

WATTHOUR TRANSDUCER

POWER TRANSDUCER

MODEL & SUFFIX CODE SELECTION

MODEL **SW-WH**

PHASE & WIRE

1	1 P 2 W
2	1 P 3 W
3	3 P 3 W
4	3 P 4 W

VOLTAGE & AMPERE

P x W	P.T ratio	CT	CODE
1P2W	110V	5A	A
	220V	5A	B
1P3W	110V	5A	A
	220V	5A	B
3P3W	380V/110V	5A	A
	440V/110V		
	3300V/110V		
	6600V/110V		
	154kV/110V		
	22900V/110V	5A	
3P4W	208/√3V	5A	A
	380/√3/190/√3V	5A	A
	380/√3V	5A	B
	22900/√3/190/√3V	5A	C

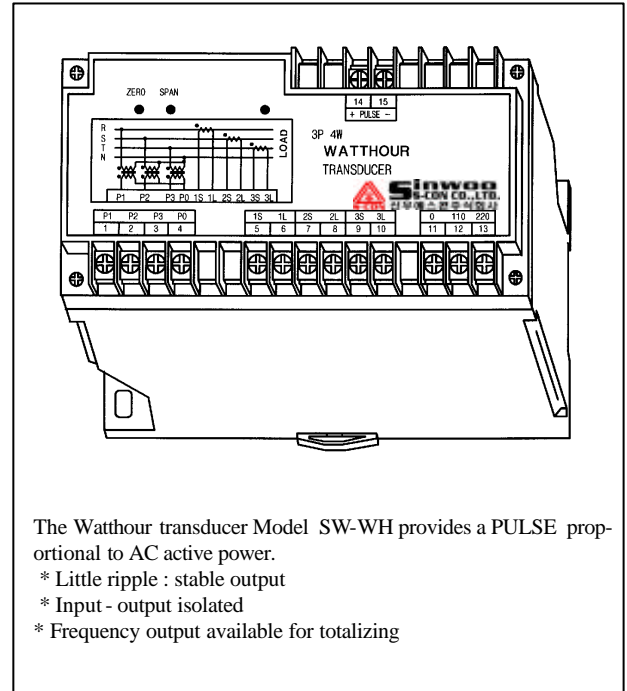
OUTPUT

* PULSE MODE

A	open collector
B	voltage pulse
C	relay contact

* PULSE RANGE

1	1Wh/1pulse
2	1Wh/10pulse
3	1KWh/1pulse
O	Others



The Watthour transducer Model SW-WH provides a PULSE proportional to AC active power.

- * Little ripple : stable output
- * Input - output isolated
- * Frequency output available for totalizing

GENERAL SPECIFICATIONS

Construction : DIN housings Terminal access on front face
 Housing materiel : plastic(black)
 Wiring : 3.0M screw terminals
 Isolation : AC input/DC output/power
 Adjustments : zero and span $\pm 5\%$
 Over-range output = 0~120%

PERFORMANCE

Accuracy : 0.1% or 0.25%
 Temp.coefficient : 0.03%/C
 Insulation resistance : 100Mohm or more with 500V DC
 Response time : 0.2seconds or less(0~90%)
 Line Voltage effect : 0.1% with 10% change
 Ripple : 0.25% p-p max. (100/120Hz)
 Dielectric strength : 2000V AC 1minute
 input/output/power
 Surge withstand Voltage : 1.2/50µsec, $\pm 5KV$
 (INPUT to OUTPUT to GROUND)

ORDERING INFORMATION

Specify code number and variables

* Code number : SW-WH-phase/wire-voltage/ampere
 - Pulse mode-pulse range
 ex : SW-WH-4AA1

* special output range : code O
 Pulse range : 0 ~ 10Hz

INSTALLATION

Operating temperature : -5 to +55C
 Operating humidity : 20-80%RH(non-condensing)
 Mounting : Wall or DIN rail
 Power supply : AC 110V or 220V (-15/+10%)
 50/60Hz,2VA
 Size : 75(w) * 150(h) * 113(d)
 Weight :

INPUT & OUTPUT

INPUT

* Voltage Side (PT side)
 Operational range : 0-110%
 Permissible over range : 150% for 10 seconds
 120% continuously

* Current Side (CT side)
 Operational range : 0-120%
 Permissible over range : 100% for 5 seconds
 150% for 10 seconds
 120% continuously

Frequency : 60 or 50Hz

INPUT RANGE

1 - PHASE/2- WIRE

MODEL CODE	INPUT	STANDARD RANGE			BURDEN (VA)	
		OPEN-collector	Relay-contact	Voltage-pulse	VOLTAGE	CURRENT
A	110V 1A	1Count /Wh	1Count /Wh	10Count /Wh	0.22VA	0.5VA
	110V 5A					
B	220V 1A	1Count /Wh	1Count /Wh	10Count /Wh	0.44VA	0.5VA
	220V 5A					

1 - PHASE/3- WIRE

MODEL CODE	INPUT	STANDARD RANGE			BURDEN (VA)	
		Open-collector	Relay-contact	Voltage-pulse	VOLTAGE	CURRENT
A	110V 1A	1Count /Wh	1Count /Wh	10Count /Wh	0.22VA	0.5VA
	110V 5A				/phase	/phase

