General Specifications

MRP7 Reactive Power Transducer

JUXTA

This plug-in type reactive power transducer receives voltage or current signal from 3 phase power line and outputs 4~20mA DC or 1~5V DC signal after making computation of reactive electric power.

Feature

- Compact type, high reliability by use of ASIC (PMC)
- Full scale reactive power can be set through Handy Terminal

Application

- Reactive power control is made separately by working process of factory and building equipment

MRP7-3□□□□-□□

Model

Phase & Wire Type
3 : 3 phase 3 wire type

Rated Input Voltage/Current
1 : 110V/1A AC
2 : 110V/5A AC
3 : 220V/1A AC
4 : 220V/5A AC

Output Polarity
M : LEAD negative polarity
LAG positive polarity
P : LAG negative polarity
LEAD positive polarity

Output Signal
A : 4~20mA DC
Z : (Custom Order) Current Signal (within 20mA)
6 : 1~5V DC
0 : (Custom Order) Voltage Signal (within ±10V)

Power Supply
3 : 24V DC±10%
4 : 85~132V AC/85~150V DC
5 : 170~264V AC

CT Protector
0 : None
2 : 2 ea.

ORDERING INFORMATION

- Model code : (Example) MRP7-32PA-42
- Full scale reactive power : (Example) LAG 1500~LEAD1500kvar Specify on primary side
- PT, CT ratio : (Example) PT3300/110V CT250/5A

* Ordering items should be filled in Transducer Work Sheet ⑨.

Input & Output	
Phase & type	Three phase 3 wire type
Frequency	45~65Hz
Rated input voltage	110V AC, 220V AC
Input voltage permissible	1.2 times of rated voltage (continuous) 1.5 times (10 seconds)
Rated input current	1A AC, 5A AC
Input current permissble	1.2 times of rated current (continuous) 2 times (10 seconds) 10 times (3 seconds)

Input Measuring Range

Input (AC) Ref. FS	Manufacturable FS Range	Approx. Dissipation VA Voltage Side	Approx. Dissipation VA Current Side
110V/1A LAG 200var LEAD	LAG 100~240var LEAD	0.2/phase	0.4/phase
110V/5A LAG 1000var LEAD	LAG 500~1200var LEAD		
220V/1A LAG 400var LEAD	LAG 200~480var LEAD	0.4/phase	0.4/phase
220V/5A LAG 2000var LEAD	LAG 1000~2400var LEAD		

(Note) FS = Full Scale

When outer set of PT, CT and if the value calculated by the formula below is in the range of full scale in above list, the unit is manufacturable.

Reactive Power Transducer Input [var]

$$= \frac{\text{Primary side full scale reactive power [var]}}{\text{(PT ratio) x (CT ratio)}}$$

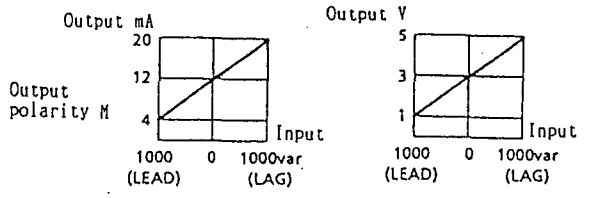
If full scale reactive power is not specified, the unit will be shipped at standard full scale value.

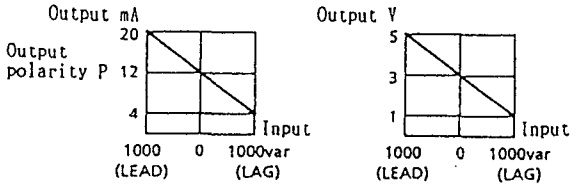
Analog output	4~20mA DC or 1~5V DC
Load resistance	0~750Ω (when 4~20mA DC output)
permissible	Over 2KΩ (when 1~5V DC output)
Zero adjust range	±5% of span
Span adjust range	±5% of span
Standard Performance	
Accuracy rating	±0.5% of span
Response speed	99% response within 1s
Insulation resistance	More than 100MΩ (500V DC) between voltage input, current input, output, power supply, ground
Withstand voltage	2000V AC/minute between voltage input, current input, output, power supply, ground
Impulse withstand voltage	5kV(1.2/50μs) between overall input~output·ground
Temperature	0~50℃
Humidity	5~90% RH (non condensation)
Power voltage	24V DC±10%, 85~150V DC, 85~132V AC, 170~264V AC, 47~63Hz
Effect of power voltage fluctuation	Less than ±0.1% of span for fluctuation of power voltage
Effect of Temperature change	Less than ±0.2% of span for change of 10℃
Effect of input frequency	Less than ±0.2% of span for 45~65Hz
Power dissipation	24V DC 90mA, 110V DC 18mA 100V AC 4VA, 200V AC 5.3VA
Mounting, Shape & Accessories	
Material	Case ABS plastic
Mounting method	Wall and DIN rail mountings (More than 5mm interval is required for access mounting)
Connecting method	M3.5 terminal screw connection
External dimension	85(H)x72(W)x132(D)mm (including socket)
Weight	Body : Abt. 300g, Socket : Abt. 110g
Accessories	Tag Number Label.....2 Spacer...1 (Use for DIN rail mounting)

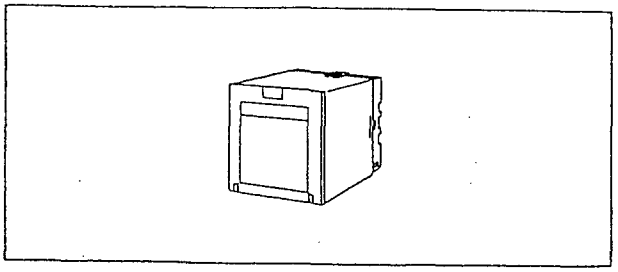
CAUTION

Recommendable to set CT protector (CTP-5) on current input terminal connecting secondary side of CT.
When removing transducer from socket without setting CT protector during power on, CT may be burned by inducement of high voltage on secondary side of CT.

