



Eagle Tree Systems Product Guide ***January, 2008***

Thank you for your interest in our full featured, high quality Model/UAV data acquisition systems. Below is summary information on our entire product line.

In addition to the below products, many customization options exist. Don't hesitate to contact us if we can answer any further questions.

NEW: Note that all of our presently shipping data acquisition products have Windows Application updatable firmware, which means that new features or enhancements are just an internet download away!

Contact information:

Email Addresses	Mailing Address	Phone and Fax
Sales and Technical Sales Questions: sales@eagletreesystems.com Technical Support: support@eagletreesystems.com	Eagle Tree Systems, LLC 4957 Lakemont Blvd SE Suite C-4 PMB 235 Bellevue, WA 98006, USA	Telephone: 425-614-0450 FAX: 425-484-4131

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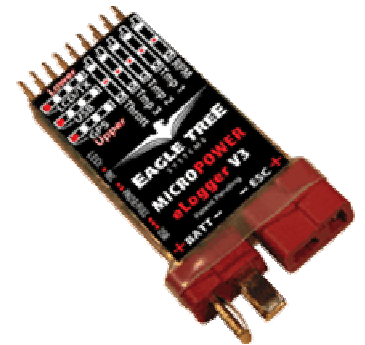
- I. eLogger V3 and PowerPanel***
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I. eLogger V3 and PowerPanel

Product Codes MPR-CONN-100, MPR-LEADS-100, MPR-LEADS-150, and POWER-PANEL

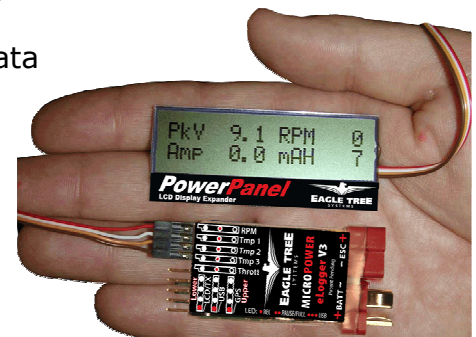
NEW: Eagle Tree continues to innovate in data collection with the eLogger V3. In addition to greatly enhanced resolution and accuracy, the V3 now supports voltage to 70 volts, current to 100 amps (150 amps optional), GPS (with optional GPS Expander), 4x the logging capacity of the eLogger V2, Three Temperatures, and Throttle Logging (or logging of two RPMs)!

And now, you can connect the V3 to the data port of your Spektrum AR9000(TM) or JR R921(TM) Receiver to log and display RF Link performance data! Purchase the Spektrum(TM) interface cable below. Whether you're into Electric Planes, Cars, Boats or other models, you need to know how your electric power system performs under actual operating conditions.



Here are the key features of the eLogger:

- **NEW:** Logs peak current to +/- 100 amps (150 amps optional) and voltage from about 4.5 volts to 70 volts.
- Each unit is calibrated on a custom built calibration machine for the best accuracy.
- **NEW:** The MicroPower V3 has 4x the memory capacity of the V2!
- Current is measured with a true Hall Effects Sensor - NOT a resistance shunt which produces heat and sucks power from your system!
- Great for bench monitoring of battery charging also!
- **NEW:** Accepts optional inexpensive sensors for GPS, Temperature, RPM (brushless, magnetic or optical), Airspeed, Altitude, Servo Current, and more, available below
- **NEW:** Logs Throttle Movement with optional Y-Cable
- All data is logged to permanent memory, which retains the data even when the power is removed.
- Software computes Wattage, mAH, etc. for complete e-flight data.
- Fully Compatible with Windows Vista, 98SE, ME, Win2K and XP™
- Integrated USB with included cable (NOT a USB to serial port cable like other loggers)
- Weighs about 0.7 oz (20 grams). Version with Wire Leads weighs slightly more.
- Supports USB Live Mode, which lets you see what's happening in the model LIVE on the bench, on your PC
- Adjustable logging rate (1-10 samples/second) and lossless data compression for long log times
- Comes with our state of the art Windows virtual playback display and graphing
- Powerful Graphing software has advanced charting features, such as amps vs volts
- Internet Updatable firmware - as we add new features or (heaven forbid) have a firmware bug, the update is just a download away! No need to ship hardware back and forth.
- Full support for English and Metric units



NEW: PowerPanel LCD Display - a Gas Gauge for your Pack!

