

# Isolator, Temperature transmitter

**Product Catalogue & Technical Brochure (2021)** 







# Catalogue

### C series isolator

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### NPWD-C1DH NPWD-C11DH

Single input, single output
Single input, dual output

Input: TC, RTD
Output: 4 ~ 20 mA

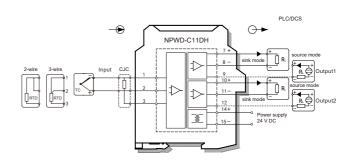
Parameters
Power supply:

Power dissipation:

Input signal:

This temperature transmitter converts the thermocouple or thermal resistance signals to current signals. It has external cold junction compensation terminals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other. Modify parameters by using PC or a handheld programmer.

# Removable grey terminal Removable grey terminal Removable grey terminal LED green power supply LED red fault indication Removable orange terminal



### Wiring diagram

## Line resistance: $\leq 20 \Omega$ per line (RTD) Output signal: $4 \sim 20 \text{mA (sink/source)}$

 $\mbox{Load resistance:} \qquad \qquad \mbox{source:} \ \ \mbox{$R_{\rm L}$$$ \le 550$$$\Omega$} \quad \mbox{sink:} \ \mbox{$R_{\rm L}$$$$$ < [(U-3)/0.02]$$\Omega$;}$ 

0.8 W (single output)

1.2 W (double output)

K, E, S, B, J, T, R, N, etc

Pt100, Cu100, Cu50, BA1, BA2, etc

U: Loop power supply

18 V DC ~ 60 V DC (Reverse power protection)

Compensation accuracy: 1 °C (Temperature compensation range:

-20 °C ~ +60 °C)

Temperature drift: 30 ppm/ $^{\circ}$ C Response time: ≤ 500 ms Electromagnetic IEC 61326-3-1

compatibility:

Dielectric strength: ≥ 1500 V AC (Input/Output/Power supply)

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

Operation temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

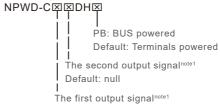
Dimension: 17.8 mm (W) × 110 mm (H) × 117 mm (D)

Output states: Whatever input fault status (except breakage), the

output follows the input within measuring range. And the maximum value would not exceed the 110% of the upper limit of the measuring range (e.g. When the output signal type is 0  $\sim$  20 mA, the minimum output value may be 0 mA, the maximum

output value would not exceed 22 mA)

### ......



note1: output signal

**Model rules** 

Number	Output signal
1	4 ~ 20 mA
2	1 ~ 5 V
3	0 ~ 10 mA
4	0 ~ 5 V
5	0 ~ 10 V
6	0 ~ 20 mA

### Range and Conversion accuracy list

Type	Range	Min.span	/Accuracy
K	-200°C ~ +1372°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
E	-100°C ~ +1000°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
J	-100°C ~ +1200°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
N	-200°C ~ +1300°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
S	-50°C ~ +1768°C	< 500°C, ±0.5°C	≥ 500°C, ±0.1% F.S.
R	-50°C ~ +1768°C	< 500°C, ±0.5°C	≥ 500°C, ±0.1% F.S.
Т	-20°C ~ +400°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
В	+400°C ~ +1820°C	< 500°C, ±0.5°C	≥ 500°C, ±0.1% F.S.
PT100	-200°C ~ +850°C	< 100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.
Cu50	-50°C ~ +150°C	< 100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.
Cu100	-50°C ~ +150°C	< 100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.

### **Temperature Transmitter**



### NPWD-C1 NPWD-C11

Input: TC, RTD Output: 4 ~ 20 mA Single input, single output

Single input, dual output

This temperature transmitter converts the thermocouple or thermal resistance signals to current signals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other. Modify parameters by using PC or a handheld programmer.

## Parameters

Power supply:  $85 \text{ V AC} \sim 265 \text{ V AC}$  (90 V DC  $\sim 360 \text{ V DC}$ ) Power dissipation:  $\leq 0.8 \text{ W}$  (220 V AC, single output full-load)

≤ 2.5 W (220 V AC, double output full-load)

Input signal: K, E, S, B, J, T, R, N, etc

Pt100, Cu100, Cu50, BA1, BA2, etc

Line resistance:  $\leq$  20  $\Omega$  per line (RTD)

Output signal:  $4 \sim 20 \text{mA} \text{ (sink/source)}$ 

Load resistance: source:  $R_i \le 550\Omega$  sink:  $R_i < [(U-3)/0.02]\Omega$ ;

U: Loop power supply

Compensation accuracy: 1 °C (Temperature compensation range:

-20 °C ~ +60 °C)

Temperature drift: 30 ppm/ $^{\circ}$ C Response time: ≤ 500 ms Electromagnetic IEC 61326-3-1

compatibility:

Dielectric strength: ≥ 1500 V AC (Input/Output/Power supply)
Insulation resistance: ≥ 100 MΩ (Input/Output/Power supply)

Operation temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

Dimension: 17.8 mm (W) × 110 mm (H) × 117 mm (D)

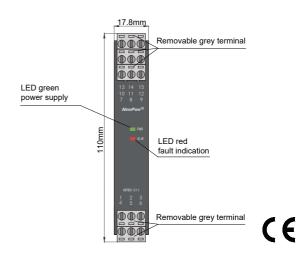
Output states: Whatever input fault status (except breakage), the

output follows the input within measuring range. And the maximum value would not exceed the 110% of the upper limit of the measuring range (e.g. When the output signal type is  $0 \sim 20$  mA, the minimum output value may be 0 mA, the maximum

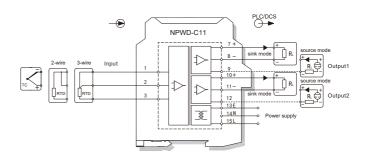
output value would not exceed 22 mA)

### Range and Conversion accuracy list

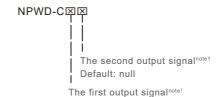
Type	Range	Min.span,	Min.span/Accuracy	
K	-200°C ~ +1372°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.	
E	-100°C ~ +1000°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.	
J	-100°C ~ +1200°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.	
N	-200°C ~ +1300°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.	
S	-50°C ~ +1768°C	< 500°C, ±0.5°C	≥ 500°C, ±0.1% F.S.	
R	-50°C ~ +1768°C	<500°C, ±0.5°C	≥ 500°C, ±0.1% F.S.	
T	-20°C ~ +400°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.	
В	+400°C ~ +1820°C	< 500°C, ±0.5°C	≥ 500°C, ±0.1% F.S.	
PT100	-200°C ~ +850°C	< 100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.	
Cu50	-50°C ~ +150°C	< 100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.	
Cu100	-50°C ~ +150°C	< 100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.	



### Wiring diagram



### **Model rules**



note1: output signal

Number	Output signal
1	4 ~ 20 mA
2	1 ~ 5 V
3	0 ~ 10 mA
4	0 ~ 5 V
5	0 ~ 10 V
6	0 ~ 20 mA

### **NPWD-CD11D**

Input: TC, RTD Output: 4 ~ 20 mA Dual input, dual output

This temperature transmitter converts the thermocouple or thermal resistance signals to current signals. It has external cold junction compensation terminals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other. Modify parameters by using PC or a handheld programmer.

### 17.8mm Removable grey terminal $\mathbb{D}\mathbb{Q}$ LED green power supply CH1 LED red CH2 LED red fault indication $\mathbb{D}$ Removable orange terminal

### **Parameters**

Power supply: 18 V DC ~ 60 V DC (Reverse power protection)

Power dissipation: 1.2 W

Input signal: K, E, S, B, J, T, R, N, etc

Pt100, Cu100, Cu50, BA1, BA2, etc

Line resistance:  $\leq$  20  $\Omega$  per line (RTD) Output signal: 4 ~ 20mA (sink/source)

source:  $R_{i} \le 550\Omega$  sink:  $R_{i} < [(U-3)/0.02]\Omega$ ; Load resistance:

U: Loop power supply

Compensation accuracy: 1 °C (Temperature compensation range:

-20 °C ~ +60 °C)

Temperature drift: 30 ppm/°C ≤ 500 ms Response time: Electromagnetic IEC 61326-3-1

compatibility:

≥ 1500 V AC (Input/Output/Power supply) Dielectric strength: Insulation resistance: ≥ 100 MΩ (Input/Output/Power supply)

Operation temperature: -20 °C ~ +60 °C -40 °C ~ +80 °C Storage temperature:

17.8 mm (W) × 110 mm (H) × 117 mm (D) Dimension:

Output states: Whatever input fault status (except breakage), the

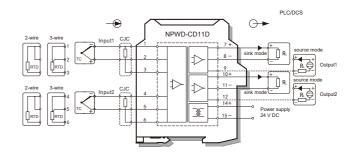
output follows the input within measuring range. And the maximum value would not exceed the 110% of the upper limit of the measuring range (e.g. When the output signal type is  $0 \sim 20$  mA, the minimum output value may be 0 mA, the maximum

output value would not exceed 22 mA)

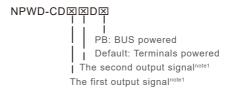
### Range and Conversion accuracy list

Type	Range	Min.span	/Accuracy
K	-200°C ~ +1372°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
E	-100°C ~ +1000°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
J	-100°C ~ +1200°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
N	-200°C ~ +1300°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
S	-50°C ~ +1768°C	< 500°C, ±0.5°C	≥ 500°C, ±0.1% F.S.
R	-50°C ~ +1768°C	< 500°C, ±0.5°C	≥ 500°C, ±0.1% F.S.
T	-20°C ~ +400°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
В	+400°C ~ +1820°C	< 500°C, ±0.5°C	≥ 500°C, ±0.1% F.S.
PT100	-200°C ~ +850°C	< 100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.
Cu50	-50°C ~ +150°C	< 100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.
Cu100	-50°C ~ +150°C	< 100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.

### Wiring diagram



### Model rules



note1: output signal

Number	Output signal
1	4 ~ 20 mA
2	1 ~ 5 V
3	0 ~ 10 mA
4	0 ~ 5 V
5	0 ~ 10 V
6	0 ~ 20 mA

### **Temperature Transmitter**



### NPWD-C1L

Input: TC, RTD Output: 4 ~ 20 mA Single input, single output

This temperature transmitter converts the thermocouple or thermal resistance signals to current signals. It has external cold junction compensation terminals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other. Modify parameters by using PC or a handheld programmer.

### **Parameters**

Loop Powered: 12 V DC ~ 30 V DC (Reverse power protection)

Input signal: K, E, S, B, J, T, R, N, etc

Pt100, Cu100, Cu50, BA1, BA2, etc

Line resistance:  $\leq 20 \Omega$  per line (RTD)

Output signal: 4 ~ 20 mA

Load resistance:  $R_{_L} < [(U-12)/0.02]\Omega; U \text{ is loop powered voltage}$ 

Compensation accuracy: 1 °C (Temperature compensation range:

-20 °C ~ +60 °C)

Temperature drift: 30 ppm/ $^{\circ}$ C Response time: ≤ 500 ms Electromagnetic IEC 61326-3-1

compatibility:

Dielectric strength: ≥ 1500 V AC (Input/Output)Insulation resistance: ≥ 100 MΩ (Input/Output)Operation temperature:  $-20 \text{ °C} \sim +60 \text{ °C}$ 

Storage temperature: -40 °C ~ +80 °C

**Dimension**: 12.8 mm (W) × 110 mm (H) × 117 mm (D)

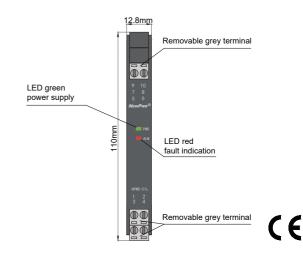
Output states: Whatever input fault status (except breakage, the

output is 3.5 mA), the output follows the input within measuring range. And the maximum value would not exceed 22 mA, the maximum output

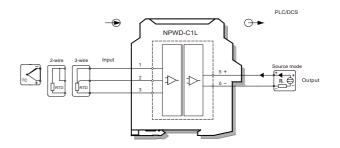
value would not less than 3.5 mA

### Range and Conversion accuracy list

Type	Range	Min.span	/Accuracy
K	-200°C ~ +1372°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
E	-100°C ~ +1000°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
J	-100°C ~ +1200°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
N	-200°C ~ +1300°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
S	-50°C ~ +1768°C	<500°C, ±0.5°C	≥ 500°C, ±0.1% F.S.
R	-50°C ~ +1768°C	<500°C, ±0.5°C	≥ 500°C, ±0.1% F.S.
T	-20°C ~ +400°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
В	+400°C ~ +1820°C	<500°C, ±0.5°C	≥ 500°C, ±0.1% F.S.
PT100	-200°C ~ +850°C	<100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.
Cu50	-50°C ~ +150°C	< 100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.
Cu100	-50°C ~ +150°C	< 100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.



### Wiring diagram



### NPWDA-C1D NPWDA-C11D

Single input, single output

Input: TC, RTD
Output: 4 ~ 20 mA

Single input, dual output

This temperature transmitter converts the thermocouple or thermal resistance signals to current signals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other. Its stability and reliability are ensured by the applied techniques of digital adjustment, zero and full scale potentiometer exemption, automatic dynamic zero adjustment. Modify parameters by using PC or a handheld programmer.

### 

### **Parameters**

### Power supply: $18 \text{ V DC} \sim 32 \text{ V DC}$ Power dissipation: 0.5 W (single output)

0.5 W (single output) 0.7 W (double output)

Input signal: K, E, S, B, J, T, R, N, etc

Pt100, Cu100, Cu50, BA1, BA2, etc

Line resistance:  $\leq 20 \Omega$  per line (RTD)

Output signal:  $4 \sim 20 \text{mA} \text{ (sink/source)}$ 

Load resistance: source:  $R_i \le 350\Omega$  sink:  $R_i < [(U-3)/0.02]\Omega$ ;

U: Loop power supply

Compensation accuracy: 1 °C (Temperature compensation range:

-20 °C ~ +60 °C)

Temperature drift: 50 ppm/ $^{\circ}$ C Response time: ≤ 500 ms Electromagnetic IEC 61326-3-1

compatibility:

Dielectric strength: ≥ 1500 V AC (Input/Output/Power supply)

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

Operation temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

Dimension: 17.8 mm (W) × 110 mm (H) × 117 mm (D)

Output states: Whatever input fault status (except breakage), the

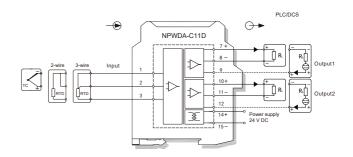
output follows the input within measuring range. And the maximum value would not exceed the 110% of the upper limit of the measuring range (e.g. When the output signal type is 0 ~ 20 mA, the minimum output value may be 0 mA, the maximum

output value would not exceed 22 mA)

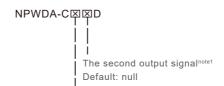
### Range and Conversion accuracy list

Type	Range	Min.span	/Accuracy
K	-200°C ~ +1372°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
E	-100°C ~ +1000°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
J	-100°C ~ +1200°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
N	-200°C ~ +1300°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
S	-50°C ~ +1768°C	<500°C, ±0.5°C	≥ 500°C, ±0.1% F.S.
R	-50°C ~ +1768°C	<500°C, ±0.5°C	≥ 500°C, ±0.1% F.S.
Т	-20°C ~ +400°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
В	+400°C ~ +1820°C	<500°C, ±0.5°C	≥ 500°C, ±0.1% F.S.
PT100	-200°C ~ +850°C	< 100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.
Cu50	-50°C ~ +150°C	< 100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.
Cu100	-50°C ~ +150°C	< 100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.

