

Current Sensor CS 240

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BOSCH
Invented for life



- Current measurement up to 240 A
- Single supply voltage
- Very good linearity
- No additional resistance inside the loom
- Low thermal offset and gain drift

This sensor is developed for DC and pulsed currents measurements. The advantage is the single power supply and no additional resistance.

Application

Application	Current 0 to 240 A [I_p]
Max. frequency	DC to 80 Hz at -3 db
Operating temperature range	-40 to 125°C
Storage temperature range	-40 to 125°C
Load resistance	>10 kΩ
Output type	Analog
Max. vibration	68 m/s ² at 5 to 200 Hz

Technical Specifications

Mechanical Data

Weight w/o wire	25 g
Bore diameter	19 mm / 15.5 mm
Installation length	37.5 mm
Mounting	Direct on the wire

Electrical Data

Power supply U_s	4.75 to 5.25 V
Max. power supply	8.5 V (14 V; 1 min at 25°C)
Max. continuous output current	10 mA
Typical output current	7.5 mA at 5 V

Characteristic

Sensitivity [G]	16.67 mV/A
Output drift vs. power supply	0.5 %
Power up time	25 to 110 ms
Resolution	2.5 mV at $U_s=5$ V
Output voltage	$V_{out}=U_s/5 \times (0.5 + G \times I_p)$; at U_s

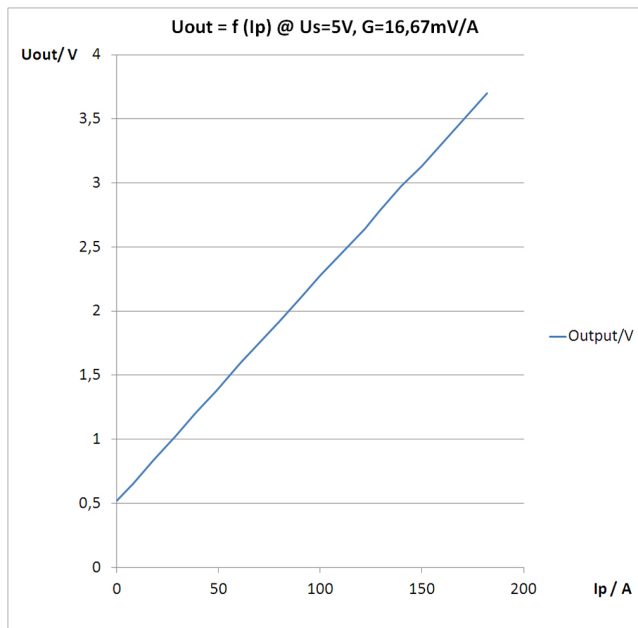
Connectors and Wires

Pin A/1 (red)	DC supply voltage
Pin B/2 (blue)	Ground
Pin C/3 (green)	Output signal
Mating connector kit Series type	F 02U B00 641-01

Various motorsport and automotive connectors available on request.

Please specify the required wire length with your order.

Output



Installation Notes

Please regard the specified limit values (see Electrical Data).

Please ensure that the environmental conditions do not exceed the sensor specifications.

Please find further application hints in the offer drawing at our homepage.

Safety Note

The sensor is not intended to be used for safety related applications without appropriate measures for signal validation in the application system.

Ordering Information

Series type connector (no wire)

Order number **F 02U V01 311-01**

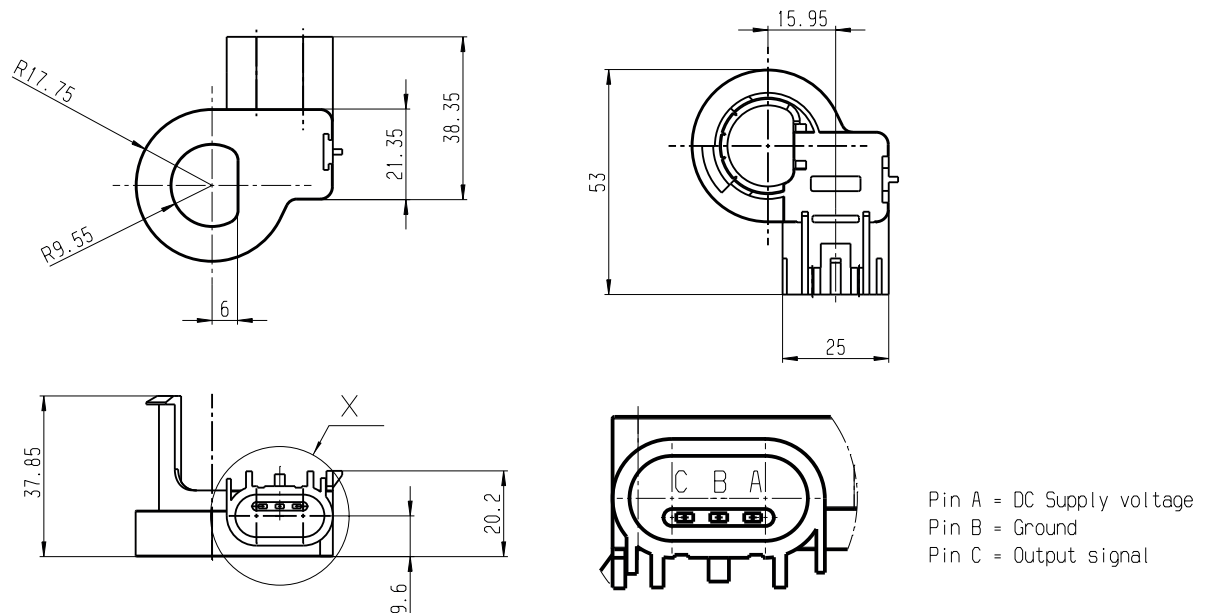
With Connector ASL 6-06-05PN-HE

Order number **F 02U V01 312-01**

Open end (flying wires)

Order number **F 02U V01 312-90**

Dimensions



Dimensions

Parameter	Symbol	Unit	Specification			Conditions
			Min	Typ	Max	
Performance Data						
Global offset current	I_o	A		± 0.3		@ $T_A = 25^{\circ}\text{C}$
				± 0.5		@ $- 20^{\circ}\text{C} < T^{\circ} < 65^{\circ}\text{C}$
				± 0.6		@ $- 40^{\circ}\text{C} < T^{\circ} < 125^{\circ}\text{C}$
Sensitivity error	ϵ_G	%		± 0.8		@ $T_A = 25^{\circ}\text{C}$
				± 2		@ $- 20^{\circ}\text{C} < T^{\circ} < 65^{\circ}\text{C}$
				± 4		@ $- 40^{\circ}\text{C} < T^{\circ} < 125^{\circ}\text{C}$
Linearity error	ϵ_L	%		± 1		of full range, @ $T_A = 25^{\circ}\text{C}$

Accuracy

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