



## *High Resolution Slip Angle Measurement ...*

▶ please [click here](#) for more information



## *Wet Surface Testing ...*

▶ please [click here](#) for more information



## *Pitch & Roll Measurement ...*

▶ please [click here](#) for more information



## *Dynamic Camber Angle Measurement ...*

▶ please [click here](#) for more information



## *Measurement System Components*

▶ please [click here](#) for more information



**CORRSYS-DATRON**  
Sensorsysteme GmbH  
Sales Department  
sales@corrsys-datron.com  
☎+49-6441-9282-0



## S-HR 2-AXIS HIGH-RESOLUTION SLIP ANGLE SENSOR

This Sensor will be launched in Summer 2009. Within the range of  $\pm 15^\circ$  we can measure the slip angle with a high resolution of  $0.01^\circ$  measured unfiltered directly to the ground.

Up to now, there is no system on the market that is able to measure like this!



### MAIN APPLICATION / FEATURES

- Direct, high-precision sideslip-angle measurement when driving straight forward
- Slip angle measurement for validating tire sizes
- High-resolution, real-time sideslip angle measurement (unfiltered)
- Measurement accuracy  $0.1^\circ$

### TECHNICAL DETAILS

#### Performance specifications

Angle measurement range:	$\pm 40^\circ$
High-Resolution:	$\pm 15^\circ$
Speed range*:	0.5 ... 250 kph
Distance resolution:	2.66 mm
Distance measurement deviation**:	$< \pm 0.1\%$
High-resolution angle output range:	9 ... 250 kph
Angle resolution:	$0.01^\circ$
Angle accuracy:	$0.1^\circ$
Angle resolution ( $-40^\circ \dots -15^\circ / +15^\circ \dots +40^\circ$ ):	$0.1^\circ$
Measurement frequency:	250 Hz
Working distance and range:	$250 \pm 50$ mm

\* optional: calibrated up to 400 km/h

\*\* with calibration on test surface

for further information please call **+49-6441-9282-0**

## L-350 AQUA / S-350 AQUA SENSOR

Our new 1- and 2-Axis Sensors are able to measure on wet surfaces without any trouble, that's why we call them Aqua.



### MAIN APPLICATION / FEATURES

#### L-350 Aqua

- Braking distance and acceleration measurement
- Coast-Down
- Fuel-Flow measurement when used with a DFL Sensor

#### S-350 Aqua

- Optimizing ESP/ABS control variables
- Slip angle measurement
- Sideslip angle measurement

### TECHNICAL DETAILS

#### Performance specifications L-350

Speed range:	0.3 ... 250 kph
Distance resolution:	1.5 mm
Distance measurement deviation:	< ±0.1 % *
Speed linearity:	< ±0.2 % *
Working range linearity:	< ±0.2 %
Working distance and range:	350 ±130 mm

#### Performance specifications S-350

Speed range:	0.5 ... 250 kph **
Distance resolution:	2.47 mm
Distance measurement deviation:	<±0.2% *
Angle range:	±40°
Angle resolution:	<±0.1°
Working distance and range:	350 ±100 mm

\* with calibration on test surface

\*\* optional: calibrated up to 400 km/h

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## PITCH & ROLL SYSTEM

Using our new UC Processor in combination with 3 or 4 HF-xxxC Ride Height Sensors it is possible to quickly and easily measure Pitch and Roll Angles as well as rates relative to the ground.



### MAIN APPLICATION / FEATURES

- Pitch and roll measurement related to the track surface
- Various measurement accuracies by use of various measurement ranges of the applied height sensors
- Additional torsion measurement when using 4 height sensors

### TECHNICAL DETAILS

Performance specifications HF-Sensors

	HF-250C	HF-500C	HF-750C
Measuring range (mm):	100 ... 350	125 ... 625	150 ... 900
Resolution:	0.1 mm	0.2 mm	0.3 mm
Linearity:	± 0.2 %	± 0.2 %	± 0.3 %

For all HF Sensors:

Sampling rate *:	1 ... 8 kHz
Light source:	Laser
Laser Power:	< 5 mW
Laser Class:	3R (IEC 60825-1)
Wave length:	660 nm (red)
Approx. spot size:	1 mm x 2 mm

\* Sampling rates up to 8 KHz are possible on surfaces with high reflection

Specifications UC Processor

▶ please refer to [page 6](#) "System Components"

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## DCA SYSTEM

The DCA System acquires dynamic wheel camber angle by comparing the relative change in height between two HF Sensors, as measured from the optical plane of each sensor to the surface of the road or track.



### MAIN APPLICATION / FEATURES

- Measures the dynamic camber angle relative to the track surface with various accuracies
- Optional mounting of a CORREVIT® SFII-P Sensor for non-contact measurement of slip angle
- Uses two CORRSYS-DATRON HF-xxxC Laser Height Sensors, proven accurate in extreme environmental conditions, including intense sunlight, and high temperature and humidity, as found in India and Arizona.
- Mounts easily onto the vehicle wheel with collets that clamp directly to the wheel nuts

### TECHNICAL DETAILS

#### Performance specifications

Sensor pos. relative to wheel center:	62 ... 195 mm
Working distance and range (mm): HF-500C:	125 ... 625
HF-750C:	150 ... 900
Max. wheel diameter:	≤ 800 mm
Max. meas. range camber angle*:	± 25°
Resolution, camber angle*:	0.04°
Accuracy, camber angle*:	<0.5°
Moving mass at the wheel:	approx. 3.4 kg
Light source:	Laser, 660 nm (red), < 5 mW
Laser class:	3R (IEC 60825-1)
Approx. spot size:	1 mm x 2 mm

\*(values based on a basis length of 162 mm)

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## UC PROCESSOR / UNIVERSAL DISPLAY

The UC Processor is a calculation unit for pitch and roll measurement. The Universal Display means a valuable help during startup, mounting of test equipment to the vehicle and during test drives.



### MAIN APPLICATION / FEATURES

- Calculation of various driving dynamics parameters like e.g.:
  - Pitch and roll
  - Tire slip
  - Consumption ...
- Connected Universal Display provides direct online visualization of all output signals
- Easy set-up via included CORRSYS-DATRON Software
- CAN Bus application provides channel reduction (analog, digital) at the data acquisition unit

### TECHNICAL DETAILS

#### Specifications UC Processor

- Input voltage: 10V ... 30V DC
- Sensor inputs: HF1 / HF2 / HF3 / HF4 =  
CAN input for HF-xxxC Sensors  
S-350 = CAN input for S-350 Sensor
- CAN inputs: CAN V2.0B  
user-specific configuration possible
- PC-Interface: USB 2.0 full speed
- Update rate: 250 Hz

#### Universal Display Interfaces

- CAN Bus  
for connection of a speed sensor: CAN 2.0B
- CAN Bus  
for connection of a data acquisition: CAN 2.0B
- PC Interface: USB 2.0 Full Speed

Interface for connection of an optional extension display

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**THANK YOU FOR YOUR ATTENTION!**

Should we have sparked your interest in our products, we would be pleased to provide you with further information. Please contact our CORRSYS-DATRON sales team or your local representative.

