Quick®
Nautical Equipment

Rev 001A
January 2024

CHC 1103 B

Chain Counter

IT Altre lingue disponibili scansionando il codice QR presente sul retro di questo manuale.
EN Other languages available by scanning the QR code on the back of this manual.
FR Autres langues disponibles en scannant le code QR au dos de ce manuel.
DE Andere Sprachen können über den QR-Code auf der Rückseite der Betriebsanleitung heruntergeladen werden.
ES Otros idiomas disponibles escaneando el código QR en la parte posterior de este manual.

QUICK® SPA

AMZ
YACHTING

⚠ CAUTIONS

- **Before installing and connecting the CHC 1103 B chain counter, read this installation and use manual carefully. If in doubt, contact your nearest QUICK® retailer or customer service.**
- **In case of discordance or errors in translation between the translated version and the original text in the Italian language, reference will be made to the Italian or English text.**
- **Keep this manual in a safe place for future reference.**
- **This device was designed and constructed for use on recreational crafts. Other forms of use are not permitted without written authorization from the company QUICK®.**

☞ IMPORTANT NOTES

- Any tampering with the CHC 1103 B chain counter by unauthorized persons annuls the guarantee.
- The CHC 1103 B chain counter has been designed and constructed solely for the tasks and purposes given in this manual.
  QUICK® company shall not be held responsible for any direct or indirect property damage caused by inappropriate use of the control, incorrect installation or possible errors present in this manual.
- The installation of the CHC 1103 B chain counter must be carried out by qualified personnel.
- QUICK® reserves the right to modify the technical characteristics of the equipment and the contents of this manual without prior notice.

1.0 - Information about the product

Our vast experience in the world of sailing has allowed us to design and develop the chain counter CHC 1103 B whose performance is widely superior to those of similar instruments available on today's market. The chain counter CHC 1103 B allows the windlass to be activated to get the anchor aweigh or lower the anchor providing the measure of the chain lowered.

1.1 - Main characteristics

- Simple user-friendly interface.
- Information displayed in 5 different languages.
- Automatic lowering function.
- Up alarm function.
- Locked keys function.
- Can also be used in winch operations.
- Windlass management with auto free fall.
- Anchor recovery function in case of sensor failure.
- Chain speed displayed.
- Supply voltage displayed.
- Depth of chain lowered shown in meters, feet or fathoms.
- Graphic LCD display screen that can be easily read at various angles.
- Backlight display screen with 5 brightness levels.
- 5 different display contrast levels can be set.
- Automatic display contrast compensation according to environmental temperature.
- Universal power supply (12/24Vdc)
- Backlight illuminated function keys.
- Equipped with LED torch.
- CAN BUS interface for data transfer.
- Capable of operating in a wide range of ambient temperatures.
- Water-proof housing.

1.2 - Content of the packaging

Chain counter
CHC 1103 B

Support

Chain counter
sensor KIT

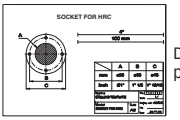
Socket

Gasket

Screws for securing
the socket

120 ohm Terminator

Installation manual + Conditions of warranty
*Scan the **QR code** on the back of this manual to download the digital version.*



Drilling template
pag. 29

1 - INSTALLATION

2.0 - General information

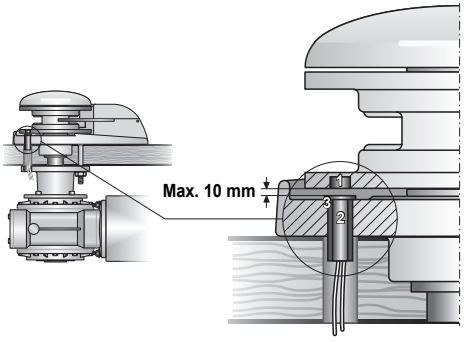
Quick® windlasses
All Quick® windlasses come with a laps sensor suitable for use with chain counter CHC 1103 B.

Other windlasses
In order for the chain counter to measure the length of the chain lowered, it has to count the number of revolutions completed by the gear that drives the chain (gypsy).

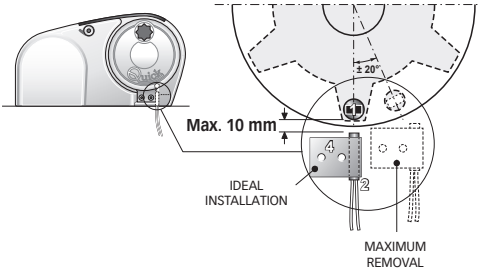
A laps sensor kit is supplied with the chain counter.
This kit includes a cylindrical magnet, a magnetic field sensor and two plastic adaptors to be used to fix the sensor.
The magnet is to be fixed to the gypsy while the magnetic sensor is to be fixed to the windlass base
The standard installation procedure is described below. Unfortunately we cannot describe a procedure applicable to all types of windlasses. Adapt this procedure to satisfy your own individual requirements.

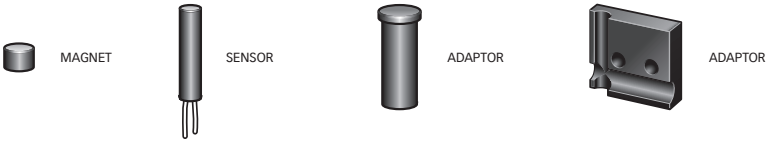
EXAMPLES OF LAPS SENSOR INSTALLATION

vertical windlasses



horizontal windlasses





2.1 - Installing the magnet

Take the gypsy off the windlass (consult the windlass user's manual). Find the spot most suitable for the magnet housing based on the following criteria:

- The magnet should not be installed in an area that the chain passes through (outer areas).
- The location should be preferably made in the area where the gypsy is thickest (in order not to weaken the structure).
- Regarding horizontal windlasses, make sure it is located near the edge of the gypsy.
- Regarding vertical windlasses, make certain the sensor can be installed on the base at the circumference "traced" by the magnet.
- The magnet can protrude from the gypsy; make certain it does not interfere with the base or sensor.
- The magnet should be as close to the sensor as possible.

Once the hole has been drilled, glue the magnet inside it. Make sure the glue covers the part of the magnet still visible. Use glue designed for metals, resistant to brackish ambients and capable of withstanding temperatures ranging from -30 to +80 °C. Generally speaking, some epoxy-based bi-component glues satisfy these requirements.

Several magnets can be installed on the same gypsy to increase the precision with which the chain counter reads (not provided). Place any additional magnets around the same circumference equally spaced apart.

2.2 - Installing the sensor

Locate the most suitable position to secure the sensor to the base according to the following criteria:

- The sensor should not be installed in an area that the chain passes through.
- If holes are made in the base, make sure they do not interfere with normal operation, do not weaken the structure or cause lubricant to flow out (windlasses with oil-bathed gears).
- Regarding vertical windlasses, make certain the sensor is installed on the base at the circumference "traced" by the magnet.
- The magnet should be as close to the sensor as possible.

Use the plastic adaptors provided to secure the sensor. Use a sheath to protect the sensor cables.

Once installed, make sure the laps sensor works properly. Place the gypsy so that the magnet is aligned with the sensor and check electrical continuity between the two sensor cables. When the magnet is moved away from the sensor electrical continuity should no longer be present.

2.3 - Installing the socket

The standard installation procedure is described below. Unfortunately we cannot describe a procedure applicable to all types of windlasses. Adapt this procedure to satisfy your own individual requirements.
Find the spot most suitable for the socket based on the following criteria:

- The socket is to be installed in an area where it can be easily reached by the user.
- Select a clean, smooth, flat spot.
- A rear point that provides access to the socket's fixing surface must be present for installation and maintenance purposes.
- Leave enough space free behind the installation spot to conveniently run the socket's cable.
- The back of the socket must be protected against contact with water and moisture.
- Pay careful attention when drilling the panel or parts of the boat. This hole should not weaken or break/crack the boat's structure.

