

DATA SHEET

Amperometric free chlorine/Bromine, pH and redox control system, galvanically isolated pH and redox probe, resulting in ultra stable readings with minimum intervention required by the user. Current and historical data for up to two years is available from the "cloud" from your PC, tablet or mobile phone, when the unit is connected to the internet via the optional remote access device either by an ethernet cable or GSM modem.

The TEC4000 is the most advanced reliable chemical controller available in the UK with unrivaled on site or remote technical support. The unit is supplied mounted on a backboard, with free chlorine probe, pH probe, redox probe and primary flow switch.

The TEC 4000 enables you to monitor, control and manage your facility and safely achieve accurate chemical levels. It also fully supports current European standards, so you can easily adopt these without the need for an expensive upgrade.

The controller, including our sample cell with integrated flow switch, is supplied factory mounted or an acrylic backboard to aid installation. Each unit is commissioned free of charge and covered by a 10 year warranty (standard 12 months) when a routine 12 month service including parts is carried out by a Topline Engineer.

Data Logging The TEC4000 internally stores and records the free chlorine, pH and Redox levels, alarm conditions and operator changes for 28 days. This data is also available over the internet when the optional remote access device is purchased and enables the operator and maintenance engineers to review the performance levels of the pools to help diagnose problems and to help improve water quality.



- Colour touch screen gives you access to all controller functions
- Ease of use with a simple menu structure in plain English
- Reliable probes with a 12 month warranty extended to 10 years when the unit is serviced by Topline Electronics Ltd.
- Six weeks data logging of user actions, events and chemical levels accessed on screen
- Redox monitoring to meet current European standards
- Full proportional control of the dosing pumps
- Time out overfeed and protection against no flow
- Programmable codes to restrict access to designated operators
- Flocculent and agitator timer control
- Manual override facility of dosing pumps and ancillary items
- Primary flow switches supplied has standard with optional secondary flow switch.
- Interfaces to include RS485 modbus RTU slave and master, USB port and 0-10v BMS output for free chlorine, pH and redox
- Programmable input / output to warn of empty day tanks or to disable the dosing pump in the event of empty day tanks.

Energy Control System

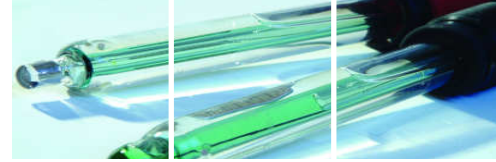
As an optional extra an inverter can be added to the TEC 4000. The inverter is linked to the controller via the RS485 modbus RTU master output, which is then used to control circulation pump speed. This has been designed to help reduce your energy consumption – saving up to 50% on your electricity bills.

- Circulation pump speed is reduced when chemical levels are acceptable
- Circulation pump speed is reduced during off-peak periods

Based on typical energy costs in 2015, our calculations indicate that savings of up to £6500.00 on a 25 meter pool can be achieved over a full twelve months. As energy costs are to continue to rise, the Topline Energy Control System could prove a valuable asset that soon pays for itself.



TEC 4000



TABLET COMPUTER

Each TEC 4000 can be supplied with its own tablet computer. The interactive video manual can then be viewed whilst in front of the controller, the video manual demonstrate all user interactions. The tablet controller will also allow the viewing of the controllers data via the optional remote access device.



For the TEC4000, Topline have developed a new amperometric cell design. The glass probe now contains all three electrodes which will significantly reduce offsets caused by changes to the TDS and pH of the water being controlled. All three probes are housed in a single chamber to improve the internal flow characteristics and improve access to the cell for cleaning and maintenance. In the event of circulation loss, the TEC4000 is also supplied with the option of a secondary no flow sensor. The first sensor is located within the cell and the second is to be installed prior to the chemical injection points.



TECHNICAL DATA

Dimensions	Width 365mm, Height 643mm, Depth 110mm
Weight	6kg
Power Requirement	240 VAC single phase 50 Hz.
Power Consumption	30 watts (excluding feeders)
Operating Temperature	0-50 degrees centigrade
Enclosure	Metal IP54
Front control panel	Polyester membrane
Display	Graphic LCD VGA 640 * 480
Chlorine sensor	Amperometric 3 electrode system Measuring range 0-40 mg/l
pH sensor	Glass with internal reference Measuring Range 0-14 pH
Redox	-2000mv to +2000mv
Inputs	Dual flow sensors Touch screen display Two programmable inputs RS485 modbus RTU slave

Outputs

- Chemical feeder outputs are 3 x 240 VAC 2 amps switched
- Chlorine or Bromine, Acid and Alkali
- External Alarm Voltage free no / nc contacts
- USB Port
- RS485 modbus RTU master
- BMS output 0-10v pH, chlorine and redox
- Timed 240 VAC 2 amps electric agitator
- Timed 240 VAC 2 amps flocculent
- Non Volatile real time clock
- Energy Control System (option)
- Datalogger



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