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TRAINING

Our next training courses will be held in Townsville and Sydney, these are popular training courses and spots are filling quickly.

JUNE/JULY		TOWNSVILLE	AUGUST	SYDNEY
27 June	Field Operators Training Course		8 August	Field Operators Training Course
28 - 29 June	Programming Training Course		9 - 10 August	Programming Training Course
30 June - 1 July	Communications Training Course		11 - 12 August	Communications Training Course

MESSAGE FROM THE MD

Steve Bailey



Three months into 2016 and the signs are looking positive for CSA and our distributors going forward. A number of major projects that have been several years in the making have come to fruition and we are absolutely thrilled to announce the birth of a new data logger, the CR300.

The CR300 is our 2nd smallest data logger but don't be fooled by the lack of size or the low price. This is one powerful, accurate and extremely capable little machine. We believe that it will be a hit in a number of markets including water resources, agriculture and research.

Internationally, we are pleased to see growth in Southeast Asia as our international distributors find new markets for our products. On the domestic front, we also see signs of recovery as sales expand in our traditional markets of water resources and agro-meteorology. There is also increased activity in road weather / flood warning applications with Campbell Scientific now being listed as an approved supplier for Transmax's STREAMS applications. For more information on this application, please visit our website - <http://www.campbellsci.com.au/streams>

We continue to work with a number of good friends in the US and Australia to establish a trial installation of Australia's first ALERT2 flood warning hardware / software solution. We have a ways to go yet but by the next newsletter, we hope to have more details on the progress of this exciting trial.

Technology is changing rapidly in the field of data acquisition and CSA continues to place a strong emphasis on our R&D effort in order to keep abreast of these changes. It is early days yet but there are fascinating opportunities ahead for CSA and CS globally in almost every field in which we are involved. As a CS customer, you can look forward to some exciting developments in the near future as we strive to bring you "quality data – from everywhere to where you want it, when you want it, how you want it".

A stylized, handwritten signature in dark ink, appearing to read 'Steve Bailey'.

Steve Bailey
Managing Director

EMPLOYEE OF THE MONTH

ALEX THOMAS

February this year marked a milestone in the company for our Operations manager, Alex Thomas – 20 years of service with Campbell Scientific Australia. To celebrate this occasion, we asked Alex to reflect a little on his time at CSA.

Back in February 1996, the world was a different place.

The “world wide web” was only a couple of years old and not many people had heard of it, with even less having an “email” account. Intel’s new Pentium chip was all the rage and in those days if you went away on holiday you would come back with a bunch of 35mm films which you would need to develop. Oh and by the way, back then mobile phones had one function - to make calls when you were on the move.

I was a newly minted engineering graduate with lots of energy and an eagerness to learn (but no experience) and Campbell Scientific Australia was a new fledgling branch of the global Campbell Scientific group with no money – it was a match made in heaven.

I was hired by CSA as a design engineer and so I was immediately put to work as an application engineer/repair technician with a view to one day designing a product or two. When we realised that the internet was a good idea and that we should embrace it, I added the role of IT services to get our small group of PC’s networked and get us “online”. Later, when I showed some flair for speaking in front of people, my role was expanded to include customer training. Along the way we also designed some products such as the HydroSense, DataView and their successors.



When our organisational needs increased I started managing a small team and I took on the job of finding and implementing a company-wide ERP system to help track all of our quotes, orders, invoices and work orders. In more recent times, my role has expanded to that of operations manager since I have an understanding of all of our different business functions and can identify with the problems faced by each of our team.

I may have started with this company with no experience, but in 20 years I certainly have been exposed to a great variety of different tasks, tricky measurement puzzles and a wonderful group of people. I have learned many skills that I never would have expected, sometimes under a great deal of pressure, but as a lifelong learner I have loved it. I look forward to what’s coming in the future - it looks like we’re in for a great ride.



VISIT TO CAMPBELL SCIENTIFIC SOUTH EAST ASIA AND INTERMET ASIA 2016 – STEVE BAILEY

Last month I took the opportunity to visit Bangkok where I had three days of meetings with Greg Bangerter from CSI together with Jeep and his staff from CSSEA. It was great to see the progress of the newest CS affiliate and to meet with one of CSSEA's major customers, GISTDA of Thailand. CSSEA was recently successful in winning a large tender for supply of weather stations and flux systems to GISTDA (Geo-Informatics and Space Technology Development Agency) where CS equipment will be used to ground truth satellite information.

