# CSM050NPT Hall-effect Current Sensor Series

HEFUL ®

Closed loop current sensor based on the principle of Hall-effect. It can be used for measuring AC,DC,pulsed and mixed current.

Electrical characteristics

	Type	CSM006NPT	CSM015NPT	CSM025NPT	CSM050NPT	
I_{PN}	Primary nominal input current	6	15	25	50	A
I_P	Measuring range of primary current	0~±19.2	0~±48	0~±80	0~±150	A
C_S	Circle quantity of secondary coil	960±1	1200±1	2000±2	2000±2	
R_{IM}	Internal measuring resistance	100±0.5%	50±0.5%	50±0.5%	25±0.5%	Ω
V_{OUT}	Secondary nominal output voltage	0.625±0.5%	0.625±0.5%	0.625±0.5%	0.625±0.5%	V
V_C	Supply voltage	+5(±5%)				V
I_C	Current consumption	$I_P=0$	<20			mA
V_D	Insulation voltage	AC/50Hz/1min	2.5			kV
ε_L	Linearity	<0.1				%FS
X	Accuracy	$T_A=25℃$	<±0.7			%
V_O	Zero offset voltage	$I_P=0$ $T_A=25℃$	<2.5±1%			V
V_{OT}	Thermal drift of V_0	$I_P=0$ $T_A=-40~+85℃$	±0.5			mV/℃
di/dt	di/dt accurately followed	>50				A/μs
T_R	Response time	<500				ns
f	Frequency bandwidth(-1dB)	DC~200				kHz
T_A	Ambient operating temperature	-40~+85				℃
T_S	Ambient storage temperature	-40~+100				℃
	Standard	Q/3201CHGL02-2007				

Dimensions of drawing (mm)
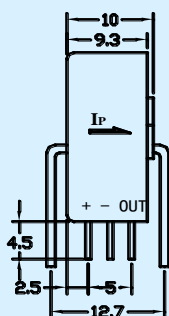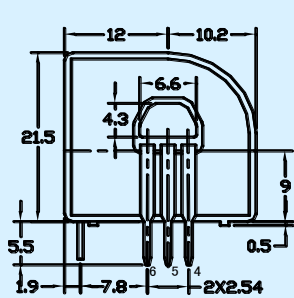
Input current--Output voltage +5V

4.375V, 3.75V, 3.125V, 2.5V, 1.875V, 1.25V, 0.625V

-3I_{PN} -I_{PN} 0 I_{PN} 3I_{PN}
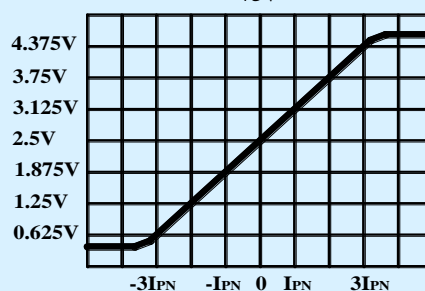
Elucidation: +:+5V -:0V(GND) OUT:V_{OUT}

Primary connection

Primary coil	Primary nominal input current $I_{PN}(A)$	Secondary nominal voltage V_{OUT} (V)	Primary resistance (mΩ)	Primary inductance (uH)	Connection
1	±6(±15;±25;±50)	2.5±0.625	0.18	0.013	⑥-○-④ OUT IN ①-○-③
2	±3(±7.5;±12.5;±25)	2.5±0.625	0.81	0.05	⑥-○ ④ OUT IN ①-○ ③
3	±2(±5;±8.3;±16.6)	2.5±0.625	1.62	0.12	⑥ ○ ④ OUT IN ① ○ ③

Remarks

Incorrect connection may lead to the damage of the sensor.

V_{SN} is positive when the I_P flows in the direction of the arrow.