2.3 - Installing the socket

The chain counter meets standard EMC (electromagnetic compatibility). In any case correct installation is fundamental in order not to affect its performance or interfere with operation of instruments found near it.

For this reason the chain counter must be at least:

- 25 cm away from the compass.
- 50 cm away from any radio receivers.
- 1 m away from any radio transmitters (except for SSB).
- 2 m away from any radio transmitters SSB.
- 2 m away from the path of the radar beam.

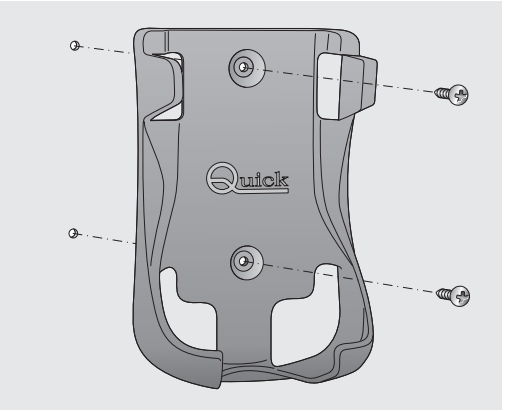
After selecting the area where the instrument is to be installed, perform the steps given below:

- Place the drilling template (pag. 29) on the surface where the socket will be installed.
- Mark the center of each hole.
- Make the hole for the passage of the cable of the socket with a milling cutter (25 mm / 1").
- Remove the template and any burrs present in the hole.
- Place the seal at the base of the socket.
- Run the cable through the hole made.
- Fix the socket tightening the 4 screws provided.

2.4 - Installing the support

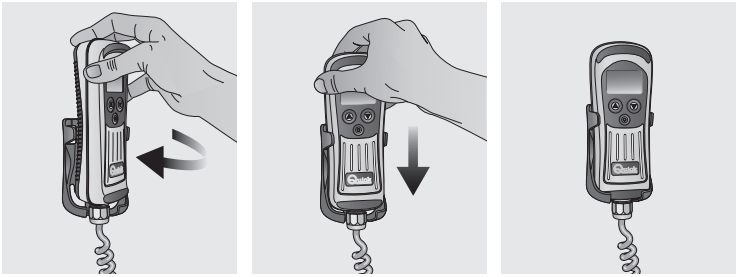
The standard installation procedure is described below. Unfortunately we cannot describe a procedure applicable to all the situations.
Adapt this procedure to satisfy your own individual requirements.
Find the spot most suitable for the support based on the following criteria:

- The support must be positioned so that it can easily be reached by the operator.
- Choose a clean, smooth, flat location.
- Check that the back of the panel into which the screws of the support will be tightened is free from passing cables, tubes, etc.
- Take particular attention when screwing into the panels or parts of the boat. The screws must not weaken or cause the breakage of structure of the boat.
- Place the support onto the chosen surface.
- Fix the support with the 2 screws provided.



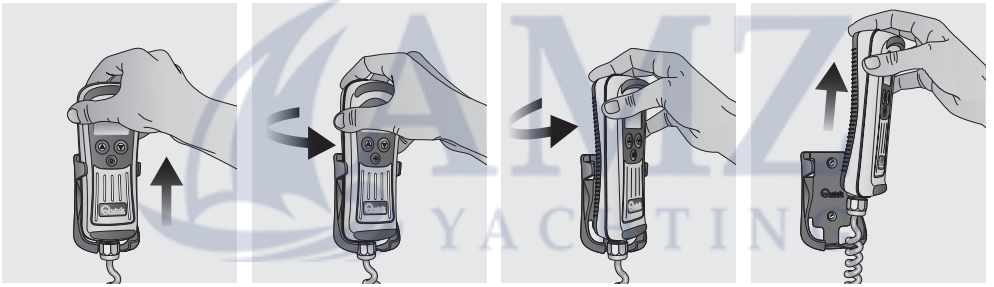
2.4 - Installing the support

Inserting the chain counter into the support
To insert the chain counter into the support, follow the instructions in the illustrated sequence:



Insert the chain counter slightly rotated into the support and continue the rotation until the chain counter is parallel with the support.
Push the chain counter down until it is fully inserted into the support.

Extracting the chain counter from the support
To extract the control panel from the support, follow the instructions in the illustrated sequence:



Slide the chain counter from its support by raising it a few centimetres, rotate in either direction and then extract it from the support by raising it.

2.5 - Electric connection

The chain counter meets standard EMC (electromagnetic compatibility).
In any case correct installation is fundamental in order not to affect its performance or interfere with operation of instruments found near it.
For this reason the chain counter must be at least:

- 1 m away from cables that transmit radio signals (except for SSB radio transmitters).
- 2 m away from cables for SSB radio transmitter signals.

Follow the safety precautions and directions given below when making the electrical circuit of the chain counter:

- Turn on power to the chain counter only after having effected and verified that all the electric connections are correct.
- Install a switch to turn on and shut off the chain counter; make sure the switch is in a position that can be easily reached so that, in the event of an emergency, the chain counter can be quickly shut off.
- Install a 4A fast fuse in the chain counter's power supply line.
- The cross-section of the solenoid/reversing solenoid unit and chain counter's power supply cables should be adequately sized according to the length of the cables.
- Do not run the chain counter on power delivered from the motors' batteries group.
- Use an unscreened cable with twisted pair (cross-section area 0.25/ 0.35 mm^2 AWG 22/24, impedance 100/120 ohm) for the data interface connection (CANH and CANL signals).
- The data cable should not be more than 100 meters long.
- The boat's electrical system should allow other switches to operate the windlass.

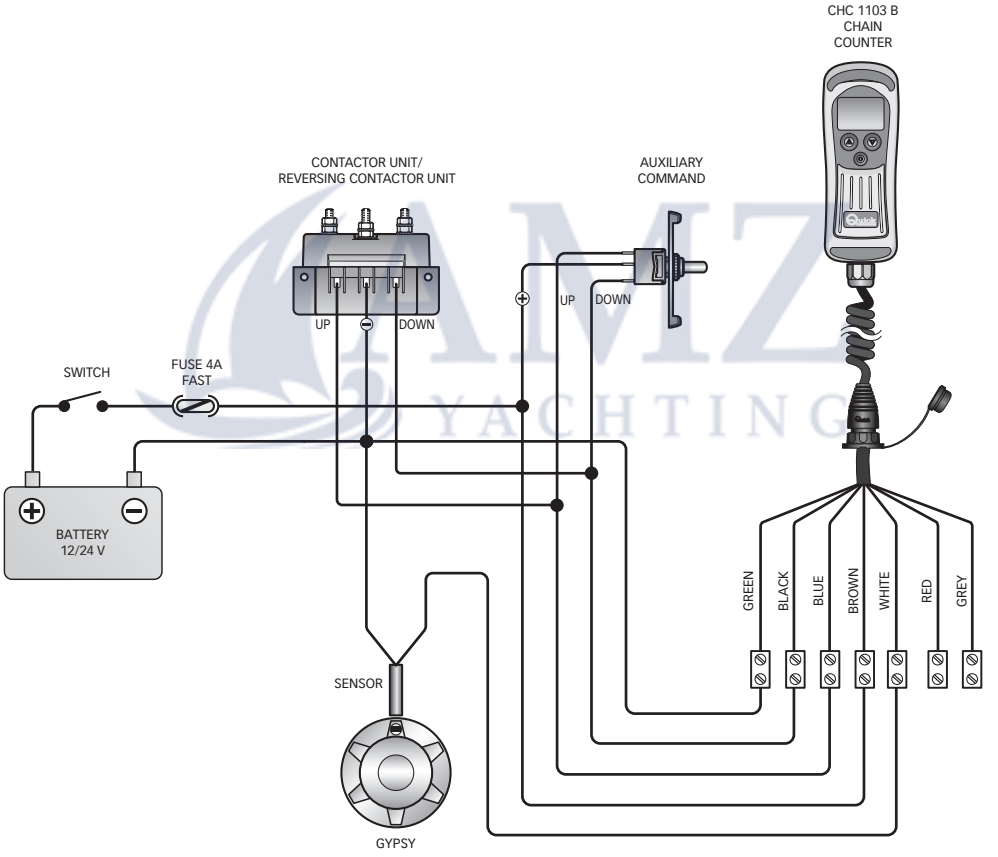
Connecting the instrument
After installing the socket as instructed above, proceed as directed below:

- Turn the cover's ring nut counter-clockwise and take it out.
- Insert the instrument's plug into the socket, being careful to plug it in the right direction.
- Turn the plug's ring nut clockwise until it is fully tightened.

