POOL CHECK® i

Digital Test Strip Analyzer

Revision 06/04/12
Kit Part #481700-K

Instruction Manual

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Pool Check®i is Manufactured and tested in an ISO 9001 Facility

POOL & SPA NEWS
Readers' CHOICE 2012

Pool Check®i Reorder Information

Pool Check® i Analyzer (bulk) . . . . . #481700
Pool Check® i Analyzer (kit) . . . . . #481700-K
Pool Check® i Analyzer (case of 10 kits) . #481700-K-10
Pool Check® i Pro 3, B100 (loose). . . . . #481703
Pool Check® i Pro 3, B100 (case of 6) . . . #481703-6
Pool Check® i Pro 6, B100 (loose). . . . . #481706
Pool Check® i Pro 6, B100 (case of 6) . . . #481706-6
Pool Check® i Pro 6 Control Strip . . . . . #481702

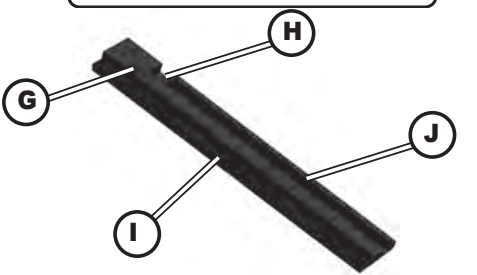
Manufactured By: Industrial Test Systems, Inc.
1875 Langston Street, Rock Hill, SC 29730 USA
Phone: 1-800-861-9712 - *INSIDE THE U.S.*
1-803-329-9712 - *OUTSIDE THE U.S.*
Fax: 1-803-329-9743
ITS@SENSAFE.COM
POOLCHECKONLINE.COM
SENSAFE.COM

Index:

Visit us online at **poolcheckonline.com** for up-to-date product information.

Pool Check®i Digital Analyzer

ITEM PICTURED LETTER	COMPONENT NAME
A	LCD Display
B	Cover
C	Reset Slot (Hole on Back Side)
D	Capacitive Touch Keys
E	Strip Track (Plastic)
F	Mini USB interface
G	Home Sensor (Metal Dot)
H	White Calibration Pad
I	Gear Track
J	Test Strip Slot



Pool Check®i Digital Analyzer Technical Specifications

Test Principle:	Light Reflectance
Light Source:	Light Emitting Diode (LED)
Display:	Liquid Crystal Display
Keys:	Capacitive Touch Keys
Throughput:	60 samples/hour
Host Power:	DC 5V, 2A
Adapter Power:	AC 110V, 50/60Hz
Battery Type:	Built-in 1000mA rechargeable lithium
Instrument Life:	Up to 100,000 tests under normal care and with proper use

Instrument Weight:	160g
Instrument Dimensions:	68 (W) x 100 (D) x 27 (H) mm; (2.68 x 3.94 x 1.06 in)
Recommended Operating Limits:	**Temp:** 0 - 50°C (32° - 122°F) **Humidity:** below 80% **Pressure:** 86KPa–106KPa Keep away from strong electric (magnetic) field Avoid direct sunlight

Pool Check®i Digital Analyzer Test Range

Code	Tests for	Range	Resolution	Accuracy
TC	Total Chlorine/Total Bromine†	0 - 50 ppm	0.1 / 1 / 5	±22%
TH	Total Hardness	0 - 1000 ppm	5 / 30 / 50	±25%
FC	Free Chlorine/Free Bromine*	0 - 50 ppm	0.1 / 1 / 5	±22%
TA	Total Alkalinity*	0 - 360 ppm	5 / 20	±26%
PH	pH*	6.0 - 9.0 ph	0.1	±0.5 pH
CY	Cyanuric Acid	0 - 500 ppm	20 / 50	±30%

*These tests are used for the Pool Check®i Pro 3 test strips. R060412

Parameters calibrated at 28°C (82°F), 100-120 ppm Total Alkalinity.

pH and CY values will be over 50% low when TA is below 60 ppm and over 50% high when TA is above 170 ppm.

Accuracy reported for the average of a minimum of 6 replicates.

