



AC VOLTAGE TRANSDUCER

S3-VD
SERIES

FEATURES

- Accuracy: $\pm 0.2\%$ RO.
- Excellent long term stability (4 ~ 20mA, 500 Ω)
- Precision measurement even for distorted wave (S3-VD-1T)
- High impulse & surge protection (5KV)
- The case can be mounted on a 35mm rail which complies with DIN 46277

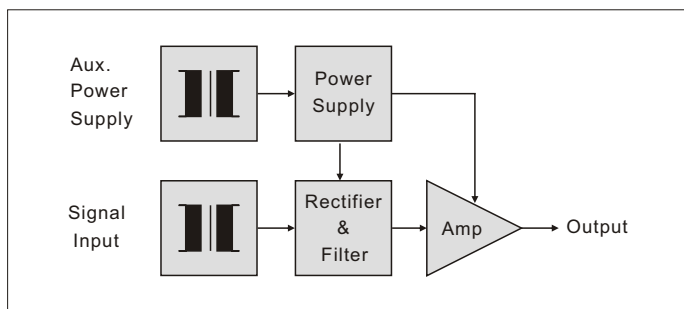


DESCRIPTION

- Model:** S3-VD-1 1 ϕ input (AVG.)
 S3-VD-3 3 ϕ input (AVG.)
 S3-VD-1T 1 ϕ input (TRMS)

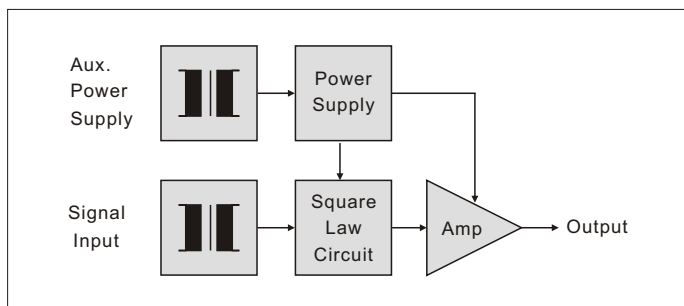
Sinusoidal Waveforms – AVG.

S3-VD Series Transducer converting a sinusoidal alternating voltage into a dc output, proportional to the RMS value of input. These units are average sensing, but RMS calibrated for a sine wave with less than 1% distortion. The input signal is converted to a dc voltage which then feeds to a single stage amplifier and a dc output produced.

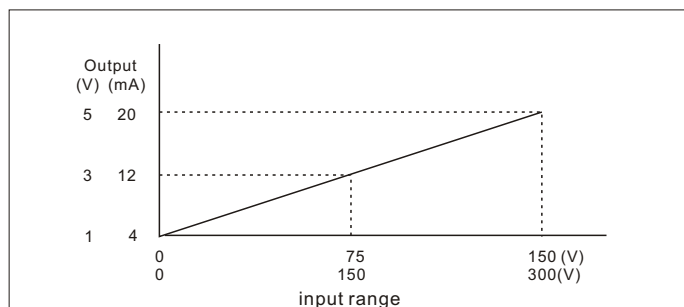


Non-Sinusoidal Waveforms – TRMS

S3-VD-1T Transducer are designed for use on waveforms with up to 30% of 3rd harmonic content. The input signal is fed to an RMS detection circuit and the resultant dc volts produced are a linear function of the RMS value of input waveform. This dc voltage is converted to a milliamp output via an output amplification circuit.



INPUT-OUTPUT CURVE



SPECIFICATION

INPUT

Input Range	Input Burden	Input Frequency	Max. Input Over capability
0 ~ 150V	$\leq 0.2VA$	50Hz \pm 3Hz	2 x rated continuous
0 ~ 300V		or 60Hz \pm 3Hz	

OUTPUT

DC Output Range	Load Resistance	Output Resistance	Output Ripple	Response Time
0 ~ 1V	$\geq 1K\Omega$	$\leq 0.05\Omega$	$\leq 0.5\%$ RO. (Peak)	$\leq 400mS.$ 0 ~ 99%
0 ~ 5V				
1 ~ 5V				
0 ~ 10V				
0 ~ 1mA	0 ~ 10K Ω	$\geq 20M\Omega$		
0 ~ 10mA	0 ~ 1K Ω	$\geq 5M\Omega$		
0 ~ 20mA	0 ~ 500 Ω			
4 ~ 20mA				

- Accuracy..... $\pm 0.2\%$ Rated of Output
- Aux. power supply AC 110V $\pm 15\%$, 50/60HZ
AC 220V $\pm 15\%$, 50/60HZ
DC24V, 48V, 110V, $\pm 15\%$,
- Power consumption $\leq 2.5VA, \leq DC 3W$
- Power effect $\leq 0.1\%$ RO.
- Waveform effect $\leq 0.2\%$ RO. at distortion factor 30%
(S3-VD-1T)
- Output load effect $\leq 0.05\%$ RO.
- Magnetic field strength $\leq 0.2\%$ RO., 400A/M
- Span adjustment range $\geq 5\%$ RO.
- Zero adjustment range $\geq 1\%$ RO.
- Operating temperature range 0 ~ 60 $^{\circ}C$
- Storage temperature range -10 ~ 70 $^{\circ}C$
- Temperature coefficient $\leq 100PPM$ from 0 to 60 $^{\circ}C$
 $\leq 60PPM, 25^{\circ}C \pm 10^{\circ}C$
- Max. relative humidity 95%
- Isolation Input/output/power/case
- Insulation resistance $\geq 100M\Omega$, DC 500V
- Dielectric withstand voltage Between input/output/power/case
(IEC 414, 688, ANSI, C37) AC 2.6KV, 60HZ, 1 min.
- Impulse withstand test 5KV, 1.2 X 50 μS
(IEC 255-4, ANSI C37 90a) Common mode & differential mode
- Performance..... Designed to comply with IEC688
- Safety requirements IEC 414, BS5458