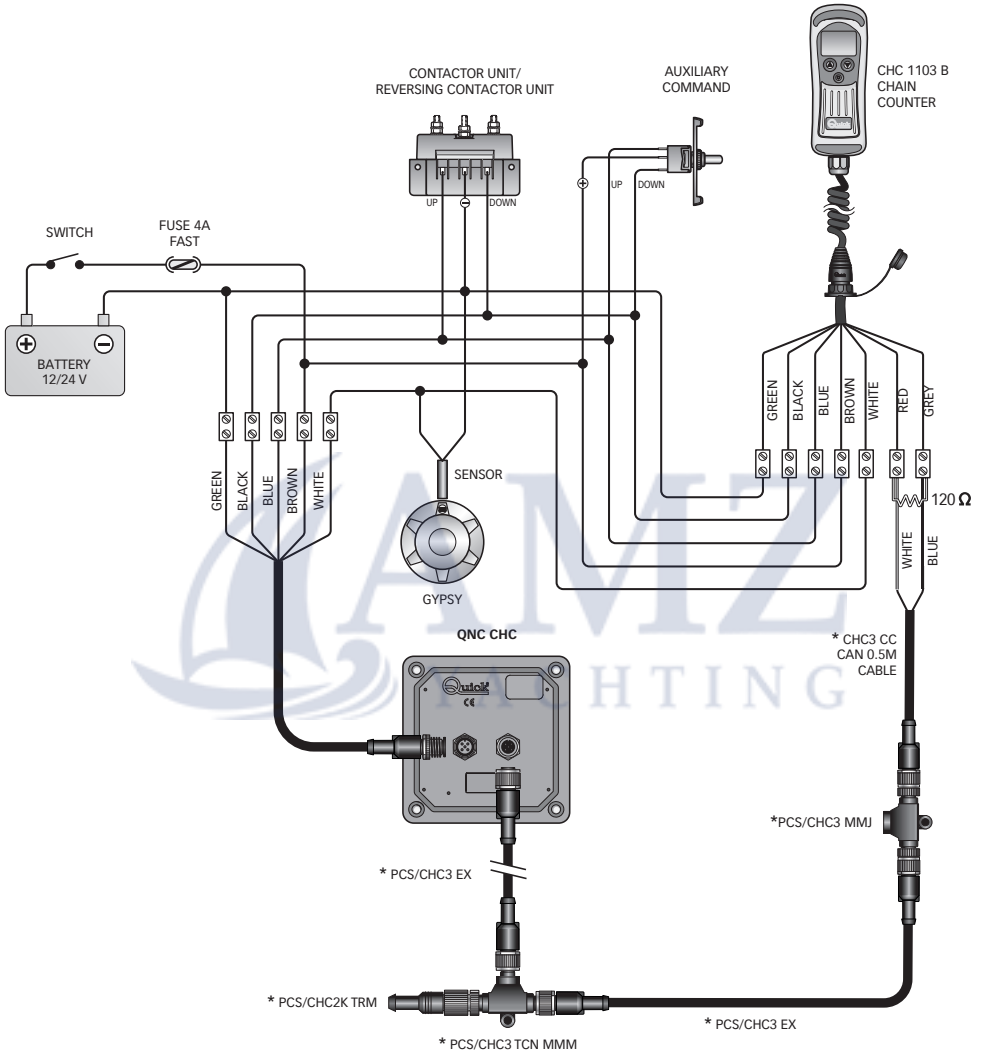
Disconnecting the instrument
- Turn the plug's ring nut counter-clockwise and take it out.
- Cover the socket with the cover provided, turning the ring nut clockwise.

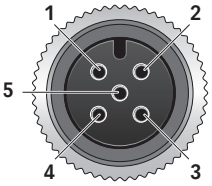
⚠ **ATTENTION:** make certain the socket is covered with the cover provided when the instrument is disconnected.

EXAMPLE OF CONNECTION OF A SINGLE INSTRUMENT



EXAMPLE OF CONNECTION OF TWO INSTRUMENTS





FRONT VIEW
CAN EXTENSION CABLE

PIN	FEMALE CONNECTOR M12
1	-
2	-
3	CAN GND
4	CAN H
5	CAN L

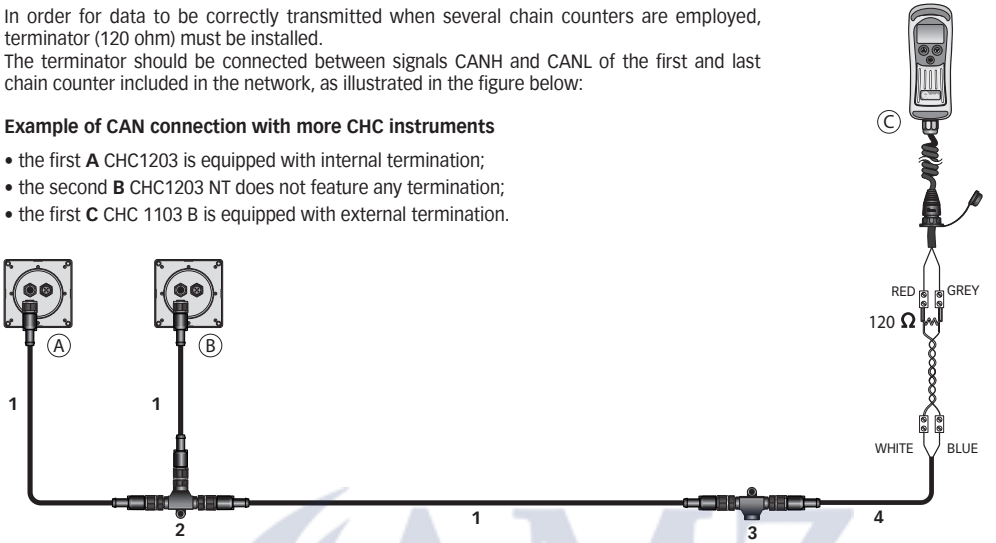
* ACCESSORIES NOT SUPPLIED TO BE ORDERED SEPARATELY

2.6 - Installing the terminals

In order for data to be correctly transmitted when several chain counters are employed, terminator (120 ohm) must be installed.
The terminator should be connected between signals CANH and CANL of the first and last chain counter included in the network, as illustrated in the figure below:

