

data
can you
rely
on



from
the
company
you
trust

corrsys-datron

the most trusted name in dynamic vehicle testing solutions

corrsys-datron

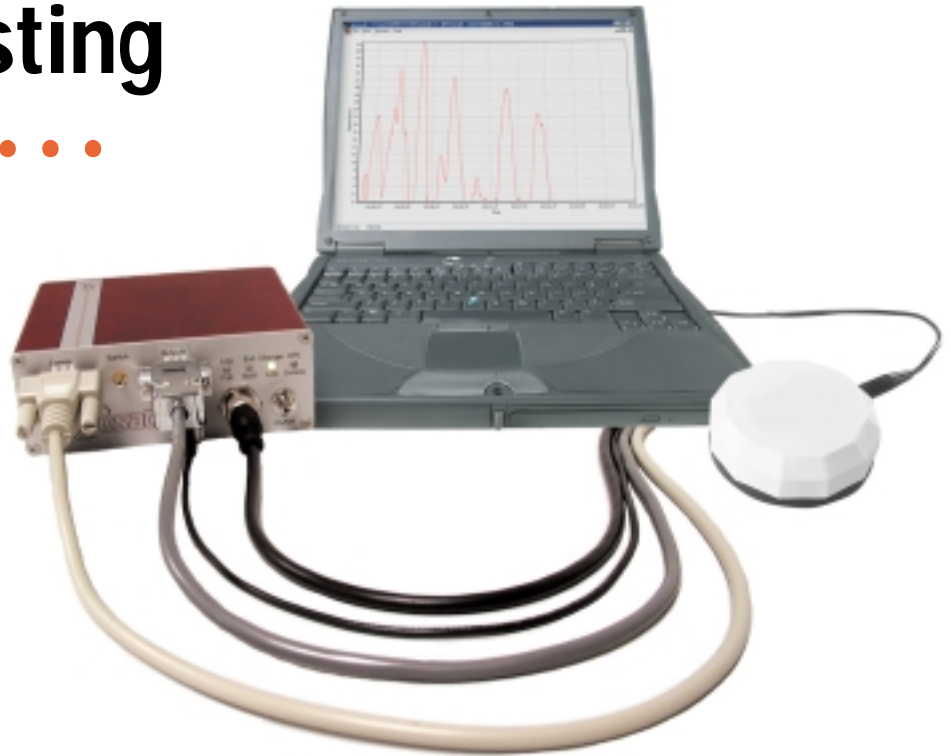
the most trusted name in dynamic vehicle testing solutions

the evolution of dynamic vehicle testing continues...

The innovative new MicroSAT GPS sensor from CORRSYS-DATRON represents a major development in the evolution of global positioning technology for dynamic testing.

As the company that brought you the world's first non-contact speed and distance sensor, CORRSYS-DATRON is the most trusted name in the industry – a distinction we continue to earn each and every day with superior instrumentation and solutions-focused customer support you know you can depend on.

Now, with the introduction of the innovative new MicroSAT GPS Sensor, CORRSYS-DATRON brings proven reliability to GPS-based speed and distance measurement. Using free, military/survey grade signals recently made available from an array of geo-synchronous global positioning satellites, the MicroSAT Sensor provides highly accurate, highly reliable speed, distance and position data, all with unprecedented ease of use.



MicroSAT delivers the true potential of GPS.

Compact and rugged by design, the MicroSAT Sensor at last delivers the full, uncompromised potential of global positioning technology – with a level of accuracy and reliability that meets the rigorous standards of the most trusted name in vehicle testing technology – CORRSYS-DATRON. The MicroSAT Sensor provides high-performance measurement capabilities for virtually any dynamic testing platform, including automobiles, heavy trucks, motorcycles, watercraft and even aircraft.

MicroSAT is the reliable new way to measure:

- vehicle speed
- elapsed time
- acceleration
- lap times
- lateral acceleration
- longitudinal acceleration
- distance traveled
- absolute position
- braking distance and time
- height
- heading

microsat GPS Speed & Distance Sensor

Easy to set-up, easy to use.

Set-up and testing have never been easier than with the MicroSAT sensor. Just make a few simple connections, place the quick-mount GPS antenna on the vehicle, and within a matter of seconds the MicroSAT sensor is ready to use. And because the new MicroSAT RT Windows-compatible software package has been engineered to automate important test functions, dynamic testing becomes a virtually hands-free process.