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ORDERING INFORMATION



Model

- S3-VD-1 for 1 ϕ input (AVG.)
- S3-VD-3 for 3 ϕ input (AVG.)
- S3-VD-1T for 3 ϕ input (TRMS)

Input Range

- 1: 0 ~ 150V
- 3: 0 ~ 300V
- 0: Option

Input Frequency

- 5: 50HZ \pm 3HZ
- 6: 60HZ \pm 3HZ
- 0: Option

Output Range

- V1: 0 ~ 1V A1: 0 ~ 1mA
- V2: 0 ~ 5V A2: 0 ~ 10mA
- V3: 1 ~ 5V A3: 0 ~ 20mA
- V4: 0 ~ 10V A4: 4 ~ 20mA
- 00: Option

Aux. Power Supply

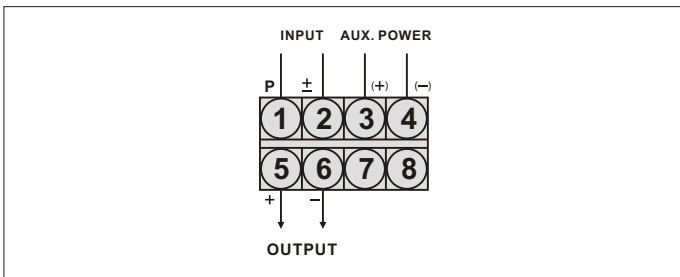
- A: AC 110V C: DC 24V
- B: AC 220V D: DC 48V
- 0: Option E: DC 110V

EXAMPLE

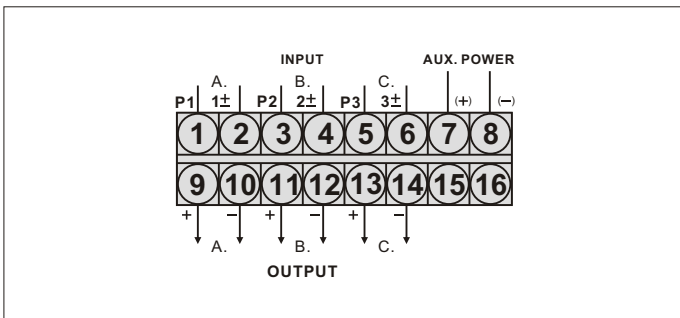
Input: 1 ϕ , AC 0 ~ 150V, 60HZ, Output: DC 4-20mA
 Aux. Power source: AC 110V
 Ordering model: S3-VD-1-16A4A

CONNECTION DIAGRAM

• S3-VD-1, S3-VD-1T

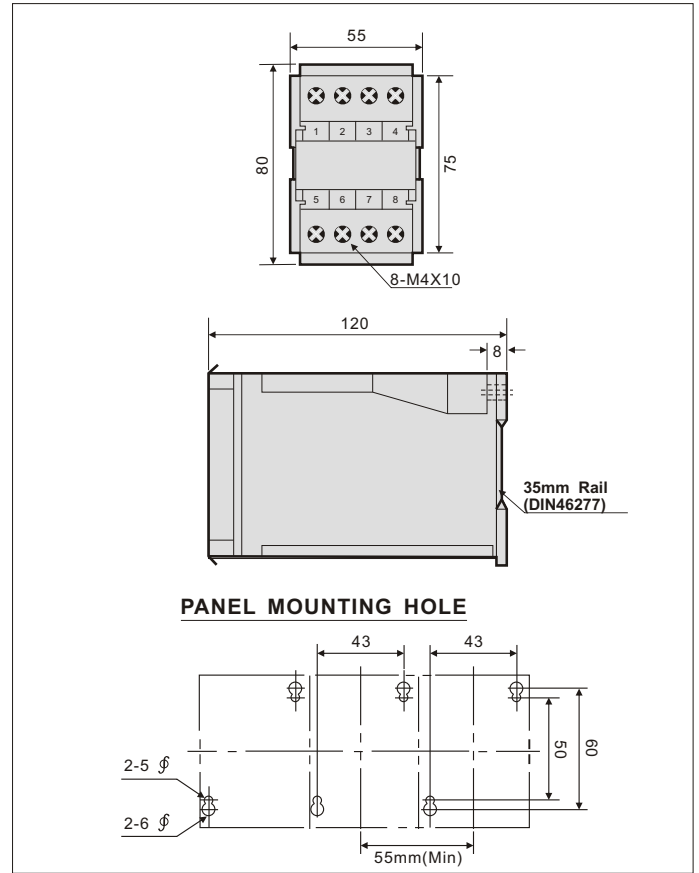


• S3-VD-3



THE OUTSIDE DIMENSION (UNIT: mm)

• S3-VD-1, S3-VD-1T



• S3-VD-3

