +60 °C

Relative humidity: 10% RH ~ 90% RH (40 °C)

Atmosphere pressure: 80 kPa ~ 106 kPa

Storage temperature: -40 °C ~ +80 °C

Power dissipation:

0.8 W (24 V DC, single output)

1.3 W (24 V DC, double output)

→ Model rules

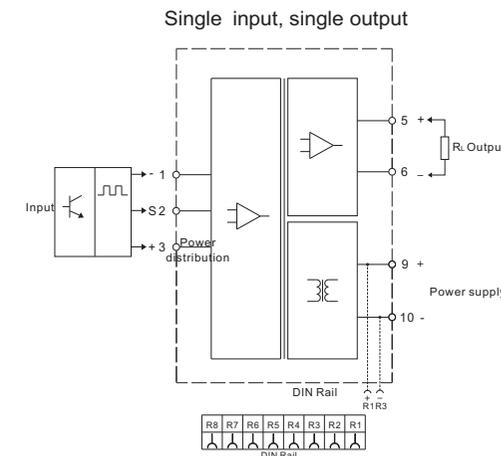
NPFC-C X X D X

PB: BUS powered
Default: Terminals powered
The second output signal^{note}
Default: null
The first output signal^{note}

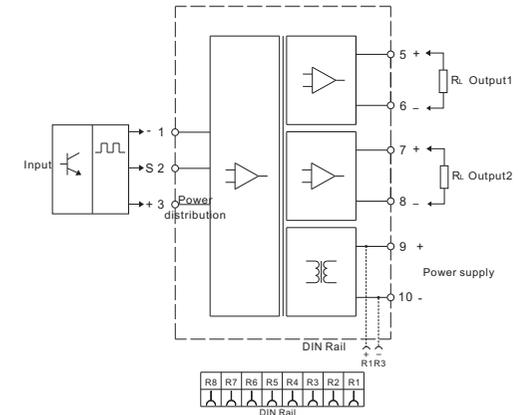
NOTE : Output signal

Number	Output signal
1	4 mA ~ 20 mA
2	1 V ~ 5 V
3	0 mA ~ 10 mA
4	0 V ~ 5 V
5	0 V ~ 10 V
6	0 mA ~ 20 mA
X	User customized signal type

→ Wiring diagram



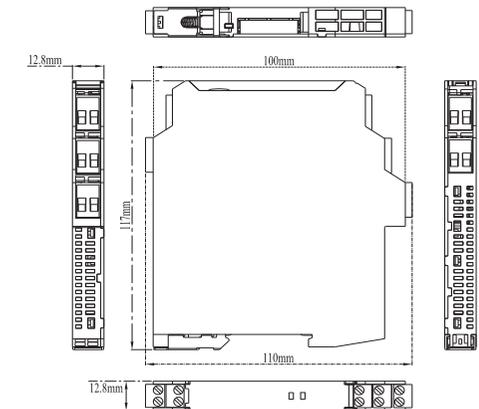
Single input, double output



○ DIN rail power supply function is selectable at ordering.

→ Dimension

Width × Height × Depth: 12.8 mm × 110 mm × 117 mm

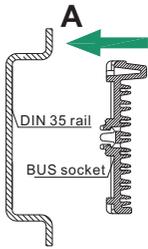


→ BUS Specification

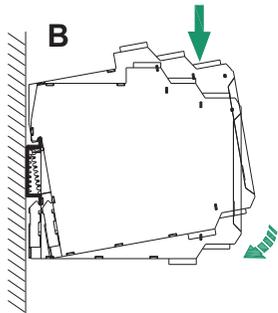
BUS	Electrical Characteristics
Current	Max. 8 A
Voltage (UL/IEC)	1.6 kV
Operation temperature	-40 °C ~ +105 °C

→ Installation

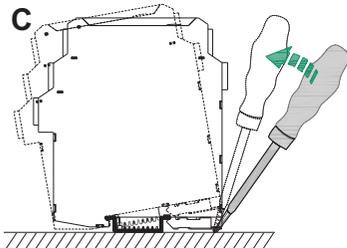
- The devices can be installed on the DIN 35 mm standard rail which is corresponding to DIN IEC 60715. The must be snapped onto the rail, and never slanted or tipped to the side.
- Installation and disassembly steps are shown in following figures:



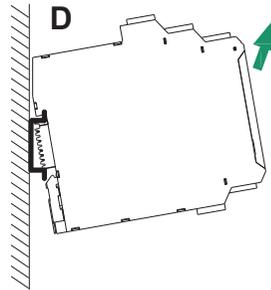
A. Snap the BUS socket on the DIN 35 rail, as figure A;



B. Snap metal lock onto mounting rail, then rotate the devices, as figure B, press down the devices onto mounting rail, make sure that the BUS connector pins of devices and BUS socket are in close contact.

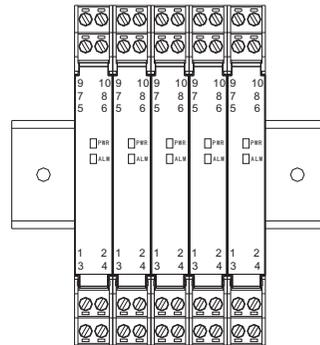


C. Pry the metal lock off the rail with screwdriver as arrow shown, pull downward the springs, and rotate the devices.



D. Remove the devices as arrow shows.

- As far as possible to mount it vertically, In order to dissipation the heat of the devices.



Vertically installation

→ Light indication

- **PWR**: Power indicator light shows green, it means work normally.
- **ALM**: Input signal state indicator (red), it is remaining bright when input over-range.

→ Attention

- The devices degree of protection is IP 20 and must be protected from undesirable ambient conditions (waterproofing, small foreign objects). It is suitable for installation in the control room or high density field cabinet, DIN 35 mm installation is convenient for

installation and displacement.

- The devices were designed for use in pollution degree 2 and overvoltage category III as per IEC/EN 60664-1. If used in areas with higher pollution degree, the devices need to be protected accordingly.
- Installation position shall not be affected by strong mechanical vibration; impact and electromagnetic induction from signal terminal and power supply, should conformity with the requirements on electromagnetic interference resistance of products in Class 3 industrial field atmosphere stipulated in IEC 61000-4; the atmosphere shall be free from gases that are corrosive to metal and plastic components.
- The devices must be installed, connected and adjusted by qualified personnel in non-hazardous area according with the instruction manual.
- The operator must strictly comply with the relevant local safety standards and guidelines.

→ Supplementary instructions

- Our company reserves the right to change the product information without prior notification to the user. If the contents of the description are different from website or sample, this description shall prevail.