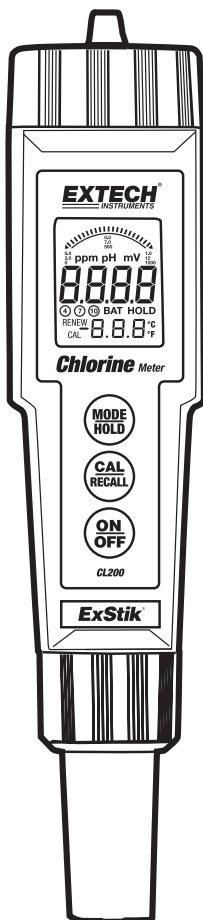


ExStik[®] CL200A

Waterproof Total Residual Chlorine Tester

Patent Pending



Introduction

Congratulations on your purchase of the ExStik® CL200 chlorine tester. The CL200 is a revolutionary first of its kind measurement device that offers direct reading of Total Chlorine from 0.01 to 10.00 ppm. The electrode method employed by the ExStik® is approved by the U.S. Environmental Protection Agency (EPA) as an acceptable method for wastewater compliance monitoring of total chlorine. For this type of electrode method, a reagent tablet must be added to the measurement solution before testing. The advantages of the CL200 to the user include: Easy to use and maintain, high accuracy, self-calibration, and fast response. The CL200 offers simultaneous Chlorine and Temperature displays and a 15-reading memory storage. Careful use and maintenance will provide years of reliable service.

Applications

The CL200 can be used wherever a measurement of the total chlorine in water is needed. This is also referred to as total residual chlorine. It measures the total of all chlorine present in all forms, including dissolved free chlorine, chloramines, hypochlorous acid and hypochlorite ion. Typical applications include measurements of discharge water from water treatment plants, public drinking water supplies and cooling towers, and measurement of disinfectant properties in swimming pools and cooling water applications.

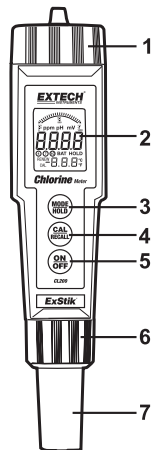
Meter Description

CL200 Front Panel Description

The ExStik's® keys have functions which change depending on the electrode attached (pH, ORP or Chlorine). Key descriptions here apply for the ExStik® with a chlorine electrode attached.

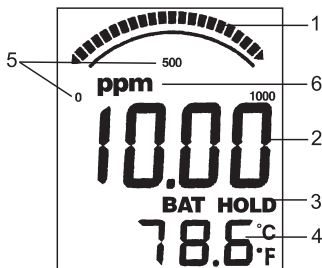
1. Battery compartment
2. LCD Display
3. MODE/HOLD button (store data)
4. CAL/RECALL button (change temperature units and recall data. Calibration not required for chlorine)
5. ON/OFF button
6. Electrode Collar
7. Electrode

(Note: The Electrode cap is not shown)



ExStik® CL200 Display

1. Bargraph display
2. Measurement display
3. BAT (low battery) and HOLD (data hold) indicators
4. Temperature display
5. Bargraph scale designations
6. Unit of measure



Getting Started

Equipment Required

A chlorine test requires a 20ml sample cup, a reagent tablet and the CL200 with a chlorine electrode attached. The optional EX006 Weighted base is a recommended accessory.

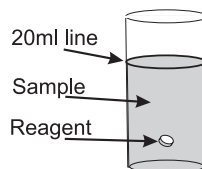
Battery Activation

An insulating tab is located in the battery compartment and prevents battery drain during storage. It must be removed before use. Refer to the battery replacement paragraph in the maintenance section.

Measurement Procedure

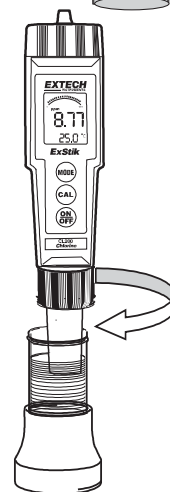
Sample Preparation:

1. Place the test sample into the sample cup up to the 20ml line.
2. Drop one reagent tablet into the sample, wait 10 seconds and then shake or stir vigorously until it is dissolved.



Measurement:

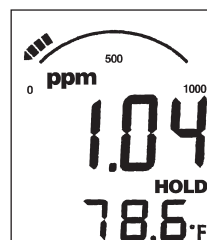
1. Insert the electrode into the sample and then press the ON button.
2. Stir the sample with the electrode for 5 to 10 seconds. The "HOLD" indicator will appear after 120 seconds.
3. If the meter reads -1, the level of chlorine in the sample may be lower than the detectable limit of 0.01ppm.