3 - PHASE/3- WIRE

MODEL CODE	INPUT	STANDARD RANGE			BURDEN (VA)	
		Open-collector	Relay-contact	Voltage-pulse	VOLTAGE	CURRENT
A	110V 1A	1Count /Wh	1Count /Wh	10Count /Wh	0.22VA	0.5VA
	110V 5A				/phase	/phase
B	220V 1A	1Count /Wh	1Count /Wh	10Count /Wh	0.44VA	0.5VA
	220V 5A				/phase	/phase
C	110V 1A	1Count /Wh	1Count /Wh	10Count /Wh	0.22VA	0.5VA
	110V 5A				/phase	/phase
D	110V 1A	1Count /Wh	1Count /Wh	10Count /Wh	0.22VA	0.5VA
	110V 5A				/phase	/phase

3 - PHASE/4- WIRE

MODEL CODE	INPUT	STANDARD RANGE			BURDEN (VA)	
		Open-collector	Relay-contact	Voltage-pulse	VOLTAGE	CURRENT
A	190/ 3V/ 1A	1Count /Wh	1Count /Wh	10Count /Wh	0.22VA	0.5VA
	190/ 3V/ 5A				/phase	/phase
B	380/ 3V/ 1A	1Count /Wh	1Count /Wh	10Count /Wh	0.44VA	0.5VA
	380/ 3V/ 5A				/phase	/phase
C	190/ 3V/ 1A	1Count /Wh	1Count /Wh	10Count /Wh	0.22VA	0.5VA
	190/ 3V/ 5A				/phase	/phase

HOW TO DETERMINE PULSE

$$\text{Calibration Range [W]} = \frac{\text{Measuring Wattage}}{\text{PT ratio} \times \text{CT ratio}}$$

Check that the required calibration range is within the available range in the table

WATTHOUR PULSE RANGE

• pulse ratio = Calibration WATT range / 1hour

[example] 3-phase / 3-wire 110V . 5A . 1000W
 pulse range = 1000 pulse / 1hour

WATTHOUR PULSE RATIO RANGE

1 pulse ratio = PT ratio x CT ratio

[example] 3-phase / 3-wire 110V . 5A
 PT : 3300V/110V CT : 250A/5A

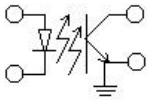
1 pulse ratio = 30 (PT ratio) x 50 (CT ratio) x Wh
 = 1500Wh

POWER TRANSDUCER SERIES

OUTPUT

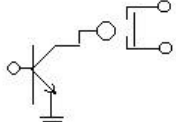
* MODE

A. Open collector



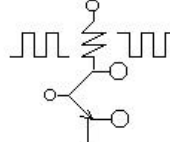
Min 1 V DC 100mA
Max 20V DC 100mA

B. relay contact



Relay Capacity
100V, 0.1 A

C. Voltage pulse

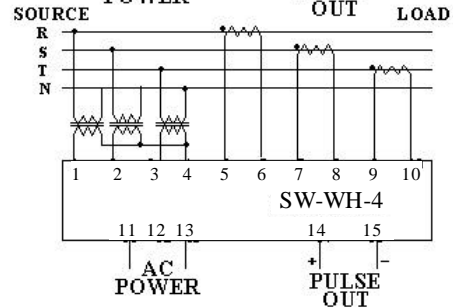
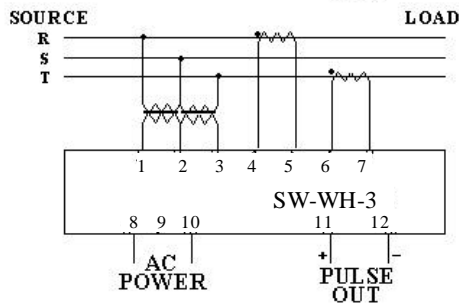
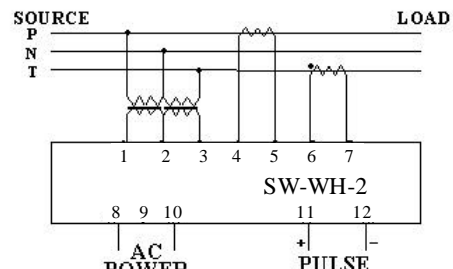
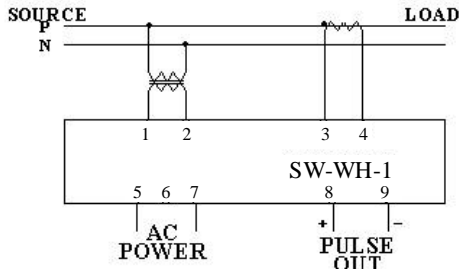


High + 15V 5mA
Low 0V

* ON duration : 250 msec. [min, 50msec., max. wattinput range/1hour × 1/2 sec

* Frequency range : 0 - 2,777Hz

CONNECTION DIAGRAM



DEMENSION & INSTRUCTIONS