Now you can connect our new PowerPanel super lightweight LCD Display module to your eLogger!

This ultra thin LCD display connects to the MicroPower with the included 11" data cable, and lets you get your max and live data displayed without a PC, just like the heavier, non-logging WattMeters on the market.



The display is fully programmable to show you your live and max Voltage, Amperage, Temperatures, RPM, mAH used, and more! Since you can know your mAH after your session, you know approximately how much juice is left in your pack!

Just connect it after your session for readback of live and max data. Or, since the PowerPanel is so light, it can easily be attached to the side of your model for live/max display all the time!

Here are a few of the features of the PowerPanel:

- Ultra-thin LCD display connects to the MicroPower with the included 11" data cable.
- Live Display of Amps, Volts, mAH, Temperatures, and RPM (more coming soon, by simply download our latest Windows program).
- Cumulative mAH display serves as a "gas gauge" for your battery pack. By knowing how much has been used, you can know approximately how much is left!
- Up to 4 parameters can be displayed per "virtual page" on the PowerPanel. Each parameter has a programmable label.
- Supports Multiple "Pages" of data, with programmable ways of switching between the pages.
- Supports display of both Live data, and Max values, with programmable ways of switching between Live and Max.
- Supports "hot plugging" into the eLogger after your session.
- So light, it can easily be attached to the side of your model for live/max display all the time!
- System supports both Metric and English units.

II. Model Airplane, Heli and High Powered Rocket Flight Data Systems

We offer two main products for your monitoring the performance of your flying model – our Wireless real time **Seagull Wireless Flight System** product, and our **Flight Data Recorder** product. See the below case studies and descriptions, and click here for additional information:

<http://www.eagletreesystems.com/Plane/plane.html>.

And now you can add our micro GPS expander module (described in Accessories below) to the systems, which gives you in-flight and recorded position, course, ground speed, GPS altitude, distance to pilot, UTC, and more, in addition to all the other Seagull features. With the combination of Seagull and GPS, you'll never lose another plane or rocket in the weeds! Just go to the last position displayed on the dashboard (using a cheap hand-held or other GPS unit) and your plane will be there! Also, software to chart out your flight in 3D is included free!



NEW: Now you can connect the V3 to the data port of your Spektrum AR9000(TM) or JR R921(TM) Receiver to log and display RF Link performance data! Purchase the Spektrum(TM) interface cable below. Whether you're into Electric Planes, Cars, Boats or other models, you need to know how your electric power system performs under actual operating conditions.

Seagull Wireless Flight System Product Codes SEA-FLIGHT-900, SEA-FLIGHT-433

For wireless, real time monitoring of your flights, as well as on-board recording of your flights, choose our Seagull Wireless Dashboard Flight System. Note that this flight system includes the Flight Data Recorder product below.

Here are just a few of the scenarios in which our customers have directly benefited from Eagle Tree Wireless systems:

- Monitoring engine and/or exhaust temperature in real time, and setting an over-temperature alarm, to avoid overheating engine, and to tune engines perfectly.
- Monitoring battery current and setting an over-current alarm, to avoid damaging the ESC or motor.
- Monitoring battery temperature (with overheating alarm) to avoid destroying expensive battery packs.
- Monitoring engine RPM, with over-RPM alarm, to avoid over-revving engine, and to tune engines and props perfectly.
- Setting a stall warning alarm which will sound when airspeed drops below a certain value.
- Setting a high altitude alarm to avoid climbing above legal altitude levels at your field.



