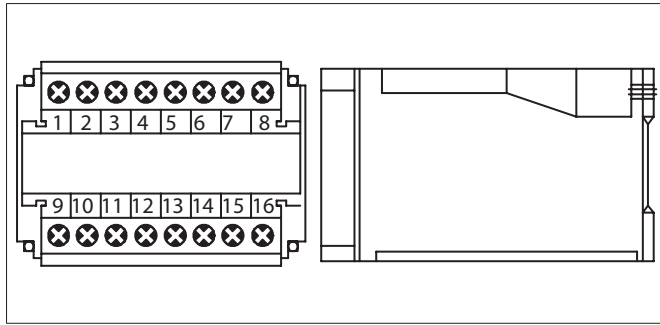


POWER FACTOR / PHASE ANGLE TRANSDUCER

MODEL : DP/DU SERIES



FEATURES

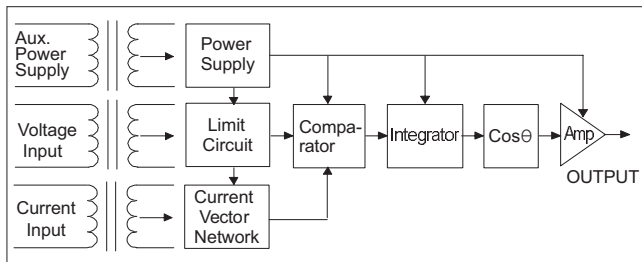
- Accuracy $\pm 0.2\text{PF}$ (DP), $\pm 1^\circ$ (DU)
- Excellent long term stability (4~20mA, 750 Ω)
- Precision measurement even for unbalance system
- Precision measurement even for distorted wave
- High impulse & surge protection (5KV)
- The case can be mounted on a 35mm rail which complies with DIM 46277

DESCRIPTION

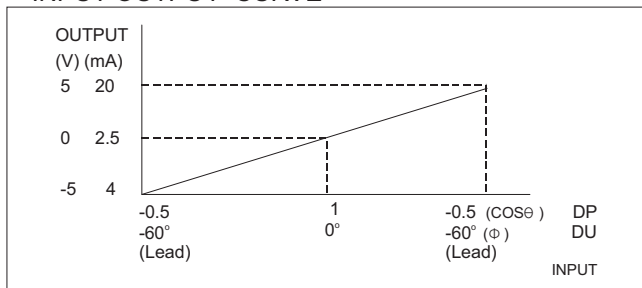
- Model : DP-1 for 1 Φ 2W, Power factor (COS θ)
 DP-3 for 3 Φ 3W, Power factor (COS θ)
 DP-3A for 3 Φ 4W, Power factor (COS θ)
 DU-1 for 1 Φ 2W, Phase angle (Φ)
 DU-3 for 3 Φ 3W, Phase angle (Φ)
 DU-3A for 3 Φ 4W, Phase angle (Φ)

These transducers require an auxiliary power supply and offer a highly accurate method of measuring the phase angle of the input. They have a full four quadrant capability. The output is a linear function of the phase angle between the two inputs (which can be current or voltage). the circuit can also be used as power factor transducer only added a COS θ circuit.

Output amplifier provides constant voltage or current output. Output is unaffected by load resistance provided it is within the specified range.



INPUT-OUTPUT CURVE



SPECIFICATION

INPUT

Circuit	Amp.	Input Range		Max. Input Over Capability
		Voltage	Range	
Single Phase	5A	110V(120V) 220V(240V)	0.5 ~ 1 ~ 0.5 or (Lead) (Lag) 60 ~ 0 60°	Ampere : 3 rated continuous 10 rated 10sec 50 rated 1sec Voltage : 1.5 rated continuous 2 rated 10sec 4 rated 1sec
3-Phase 3-wire	5A	110V(120V) 220V(240V)		
3-Phase 4-wire	5A	190/110V (208/120V) 380/220V (416/240V)		

OUTPUT

DC output Range	Load Resistance	Output Resistance	Output Ripple	Response Time
-1 ~ 0 ~ 1V	$\geq 500\Omega$	$\leq 0.05\Omega$	$\leq 0.5\%$ RO. (peak)	$\leq 400\text{ms}$ 0~99%
-5 ~ 0 ~ 5V	$\geq 500\Omega$			
1 ~ 3 ~ 5V	$\geq 500\Omega$			
0 ~ 5 ~ 10V	$\geq 500\Omega$	$\geq 20\text{M}\Omega$		
-1 ~ 0 ~ 1mA	0 ~ 10K Ω			
-10 ~ 0 ~ 10mA	0 ~ 1K Ω	$\geq 5\text{M}\Omega$		
0 ~ 10 ~ 20mA	0 ~ 750 Ω			
4 ~ 12 ~ 20mA	0 ~ 750 Ω			

