



PRODUCT OVERVIEW

CORRSYS-DATRON

is a member of the Kistler Group.

We provide a comprehensive range of technologies for accurate measurement of vehicle dynamics, including:

- *Non-Contact Optical Sensors*
- *Global Positioning Systems*
- *Innovative Mechanical Sensors*

Our mission is to supply the technology that precisely fits your testing needs.

Please feel free to contact us for information about the many additional sensor technologies we offer...

www.corrsys-datron.com

Non-Contact Sensors

- Optical
- Microwave
- GPS



Onboard Data Acquisition Systems



Innovative Mechanical Sensors



Fuel Flow Meters

- Gasoline
- Diesel
- Alcohol
- Bio-Diesel



Software



**and a wide range
of Accessories**

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KISTLER

measure. analyze. innovate.

www.kistler.com

Optical Non-Contact Sensors

1-axis Optical CORREVIT® Speed & Distance Sensors

for slip-free measurement of longitudinal dynamics

L-350 Aqua



LFII P



CDS Sensors at work: Examples



Working range	350 mm ±130 mm	200 mm ± 70 mm
Speed range	0.3 ... 250 kph *	0.5 ... 250 kph *
Measurement deviation	< ± 0.2% **	< ± 0.2% **
Distance Resolution	1.5 mm	1.9 mm
Digital output	1 ... 1000 pulses/m	1 ... 1000 pulses/m
Analog output	0 ... 10 V	0 ... 10 V
Temperature range	-25 ... +50° C	-25 ... +50° C
Power supply	10 ... 28V; 32W	10.5 ... 24V; 28W
Weight	Sensor: 500 g Electronics: 1100 g	Sensor: 250 g Electronics: 490 g

2-axis Optical CORREVIT® Speed & Distance & Slip Angle Sensors

for slip-free measurement of longitudinal dynamics

S-350 Aqua



SFII P



S-HR



S350 & Gyro



Working range	350 mm ± 100 mm	180 mm ± 50 mm	250 mm ± 50 mm
Speed range	0.5 ... 250 kph *	0.5 ... 250 kph *	0.5 ... 250 kph *
Measurement deviation	< ± 0.2% **	< ± 0.2% **	± 0.1° ***
Distance Resolution	2.47 mm	2.08 mm	0.01° ***
Digital output	1 ... 1000 pulses/m	1 ... 1000 pulses/m	1 ... 1000 pulses/m
Analog output	±10 V	±10 V	±10 V
Temperature range	-25 ... +50° C	-25 ... +50° C	-25 ... +60° C
Power supply	10 ... 28V; 40W	10.5 ... 24V; 28W	10 ... 28V; 60W
Weight	Sensor: 500 g Electronics: 1100 g	Sensor: 250 g Electronics: 490 g	Sensor: 1250 g **** Electronics: 600 g

CORREVIT® S-350
Sensor with new
electronics and gyro
for

**automatic
calculation of
sideslip angle
relative to the
vehicle's center
of gravity.**

Special racing versions of CORREVIT Sensors available!

FIA Homologation: SFII / SFII-P / S-350 Racing

* optional: calibrated up to 400 kph

** relating to speed / distance

*** relating to angle

**** optional: Sensor head made of magnesium = approx. 900 g

**0.1° Accuracy
(Angle) at 0.01°
resolution with
250 Hz
sampling rate!**

Optical Non-Contact Sensors

Optical Laser Height Sensors

for non-contact distance measurement

	HF-250C	HF-500C	HF-750C
			
Working range	100 mm ... 350 mm	125 mm ... 625 mm	150 mm ... 900 mm
Resolution	0.1 mm	0.2 mm	1.5 mm
Relative Accuracy	±0.5 mm	±1 mm	±1 mm
Linearity	±0.2 %	±0.2 %	±0.3 %
Max. Sampling rate *	1 kHz *	1 kHz *	8 KHz
Outputs	analog, RS232, CAN	analog, RS232, CAN	analog, RS232, CAN
Light Source	Laser < 5mW **	Laser < 5mW **	Laser < 5mW **
Wavelength	660 nm (red)	660 nm (red)	660 nm (red)
Weight	155 g	155 g	155 g

