



DATA SHEET

Hall Effect Voltage Sensor

PN: CHV_A15D25

IPN=05/10mA

Feature

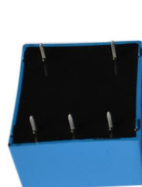
- Closed- loop (compensated) voltage transducer
- Capable measurement of DC and AC voltage with galvanic isolation between primary circuit and secondary circuit.
- Supply voltage: DC $\pm 12 \sim 15$ V

Advantages

- High accuracy
- Easy installation
- Can be customized
- Low temperature drift
- High immunity to external interference
- Very good linearity

Applications

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



RoHS



Electrical data: ($T_a=25^\circ\text{C}$, $V_c=\pm 15\text{VDC}$)

Parmeter	Ref	CHV05A15D25	CHV10A15D25
Rated input $I_{pn}(\text{mA})$		05	10
Measuring range $I_p(\text{mA})$		$0 \sim \pm 07$	$0 \sim \pm 14$
Rated input voltage $V_{PN}(\text{V})$		$5 \sim \pm 1200$	$10 \sim \pm 500$
Turns ratio N_p/N_S (T)		5000:1000	2500:1000
Primary coil resistance R_P (Ω)		650	170
Secondary coil resistance R_S (Ω)		60	60
Output current rms $I_S(\text{mA})$		$\pm 25 * I_P / I_{PN}$	$\pm 25 * I_P / I_{PN}$
Inside resistance R_M (Ω)		$[(V_C - 3.0V) / (I_S * 0.001)] - R_S$	
Supply voltage $V_C(\text{V})$		$(\pm 12 \sim \pm 15) \pm 5\%$	
Accuracy $X_G(\%)$		@IPN, $T=25^\circ\text{C}$	$< \pm 0.5$
Offset current $I_{OE}(\text{mA})$		@IP=0, $T=25^\circ\text{C}$	$< \pm 0.15$
Temperature variation of IOE $I_{OT}(\text{mA}/^\circ\text{C})$		@IP=0, $-40 \sim +85^\circ\text{C}$	$< \pm 0.5$
Linearity error $\varepsilon_r(\%FS)$		< 0.2	
Response time $t_{ra}(\mu\text{s})$		@90% of IPN	< 40.0
Power consumption $I_C(\text{mA})$		$15 + I_S$	



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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):

	Connection
	General tolerance General tolerance: $\leq \pm 0.2\text{mm}$ size of Primary pin : 2pin, $0.8 \times 0.8 \pm 0.15\text{mm}$; Secondary 3pin: $0.8 \times 0.8 \pm 0.15\text{mm}$

Instruction for use of the voltage sensor model CHV10A15D25:

- ◆ 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) $R1=25\text{K}/2.5\text{W}, I_P=10\text{mA}$ Accuracy= $\pm 0.5\%$ of V_{PN} ; b) $R1=50\text{K}/1.25\text{W}, I_P=05\text{mA}$ 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.