- Tuning heli rotors
- Monitoring servo movements to ensure proper receiver operation
- Graphing all parameters with the live strip charting feature, including GPS position plotting with the optional GPS Expander.
- Monitoring High Powered Model Rocket acceleration, servo movements, altitude, speed and temperatures.
- Locating lost Planes or Rockets with our GPS Expander.
- Having fun!

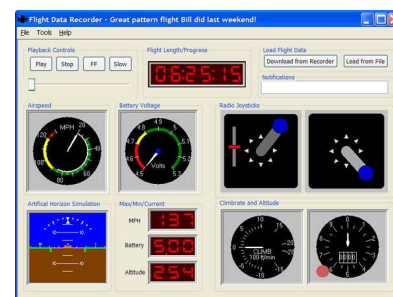
Flight Data Recorder (included with Wireless system, or available separately)
Product Code FDR-STD-KIT

For recording and after the flight PC playback of your flight data, choose our Flight Data Recorder product. Note that if you only need after the flight PC playback now, but may want Wireless real time monitoring later, you can purchase our Wireless Dashboard upgrade later.



Here are just a few of the scenarios in which our customers have directly benefited from Eagle Tree Flight Data Recorder:

- Recording and downloading engine and/or exhaust temperature for engine tuning
- Graphing RPM, current and voltage data for prop and gearing selection. Up to two RPMs are supported.
- Archiving your flights for later analysis and sharing
- Improving your flying skills by analyzing your control surface movements, altitude/speed consistency, etc.
- Recording GPS Position with the optional GPS Expander, and graphing your flight in 3D afterwards.
- And HAVING FUN!!



See accessories available for these products in our Accessories section below.

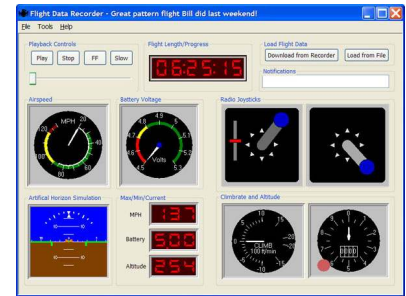
III. UAV, Professional and Turbine Jet Flight Data Acquisition Systems

Our Pro line of flight telemetry systems offer all the advanced features of our standard Seagull and Flight Data Recorder products described above, with additional features and capabilities demanded in the UAV, professional and jet scale markets.

NEW: 1 Watt and 2.4 GHz models available!

The primary enhancements of the Pro line are:

- Accessible static airspeed port, and high resolution airspeed measurement.
- High resolution altitude measurement (1' resolution)
- 4x the record time of our standard Flight Data Recorder
- Wireless Dashboard has built-in varying tone variometer with speaker and headphone jack
- Support for up to 4 RPM inputs
- Jet ECU Real-Time Monitoring (with optional ECU cable)
- Customization available



We offer two main Pro products for your monitoring the performance of your flying Radio Controlled platform – our Wireless real time **Seagull Pro Wireless Flight Telemetry System** product, and our **Flight Data Recorder Pro** product. See the below case studies and descriptions for more information, or click on <http://www.eagletreesystems.com/UAV/uav.html>.

And now you can add our micro GPS expander module (in the Accessories section below) to the system, which gives you in-flight and recorded position, course, ground speed, GPS altitude, distance to pilot, UTC, and more, in addition to all the other Seagull features. Software to graph your position live, and chart out your flight in 3D is also included.



NEW: Now you can connect the V3 to the data port of your Spektrum AR9000(TM) or JR R921(TM) Receiver to log and display RF Link performance data! Purchase the Spektrum(TM) interface cable below. Whether you're into Electric Planes, Cars, Boats or other models, you need to know how your electric power system performs under actual operating conditions.

We can also provide customization of our Pro systems, if the feature or sensor you need is not part of our standard feature set.