Optical Laser Height Sensors & Accessories building Sensor Systems

for dynamic camber angle measurement / pitch & roll measurement

	DCA System	Pitch & Roll System	UC Processor & Universal Display
			
Working range	100 ... 900 mm***	100 ... 900 mm***	
Resolution	0.04°	0.01 ... 0.05° ***	
Relative Accuracy	<0.5°	<0.1° ***	
Max. Sampling rate *	250 Hz	250 Hz	
Outputs	analog, RS232, USB, CAN	analog, RS232, USB, CAN	
Light Source	Laser < 5mW **	Laser < 5mW **	
Wavelength	660 nm (red)	660 nm (red)	
Weight	Sensor: *** Electronics: 850g	Sensor: *** Electronics: 850g	

UC Processor:
Calculation unit for
pitch & roll measurement

Universal Display:
For connection to
CORRSYS-DATRON
Sensors with CDS Bus

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

** Laserklasse 3R (IEC 60825-1)

*** Depends on sensor configuration

Gyro Modules

for dynamic yaw-rate measurement



FS Sensitivity ±150 deg/sec, 25 Hz	Transverse sensitivity Typ. 0.2 deg/sec/g	Unpowered shock survival > 2000 g	CORREVIT® S-350 & Gyro for automatic calculation of sideslip angle relative to the vehicle's center of gravity (see page 2)
FS Span: ±0.2 V DC	Temperature range -40°C ... +85°C	Custom configurations available!	

MicroSAT® GPS Sensor

for measurement of vehicle speed and distance travelled



Positioning stand alone	Speed measurement range 0 ... 1854 kph	Speed accuracy * 0.1 kph	Distance accuracy * 0.05 % (< 50 cm/km)
Position accuracy * 1.8 m ... 2 cm CEP	Update rate 20 Hz	Output: digital, analog, CAN, RS232	Internal memory self-logging

* depending on number and distribution of visible satellites / CEP = Circular Error Probability: defines the radius of a circle that represents a 50 percent probability of a position lying in a circle.

Pedal Force Transducer

for measurement of force exerted on the brake pedal during brake tests



Measurement range 0 ... 1500 N	Accuracy 3% average, 7% maximum	Dimensions Digital display unit: 80x160x65 mm
Analog output 1 mV/N	Linearity 0.1%, 0.7% with integrated signal option	Weight of sensor element approx. 350 g

RV-4 Wheel Vector Transducer (car version)*

for simultaneous measurement of all wheel positions and orientations



	X [mm]	Y [mm]	Z [mm]	camber [°]	steer [°]	Power supply	10 ... 28V
Measurement range	±150	±150	±200*	±10	±60	Moving mass	
Accuracy	±1	±0.7	±1	±0.2	±0.1	(without holder and cables)	2500 g
Reproducibility	±0.5	±0.5	±0.5	±0.1	±0.05		

* optional truck version available

* If the entire measuring range of the z-axis (±200 mm) is utilized, the maximum measuring ranges of the y- and x-axis will be restricted.

WPT Wheel Pulse Transducer

for acquisition of wheel rotation



Rotational speed maximum 6000 rpm continuous operation 3000 rpm	Available pulse values standard: 1000 pulses/rotation 1 ... 3600 pulses/rotation on request	Output digital = TTL
	Supply voltage 5 ... 30 V	

MSW/S Measurement Steering Wheel

for non-contact measurement of steering speed and angle



Steering torque ranges ±10/±50 Nm passenger car ±50/±250 NM light truck	Steering rate max. 1000°/sec	Power supply 10 ... 36 V DC	Note: Illustration shows MSW with Adapter Universal V3
Steering torque linearity typical ±0.2%	Resolution up to 7200 p/rev (with MSW Processor)	Temperature range -20 ... +60°	