Reading:

The value in the display is the total chlorine in ppm.

Note: After running a test, wipe the entire electrode with a clean/dry paper towel.



Storing Readings

1. Press the MODE button to store a reading. The storage location number will be displayed followed by the stored reading and the "HOLD" indicator.
2. Only one reading can be stored during the 120 second measurement cycle.
3. Press the MODE button again to return to normal operation.
4. If more than 15 readings are stored, previously stored readings (starting with number 1) will be overwritten.

Recalling Stored Readings

1. Press the CAL button and then press the MODE button immediately after CAL is displayed; a location number (1 through 15) will flash.
2. The last stored reading taken will be displayed first. To scroll through the stored readings, press the MODE button. The location number is displayed first, followed by the reading stored in that location.
3. To exit the storage mode, press the CAL button and the CL200 will return to normal operation.

Note: If the batteries are removed all stored readings will be lost.

Changing the Temperature Units

Press and hold the CAL button for approx. 3 seconds to change the temperature units.

Auto-Power OFF

The auto power off feature automatically shuts the CL200 off 10 minutes after the last keypress.

Low Battery Indication

When the batteries become weak the "BAT" icon will appear in the display. Refer to the Maintenance section for battery replacement information.

Offset/Calibration Adjustment Procedure

The CL200 performs a self-calibration on power up and does not need to be calibrated.

If you feel it is necessary to adjust the chlorine reading to match the value of a known standard or to agree with the reading from another chlorine meter, the following procedure can be used.

1. Using a chlorine solution of known concentration perform the normal sampling procedure (refer to the operator's manual) with 20 ml of the solution, wait for the display to read "HOLD" (approx. 2 minute sampling time).
2. With meter still in the solution press the Mode/Hold button for approximately 5 seconds until "CO" appears at the bottom of the Display.
3. The concentration value on the Display can now be adjusted up or down to match the actual known concentration of the solution.
4. Press the MODE/HOLD key to increase the value or Press the CAL/RECALL button to decrease the value.
5. Once the reading is adjusted to the desired value do a quick press of the ON/OFF button and "SA" will appear on the Display followed by "END". This indicates that the adjusted value was saved to memory.
6. Turn the meter off and proceed with the sampling procedure as described in the operator's manual.

Considerations and Techniques

1. If the meter has not been used for several weeks or is new, at least two tests should be made to condition the electrode.
2. Do not touch the reagent tablets. Touching can cause contamination.
3. If the electrode has not been used for in a 24hr period, wipe the tip with a clean/dry paper towel before use.
4. Before use, wash the sample cups and the caps and then rinse them completely.
5. The CL200 should not be left in a solution while turned off. If left in solution while turned off, subsequent readings may take longer to reach the correct value.
6. Do not touch the sensor surface except with a clean/dry paper towel.
7. When measuring solutions that have large differences in chlorine concentration, i.e. 0.1ppm and 5.0ppm, use separate sample cups.
8. Discard the sample cup when it shows a color change.
9. Maintain the electrode by completely wiping dry and then replacing the electrode cover immediately after taking a measurement. The electrode should always be stored in the dry cap.
10. Cover the connector with the clear cover whenever the electrode is removed from the meter body.
11. Gently stirring the probe in the solution for 10 seconds, within the first minute of operation, will accelerate the process and yield more accurate readings. Do not stir after 10 seconds.

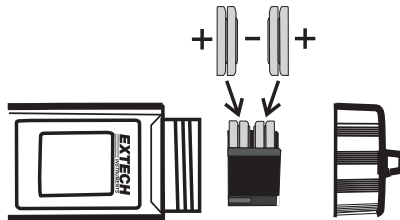
Troubleshooting Guide

1. If the unit appears locked it is possible that the Data Hold mode has been inadvertently accessed. If the HOLD icon is displayed, simply press the MODE button or turn the meter off and restart.
2. If the meter latches up and cannot be reactivated by a button press, remove the batteries and Press and hold the On/Off button for 8 – 10 seconds. Re-install the batteries. Note that if the batteries are removed, any stored readings will be lost.
3. If the meter reads a -1 in a known level of Chlorine, the meter may be defective.

