Technical Update

Data Logging solutions for level and flow measurement

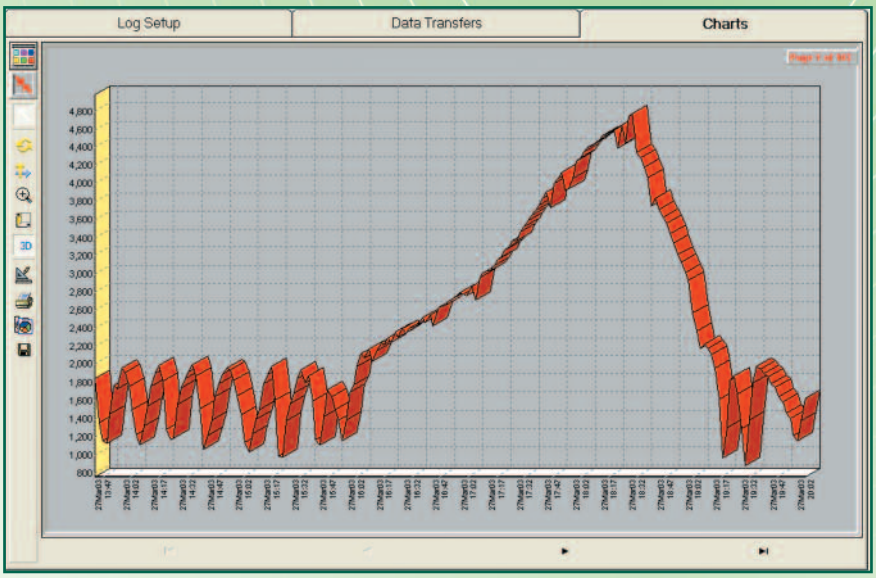
PULSAR
Process Measurement

A powerful integral data logging solution is now available for Pulsar's *Ultra 3 and 5* when used for open channel flow and level measurement applications. An optional logging feature can be used to record level or flow rate information together with other variables and to "date and time stamp" the data. Data logging is available for the wall or fascia mounted versions

The unique **blackbox 136 CSO** level and event logger also incorporates this same internal data logging package as standard.

Logging software gives programming and download options. Two versions are available dependent upon hardware.

***Ultra* Log** software is used with *Ultra 3 and 5 units*; typical applications include the recording of flow rate or level information in open channel applications, historical analysis of material stock usage or pump control/station performance. A substantial logging memory capacity of 256Kb along with flexible time integration periods allows custom calibration in each case.



Log chart showing typical logged values

CSO Log software, used with blackbox 136 CSO, provides all the above features and in addition can be set up to log with a two-stage logging frequency at pre-set levels to ensure any event is captured in it's entirety. The blackbox 136 CSO also features the CSO Log software battery life calculator. This enables battery life to be calculated depending upon battery capacity, measurement interval and the transducer in use.

Both versions of the software allow echo profiles to be viewed, recorded and played back and programming parameters to be transferred to and from the unit in use. Units may also be "cloned" to have identical programming. PC connection is via standard RS232 port (RJ11 socket) in each instrument. The number of days of logging capacity depends on the parameters recorded and all versions display the number of available days until the log memory fills (see table below). Once memory is full data may be set to stop recording or to overwrite the earliest data ("log-wrap") as desired.

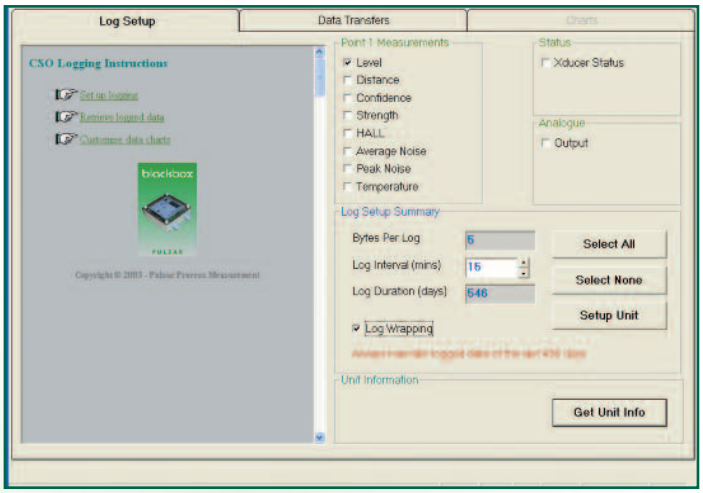
Large memory, site and parameter dependent, means Pulsar's data logging solutions provide ultimate flexibility from a world leader in ultrasonic level/flow technology.