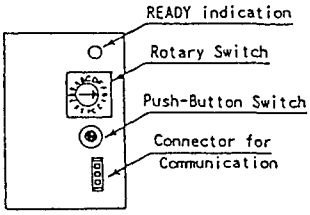
Relation between Input - Output (Example)





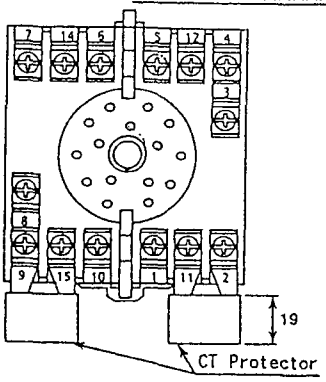


Adjustment through Front Switch
Zero/Span can be adjusted through Rotary Switch and Push-Button.



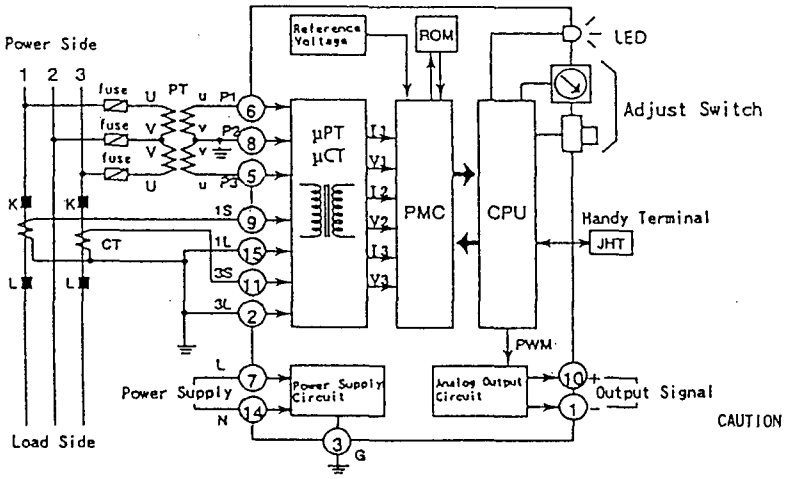
	Function when Push-Button Switch ON	
1	OUTPUT	Adjust zero point to (+) side
2		Adjust zero point to (-) side
3		Adjust span to (+) side
4		Adjust span to (-) side

TERMINAL ARRANGEMENT



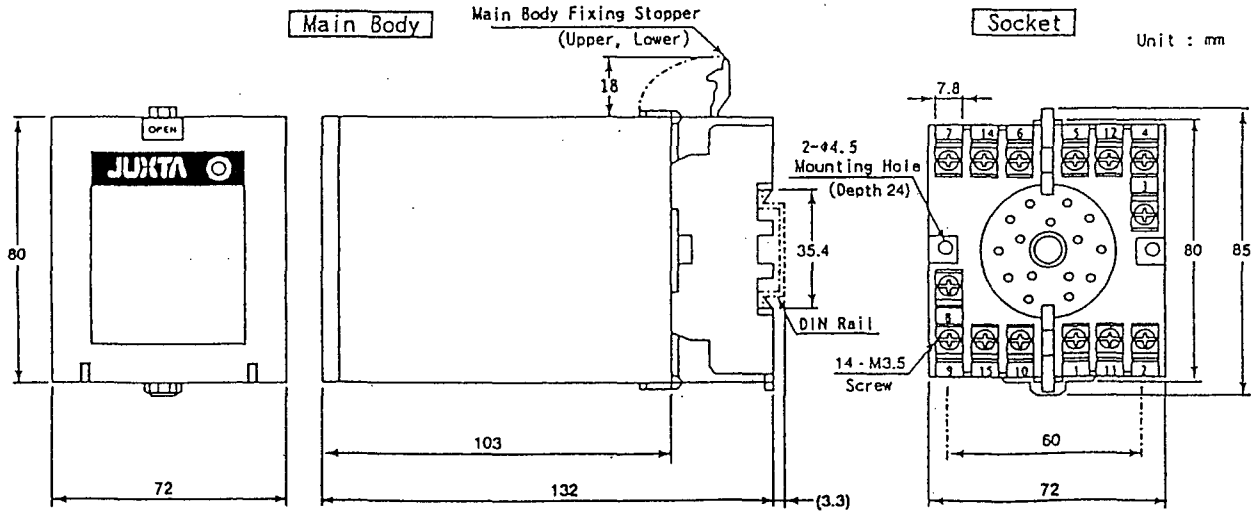
1	OUTPUT	(-)
2	INPUT	(3L)
3	GND	(G)
4		——
5	INPUT	(P3)
6	INPUT	(P1)
7	SUPPLY	(L)
8	INPUT	(P2)
9	INPUT	(1S)
10	OUTPUT	(+)
11	INPUT	(3S)
12		——
14	SUPPLY	(N)
15	INPUT	(1L)

BLOCK DIAGRAM



CAUTION : Put CT Protector (CTP-5 Option) between 9-15 and 11-2 terminals

EXTERNAL DIMENSION



Subject to change without notice for grade up quality and performance