Compared to the MicroSAT Sensor, anything else just comes up short.

- Internal memory for stand-alone data logging capability.
- Easy connection to laptop via standard interface.
- Analog, digital (TTL pulses) and CAN outputs for fast, easy connection to data acquisition.
- Analog output for quick connection to optional compact display.
- Fast, easy set-up takes just seconds.
- Measures speeds from 0 – 1,850 kph (0 – 1,152 mph).
- Measures distance to 0.5% accuracy, with resolution to 1 cm.
- 6-18 V DC vehicle power supply, internal battery or optional external power pack.
- Test on public highways, tracks, off-road, on water and in the air.
- Compact, lightweight, fully ruggedized.
- Uses the highest quality GPS signals available.
- Full accuracy on all test surfaces and in all atmospheric conditions.
- Never needs to be calibrated.
- Aerodynamically inert.
- Available with optional DGPS (differential GPS).

the microsat advantage

Why is the MicroSAT Global Positioning Sensor the logical choice for your dynamic testing needs?

The answer is simple: superior performance and reliability.

MicroSAT is the product of an extensive research and development process, focused on the real-world demands of dynamic vehicle testing. With over two decades of intensive involvement in non-contact measurement of dynamic vehicle performance characteristics, CORRSYS-DATRON Sensorsystems offers a level of expertise and depth of experience that is unrivaled in the industry.

The MicroSAT Sensor provides a new option in non-contact measurement that draws upon this experience to deliver a truly viable new tool that combines exceptional ease of use with outstanding measurement accuracy and reliability.

What makes one GPS sensor better than the next?

It starts with accuracy.

MicroSAT offers superior accuracy. With a proven CEP (circular error probability*) of 1.8 meter or less, the MicroSAT sensor is a full 50% more accurate than similar sensors. And the rest of our specifications are equally impressive.

A superior measurement device exceeds the expectations of the user.

This is precisely what the MicroSAT Sensor has been designed to do. With performance that satisfies the most demanding applications and rugged reliability that stands up to the rigors of racing and refinement testing, MicroSAT makes dynamic measurement faster, easier and more productive.

Discover the difference.

Put MicroSAT to the test.

There's no better way to discover the many advantages of the MicroSAT GPS Sensor than to test one yourself. We're confident you'll get better data, and do so without the aggravation of signal loss, mechanical failure and other anomalous behaviors. MicroSAT, like every product we offer, is better because it works.

*Circular Error Probability is defined as the diameter of a circle in which 50% of all readings occur.

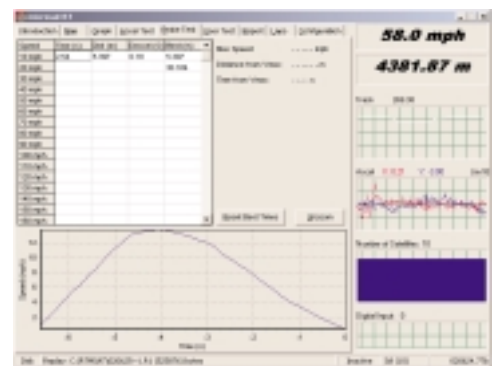
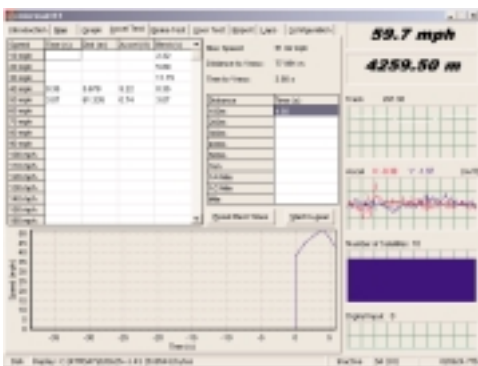
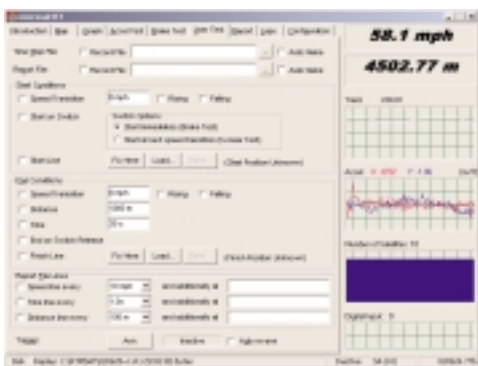
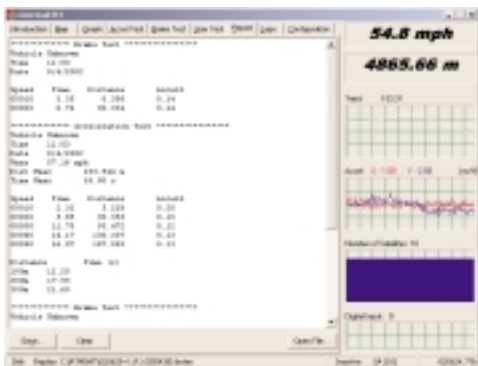
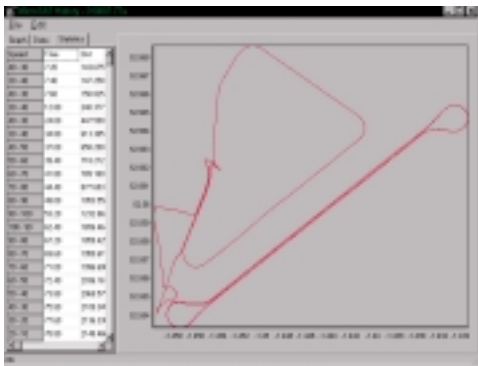
MicroSAT RT Software provides powerful automation and analysis features.

