AC CURRENT TRANSDUCER

S3-AD SERIES

FEATURES

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

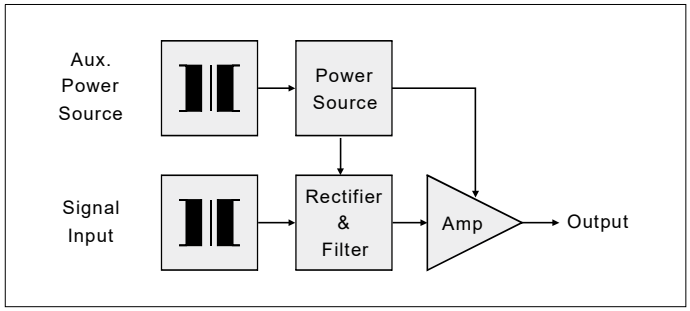
CE

DESCRIPTION

Model: S3-AD-1 1Φ input (AVG.)
S3-AD-3 3Φ input (AVG.)
S3-AD-1T 1Φ input (TRMS)

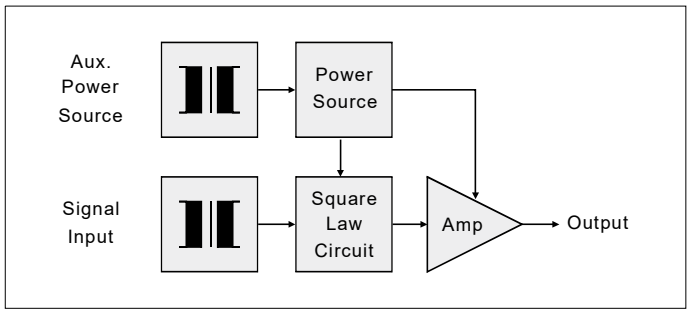
Sinusoidal Waveforms - AVG.

S3-AD Series Transducer converting a sinusoidal alternating current 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.

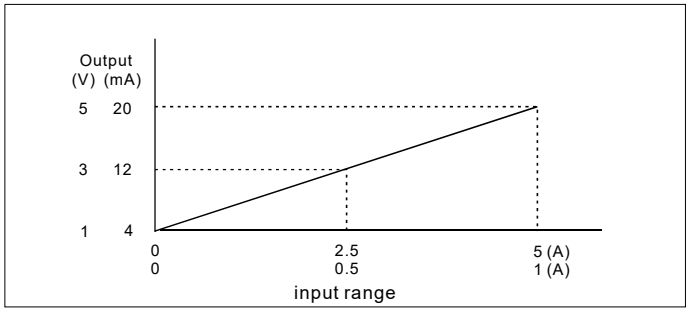


Non-Sinusoidal Waveforms - TRMS

S3-AD-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 amlification circuit.



• INPUT-OUTPUT CURVE



SPECIFICATION

• INPUT

Input Range	Input Burden	Input Frequency	Max. Input Over capability
0 ~ 1A	≦ 0.1VA	50Hz ± 3Hz or 60Hz ± 3Hz	3 X rated continuous 10 X rated 10 sec. 50 X rated 1 sec.
0 ~ 5A			

• OUTPUT

DC Output Range	Load Resistance	Output Resistance	Output Ripple	Response Time
0 ~ 1V	≧ 1 KΩ	≦ 0.05Ω	≦ 0.5% R.O. peak	≦ 400mS 0 ~ 99%
0 ~ 5V				
1 ~ 5V				
0 ~ 10V				
0 ~ 1mA	≦ 10KΩ	≧ 20MΩ		
0 ~ 10mA	≦ 1KΩ	≧ 5MΩ		
0 ~ 20mA	≦ 500Ω			
4 ~ 20mA				