Greg, Jeep and I then travelled to Singapore for the Internet Asia 2016 Conference where we were joined by Joshua Campbell, CSI's VP of Sales and Marketing. Joshua gave an excellent opening keynote presentation on Agro-Meteorology on the opening day of the conference. Joshua was also joined on the opening day keynote speaker's panel by Brian Day, CEO of Campbell Scientific Canada and Chairman of HMEI, who gave a keynote presentation titled "Partnership based on Trust – the cornerstone of the future."

The Internet Asia conference contained some excellent and informative presentations and offered a great opportunity to catch up with suppliers and major customers in the Southeast Asian region as well as spend time with Andrew Chan, CEO of our Singaporean distributor WETEC together with Mr Lim, and Mark Chan of Kizentec in Singapore.

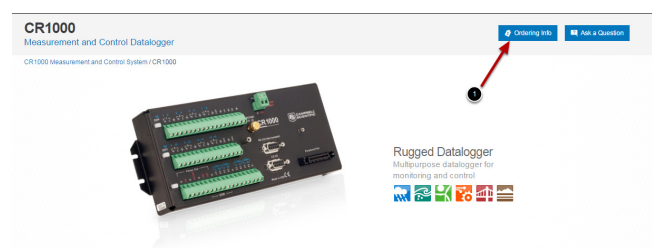


WEBSITE UPDATE

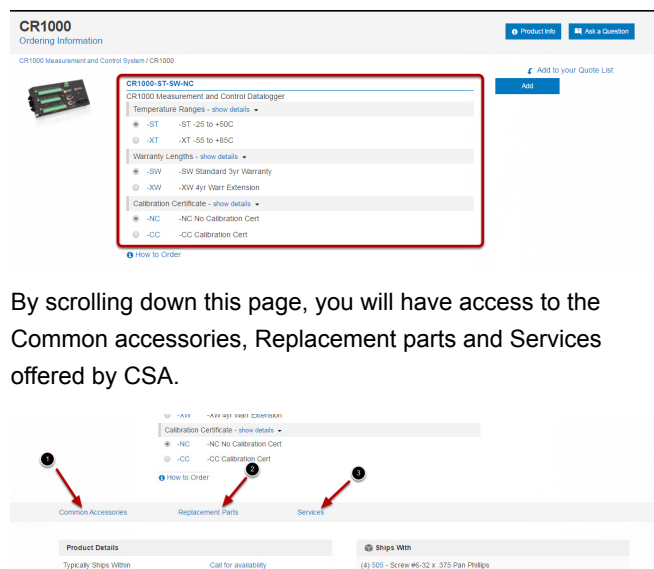
ORDERING TAB

We have recently added a new functionality on our website to present all the different options such as signal outputs or measurement range available for our equipment.

On every Product page, you will now find an Ordering Info access button.



By clicking on it you will see the different options available for the item that you have selected. Some options also come with extra information, which is accessible by clicking on *Show details*.



By scrolling down this page, you will have access to the Common accessories, Replacement parts and Services offered by CSA.

Thanks to this new feature, you can build detailed quote requests from our website and check which options are available to you. Please note that the options, accessories and services presented are specific to the areas that CSA serves.

ORDERING SOFTWARE

DOWNLOAD OPTION

In an effort to make software purchases easier, you can now simply download your software solution for your applications including LOGGERNET, RTMC, CSI Webserver, LNDB, VISUALWEATHER, Etc.

The process is as follows:

- Place your order via the 'ordering info' and subsequent 'Add' button on our website. The software should then appear in your order cart.
- After finalising your purchase, select 'request a quote' and one of our team will respond to your request.

Alternatively Contact us on : info@campbellsci.com.au or +61 (0)7 4401 7700

At the point of finalising your order, the chosen software item will be appended with a -D option for Download. If you would prefer to download AND receive a physical CD copy of your software, simply select the -DD option.

- Upon ordering you will be sent the serial number and activation key.
- Your software will then be available to download to your PC by a link provided in the example email as shown below:



Dear [REDACTED],

Software Distribution of Campbell Scientific Australia Pty Ltd recently purchased software from Campbell Scientific, Inc., on your behalf. You can download this software using the link below. This link will be active for the next 5 days. If you do not download the software before the link expires, please contact [Software Distribution](#) to receive a new download link. Campbell Scientific Australia Pty Ltd can help you with future upgrades and questions regarding this software.