Best accuracy for Free and Total Chlorine above 1 ppm.

Specifications subject to change without notice.

†Multiply Total Chlorine value by 2 for Total Bromine value.

Foreword

Thank you for purchasing the Pool Check®i digital analyzer. For best results please read this manual before using the Pool Check®i. To keep up with revisions in the manual, ITS suggests that you visit our website: www.PoolCheckOnline.com

The Pool Check®i is equipped with data storage capability, but ITS takes no responsibility for data loss caused by device damage or improper operation. Opening the housing of the Pool Check®i by anyone other than ITS service department will void all warranty or after-sale service.

Warning

For best results the Pool Check®i should only be operated after reading this manual and viewing the operation procedure video on our website: www.PoolCheckOnline.com. The Pool Check®i has a calibration procedure using the SEN setting that must be completed when using a new lot of Pool Check®i Pro 6 Test Strips or when switching to the Pool Check®i Pro 3 Test Strips. Not completing this step can lead to inaccurate results.

The Pool Check®i is not waterproof, but is designed to be water resistant. Be careful that the unit does not fall into the Pool or Spa.

The Pool Check®i is a precision instrument; do not drop or expose to chemicals. Avoid leaving the unit in direct sunlight for long periods of time.

Pool Check®i Digital Analyzer Features

- Precision analyzer for field or in-store testing.
- 3 or 6 parameter test strips.
- Capacitive touch keys.
- High Quality 1000mA rechargeable lithium battery.
- Fast and reliable test procedure.

Product Application Scope

This device can be used for testing swimming pool or spa water quality. The Pool Check®i can be used with Pool Check®i Pro 3 or Pool Check®i Pro 6 Test Strips for testing these parameters:

Test Description	Pool Check®i Designation
Total Chlorine/Total Bromine*	TC
Total Hardness	TH
Free Chlorine/Free Bromine*	FC
Total Alkalinity	TA
pH	pH
Cyanuric Acid	CY

*When testing a Bromine system, the Bromine values can be determined by multiplying the TC result by 2.2.

Getting Started

Open the sturdy aluminum carrying case and verify the contents:

1. Pool Check®i Digital Analyzer
2. Instruction Booklet
3. 3 Power Cords
   a. 110 VAC USB Power Adaptor
   b. Mini-USB to 9-pin Serial Computer Cable
   c. Mini-USB to USB Cable
4. Bottle of Pool Check®i Pro 3 or Pool Check®i Pro 6 Test Strips
5. Control Test Strip

Remove the Pool Check®i and check the appearance of the instrument. Connect the AC power to the instrument. Once the cable is connected, the battery will recharge within 4 hours.

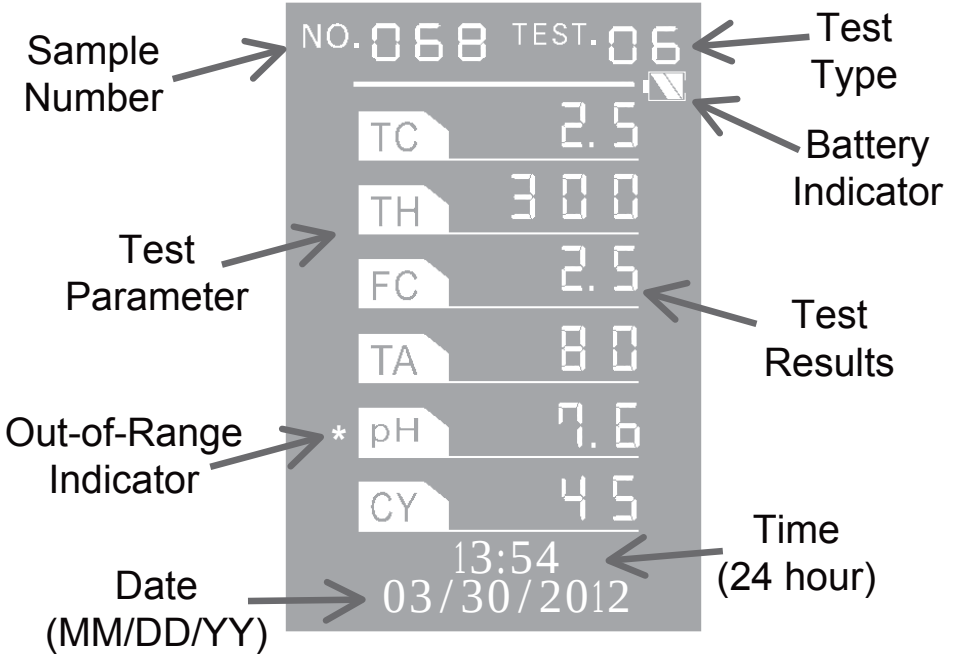
If you have any questions, please contact Tech Support at (803) 329-9712 x226. Please register your meter online at www.PoolCheckOnline.com to assure that your purchase is properly registered for warranty coverage. Visit the website for updates on software, procedures and specifications for your Pool Check®i.

