HD HYUNDAI POWER SYSTEM

HD POWER TRANSDUCER SERIES

VarHOUR TRANSDUCER

MODEL HDKH –

MODEL & SUFFIX CODE SELECTION

MODEL **HDKH** □ □ □

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

■ Var POLARTIY

P	LEAD Value
N	LAG Value
A	절대 Var Value

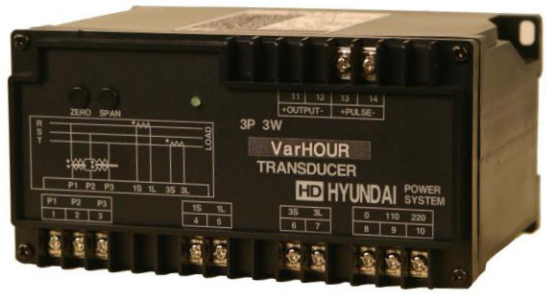
■ OUTPUT

* PULSE MODE

A	open collector
B	voltage pulse
C	relay contact

* PULSE RANGE

1	1Varh/1pulse
2	1Varh/10pulse
3	1KVarh/1pulse
O	Spec Order



The Varhour transducer Model HDKH provides a PULSE proportional to AC reactive power.

* Little ropple : 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 ±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 : 0.4sec(400ms)
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, ±5KV
(INPUT to OUTPUT to GROUND)

ORDERING INFORMATION

Specify code number and variables

* **Code number** : HDKH-phase/wire-voltage/ampere-POLARITY-Pulse mode-pulse range
ex : HDKH-4APA1

* **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 : W75 H150 D113mm
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 : 1000% 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 110V 5A	1Count /Wh	1Count /Wh	10Count /Wh	0.22VA	0.5VA
B	220V 1A 220V 5A				0.44VA	0.5VA

1-PHASE/3-WIRE

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

3-PHASE/3-WIRE

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

3-PHASE/4-WIRE

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

■ HOW TO DETERMINE PULSE

$$\text{Calibration Range [Var]} = \frac{\text{Measuring Var}}{\text{PT ratio x CT ratio}}$$

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

VarHOUR PULSE RANGE

•**pulse ratio =** Calibration Var range / 1hour

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

VarHOUR PULSE RATIO RANGE

1 pulse ratio = PT ratio x CT ratio

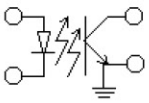
[example] 3-phase / 3-wire 110V . 5A
PT : 3300V/110V CT : 250A/5A

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

■OUTPUT

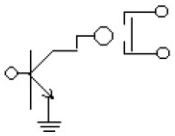
* MODE

A. Open collector



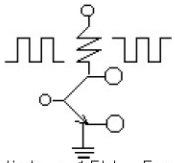
Min 1 V DC 100mA
Max 20V DC 100mA

B. Relay contact



Relay Capacity
100V , 0.1 A

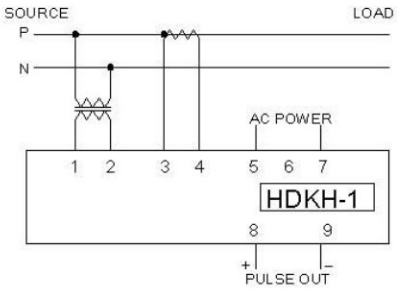
C. Voltage pulse

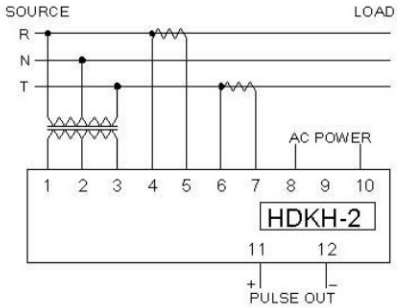


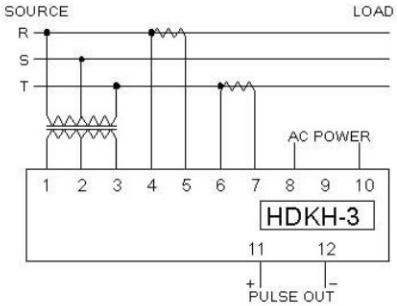
High + 15V 5mA
Low 0V

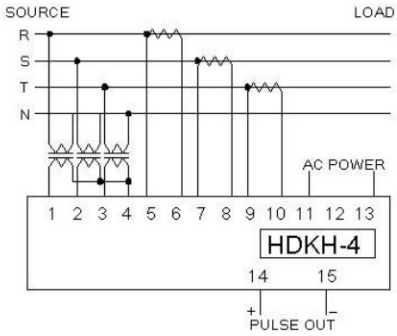
* **ON duration :** 250 msec. [min, 50msec., max. wattinput range/1hour x 1/2 sec
* **Frequency range :** 0 - 2,777Hz

CONNECTION DIAGRAM









DIMENSION & INSTRUCTIONS