



# VARHOUR TRANSDUCER

**S3-RHD  
SERIES**

## FEATURES

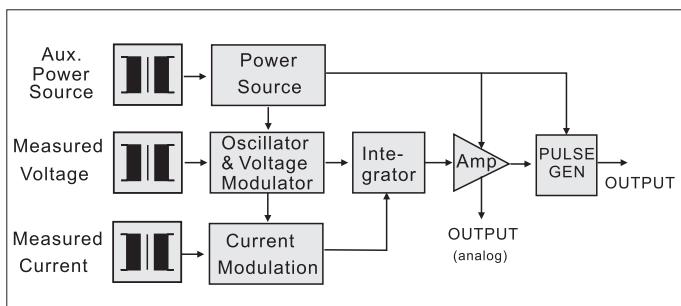
- Accuracy  $\pm 0.2\%$  R.O.
- Precision measurement even for unbalance system
- Precision measurement even for distorted wave
- High impulse & surge protection (5KV)
- The case can be mounted on a 35mm rail which complies with DIN 46277



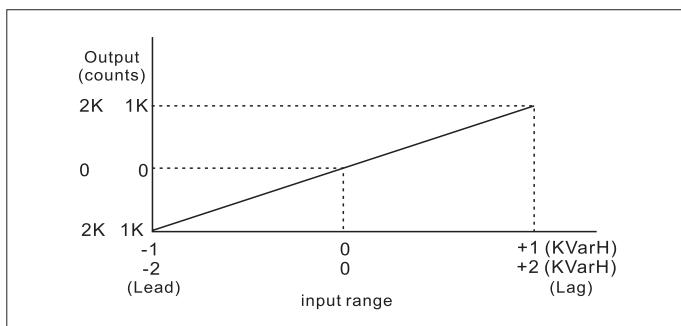
## DESCRIPTION

**Model:** S3-RHD-1 1Φ2W, VARHOUR  
 S3-RHD-3 3Φ3W, VARHOUR  
 S3-RHD-3A 3Φ4W, VARHOUR

For kilovar-hour-measurement, we build in another linear integrator circuit. This circuit accepts signal from Vars portion and integrates with respect to time, to produce a pulse output via volt free contacts, result in pulse proportional to kilovar-hours.



## • INPUT - OUTPUT CURVE



## • OUTPUT

	Output Range		Output Mode		
	Per 1KVarH	100counts	Pulse	Open Collect	SPST Relay Contacts
		1000counts			
		10000counts	DC 15V, 10mA	DC 30V, 100mA	AC 110V, 0.5A DC 24V, 1A

Accuracy	$\pm 0.2\%$ Rated of Output
Input frequency	50Hz $\pm 3$ Hz or 60Hz $\pm 3$ Hz
Input burden	$\leq 0.1\text{VA}$ (ampere input) $\leq 0.2\text{VA}$ (voltage input)
Aux. power source	AC 110 V $\pm 15\%$ , 50/60Hz AC 220 V $\pm 15\%$ , 50/60Hz DC 24V, 48V, 110V $\pm 10\%$
Power effect	$\leq 0.1\%$ R.O.
Power consumption	AC $\leq 8\text{VA}$ , DC $\leq 6\text{W}$
Waveform effect	$\leq 0.2\%$ R.O. at distortion factor 15%
Electromagnetic balance effect	$\leq 0.1\%$ R.O.
Mutual interference effect	$\leq 0.1\%$ R.O. between element
Magnetic field strength	$\leq 0.2\%$ R.O. 400A/m
Span adjustment range	$\geq 5\%$ R.O.
Zero adjustment range	$\leq 1\%$ R.O.
Operating temperature range	0 ~ 60°C
Storage temperature range	-10 ~ 70°C
Temperature coefficient	$\leq 100\text{PPM}$ , 25°C $\pm 10\%$
Max. relative humidity	95%
Isolation	Input/output/power/case
Isolation resistance	$\geq 100\text{M}\Omega$ , DC 500 V
Dielectric withstand voltage	Between input/output/power/case AC 2.6 KV, 60 Hz, 1 minute
IEC 60688	
Impulse withstand test	5KV, 1.2 x 50 μs
IEC 61000-4-5	Common mode & differential mode
Performance	Designed to comply with IEC 60688

## SPECIFICATION

### • INPUT

Input Range				Max. Input Over Capability
Circuit	Amp.	Voltage	Basic Watt	
Single Phase	5A	110V (120V)	$\pm 0.5\text{KVarH}$	Ampere: 3 x rated continuous 10 x rated 10 sec. 50 x rated 1 sec.
		220V (240V)	$\pm 1\text{KVarH}$	
3-Phase 3-Wire	5A	110V (120V)	$\pm 1\text{KVarH}$	Voltage: 2 x rated continuous
		220V (240V)	$\pm 2\text{KVarH}$	
3-Phase 4-Wire	5A	190V/110V (208/120V)	$\pm 1.5\text{KVarH}$	
		380V/220V (416/240V)	$\pm 3\text{KVarH}$	



