MULTIPLYING TRANSDUCER

MTP1 - □□□

MTP1-A6F5
(80×50×121mm/350g)

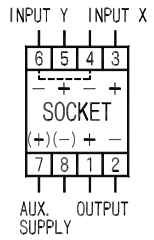
■ Use

Multiplies two DC signals and outputs a DC signal equivalent to the product.

■ Features

1. Constant voltage/current output.
2. Withstand voltage between electric circuit and outer case, and between input/output and auxiliary supply are AC1, 500V (50/60Hz) for 1 minute, or between input and output is AC1, 500V (50/60Hz) for 1 minute.
3. ⊖of Input X and Y are conducted inside the device.
4. Plus/minus input is not manufacturable.
5. Impulse withstands voltage 5kV, 1.2/50μs (between electric circuit and outer case), and positive/negative polarity 3 times each is guaranteed.

■ Connection diagram



Indicated in ( ) are the polarities in the case of DC auxiliary supply.

■ Specification

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

*1. Circuit voltage ≦15V for an input of 10μA. *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. *3. Please specify the identical input X and Y.

● UR-1 precise resistance unit (selling separately)

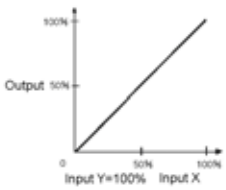
Please use a UR-1 combined with a multiplying transducer of voltage input. When changing the multiplying transducer in a hot line state at the time of current input, if measures against open are necessary, connect UR-1 to socket and convert it into a voltage signal before using it. (UR-1, the resistance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

● Operational expression

Input: IB～IM
Output: OB～OM

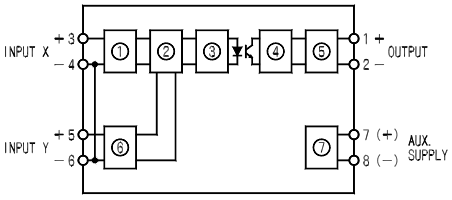
$$O=\left(\frac{XI-IB}{IM-IB}\right)\times\left(\frac{YI-IB}{IM-IB}\right)\times(OM-OB)+OB$$

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



Input/output relationship graph

■ Block diagram



①X input circuit
②Multiplying circuit
③Pulse width modulation circuit
④Pulse width demodulation circuit
⑤Output circuit
⑥Y input circuit
⑦Insulated power source circuit

■ Purchase specifications

●Item to specify

Type

MTP1 - A 6 F 5

Input Output Auxiliary supply