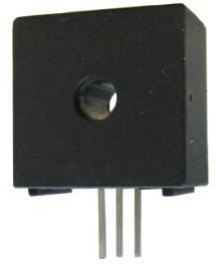


# MCSM040G Hall-effect Current Sensor Series

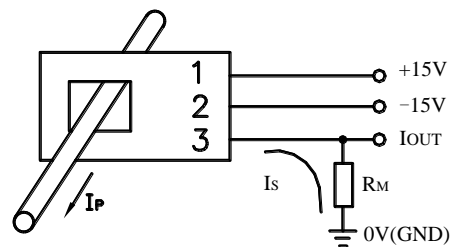
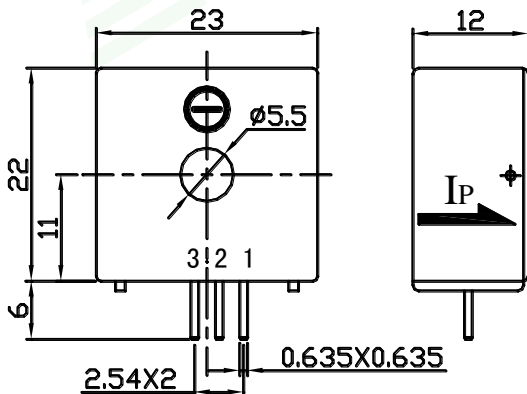
Closed loop current sensor based on the principle of Hall-effect. It can be used for measuring AC,DC,pulsed and mixed current.



Electrical characteristics						
Type	MCSM010G	MCSM020G	MCSM025G	MCSM040G		
$I_{PN}$	Primary nominal input current	10	20	25	40	A
$I_P$	Measuring range of primary current	$0 \sim \pm 20$	$0 \sim \pm 30$	$0 \sim \pm 50$	$0 \sim \pm 80$	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 ( $V_C = \pm 15V / I_{PN}$ )	1230(max)	594(max)	467(max)	420(max)	$\Omega$
$V_C$	Supply voltage	$\pm 12 \sim \pm 15 (\pm 5\%)$				V
$I_C$	Current consumption	$V_C = \pm 15V \ 10 + I_S$				mA
$V_D$	Insulation voltage	AC/50Hz/1min	2.5		KV	
$\epsilon_L$	Linearity	$< 0.1$				%FS
X	Accuracy	$T_A = 25^\circ C$	$< \pm 0.7$		%	
$I_0$	Zero offset current	$T_A = 25^\circ C$	$< \pm 0.15$		mA	
$I_{OM}$	Residual current	$P \rightarrow 0$	$< \pm 0.15$		mA	
$I_{OT}$	Thermal drift of $I_0$	$I_P = 0 \ T_A = -25 \sim +85^\circ C$	$< 0.5$		mA	
$T_R$	Response time	$\leq 500$				us
di/dt	di/dt accurately followed	$> 50$				A/ $\mu s$
f	Frequency bandwidth(-1dB)	DC~200				KHZ
$T_A$	Ambient operating temperature	$-25 \sim +85$				$^\circ C$
$T_S$	Ambient storage temperature	$-40 \sim +100$				$^\circ C$
$R_S$	Secondary coil resistance( $T_A = 25^\circ C$ )	43	43	43	90	$\Omega$
Standard		Q/3201CHGL02-2007				

## Dimensions of drawing (mm)

## Connection



Elucidation: 1:+15V 2:-15V 3:I<sub>OUT</sub>

## 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.