HANKOOK SENSORS

TRVH-D4

AC/DC/PULSE to measurement,
VOLTAGE TRANSDUCER

FEATURES

- Small Sized D4 Package with Multi-Functional Mounts
- For both DC/AC Measurements
- DC ~ AC 50kHz
- True RMS to DC Convert

APPLICATIONS

⊙ Voltage Measurements of Non-sinusoidal Waves in Power Transformers

⊙ DC/Ripple Measurements of Rectifiers and Battery Chargers/Dischargers

⊙ Measurements of Prevailing Voltage with Frequent Frequency/Phase Changes

⊙ Precision Voltage Measurements of Prevailing Voltages

DESCRIPTION

TRVH-D4 series sensors are voltage transducers for voltage measurements which are packaged in a small-sized D4 package.

TRVH-D4 series sensors are capable of wideband measurement for both DC and AC voltages and True-RMS to DC converting functionality. Double output signal of DC 0~5V and DC 4~20mA aids convenience of the user.

Power lamp, rated voltage lamp and overvoltage lamp provides user convenience where one may check status of device without using any other apparatus.

Rated voltage of TRVH-D4 series sensors may be chosen upon order among 5V to 1000V. Measured voltage and signal voltage are insulated with impedance of 40M~200MΩ.

MODEL & D4

TRVH - D4 - 500AB-24S

- TRVH: High Resistor Insulated Voltage Transducer
- D4: Package
- 500AB-24S: Rated Voltage/Output Signal/Supplied Power
  - AB : Dual Output
  - 24S : Unipolar DC Power Supply 24V

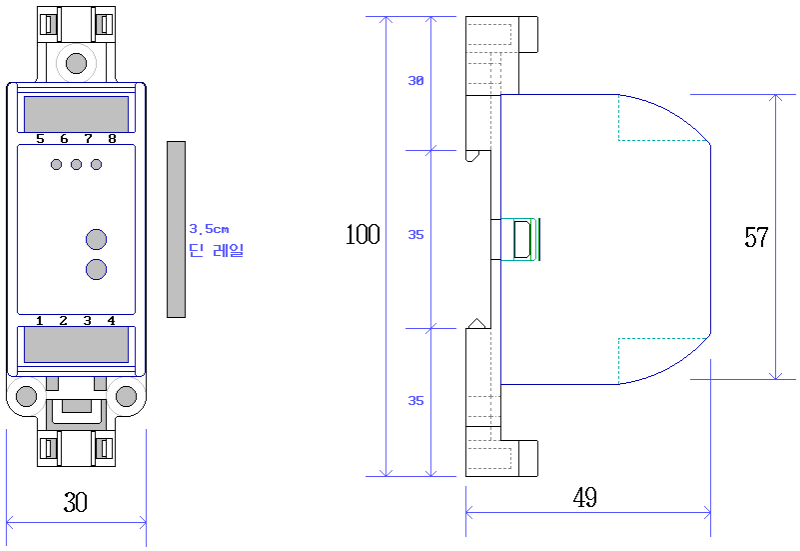
▲ D4 Package

Appearance Reference Picture

ELECTRICAL CHARACTERISTICS : V_S = +24V, T_A 25℃

PARAMETER	SIMBOL	TEST CONDITIONS	25AB 25CB	50AB 50CB	75AB 75CB	UNIT
Primary						
Nominal voltage	V_P	DC or RMS	**25**	**50**	**75**	V
Voltage, measuring range	V_{PM}		27	55	82	V
Input						
Input-output impedance	R_{IO}	Pin 5 - Pin 2	20	20	20	MΩ
Output						
Reference output (Pin 3)	V_{REF}		**< 0.05 (..0.1 Max.)**			V
Reference output (Pin 4)	I_{REF}		**DC 4**			mA
Nominal output (Pin 3)	V_O	at I_P	**DC 5, [CB: DC 10]**			V
Max, output (Pin 3)	V_{OM}	Converter output	5.6, [CB: 16]			V
Nominal output (Pin 4)	I_O	at I_P	**DC 20**			mA
Max, output (Pin 4)	I_{OM}	Converter output	32			mA
No-output area		0 ... 0.2V	**0 ~ 100 (200 Max.)**			mV
Output measuring resistance	R_L		50 ~ 250 (Pin 4)			Ω
Power supply						
Supply Voltage	V_C		**DC 24 ±10%**			V
Current consumption	I_C	Max. 150mA	25 +V_{OM}(..100)+V_O			mA
Offset drift						
Vs Temperature	T_{DR}	at I_P=0A	< 0.1			mV/℃
Vs Power supply	T_{DP}	22V ... 30V	< 0.1			mV/V
Gain drift						
Vs Temperature	TDV_O	at I_P	< 0.03			%/℃
Vs Power supply	TDV_P	22V ... 30V	< 0.01			%/V
Accuracy						
Accuracy		at 0A .. I_P+offset	1.0			%
Linearity error		at 0A .. I_P	0.7			%
Response time 1 (sensor part)	trs		< 3 (7 Max.)			μs
Response time 2 (converter part)	trc		250			ms
Frequency bandwidth (-3dB)	BW	Sin wave	> 50			kHz
Temperature						
Operating temperature	T_A		-20~80			℃
Storage temperature	T_S		-40~85			℃
Isolation						
AC isolation test			> 3.0			kV
DC isolation test			> 500			MΩ
Notes						
Mass			60	60	60	g
Case material			NP66	NP66	NP66	
Standards						

DIMENSIONS (in mm)



Adjustment VR : Upper/GAIN, Lower/OFFSET

▼ PIN - COMPOSITION

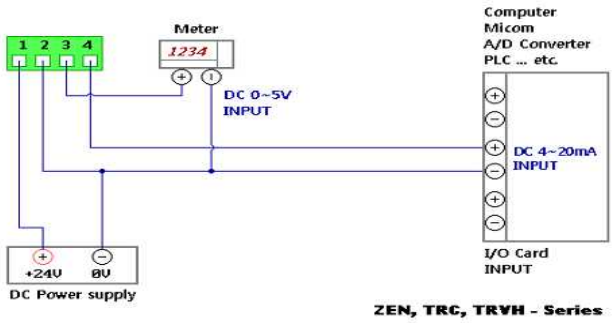
1 : +24V IN	5 : +/-Vp IN
2 : 0V IN/OUT	6 : N.C.
3 : V - SIGNAL OUT	7 : N.C.
4 : I - SIGNAL OUT	8 : -/+Vp IN

▼ Output Signal

AB : DC 0~5V &
DC 4~20mA DUAL OUTPUT

CB : DC 0~10V &
DC 4~20mA DUAL OUTPUT

▼ Wiring Diagram



Woromg Diagram Application Example

SAFETY

- Maximum allowed voltage to be measured is 3 times the rated voltage. Exceeding this voltage may cause disconnection of coils and/or fire.
- Be sure to supply rated voltage for supplying power. Using voltage out of the rated voltage range may cause malfunctions.
- This product is not perfectly waterproof. Therefore, when using this product in outdoors, be cautious for having this product to be exposed to excessive humidity or moisture.