MSW/S Processor

electronics interface for CORRSYS-DATRON measurement steering wheels



Sensor input for direct connection to the MSW/S	Input voltage 10 ... 36V DC	PC-Interfaces RS232 USB 1.1	Adjustable Filter time 8 ... 512 ms or unfiltered
Outputs Analog, digital, CAN	Angle resolution 0.05°	DA converter resolution ≤ 0.008 Nm, 0.04°, 0.04°/s	Data update rate: 250 Hz

Fuel Flow

DFL1x-5bar / DFL-WTx-5bar & DFL Processor

for fuel consumption measurement



Measurement range 0.5 ... 150 l/h	Temperature range -20°C ... 70°C	Accuracy ±0.5%	Weight DFL-1: 2 kg DFL-WT: 6 kg
Media diesel, gasoline, alcohol, bio-diesel	Operating Voltage DFL1: 10 ... 29 V DC DFL-WT: 10 ... 15 V DC	Reproducibility ±0.2%	Dimensions DFL-1: 183 x 106 x 94 mm DFL-WT: 247 x 193 x 119 mm

DFL3x-5bar & DFL Processor

for fuel consumption measurement



Measurement range 1.5 ... 150 l/h	Temperature range -20°C ... 70°C	Accuracy ±0.5%	Weight approx. 9 kg
Media diesel, gasoline, alcohol, bio-diesel	Operating Voltage 10 ... 15 V DC	Reproducibility ±0.2%	Dimensions 350 x 195 x 125 mm

Data Acquisition

DAS-2A

for measurement of longitudinal dynamics



Software CeCalWin	Frequency/counter inputs 2	Sensor excitation +5/+12 VDC	Connections LCD-Display LED-Display
Analog inputs 8 max. (differential)	Switch/digital inputs 2	Interface RS232	Resolution < 5 mV

DAS-3

for measurement of longitudinal dynamics



Inputs: 8 analog, 16 Bit (expandable to 16 inputs) 6 counter, 2 switch 1 sensor input CAN	Sensor excitation +5/+12 VDC	Interface/Software RS232/CeCalWin Pro
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DAS-3 Modules

for expansion of the DAS-3 data acquisition unit



DAS-3 Analog Module 8 Diff, 8 Counter	DAS-3 Printer Module 24 col 144 dpl 58 mm standard paper	DAS-3 Strain gage Module DAS-3 Thermocouple Module *
DAS-3 Analog Module 2 8 Diff, 8 Counter		

CDS-Logger

data logger for various vehicle testing applications (especially motorcycle)



Inputs: 64 CAN channels	Power supply 10 ... 26 V	Sampling rate up to 1 kHz	Interface/Software RS232/CeCalWin Pro
Protection class IP67	Storage / Data Transfer Compact Flash Memory Card (up to 8GB) LAN, CF Card, USB	Connections CAN, LAN, USB Printer, Display BS, LB	Weight 1.4 kg

μEEP-12

expandable high-performance data acquisition and evaluation system



Inputs: Analog 48 max. (single-ended or differential), GPS, Frequency 8, Counter 16, Switch 4, Digital 12	Sensor excitation +5/+12 VDC	Connections Ethernet, CAN	Software ARMS Software
	Total sampling rate 400 KHz	Optional interfaces Temperature, strain gage	Temperature range -20 ... +85 °C (extended)

Brake Switches & Light Barriers



Brake Switch Lemosa
Brake Switch 9 pin DSub



Light Barrier with 3pin Lemosa Connector
Light Barrier with 9pin D-Sub socket
Reflection tape

Distribution & Trigger Boxes



Power Distribution Box - SMALL
for power supply to sensors and data acquisition systems
Power Distribution Box - LARGE
for power supply to sensors and data acquisition systems



Triggerbox
Computer Interface box for CeCalWin and data acquisition via COM port (RS 232)

Monitors & Displays



Universal Display
for connection to CORRSYS-DATRON Sensors
Configuration
Calibration
Measurement value display



