



CORREVIT® SFII-P Racing

Non-contact

2-axis optical Sensor

for

slip-free measurement of longitudinal and transversal dynamics



- Small and lightweight - just 250 g
- Developed for measurement of tire slip angle from 0.3 ... 400 kph
- Adjustable filter time (unfiltered, 8 ... 512 ms)
- Speed linearity - desired distance $< \pm 0.5 \%$
Distance linearity $< \pm 0.2 \%$
- Improved features by application of advanced DSP technology
- Mounting angle correction via software
- Direct connection to PC or other evaluation systems
- Illumination by long-life, high-power infrared LEDs
- Signal outputs: analog -10 ... 10 V
 digital 0-1000 pulses/m
 CAN Bus V2.0B
 RS232
- Negligible service and maintenance requirements as a result of durable technology
- With exchangeable protection glass
- Tested and used under extreme environmental conditions

CORREVIT® SFII-P Racing

The CORREVIT® SFII-P Racing Sensor represents yet another a major step forward in the advancement of optical measurement technology. Based on the Formula-1 proven CORREVIT® SF Sensor, the SFII-P Racing Sensor enables mounting positions - such as under the vehicle - that were virtually unimaginable until now. Long-life, vibration-resistant infrared LED illumination and digital filters with advanced DSP technology provide improved performance, even under harsh environmental conditions.

The first CORREVIT® Sensor to be equipped with 4 analog and 4 digital outputs, the SFII-P Racing Sensor permits simultaneous measurement of longitudinal, transversal, and magnitude speed, as well as the angle β .

Complemented with high-speed data transfer via CAN Bus, RS232, or USB, the SFII-P Racing Sensor can be used with any current data acquisition systems.

A protective optical-glass lens prevents damage to the optics and the illumination source. The lens is optimized to the wavelength of the LED illumination source, and can be easily replaced without use of special tools.

Typical Technical Specifications

Performance Specifications

Speed range:	0.3 ... 400 kph
Distance resolution	2.08 mm
Uncertainty of measurement*:	$< \pm 0.2\%$
Speed linearity - desired distance	$< \pm 0.5 \%$
Distance linearity	$< \pm 0.2 \%$
Working distance and range:	180 +/-50 mm
Angle range:	$\pm 40^\circ$
Angle resolution:	$\pm 0.1^\circ$

Outputs

CAN Bus:	CAN V2.0B - switchable terminating resistor (Intel or Motorola Format)
Analog Outputs:	$V_l, V_L, V_q, \beta \pm 10V$ each (16 bit resolution)
Digital Outputs:	IV_l, V_L, V_q, β
PC:	RS232

System Specifications

Power supply:	10,5 V ... 24 V; 28 W (12 VDC)
Temperature range:	operation: -25 ... 50°C storage: -40 ... 85°C rel. humidity: 5 ... 80%, non condensing
System Protection of the sensor head:	IP 67 (with cable connected)
Illumination:	IR-LEDs, 850 nm, laser class 1M
Dimensions of the sensor head (l x w x h):	100 x 33 x 45 mm (without plug)
Weight of sensor head:	250 g
Dimensions of the electronics (l x w x h):	130 x 86 x 33 mm
Weight of the electronics:	approx. 490 g
Shock:	50 g half-sine, 6 ms
Vibration:	see chart
Expected lifetime:	≥ 10.000 Kilometer

USB interface for connection to the PC, automatic sensor identification, function control.

*with calibration on the test surface

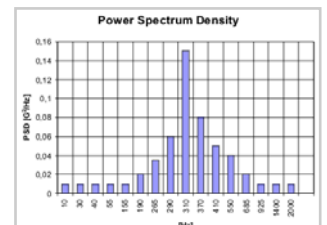
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SFII-PRacing_d-064-e-rev001 05/09

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INVISIBLE RADIATION FROM
LIGHT EMITTING DIODES

DO NOT OBSERVE WITH
OPTICAL INSTRUMENTS
LASER CLASS 1M
IN COMPLIANCE WITH
DIN EN 60825-1:2001



In a continuous effort to improve our products, CORRSYS-DATRON reserves the right to change specifications without prior notice.

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