NOTICE: Please do not store unit above a temperature of 86°F / 30°C and humidity of 80%, avoid corrosive gases (hydrochloric acid and chlorine tablets or liquids), dust, and strong electromagnetic environments.

Instrument Operation

Key	Function	Operation
	Tool (Set-up) Function	Press once to enter the dEL “delete all data” function.
		Press again to enter the SEN “sensitivity setting” function that allows for calibration of the Pool Check®i to a new lot of Test Strips.
		Press a third time to enter the S-r “date and time configuration” function that allows for the date and time to be set.
		Press a fourth time to enter the S-P “test configuration” function to select whether you are using Pool Check®i Pro 3 or Pool Check®i Pro 6 Test Strips.
	Main	Long press, ON/OFF.
		Short press, exit Tool (Set-up) Function or to interrupt test.
	Confirm	Short press in the main interface to start the **35 second** countdown.
		Long press during **35 second** countdown bypasses the countdown and starts analysis of the Test Strip.
		Short press to navigate in other interfaces.
	Up	Short press; number increases in 1 increment
		Long press; number increases rapidly (continuously)
	Down	Short press; number decreases in 1 increment
		Long press; number decreases rapidly (continuously)

Display Explanation



Power On Self-Test (POST)

Be sure that the meter has been removed from the carrying case and is positioned where the Strip Track has room to extend. Hold down the Main key (⏻) for about 2 seconds. The power LED will light up, and the POST interface will be displayed. The motor will start and extend the Strip Track. The POST interface will appear as shown to the left.

NOTE: Instrument will not boot if battery is low. Battery must be recharged.

NOTE: If the meter is charged and will not power on, insert a straightened paper clip in the RESET slot and press. Press the Main key (⏻) to turn on the meter. Press the Main key (⏻) once more to return to the main interface.

Power On Self-Test (POST) (*Continued*)

After the Power On Self-Test (POST) finishes, a code will appear if there is an error (see Error Codes on page 23). The error code blinks to bring attention to the user. At the same time, the instrument will generate a “DING” sound. In the image to the left, the error code is 06.

NOTICE: If an error code is shown following the POST, press the Main key (⏻) to exit the error menu.

Test Procedure

After a successful Power On Self-Test (POST), the screen will display the main interface as shown on the left. "NO. 001" means that there are currently no stored results in the instrument and the "TEST. 06" means that the instrument is set for analysis of the *Pool Check®i Pro 6 Test Strip*.

Test Procedure (*Continued*)

1. Press the Confirm key (↵) to start the 35 second countdown timer and ***simultaneously dip*** the Test Strip into a proper container of Pool or Spa water for 5 seconds without motion, being sure all pads are immersed.
2. Remove Test Strip from the water after 5 seconds have passed. Immediately hold test strip with one edge facing up. **Do not shake**.
3. Gently and briefly touch the long edge of the strip to a flat, dry paper towel to remove excess water. Only absorb the excess liquid on the edge. No effort to absorb the liquid on the back of the strip is required.*
4. Position the Test Strip in the Strip Slot and align the end of the Test Strip to the end of the Test Strip Slot. Be sure that the test strip underside lays flat on the surface of the Test Strip Slot. The instrument will automatically SCAN the Test Strip after the countdown timer reaches 0.