Stand Alone Display
Calculation and Display Unit for Speed Sensors with digital (pulse) output and/or CDS-DFL Fuel Flow Measurement Systems

Mounting Equipment



Adjustable Mounting Systems
for CORRSYS-DATRON Sensors
• suction holder mounting units
• magnetic plate mounting units
• wheel mounting units
• for vehicle side & rear, trailer coupling, towing lug



Laptop Car Mounting
Vehicle kit for standard laptops.
For measurement using Turbolab PRO and CORRSYS-DATRON Sensors by serial link

Simulators



Belt Simulator
for simulation of vehicle dynamics



DAS-1/2 Simulator
Handy digital and analog simulator with trigger function for testing input and output functions of CORRSYS-DATRON DAS data acquisition systems

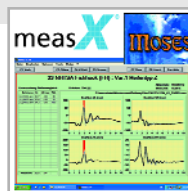
Many additional accessories are available!

CeCalWin Pro



Configuration Software
for setting the digital and analog channels of optical sensors and for calibration on the test surface

MOSES and ARMS

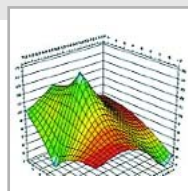


Software for Vehicle Dynamics Testing
Maneuvre setup and planning, data acquisition and evaluation for driving dynamics tests.
Includes 40 predefined manoeuvres.

Turbolab



TurboLab Dynamics
Data acquisition software that provides a comprehensive solution for data acquisition, incorporating an intuitive user interface designed specifically for dynamic vehicle testing applications.*



TurboLab Analysis
professional analysis software with fast data browser and powerful graphical and mathematical tools.

* Windows** 2000 or XP required.

Mounting Options - Examples

We provide a wide range of mounting accessories for **quick and easy installation** of CORRSYS-DATRON Sensors.

The new CORRSYS-DATRON Magnetic Plate Mounting Unit makes mounting exceptionally easy:



Pre-assemble the CORRSYS-DATRON Magnetic Plate Mounting Unit

Position the Magnetic Mounting Unit parallel to the vehicle body, e.g. at the driver-side door. The magnetic plates will automatically hold fast to the (metal) vehicle door/body panel. Adjust the Mounting Unit perpendicular to the ground



Measure the sensor mounting height to be sure that the sensor is within the specified vertical operating range

Insert the included sensor mounting screws through the mounting holes in the sensor, then into the mounting holes in the heat sink/mounting plate and tighten the screws



Connect the signal cable to the sensor

Route the signal cable through the side window, into the interior of the vehicle and connect it to data acquisition, then secure the cable to the vertical mounting rod with a cable tie



Your Sensor is ready for use in minutes!

Some other examples of CORRSYS-DATRON Mounting Equipment:



LFII-P / SFII-P mounted with a suction holder unit



HF & SFII P Sensor with magnetic plate holder



DCA System with SFII-P mounted at the wheel



RV-4 Sensor with 4-point suction mount



L-350 mounted with a magnetic plate



L-350 front mounting with suction holders



MSW/S Adapter Universal V3 with MSW/S



CDS Laptop holder

To learn more about the complete line of dynamic vehicle testing solutions and accessories from CORRSYS-DATRON visit www.corrsys-datron.com or contact your local representative.