Software: LoggerNet
Key: LGRNET
Serial: [REDACTED]

[Download Your Software >](#)

Regards,
Campbell Scientific, Inc.

A Download link will typically remain active for five days. If you need to access the download link after it has expired, simply contact our office for assistance.

- Our software licence policy has not changed and an individual licensed copy is still required for each computer.
- Upgrades are available from previous software versions at a reduced cost.
- Multiple licence purchase discounts may also be available. Contact our office for details.

The benefit of the availability of direct download for CS software will save you both time and money when compared to the traditional model of having to purchase a hard copy.



CS BLOG

Have you had a chance to explore our new blog yet? The Campbell Scientific Blog was designed with you in mind, offering technical tips and expert advice to expand your knowledge, answer your questions, and help overcome your measurement challenges. Our blog authors are highly trained in their respective fields and will supply you with expert knowledge based on hands-on experience.

Whether you are just starting out in your career or are a seasoned professional, you are always welcome to read the blog articles, ask questions, and share your comments. To find articles that may interest you, use any of these tools in the right-hand column:

- To read another blog article similar to one you're currently viewing, check to see if there is a Related Blog Articles section. If so, click one of the blog article links.
- To read more blog articles on a particular topic, click the applicable link in the Blog Topics section.
- To find blog articles with a specific keyword or keyword phrase, use the Search the Blog field.
- If you don't find a blog article for a topic you'd like to learn more about, use the Suggest an Article field. Let us know which topics are most helpful to you.

You can subscribe to the blog and receive email notifications when new blog articles are published on topics that interest you. To select your topics and subscribe, click the Subscription Options button on the right side of the blog home page.

The Campbell Scientific Blog is a new resource that will continue to grow as new articles are regularly added. We hope that you visit the blog often and consider it a valuable resource, helping you feel more knowledgeable and ready to make the measurements that matter most to you.

NEW PRODUCTS

CR300

Campbell Scientific, has designed and manufactured research-grade measurement instruments for over 40 years. They have recently released an innovative new data-acquisition product: the **CR300 measurement and control datalogger**. The CR300 has many of the best capabilities of full-size Campbell Scientific dataloggers, with the smaller size and price of Campbell's compact dataloggers.

Kevin Rhodes, Campbell Scientific's product manager for the CR300 said, "A nice part about the CR300 is that, from a user's skill-level standpoint, it is not so different from our other dataloggers, so the learning curve is very small. Integrators can capitalize on their knowledge of CRBasic and our other popular dataloggers for use with this lower-cost datalogger."

The CR300 datalogger was developed based on customer feedback, especially from customers who embed Campbell Scientific dataloggers in their own products. It is a step up from Campbell's earlier low-cost, compact dataloggers because of its much richer CRBasic command set and serial communication capabilities, and its on-board compiler that can handle large, complex programs.

The CR300 is the same size as the earlier compact Campbell Scientific dataloggers, so it can be a drop-in replacement. It is also the first Campbell datalogger that can measure 4 to 20 mA sensors natively.



The CR300 is the best-value datalogger Campbell Scientific has ever built. It has a 24-bit analog to digital converter, a high-speed processor, and a micro-USB port. For communication, the CR300 has full PakBus capability, making it an important part of your network. There is plenty of non-volatile flash memory for storage.

The CR300 is supported by Campbell Scientific's LoggerNet software, which includes a point-and-click program generator, and a network planner for graphical layout of devices.

Campbell Scientific's history of developing innovative products began in the 1970s, as one of the first to offer low-power, high-precision dataloggers for use in the field. The company has developed increasingly powerful dataloggers to satisfy customers' measurement needs. To date, Campbell Scientific has manufactured more than 300,000 dataloggers.

Campbell Scientific has a reputation as a worldwide leader in dataloggers, data-acquisition systems, and measurement and control products. To learn more about Campbell Scientific, Inc., or to ask questions of the company's highly trained technical and sales support team, please visit www.campbellsci.com.au.

SIMPLIFY REMOTE DATA COLLECTION WITH PAKBUS® ROUTING.

PakBus® Routing is a new service being offered to clients with Campbell Scientific dataloggers. The service allows clients running Campbell Scientific LoggerNet software to easily connect to their IP enabled dataloggers via a PakBus® Routing server hosted by Campbell Scientific Australia. Communicating via our dedicated PakBus® Routing server removes the hassle of clients having to configure IT infrastructure to access their station data, plus it eliminates the communications issues commonly associated with Australian industrial modems.