Seagull Pro Wireless Flight Telemetry System

Product Codes SEA-PRO-900, SEA-PRO-433, SEA-PRO-24, SEA-PRO-1WATT



For wireless, real time monitoring of your flights, as well as on-board recording of your flights, choose our Seagull Wireless Dashboard Pro Flight System. Note that this flight system includes the Flight Data Recorder Pro product below.

Here are just a few of the scenarios in which our customers have directly benefited from Eagle Tree Wireless Pro systems:

- Using the high resolution altimeter (1' resolution) and varying tone variometer for precise positioning of photography platforms.
- Monitoring engine and/or exhaust temperature in real time, and setting an over-temperature alarm, to avoid overheating engine, and to tune engines perfectly.
- Monitoring battery current and setting an over-current alarm, to avoid damaging the ESC or motor.
- Monitoring battery temperature (with overheating alarm) to avoid destroying expensive battery packs.
- Monitoring engine RPM, with over-RPM alarm, to avoid over-revving engine, and to tune engines and props perfectly. Monitors RPM of up to 4 cylinders.
- Setting a stall warning alarm which will sound when airspeed drops below a certain value.
- Monitoring servo movements to ensure proper receiver operation
- Monitoring Jet Turbine Temp, Turbine RPM, ECU voltage, etc., with optional ECU interface cable. Great for detecting flameouts and other Jet power issues before they create an unstable condition.
- Graphing all parameters with the live strip charting feature, including GPS position plotting with the optional GPS Expander.



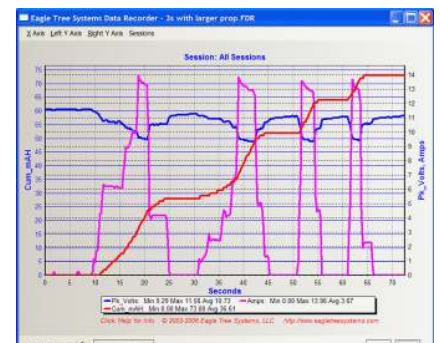
Flight Data Recorder Pro (included with Wireless system above, or available separately)

Product Code FDR-PRO-KIT

For recording and after the flight PC playback of your flight data, choose our Flight Data Recorder Pro product. Note that if you only need after the flight PC playback now, but may want Wireless real time monitoring later, you can purchase our Wireless Dashboard upgrade later.

Here are just a few of the scenarios in which our customers have directly benefited from Eagle Tree Flight Data Recorder Pro:

- Capturing high resolution airspeed and altitude data for L/D, Polar and other calculations.
- Recording and downloading engine and/or exhaust temperature for engine tuning
- Graphing RPM, current and voltage data for prop and gearing selection. Up to 4 RPM sensors can be used.
- Setting up, tuning and demonstrating performance of UAVs.
- Determining glide ratios and other critical flight parameters of UAVs.
- Monitoring battery/ESC performance, with our Electric Expander and graphing capabilities.
- Tuning heli rotors
- See accessories available for these products in our Accessories section below.



IV. Model Sailplane Data Systems

Product Codes SEA-GLIDE-900, SEA-GLIDE-433

With the Seagull Glide system, data previously available only on full sized gliders is provided to the model soaring pilot in real-time. Unlike other limited feature variometers on the market, the Glide system has a fully digital link, data logging, tremendous expandability, and many other advanced features. Click here for more information:

<http://www.eagletreesystems.com/Sailplane/sailplane.html>.



And now you can add our **Micro GPS Expander** module (below) to the system, which gives you live and recorded position, course, ground speed, distance to operator, UTC, and more, in addition to all the other Seagull features.