### Wiring diagram



### **Model rules**



The first output signal<sup>note1</sup>

note1: output signal

Number	Output signal
1	4 ~ 20 mA
2	1 ~ 5 V
3	0 ~ 10 mA
4	0 ~ 5 V
5	0 ~ 10 V
6	0 ~ 20 mA

### **TC Temperature Transmitter**

### NPWD-C1DH.TC NPWD-C11DH.TC

Single input, single output

Single input, dual output



This temperature transmitter converts the thermocouple signals to current signals. It has external cold junction compensation terminals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other. Modify parameters by using PC or a handheld programmer.

# Removable grey terminal Removable grey terminal LED green power supply LED red fault indication Removable orange terminal

### **Parameters**

Power supply: 18 V DC ~ 60 V DC (Reverse power protection)

Power dissipation: 0.8 W (single output)

1.2 W (double output)

 $\begin{tabular}{ll} \begin{tabular}{ll} \beg$ 

Load resistance: source:  $R_i \le 550\Omega$  sink:  $R_i < [(U-3)/0.02]\Omega$ ;

U: Loop power supply

Compensation accuracy: 1°C (Temperature compensation range:

-20°C ~ +60°C)

Temperature drift: 30 ppm/ $^{\circ}$ C Response time: ≤ 500 ms Electromagnetic IEC 61326-3-1

compatibility:

Dielectric strength:  $\geq$  1500 V AC (Input/Output/Power supply) Insulation resistance:  $\geq$  100 M $\Omega$  (Input/Output/Power supply)

Operation temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

Dimension: 17.8 mm (W)  $\times$  110 mm (H)  $\times$  117 mm (D)

Output states: Whatever input fault status (except breakage), the

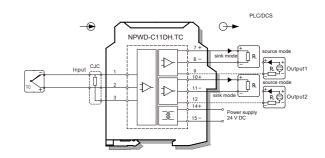
output follows the input within measuring range. And the maximum value would not exceed the 110% of the upper limit of the measuring range (e.g. When the output signal type is  $0 \sim 20$  mA, the minimum output value may be 0 mA, the maximum

output value would not exceed 22 mA)

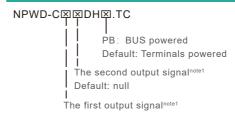
### Range and Conversion accuracy list

Type	Range	Min.span	/Accuracy
K	-200°C ~ +1372°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
E	-100°C ~ +1000°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
J	-100°C ~ +1200°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
N	-200°C ~ +1300°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
S	-50°C ~ +1768°C	< 500°C, ±0.5°C	≥ 500°C, ±0.1% F.S.
R	-50°C ~ +1768°C	< 500°C, ±0.5°C	≥ 500°C, ±0.1% F.S.
Т	-20°C ~ +400°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
В	+400°C ~ +1820°C	< 500°C, ±0.5°C	≥ 500°C, ±0.1% F.S.

### Wiring diagram



### **Model rules**



### note1: output signal

Number	Output signal	
1	4 ~ 20 mA	
2	1 ~ 5 V	
3	0 ~ 10 mA	
4	0 ~ 5 V	
5	0 ~ 10 V	
6	0 ~ 20 mA	

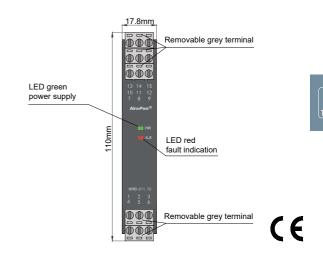


## NPWD-C1.TC

Single input, single output
Single input, dual output

Input: TC
Output: 4 ~ 20 mA

This temperature transmitter converts the thermocouple signals to current signals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other. Modify parameters by using PC or a handheld programmer.



### **Parameters**

Power supply:  $85 \text{ V AC} \sim 265 \text{ V AC } (90 \text{ V DC} \sim 360 \text{ V DC})$ Power dissipation:  $\leq 0.8 \text{ W } (220 \text{V AC}, \text{ single output full-load})$ 

≤ 2.5 W (220V AC, double output full-load)

 $\begin{tabular}{ll} \begin{tabular}{ll} Input signal: & K, E, S, B, J, T, R, N, etc \\ Line resistance: & $\leq 20 \ \Omega$ per line (RTD) \\ Output signal: & $4 \sim 20 mA (sink/source) \\ \end{tabular}$ 

Load resistance: source:  $R_i \le 550\Omega$  sink:  $R_i < [(U-3)/0.02]\Omega$ ;

U: Loop power supply

Compensation accuracy: 1 °C (Temperature compensation range:

-20 °C ~ +60 °C)

Temperature drift: 30 ppm/ $^{\circ}$ C Response time: ≤ 500 ms Electromagnetic IEC 61326-3-1

compatibility:

Dielectric strength:  $\geq$  1500 V AC (Input/Output/Power supply) Insulation resistance:  $\geq$  100 M $\Omega$  (Input/Output/Power supply)

Operation temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

Dimension:  $17.8 \text{ mm (W)} \times 110 \text{ mm (H)} \times 117 \text{ mm (D)}$ 

Output states: Whatever input fault status (except breakage), the

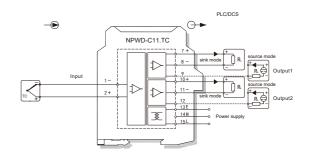
output follows the input within measuring range. And the maximum value would not exceed the 110% of the upper limit of the measuring range (e.g. When the output signal type is  $0 \sim 20$  mA, the minimum output value may be 0 mA, the maximum

output value would not exceed 22 mA)

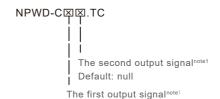
### Range and Conversion accuracy list

Type	Range	Min.span/Accuracy	
K	-200°C ~ +1372°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
E	-100°C ~ +1000°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
J	-100°C ~ +1200°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
N	-200°C ~ +1300°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
S	-50°C ~ +1768°C	< 500°C, ±0.5°C	≥ 500°C, ±0.1% F.S.
R	-50°C ~ +1768°C	< 500°C, ±0.5°C	≥ 500°C, ±0.1% F.S.
Т	-20°C ~ +400°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
В	+400°C ~ +1820°C	< 500°C, ±0.5°C	≥ 500°C, ±0.1% F.S.

### Wiring diagram



### **Model rules**



note1: output signal

Number	Output signal
1	4 ~ 20 mA
2	1 ~ 5 V
3	0 ~ 10 mA
4	0 ~ 5 V
5	0 ~ 10 V
6	0 ~ 20 mA

### NPWD-CD11D.TC

Dual input, dual output

Input: TC

Output: 4 ~ 20 mA

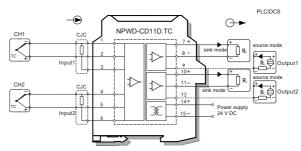


This temperature transmitter converts the thermocouple signals to current signals. It has external cold junction compensation terminals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other. Modify parameters by using PC or a handheld programmer.

LED green power supply

CH2 LED red

fault indication



17.8mm

◍◍◍

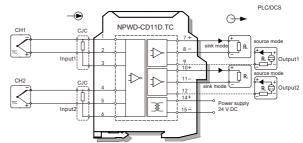
ΦΦ.

Removable grey terminal

CH1 LED red

Removable orange terminal

### Wiring diagram



### **Parameters**

Power supply: 18 V DC ~ 60 V DC (Reverse power protection)

Power dissipation: 1.2 W

Input signal: K, E, S, B, J, T, R, N, etc Output signal: 4 ~ 20mA (sink/source)

Load resistance: source:  $R_i \le 550\Omega$  sink:  $R_i < [(U-3)/0.02]\Omega$ ;

U: Loop power supply

1°C (Temperature compensation range: Compensation accuracy:

-20 °C ~ +60 °C)

30 ppm/°C Temperature drift: Response time: ≤ 500 ms Electromagnetic IEC 61326-3-1

compatibility:

≥ 1500 V AC (Input/Output/Power supply) Dielectric strength: ≥ 100 MΩ (Input/Output/Power supply) Insulation resistance:

-20 °C ~ +60 °C Operation temperature: Storage temperature: -40 °C ~ +80 °C

Dimension: 17.8 mm (W) × 110 mm (H) × 117 mm (D)

Whatever input fault status (except breakage), the Output states:

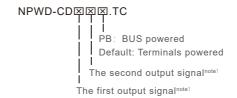
> output follows the input within measuring range. And the maximum value would not exceed the 110% of the upper limit of the measuring range (e.g. When the output signal type is  $0 \sim 20$  mA, the minimum output value may be 0 mA, the maximum

output value would not exceed 22 mA)

### Range and Conversion accuracy list

Type	Range	Min.span,	/Accuracy
K	-200°C ~ +1372°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
E	-100°C ~ +1000°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
J	-100°C ~ +1200°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
N	-200°C ~ +1300°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
S	-50°C ~ +1768°C	< 500°C, ±0.5°C	≥ 500°C, ±0.1% F.S.
R	-50°C ~ +1768°C	< 500°C, ±0.5°C	≥ 500°C, ±0.1% F.S.
Т	-20°C ~ +400°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
В	+400°C ~ +1820°C	< 500°C, ±0.5°C	≥ 500°C, ±0.1% F.S.

### **Model rules**



note1: output signal

Number	Output signal	
1	4 ~ 20 mA	
2	1 ~ 5 V	
3	0 ~ 10 mA	
4	0 ~ 5 V	
5	0 ~ 10 V	
6	0 ~ 20 mA	

### NPWD-C1L.TC

Single input, single output

Input: TC
Output: 4 ~ 20 mA

This temperature transmitter converts the thermocouple signals to current signals. It can work without an independent power supply. The input, output are galvanically isolated from each other. Modify parameters by using PC or a handheld programmer.

# LED green power supply LED red fault indication Removable grey terminal

# TC

### **Parameters**

Power supply: 12 V DC ~ 30 V DC (Reverse power protection)

Input signal: K, E, S, B, J, T, R, N, etc

Output signal: 4 ~ 20 mA

Load resistance:  $R_{_L} < [(U\text{-}12)/0.02]\Omega; \ U \ \text{is loop powered voltage}$ 

Compensation accuracy: 1 °C (Temperature compensation range:

-20 °C ~ +60 °C)

Temperature drift:

Response time:

Electromagnetic

compatibility:

30 ppm/°C

≤ 500 ms

IEC 61326-3-1

Dielectric strength:

Insulation resistance: ≥ 1500 V AC (Input/Output)Operation temperature: ≥ 100 MΩ (Input/Output)

Storage temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Dimension:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

Output states: 12.8 mm (W)  $\times$  110 mm (H)  $\times$  117 mm (D)

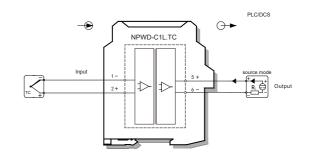
Whatever input fault status (except breakage, the output is 3.5 mA), the output follows the input within measuring range. And the maximum value would not exceed 22 mA, the maximum output

value would not less than 3.5 mA

### Range and Conversion accuracy list

Type	Range	Min.span	/Accuracy
K	-200°C ~ +1372°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
E	-100°C ~ +1000°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
J	-100°C ~ +1200°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
N	-200°C ~ +1300°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
S	-50°C ~ +1768°C	< 500°C, ±0.5°C	≥ 500°C, ±0.1% F.S.
R	-50°C ~ +1768°C	< 500°C, ±0.5°C	≥ 500°C, ±0.1% F.S.
Т	-20°C ~ +400°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
В	+400°C ~ +1820°C	<500°C, ±0.5°C	≥ 500°C, ±0.1% F.S.

### Wiring diagram



### NPWDA-C1D.TC NPWDA-C11D.TC

Single input, single output Single input, dual output

Input: TC Output: 4 ~ 20 mA

**Parameters** Power supply:

Power dissipation:

Input signal: Line resistance:

Output signal:

signals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other. Its stability and reliability are ensured by the applied techniques of digital adjustment, zero and full scale potentiometer exemption, automatic dynamic zero adjustment. Modify parameters by using PC or a handheld programmer.

18 V DC ~ 32 V DC

0.5 W (single output)

0.7 W (double output)

 $\leq$  20  $\Omega$  per line (RTD)

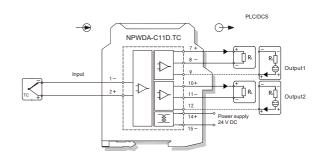
4 ~ 20mA (sink/source)

K, E, S, B, J, T, R, N, etc

# This temperature transmitter converts the thermocouple signals to current

## 17.8mm Removable grey termina LCD 1035 7.39 Function key Removable grey termina

### Wiring diagram



### source: $R_i \le 350\Omega$ sink: $R_i < [(U-3)/0.02]\Omega$ ; Load resistance: U: Loop power supply Compensation accuracy:

1 °C (Temperature compensation range:

-20 °C ~ +60 °C)

Temperature drift: 50 ppm/°C ≤ 500 ms Response time: Electromagnetic IEC 61326-3-1

compatibility:

≥ 1500 V AC (Input/Output/Power supply) Dielectric strength: ≥ 100 MΩ (Input/Output/Power supply) Insulation resistance:

-20 °C ~ +60 °C Operation temperature: -40 °C ~ +80 °C Storage temperature:

17.8 mm (W) × 110 mm (H) × 117 mm (D) Dimension:

Output states: Whatever input fault status (except breakage), the

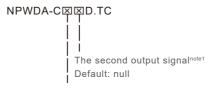
output follows the input within measuring range. And the maximum value would not exceed the 110% of the upper limit of the measuring range (e.g. When the output signal type is  $0 \sim 20$  mA, the minimum output value may be 0 mA, the maximum

output value would not exceed 22 mA)

### Range and Conversion accuracy list

Type	Range	Min.span	/Accuracy
K	-200°C ~ +1372°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
E	-100°C ~ +1000°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
J	-100°C ~ +1200°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
N	-200°C ~ +1300°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
S	-50°C ~ +1768°C	< 500°C, ±0.5°C	≥ 500°C, ±0.1% F.S.
R	-50°C ~ +1768°C	< 500°C, ±0.5°C	≥ 500°C, ±0.1% F.S.
Т	-20°C ~ +400°C	< 300°C, ±0.3°C	≥ 300°C, ±0.1% F.S.
В	+400°C ~ +1820°C	< 500°C, ±0.5°C	≥ 500°C, ±0.1% F.S.