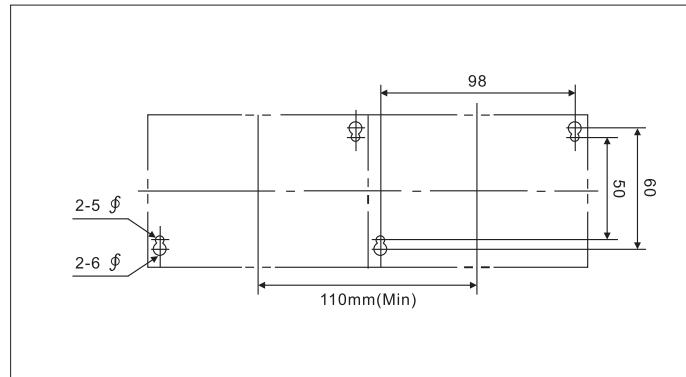
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## ORDER INFORMATION

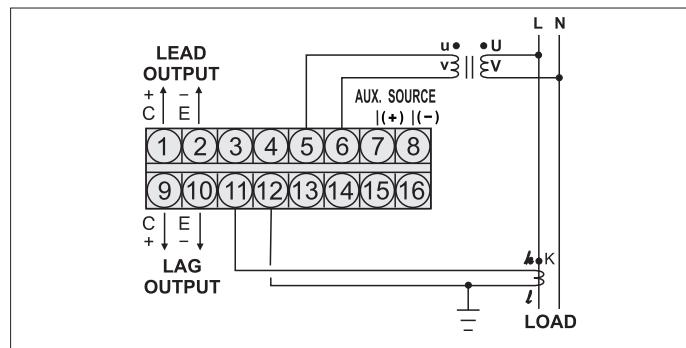
Model	S3-RHD-1 S3-RHD-3 S3-RHD-3A	[ ] [ ] [ ] [ ] [ ] [ ]
S3-RHD-1	for 1Φ2W	
S3-RHD-3	for 3Φ3W	
S3-RHD-3A	for 3Φ4W	
Input Current		
1: 1A 5: 5A 0: Option		
Input Voltage		
1: 110V (120V) 2: 220V (240V) 3: 190V/110V (208V/120V) 4: 380V/220V (416V/240V) 0: Option		
Input Frequency		
5: 50HZ ± 3HZ 6: 60HZ ± 3HZ 0: Option		
Output Range (per KVarH)		
1: 100 counts 2: 1000 counts 3: 10000 counts 0: Option		
Output Model	P: Pulse C: Open collect R: Relay contact	
Aux. Power Source		
A: AC 110V B: AC 220V 0: Option	C: DC 24V D: DC 48V E: DC 110V	

## • PANEL MOUNTING HOLES (UNIT:mm)

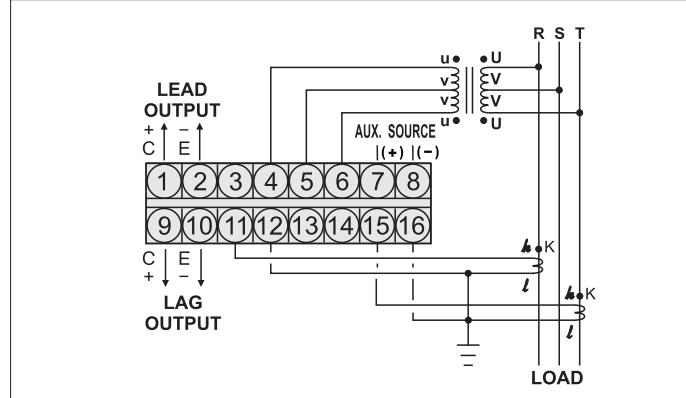


## CONNECTION DIAGRAM

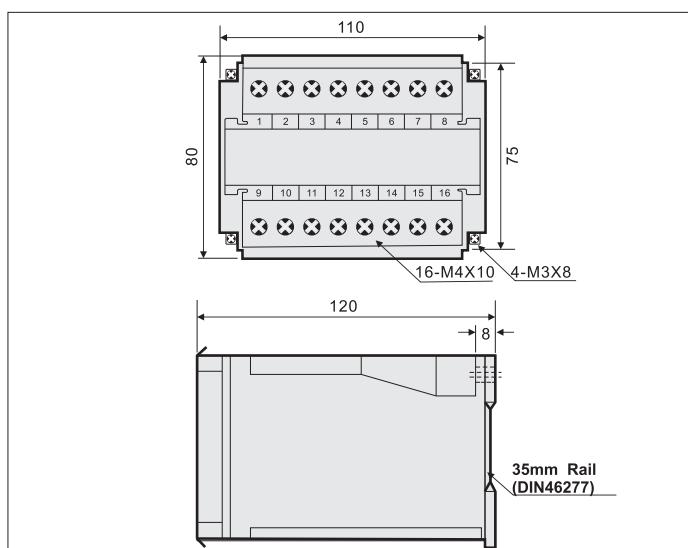
### S3-RHD-1 (1Φ2W)



### S3-RHD-3 (3Φ3W)



## THE OUTSIDE DIMENSION (UNIT:mm)



### S3-RHD-3A (3Φ4W)

