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ARGUS ADVISOR

News for Argus Control System Owners

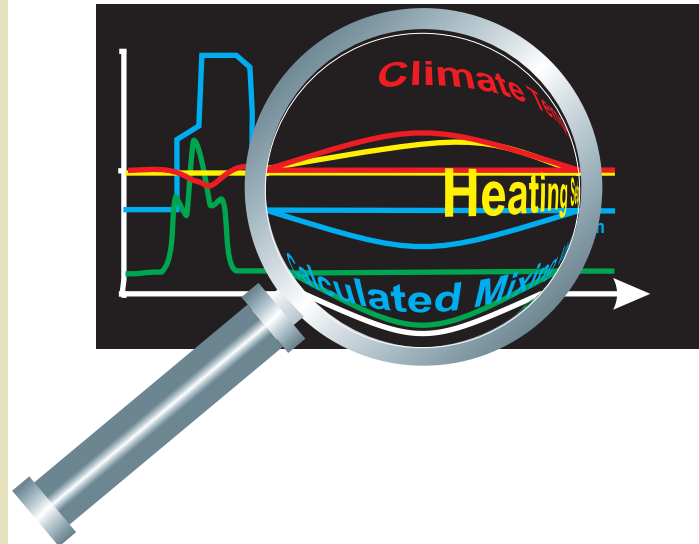
In this issue of the Argus Advisor we discuss a number of separate topics including changes to the start and end of Daylight Savings Time, and the new Vista operating system release from Microsoft.

Our feature article is on the use of data recording for diagnostic purposes. Since the Argus control system bases most of its decisions on sensor information, your sensors must be properly located, connected, and calibrated before you can rely on the information they provide. Using your system light sensor as an example, we look at some techniques you can use to confirm proper operation. Remember, when your readings don't make sense, **sensor calibration is always the last thing you should consider.** Check everything else first!

Lastly, in an era where the 'hidden charge economy' has become the norm for many businesses (check your cell phone contract) we are trying our best to maintain our long established levels of customer support while still remaining competitive. Naturally, there are limits to our capacity to provide these services, so we have outlined our customer support policy on page 4 of this newsletter.

Alec Mackenzie

Be a Data Recording Detective



In past issues of the Argus Advisor we have discussed sensor selection and the use of monitoring and alarms to warn you of potential problems with your control system, your equipment, and your controlled environments (see Argus Advisor back issues Winter 2004 and Summer 2005 at www.arguscontrols.com).

While alarms are great for detecting many out-of-bounds conditions, you often need recorded data to spot the more subtle and complex problems. Each recorded value leaves behind it a 'trail of evidence' that can be examined later to put together a case for whether a control component is functioning as intended.

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Take Control With Argus

The great thing about recorded data is you can see the combined effects of all your settings, sensor measurements, and equipment behaviour. Whenever the results are not what you expect, you should then review your control settings and check your equipment to look for possible problems. The following is just one example of how you can spot a problem using recorded data.

The Case of the Tilted Light Sensor

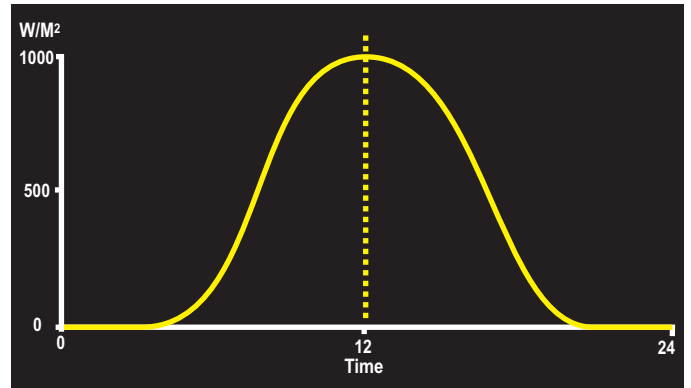


Accurate outdoor light measurement is used in many automatically controlled processes on your system including heating, ventilation, and irrigation. Current light radiation measurements are an important component of energy balance calculations that determine the correct amount of heating or ventilation response to apply.