Maintenance

Battery Replacement

1. Twist off the battery compartment cap
2. Replace the four (4) CR2032 batteries observing polarity.
3. Replace the battery compartment cap



Cleaning and Maintaining the Electrode

The CL200 Chlorine Electrode arrives in a factory-cleaned condition and is ready to be used. The electrode will perform best and yield more stable readings after the first few tests. Before and after tests, firmly wipe the electrode tip with a clean, dry paper towel to remove any compounds that may have formed. When not in use, the CL200 should be stored with the electrode cap in place.

Electrode Replacement

The CL200 is shipped with an electrode attached. If the electrode has to be replaced, or if a pH or ORP electrode is to be installed, follow these steps:

1. Turn the unit off.
2. To remove an electrode, unscrew and remove the electrode collar (turn the collar counter-clockwise).
3. Gently rock the electrode from side to side, pulling it downwards, until it disconnects from the meter.
4. To attach an electrode, align the slots and carefully plug the electrode into the meter socket.
5. Tighten the electrode collar firmly enough to make a good seal (a rubber gasket seals the electrode with the meter).

Specifications

| | |
|--|--|
| Display | Multifunction LCD with Bargraph |
| Operating conditions | 32 to 122°F (0 to 50°C) and < 80% RH |
| Chlorine range | 0.01 to 10.00 ppm (Total Chlorine) |
| Chlorine accuracy | 0.05 to 5.00ppm; ± (10%reading + 0.01ppm) 5.00 to 10.00ppm; ± (15%reading + 0.05ppm) |
| Temperature measurement range | -5 to 90°C (23 to 194°F) |
| Temperature range for Chlorine measurement | 0 to 50°C (32 to 122°F) |
| Temp. Resolution | 0.1° up to 99.9 then 1° |
| Temp. Accuracy | ± 1.8°F (1°C) from 23 to 122°F (-5 to 50°C); ± 5.4°F (3°C) from 122 to 194°F (50 to 90°C) |
| Measurement storage | 15 readings can be stored and recalled |
| Low battery indication | 'BAT' appears on the LCD |
| Power | Four CR2032 button batteries |
| Dimensions | 1.4x6.8x1.6"(35.6x172.7x40.6mm); 3.85oz (110g) |
| Auto power off | Automatically switches OFF 10 minutes after the last key press |

Warranty

FLIR Systems, Inc. warrants this Extech Instruments brand device to be free of defects in parts and workmanship for one year from date of shipment (a six month limited warranty applies to sensors and cables). If it should become necessary to return the instrument for service during or beyond the warranty period, contact the Customer Service Department for authorization. Visit the website www.extech.com for contact information. A Return Authorization (RA) number must be issued before any product is returned. The sender is responsible for shipping charges, freight, insurance and proper packaging to prevent damage in transit. This warranty does not apply to defects resulting from action of the user such as misuse, improper wiring, operation outside of specification, improper maintenance or repair, or unauthorized modification. FLIR Systems, Inc. specifically disclaims any implied warranties or merchantability or fitness for a specific purpose and will not be liable for any direct, indirect, incidental or consequential damages. FLIR's total liability is limited to repair or replacement of the product. The warranty set forth above is inclusive and no other warranty, whether written or oral, is expressed or implied.

Calibration, Repair, and Customer Care Services

FLIR Systems, Inc. offers repair and calibration services for the Extech Instruments products we sell. NIST certification for most products is also provided. Call the Customer Service Department for information on calibration services available for this product. Annual calibrations should be performed to verify meter performance and accuracy. Technical support and general customer service is also provided, refer to the contact information provided below.

Support Lines: U.S. (877) 439-8324; International: +1 (603) 324-7800

Technical Support: Option 3; E-mail: support@extech.com

Repair & Returns: Option 4; E-mail: repair@extech.com

Product specifications are subject to change without notice

Please visit our website for the most up-to-date information

www.extech.com

FLIR Commercial Systems, Inc., 9 Townsend West, Nashua, NH 03063 USA

ISO 9001 Certified

Copyright © 2013-2015 FLIR Systems, Inc.