Once connected via PakBus® Routing, clients can configure their LoggerNet software for remote scheduled data collection to provide a simple, reliable method of communicating with their Campbell Scientific dataloggers.

PakBus® Routing is priced on a per station basis, with the ability to select 12, 24 or 36 month pre-paid plans. Available for new dataloggers or existing stations without an IP connection, Campbell Scientific can also provide industrial modems* pre-configured for PakBus® Routing.

For clients with existing IP enabled dataloggers wanting to use our PakBus® Routing service, contact Campbell Scientific today to discuss your requirements with one of our Application Engineers.

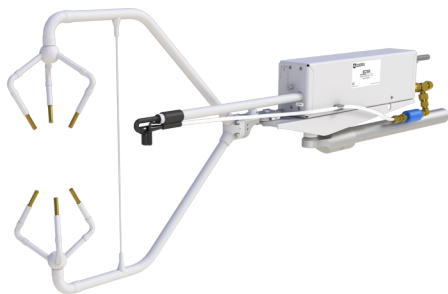
*Client to provide standard Telstra data sim card for the modem

NEWLY DESIGNED EC155 & CSAT3A

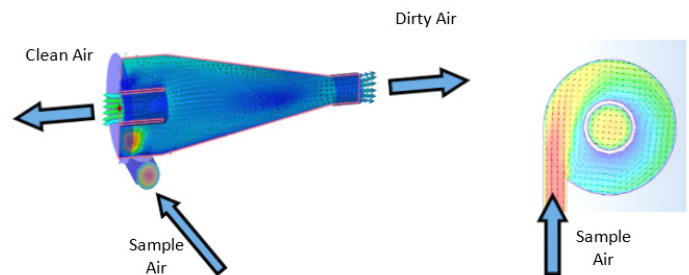
NEWLY DESIGNED EC155 AND CSAT3A REDUCE MAINTENANCE AND IMPROVE MEASUREMENTS

Campbell Scientific recently added several improvements to our EC155 Closed-Path CO₂/H₂O Gas Analyzer and CSAT3A 3D Sonic Anemometer. The EC155 with the CSAT3A anemometer simultaneously measures absolute carbon dioxide and water vapor mixing ratio, sample cell temperature and pressure, and three-dimensional wind speed and sonic air temperature. The EC155 and CSAT3A are components of our CPEC200 Closed-Path Eddy-Covariance System, which also includes the sample pump, datalogger, optional valve module, and optional scrub module to provide a zero-air source.

The newly designed EC155 incorporates vortex technology for reduced maintenance, an absolute pressure sensor in the sample cell for more accurate measurements, and a sample cell with improved corrosion protection. The revised CSAT3A has a more aerodynamic and rigid design for better sonic temperature measurements and more streamlined mounting.



The patented vortex technology is a significant advancement in flux measurements. It reduces maintenance by supplying clean sample gas to the analyzer sample cell. The process pulls ambient air through a rain diverter intake and into the vortex. The vortex flow swirls the denser particles to the outside of the cone and out through the bypass flow. The particles are then collected downstream in a large filter. Clean air is drawn from the center of the vortex and delivered to the sample cell.



These views of the vortex intake show how particles are separated and clean air is pulled from the center of the vortex and allowed to continue on to the sample cell.

Campbell Scientific continues to be highly enthused and engaged with our customers measuring fluxes. We hope these recent advances will propel efforts to understand the interactions between biogeochemical processes, climate change, and ecosystem science.

VWAnalyzer: NEW FIELD-READY VIBRATING-WIRE ANALYZER:

In December 2015, Campbell Scientific released the VWAnalyzer, the best vibrating-wire field reader available. Vibrating-wire technology is used in many sensors, including strain gages, pressure transducers, piezometers, tiltmeters, crack meters, and load cells. These sensors benefit a wide variety of structural, hydrological, and geotechnical applications.

The VWAnalyzer is field ready to quickly measure any vibrating-wire sensor, save the data, and communicate results. Measurements are geo-located with the integrated GPS, allowing the VWAnalyzer to verify locations and direct you to your sensors. A large color display and easy-to-use menus let you see and understand how the sensor is working, troubleshoot sensor installation in the field, and get real-time results of system performance. The VWAnalyzer also creates custom PDF reports and spreadsheets that can be quickly transferred with a USB connection.