Example of CAN connection with more CHC instruments

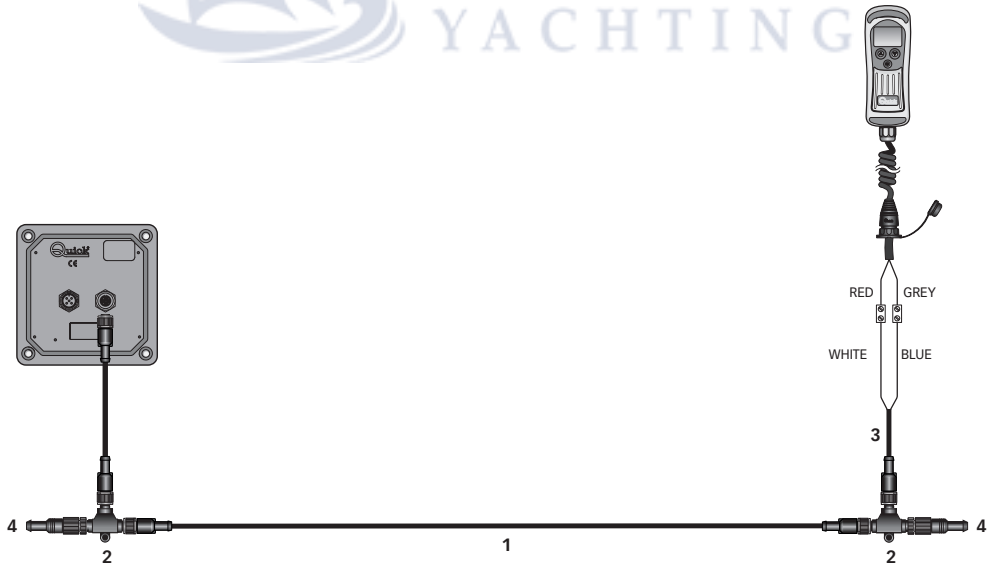
- the first **A** CHC1203 is equipped with internal termination;
- the second **B** CHC1203 NT does not feature any termination;
- the first **C** CHC 1103 B is equipped with external termination.



*1 • PCS/CHC3 EX (PCS/CHC3 CAN EXTENSION)
*2 • PCS/CHC3 TCN (PCS/CHC3 TCN MMM M-M-M T CAN CONNECTOR)
*3 • PCS/CHC3 MMJ (PCS/CHC3 MMJ M-M CAN JUNCTION)
*4 • CHC3 CC (0.5M CAN CABLE)

* ACCESSORIES NOT SUPPLIED TO BE ORDERED SEPARATELY

Example of CAN connection with QNC CHC & external termination



*1 • PCS/CHC3 EX (PCS/CHC3 CAN EXTENSION)
*2 • PCS/CHC3 TCN (PCS/CHC3 TCN MMM M-M-M T CAN CONNECTOR)
*3 • CHC3 CC (0.5M CAN CABLE)
*4 • PCS/CHC2K TRM (PCS/CHC2K TRM CAN TERMINATOR)

* ACCESSORIES NOT SUPPLIED TO BE ORDERED SEPARATELY

2.7 - Chain counter calibration

Before using the instrument, it is essential to carry out the manual calibration procedure.
Calibration consists of setting the following data: unit of measurement used by the instrument, length of chain performed at each turn of the barbotin and number of magnets installed on the barbotin.
To carry out the calibration, enter the ADVANCED SETTINGS menu (see chapter SETTING THE CHAIN COUNTER)

2.8 - Multiple chain counter

The chain counter is equipped with a CAN bus data interface that allows several chain counters to be connected and information to be exchanged (CAN network).
A MASTER/SLAVE network structure is used, i.e. there is only one main chain counter (MASTER) and all the other chain counters are secondary (SLAVE).
The network must have at least one MASTER chain counter.
If there is more than one chain counter, instrument CHC 1103 B must be set as SLAVE. The instrument CHC 1103 B should be set as MASTER only if it is the only instrument present.

The task of the MASTER chain counter is to align the length of the chain lowered and the operating parameters of all the SLAVE chain counters.
The MASTER therefore is used as a reference for all the other SLAVE chain counters.
If a parameter in a menu for a SLAVE chain counter is modified, the change is actually made to the MASTER chain counter that will automatically update all the SLAVE chain counters (except for menu PERSONAL SETTINGS, UTILITY and NET SETTINGS that cointain particular functions and parameters for every single chain counter not shared in network with the other chain counters).

The MASTER chain counter should be on even if the commands to the windlass are transmitted from SLAVE chain counters or other windlass operation switches.

If the MASTER chain counter should malfunction, one of the SLAVE chain counters can be set up as the MASTER.

Before using the chain counters on the CAN network, make sure the MASTER and SLAVE settings of all the chain counters are correct and that the network works in a trouble-free manner.

2.9 - CHC CAN bus network components

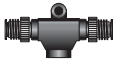
3-WAY M-M-M JUNCTION

CODE	DESCRIPTION
FCPCHTCNMMM0A00	PCS/CHC3 TCN MMM T CAN M-M-M CONNECTOR

3-WAY M-M-F JUNCTION

FCPCHTCNFMM0A00	PCS/CHC3 TCN FMM T CAN F-M-M CONNECTOR

2-WAY M-M JUNCTION

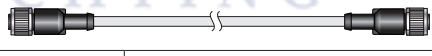


FCPCHMMJMM00A00	PCS/CHC3 MMJ M-M CAN JUNCTION

CAN NETWORK TERMINATOR

FCPCHTRM0000A00	PCS/CHC2K TRM CAN TERMINATOR

BACKBONE / DROP CABLE

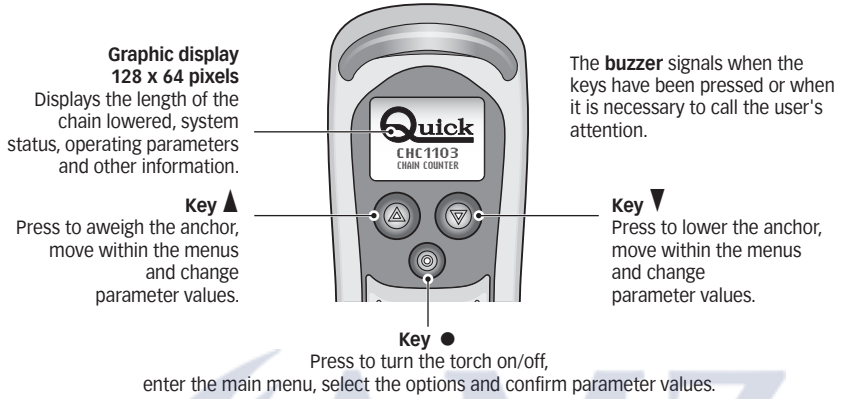


CODE	DESCRIPTION
FCPCHEX00500A00	PCS/CHC3 EX005 CAN EXTENSION 0.5M
FCPCHEX01000A00	PCS/CHC3 EX010 CAN EXTENSION 1M
FCPCHEX03000A00	PCS/CHC3 EX030 CAN EXTENSION 3M
FCPCHEX05000A00	PCS/CHC3 EX050 CAN EXTENSION 5M
FCPCHEX10000A00	PCS/CHC3 EX100 CAN EXTENSION 10M
FCPCHEX15000A00	PCS/CHC3 EX150 CAN EXTENSION 15M
FCPCHEX20000A00	PCS/CHC3 EX200 CAN EXTENSION 20M

3.0 - Instrument overview

The instrument is managed by a user interface that allows you to:

- control windlass movements;
- display length of the chain lowered;
- manage operating parameters;
- report any warnings or alarms.

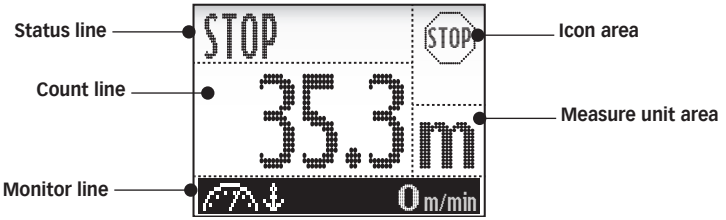


Use the switch on the power supply line to turn the chain counter on and off

When the chain counter is turned on the first time, the menu used to select the language in which messages are displayed appears. The selected language can be changed later on.

