

DATA SHEET

Hall Effect Voltage Sensor



PN: CHV_AS3S6

IPN=05/10mA

Feature

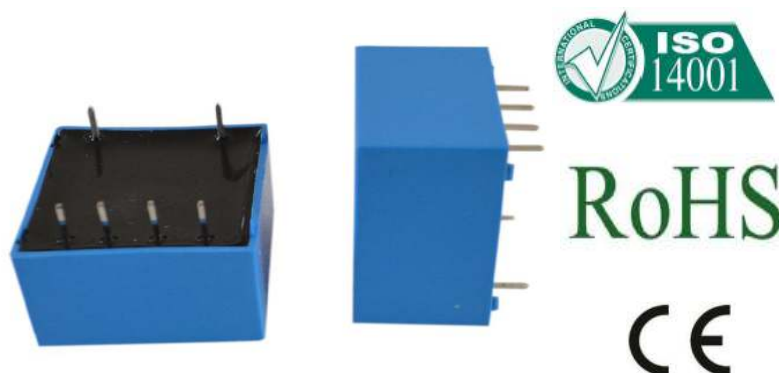
- Closed- loop (compensated) voltage transducer
- Capable measurement of DC and AC voltage with galvanic isolation between primary circuit and secondary circuit.
- Supply voltage: DC +3.3V

Advantages

- High accuracy
- Easy installation
- Low temperature drift
- High immunity to external interference

Applications

- The application of induction cooker
- AC/DC variable-speed drive
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)



Electrical data: (Ta=25°C, Vc= +3.3VDC, RL=2KΩ)

Parameter	Ref	CHV05AS3S6	CHV10AS3S6
Rated input I _{pn} (mA)		05	10
Measuring range I _p (mA)		0 ~ ±10	0 ~ ±20
Rated input voltage V _{PN} (V)		5 ~ ±1200	10 ~ ±500
Turns ratio N _p /N _s (T)		2500:1000	1250:1000
Primary coil resistance R _P (Ω)		170	80
Secondary coil resistance R _S (Ω)		60	60
Inside resistance R _M (Ω)		50±0.1%	50±0.1%
Output voltage V _O (V)		1.650±0.625*(IP/IPN)	
Output voltage V _O (V)	@IP=0,T=25°C	1.650	
Supply voltage V _C (V)		+3.3 ±5%	
Accuracy X _G (%)	@IPN,T=25°C	< ±0.5	
Offset voltage V _{OE} (mV)	@IP=0,T=25°C	< ±15	
Temperature variation of V _{OE} V _{OT} (mV/°C)	@IP=0,-40 ~ +85°C	< ±1.0	
Linearity error ε _r (%FS)		< 0.1	
Response time τ _{ra} (μs)	@90% of IPN	<40.0	
Power consumption I _C (mA)		15+I _s	

Insulation voltage Vd(KV)	@50/60Hz, 1min,AC	2.5
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General data:

Parameter	Value
Operating temperature TA(°C)	-40 ~ +85
Storage temperature TS(°C)	-55 ~ +125
Mass M(g)	22
Plastic material	PBT G30/G15, UL94- V0;
Standards	IEC60950-1:2001
	EN50178:1998
	SJ20790-2000

Dimensions(mm):

	<p style="text-align: center;">Connection</p>
	<p style="text-align: center;">General tolerance</p> <p>General tolerance: <math>\pm 0.2\text{mm}</math> size of Primary pin: 2pin, <math>0.8*0.8 \pm 0.15\text{mm}</math>; Secondary pin: $0.8*0.8 \pm 0.15\text{mm}</math>$</math></p>

Instructions for use of the voltage sensor model CHV10AS3S6:

- ◆ Primary resistance R1: the sensor's optimum accuracy is obtained at the rated current. So R1 should be calculated so that the rated voltage to be measured corresponds to a primary current of 10mA.
- ◆ For example: Measuring rated voltage $V_{PN}=250\text{V}$:
a) $R1=25\text{K}/2.5\text{W}, IP=10\text{mA}$ Accuracy= $\pm 0.5\%$ of V_{PN} ; b) $R1=50\text{K}/1.25\text{W}, IP=05\text{mA}$ Accuracy= $\pm 1.0\%$ of V_{PN} ;
Operating range(recommended):taking into the resistance of the primary windings(which must remain low compared to R1.in order to keep thermal deviation as low as possible) and the isolation,the sensor is suitable for measuring nominal voltage from 10 to 500V.

Remarks:

- When the current goes through the primary pin of a sensor, the voltage will be measured at the output end.
- Custom design is available for the different rated input current and the output voltage.

WARNING : Incorrect wiring may cause damage to the sensor.