Here are just a few of the features found on the Glide system:

- No computer required
- Varying tone variometer with advanced electronic Total Energy Compensation - no cumbersome TE probe to install
- Minimum sinkrate, climb rate, averaging period, and other flight monitoring parameters are fully adjustable while your plane is in the air
- Airspeed measurement from 2 to 290 MPH
- Altitude measurement with 1' resolution
- Sinkrate capture function for polar and L/D calculations
- Receiver battery voltage monitoring included
- Includes full featured data logger for recording and analyzing your flights with a PC
- Tiny, lightweight onboard components require no separate battery
- Small, self-contained LCD Dashboard with speaker and headphone jack
- Fully programmable audible alerts can be set on all parameters.
- Optional low cost, plug-n-play sensors available for RPM, temperatures, pack current and voltage, servo movements, g-force, GPS, and more.
- Voice module add-on module coming soon for spoken data readback
- Receiver is a USB peripheral: plug the receiver into your PC to get full screen live display and recording
- System includes: LCD Dashboard/Receiver, Onboard Black Box and Transmitter, Pitot tube, power cable, Windows CD with Virtual Instrument Display and Graphing, and instructions.



V. Model Car/Truck Data Acquisition Systems

Whether you drive electric, nitro or gas, we offer two main products for monitoring the performance of your model Car, Truck or other ground-based model – our Wireless real time product, and our recording product. See accessories available for these products in our Accessories section below. For more information, click on the link <http://www.eagletreesystems.com/Car/car.html>.



1) For wireless, real time monitoring of your races, as well as on-board recording of your races, choose our **Seagull Wireless Dashboard Car System (Product Codes SEA-CAR-900, SEA-CAR-433)**. Note that this Car system includes the Car Data Recorder product below.

2) For recording and after the race PC playback of your flight data, choose our **Car Data Recorder product (Product Code CDR-KIT)**. More Note that if you only need after the race PC playback now, but may want Wireless real time monitoring later, you can purchase our Wireless Dashboard upgrade later. **NEW:** up to 2 RPMs can be measured, for wheel slip calculation or dual speed transmissions.



VI. Model Boat Data Acquisition Systems

Find Out What's happening on the Water!

Whether your boats are nitro, electric, or gas, with our Boat Data Acquisition products, you can stop guessing about your boat's performance and condition, and find out what's happening on your vehicle, after the run or in real time! Simple to set up and operate, our complete systems install easily to provide recorded and real time data at your fingertips!

And now you can add our **Micro GPS Expander** module (below) to the system, which gives you live and recorded position, course, ground speed, distance to operator, UTC, and more, in addition to all the other Seagull features.

We now also offer a **waterspeed pitot tube** option, which gives more accurate speed readings than the airspeed pitot tube, especially on windy or rough water days. For boats traveling at 50MPH or less, this is recommended (requires mounting a brass or other tube under the boat). If you would like this no cost option, contact your dealer or just mention it in the NOTES section of our online order form.

We offer two main products for monitoring the performance of your Model Boat or other water based model – our Wireless real time product, and our recording product. See accessories available for these products in our Accessories section below. For more information, click on the link <http://www.eagletreesystems.com/Boat/boat.html>.

1) For wireless, real time monitoring of your races, as well as on-board recording of your races, choose our **Seagull Wireless Dashboard Boat System (Product Codes SEA-BOAT-900, SEA-BOAT-433)**. Note that this Boat system includes the Boat Data Recorder product below.



2) For recording and after the race PC playback of your race data, choose our **Boat Data Recorder product (Product Code BDR-KIT)**. Note that if you only need after the race PC playback now, but may want Wireless real time monitoring later, you can purchase our Wireless Dashboard upgrade later.



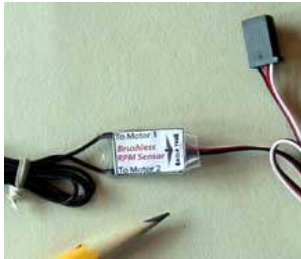
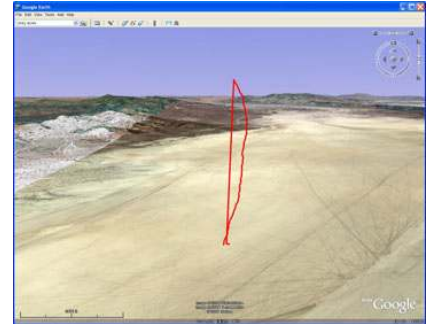
VII. Sensors and Accessories

Each of the sensors below is compatible with all our Seagull and eLogger products, unless otherwise noted.