### **Model rules**



The first output signal note1

note1: output signal

Number	Output signal	
1	4 ~ 20 mA	
2	1 ~ 5 V	
3	0 ~ 10 mA	
4	0 ~ 5 V	
5	0 ~ 10 V	
6	0 ~ 20 mA	

### NPMV-C011D NPMV-C0111D

Single input, single output

Input: Millivolt
Output: 4 ~ 20 mA

This millivolt transmitter converts the millivolt signals to current signals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other. Modify parameters by using PC or a handheld programmer.

# LED green power supply LED red fault indication Removable grey terminal Removable grey terminal Removable grey terminal

### **Parameters**

Power supply: 18 V DC  $\sim$  60 V DC (Reverse power protection)

Power dissipation: 0.8 W (single output)

1.2 W (double output)

compatibility:

Dielectric strength: ≥ 1500 V AC (Input/Output/Power supply)Insulation resistance: ≥ 100 MΩ (Input/Output/Power supply)

Operation temperature:  $-20 \, ^{\circ}\text{C} \sim +60 \, ^{\circ}\text{C}$ Storage temperature:  $-40 \, ^{\circ}\text{C} \sim +80 \, ^{\circ}\text{C}$ 

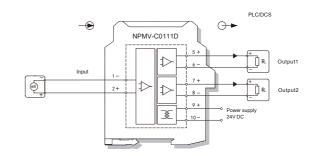
Dimension: 12.8 mm (W)  $\times$  110 mm (H)  $\times$  117 mm (D)

Output states: Whatever input fault status (except breakage), the

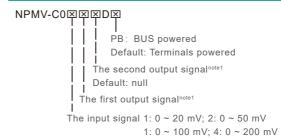
output follows the input within measuring range. And the maximum value would not exceed the 110% of the upper limit of the measuring range (e.g. When the output signal type is 0  $\sim$  20 mA, the minimum output value may be 0 mA, the maximum

output value would not exceed 22 mA)

### Wiring diagram



### **Model rules**



note1: output signal

Number	Output signal
1	4 ~ 20 mA
2	1 ~ 5 V
3	0 ~ 10 mA
4	0 ~ 5 V
5	0 ~ 10 V
6	0 ~ 20 mA

### Millivolt Repeater

### NPMR-CM1D NPMR-CM2D

Single input, single output

Input: Millivolt Output: 1:1 mV Single input, dual output

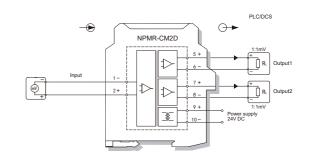


This millivolt repeater converts the millivolt signals to 1:1 millivolt signals. It can work without an independent power supply. The input, output are galvanically isolated from each other. It has the function of setting over range output when the input is disconnected.



LED green

power supply



12.8mm

Removable grey terminal

Removable grey terminal

### **Parameters**

Power supply: 18V DC ~ 32V DC (Reverse power protection)

Power dissipation: 0.4W (single output)

0.8W (double output))

Input signal: -100mV ~ 100mV

 Input resistance:
 ≥ 20MΩ 

 Output signal:
 1:1 mV

 Output resistance:
 55Ω 

 Compensation accuracy:
 0.05%F.S. 

 Temperature drift:
 0.005%F.S./°C 

 Response time:
 ≤ 2ms 

Electromagnetic IEC 61326-3-1

compatibility:

Dielectric strength:  $\geq 1500 \text{ V AC (Input/Output/Power supply)}$ Insulation resistance:  $\geq 100 \text{ M}\Omega \text{ (Input/Output/Power supply)}$ 

Operation temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

Dimension: 12.8 mm (W) × 110 mm (H) × 117 mm (D)

### DIP switch settings

### S1 and S2 cannot be set to ON at the same time

DIP S	Switch	Output
S1	(Input is disconnected)	
ON	OFF	< -100mV
OFF	ON	> 100mV

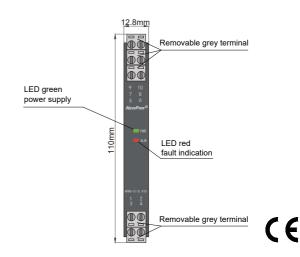
### NPWD-C1D.RTD NPWD-C11D.RTD

Single input, single output

Single input, dual output

Input: RTD
Output: 4 ~ 20 mA

This temperature transmitter converts the thermal resistance signals to current signals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other. Modify parameters by using PC or a handheld programmer.





### **Parameters**

Power supply: 18 V DC ~ 60 V DC (Reverse power protection)

Power dissipation: 0.8 W (single output)

1.2 W (double output)

Input signal: Pt100, Cu100, Cu50, BA1, BA2, etc

Line resistance:  $\leq 20 \Omega$  per line (RTD)

Output signal: $4 \sim 20 \text{ mA}$ Load resistance: $R_{L} \leq 550 \Omega$ Temperature drift:30 ppm/°CResponse time: $\leq 500 \text{ ms}$ ElectromagneticIEC 61326-3-1

compatibility:

Dielectric strength: ≥ 1500 V AC (Input/Output/Power supply)
Insulation resistance: ≥ 100 MΩ (Input/Output/Power supply)

Operation temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

Dimension: 12.8 mm (W)  $\times$  110 mm (H)  $\times$  117 mm (D)

Output states: Whatever input fault status (except breakage), the

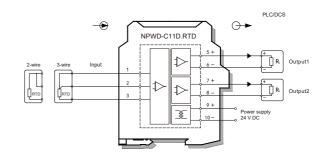
output follows the input within measuring range. And the maximum value would not exceed the 110% of the upper limit of the measuring range (e.g. When the output signal type is  $0 \sim 20$  mA, the minimum output value may be 0 mA, the maximum

output value would not exceed 22 mA)

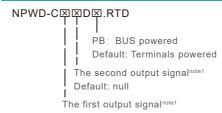
### Range and Conversion accuracy list

Type	Range	Min.span/Accuracy	
PT100	-200°C ~ +850°C	< 100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.
Cu50	-50°C ~ +150°C	< 100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.
Cu100	-50°C ~ +150°C	< 100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.

### Wiring diagram



### **Model rules**



note1: output signal

Number	Output signal
1	4 ~ 20 mA
2	1 ~ 5 V
3	0 ~ 10 mA
4	0 ~ 5 V
5	0 ~ 10 V
6	0 ~ 20 mA

### RTD Temperature Transmitter

### NPWD-C1.RTD NPWD-C11.RTD

Single input, single output
Single input, dual output

Input: RTD
Output: 4 ~ 20 mA

This temperature transmitter converts the thermal resistance signals to current signals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other. Modify parameters by using PC or a handheld programmer.



### **Parameters**

Power supply:  $85 \text{ V AC} \sim 265 \text{ V AC} (90 \text{ V DC} \sim 360 \text{ V DC})$ Power dissipation:  $\leq 0.8 \text{ W} (220 \text{ V AC}, \text{ single output full-load})$ 

 $\leq$  2.5 W (220 V AC, double output full-load)

Input signal: Pt100, Cu100, Cu50, BA1, BA2, etc

Line resistance:  $\leq$  20  $\Omega$  per line (RTD)

Output signal:  $4 \sim 20 \text{mA} \text{ (sink/source)}$ 

Load resistance: source:  $R_i \le 550\Omega$  sink:  $R_i < [(U-3)/0.02]\Omega$ ;

U: Loop power supply

Temperature drift: 30 ppm/ $^{\circ}$ C Response time: ≤ 500 ms Electromagnetic IEC 61326-3-1

compatibility:

Dielectric strength: ≥ 1500 V AC (Input/Output/Power supply)

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

Operation temperature:  $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$ Storage temperature:  $-40^{\circ}\text{C} \sim +80^{\circ}\text{C}$ 

Dimension: 17.8 mm (W) × 110 mm (H) × 117 mm (D)

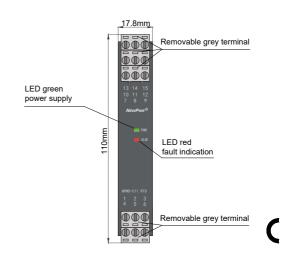
Output states: Whatever input fault status (except breakage), the

output follows the input within measuring range. And the maximum value would not exceed the 110% of the upper limit of the measuring range (e.g. When the output signal type is  $0 \sim 20$  mA, the minimum output value may be 0 mA, the maximum

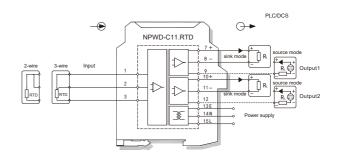
output value would not exceed 22 mA)

### Range and Conversion accuracy list

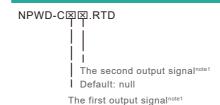
Type	Range	Min.span/Accuracy	
PT100	-200°C ~ +850°C	< 100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.
Cu50	-50°C ~ +150°C	< 100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.
Cu100	-50°C ~ +150°C	< 100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.



### Wiring diagram



### Model rules



note1: output signal

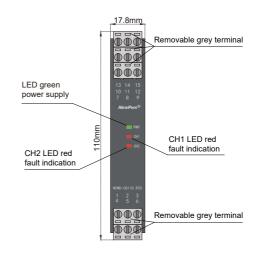
Number	Output signal
1	4 ~ 20 mA
2	1 ~ 5 V
3	0 ~ 10 mA
4	0 ~ 5 V
5	0 ~ 10 V
6	0 ~ 20 mA

### NPWD-CD11D.RTD

Dual input, dual output

Input: RTD
Output: 4 ~ 20 mA

This temperature transmitter converts the thermal resistance signals to current signals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other. Modify parameters by using PC or a handheld programmer.





### **Parameters**

Power supply: 18 V DC  $\sim$  60 V DC (Reverse power protection)

Power dissipation: 1.2 W

Input signal: Pt100, Cu100, Cu50, BA1, BA2, etc

Line resistance:  $\leq$  20  $\Omega$  per line (RTD)

Output signal:  $4 \sim$  20 mA (sink/source)

Load resistance: source:  $R_L \le 550\Omega$  sink:  $R_L < [(U-3)/0.02]\Omega$ ;

U: Loop power supply

Temperature drift: 30 ppm/ $^{\circ}$ C Response time: ≤ 500 ms Electromagnetic IEC 61326-3-1

compatibility:

Dielectric strength:  $\geq 1500 \text{ V AC (Input/Output/Power supply)}$ Insulation resistance:  $\geq 100 \text{ M}\Omega \text{ (Input/Output/Power supply)}$ 

Operation temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

 $\begin{array}{ll} \mbox{Dimension:} & 17.8 \mbox{ mm (W)} \times 110 \mbox{ mm (H)} \times 117 \mbox{ mm (D)} \\ \mbox{Output states:} & \mbox{Whatever input fault status (except breakage),} \end{array}$ 

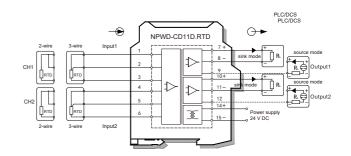
the output follows the input within measuring range. And the maximum value would not exceed the 110% of the upper limit of the measuring range (e.g. When the output signal type is 0  $\sim$  20 mA, the minimum output value may be 0 mA, the

maximum output value would not exceed 22 mA)

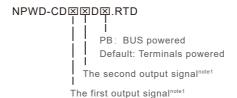
### Range and Conversion accuracy list

Туре	Range	Min.span/Accuracy	
PT100	-200°C ~ +850°C	< 100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.
Cu50	-50°C ~ +150°C	< 100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.
Cu100	-50°C ~ +150°C	< 100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.

### Wiring diagram



### Model rules



note1: output signal

Number	Output signal
1	4 ~ 20 mA
2	1 ~ 5 V
3	0 ~ 10 mA
4	0 ~ 5 V
5	0 ~ 10 V
6	0 ~ 20 mA

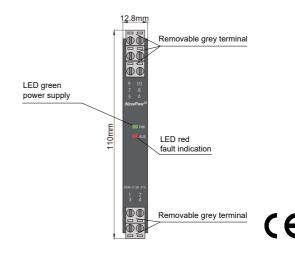
### NPWD-C18D.RTD

Single input, dual output

Input: RTD

Output: 4 ~ 20 mA, RS485

This temperature transmitter converts the thermal resistance signals to current signals. It has RS485 interface. By using the MODBUS-RTU protocol, it can communicate with the other devices. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other. Modify parameters by using PC or a handheld programmer.



### **Parameters**

Load resistance:

Power supply: 18 V DC  $\sim$  60 V DC (Reverse power protection)

Power dissipation: 0.9 W

Input signal: Pt100, Cu100, Cu50, BA1, BA2, etc

 $R_{\scriptscriptstyle L} \le 550 \ \Omega$ 

 $\begin{tabular}{lll} Line resistance: &$\leq 20 \ \Omega$ per line (RTD) \\ Output signal: &Output1: 4 \sim 20 \ mA \\ Output2: RS485 \\ \end{tabular}$ 

Communication MODBUS-RTU, distance ≤ 1000 m, notes number

 $\begin{array}{lll} \text{parameters:} & \leq 32 \\ \text{Baud rate:} & \leq 19.2 \text{ kbps} \\ \text{Temperature drift:} & 40 \text{ ppm/°C} \\ \text{Response time:} & \leq 500 \text{ ms} \\ \text{Electromagnetic} & \text{IEC 61326-3-1} \\ \end{array}$ 

compatibility:

 $\label{eq:decomposition} \begin{array}{ll} \mbox{Dielectric strength:} & \geq 1500 \mbox{ V AC (Input/Output/Power supply)} \\ \mbox{Insulation resistance:} & \geq 100 \mbox{ M}\Omega \mbox{ (Input/Output/Power supply)} \end{array}$ 

Operation temperature:  $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$ Storage temperature:  $-40^{\circ}\text{C} \sim +80^{\circ}\text{C}$ 

Dimension: 12.8 mm (W)  $\times$  110 mm (H)  $\times$  117 mm (D)

Output states: Whatever input fault status (except breakage), the

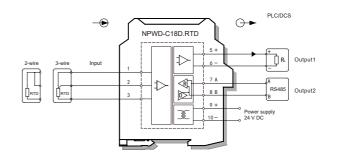
output follows the input within measuring range. And the maximum value would not exceed the 110% of the upper limit of the measuring range (e.g. When the output signal type is 0  $\sim$  20 mA, the minimum output value may be 0 mA, the maximum

output value would not exceed 22 mA)

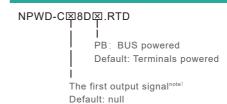
### Range and Conversion accuracy list

Type	Range	Min.span/Accuracy	
PT100	-200°C ~ +850°C	< 100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.
Cu50	-50°C ~ +150°C	< 100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.
Cu100	-50°C ~ +150°C	< 100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.

