



THE DATASHEET OF FSM2005LF



DATA SHEET

Hall Effect Current Sensor

P/N: FSM200L2F

$I_{PN} = \pm 200A$

Feature

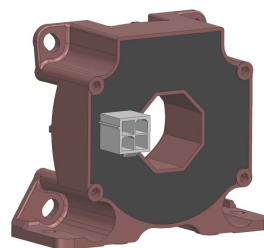
- Closed- loop (compensated) current transducer
- Capable measurement of currents: DC, AC, pulse with galvanic isolation between primary circuit and secondary circuit.
- Supply voltage: DC $\pm 12 \sim 15V$

Advantages

- High accuracy
- Low temperature drift
- Optimized response time
- Very good linearity
- High immunity to external interference

Applications

- The application of variable frequency electrical appliances
- AC/DC variable-speed drive
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- The applications of inverter



RoHS

Electrical data: ($T_A = 25^\circ C$, $V_C = \pm 15VDC$)

Parameter Ref	FSM200L2F	
Rated input $I_{PN}(A)$	± 200	
Measuring range $I_P(A)$	$0 \sim \pm 500$	
Turns ratio NP/NS (T)	1 : 2000	
Output current $I_S (mA)$	$\pm 100 * I_P / I_{PN}$	
Secondary coil resistance $R_S(\Omega)$	@ $T_A = + 25^\circ C$	21.0
	@ $T_A = + 85^\circ C$	25.0
Inside resistance $R_M(\Omega)$	@ $T_A = + 85^\circ C$	$[(V_C - 0.6V) / (I_S * 0.001)] - R_S$ max
Supply voltage $V_C(V)$	$(\pm 12 \sim \pm 15) \pm 5\%$	
Accuracy $X_G(\%)$	@ $I_{PN}, T = 25^\circ C$	$< \pm 0.5$
Offset current $I_{OE}(mA)$	@ $I_P = 0, T = 25^\circ C$	$< \pm 0.2$
Temperature variation of $I_{OE} (mA)$	@ $I_P = 0, -40 \sim +85^\circ C$	TYP $< \pm 0.12$ MAX $< \pm 0.40$
Magnetic offset current $I_{OH} (mA)$	@ $I_P = 0 \rightarrow 3 * I_{PN}$	$< \pm 0.1$
Linearity error $\epsilon_r(\%FS)$	< 0.1	
Di/dt accurately followed ($A/\mu s$)	> 100	
Response time $t_{ra}(\mu s)$	@ 90% of I_{PN}	< 1.0
Power consumption $I_C(mA)$	@ $\pm 15V$	$17 + I_S$

Bandwidth BW (KHZ)	@-3dB, IPN	DC-100
Insulation voltage Vd(KV)	@50/60Hz, 1min, AC	6.0

General data:

Parameter	Value
Operating temperature $T_A(^{\circ}C)$	-40 ~ +85
Storage temperature $T_S(^{\circ}C)$	-55 ~ +125
Mass M(g)	78
Plastic material	PBT G30/G15, UL94- V0;
Standards	IEC60950-1:2001
	EN50178:1998
	SJ20790-2000

Dimensions(mm):

Connection

General tolerance

General tolerance: $< \pm 0.5\text{mm}$

Primary through-hole: $D 15.6 \pm 0.50\text{mm}$

Connection of Secondary: MOLEX 39-28-8040(old part number:5566-04A-210)

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.
- The dynamic performance is the best when the primary hole is fully filled with.

WARNING : Incorrect wiring may cause damage to the sensor.

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