All rights reserved including the right of reproduction in whole or in part in any form

www.extech.com

Garantie

FLIR Systems, Inc. garantit que cet appareil Extech Instruments est exempt de défauts matériaux et de fabrication pendant un an à partir de la date d'envoi (une garantie limitée de six mois s'applique aux capteurs et aux câbles). Si le renvoi de l'appareil pour réparation devient nécessaire durant ou après la période de garantie, contactez le service client pour autorisation. Pour obtenir les coordonnées, visitez le site Web suivant : www.extech.com. Un numéro d'autorisation de retour (AR) doit être délivré avant tout retour de produit. L'expéditeur prend à sa charge les frais d'expédition, le fret, l'assurance et l'emballage correct de l'appareil afin de prévenir toute détérioration durant le transport. Cette garantie ne s'applique pas aux dommages imputables à l'utilisateur, tels que l'usage impropre ou abusif, un mauvais câblage, une utilisation non conforme aux spécifications, un entretien ou une réparation incorrecte, ou toute modification non autorisée. FLIR Systems, Inc. déclinera spécifiquement toute garantie ou qualité marchande ou aptitude à l'emploi prévu, et ne sera en aucun cas tenu responsable pour tout dommage consécutif, direct, indirect ou accidentel. La responsabilité totale de FLIR est limitée à la réparation ou au remplacement du produit. La garantie définie ci-dessus est inclusive et aucune autre garantie, écrite ou orale, n'est exprimée ou implicite.

Calibrage, réparation et services après-vente

FLIR Systems, Inc. offre des services de calibrage et de réparation pour les produits Extech Instruments que nous commercialisons. Nous fournissons également une certification NIST pour la plupart des produits. Contactez notre service client pour toute information sur les services de calibrage disponibles pour ce produit. Un calibrage doit être effectué chaque année pour vérifier les performances et la précision du mètre. Nous offrons également une assistance technique et un service à la clientèle. Veuillez vous reporter aux coordonnées fournies ci-dessous.

Lignes d'assistance: États-Unis (877) 439-8324; international: +1 (603) 324-7800

Service d'assistance technique : Option 3 ; E-mail : support@extech.com

Réparations et retours : Option 4 ; E-mail : repair@extech.com

Les spécifications produit sont sujettes à modifications sans préavis.

Pour les toutes dernières informations, veuillez visiter notre site Web.

www.extech.com

FLIR Commercial Systems, Inc., 9 Townsend West, Nashua, NH 03063 USA

Certifié ISO 9001

Copyright © 2013-2015 FLIR Systems, Inc.

Tous droits réservés, y compris la reproduction partielle ou totale sous quelque forme que ce soit.

www.extech.com

Garantía

FLIR Systems, Inc., garantiza este dispositivo marca Extech Instruments para estar libre de defectos en partes o mano de obra durante un año a partir de la fecha de embarque (se aplica una garantía limitada de seis meses para cables y sensores). Si fuera necesario regresar el instrumento para servicio durante o después del periodo de garantía, llame al Departamento de Servicio al Cliente para obtener autorización. Visite www.extech.com para Información de contacto. Se debe expedir un número de Autorización de Devolución (AD) antes de regresar cualquier producto. El remitente es responsable de los gastos de embarque, flete, seguro y empaque apropiado para prevenir daños en tránsito. Esta garantía no se aplica a defectos resultantes de las acciones del usuario como el mal uso, alambrado equivocado, operación fuera de las especificaciones, mantenimiento o reparación inadecuada o modificación no autorizada. FLIR Systems, Inc., rechaza específicamente cualesquier garantías implícitas o factibilidad de comercialización o idoneidad para cualquier propósito determinado y no será responsable por cualesquier daños directos, indirectos, incidentales o consecuentes. La responsabilidad total de FLIR está limitada a la reparación o reemplazo del producto. La garantía precedente es inclusiva y no hay otra garantía ya sea escrita u oral, expresa o implícita.

Servicios de calibración, reparación y atención a clientes

FLIR Systems, Inc., ofrece servicios de reparación y calibración para los productos que vendemos de Extech Instruments. Además ofrecemos certificación NIST para la mayoría de los productos. Llame al Departamento de Servicio al Cliente para solicitar información de calibración para este producto. Para verificar el funcionamiento y precisión se debe realizar la calibración anual. Además se provee Soporte Técnico y servicios generales al cliente, consulte la información de contacto en seguida.

Líneas de soporte: EE.UU. (877) 439-8324; Internacional: +1 (603) 324-7800

Soporte Técnico Opción 3; correo electrónico: support@extech.com

Reparación / Devoluciones: Opción 4; correo electrónico: repair@extech.com

Las especificaciones del producto están sujetas a cambios sin aviso

Por favor visite nuestra página en Internet para la información más actualizada

www.extech.com

FLIR Commercial Systems, Inc., 9 Townsend West, Nashua, NH 03063 USA

Certificado ISO 9001

Copyright © 2013-2015 FLIR Systems, Inc.

Reservados todos los derechos, incluyendo el derecho de reproducción total o parcial en cualquier medio

www.extech.com