The VWAnalyzer uses Campbell Scientific's patented vibrating-wire spectral-analysis technology (VSPECT) to provide the best vibrating-wire field reader available. VSPECT filters noise allowing the sensor signal to be clearly identified for a high-resolution measurement (0.001 Hz).

The VWAnalyzer fulfills a unique niche for our VSPECT family. With its large color display and VSPECT, you know you are getting the best measurements possible both in the field and office. The VWAnalyzer promises to be a valuable new addition to our VSPECT family.



CASE STUDY

SENTINEL VISIT

Sentinel Pty Ltd, an Australian based environmental services company, manages the flood monitoring network for the region around Australia's capital city, Canberra. The network of monitoring stations transmits data and predetermined water level changes at scheduled intervals to the Australian Bureau of Meteorology and the National Capital Authority (NCA).

Sentinel Pty Ltd are currently in the process of upgrading the NCA flood warning network, with a number of Campbell Scientific ALERT121A canisters. The new ALERT systems installed to date are Advanced ALERT Field Canisters consisting of a CR800 data logger, AL200 ALERT2 and ALERT1 Encoder, Modulator and Sensor Interface, an SD125 radio and a NextG modem, to provide a secondary form of communications from the stations. Data from these ALERT systems are transmitted over the 151.5MHz frequency band, using the ALERT protocol. This data is then received into the Australian Bureau of Meteorology's Enviromon software, whilst simultaneously, the complete measurement data is transmitted over NextG to LoggerNet software using Campbell Scientific IP callback.

Jordan Marano, an Application Engineer from Campbell Scientific Australia, recently visited the Sentinel offices to train and assist their staff with a number of new installations as well as conduct existing site upgrades. The visit also provided an opportunity to further enhance the CRBasic ALERT program to make it more configurable and user-friendly.

The first day of the visit was spent meeting with staff and modifying the program to include configuration options, that Sentinel have identified as being useful based on their field experience so far. The following three days were spent on site visits either performing upgrades on existing CS ALERT installations or upgrading older generation OEM ALERT equipment with Campbell Scientific solutions. The new ALERT121 canister from CSA simplified the upgrades significantly due to a similar physical design and pin for pin connector compatibility. With the exception of some new modem issues, the site visits went smoothly with all ALERT messages being transmitted.

This site visit was extremely beneficial for both parties, with the collaborative effort between Campbell Scientific and Sentinel, providing rapid development of their program as well as training, real time feedback and bug fixing in the field with a Campbell Scientific Application Engineer.



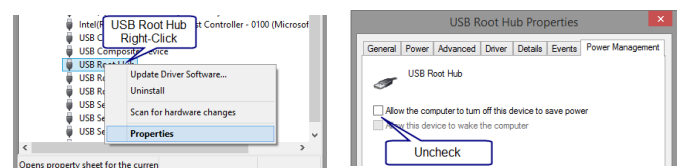
TECH TIP: USB



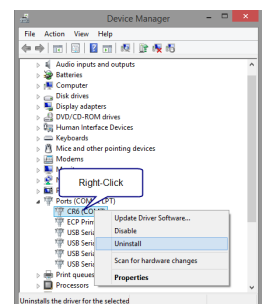
USB is everywhere. It's how you charge your mobile phone, download photos from your camera, and now, how you connect to your Campbell Scientific dataloggers and other hardware. Most of the time you don't have to think about it at all; it just works. Today I'm going to give you a few things to check if you ever bump into the dark side of USB.

1. Connect the computer end of the cable directly to your computer, not through a hub. Always connect to the same USB port on the computer.
2. If your USB connection has been working but now isn't, physically disconnect and reconnect the USB cable. If that doesn't fix the problem then restart your computer.
3. Physical ports on the computer often run through an internal hub. Disabling power savings on this device can avoid some problems. In your computer's Device Manager, right-click on the USB Root Hub in the list of Universal Serial Bus controllers. Then select Properties and the Power Management Tab. If checked, uncheck the option to "Allow the computer to turn off this device to save power."

4. Use a cable without any choke points or lumps.
5. With a new datalogger or other piece of hardware, install the USB driver before connecting it to your computer. (For help, read the "Tips and Tricks: Who's Driving?" article or watch the "CR6 Datalogger | Driver Installation" video.



6. If all else fails, uninstall the driver and reinstall it from the latest version of the Device Configuration Utility. To uninstall a driver you will need to right-click on the device in the Ports list shown in your computer's Device Manager.



USB is here to stay. I have a good feeling about this.