Test Procedure (*Continued*)

After the 35 second countdown timer reaches 0, the display will appear as shown on the left while the instrument retracts the Strip Track and SCANS the Test Strip.* This process will last for about 5 seconds. Do not disturb the instrument during this process.

**NOTE: When both the Test Strip Slot surface and the back of the Test Strip are dry, the Test Strip may shift to an incorrect position during the SCAN, which will result in improper analysis.*

When reading the dry Control Strip tilt the meter away (downward) 30° to keep the Control Strip positioned properly in the Test Strip Slot during the full SCAN. This 30° tilt can also be used for the Test Strip SCAN, if necessary.

Test Procedure (*Continued*)

After the SCAN of the Test Strip, the Pool Check®i will display your results as shown on the left. The current date is shown at the bottom of the screen.

NOTICE: At this time you can access other meter functions or press the Confirm key (↵) and begin another test.

An asterisk (*) will be displayed if the values are out of recommended ranges.

Menu	Below or Above	
TC	2.0	10.0
TH	150	400
FC	2.0	10.0
TA	80	120
pH	all values are noted with *	
CY	30	100

The pH pad should be compared to the pH colors on the bottle label for verification of the value. *Service Operator: For best accuracy, confirm pH results with an eXact® Micro 10 Photometer or pH meter.*

Data Query

Press the Down key (⮟) in the Main Interface to view the previous test result. Press the Down key again to query the data previous to that, etc. Press the Up key (⮝) to scroll back up to more recent results.

NOTICE: Press the Main key (⏻) in the Data Query Interface to return to the Main Interface. Press the Confirm key (↵) to begin another test.

NOTICE: If an error code occurs, refer to the Error Codes Chart on page 23.

Print Test Results

Not available for this instrument.

Upload Operation

This instrument can upload test data to a computer running Windows XP, Windows Vista, and Windows 7 Operating Systems to help with data management. For software download and instructions visit www.PoolCheckOnline.com.

NOTE: The uploading feature requires the COM interface and we strongly recommend you do not use a COM-to-USB switch cable.

Plug the 9-pin serial end of the cable into the computer then plug the Mini-USB end of the cable into the Pool Check®i. Turn on the meter. Start the software and follow Software Instructions to upload data from the meter.

NOTE: If you will be using the Data Management Software, DO NOT save more than 256 data points in the meter memory. Upload the data to the software, and then delete the data from the meter before collecting the next 256 data points (see "Delete All Data").

Delete All Data

IMPORTANT: DO NOT PRESS THE CONFIRM KEY (↵) UNLESS YOU WANT TO DELETE ALL DATA

Press the Tool (Set-up) Function key (🔧) once from the Main Interface. The display will appear as shown to the left and AL will be blinking. Press the Confirm key (↵). Both "dEL" and "AL" will begin blinking and the unit will generate a "DING" sound to notify you that the meter is ready to delete data. Press the Confirm key (↵) again to delete all data, or press any other key to exit.

Adjust SEN *(Sensitivity)* Settings

To calibrate the meter to a new lot of test strips, use the SEN settings supplied on the bottle label of the *Pool Check®i Pro 6 Test Strips*. Follow the directions below to adjust the SEN settings.

Press the Tool (Set-up) Function key (🔧) two times from the Main Interface. The display will appear as shown to the left and the number on the display will be blinking (the default setting is 50). Press the Up (▲) or Down (▼) arrow key to change the SEN setting for the first parameter (TC). Then, press the Confirm key (↵) which stores the TC setting and moves to the TH parameter. Press the Up (▲) or Down (▼) arrow key to change the SEN setting for the second parameter (TH). In similar fashion, continue with adjustment of the SEN Settings for FC, TA, pH, and CY. Press the Main key (⏻) to return to the Main Interface and automatically store the SEN settings. If using Pool Check®i Pro 3 Test Strips, you will only make SEN adjustments to FC, TA, and pH.