Accuracy ..... ± 0.2% Rated of Output
Aux. power source ..... AC 110V ±15%, 50/60HZ
AC 220V ±15%, 50/60HZ
DC24V, 48V, 110V, ±10%
Power consumption ..... AC ≦ 2.5VA, DC ≦ 3W
Power effect ..... ≦ 0.1% R.O.
Waveform effect ..... ≦ 0.2% R.O. at distortion factor 30% (S3-AD-1T)
Output load effect ..... ≦ 0.05% R.O.
Magnetic field strength ..... ≦ 0.2% R.O., 400A/M
Span adjustment range ..... ≧ 5%R.O.
Zero adjustment range ..... ≧ 1%R.O.
Operating temperature range ..... 0 ~ 60 °C
Storage temperature range ..... -10 ~ 70 °C
Temperature coefficient ..... ≦ 100PPM from 0 to 60 °C
≦ 60PPM 25 °C ±10 °C
Max. relative humidity 95%
Isolation ..... Input/output/power/case
Insulation resistance ..... ≧ 100MΩ, DC 500V
Dielectric withstand voltage ..... Between input/output/power/case
IEC 60688 AC 2.6KV, 60HZ, 1 minute
Impulse withstand test ..... 5KV, 1.2 X 50μS
IEC 61000-4-5 Common mode & differential mode
Performance ..... Designed to comply with IEC 60688

ORDERING INFORMATION

S3-AD-1
S3-AD-1T
S3-AD-3 — [ ][ ][ ][ ]

Model:
S3-AD-1 for 1Φ input (AVG.)
S3-AD-3 for 3Φ input (AVG.)
S3-AD-1T for 1Φ input (TRMS)

Input Range
1: 0 ~ 1A
5: 0 ~ 5A
0: Option

Input Frequency
5: 50HZ ±3HZ
6: 60HZ ±3HZ
0: Option

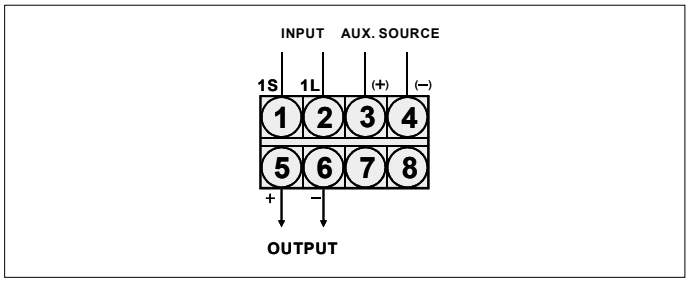
Output Range
V1: 0 ~ 1V A1: 0 ~ 1mA
V2: 0 ~ 5V A2: 0 ~ 10mA
V3: 1 ~ 5V A3: 0 ~ 20mA
V4: 0 ~ 10V A4: 4 ~ 20mA
00: Option

Aux. Power Source
A: AC 110V C: DC 24V
B: AC 220V D: DC 48V
0: Option E: DC 110V

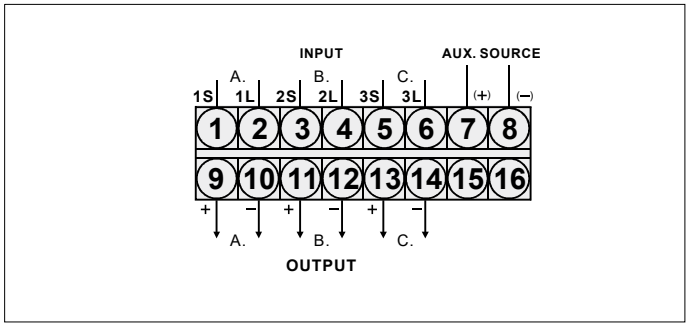
- **EXAMPLE**
  Input: 1Φ , AC 0 ~ 5A, 60HZ, Output: DC 4-20mA
  Aux. power source: AC 110V
  Ordering model: S3-AD-1-56A4A