### Wiring diagram



### Model rules



note1: output signal

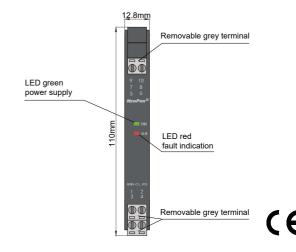
Number	Output signal
1	4 ~ 20 mA
2	1 ~ 5 V
3	0 ~ 10 mA
4	0 ~ 5 V
5	0 ~ 10 V
6	0 ~ 20 mA

### NPWD-C1L.RTD

Single input, single output

Input: RTD Output: 4 ~ 20 mA, RS485

This temperature transmitter converts the thermal resistance signals to current signals. It can work without an independent power supply. The input, output are galvanically isolated from each other. Modify parameters by using PC or a handheld programmer.





### **Parameters**

Loop Powered: 12 V DC ~ 30 V DC Reverse power protection)

Input signal: Pt100, Cu100, Cu50, BA1, BA2, etc

Line resistance:  $\leq 20 \Omega$  per line (RTD)

Output signal: 4 ~ 20mA

**Load resistance**:  $R_L < [(U-12)/0.02]\Omega$ ; U is loop powered voltage

Temperature drift: 30 ppm/ $^{\circ}$ C Response time: ≤ 500 ms Electromagnetic IEC 61326-3-1

compatibility:

 $\begin{array}{ll} \mbox{Dielectric strength:} & \geq 1500 \mbox{ V AC (Input/Output)} \\ \mbox{Insulation resistance:} & \geq 100 \mbox{ M}\Omega \left(\mbox{Input/Output)} \end{array}$ 

Operation temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

Dimension: 12.8 mm (W)  $\times$  110 mm (H)  $\times$  117 mm (D)

Output states: Whatever input fault status (except breakage, the

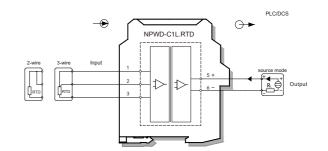
output is 3.5 mA), the output follows the input within measuring range. And the maximum value would not exceed 22 mA, the maximum output

value would not less than 3.5 mA

### Range and Conversion accuracy list

Туре	Range	Min.span/Accuracy	
PT100	-200°C ~ +850°C	<100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.
Cu50	-50°C ~ +150°C	< 100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.
Cu100	-50°C ~ +150°C	< 100°C, ±0.1°C	≥ 100°C, ±0,1% F.S.

### Wiring diagram



### NPWDA-C1D.RTD NPWDA-C11D.RTD

Single input, single output
Single input, dual output

Input: RTD
Output: 4 ~ 20 mA

This temperature transmitter converts the thermal resistance signals to current signals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other. Its stability and reliability are ensured by the applied techniques of digital adjustment, zero and full scale potentiometer exemption, automatic dynamic zero adjustment. Modify parameters by using PC or a handheld programmer.



### **Parameters**

Power supply:  $18 \text{ V DC} \sim 32 \text{ V DC}$ Power dissipation: 0.5 W (single output)

0.7 W (double output)

Input signal: Pt100, Cu100, Cu50, BA1, BA2, etc

Line resistance:  $\leq 20 \Omega$  per line (RTD)

Output signal:  $4 \sim 20 \text{mA} \text{ (sink/source)}$ 

Load resistance: source:  $R_i \le 350\Omega$  sink:  $R_i < [(U-3)/0.02]\Omega$ ;

U: Loop power supply

Temperature drift: 50 ppm/ $^{\circ}$ C Response time: ≤ 500 ms Electromagnetic IEC 61326-3-1

compatibility:

Dielectric strength:  $\geq 1500 \text{ V AC (Input/Output/Power supply)}$ Insulation resistance:  $\geq 100 \text{ M}\Omega \text{ (Input/Output/Power supply)}$ 

Operation temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

Dimension: 17.8 mm (W) × 110 mm (H) × 117 mm (D)

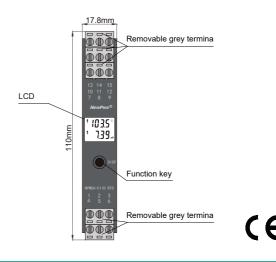
Output states: Whatever input fault status (except breakage), the

output follows the input within measuring range. And the maximum value would not exceed the 110% of the upper limit of the measuring range (e.g. When the output signal type is  $0 \sim 20$  mA, the minimum output value may be 0 mA, the maximum

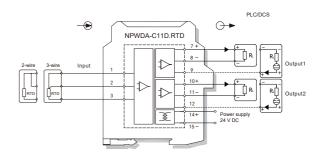
output value would not exceed 22 mA)

### Range and Conversion accuracy list

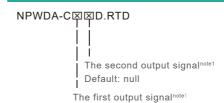
Type	Range	Min.span/Accuracy	
PT100	-200°C ~ +850°C	< 100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.
Cu50	-50°C ~ +150°C	< 100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.
Cu100	-50°C ~ +150°C	< 100°C, ±0.1°C	≥ 100°C, ±0.1% F.S.



### Wiring diagram



### **Model rules**



note1: output signal

Number	Output signal	
1	4 ~ 20 mA	
2	1 ~ 5 V	
3	0 ~ 10 mA	
4	0 ~ 5 V	
5	0 ~ 10 V	
6	0 ~ 20 mA	

### NPRC-C1D NPRC-C11D

Single input, single output

Single input, dual output

Input: Resistance Output: 4 ~ 20 mA

This resistance transmitter converts the resistance signals to current signals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other. Modify parameters by using PC or a handheld programmer.

## 12.8mm Removable grey terminal LED green power supply 10mm LED red fault indication Removable grey terminal

### **Parameters**

Power supply: 18 V DC ~ 60 V DC (Reverse power protection)

Power dissipation: 0.8 W (single output)

1.2 W (double output)

18 Ω ~ 400 Ω Input signal:

Output signal: 4 ~ 20 mA (sink/source)

Load resistance: R. ≤ 550 Ω 30 ppm/°C Temperature drift: ≤ 500 ms Response time: IEC 61326-3-1 Electromagnetic

compatibility:

Dielectric strength: ≥ 1500 V AC (Input/Output/Power supply) ≥ 100 MΩ (Input/Output/Power supply) Insulation resistance:

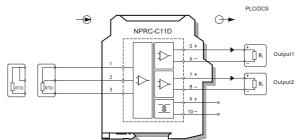
-20 °C ~ +60 °C Operation temperature: -40 °C ~ +80 °C Storage temperature:

12.8 mm (W) × 110 mm (H) × 117 mm (D) Dimension:

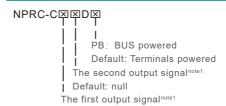
Output states: Whatever input fault status (except breakage), the

output follows the input within measuring range. And the maximum value would not exceed the 110% of the upper limit of the measuring range (e.g. When the output signal type is  $0 \sim 20$  mA, the minimum output value may be 0 mA, the maximum output value would not exceed 22 mA)

Wiring diagram



### **Model rules**



note1: output signal

Number	Output signal
1	4 ~ 20 mA
2	1 ~ 5 V
3	0 ~ 10 mA
4	0 ~ 5 V
5	0 ~ 10 V
6	0 ~ 20 mA

### Resistance Repeater

NPRR-C1D Single input, single output
NPRR-C2D Single input, dual output
NPRR-C3D Dual input, dual output

Input: Resistance; Output: 1:1 Resistance

This resistance repeater converts the resistance signals to 1:1 resistance signals. The input, output, and power supply are galvanically isolated from each other.



### **Parameters**

Power supply: 18 V DC  $\sim$  60 V DC (Reverse power protection)

Power dissipation: 0.4 W

Input signal:  $18 \Omega \sim 400 \Omega$ 

Line resistance:  $\leq$  20  $\Omega$  per line (RTD)

Output signal: 1:1 resistance
Exciting current: 0.1 mA ~ 10 mA

Conversion accuracy: excitation current Accuracy

 $0.5 \text{ mA} \sim 10 \text{ mA} \pm 0.1\%\text{F.S.}$  or  $< 0.2 \Omega$  (select max)

Temperature drift: 30 ppm/ $^{\circ}$ C Response time: ≤ 500 ms Electromagnetic IEC 61326-3-1

compatibility:

Dielectric strength:  $\geq 1500 \text{ V AC (Input/Output/Power supply)}$ Insulation resistance:  $\geq 100 \text{ M}\Omega \text{ (Input/Output/Power supply)}$ 

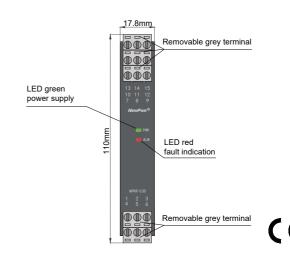
Operation temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

Dimension: 17.8 mm (W) × 110 mm (H) × 117 mm (D)

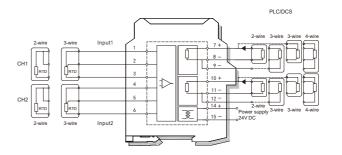
Output states: Whatever input fault status (except breakage,

breakage output about 16  $\Omega)\!,$  the output follows the input within measuring range. the maximum

output value would not exceed 430  $\Omega$ )



### Wiring diagram



### NPGL-CM11D NPGL-CM111D

Single input, single output

Single input, dual output

Input: 4 ~ 20 mA Output: 4 ~ 20 mA

This isolator detects loop current and converts it into current signals, and also provides transmitters with power in the field area. It allows transmission of HART communication signals. The input, output, and power supply are galvanically isolated from each other.

# LED green power supply Removable grey terminal Removable grey terminal Removable grey terminal

### **Parameters**

Power supply: 18 V DC ~ 60 V DC (Reverse power protection)

Power dissipation: 1.3 W (24 V, single output)

1.8 W (24 V, double output)

 $\begin{array}{ll} \mbox{Input signal:} & 4 \sim 20 \mbox{ mA, HART} \\ \mbox{Input resistance:} & \mbox{approx. 50 } \Omega \end{array}$ 

Available voltage: open-circuit voltage ≤ 26 V

voltage: ≥ 22 V at 20 mA

 $\begin{tabular}{llll} Output signal: & $4 \sim 20 \text{ mA, HART} \\ Load resistance: & $R_L \le 550 \ \Omega$ \\ Accuracy: & $0.1\% \ F.S.$ \\ Temperature drift: & $30 \ ppm/^{\circ}C$ \\ Response time: & $\le 2 \ ms$ \\ Electromagnetic & IEC 61326-3-1 \\ \end{tabular}$ 

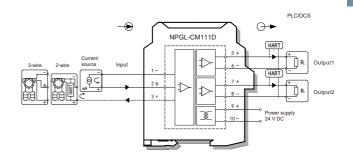
compatibility:

 $\begin{tabular}{ll} \begin{tabular}{ll} Dielectric strength: & $\geq$ 1500 V AC (Input/Output/Power supply) \\ \end{tabular}$   $\begin{tabular}{ll} \begin{tabular}{ll} Insulation resistance: & $\geq$ 100 M$\Omega (Input/Output/Power supply) \\ \end{tabular}$ 

Operation temperature:  $-20 \, ^{\circ}\text{C} \sim +60 \, ^{\circ}\text{C}$ Storage temperature:  $-40 \, ^{\circ}\text{C} \sim +80 \, ^{\circ}\text{C}$ 

Dimension: 12.8 mm (W)  $\times$  110 mm (H)  $\times$  117 mm (D)

### Wiring diagram



### Other ordering information

Туре	Input	Output1	Output2	Power supply
NPGL-CM12D	4 ~ 20 mA	1 ~ 5 V		Terminal
NPGL-CM45D	0 ~ 5 V	0 ~ 10 V		Terminal
NPGL-CM54D	0 ~ 10 V	0 ~ 5 V		Terminal
NPGL-CM55D	0 ~ 10 V	0 ~ 10 V		Terminal
NPGL-CM112D	4 ~ 20 mA	4 ~ 20 mA	1 ~ 5 V	Terminal
NPGL-CM122D	4 ~ 20 mA	1 ~ 5 V	1 ~ 5 V	Terminal
NPGL-CM212D	1 ~ 5 V	4 ~ 20 mA	1 ~ 5 V	Terminal
NPGL-CM555D	0 ~ 10 V	0 ~ 10 V	0 ~ 10 V	Terminal

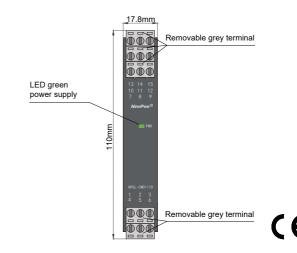


### **NPGL-CMD111D**

Dual input dual output

Input: 4 ~ 20 mA Output: 4 ~ 20 mA

This isolator detects loop current and converts it into current signals, and also provides transmitters with power in the field area. It allows transmission of HART communication signals. The input, output, and power supply are galvanically isolated from each other.



# mA

### **Parameters**

Power supply: 18 V DC ~ 60 V DC (Reverse power protection)

Power dissipation: 2.5 W

Input signal:  $4 \sim 20$  mA, HART Line resistance: approx.  $50 \Omega$ 

Available voltage: open-circuit voltage ≤ 25 V

voltage: ≥ 21 V at 20 mA

Output signal: 4 ~ 20mA (sink/source), HART

Load resistance: source:  $R_i \le 550\Omega$  sink:  $R_i < [(U-3)/0.02]\Omega$ ;

U: Loop power supply

Compensation accuracy: 0.1%F.S.

