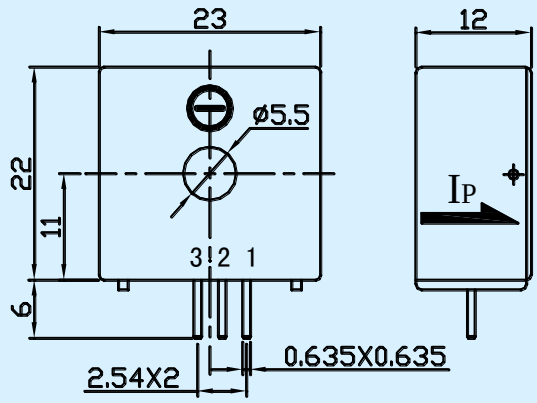
CSM040G Hall-effect Current Sensor Series

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

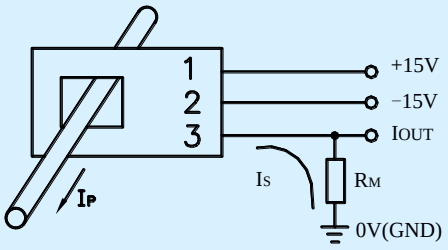
Electrical characteristics

	Type	CSM010G	CSM020G	CSM025G	CSM040G	
I_{PN}	Primary nominal input current	10	20	25	40	A
I_P	Measuring range of primary current	0~±20	0~±30	0~±50	0~±80	A
I_{SN}	Secondary nominal output current	10	20	25	25	mA
K_N	Conversion ratio	1:1000	1:1000	1:1000	1:1600	
R_M	Measuring resistance (V_C=±15V/ I_{PN})	1230(max)	594(max)	467(max)	420(max)	Ω
V_C	Supply voltage	±12~±15(±5%)				V
I_C	Current consumption	V_C=±15V	10+Is			mA
V_D	Insulation voltage	AC/50Hz/1min	2.5			kV
ε_L	Linearity	<0.1				%FS
X	Accuracy	T_A=25℃	<±0.7			%
I_0	Zero offset current	T_A=25℃	<±0.15			mA
I_{OM}	Residual current	I_P→0	<±0.15			mA
I_{OT}	Thermal drift of I_0	I_P=0 T_A=-25~+85℃	<±0.5			mA
T_R	Response time	<500				ns
di/dt	di/dt accurately followed	>50				A/μs
f	Frequency bandwidth(-1dB)	DC~200				kHz
T_A	Ambient operating temperature	-25~+85				℃
T_S	Ambient storage temperature	-40~+100				℃
R_S	Secondary coil resistance(T_A=25℃)	43	43	43	90	Ω
	Standard	Q/3201CHGL02-2007				

Dimensions of drawing (mm)



Connection



Elucidation: 1:+15V 2:-15V 3:I_{OUT}

Remarks

Incorrect connection may lead to the damage of the sensor. I_{SN} is positive when the I_P flows in the direction of the arrow.

Dynamic performance (di/dt and response time) are best with a primary bar in the center of the through-hole.