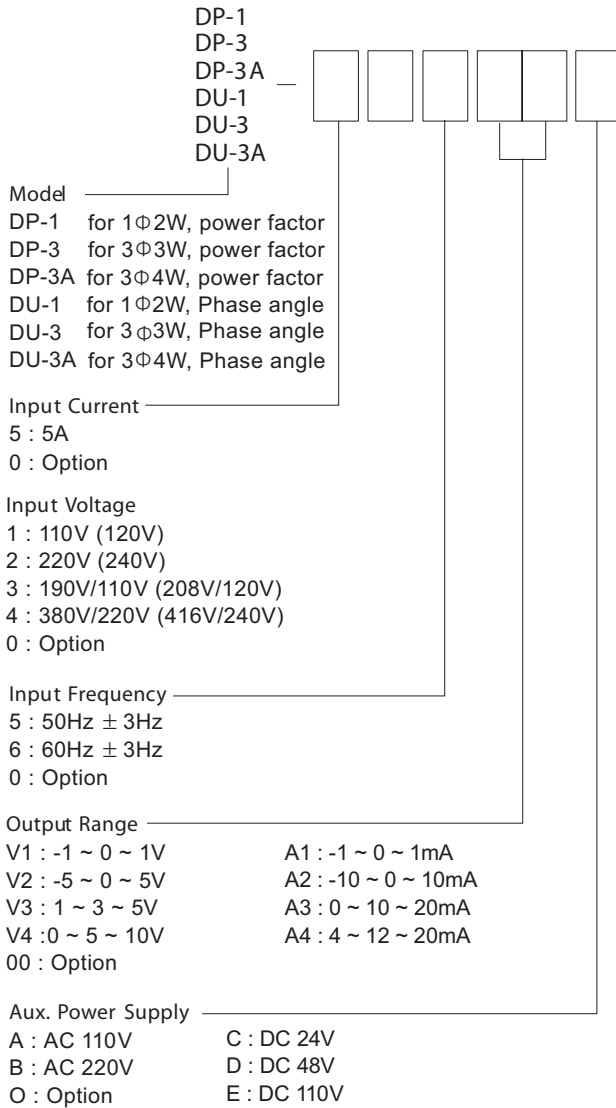
Remark : If DC source, the output : 0 ~ 20mA (0 ~ 500 Ω)
 4 ~ 20mA (0 ~ 500 Ω)

- Accuracy : $\pm 0.2\text{PF}$ (DP SERIES)
 $\pm 1^\circ$ (DU SERIES)
- Input frequency : 50Hz \pm 3Hz or 60Hz \pm 3Hz
- Input burden : $\geq 0.1\text{VA}$ (ampere input)
 $\leq 0.2\text{VA}$ (ampere input)
- Aux. Power supply : AC 110V \pm 15%, 50/60Hz
 AC 220V \pm 15%, 50/60Hz
 DC 24V, 48V, 110V, +15%, -10%
- Power effect : $\pm 0.01\text{PF}$ (DP), $\leq 0.5^\circ$ (DU)
- Power consumption : $\leq 4\text{VA}$, $\leq \text{DC } 3\text{W}$
- Waveform effect : $\leq 0.02\text{PF}$ (DP), $\leq 1^\circ$ (DU)
 at distortion factor, 30%
 current output $\leq 0.1\%$ RO.
 voltage output $\leq 0.05\%$ RO.
- Output load effect :
 Magnetic field strength : 400A/M $\leq 0.02\text{PF}$ (DP), $\leq 1^\circ$ (DU)
- Span adjustment range : $\geq 5\%$ RO
- Zero adjustment range : $\geq 1\%$ RO
- Operating temperature range : 0 ~ 60 $^\circ\text{C}$
- Storage temperature range : -10~70 $^\circ\text{C}$
- Temperature coefficient : $\leq 0.02\text{PF}$ (DP), $\leq 1^\circ$ (DU)
- Max. relative humidity : 95%
- Isolation : Input/output/power/case
 $\leq 100\text{M}\Omega$, DC 500V
- Dielectric withstand voltage ; Input/output/power/case
 (IEC 414, 688, ANSI, C37)
 AC 3KV, 60Hz, 1min
- Impulse withstand test : 5KV, 1.2x50 μs
 Common mode & differential mode
- Performance : Designed to comply with IEC688
- Safety requirements : IEC 414, BS5458

