General Specifications

MPF7
Power Factor Transducer

JUXTA

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

Feature

- Can measure by either balanced circuit/ unbalanced circuit.
- Compact type, high reliability, and versatile functions by use of ASIC (PMC).

Application

- Power factor control is made separately by working process of factory and building equipment, etc.
- Measuring of motor power factor

MPF7-3□□□-□□

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) MPF7-31MA-42

Input & Output	
Phase & type	3 phase 3 wire type
Input 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 loss :

Input (AC)	Approx. dissipating VA	
	Voltage side	Current side
110V/1A	0.2/phase	0.4/phase
110V/5A		
220V/1A	0.4/phase	0.4/phase
220V/5A		

Input measuring range (power factor) :
(LEAD)0.5～1～(LAG)0.5 or
(LAG)0.5～1～(LEAD)0.5

Definition of power factor :

$$\frac{P}{\sqrt{P^2 + Q^2}}$$

P : Electric Power
Q : Reactive power

Analog output	4～20mA DC or 1～5V DC
Load resistance permissible	0～750Ω (when 4～20mA DC output) Over 2kΩ (when 1～5V DC output)
Zero adjust range	±5% of span
Span adjust range	±5% of span
Standard Performance	
Accuracy rating	±2% 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 ±0.5% of span for fluctuation of power voltage
Effect of temperature change	Less than ±0.5% of span for change of 10℃
Effect of input frequency	Less than ±0.2% of span for 45～65Hz
Current & 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
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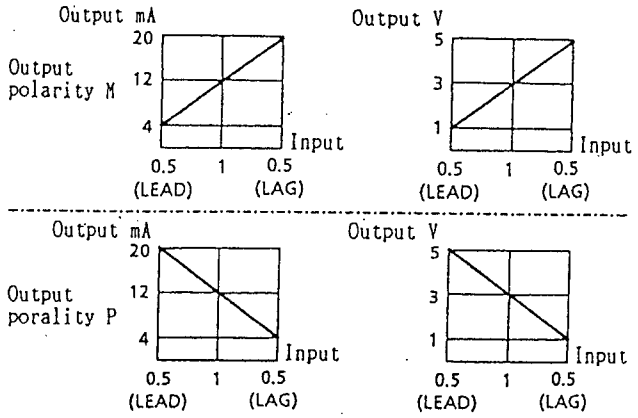
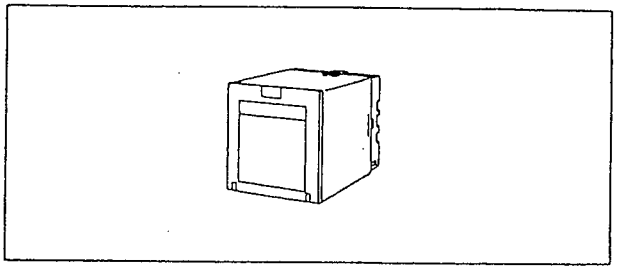
Accessories	Tag Number Label.....2 Spacer...1 (Use for DIN rail mounting)

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.

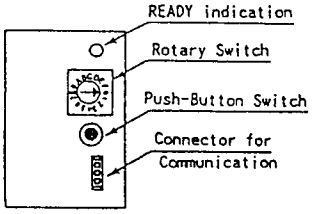
▮ Relation between Input - Output (Example)





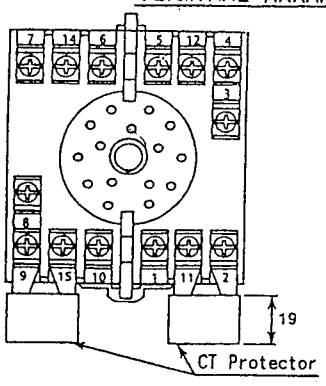
NOTE : When apparent power level of input signal becomes below 1% of rated value, output signal overscales to (-) side.