3.1 - Main window

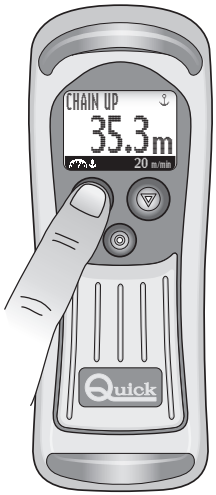
Once the initialization procedure has been completed, the main window is displayed:



This window is divided into the following sections:

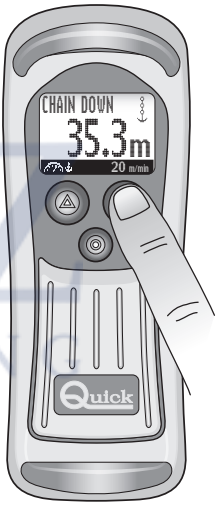
Count line	The length of the chain lowered is shown in this area.
Measure unit area	The unit of measurement currently being used is shown in this area. The values may be displayed in "M" for meters, "FT" for feet and "FM" for fathoms.
Status line	Messages regarding the state of the chain counter or faults detected are shown here.
Icon area	The icons regarding the state of the chain counter or faults detected are shown here.
Monitor line	The following information may be displayed here, depending on the selections made by the user: supply voltage, chain speed, chain on board and winch mode.

3.2 - Windlass electric drive



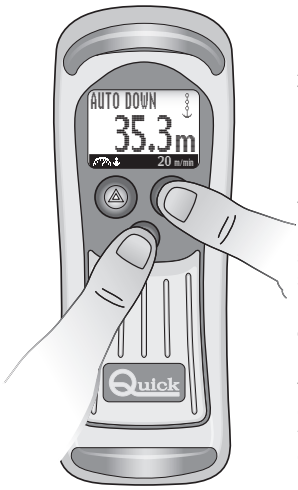
Getting the anchor
To get the anchor aweigh press key ▲ (UP).
Hold the key pressed until the anchor reaches the desired position and then release it.

It is also possible to get the anchor aweigh with an other electric control.
The chain counter will measure the length of the chain lowered in any case.



Lowering the anchor
To lower the anchor press key ▼ (DOWN).
Hold the key pressed until the anchor reaches the desired position and then release it.

It is also possible to lower the anchor with an other electric control.
The chain counter will measure the length of the chain lowered in any case.



Automatic down function
This function can be used only if it was previously set and activated on the FUNCTIONS\AUTO DOWN menu (see chapter SETTING THE CHAIN COUNTER).

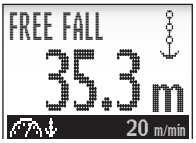
⚠ **ATTENTION**: regular operation of the windlass has to be checked when moving down automatically

To lower the anchor automatically to the set depth, press keys ● (SELECT) and ▼ (DOWN) simultaneously for more then three seconds. Once the procedure has started, both keys can be released. The chain counter will lower the anchor to the set depth.

☞ The function cannot be used if the lowered chain measurement exceeds the set value or if the AUTO FREE FALL function is active.

The automatic lowering procedure can be interrupted by pressing any key of the chain counter from which the procedure was activated, by activating the up function from an external device (from another chain counter or other control) or by shutting off the chain counter.

3.3 - Free fall



At times the anchor may have to be lowered by exploiting the possibility of the windlass to allow for free fall (without electrical command).
The chain counter will measure the length of the chain lowered under these circumstances as well.

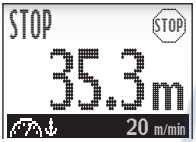
3.4 - Turning the torch on & off

Press and release button ● (SELECT) in less than one second to turn on the torch. Press and release button ● (SELECT) in less than one second to shut off the torch.
When the instrument is turned on, the torch is always off, even if the instrument was shut off from the power supply with the torch turned on.
The flashlight can only be activated from the Main Window with the keyboard unlocked.

3.5 - Monitoring

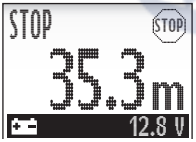
The information given on the monitor line can be edited by pressing (the monitoring line will start to flash) and releasing button ● (SELECT) within 1 to 3 seconds.

The following data can be displayed: chain speed, supply voltage , chain on board and winch.



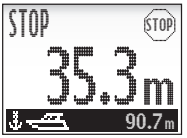
- **CHAIN SPEED**

← The precision of the chain speed reading is ±1% accurate.



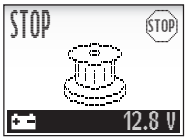
- **SUPPLY VOLTAGE**

← The precision of the supply voltage reading is ± 1% accurate.



- **CHAIN ON BOARD**

(Only if previously set)



- **WINCH**

(Only if previously set)

3.6 - Winch mode

This function can be used only if it was previously set and activated on the ADV. SETTINGS\WINCH menu (see chapter SETTING THE CHAIN COUNTER).

This mode must be used when carrying out winch operations with the windlass. In this configuration the mechanism that moves the chain (gypsy) remains stationary while the drum can still turn.

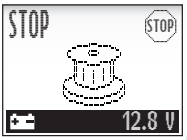
To use the windlass for winch operations consult relative user manual.

⚠ **ATTENTION:** use this mode only if the windlass is configured for winch operations.

⚠ **ATTENTION:** in this mode the automatic down function is blocked, the up alarm function is deactivated and the count is not updated.

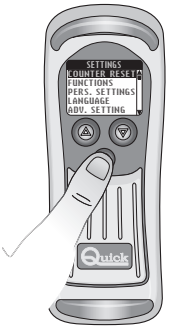
Once activated the winch mode, the following window is displayed:

To select direction of drum rotation press the ▲ (UP) or ▼(DOWN) button. Hold the button down until the operation is complete, then release the button.
While ▲ (UP) or ▼ (DOWN) button is pressed, the instrument will display a window like this:



If the instrument is turned off in winch mode, when turned on again it will display the speed of chain movement.

4.0 - Setting the chain counter



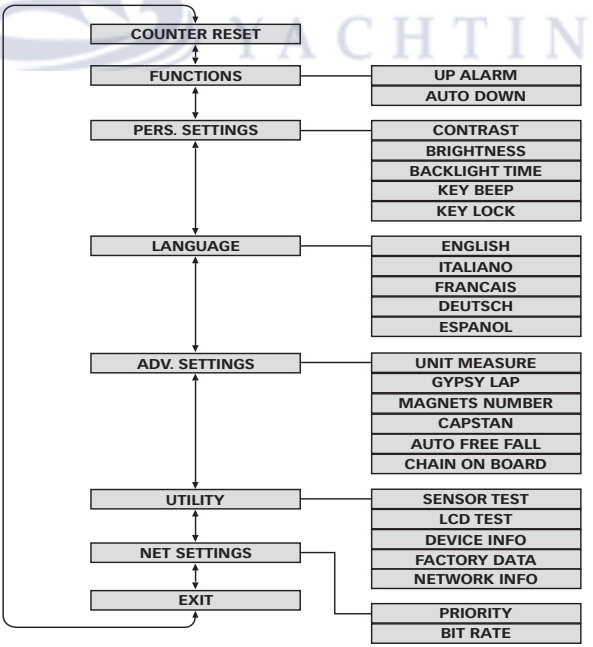
The chain counter has a several functions that can be personalized to satisfy user's requirements.
To go to the setting menu, press and hold key ● SELECT) for more than 3 seconds.
As soon as the key is released a window similar to the one shown below is displayed:

Use keys pand ▲ and ▼ (UP and DOWN) to select the data items within the menu.
The data item that has been currently selected appears in reverse.
Use key ● (SELECT) to confirm the selected data item.