Temperature drift: 30 ppm/ $^{\circ}$ C

Response time:  $\leq$  2 ms

Electromagnetic IEC 61326-3-1

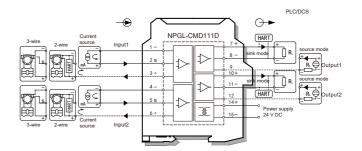
compatibility:

 $\label{eq:decomposition} \begin{array}{ll} \mbox{Dielectric strength:} & \geq 1500 \mbox{ V AC (Input/Output/Power supply)} \\ \mbox{Insulation resistance:} & \geq 100 \mbox{ M}\Omega \mbox{ (Input/Output/Power supply)} \end{array}$ 

Operation temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

Dimension: 17.8 mm (W) × 110 mm (H) × 117 mm (D)

### Wiring diagram



### Other ordering information

Туре	Input	Output1	Output2	Power supply
NPGL-CMD122D	4 ~ 20 mA	1 ~ 5 V	1 ~ 5 V	Terminal
NPGL-CMD666D	0 ~ 20 mA	0 ~ 20 mA	0 ~ 20 mA	Terminal

### NPGLB-CM11D NPGLB-CMD111D

Single input, single output

Dual input, dual output

Input: 4 ~ 20 mA Output: 4 ~ 20 mA

This isolator accepts 4  $\sim$  20 mA signal to drive executive mechanisms. It allows transmission of HART communication signals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other.

### **Parameters**

Power supply: 18 V DC ~ 60 V DC (Reverse power protection)

Power dissipation: 1 W (24 V, single output full-load)

2.2 W (24 V, double output full-load)

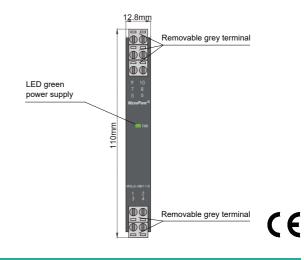
4 ~ 20 mA, HART Input signal: Output signal: 4 ~ 20 mA, HART R. ≤ 800 Ω Load resistance: ≤ 1.2 V Input voltage drop: Accuracy: 0.1%F.S 30 ppm/°C Temperature drift: ≤ 2 ms Response time: Electromagnetic IEC 61326-3-1

compatibility:

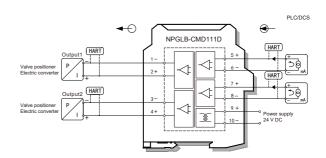
Dielectric strength: ≥ 1500 V AC (Input/Output/Power supply)Insulation resistance: ≥ 100 MΩ (Input/Output/Power supply)

Operation temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

Dimension: 12.8 mm (W) × 110 mm (H) × 117 mm (D)



### Wiring diagram





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### **NPGL-CM11SD** NPGL-CM1S1SD

Single input, single output Single input, dual output

Input: 4 ~ 20 mA

Output: 4 ~ 20 mA (sink mode)

This isolator detects loop current and converts it into current (sink) signals. It allows transmission of HART communication signals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other.



### **Parameters**

Power supply: 18 V DC ~ 60 V DC (Reverse power protection)

0.9 W (24 V, single output) Power dissipation:

1.0 W (24 V, double output)

4 ~ 20 mA, HART Input signal: Input resistance: approx. 50  $\Omega$ 

Available voltage: open-circuit voltage ≤ 26 V

voltage: ≥ 22 V at 20 mA

Output signal: 4 ~ 20 mA (Sink), HART

 $R_{_{I}} < [(U-3)/0.02]\Omega$ ; U: Loop power supply Load resistance:

0.1%F.S. Accuracy: Temperature drift: 30 ppm/°C ≤ 2 ms Response time: IEC 61326-3-1

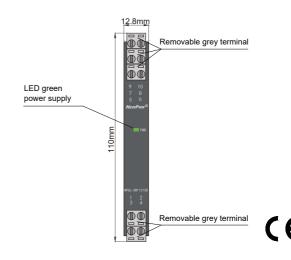
Electromagnetic

compatibility:

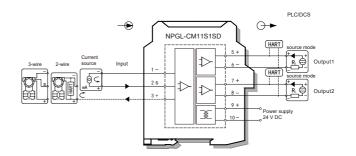
≥ 1500 V AC (Input/Output/Power supply) Dielectric strength: Insulation resistance: ≥ 100 MΩ (Input/Output/Power supply)

-20 °C ~ +60 °C Operation temperature: -40 °C ~ +80 °C Storage temperature:

Dimension: 12.8 mm (W) × 110 mm (H) × 117 mm (D)



### Wiring diagram



### NPGL-CM11L NPGL-CMD111L

Input: 4 ~ 20 mA

Single input, single output
Single input, dual output

NF GL-CMD IIIL

Output: 4 ~ 20 mA (sink mode)

This isolator detects loop current and converts it into current signals. It can work without an independent power supply. The input, output are galvanically isolated from each other.

# Removable grey terminal 17.8mm 17.8mm 13.14.15 13.14.15 17.8 9 NewProv Removable grey terminal

### **Parameters**

Loop Powered: 18 V DC ~ 30 V DC (Reverse power protection)

Input signal: 4 ~ 20 mA

Available voltage: (U-6-R<sub>i</sub> ×0.02)V; U is loop powered voltage

Output signal:  $4 \sim 20 \text{ mA}$ Accuracy: 0.4%F.S.Temperature drift:  $50\text{ppm/}^{\circ}\text{C}$ Response time:  $\leq 2 \text{ ms}$ Electromagnetic IEC 61326-3-1

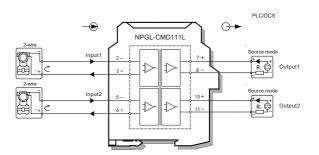
compatibility:

 $\begin{tabular}{ll} \begin{tabular}{ll} \beg$ 

Operation temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

Dimension:  $17.8 \text{ mm (W)} \times 110 \text{ mm (H)} \times 117 \text{ mm (D)}$ 

### Wiring diagram





### NPGL-C11D NPGL-C111D

Single input, single output
Single input, dual output

Input: 4 ~ 20 mA Output: 4 ~ 20 mA

This isolator converts the current signals into current signals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other. Modify parameters by using PC or a handheld programmer.



### **Parameters**

Power supply: 18 V DC ~ 60 V DC (Reverse power protection)

Power dissipation: 1.5 W (single output)

2.0 W (double output)

Input signal:  $4 \sim 20 \text{ mA}$ Input resistance:  $\leq 60 \Omega$ 

Available voltage: open-circuit voltage ≤ 26 V

voltage: ≥ 22 V at 20 mA

 $\begin{tabular}{lll} Output signal: & $4 \sim 20 \text{ mA}$ \\ Load resistance: & $R_L \le 500 \ \Omega$ \\ Accuracy: & $0.1\%F.S.$ \\ Temperature drift: & $30 \ ppm/^{\circ}C$ \\ Response time: & $\le 500 \ ms$ \\ Electromagnetic & IEC 61326-3-1 \\ \end{tabular}$ 

compatibility:

 $\label{eq:decomposition} \begin{array}{ll} \mbox{Dielectric strength:} & \geq 1500 \mbox{ V AC (Input/Output/Power supply)} \\ \mbox{Insulation resistance:} & \geq 100 \mbox{ M}\Omega \mbox{ (Input/Output/Power supply)} \end{array}$ 

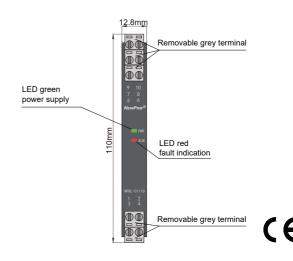
Operation temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

Dimension: 12.8 mm (W) × 110 mm (H) × 117 mm (D)

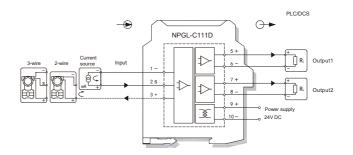
Output states: Whatever input fault status (except breakage or

short circuit, the output is 0 V/mA), the output follows the input within measuring range. And the maximum value would not exceed the 110% of the upper limit of the measuring range (e.g. When the output signal type is 0  $\sim$  20 mA, the minimum output value may be 0 mA, the maximum output

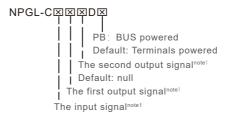
value would not exceed 22 mA)



### Wiring diagram



### **Model rules**



note1: input/output signal

Number	Input/Output signal	
1	4 ~ 20 mA	
2	1 ~ 5 V	
3	0 ~ 10 mA	
4	0 ~ 5 V	
5	0 ~ 10 V	
6	0 ~ 20 mA	

### **NPGL-CD111D**

Dual input, dual output

Input: 4 ~ 20 mA Output: 4 ~ 20 mA

This temperature transmitter converts the thermal resistance signals to current signals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other. Modify parameters by using PC or a handheld programmer.

# LED green power supply CH2 LED red fault indication Removable grey terminal CH1 LED red fault indication Removable grey terminal Removable grey terminal

### **Parameters**

Power supply: 18 V DC ~ 60 V DC (Reverse power protection)

Power dissipation: < 3 WInput signal:  $4 \sim 20 \text{ mA}$ Line resistance:  $\leq 60 \Omega$ 

Available voltage: open-circuit voltage ≤ 26 V

voltage: ≥ 22 V at 20 mA

Output signal: 4 ~ 20mA (sink/source)

Load resistance: source:  $R_i \le 500\Omega$  sink:  $R_i < [(U-3)/0.02]\Omega$ ;

U: Loop power supply

Accuracy:0.1%F.S.Temperature drift:30 ppm/°CResponse time: $\leq 500 \text{ ms}$ ElectromagneticIEC 61326-3-1

compatibility:

Dielectric strength:  $\geq$  1500 V AC (Input/Output/Power supply) Insulation resistance:  $\geq$  100 M $\Omega$  (Input/Output/Power supply)

Operation temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

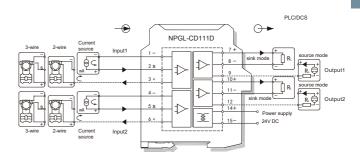
Dimension: 17.8 mm (W) × 110 mm (H) × 117 mm (D)

Output states: Whatever input fault status (except breakage or

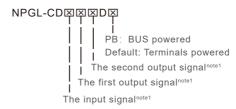
short circuit, the output is 0 V/mA), the output follows the input within measuring range. And the maximum value would not exceed the 110% of the upper limit of the measuring range (e.g. When the output signal type is 0  $\sim$  20 mA, the minimum output value may be 0mA, the maximum output

value would not exceed 22 mA)

### Wiring diagram



### Model rules



note1: output signal

www.anpe.cn

Number	Output signal
1	4 ~ 20 mA
2	1 ~ 5 V
3	0 ~ 10 mA
4	0 ~ 5 V
5	0 ~ 10 V
6	0 ~ 20 mA

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### NPGL-C11 NPGL-C111

Single input, single output

Single input, dual output

Input: 4 ~ 20 mA Output: 4 ~ 20 mA

This isolator converts the current signals into current signals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other. Modify parameters by using PC or a handheld

Removable grey terminal

LED green power supply

LED red fault indication

Removable grey terminal

LED red fault indication



### **Parameters**

programmer.

Power supply: 85 V AC ~ 265 V AC (90 V DC ~ 360 V DC)

Power dissipation: ≤ 0.8 W (single output)

≤ 2.5 W (double output)

Input signal:  $4 \sim 20 \text{ mA}$ Input resistance:  $\leq 60 \Omega$ 

Available voltage: open-circuit voltage ≤ 26 V

voltage: ≥ 22 V at 20 mA

Output signal: 4 ~ 20mA (sink/source)

Load resistance: source:  $R_L \le 550\Omega$  sink:  $R_L < [(U-3)/0.02]\Omega$ ;

U: Loop power supply

Accuracy: 0.1%F.S.

Temperature drift: 30 ppm/ $^{\circ}$ C

Response time: ≤ 500 ms

Electromagnetic IEC 61326-3-1

compatibility:

Dielectric strength:  $\geq$  1500 V AC (Input /Output/Power supply) Insulation resistance:  $\geq$  100 M $\Omega$  (Input /Output/Power supply)

Operation temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

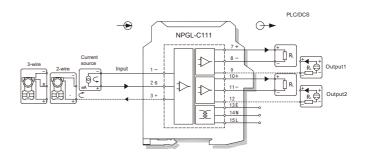
Dimension: 17.8 mm (W) × 110 mm (H) × 117 mm (D)

Output states: Whatever input fault status (except breakage or

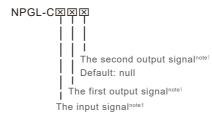
short circuit, the output is 0 V/mA), the output follows the input within measuring range. And the maximum value would not exceed the 110% of the upper limit of the measuring range (e.g. When the output signal type is 0  $\sim$  20 mA, the minimum output value may be 0 mA, the maximum output

value would not exceed 22 mA)

## Wiring diagram



### **Model rules**



note1: input/output signal

Number	Input/Output signal	
1	4 ~ 20 mA	
2	1 ~ 5V	
3	0 ~ 10mA	
4	0 ~ 5V	
5	0 ~ 10 V	
6	0 ~ 20 mA	

### NPGL-C118D

Single input, dual output

Input: 4 ~ 20 mA

Output: RS485, 4 ~ 20 mA

This isolator converts the current signals into current signals. It has RS485 interface. By using the MODBUS-RTU protocol, it can communicate with the other devices. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other. Modify parameters by using PC or a handheld programmer.