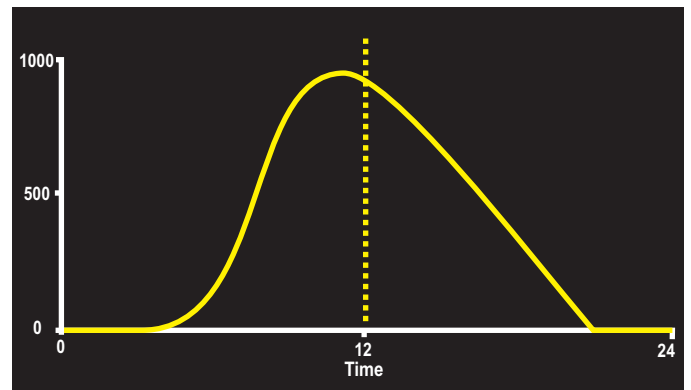
Pyranometers like the LI-COR sensors supplied by Argus are highly reliable. Most problems associated with light readings are almost always due to dirt, wiring faults, and positioning problems. Although sensor failure alarms will detect some types of wiring problem or failed sensors, they usually won't pick up a positioning problem since the reading values produced by the sensor will be within the normal operating range.

On a cloudless day, no matter what time of year, a light sensor that is mounted level and free from obstructing shadows should produce a nice bell-shaped data curve from sunrise to sunset. Both sides of the bell should be symmetrical and the peak should occur in the center, at around noon standard time.

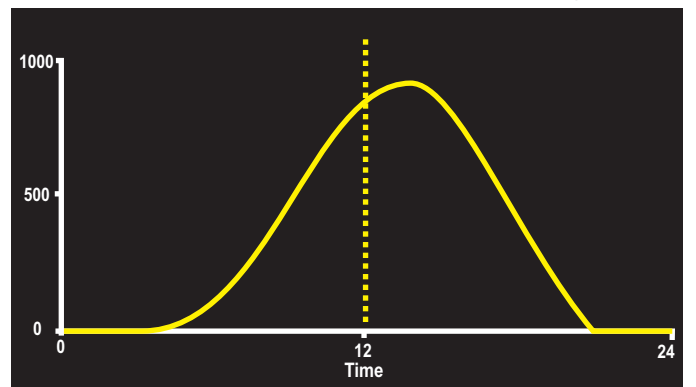
Below is a graph of a clean, properly positioned sensor on a cloudless day in summer:



If the bell appears distorted towards the morning, then the light sensor is probably tilted towards the east:



If the peak is significantly below 1000 W/m² in mid-summer, the sensor may be pointing



towards the north (in the northern hemisphere). If higher, it may be tilted towards the south. If the sensor reading is still suspect after you have confirmed that it is level and clean, then field or factory calibration may be in order as per the manufacturer's specifications.

New Daylight Savings Time Changes

In 2007, Daylight Savings Time in Canada and the US will begin on the second Sunday in March and end on the first Sunday in November. These dates are different from previous Daylight Savings Time start and end dates. In 2006, the dates were the first Sunday in April (April 2, 2006) and the last Sunday in October (October 29, 2006). This change originated from the US energy Policy Act of 2005 that mandated an extension of Daylight Savings Time starting this year as a means of reducing energy consumption nationally. It is believed that creating more 'daylight' hours in the evenings will help reduce domestic electrical consumption. Canada has followed suit and both countries will change this spring (check with your local state or province as there may be some exceptions).

The Argus system has settings for automatically adjusting the control system time. If you live in an area that is affected by the new times, you will need to make a one-time adjustment to the new changeover times. From then on, your system will automatically adjust the time on these new dates.