The following data items are provided on the settings menu, with the MASTER chain counter present on the network:

DATA ITEM	SYNTHETIC DESCRIPTION
COUNTER RESET	Reset the measure of chain lowered.
FUNCTIONS	Automatic down and up alarm setting.
PERSONAL SETTINGS	Chain counter personalization: contrast, back-lighting, light delay, key beep, timed locking of the ▲ and ▼ (UP and DOWN) keys.
LANGUAGE	System date and time setting.
ADVANCED SETTINGS	Chain counter calibration: setting of the measurement unit, development of the chain on the gypsy, the number of magnets installed, chain on board and management of the windlass with free fall.
UTILITY	Various chain counter controls.
NET SETTINGS	MASTER/SLAVE selection in the case of multiple instruments and CAN bus speed setting.
EXIT	Chain counter set-up menu exit.

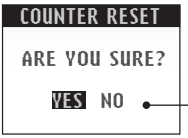
THE STRUCTURE OF THE MENUS:



If a SLAVE chain counter is being used without the MASTER in the CAN network, the following "reduced" settings menu will be displayed.

These submenus have particular parameters and functions for every single counter which can not be shared with other chain counters present on the CAN network.

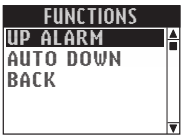
4.1 - Counter reset



Use this option to reset the measure of chain lowered. This option is to be used during installation or when the chain counter's reading does not match the actual length of the chain lowered.

YES or NO can be selected.

4.2 - Functions



Use this option to activate and set the up alarms and automatic down.

UP ALLARM

Use this option to set or disable the up alarm. This function stops the anchor from moving up and informs the user when the length of the chain lowered is less than the set value.

⚠ **ATTENTION:** the up alarm function is active only by using a chain counter CHC 1103 B controls when the anchor moves up. It does not function if the anchor is moved up by any other remote control or a switch.

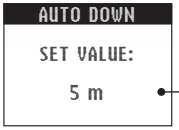
⚠ **ATTENTION:** the chain counter is not able to compensate for mechanical inertia of the windlass (the gypsy can rotate upward direction as soon as the command has been inactivated). Take this factor into consideration when setting the up alarm value.

⚠ **ATTENTION:** the alarm is displayed only once, if the chain measure lowered than the alarm threshold.

⚠ **ATTENTION:** leven if the up alarm is enabled, the user must always pay careful attention and make sure the anchor is correctly pulled up.

Examples of the windows used for the up alarm are shown below:

default: DISABLED



If the unit of measurement is set to METERS, the settable values are:
DISABLED, 1.0 m, 1.5 m, 2.0 m, 2.5 m, 3.0 m, 3.5 m, 4.0 m, 4.5 m, 5.0 m.

If the unit of measurement is set to FEET, the settable values are:
DISABLED, 3.0 ft, 4.5 ft, 6.0 ft, 7.5 ft, 9.0 ft, 10.5 ft, 12.0 ft, 13.5 ft, 15 ft.

If the unit of measurement is set to FATHOMS, the settable values are:
DISABLED, 0.5 fm, 0.7 fm, 1.0 fm, 1.2 fm, 1.5 fm, 1.7 fm, 2.0 fm, 2.2 fm, 2.5 fm.

AUTOMATIC DOWN

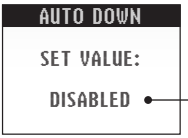
The automatic down function is enabled or disabled with this option. This function allows the anchor to automatically move down to the set depth (see chapter WINDLASS ELECTRIC DRIVE paragraph AUTOMATIC DOWN FUNCTION).

⚠ **ATTENTION:** the chain counter is not able to compensate for mechanical inertia of the windlass (the gypsy can rotate downward direction as soon as the command has been inactivated). Take this factor into consideration when setting the automatic down value.

⚠ **ATTENTION:** even if the automatic down function is enabled, the user must always pay careful attention and make sure the anchor is correctly lowered.

Examples of the windows used for the automatic down function are shown below:

default: DISABLED

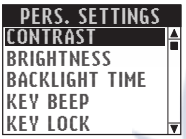


If the unit of measurement is set to METERS, the settable values are:
DISABLED, from 5 m to 100 m with 5 m steps.

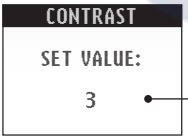
If the unit of measurement is set to FEET, the settable values are:
DISABLED, from 15 ft to 300 ft with 15 ft steps.

If the unit of measurement is set to FATHOM, the settable values are:
DISABLED, from 2.5 fm to 50 fm with 2.5 fm steps.

4.3 - Personal settings

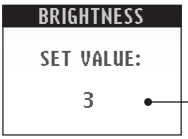


This option allows the user to enable and set several functions to personalize the chain counter.



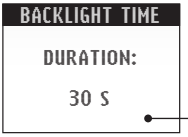
CONTRAST
Use this option to adjust the contrast of the LCD.
The change is immediately made without having to confirm the value.

Selectable values: 1, 2, 3, 4, 5. (default: 3).



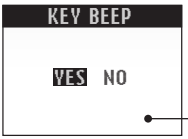
BRIGTHNESS
Use this option to adjust the back-lighting of the display screen.
The brightness is immediately changed without having to confirm the value.

Selectable values: DISABLED,1, 2, 3, 4, 5. (default: 3).



BACKLIGHT TIME
Use this option to set the delay time for shutting off the back-lighting of the display screen. The delay time starts to elaps as soon as the last key is released (or when FREE FALL is completed).

Selectable values: 30S, 60S, 90S, 120S, 180S, 240S, ALWAYS ON (default: 30S).



KEY BEEP
Use this option to activate or deactivate the beep that sounds whenever a key is pressed.

Selectable options: YES and NO (default: YES).

KEY LOCK
This function is used to set the time for the locking of the ▲ and ▼ (UP and DOWN) keys. Once the set time has elapsed, from the moment it finds itself in stop status, the instrument goes into locked keys status.

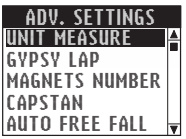
Select the available values: DISABLED, 1min, 2min, 3min, 4min, 5min, 6min, 7 min, 8min, 9min, 10min. (default: DISABLED)

4.4 - Language

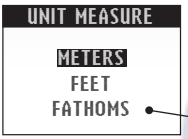
Use this option to select the language in which the system messages are displayed.

Selectable languages: ENGLISH - ITALIANO - FRANCAIS - DEUTSCH - ESPANOL

4.5 - Advanced settings



Use this option to calibrate the chain counter according to the windlass it is mounted on.



UNIT MEASURE
Use this option to select the unit of measurement relative to measurement of chain lowered. Changing units of measurement (e.g. from METRES to FEET) during use does not lose the values and parameters already present but will automatically convert them to the new unit set.

Selectable options: METERS, FEET or FATHOMS (default: METERS).

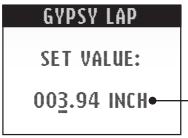
GYPSY LAP

Use this option to set the measurement of the chain in one gypsy lap. To obtain this value, remove the gypsy, wind the chain around it and then measure its length.
Consult the User's manual of the windlass for more detailed instructions on how to remove and re-install the gypsy.

Change the value using the ▲ and ▼ (UP e DOWN) keys and select by pressing the ● (SELECT) key to move to the next number. Pressing the ● (SELECT) key after the last digit will save the value.

☞ In order to proceed with data entry for this setting, it is necessary for the lowered chain measurement to be zero (0.0) and for the anchor to be fully sailed.

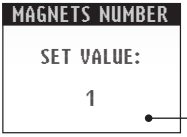
If the unit of measurement is set to METERS,
the settable values are from 010.00 to 600.00 cm (default: 10 cm).



If the unit of measurement is set to FEET or FATHOMS,
the settable values are from 003.94 to 236.22 inch (default: 3.94 inch).

☞ The instrument needs correct data regarding GYPSY LAP and NUMBER OF MAGNETS in order to function properly. Make sure that you have entered the data for your windlass correctly (see **4.9 - Gypsy circumference measurement**).

If more than one instrument counts as a chain in the network, please refer to Section **4.9 - Use of device in a mixed network**



MAGNETS NUMBER

Use this option to set the number of magnets installed on the gypsy.