References

AFRICA

SOUTH AFRICA

- Nissan
- Ford
- Toyota
- Volkswagen
- Daimler Chrysler
- SABs Eurotyp

AMERICA

USA

- Accident Science
- AMCI Marketing
- Arvin Meritor
- Autoliv
- BMW
- Borg Warner
- Bridgestone / Firestone
- Burke E. Porter
- Caterpillar
- Collision Research
- Consumer Rep./Cons.Union
- Automot. Test
- Continental Teves
- Cooper Tire
- Daimler Chrysler Corporation
- Dana Corporation
- Delphi
- Delta Forensic Engineering
- Evernham Motorsports
- Exponent Failure & Analysis
- Fiat
- Ford Motor Corporation
- Freightliner Truck
- Gannassi Racing
- GE Global Research
- General Motors Corporation
- Geophysical Survey System
- GM Racing / Pratt and Miller
- Goodyear
- Goodyear Racing
- Hancock
- Honda
- Hyundai / KIA
- International Truck and Engine
- Joe Gibbs Racing
- John Deere
- Kawasaki
- Krohn Barbour Racing
- Link Engineering
- MAG Research
- Mazda
- Mercedes Benz
- Michelin
- Mitsubishi
- NHTSA
- New York City Transit
- Newman Haas Racing
- Nissan
- OptimumG
- Panther Racing
- Penske Racing
- Porsche
- Richard Childress Racing
- Robert Bosch
- Roush / Ford Racing
- Southwest Research
- Sypris Test & Measurement
- Tandy Engineering
- Toyota
- Toyota Racing
- Transportation Safety Tech.
- TRW
- U.S. Army
- Visteon
- Volvo
- Workhorse Custom Chassis
- Yamaha

MEXICO

- Automobile Magazine
- Chrysler de México
- Chrysler V. Comerciales
- Editorial Motorpress Televisa
- Ford Motor Company
- General Motors de México
- Instituto Mexicana del Petroleo

- Nissan Mexicana
- Volkswagen de México

ARGENTINA

- Fate
- Iveco
- Mercedes Benz
- Oreste Berta S.A.
- Peugeot
- Volkswagen

BRAZIL

- Volkswagen
- Ford
- Fiat
- Peugeot
- Renault
- Pirelli
- Frax-Le
- Daimler
- Petrobras
- General Motors
- Volvo
- Iveco
- Honda
- Bridgestone
- Scania
- Toyota
- Bridgestone Firestone
- Continental
- TRW
- Magneti Marelli
- Cummins
- Robert Bosch

ASIA

CHINA

- Beijing Mechanical College
- ChangAn Ford Auto Company
- CHERY Auto Co.
- Chin.Inst.of National Automobile. Insp.
- Dong Feng Auto Co.
- FAW Volkswagen Automobile
- Jili Automobile Company
- SAIC
- Shandong Dongyue
- Shanghai Volkswagen Automobile
- Shenyang HuaChen-Brilliant Auto
- Zhengzhou Yutong Bus

INDIA

- ARAI
- Ashok Leyland Ltd.
- Bajaj Auto Ltd.
- Brakes India Ltd.
- General Motors India Pvt. Ltd.
- Hero Honda Motors Ltd.
- Hero Motors
- Indian Oil Corporation Ltd.
- JCB India
- JK Tyres Ltd. (Hasetri)
- Kalyani Brakes Ltd.
- Mahindra & Mahindra Ltd.
- Maruti Udyog Ltd.
- New Holland Tractors
- Sundaram Brake Linings Ltd.
- Sundaram Clayton Ltd.
- TAFE
- Tata Motors Ltd. Jamshedpur
- Tata Motors Ltd. Pune
- TVS Motor Co. Ltd.
- VRDE

INDONESIA

- PT Indomobil Suzuki Int

IRAN

- AIRIC
- Iran Khodro
- ISQI
- ITRAK
- Mega Motors
- TKC
- Zamyad

JAPAN

- Toyota Motor
- Nissan Motor
- Honda R & D
- Mazda Motor
- Suzuki Motor
- Daihatsu Motor
- Mitsubishi Motor
- Hino Motor
- Nissan Diesel
- Isuzu Motor
- Mitsubishi Fuso
- Bridgestone
- Sumitomo Rubber
- Yokohama Rubber
- ADVICS
- Toyota Shatai
- Aishin Seiki
- Denso
- Yamaha
- Kawasaki Motor
- Nihon University
- Keio University
- Kanagawa Institute Univ.
- BMW Japan
- Michelin Research Asia
- National Research Institute of Police Science