Set Time and Date

Press the Tool (Set-up) Function key (🔧) three times from the Main Interface. The display will appear as shown to the left and the hour LED will be blinking. Press the Up (∧) or Down (∨) key to change the hour. Press the Confirm (↵) key to set the hour. The minutes LED will begin to blink. Adjust the minutes in the same manner as with the hour and press the Confirm key (↵) to begin Date Configuration. Change the date Year, Month, and Day in the same manner as used above. You must press the Confirm key (↵) a final time to set the Time and Date.

Test Type Configuration

Press the Tool (Set-up) Function key (🔧) four times from the Main Interface. The display will appear as shown to the left and the current test configuration will be blinking. Press the Up (▲) or Down (▼) key to adjust the configuration. The display can be configured to Pool Check®i Pro 3 or Pool Check®i Pro 6 Test Strips. The corresponding parameters will be displayed. Press the Confirm key (↵) or the Main key (⏻) to save the configuration chosen.

Control Strip Procedure

Use the supplied **CONTROL STRIP** to verify meter performance. **IMPORTANT: Keep the pre-printed CONTROL STRIP away from water**. Match the meter SEN settings to the SEN settings on the **CONTROL STRIP** container before scanning the strip (see page 19). Place the **CONTROL STRIP face up**, lying flat and level, in the Test Strip Slot. Tilt the meter downward at a 30° angle. Press the Confirm Key (↵) to start the 35 second countdown. Continue holding the meter downward at a **30° angle** until the end of the measurement. At the end of the countdown the Strip Track will retract and scan the test strip. Compare the displayed values with the value ranges on the **CONTROL STRIP** container label. Confirm that the display values are in the ranges listed on the container. If the values are out of range, reposition the end of the strip to the end of the slot, being sure the strip is flat and level in the slot. Hold the meter at a 30° angle (*right*) and repeat the scan. **NOTE: DO NOT SCRATCH OR BEND THE CONTROL STRIP**.

Troubleshooting

Failure Description	Solution
Fails to turn on	Check the power source and recharge unit. If the unit is charged press reset on back of meter.
The result exceeds inaccuracy specification when compared to Micro 10	Clean the calibration pad and review your testing technique and procedure.
The Strip Track will not reset	Pull Strip Track out of the meter, clean, and gently insert in the front of the unit. Press ON to automatically reset the track

Error Codes

Error Code	Error Description
06	Key communication signal error
07	Transfer position sensor error, cannot detect the normal starting position (check if the motor is stuck)
08	EEPROM write error
09	EEPROM read error
10	Time initialization error
11	Memory blank
12	Not enough memory (when there are 900 results) remind user to delete data manually. Can still run test.
13	Failed to establish the upload
14	Upload request time out
24	No calibration pad, or the pad is too dark (white pad's color is less than 400)
28	No memory, cannot store any data (remind user to delete the data manually)

Reset Number

The test number (NO. on the display) will reset after reaching 999.

Tips for Best Results

1. Gently touch the long edge of the strip to a dry, flat paper towel to remove excess water. Do not wipe.
2. Do not touch reacted test pads to the paper towel when blotting the test strip.
3. Do not allow excess water to build up in the strip track. Excess water will allow the strip to shift in the track.
4. Confirm the meter SEN settings to be sure they match the settings on the bottle label.
5. Protect the CONTROL STRIP and store it in the container provided. Handle it carefully to prevent damage. Make sure your hands are clean and dry before handling the CONTROL STRIP.
6. The CONTROL STRIP may bend under very dry or very humid conditions. If bending occurs, gently flatten the strip before placing it in the Strip Track.
7. The meter will not upload more than 256 data points to the Data Management Software: DO NOT save more than 256 data points in the meter memory if you plan to use the software. Upload the data to the software, and then delete the data from the meter before collecting the next 256 data points.
8. Best accuracy for pH and Cyanuric Acid is with Total Alkalinity at 100-120ppm. pH and CY values will be over 50% low when TA is below 60ppm and over 50% high when TA is above 170ppm. If your TA values are outside of 80-120ppm, use the eXact® Micro 10 or another method for reliable measurement of pH and Cyanuric acid.