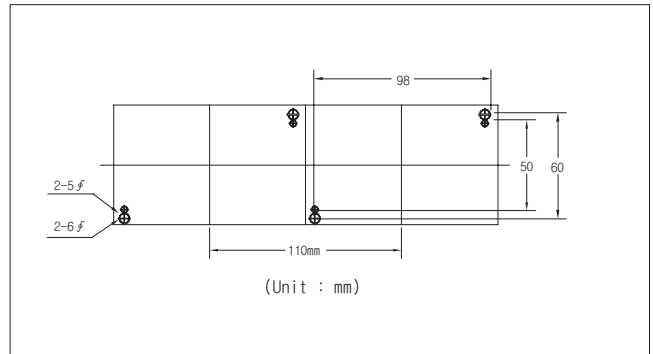
POWER FACTOR / PHASE ANGLE TRANSDUCER

MODEL : DP/DU SERIES

ORDERING MODEL MAKE UP

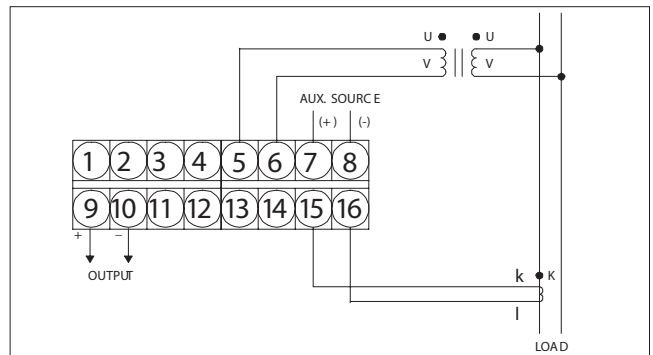


PANEL MOUNTING HOLES

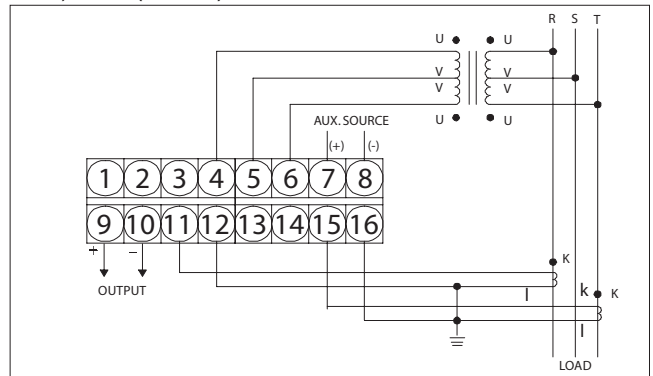


CONNECTION DIAGRAM

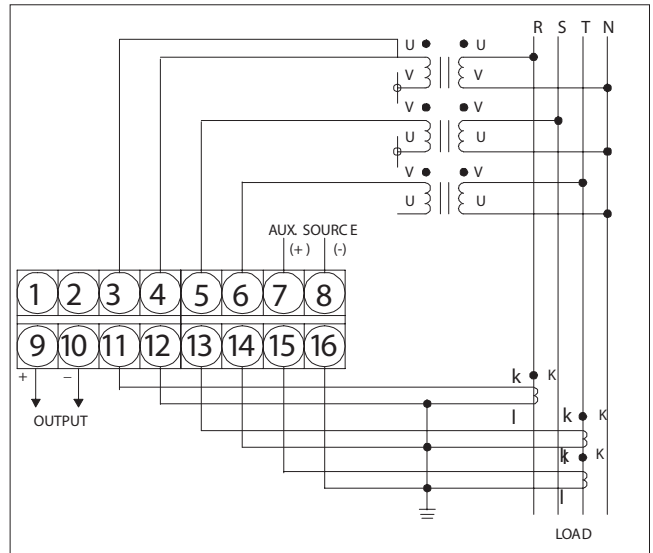
DP-1, DU-1 (1 Φ 2W)



DP-3, DU-3 (3 Φ 3W)



DP-3A, DU-3A (3 Φ 4W)



THE OUTSIDE DIMENSION