### **Parameters**

Power supply: 18 V DC ~ 60 V DC (Reverse power protection)

Power dissipation: 1.7 W Input signal:  $4 \sim 20 \text{ mA}$  Input resistance: approx.  $100 \Omega$ 

Available voltage: open-circuit voltage ≤ 26 V

voltage: ≥ 22 V at 20 mA

Output signal: Output1: 4 ~ 20 mA, Output2: RS485

Load resistance:  $R_i \le 550 \Omega$ 

Communication MODBUS-RTU, distance ≤ 1000 m, notes number

 $\begin{array}{lll} \text{parameters:} & \leq 32 \\ \text{Comms bandwidth:} & \leq 19.2 \text{ kbps} \\ \text{Accuracy:} & 0.1\% \text{ F.S.} \\ \text{Temperature drift:} & 30 \text{ ppm/}^{\circ}\text{C} \\ \text{Response time:} & \leq 500 \text{ ms} \\ \text{Electromagnetic} & \text{IEC 61326-3-1} \\ \end{array}$ 

compatibility:

Dielectric strength: ≥ 1500V AC (Input/Output/Power supply)
Insulation resistance: ≥ 100MΩ (Input/Output/Power supply)

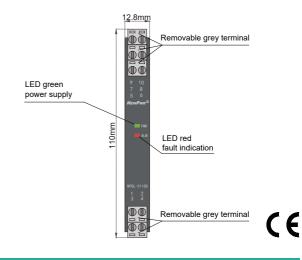
Operation temperature:  $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$ Storage temperature:  $-40^{\circ}\text{C} \sim +80^{\circ}\text{C}$ 

Dimension:  $12.8 \text{ mm (W)} \times 110 \text{ mm (H)} \times 117 \text{ mm (D)}$ 

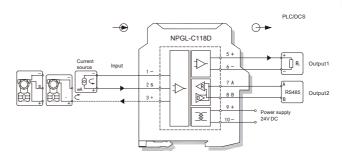
Output states: Whatever input fault status (except breakage or

short circuit, the output is 0 V/mA), the output follows the input within measuring range. And the maximum value would not exceed the 110% of the upper limit of the measuring range (e.g. When the output signal type is 0  $\sim$  20 mA, the minimum output value may be 0mA, the maximum output

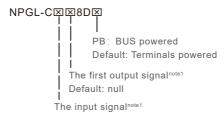
value would not exceed 22 mA)



### Wiring diagram



### Model rules



note1: input/output signal

Number	Input/Output signal
1	4 ~ 20 mA
2	1 ~ 5 V
3	0 ~ 10 mA
4	0 ~ 5 V
5	0 ~ 10 V
6	0 ~ 20 mA



### NPGL-C1111D NPGL-C11111D

Single input, three outputst

Single input, four outputs

Input: 4 ~ 20 mA Output: 4 ~ 20 mA

This isolator converts the current signals into current signals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other. Modify parameters by using PC or a handheld programmer.

# LED green power supply LED red fault indication Removable grey terminal LED red fault indication Removable grey terminal

# T ma

### **Parameters**

Power supply: 18 V DC ~ 60 V DC (Reverse power protection)

Power dissipation: 1.5 W (single output)

2.0 W (double output)

Input signal:  $4 \sim 20 \text{ mA}$ Input resistance:  $\leq 60 \Omega$ 

Available voltage: open-circuit voltage ≤ 26 V

voltage: ≥ 22 V at 20 mA

 $\begin{tabular}{lll} Output signal: & $4 \sim 20 \text{ mA}$ \\ Load resistance: & $R_L \le 500 \ \Omega$ \\ Accuracy: & $0.1\%F.S.$ \\ Temperature drift: & $30 \ ppm/^{\circ}C$ \\ Response time: & $\le 500 \ ms$ \\ Electromagnetic & IEC 61326-3-1 \\ \end{tabular}$ 

compatibility:

 $\label{eq:decomposition} \begin{array}{ll} \mbox{Dielectric strength:} & \geq 1500 \mbox{ V AC (Input/Output/Power supply)} \\ \mbox{Insulation resistance:} & \geq 100 \mbox{ M}\Omega \mbox{ (Input/Output/Power supply)} \end{array}$ 

Operation temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

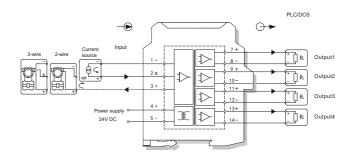
Dimension: 12.8 mm (W) × 110 mm (H) × 117 mm (D)

Output states: Whatever input fault status (except breakage or

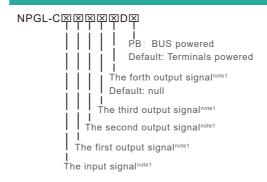
short circuit, the output is 0 V/mA), the output follows the input within measuring range. And the maximum value would not exceed the 110% of the upper limit of the measuring range (e.g. When the output signal type is 0  $\sim$  20 mA, the minimum output value may be 0 mA, the maximum output

value would not exceed 22 mA)

### Wiring diagram



### **Model rules**



note1: input/output signal

Number	input/Output signal	
1	4 ~ 20 mA	
2	1 ~ 5 V	
3	0 ~ 10 mA	
4	0 ~ 5 V	
5	0 ~ 10 V	
6	0 ~ 20 mA	

### NPGLA-C11D NPGLA-C111D

Single input, single output
Single input, dual output

Input: 4 ~ 20 mA Output: 4 ~ 20 mA

**Parameters** 

This isolator converts the current signals into current signals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other. Its stability and reliability are ensured by the applied techniques of digital adjustment, zero and full scale potentiometer exemption, automatic dynamic zero adjustment. Modify parameters by using PC or a handheld programmer.

Power supply:  $18 \text{ V DC} \sim 32 \text{ V DC}$ 

Power dissipation: 1.3 W (single output)

1.8 W (double output)

Input signal:  $4 \sim 20 \text{ mA}$ Input resistance:  $\leq 60 \Omega$ 

Available voltage: open-circuit voltage ≤ 25 V

voltage: ≥ 23 V at 20 mA

Output signal:  $4 \sim 20 \text{mA (sink/source)}$ 

Load resistance: source:  $R_L \le 350\Omega$  sink:  $R_L \le [(U-3)/0.02]\Omega$ ;

U: Loop power supply

Accuracy: 0.1%F.S.

Temperature drift: 50 ppm/ $^{\circ}$ C

Response time: ≤ 500 ms

Electromagnetic IEC 61326-3-1

compatibility:

Dielectric strength: ≥ 1500 V AC (Input/Output/Power supply)

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

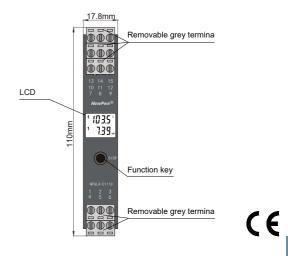
Operation temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

Dimension: 17.8 mm (W) × 110 mm (H) × 117 mm (D)

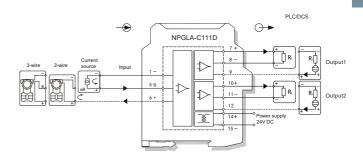
Output states: Whatever input fault status (except breakage or

short circuit, the output is 0 V/mA), the output follows the input within measuring range. And the maximum value would not exceed the 110% of the upper limit of the measuring range (e.g. When the output signal type is 0  $\sim$  20 mA, the minimum output value may be 0 mA, the maximum output

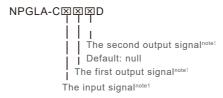
value would not exceed 22 mA)



### Wiring diagram



### Model rules



note1: input/output signal

Number	Input/Output signal	
1	4 ~ 20 mA	
2	1 ~ 5V	
3	0 ~ 10mA	
4	0 ~ 5V	
5	0 ~ 10 V	
6	0 ~ 20 mA	

### NPGLK-C11D NPGLK-C111D

Single input, single output

Single input, dual output

Input: dry contact or proximity switch Output: Relay

This isolator converts switch or proximity detector signals (dry contact or NAMUR) to relay signals. Operation mode, the second output function (as a relay contact output or a fault output) and the input circuit fault detection function can be set with the DIP switch on the front side The input, output, and power supply are galvanically isolated from each other.

### **Parameters**

Power supply: 18 V DC ~ 60 V DC (Reverse power protection)

Power dissipation: 1 W

Input signal: Dry contact or NAMUR

Switching trigger point: Input signal > 2.1 mA, signal "1", the yellow LED is

always bright

Input signal < 1.2 mA, signal "0", the yellow LED

goes out

Open-circuit voltage: Approx.8.5 V
Short-circuit current: Approx.8.5 mA
Output signal: Relay contact

Load capacity: 2 A/250 V AC, 2 A/30 V DC

LFD function: When input current  $\leq$  80  $\mu$ A, considers the input

line breakdown, the output relay de-energized. If input current  $\geq$  6 mA, considers the input circuit short-circuit, the output relay de-energized, the

indicator red flashing

Relay mechanical life: > 10<sup>5</sup> switching cycles

Switching frequency: < 10Hz
Electromagnetic IEC 61326-3-1

compatibility:

Dielectric strength:  $\geq$  1500 V AC (Input /Output/Power supply) Insulation resistance:  $\geq$  100 M $\Omega$  (Input /Output/Power supply)

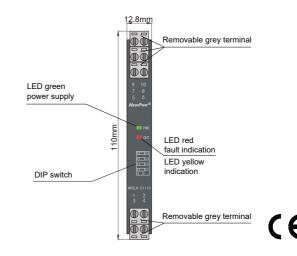
Operation temperature:  $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$ Storage temperature:  $-40^{\circ}\text{C} \sim +80^{\circ}\text{C}$ 

Dimension: 12.8 mm (W)  $\times$  110 mm (H)  $\times$  117 mm (D)

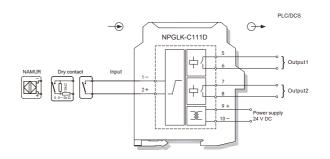
### DIP switch settings

### NPGLK-C11D/NPGLK-C111D (NPGLK-C11D can set S1, S2)

Switch State	a	b
S1	output1 normal mode	inverted mode
S2	LFD on	LFD off
S3	output2 normal mode	fault signal output



### Wiring diagram



Removable grey terminal

LED red fault indication

LED yellow

Removable grey terminal

### **NPGLK-CD111D**

Dual input, dual output

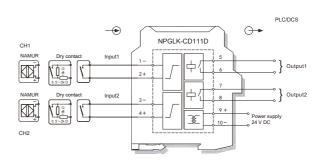
Input: dry contact or proximity switch Output: Relay

This isolator converts switch or proximity detector signals (dry contact or NAMUR) to relay signals. The normal output sate and line fault detection function can be set with the DIP switch on the front side. The input, output, and power supply are galvanically isolated from each other.

### VA/inim a dia anama

LED green power supply

DIP switch



12.8mm

 $\Phi$ 

110mm

### Wiring diagram



### **Parameters**

Power supply: 18 V DC ~ 60 V DC (Reverse power protection)

Power dissipation: 1 W

Input signal: Dry contact or NAMUR

Switching trigger point: Input signal > 2.1 mA, signal "1", the yellow LED is

always bright

Input signal < 1.2 mA, signal "0", the yellow LED

goes out

Open-circuit voltage: Approx.8.5 V
Short-circuit current: Approx.8.5 mA
Output signal: Relay contact

Load capacity: 2 A/250 V AC, 2 A/30 V DC

LFD function: When input current  $\leq$  80  $\mu$ A, considers the input

line breakdown, the output relay de-energized. If input current  $\geq$  6 mA, considers the input circuit short-circuit, the output relay de-energized, the

indicator red flashing

Relay mechanical life: > 10<sup>5</sup> switching cycles

Switching frequency: < 10 Hz
Electromagnetic IEC 61326-3-1

compatibility:

Dielectric strength:  $\geq$  1500 V AC (Input /Output/Power supply) Insulation resistance:  $\geq$  100 M $\Omega$  (Input /Output/Power supply)

Operation temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

Dimension:  $12.8 \text{ mm (W)} \times 110 \text{ mm (H)} \times 117 \text{ mm (D)}$ 

### DIP switch settings

Switch State	а	b
S1	output1 normal mode	output1 inverted mode
S2	output1 LFD on	output1 LFD off
S3	output2 normal mode	output2 inverted mode
S4	output2 LED on	output2 LFD off

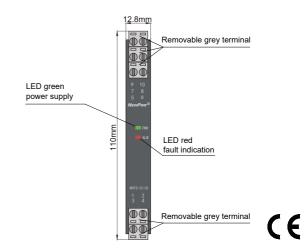
### **Frequency Transmitter**

### NPFC-C1D NPFC-C11D

Single input, single output
Single input, dual output

Input: Frequency
Output: 4 ~ 20 mA

This frequency transmitter converts the frequency signals to current signals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other. Modify parameters by using PC or a handheld programmer.



### **Parameters**

Power supply: 18 V DC ~ 60 V DC (Reverse power protection)

Power dissipation: 0.8 W (single output)

1.3 W (double output)

Input signal: frequency Frequency range:  $0.1 \text{ Hz} \sim 100 \text{ kHz}$ 

Pulse width:  $\geq 5 \ \mu s$ Input impedance:  $\geq 10 \ k\Omega$ 

Switching trigger point: Low level:  $0 \text{ V} \sim 2 \text{ V}$ , High level:  $4 \text{ V} \sim 30 \text{ V}$ Distribution voltage: 12 V DC: Distribution voltage  $\geq 11 \text{ V}$  at 20 mA 24 V DC: Distribution voltage  $\geq 22 \text{ V}$  at 20 mA

 $\begin{tabular}{llll} Output signal: & $4 \sim 20 \text{ mA}$ \\ Load resistance: & $R_L \le 550 \ \Omega$ \\ Accuracy: & $0.1\%F.S.$ \\ Temperature drift: & $30 \ ppm/^{\circ}C$ \\ Response time: & $\le 500 \ ms$ \\ Electromagnetic & IEC 61326-3-1 \\ \end{tabular}$ 

compatibility:

 $\label{eq:decomposition} \begin{array}{ll} \mbox{Dielectric strength:} & \geq 1500 \mbox{ V AC (Input/Output/Power supply)} \\ \mbox{Insulation resistance:} & \geq 100 \mbox{ M}\Omega \left( \mbox{Input/Output/Power supply)} \end{array}$ 

Operation temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

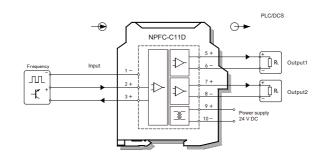
Dimension: 12.8 mm (W)  $\times$  110 mm (H)  $\times$  117 mm (D)

Fault states: Input signal state indicator (red), it is remain bright

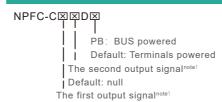
when input over-range; it is flicker when input

breakage.

### Wiring diagram



### **Model rules**



### note1: output signal

Number	Output signal
1	4 ~ 20 mA
2	1 ~ 5 V
3	0 ~ 10 mA
4	0 ~ 5 V
5	0 ~ 10 V
6	0 ~ 20 mA



### **Frequency Transmitter**

### NPFC-C11

Single input, single output

Single input, dual output

Input: Frequency
Output: 4 ~ 20 mA

This frequency transmitter converts the frequency signals to current signals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other. Modify parameters by using PC or a handheld programmer.