CONNECTION DIAGRAM

- **S3-AD-1, S3-AD-1T**

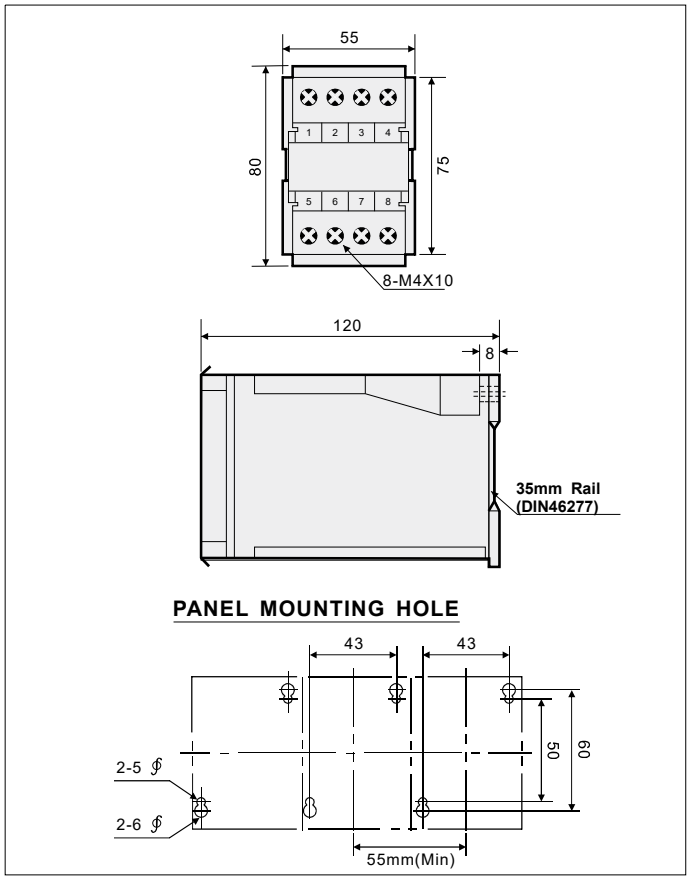
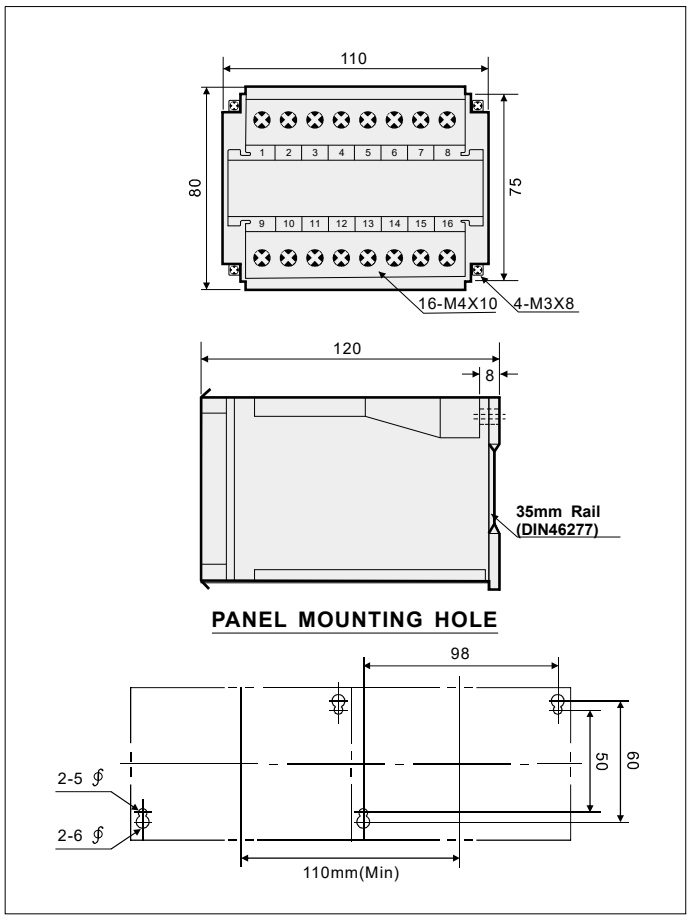


- **S3-AD-3**



THE OUTSIDE DIMENSION (UNIT: mm)

- **S3-AD-1, S3-AD-1T**



- **S3-AD-3**