

SQUARE TRANSDUCER

SQTP1 - □□□□

Use

Outputs a DC signal in proportion to square of various kinds of DC signals.

Features

1. Constant voltage/current output.
2. Withstand voltage between electric circuit and outer case is AC1, 500V (50/60Hz) for 1 minute, or between input and output is AC1, 500V (50/60Hz) for 1 minute.
3. Plus/minus input is not manufacturable.
4. Impulse withstands voltage 5kV, 1.2/50µs (between electric circuit and outer case), and positive/negative polarity 3 times each is guaranteed.

Specification

Input (input resistance or voltage drop)		Output (load resistance)	Auxiliary supply	Common specification
A1 : DC0-10mV (approx.1MΩ)	C1 : DC0-10 µ A (100mV) *1	1 : DC0-100mV ( 200 )	1 : AC100V±10%, 50/60Hz	Tolerance: ± 0.25% *2 Response time: 0.5sec./99% Consumption VA: AC power source:3VA DC power source:4W Weight: AC power source:700g DC power source:350g
A2 : DC0-50mV (approx.1MΩ)	C2 : DC0-100 µ A (100mV)	2 : DC0-1V ( 200 )	2 : AC110V±10%, 50/60Hz	
A3 : DC0-60mV (approx.1MΩ)	C3 : DC0-1mA (approx.100Ω)	3 : DC0-5V ( 1k )	3 : AC200V±10%, 50/60Hz	
A4 : DC0-100mV (approx.1MΩ)	C4 : DC0-5mA (approx.100Ω)	4 : DC 0-10V ( 2k )	4 : AC220V±10%, 50/60Hz	
A5 : DC0-1V (approx.1MΩ)	C5 : DC0-10mA (approx.100Ω)	5 : DC1-5V ( 1k )	5 : DC24V±10%	
A6 : DC0-5V (approx.1MΩ)	C6 : DC0-16mA (approx.100Ω)	A : DC0-1mA ( 10k )	6 : DC48V±10%	
A7 : DC0-10V (approx.1MΩ)	C7 : DC4-20mA (approx.100Ω)	B : DC0-5mA ( 2k )	0 : other than those above	
A8 : DC1-5V (approx.1MΩ)	00 : other than those above	C : DC0-10mA ( 1k )		
		D : DC0-16mA ( 600 )		
		E : DC1-5mA ( 3k )		
		F : DC4-20mA ( 750 )		
		0 : other than those above		

\*1. Circuit voltage 15V for an input of 10 µ A. \*2. Tolerance becomes ±0.5% when input voltage is less than 50mV; input current is less than 100µA. 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.

UR-1 precise resistance unit (selling separately)

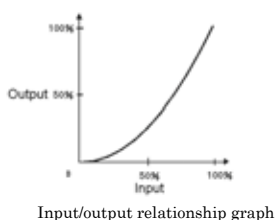
Please use a UR-1 combined with a square transducer of voltage input. When changing the square transducer in a hot line state at the time of current input, if measures against open are necessary, connect UR-1 to socket and convert it into a voltage signal before using it. (UR-1, the resistance specified)

Operational expression

Input: IB ~ IM  
Output: OB ~ OM

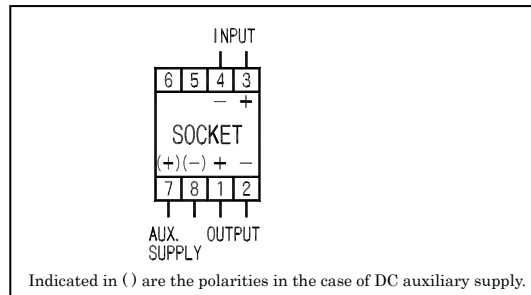
$$O = \left( \frac{I-IB}{IM-IB} \right)^2 \times (OM-OB) + OB$$

IB: Min. input value.  
IM: Max. input value.  
OB: Min. output value.  
OM: Max. output value  
I: Input value.  
O: Output value.

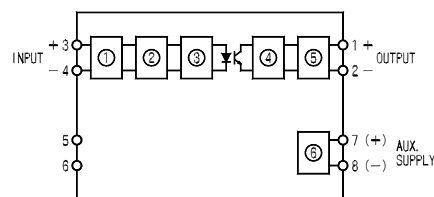


**SQTP1-A8F5**  
(80 × 50 × 121mm/350g)

Connection diagram



Block diagram



Input circuit  
Square circuit  
Pulse width modulation circuit  
Pulse width demodulation circuit  
Output circuit  
Insulated power source circuit

Purchase specifications