Selectable Values: 1 to 16 (default: 1)..

In order to proceed with data entry for this setting, it is necessary for the lowered chain measurement to be zero (0.0) and for the anchor to be fully sailed.

CAPSTAN

Tramite questa impostazione si attiva la modalità tonneggio e la relativa barra di info dedicata (see paragraph 3.6).

Selectable options: YES and NO (default: NO).

AUTO FREE FALL

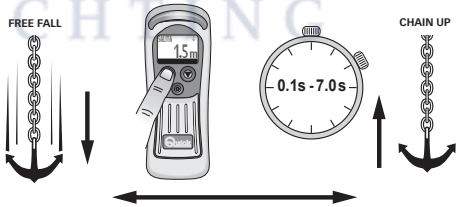
Through this management we set the time required by the windlass auto free fall system to deactivate itself.

Select the available values: DISABLED , from 0.1 s to 7.0 s (default: DISABLED)

ATTENTION: auto free fall management must be activated exclusively with windlasses equipped with auto free fall system. Refer to the instruction manual relative to the windlass being used.

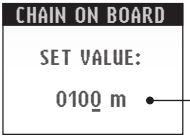
ATTENTION: if auto free fall management is activated, the "no sensor" or "sensor failur" signal time will vary depending on the value entered in the AUTO FREE FALL.

ATTENTION: activation of the AUTO FREE FALL prevents the use of the automatic down function; the latter will become usable again by deactivating the auto free fall function.



CHAIN ON BOARD

In this menu you set the chain count remaining on board, which can be displayed in the dedicated monitoring line (see section 3.5 Monitoring)



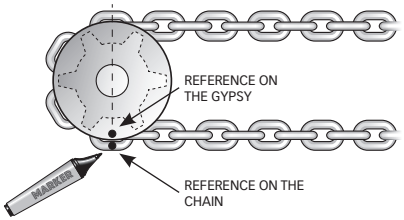
If the unit of measurement is set to METERS, the settable values are: DISABLED, from 1 m to 1000 m

If the unit of measurement is set to FEET, the settable values are: DISABLED, from 1 ft to 3281 ft

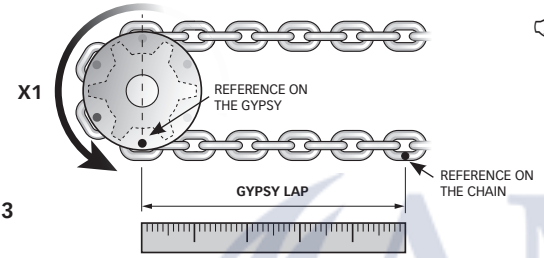
If the unit of measurement is set to FATHOMS, the settable values are: DISABLED, da 1 fm to 547 fm

4.6 - Gypsy circumference measurement

1



2



3

1) Mark a reference on the chain and the gypsy on the main axis.

2) Make one complete lap of the gypsy, returning its reference to the initial point.

3) Measure the chain length between the main axis and the position reached by the reference after a complete gypsy lap. (precision = 1 mm).

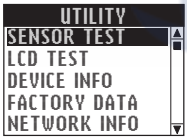
The accuracy of the value set as GYPSY LAP affects the precision of lowered chain measurement.

If using the imperial system for measuring gypsy lap, convert the measured value using the following formula:

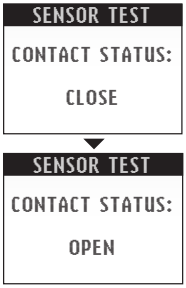
GYPSY LAP
(centimeters) [2] = length (inches) × 2.54

[2] Approximate the measurement obtained to the first decimal place.

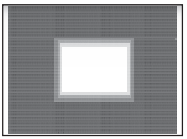
4.7 - Utility



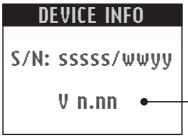
This option allows the user to perform procedures to check and control the chain counter operation.



SENSOR TEST
This function can be used during installation or to check that the lap sensor works properly. If the sensor detects the magnet, "CLOSE" is displayed and the buzzer sounds; otherwise "OPEN" is displayed and the buzzer does not sound.

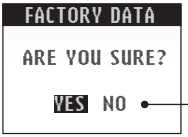


LCD TEST
This function can be used to check correct operation of the LCD display's pixels.
Once the data item has been confirmed from the UTILITY menu, all the display pixels will be activated for 5 seconds; after which the system will go back to menu UTILITY.



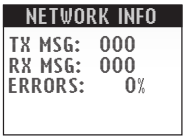
DEVICE INFO
This function allows viewing the version of the software installed on the device, as well as serial number, week and year of production.

Where **sssss** is the serial number, **ww** is the week of production and **yy** is the year the chain counter was produced. **n.nn** shows the firmware version



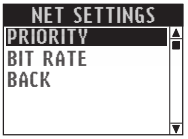
FACTORY DATA
This function allows the user to enter the default values and restart the chain counter.

YES or NO can be entered.



NETWORK INFO
This function shows some information regarding CAN messages transmission state.

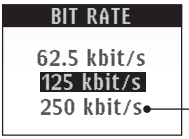
4.8 - Net settings



These options allow setting CAN priority and CAN bus interface speed.

PRIORITY
This option allows the user to determine chain counter's priority in the CAN network (see chapter MULTIPLE CHAIN COUNTERS).

MASTER and SLAVE can be entered (default: MASTER).



BIT RATE
This option allows setting the communication speed of the CAN bus interface.
After setting, turn off and on again the instrument.

Selectable values: 62.5 - 125 - 250 kbit/s (default: 125 kbit/s)

4.9 - Use of device in a mixed network

Mixed network refers to the simultaneous presence of a CHC 1103 B combined with a CHC1203 with a firmware version lower than V2.15, chain counter models, such as CHC1202M.

⚠ **ATTENTION:** In a mixed network, the CHC 1103 B, must be set as master.

⚠ **ATTENTION:** In a mixed network, any settings to be made on the ADVANCED SETTINGS menu concerning entries "SET MEASURE" and "GYPSY LAP" must be performed on the master chain counter. Changes made on the slave chain counter will not lead to any modification.

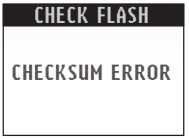
⚠ **ATTENTION:** in a mixed network, at the time of first installation or after the SET MEASURE is changed, set the gypsy lap second decimal point to zero in the CHC 1103 B (both for measurement in cm or in inches).

If the second decimal is not set to zero, the lowered chain measures between the chain counter set as master and the chain counters set as slaves will be slightly different.

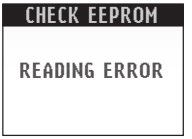
The value shown in the slave chain counters will never exceed 0.6% of the reading shown on the master chain counter.

5.0 - System errors

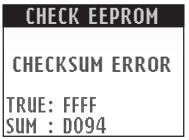
System errors may arise when the chain counter is turned on.



checksum error
FLASH memory



Reading error
EEPROM memory



Checksum error EEPROM memory

Data error
EEPROM memory

If one of these messages appears do not use the chain counter and contact a service center or QUICK® customer service without delay.

Multi Master error
If the chain counter detects more then one of MASTER chain counters in the CAN network, the following window is displayed:

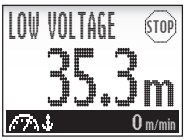
Select chain counter's priority in the CAN network
(see chapter MULTIPLE CHAIN COUNTERS).

5.1 - System faults

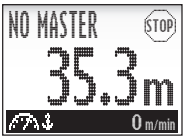
System faults that appear on the state line divided into three categories which are shown below: problems with automatic reset and problems with manual reset.

5.2 - Problems with automatic reset

These faults are automatically reset as soon as the cause that had generated the problem disappears.



