

Absolute Position Sensor APS-C

This sensor is designed to measure the absolute angular position of a still standing or rotating shaft.

The device uses Hall sensor technology to detect the magnetic flux density distribution of a magnet which is mounted frontal on the shaft. The absolute angle position value from the sensor is transmitted over CAN. The sensor can be calibrated and configured with hard- and software tools.

The main feature and benefit of this sensor is the combination of a contactless measuring principal, a wide temperature range and a motorsport connector.



Application	
Application	0 ... 360 °
Angle reference type	absolute
Measuring principle	Hall-effect
Operating temperature range	-40 ... 120 °C
Storage temperature range	-40 ... 120 °C
Communication link	CAN
Application tool	EM-C or RaceCon

Electrical Data	
Power supply Us	(6.5 V) 10 ... 17 V
Current Is	70 mA

Mechanical Data	
Fixation	3 x M5
Sealing	O-ring
Weight w/o wire	39 g
Size w/o wire	see Dimensions
Max. vibration	<i>Vibration Profile 1</i> (see Appendix or www.bosch-motorsport.com)

Characteristic	
Signal output	CAN
CAN Baudrate	1 Mbaud
CAN refresh rate	700 Hz
Signal resolution	0.703152 °

Connectors and Wires	
Connector	ASU 6-03-05PB-HE
Mating connector	ASU 0-03-05SB-HE
Pin 1	Us
Pin 2	GND
Pin 3	CAN+
Pin 4	CAN-
Pin 5	Calibration Pin
Sleeve	DR-25
Wire size	AWG 24
Wire length	15 ... 100 cm
Various motorsport and automotive connectors are available on request.	
Please specify the required wire length with your order.	

Accessories	
Magnet for APS-C	F 02U 002 465-01

Application Hint

The sensor is designed to measure the absolute angle of the camshaft e.g. quick start application.

The unit can be connected to any CAN system (1 MBaud).

The unit is secure from miss-pinning.

Before the first operation, the sensor has to be calibrated. Please connect the calibration pin to 12 V.

To meet the specifications and to avoid errors, the distance between sensor and the magnet has to be less than 2 mm.

To avoid measurement errors, the eccentricity between sensor and magnet has to be as small as possible (< 0.3 mm).

To change the CAN-ID of the sensor, it can be programmed by the external CAN module EM-C.

The angle position value can be set to zero via the external CAN module EM-C or by using the calibration pin.

Please note that for a correct functionality of the sensor a magnet with a material remanence of 1.03 Tesla is needed (not included, available on request).

Please find further application hints in the offer drawing (<http://www.bosch-motorsport.com>).

Part Number	
APS-C	F 02U V00 086-01