# Removable grey terminal Removable grey terminal Removable grey terminal LED green power supply LED red fault indication Removable grey terminal

### **Parameters**

Power supply:  $85 \text{ V AC} \sim 265 \text{ V DC } (90 \text{ V DC} \sim 360 \text{ V DC})$ 

Power dissipation:  $\leq$  0.8 W (single output, full-load)

≤ 2.5 W (double output, full-load)

Input signal: frequency Frequency range:  $0.1 \text{ Hz} \sim 100 \text{ kHz}$ 

Pulse width:  $\geq 5 \mu s$ Input impedance:  $\geq 10 k\Omega$ 

Switching trigger point: Low level:  $0 \text{ V} \sim 2 \text{ V}$ , High level:  $4 \text{ V} \sim 30 \text{ V}$ 

Distribution voltage: 24 V DC, ≥ 23 V at 20 mA Output signal: 4 ~ 20mA (sink/source)

Load resistance: source:  $R_i \le 550\Omega$  sink:  $R_i < [(U-3)/0.02]\Omega$ ;

U: Loop power supply

Accuracy:0.1%F.S.Temperature drift: $30 \text{ ppm/}^{\circ}\text{C}$ Response time: $\leq 500 \text{ ms}$ ElectromagneticIEC 61326-3-1

compatibility:

Dielectric strength: ≥ 1500 V AC (Input/Output/Power supply)
Insulation resistance: ≥ 100 MΩ (Input/Output/Power supply)

Operation temperature:  $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$ Storage temperature:  $-40^{\circ}\text{C} \sim +80^{\circ}\text{C}$ 

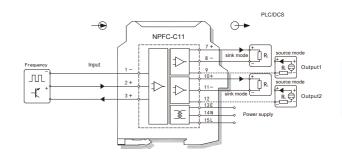
Dimension:  $17.8 \text{ mm (W)} \times 110 \text{ mm (H)} \times 117 \text{ mm (D)}$ 

Fault states: Input signal state indicator (red), it is remain bright

when input over-range; it is flicker when input

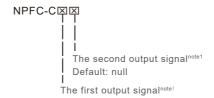
breakage.

### Wiring diagram





### **Model rules**



note1: output signal

Number	Output signal
1	4 ~ 20 mA
2	1 ~ 5 V
3	0 ~ 10 mA
4	0 ~ 5 V
5	0 ~ 10 V
6	0 ~ 20 mA

### NPFR-C1D NPFR-C2D

Single input, single output
Single input, dual output

Input: Frequency Output: 1:1

This pulse isolator converts the frequency signals to 1:1 frequency signals (configurable logic level default, open collector or emitterr follower can be selected in ordering). It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other.

## LED green power supply Removable grey terminal Removable grey terminal Removable grey terminal

### **Parameters**

Power supply: 18 V DC ~ 60 V DC (Reverse power protection)

Power dissipation: 0.9 W (single output, full-load)

1.8 W (double output, full-load)

Input signal: frequency
Frequency range: 0.1 Hz ~ 100 kHz

Pulse width:  $\geq 5 \mu s$ 

Switching trigger point: Low level:  $0 \text{ V} \sim 2 \text{ V}$ , High level:  $4 \text{ V} \sim 30 \text{ V}$ Distribution voltage: 12 V DC: Distribution voltage  $\geq 11 \text{ V}$  at 20 mA

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

Output signal: Open collector High level:  $V_{CC}$  ( $\leq$  30 V)

Low level: ≤ 2 V

drive current: ≤ 10 mA r High level: V<sub>cc</sub>-2 V

Emitter follower High level:  $V_{cc}$ -2 V Low level:  $\leq 0.5$  V

drive current: ≤ 10 mA

Logic level (default) High level: 18 V ≤ V<sub>H</sub> ≤ 24 V

Low level:  $V_L \le 2 \text{ V}$ Load resistance: ≥  $2k\Omega$ 

Electromagnetic IEC 61326-3-1

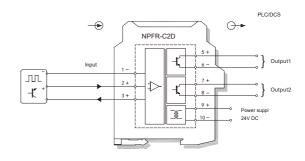
compatibility:

 $\label{eq:decomposition} \begin{array}{ll} \mbox{Dielectric strength:} & \geq 1500 \mbox{ V AC (Input /Output/Power supply)} \\ \mbox{Insulation resistance:} & \geq 100 \mbox{ M}\Omega \mbox{ (Input /Output/Power supply)} \end{array}$ 

Operation temperature:  $-20 \,^{\circ}\text{C} \,^{\sim} +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \,^{\sim} +80 \,^{\circ}\text{C}$ 

Dimension: 12.8 mm (W)  $\times$  110 mm (H)  $\times$  117 mm (D)

### Wiring diagram





### NPGL-C711

Single input, single output

Input: RS-485 Output: RS-485

This isolator converts the RS485 digital signals to RS485 digital signals, and provides isolated power supply for field devices. The input, output, and power supply are galvanically isolated from each other.

### 17.8mm Removable grey terminal ŌŌŌ LED green power supply Communications Removable grey terminal

### **Parameters**

Power supply: 18 V DC ~ 60 V DC (Reverse power protection) Power dissipation:

≤ 2 W (Distribution: 8 V/9 V/12 V, 50 mA)

≤ 3.5 W (Distribution: 5 V/ 6 V, 100 mA) RS-485

Control mode: half-duplex RS-485 Output signal: ≤ 5 µs Transmission delay: Transmission rate: ≤ 56 kbps

Distribution voltage: Refer to rotary switch setting

±10% Voltage tolerance:

Electromagnetic IEC 61326-3-1

compatibility:

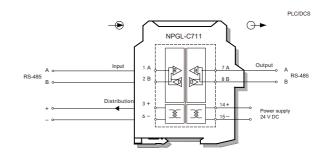
Input signal:

≥ 1500 V AC (Input/Output/Power supply) Dielectric strength: ≥ 100 MΩ (Input/Output/Power supply) Insulation resistance:

-20 °C ~ +60 °C Operation temperature: Storage temperature: -40 °C ~ +80 °C

Dimension: 17.8 mm (W) × 110 mm (H) × 117 mm (D)

### Wiring diagram





### Rotary switch setting



Rotary switch	Distribution
S0	5V DC, 100mA
S1	6V DC, 100mA
S2	8V DC, 50mA
S4	9V DC, 50mA
S8	12V DC, 50mA

Single input, single output

Input: RS-232 Output: RS-232

This isolator converts the RS232 digital signals to RS232 digital signals, and provides isolated power supply for field devices. The input, output, and power supply are galvanically isolated from each other.

# LED green power supply Communications Status Indications Removable grey terminal

### **Parameters**

Power supply: 18 V DC  $\sim$  60 V DC (Reverse power protection)

Power dissipation:  $\leq$  2 W (Distribution: 8 V/9 V/12 V, 50 mA)

≤ 3.5 W (Distribution: 5 V/ 6 V, 100 mA)

 Input signal:
 RS-232

 Control mode:
 half-duplex

 Output signal:
 RS-232

 Transmission delay:
 ≤ 5  $\mu$ s

 Transmission rate:
 ≤ 56 kbps

Distribution voltage: Refer to rotary switch setting

Voltage tolerance: ±10%

Electromagnetic IEC 61326-3-1

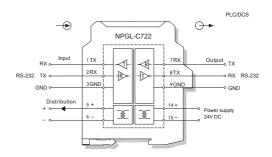
compatibility:

Dielectric strength:  $\geq$  1500 V AC (Input/Output/Power supply) Insulation resistance:  $\geq$  100 M $\Omega$  (Input/Output/Power supply)

Operation temperature:  $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$ Storage temperature:  $-40^{\circ}\text{C} \sim +80^{\circ}\text{C}$ 

Dimension: 17.8 mm (W) × 110 mm (H) × 117 mm (D)

### Wiring diagram



### Rotary switch setting



Rotary switch	Distribution
S0	5V DC, 100mA
S1	6V DC, 100mA
S2	8V DC, 50mA
S4	9V DC, 50mA
S8	12V DC, 50mA



NPGL-C733

Single input, single output

Input: RS-422 Output: RS-422

This isolator converts the RS422 digital signals to RS422 digital signals, and provides isolated power supply for field devices. The input, output, and power supply are galvanically isolated from each other.

# LED green power supply Communications Status Indications Removable grey terminal

### **Parameters**

Power supply: 18 V DC  $\sim$  60 V DC (Reverse power protection Power dissipation:  $\leq$  2 W (Distribution: 8 V/9 V/12 V, 50 mA)

≤ 3.5 W (Distribution: 5 V/ 6 V, 100 mA)

 $\begin{tabular}{ll} Input signal: & RS-422 \\ Control mode: & full-duplex \\ Output signal: & RS-422 \\ Transmission delay: & $\le 5$ µs \\ Transmission rate: & $\le 56$ kbps \\ \end{tabular}$ 

Distribution voltage: Refer to rotary switch setting

Voltage tolerance: ±10%

Electromagnetic IEC 61326-3-1

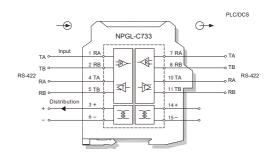
compatibility:

Dielectric strength:  $\geq$  1500 V AC (Input /Output/Power supply) Insulation resistance:  $\geq$  100 M $\Omega$  (Input /Output/Power supply)

Operation temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

Dimension: 17.8 mm (W) × 110 mm (H) × 117 mm (D)

### Wiring diagram





### Rotary switch setting



Rotary switch	Distribution
S0	5V DC, 100mA
S1	6V DC, 100mA
S2	8V DC, 50mA
S4	9V DC, 50mA
S8	12V DC, 50mA

Single input, single output

Input: CAN
Output: CAN

This isolator converts the CAN digital signals to CAN digital signals, and provides isolated power supply for field devices. The input, output, and power supply are galvanically isolated from each other.

# LED green power supply Communications Status Indications Removable grey terminal Communications Removable grey terminal

### **Parameters**

Power supply: 18 V DC  $\sim$  60 V DC (Reverse power protection)

Power dissipation:  $\leq$  2 W (Distribution: 8 V/9 V/12 V, 50 mA)

≤ 4 W (Distribution: 5 V/ 6 V, 100 mA)

 $\begin{tabular}{ll} Input signal: & CAN \\ Control mode: & half-duplex \\ Output signal: & CAN \\ Transmission delay: & $\leq 2 \ \mu s$ \\ Transmission rate: & $\leq 300 \ kbps$ \\ Drive nodes: & $\leq 10$ \\ \end{tabular}$ 

Distribution voltage: Refer to rotary switch setting

Voltage tolerance: ±10%

Electromagnetic IEC 61326-3-1

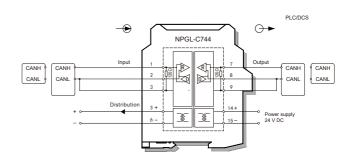
compatibility:

Dielectric strength:  $\geq$  1500 V AC (Input/Output/Power supply) Insulation resistance:  $\geq$  100 M $\Omega$  (Input/Output/Power supply)

Operation temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

Dimension:  $17.8 \text{ mm (W)} \times 110 \text{ mm (H)} \times 117 \text{ mm (D)}$ 

### Wiring diagram



### Rotary switch setting



Rotary switch	Distribution
S0	5V DC, 100mA
S1	6V DC, 100mA
S2	8V DC, 50mA
S4	9V DC, 50mA
S8	12V DC, 50mA



### **Potentiometer Transmitter**

### NPPT-C1D NPPT-C11D

Single input, single output
Single input, dual output

Input:  $0 \sim 10 \text{ k}\Omega$ Output:  $4 \sim 20 \text{ mA}$ 

This potentiometer transmitter converts the 3-wire potentiometer signals to current signals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other. Modify parameters by using PC or a handheld programmer.

# LED green power supply LED red fault indication Removable grey terminal Removable grey terminal

### **Parameters**

Power supply: 18 V DC ~ 60 V DC (Reverse power protection)

Power dissipation: 0.8 W (single output)

1.2 W (double output)

Input signal: 3-wire potentiometer (0 ~ 10 k $\Omega$ )

 $\begin{array}{lll} \mbox{Output signal:} & 4 \sim 20 \mbox{ mA} \\ \mbox{Load resistance:} & R_{\rm L} \leq 550 \mbox{ }\Omega \\ \mbox{Accuracy:} & 0.1\% \mbox{ F.S.} \\ \mbox{Temperature drift:} & 30 \mbox{ ppm/°C} \\ \mbox{Response time:} & \leq 500 \mbox{ ms} \\ \mbox{Electromagnetic} & \mbox{IEC 61326-3-1} \end{array}$ 

compatibility:

Dielectric strength:  $\geq 1500 \text{ V AC (Input/Output/Power supply)}$ Insulation resistance:  $\geq 100 \text{ M}\Omega \text{ (Input/Output/Power supply)}$ 

Operation temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

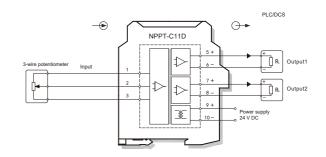
Dimension: 12.8 mm (W) × 110 mm (H) × 117 mm (D)

Output states: Whatever input fault status (except breakage),

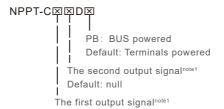
the output follows the input within measuring range. And the maximum value would not exceed the 110% of the upper limit of the measuring range (e.g. When the output signal type is  $0 \sim 20$  mA, the minimum output value may be 0 mA, the maximum

output value would not exceed 22 mA).

### Wiring diagram



### **Model rules**



note1: output signal

Number	Output signal
1	4 ~ 20 mA
2	1 ~ 5V
3	0 ~ 10 mA
4	0 ~ 5 V
5	0 ~ 10 V
6	0 ~ 20 mA



### NPPT-CD11D

Dual input, dual output

Input:  $0 \sim 10 \text{ k}\Omega$ Output:  $4 \sim 20 \text{ mA}$ 

This potentiometer transmitter converts the 3-wire potentiometer signals to current signals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other. Modify parameters by using PC or a handheld programmer.