KOREA

- ADD
- Daewoo Bus
- Doosan Infracore
- Ssangyong Mo
- Hankook Tire
- Hyundai Mobis
- Hyundai Motor
- KATRI
- Kia Motor
- Kumho Tire
- Mando Corp
- Renault Samsung
- Ssangyong Motor

SINGAPORE

- Singapore Technologies Kinetics

TAIWAN

- ARTC
- FORD
- Haitec
- KENDA tire
- YATC

THAILAND

- Auto Alliance (Thailand)
- International Media Co.
- Toyota Motor (Thailand)

USBKISTAN

- Research Centre and testing

VIETNAM

- Hanoi Agriculture University
- Hanoi Technical University
- Institute Mechanical of Military
- Register Institute of Agriculture
- Machine
- Vietnam Register of Shipping

AUSTRALIA

- Accredited Test Services (Department of Defence)
- Bishop Innovation
- BMW
- Bosch
- Ford Motor Co of Australia
- Holden Ltd
- Mitsubishi Australia
- Nissan
- ProDrive
- Toyota Australia
- Victoria Police

EUROPE

AUSTRIA

- AVL
- Magna Steyr

BELARUS

- MAZ

BELGIUM

- Ford
- Nissan
- Toyota

CZECH REPUBLIC

- Karosa
- Skoda
- SZZPLS

DENMARK

- Brüel & Kjaer

FINNLAND

- Patria
- VTT

FRANCE

- Citroen
- Irisbus
- Michelin
- Peugeot
- Renault

GERMANY

- ARAL Forschung
- ATP
- Audi
- BMW
- Bosch
- Continental
- Daimler
- Dekra
- EvoBus
- FEV
- FKFS
- Ford
- Goodyear Dunlop
- Honda
- Hyundai
- IPW
- Karmann
- MAN
- Mazda
- Mercedes AMG
- Mess und Eichwesen
- Multicar
- Opel Performance
- Porsche
- Siemens VDO
- Toyota F1
- TÜV
- Volkswagen
- ZF Lenksysteme

GREAT BRITAIN

- BAR Honda F1
- Jaguar
- Kumho Tires
- Landrover
- McLaren-Mercedes
- MIRA
- RedBull Racing
- Renault F1
- Williams F1

HUNGARY

- Knorr Bremse

ITALY

- Alfa Romeo
- Alston
- Ansaldo Transporti
- Aprilia
- ATAC
- Auto
- Brembo
- Bridgestone
- CESAB
- Ducati Motor
- Ferodo
- Ferrari F1
- Fiat

- Galfer
- Iveco
- Lamborghini
- Lancia
- Maserati
- Piaggio
- Pirelli
- Prototipo
- Quattroruote
- Same Deutz
- SOC Autostrade
- Torro Rosso F1
- Tranbus

LUXEMBOURG

- Goodyear

NETHERLANDS

- DAF
- PDE automotive
- RDW
- TNO
- Vredestein

POLAND

- Lumag
- OBRSM "BOSMAL"
- STOMIL OLSZTYN

RUSSIA

- Autorevju
- GAZ
- KAMAZ
- VAZ
- Za ruljem

SPAIN

- Auto Bild
- Federal Mogul
- NTA
- Irisbus
- Michelin
- Nissan
- Seat

SWEDEN

- Haldex
- Saab
- Scania
- Volvo

SWITZERLAND

- BMW Sauber F1
- Dynamic Test Center
- Rieter automotive
- RUAG
- Tescon

TURKEY

- BMC SAN ve TIC A.S.
- Daimler Chrysler
- Ford Otomotiv San. A.S.
- Frenteknik Otomotiv San. Tic. A.S.
- Istanbul Technical University - Otam
- Temsa -Termomekanik Sanayi ve Ticaret A.S.
- TOFAS Türk Otomobil Fabrikası A.S.
- Toyota Otomotiv Sanayi Türkiye A.S.

UKRAINE

- LuAZ

HUNGARY

- Knorr Bremse

Do you miss your company in this list?
Please let us know by e-mail:
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