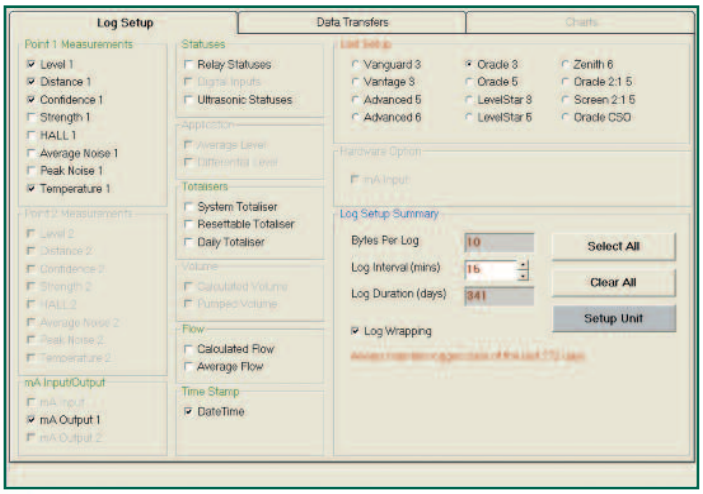
Table 1: This table gives an indication of the number of days logging is available for a variety of logging intervals and number of elements logged (ElephantUltra).

		Interval (mins)				
Logged elements (date and time always recorded)	**Bytes/log**	**5**	**10**	**15**	**30**	**60**
Level or flow only (log wrap off)	5	228	455	683	1365	2731
Level or flow only (log wrap on)	5	181	363	545	1091	2184
Level, Average Noise, Temperature (log wrap on)	7	129	325	488	975	1559
Level, Confidence, Average Noise, Temperature, mA output, Relay and ultrasonic status, daily total (flow app), average flow (flow app), log wrap on	17	53	106	160	320	642

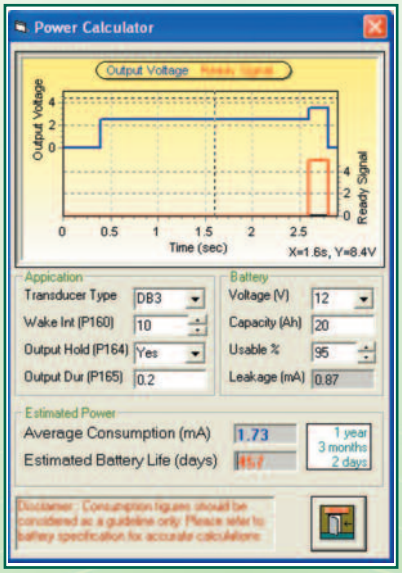
Days until log memory fills

Pulsar Process Measurement Ltd., Cardinal Building, Enigma Commercial Centre, Sandy's Road, Malvern, Worcs WR14 1JJ
Tel: +44 (0) 1684 891371, Fax: +44 (0) 1684 575985 e-mail: info@pulsar-pm.com, website: www.pulsar-pm.com
Pulsar Process Measurement Inc.
P.O.Box 5177, 4565 Commercial Drive, Suite 105 Niceville, FL 32578, USA
Tel: +1 850 279 4882, Fax: +1 850 279 4886, info.usa@pulsar-pm.com



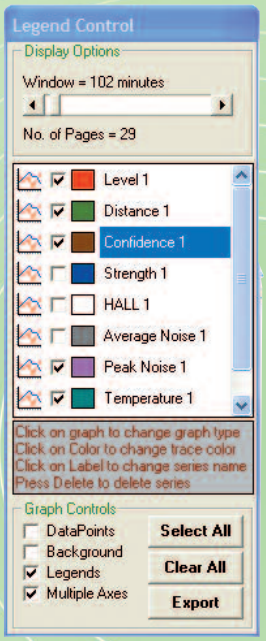


The set-up screen in "***Ultra* Log**". Elements available for logging will vary depending upon the mode selected, for example instantaneous flow is only selectable in Open Channel Flow mode.

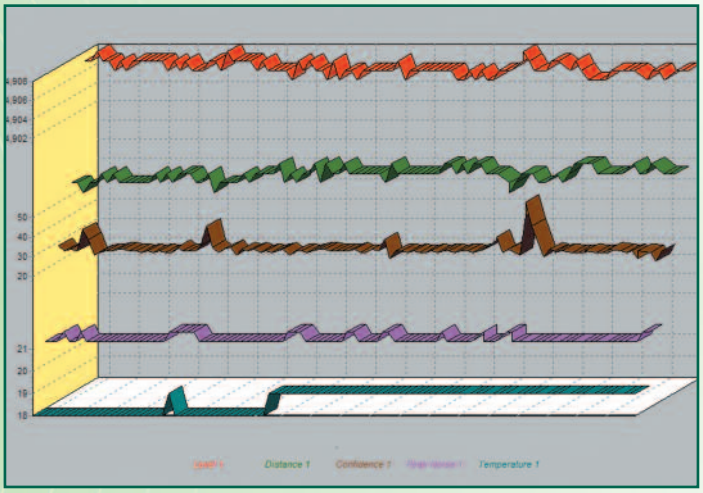


CSO Log power calculator gives you a straightforward way to decide the right battery to use. Here, a blackbox 136 CSO with a dB3 transducer on a 10 minute wake-up interval provides an impressive 457 days battery life using a 12V, 20Ah battery

- See the history of the process "at-a-glance"
- Fewer site visits for downloads
- Identify process problems and trends
- Prove operation within limits, for example for flow consents
- Easy programming
- Clone several units with the same programming
- View echo profiles



Data may be charted on multiple axes so you have a complete picture of the site at a glance. The time period in view, the colours and styles of the traces and the elements to be viewed are all user-definable. The Legend Control (left), also provides options for exporting data in .csv format.



Lit No: TU003L R1b 9/07