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



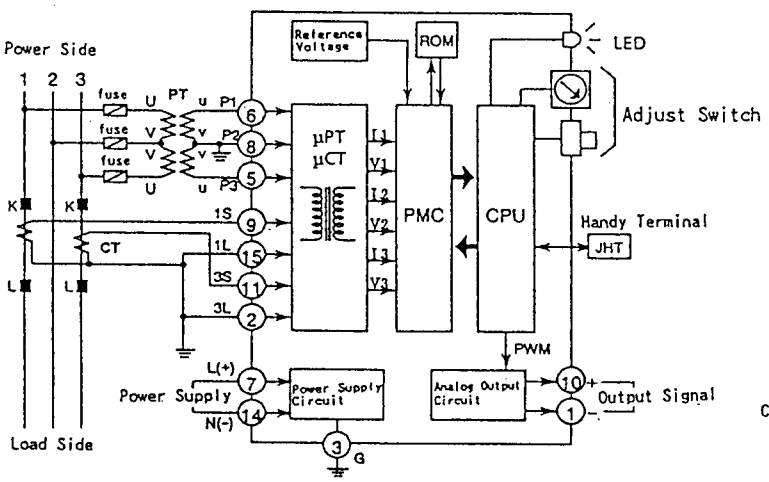
	Function when Push-Button Switch ON
1	OUTPUT: Adjust zero point to (+) side
2	OUTPUT: Adjust zero point to (-) side
3	OUTPUT: Adjust span to (+) side
4	OUTPUT: Adjust span to (-) side

TERMINAL ARRANGEMENT



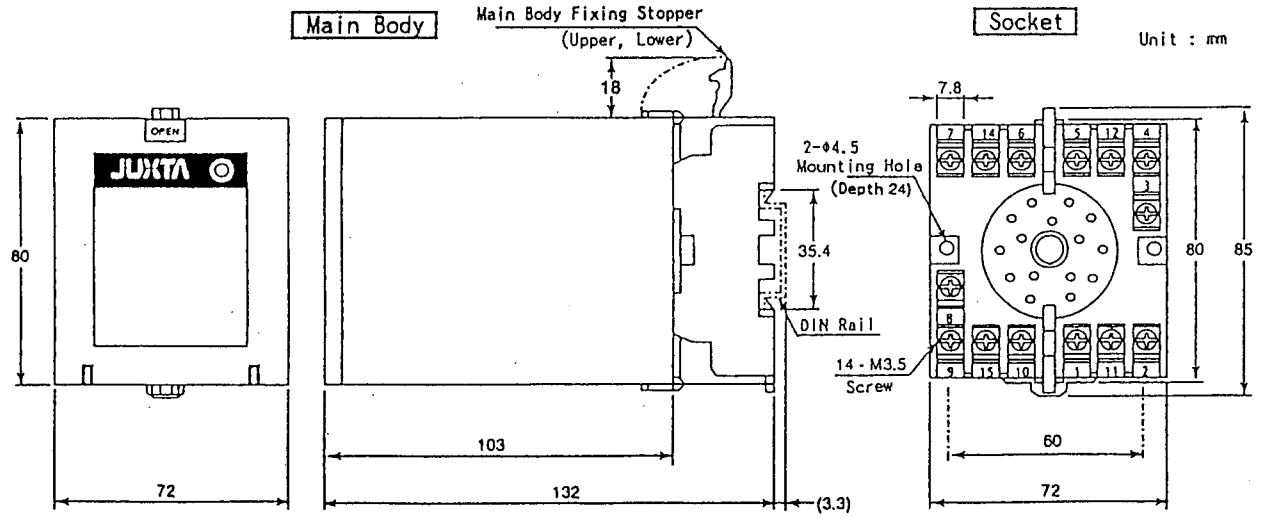
1	OUTPUT	(-)
2	INPUT	(3L)
3	GND	(G)
4	—	
5	INPUT	(P3)
6	INPUT	(P1)
7	SUPPLY	(L)
8	INPUT	(P2)
9	INPUT	(1S)
10	OUTPUT	(+)
11	INPUT	(3S)
12	—	
14	SUPPLY	(N)
16	INPUT	(1L)

BLOCK DIAGRAM



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

EXTERNAL DIMENSION



Subject to change without notice for grade up quality and performance