Instrument Cleaning

Please follow the procedure below:

1. Power on the unit and wait for it to finish the Power On Self-Test (POST).
2. The Test Strip Slot will automatically come out.
3. Remove track by holding the instrument securely and pulling the Strip Track straight out from the front.
4. Use tap water to wash the Strip Track and wipe with a clean, dry paper towel.
5. Hold the instrument securely and re-install the Strip Track.

NOTICE: You must only use mild cleaning solution and a damp cloth to wipe the surface of the instrument.

Charging the Battery

Plug one end of the Mini-USB to USB cable into the Pool Check®i and the other into a PC or the USB adapter provided.

NOTICE: **DO NOT** attempt to use any other USB adapter to charge the battery in the Pool Check®i.

Measurement Principle

The test strip pads develop different colors at different concentrations. The meter measures light reflected by the colors and converts those measurements into concentration values.

NOTICE: Do not store Pool Check®i near pool chemicals, acids, fertilizers, algaecides, salt, oxidizing cleaning materials, corrosives, oxidizing or reducing chemicals which may cause deterioration and damage by direct contact or chemical vapor contact.

Instrument Maintenance

1. Keep both the instrument and environment clean. Be careful not to drop the unit.
2. Rinse the Strip Slot regularly, depending upon usage.

Waste Disposal

You should obey the local disposal regulations. Used Test Strips can be discarded with normal trash.

Packing, Storage, and Transportation

This instrument is sent in a sturdy carrying case and the foam inside the case improves shock resistance. If the Pool Check®i has been stored for 3 months or more, then recharge battery power for 4 hours to check if it is OK.

Storage and Transport Recommendation:
Temperature: -20°C – 55°C (-8°F – 131°F)
Humidity: Less than 80%

Pool Check®i 90-Day Limited Warranty

Registration of your Pool Check®i Test Strip Analyzer must be received within 30 days from date of purchase to activate the warranty. Every new Pool Check®i Test Strip Analyzer is warranted to be free from defects in materials and workmanship for a period of (90) days from the date of purchase by the customer. ITS will repair or replace any part of the product which, by our determination, is found to be faulty by reason of a manufacturing defect. This non-transferable warranty does not cover equipment which has been misused, tampered with, modified or damaged as a result of accident, water, grit, impact or exposure to corrosive chemicals or oxidizers as described in the Pool Check®i owner's manual. If the meter is faulty or otherwise defective contact ITS by phone (+1-803-329-9712 Ext. 226) or email (its@sensafe.com) to describe the problem and obtain a return authorization form before returning the photometer to ITS. Damage caused by improper packing of the analyzer for return shipment to ITS will not be covered by the warranty. Customers are responsible for shipping charges to ITS. ITS pays returned postage. Registration is available over the phone (+1-803-329-9712 Ext. 0) or online at www.PoolCheckOnline.com (Personal data is kept confidential).

To protect your investment against damage caused by drops, spills, power surges and other accidents, ITS recommends purchasing the Pool Check®i Assurance Program! For only $160, this 3-year coverage entitles the owner to a 1-time replacement of the Pool Check®i scanner for any reason. Simply return your inoperable Pool Check®i and ITS will send you a brand new unit, no questions asked. Complete terms and conditions can be found on our website at www.PoolCheckOnline.com.

Contact Information

For US Inquiries and Re-Orders:

Industrial Test Systems, Inc.
1875 Langston Street,
Rock Hill, SC 29730 USA
Phone: 1-800-861-9712 - *INSIDE THE U.S.*
1-803-329-9712 - *OUTSIDE THE U.S.*
Fax: 1-803-329-9743
ITS@SENSAFE.COM
www.poolcheckonline.com
WWW.SENSAFE.COM

Industrial Test Systems, Inc.
Innovators of Water Quality Testing

For European & Middle East Inquiries and Re-Orders:

ITS Europe, LTD
The UK Centre for Homeland Security
Building 7, Chilmark
Salisbury, Wiltshire SP3 5DU, United Kingdom
Tel: +44 (0)1722 717911
Fax: +44 (0) 1722 717941
SALES@SENSAFE.COM
www.poolcheckonline.com
WWW.ITSEUROPE.CO.UK

ITS Europe, Ltd.
Innovators of Water Quality Testing