# Removable grey terminal Removable grey terminal Removable grey terminal CH2 LED red fault indication Removable grey terminal Removable grey terminal Removable grey terminal

### **Parameters**

Power supply: 18 V DC  $\sim$  60 V DC (Reverse power protection)

Power dissipation: 1.2 W

Input signal: 3-wire potentiometer (0 ~ 10 k $\Omega$ )

Output signal: 4 ~ 20mA (sink/source)

Load resistance: source:  $R_{L} \le 550\Omega$  sink:  $R_{L} < [(U-3)/0.02]\Omega$ ;

U: Loop power supply

Accuracy:0.1% F.S.Temperature drift: $30 \text{ ppm/}^{\circ}\text{C}$ Response time:≤ 500 msElectromagneticIEC 61326-3-1

compatibility:

Dielectric strength:  $\geq 1500 \text{ V AC (Input/Output/Power supply)}$ Insulation resistance:  $\geq 100 \text{ M}\Omega \text{ (Input/Output/Power supply)}$ 

Operation temperature:  $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$ Storage temperature:  $-40^{\circ}\text{C} \sim +80^{\circ}\text{C}$ 

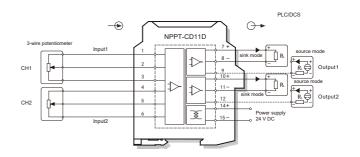
Dimension: 17.8 mm (W) × 110 mm (H) × 117 mm (D)

Output states: Whatever input fault status (except breakage),

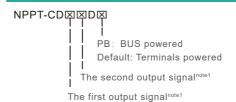
the output follows the input within measuring range. And the maximum value would not exceed the 110% of the upper limit of the measuring range (e.g. When the output signal type is  $0 \sim 20$  mA, the minimum output value may be 0 mA, the maximum

output value would not exceed 22 mA)

### Wiring diagram



### **Model rules**



note1: output signal

Number	Output signal
1	4 ~ 20 mA
2	1 ~ 5 V
3	0 ~ 10 mA
4	0 ~ 5 V
5	0 ~ 10 V
6	0 ~ 20 mA



Single input, single output

Input: 0 ~ 60 V AC Output: 4 ~ 20 mA

This AC voltage transmitter converts the 0  $\sim$  60 V AC signals to current signals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other.

# Removable grey terminal LED green power supply Removable grey terminal LED red fault indication Removable grey terminal

### **Parameters**

Power supply: 18 V DC ~ 32 V DC (Reverse power protection)

Power dissipation: < 1 WInput signal:  $0 \sim 60 \text{ V AC}$ Frequency range:  $40 \text{ Hz} \sim 1 \text{ kHz}$ 

Overload capacity: double input nominal value

Output signal: 4 ~ 20mA (sink/source)

 $\mbox{Load resistance:} \qquad \qquad \mbox{source: } \mbox{R}_{\mbox{\scriptsize L}} \leq 550\Omega \qquad \mbox{sink: } \mbox{R}_{\mbox{\scriptsize L}} \leq [(\mbox{\scriptsize U-3})/0.022]\Omega;$ 

U: Loop power supply

Accuracy: 0.2% F.S. (0 ~ 110%)

Temperature drift:  $50 \text{ppm}/^{\circ}\text{C}$ Response time: ≤ 500 ms
Electromagnetic IEC 61326-3-1

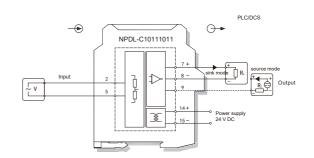
compatibility:

Dielectric strength:  $\geq$  1500 V AC (Input/Output/Power supply) Insulation resistance:  $\geq$  100 M $\Omega$  (Input/Output/Power supply)

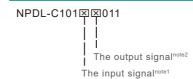
Operation temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

Dimension: 17.8 mm (W) × 110 mm (H) × 117 mm (D)

### Wiring diagram



### **Model rules**



note1: input signal

Number	Input signal
1	0 ~ 60 V AC
2	0 ~ 110 V AC
3	0 ~ 220 V AC
4	0 ~ 380 V AC
5	0 ~ 600 V AC
6	0 ~ 1000 V AC
7	User customized signal type

note2: output signal

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



Single input, single output

Input: 0 ~ 60 V AC Output: 4 ~ 20 mA

This AC voltage transmitter converts the 0  $\sim$  60 V AC signals to current signals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other.

# LED green power supply LED red fault indication Removable grey terminal LED red fault indication Removable grey terminal

### **Parameters**

Power supply:  $85 \text{ V AC} \sim 265 \text{ V AC} (120 \text{ V DC} \sim 360 \text{ V DC})$ 

Power dissipation: < 2 WInput signal:  $0 \sim 60 \text{ V AC}$ Frequency range:  $40 \text{ Hz} \sim 1 \text{ kHz}$ 

Overload capacity: double input nominal value Output signal:  $4 \sim 20 \text{mA (sink/source)}$ 

U: Loop power supply

Accuracy: 0.2% F.S. (0 ~ 110%)

Temperature drift:  $50 \text{ppm}/^{\circ}\text{C}$ Response time: ≤ 500 ms
Electromagnetic IEC 61326-3-1

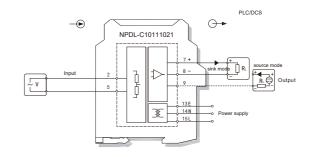
compatibility:

Dielectric strength:  $\geq 1500 \text{ V AC (Input/Output/Power supply)}$ Insulation resistance:  $\geq 100 \text{ M}\Omega \text{ (Input/Output/Power supply)}$ 

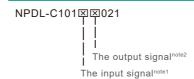
Operation temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

Dimension: 17.8 mm (W) × 110 mm (H) × 117 mm (D)

### Wiring diagram



### **Model rules**



note1: input signal

Number	Input signal
1	0 ~ 60 V AC
2	0 ~ 110 V AC
3	0 ~ 220 V AC
4	0 ~ 380 V AC
5	0 ~ 600 V AC
6	0 ~ 1000 V AC
7	User customized signal type

### note2: output signal

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



Single input, single output

Input: 0 ~ 60 V AC Output: 4 ~ 20 mA

This AC voltage transmitter converts the 0  $\sim$  60 V AC signals to current signals. It can work without an independent power supply. The input, output are galvanically isolated from each other.

# LED green power supply LED red fault indication Removable grey terminal LED red fault indication Removable grey terminal

### **Parameters**

Power supply: 12 V DC ~ 30 V DC (Reverse power protection)

Input signal:  $0 \sim 60 \text{ V AC}$ Frequency range:  $40 \text{ Hz} \sim 1 \text{ kHz}$ 

Overload capacity: double input nominal value

Output signal: 4 ~ 20 mA

Load resistance:  $R_{i} < [(U-12)/0.022]\Omega$ ; U: Loop power supply

Accuracy: 0.2% F.S. (0 ~ 110%)

Temperature drift:  $50 \text{ppm}/^{\circ}\text{C}$ Response time: ≤ 500 ms
Electromagnetic IEC 61326-3-1

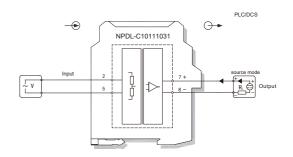
compatibility:

 $\begin{tabular}{ll} \begin{tabular}{ll} \beg$ 

Operation temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

Dimension: 17.8 mm (W) × 110 mm (H) × 117 mm (D)

### Wiring diagram



### **Model rules**



note1: input signal

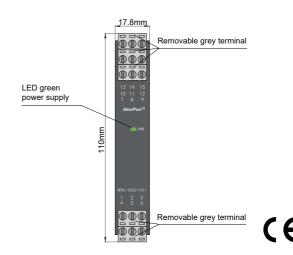
Number	Input signal
1	0 ~ 60 V AC
2	0 ~ 110 V AC
3	0 ~ 220 V AC
4	0 ~ 380 V AC
5	0 ~ 600 V AC
6	0 ~ 1000 V AC
7	User customized signal type



Single input, single output

Input: 0 ~ 1A AC Output: 4 ~ 20 mA

This AC current transmitter converts the 0  $\sim$  1 AAC signals to current signals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other.



### **Parameters**

Power supply: 18 V DC ~ 32 V DC (Reverse power protection)

Power dissipation: < 1 WInput signal:  $0 \sim 1 \text{ AAC}$ Frequency range:  $40 \text{ Hz} \sim 400 \text{ Hz}$ 

Overload capacity: double input nominal value Output signal:  $4 \sim 20 \text{mA (sink/source)}$ 

U: Loop power supply

Accuracy: 0.2% F.S. (0 ~ 120%)

Temperature drift:  $50 \text{ppm/}^{\circ}\text{C}$ Response time: ≤ 330 ms
Electromagnetic IEC 61326-3-1

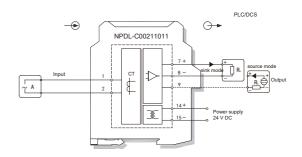
compatibility:

Dielectric strength:  $\geq$  1500 V AC (Input/Output/Power supply) Insulation resistance:  $\geq$  100 M $\Omega$  (Input/Output/Power supply)

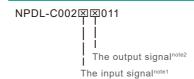
Operation temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

Dimension:  $17.8 \text{ mm (W)} \times 110 \text{ mm (H)} \times 117 \text{ mm (D)}$ 

### Wiring diagram



### **Model rules**



note1: input signal

Number	Input signal
1	0 ~ 1 A AC
2	0 ~ 2.5 A AC
3	0 ~ 5 A AC
4	0 ~ 10 A AC
7	User customized signal type

### note2: output signal

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



Single input, single output

Input: 0 ~ 1 A AC Output: 4 ~ 20 mA

This AC current transmitter converts the 0  $\sim$  1 AAC signals to current signals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other.

## Removable grey terminal Removable grey terminal Removable grey terminal Removable grey terminal Removable grey terminal

### **Parameters**

Power supply:  $85 \text{ V AC} \sim 265 \text{ V AC} (120 \text{ V DC} \sim 360 \text{ V DC})$ 

Power dissipation: < 2 WInput signal:  $0 \sim 1 \text{ AAC}$ Frequency range:  $40 \text{ Hz} \sim 400 \text{ Hz}$ 

Overload capacity: double input nominal value

Output signal: 4 ~ 20mA (sink/source)

Load resistance: source:  $R_L \le 550\Omega$  sink:  $R_L \le [(U-3)/0.024]\Omega$ ;

U: Loop power supply

Accuracy: 0.2% F.S. (0 ~ 120%)

Temperature drift:  $50 \text{ppm}/^{\circ}\text{C}$ Response time: ≤ 330 ms
Electromagnetic IEC 61326-3-1

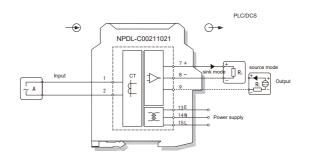
compatibility:

Dielectric strength: ≥ 1500 V AC (Input/Output/Power supply)Insulation resistance:  $≥ 100 \text{ M}Ω (Input/Output/Power supply)}$ 

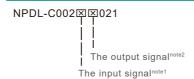
Operation temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

Dimension: 17.8 mm (W) × 110 mm (H) × 117 mm (D)

### Wiring diagram



### **Model rules**



note1: input signal

Number	Input signal
1	0 ~ 1 A AC
2	0 ~ 2.5 A AC
3	0 ~ 5 A AC
4	0 ~ 10 A AC
7	User customized signal type

note2: output signal

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



Single input, single output

Input: 0 ~ 1A AC Output: 4 ~ 20 mA

This AC current transmitter converts the 0  $\sim$  1 AAC signals to current signals. It can work without an independent power supply. The input, output are galvanically isolated from each other.

# LED green power supply Removable grey terminal Removable grey terminal Removable grey terminal Removable grey terminal

### **Parameters**

Power supply: 12 V DC ~ 30 V DC (Reverse power protection)

Input signal:  $0 \sim 1 \text{ AAC}$ Frequency range:  $40 \text{ Hz} \sim 400 \text{ Hz}$ 

Overload capacity: double input nominal value

Output signal: 4 ~ 20 mA

Load resistance:  $R_{L} < [(U-12)/0.02]\Omega$ ; U: Loop power supply

Accuracy: 0.2% F.S. (0 ~ 120%)

Temperature drift:  $50 \text{ppm}/^{\circ}\text{C}$ Response time: ≤ 330 ms
Electromagnetic IEC 61326-3-1

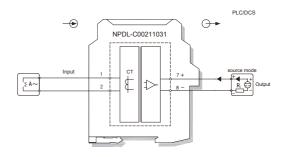
compatibility:

 $\begin{tabular}{ll} Dielectric strength: & $\geq 1500 \ V\ AC\ (Input/Output)$\\ Insulation resistance: & $\geq 100 \ M\Omega\ (Input/Output)$\\ \end{tabular}$ 

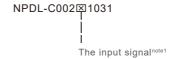
Operation temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

Dimension:  $17.8 \text{ mm (W)} \times 110 \text{ mm (H)} \times 117 \text{ mm (D)}$ 

### Wiring diagram



### **Model rules**



note1: input signal

Number	Input signal
1	0 ~ 1 A AC
2	0 ~ 2.5 A AC
3	0 ~ 5 A AC
4	0 ~ 10 A AC
7	User customized signal type



Single input, single output

Input: 0 ~ 1A AC Output: 4 ~ 20 mA

This TRMS AC current transmitter converts the 0  $\sim$  1 A AC signals to current signals. It needs an independent power supply. The input, output, and power supply are galvanically isolated from each other.

## LED green power supply NewPart Removable grey terminal 17.8mm Removable grey terminal 18. 4 15 19. 8 9 NewPart Removable grey terminal 19. 2 3 4 5 5 Removable grey terminal

### **Parameters**

Power supply: 18 V DC ~ 32 V DC (Reverse power protection)

Power dissipation: < 1 WInput signal:  $0 \sim 1 \text{A AC}$ Frequency range:  $40 \text{ Hz} \sim 1 \text{ kHz}$ 

Overload capacity: double input nominal value

Output signal: 4 ~ 20mA (sink/source)

Load resistance: source:  $R_L \le 550\Omega$  sink:  $R_L \le [(U-3)/0.024]\Omega$ ;

U: Loop power supply

Accuracy: 0.2% F.S. (0 ~ 120%)

Temperature drift:  $50 \text{ppm}/^{\circ}\text{C}$ Response time: ≤ 330 ms
Electromagnetic IEC 61326-3-1

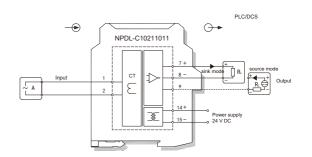
compatibility:

Dielectric strength: ≥ 1500 V AC (Input/Output/Power supply)Insulation resistance:  $≥ 100 \text{ M}Ω (Input/Output/Power supply)}$ 

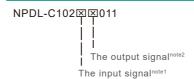
Operation temperature:  $-20 \,^{\circ}\text{C} \sim +60 \,^{\circ}\text{C}$ Storage temperature:  $-40 \,^{\circ}\text{C} \sim +80 \,^{\circ}\text{C}$ 

Dimension: 17.8 mm (W) × 110 mm (H) × 117 mm (D)

### Wiring diagram



### **Model rules**



note1: input signal

Number	Input signal
1	0 ~ 1 A AC
2	0 ~ 2.5 A AC
3	0 ~ 5 A AC
4	0 ~ 10 A AC
7	User customized signal type

note2: output signal

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