For Argus Classic systems, select the **Set Clock Date/Time** menu entry and change the Daylight Savings Start and End Times. Make sure that **Daylight Savings Time** is also selected for automatic time adjustment as shown below:

Daylight Savings Time Daylight Savings Starts 2nd Sunday March
 Daylight Savings Ends 1st Sunday November

For Argus Titan systems, select the **Program Manager** from the **Access Point** controller and select **System Clock and Regional Settings** to make the adjustments to the changeover dates:

LOCAL DAYLIGHT SAVINGS SETTINGS
 Use Daylight Savings Time
 Daylight Savings Status Standard Time
 Daylight Saving Begins on the 2nd Sunday of March (11)
 Daylight Savings Ends on the 1st Sunday of November (4)

Converting Total Light Radiation to PAR Values

We are often asked how to convert from total radiation (W/m^2) into photosynthetically active radiation or PAR (μE). Direct conversions are complicated since PAR sensors measure the number of photons in the 400 to 700 nm waveband and pyranometers, such as the outdoor light sensor on the weather station, measure full spectrum light energy. In other words, they 'see' different components of the light spectrum. Although the most accurate method is to use a PAR light sensor, a rough conversion from W/m^2 to μE is possible if you know the source of the light energy. Here are some conversion factors as published by LI-COR:

To convert from W/m^2 to μE (PAR)

	Sunlight	Metal Halide	HP Sodium	Mercury	Cool Flourescent	Incandescent
Multiply by:	4.6	4.6	5	4.7	4.6	5.9

If you ever need to display or use the approximate PAR value for outdoor light on your control system, you can do this quite easily in a Math Matrix program by multiplying the current outdoor light reading by the conversion factor for sunlight.

Note: μE (microEinsteins) are equivalent to μmol (millimoles), the standard SI unit for PAR light measurement.

Argus Customer Support Policies

Since the beginning, Argus has offered telephone and dial-up support for its systems at no additional charge. This was included when you purchased your system and the support we provide applies to your control system as it was originally configured and for the applications that it was originally programmed for.

Therefore, if you have an out of warranty problem such as lightning or fire damage, we reserve the right to charge for our service time as well as any parts that require replacement. This is really no different than the standard time-and-materials charges that are applied for any type of equipment repair or replacement.

Likewise, design, configuration, and commissioning charges may apply for significant changes to your original hardware configuration, or your controlled applications, since these services were not part of your original purchase agreement.

These costs are normally included whenever we quote hardware upgrades and expansions. However, there are occasions when you may

request services that don't involve new hardware. If they require considerable amounts of technical assistance, service charges will apply.

As most of our customers already know, in practice, we are generally very lenient in applying service charges and only do so when the requested services are substantial, and the changes are well beyond the scope of your original system specification. Accordingly, we will always let you know beforehand if the assistance you are requesting will require a fee for service.

Our intention has always been to provide technical advice and support at no additional charge during the installation, setup, and training phases, and for the routine operation of your system thereafter. Although the cost of providing this level of support may place us at a competitive disadvantage, we believe strongly in the need to stand behind our products and to help our customers to get the most value from their Argus systems.

Microsoft Vista and Argus

Microsoft will soon begin selling its newest operating system release 'Vista'. Microsoft has spent 5 years and six billion dollars developing this product! In addition to a whole new 'look', Vista incorporates numerous improvements to security, user login access and other features. Microsoft has also focused on current software compatibility issues and hardware driver compatibility to help make migration to the new operating system easier. Even so, Microsoft could not test for all possible compatibility issues.

Even though most professional reviewers like what they see, many are advising a very cautious deployment because of compatibility issues that are still coming to light as more users change to the new operating system. We agree with a cautious approach until the inevitable rush of initial release problems are sorted out.

Over the last year, we have evaluated versions of the Argus program running on Vista and we have identified some issues arising from the new security and user access restrictions. We have also developed some workarounds that should allow you to run your existing Argus program on Vista, if needed. However, we recommend that if possible, you do not upgrade your Argus PCs to Vista until we have released versions of the Argus program that have been specifically optimized for it. Look for these updates in future releases of the Argus program.

Please check our website:
(www.arguscontrols.com) for the latest information regarding Vista and Argus systems.



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