NEW: 5Hz GPS Expander and WAAS GPS Expander (Product Code GPS-5Hz)

New Smaller, faster, and more sensitive GPS Expander Module plugs into the system to provide live and/or recorded lat/lon, ground speed, GPS altitude, distance to pilot, course, UTC timestamp, and more. Integrated display/3D graphing software included in data system. WAAS and EGNOS compatible, 5Hz update rate, built-in patch antenna. (Seagull, Recorder, and eLogger V3 only)



Brushless Motor RPM Sensor (RPM-KIT-BRS)

Tiny sensor measures RPM by simply connecting a wire from one of your brushless electric motor leads to the sensor. This connection is just a splice (not inline) which simplifies



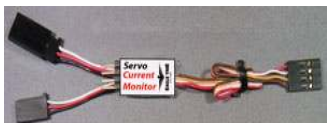
NEW: Altimeter MicroSensor for eLogger (MPR-ALT-EXP)

Altimeter Sensor measures Altitude from 0-20000 feet (0-6000 m) with approximately 4 foot (2 meter) resolution. Daisy-chains with all other eLogger MicroSensors!



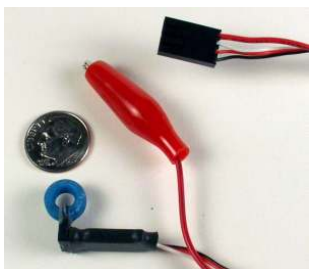
NEW: Airspeed MicroSensor for eLogger (MPR-AIR-EXP)

Measures airspeed from approx 9-200 MPH. Includes Pitot Tube and hose. Daisy-chains with all other eLogger MicroSensors!



NEW: Servo Current Logger MicroSensor (SERVO-CURR-LOG)

Find out how much current one or more of your servos or other low current devices are drawing. Plugs into your eLogger and servo (or receiver battery/BEC) to log current from 0-5 Amps continuous, with 0.01 Amp resolution. Daisy-chains with all other eLogger MicroSensors!

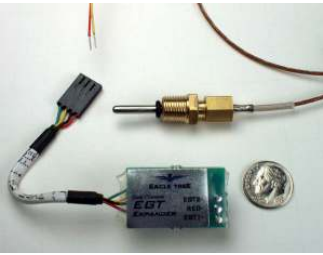


Electric Expanders

(Product Codes ELEC-EXP-100, ELEC-EXP-140, ELEC-EXP-300)

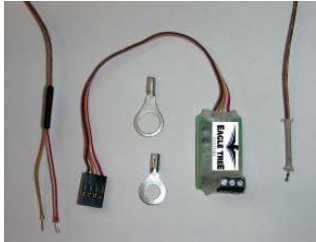
Measures motor battery pack current and voltage.

NEW: We now offer 100 Amp, 140 Amp, and 300 Amp models.



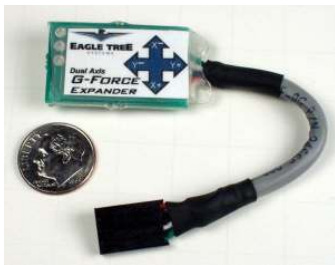
Thermocouple Expander with Exhaust Gas Probe (Product Code THERM-EXP-EGT)

Thermocouple Expander supports two type K thermocouple probes. Includes EGT thermocouple probe with compression fitting, for measuring up to 2000 degrees F. Extra Probes available.



