

POTENTIOMETER TRANSDUCER

RTP2 - □□□

■ Use

Replaces the input of mechanical displacement of an angle or a position with resistance value change, then insulates and converts it into a proportional DC signal.

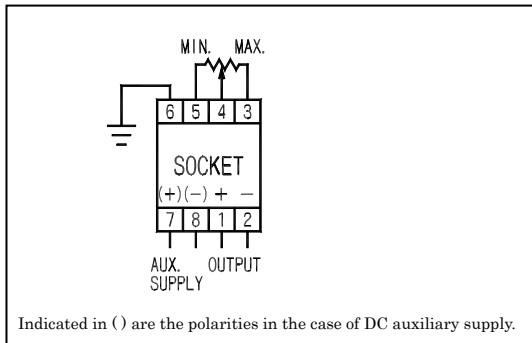
■ Features

1. Constant voltage/current output.
2. Can cope with resistance range 100Ω-10kΩ of a potentiometer. (RTP2-Z type)
3. Withstand voltage between input, output, auxiliary supply and earth is AC2,000V (50/60Hz), complete insulation for 1 minute.
4. Impulse withstands voltage 5kV, 1.2/50μs (between electric circuit and outer case), and positive/negative polarity 3 times each is guaranteed.
5. With output line surge protection. (2,000A, 8/20μs, positive/negative polarity), can transmit an output directly to a distant place.



**RTP2-ZF2**  
(80×50×121mm/450g)

■ Connection diagram



■ Specification

Normal total resistance	Input (specified current)	External resistance	Output (load resistance)	Auxiliary supply	Common specification
50Ω *1	A:0-50Ω (5mA)	≤ 5Ω/1line	1: DC0-100mV (≥ 200Ω)	1: AC100V±10%, 50/60Hz	Tolerance: ±0.5% Response time: ≤ 1sec./99% Consumption VA: AC power source:3.5VA DC power source:4W Weight: AC power source:450g DC power source:300g
80Ω *1	B:0-80Ω (5mA)	≤ 8Ω/1line	2: DC0-1V (≥ 200Ω)	2: AC110V±10%, 50/60Hz	
100Ω *1	Z:100Ω-10kΩ	-	3: DC0-5V (≥ 1kΩ)	3: AC200V±10%, 50/60Hz	
135Ω *1	Any potentiometer of range 100Ω-10kΩ can be used under the following adjustment range.	-	4: DC 0-10V (≥ 2kΩ)	4: AC220V±10%, 50/60Hz	
200Ω *1			5: DC1-5V (≥ 1kΩ)	5: DC24V±10%	
400Ω *1	Q:other than those above	-	6: DC0-1mA (≤ 10kΩ)	6: DC48V±10%	
500Ω *1			7: DC0-5mA (≤ 2kΩ)	Q: other than those above	
1kΩ *1			8: DC0-10mA (≤ 1kΩ)		
2kΩ *1			D: DC0-16mA (≤ 600Ω)		
3kΩ *1			E: DC1-5mA (≤ 3kΩ)		
5kΩ *1			F: DC4-20mA (≤ 750Ω)		
10kΩ *1			Q: other than those above		
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●Open of current output: even if the current output terminal is used in a state of regular open, there is no problem. Also, a voltage of approx. 25V occurs on the output terminal.

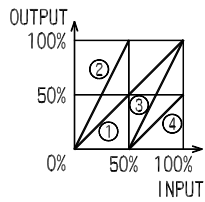
\*1.Variable range of BIAS MAX for the following potentiometers are assumed to be ±15%:  
50Ω, 80Ω,100Ω, 200Ω, 400Ω,500Ω, 1kΩ, 2kΩ,3kΩ, 5kΩ, 10kΩ.

● Adjustment range of output signal

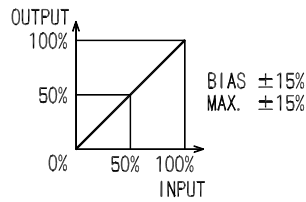
Specify the actual use range and the normal resistance value of a potentiometer in the case of use range other than those above.

**Input form** Z BIAS adjustment range: 0-50% of input span  
(can be changed from the front of converter.)  
MAX adjustment range: 50-100% of input span  
(can be changed from the front of converter.)

Input method Z



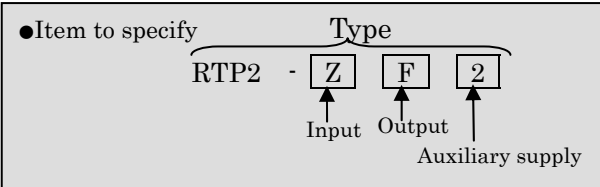
Input method A B C



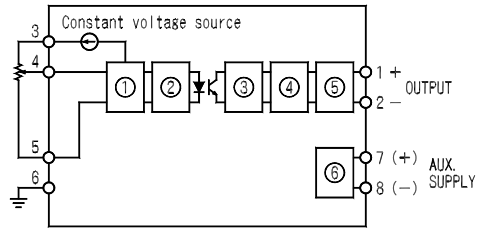
- ① BIAS.....0%, MAX.....100% Standard
- ② BIAS.....0%, MAX.....50%
- ③ BIAS.....50%, MAX.....50% (parallel shift of ②)
- ④ BIAS.....50%, MAX.....100% (parallel shift of ①)

\*Being within 0-50% of input value is sufficient for adjusting the output value to 0%.

■ Purchase specifications



■ Block diagram (RTP2-Z type) Those other than Z type are of constant current method.



- ① Low-drift voltage amplifying circuit
- ② Pulse width modulation circuit
- ③ Pulse width demodulation circuit
- ④ Output circuit
- ⑤ Output line surge protection circuit
- ⑥ Insulated power source circuit

● Because this device is potential-free type, product is shipped in input of 0-10kΩ/output of graph ① (standard) above.

Notes: this device can not be used with a 2-wire potentiometer.