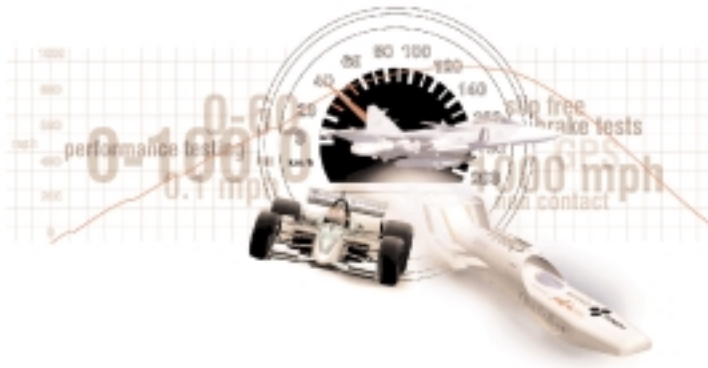
MicroSAT RT real-time software provides a convenient, easy-to-use interface to the MicroSAT Sensor. It displays data output by the sensor and computes a variety of performance parameters required for vehicle testing.

MicroSAT RT software can also be configured to automatically perform a series of tests when

the sensor is powered on. In this mode, MicroSAT RT automatically switches between test screens (e.g., acceleration and brake test screens) for convenient, hands-free data viewing as the sequence of specified tests progresses in order. All data is stored automatically as detailed spreadsheet files and can be saved for post-test replay and analysis.

- Measure, record and display vehicle velocity, acceleration and position.
- View measured values in formats that allow you to quantify vehicle performance in easily recognizable terms.
- Measure braking performance (brake switch included).
- Create track maps for analysis of driving lines. This capability is particularly valuable in competition applications. Lap times can be compared to specific driving lines to optimize driver performance in competition and time-trials.
- Produce maps of the actual route followed by the vehicle during the test. Routes can also be displayed in real time on available digitized scale maps.
- Perform acceleration tests, either from standstill or as an in-gear test when moving.
- Design custom tests with user-definable parameter and trigger settings.
- Measure lap times with user-definable start-stop lines.
- Thoroughly analyze every aspect of saved data.
- Select data segments for in-depth analysis.





the truth about global positioning technology

The introduction of GPS technology has been accompanied by a variety of misconceptions. In the interest of helping you make better informed decisions, we offer the following clarifications.

fact:

GPS sensors are not a parity product.

It might seem safe to assume that all microwave sensors are pretty much the same. However, in actual practice there are very real and very significant differences between the several GPS sensors on the market today. For example, the MicroSAT generates a digital output signal of 400 pulses per meter. Similar sensors offer digital output rates as low as 90 pulses per meter – and this is only one of many differences that make MicroSAT the obvious choice in GPS measurement technology.

fiction:

Every GPS sensor is subject to the same degree of signal latency.