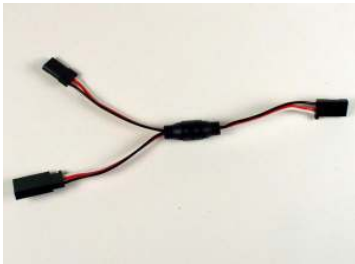
Thermocouple Expander with CHT Probe Kit (Product Code THERM-EXP-CHT)

Thermocouple Expander supports two two type K thermocouple probes. Includes CHT probe kit for use with OS #8 and 10mm plugs. Extra Probes available.



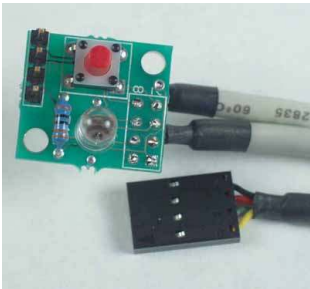
G-Force Expander (Product Code GFORCE-38)

Measures dual axis acceleration and G-force up to +/- 38 G's.



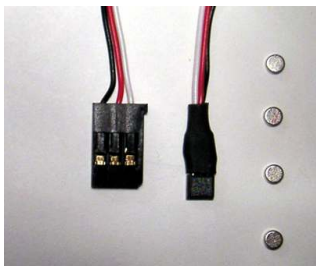
Set of 4 Y-cables (Product Code CAB-Y)

Provides servo monitoring for additional models.



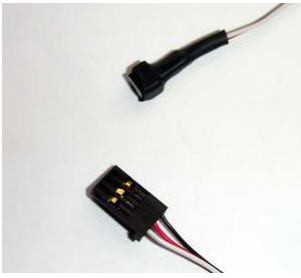
External Hookup Kit (Product Code EXT-HOOKUP)

Extends USB, LED and switch functionality to the outside of your vehicle. Perfect for planes, where the data recorder is mounted inside the fuselage, and access to the recorder directly involves removing the wing.



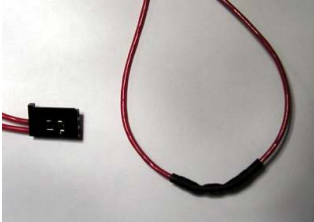
RPM Sensor with 4 Magnets (Product Code RPM-KIT-MAG)

Extra or replacement RPM sensor for our systems. Our standard systems support up to two RPMs, and the Pro systems support up to 4 RPM inputs. Or, adds RPM to our MicroPower unit.



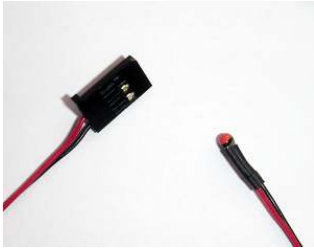
Optical RPM Sensor (OPT-RPM)
(Product Code OPT-RPM)

Measures your RPM without need for installing magnets.



Loop Temperature Sensor
(Product Code TEMP-LOOP)

Loop style "RTD" temperature sensor, perfect for measuring the temperature of cylinder heads, electric motors, etc. All of our Data products support up to two of these sensors.



Micro Temperature Sensor (Product Code TEMP-MICRO)

Perfect for measuring temps of batteries and ESC's. 250 degrees F max temp.



NEW: Spektrum(TM) AR9000/ JR 921(TM) Interface Cable (CAB-SPEK)

Now use your Seagull, eLogger V3 or Recorder to see AR9000/ JR 921 Rx holds/failsafes, lost frames, and antenna fades (up to 4 antennas) on your PowerPanel, or logged for later review! Connects between your Spektrum "FlightLog" data port and your GPS port. Use a servo Y cable to use your FlightLog display simultaneously!

Need to measure lots of different Voltages, Currents, Temperatures, A/D channels, G-Force channels, etc. with our Seagull or Recorder products? Our systems make this very easy to do. All you need to do is order Secondary versions of the expanders above. When used with our Standard (Primary) expanders, up to 6 Temperatures, 4 Dual A/D Channels, 4 G-Force Channels, 2 Voltages and 2 Currents can be measured simultaneously. And, additional custom Secondary Expanders are available if what you need is not available!