Direct comparison testing proves that the MicroSAT Sensor operates at signal latency levels of 50 ms or less. By comparison, other available GPS sensors are proven to produce latency figures ranging from a minimum of 80 ms to more than 400 ms.

fact:

The MicroSAT Sensor operates at 20 Hz, which is an actual, non-interpolated sample rate.

To achieve true 20 Hz performance, the MicroSAT Sensor incorporates the newest and most technologically advanced electronics on the market today. Many competing sensors rely on data interpolation to artificially inflate sample rate claims. Actual sample rates before interpolation are often as low as 5 Hz.

fiction:

GPS technology is a “one size fits all” testing solution.

No single sensor or technology is right for every application. That's why CORRSYS-DATRON offers a comprehensive range of vehicle testing technologies. With innovative optical, GPS, microwave, fiber-optic and mechanical sensors, CORRSYS-DATRON offers the solution that best fits your needs. For example, our S-CE, S-400 and SL two-axis optical sensors accurately measure vehicle speed and distance while simultaneously measuring transverse (slip) angle. And with a wide variety of data acquisition systems, modular signal conditioning units, analysis software and more, you can count on CORRSYS-DATRON for all your dynamic testing needs.

fact:

MicroSAT provides superior performance in head-to-head testing.

At CORRSYS-DATRON we firmly believe that the MicroSAT is the very best GPS sensor on the market today. Comparison tests provide detailed confirmation of this fact. Contact CORRSYS-DATRON today to schedule a demonstration and to view comparison data.

Measurably superior – by design.

Velocity

Accuracy	0.1 kph
Units	kph or mph
Update rate	20 Hz
Maximum velocity	1,850 kph
Minimum velocity	0.1 kph
Resolution	0.01 kph

Distance

Accuracy	0.5%
Units	Meters/Feet
Update rate	20 Hz
Resolution	1 cm

Absolute Position

Accuracy	1.8 m CEP*
Accuracy with DGPS	<1 m CEP*
Update rate	20 Hz
Resolution	2 cm

Time

Resolution	0.01 s
Accuracy	1 part in 100,000

Acceleration

Accuracy	0.5%
Maximum	20 G
Resolution	0.01 G
Update rate	20 Hz

Memory

Internal	4 MB
Recording time	approx. 2 hours

Power

Voltage range	6-18 V DC
Power consumption	2.0 W
Internal battery	2 hours
Battery pack (optional)	16 hours

Art. No. UK 100001
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In a continuous effort to improve our products, CORRSYS-DATRON reserves the right to change specifications without prior notice.

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*Circular Error Probability is defined as the diameter of a circle in which 50% of all readings occur.

Contact CORRSYS-DATRON today to schedule a demonstration of advanced GPS technology in action.

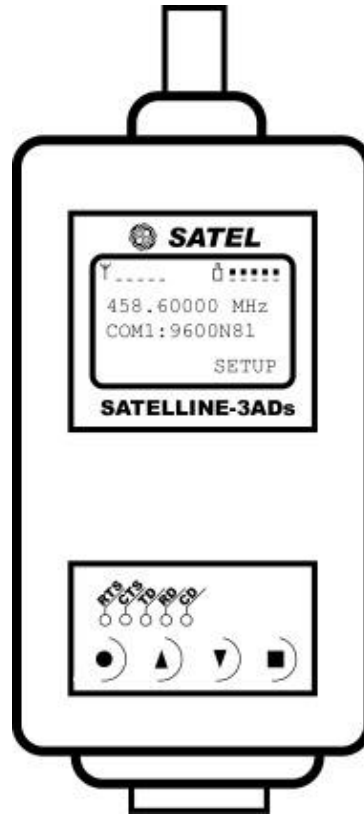
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HIGH SPEED RADIO MODEM
For remote operation of the MicroSat sensor.



The radio modems have been developed to transfer data via RS-232. There are two units that are used, one receiver & one transmitter. The transmitter is connected to the microSat 'comms' and the receiver is connected to the serial port of the laptop which can be at a remote location. The microSat software can now be operated remotely just as if you were inside the test vehicle.

Applications

Ideal for tests where you don't want a laptop onboard – handling, tyre tests....

Data Modem

Interface	RS-32, RS-485, RS-422
Interface connector	D15, female
Data speed of interface	300 – 38400 bps
Data formats	Asynchronous data

General

Operating voltage	+9...+30 Vdc
Power consumption	1.8 VA typical (receive) 6.0 VA (transmit)
Operating range	2km line of sight