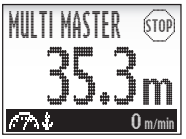
Low voltage
The fault is displayed if the power supply voltage drops below 10.5Vdc for more than one second. The reset of this problem occurs if the power supply voltage exceeds the threshold of 11.0Vdc for more than one second.
Check the charge state of the battery group that supplies power or the electrical plant.



No MASTER
This fault is displayed if there is not a chain counter with MASTER priority in the CAN network (see chapter MULTIPLE CHAIN COUNTERS).
See if the MASTER chain counter is on and the data line connections.

Opposed commands
This fault is displayed if keys UP or DOWN of the chain counter are pressed at the same time as the respective external control DOWN or UP key (another chain counter or another remote switch).
If the fault is present, keys ▲,▼ (UP, DOWN) are disabled.

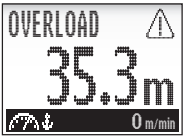
Remote programming active
This fault is displayed if a chain counter has entered the SETTINGS menu in the CAN network (see chapter MULTIPLE CHAIN COUNTERS). Wait until the chain counter has exit the menu.
If the fault is present, keys ▲ ▼ and ● (UP, DOWN e SELECT) are disabled.
Monitoring line change and flashlight remain activated.



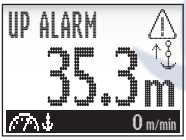
Multi-Master
This fault is displayed if more than one device set as MASTER has been detected in the CAN network.
If the fault is present, keys ▲,▼ (UP, DOWN) are disabled and you will not be able to access the menu.

5.3 - Problems with manual reset

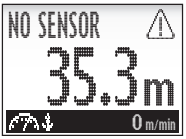
These problems are reset by the user: by pressing key ● (SELECT) or turn off the chain counter and turn it back on. If the fault is present keys ▲,▼ (UP, DOWN) are disabled.



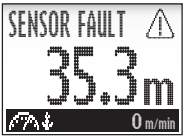
Overload
This fault is signaled when the instrument detects at short circuit or overload at the instrument's output.
Check wiring of signals UP and DOWN and absorption of the points of use connected to the output of the instrument.
If there is a fault, keys ▲,▼ (UP, DOWN) are inoperative.



Up alarm
This fault is displayed if the length of the chain is less than the value set on the FUNCTIONS\UP ALARM menu.



No sensor
This fault is displayed if the laps sensor does not detect the gypsy movement within four seconds (for a longer time if auto free fall management is activated) when key ▲, or ▼ (UP or DOWN) of the chain counter or other switches are pressed.
Check the distance between the magnet and sensor, operation of the laps sensor and the wiring/connections.



Sensor fault
This fault is displayed if the chain counter detects a short circuit in the sensor for more than four seconds (for a longer time if auto free fall management is activated) when key ▲, or ▼ (UP or DOWN) of the chain counter or other switches are pressed.
Check operation of the laps sensor and the wiring/connections.

5.4 - Anchor recovery mode

The mode allows bypassing "NO SENSOR" or "SENSOR FAULT" errors in order to allow chain operation.
This mode can be activated when the instrument reports NO SENSOR or SENSOR FAULT by simultaneously pressing the ▲ and ▼ buttons (UP and DOWN) for at least two seconds.

Once activated, the wording "SENS. PROTECTION DISABLED" will be displayed:

The ▲ and ▼ buttons (UP and DOWN) are again enabled.
At this point, the "AUTOMATIC DOWN" and "UP ALARM" functions are inhibited.

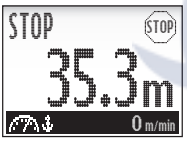
⚠ **WARNING:** even if bypassed, the problem persists and must be resolved as soon as possible.

⚠ **WARNING:** use the "ANCHOR RECOVERY MODE" only when strictly necessary, since the instrument will not display the count of the dropped chain and consequent position of the anchor.

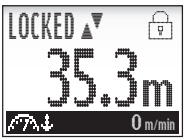
This mode is reset by switching the instrument off and on.

5.5 - Confirmation messages

Confirmation messages that may appear on the state line are shown below.



Stop
When no commands are sent to the windlass, the following window is displayed:



Locked Controls
Once the time set in the LOCKED KEYS parameter has elapsed, the instrument will inhibit the functionality of the ▲ and ▼ and (UP and DOWN) keys; pressing these keys will have no effect. Pressing the ● key (SELECT) will reactivate the functionality of the ▲ and ▼ (UP and DOWN) keys.

6.0 - Maintenance

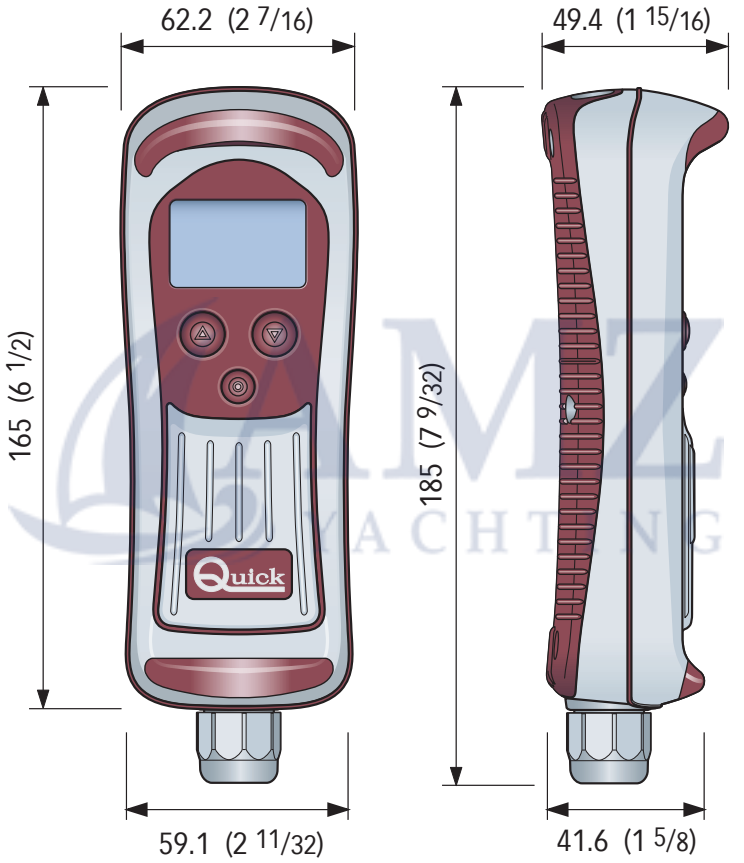
The chain counter does not require any particular maintenance. To assure top performance, check the cables and electrical connections once a year.
Clean the chain counter with a soft rag dampened in water. Do not use chemicals or harsh products to clean the chain counter.

7 - TECHNICAL DATA & DIMENSIONS

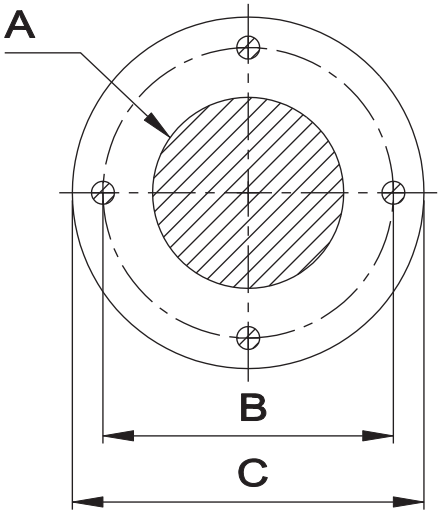
OUTPUT CHARACTERISTICS	
UP/DOWN contacts current	4A max
INPUT CHARACTERISTICS	
Supply voltage (1)	9 ÷ 32 Vdc
Current absorbed when idling (2)	12 mA @ 12V - 8 mA @ 24 V
Maximum current absorbed (3)	91 mA + current used by solenoid unit
AMBIENT CHARACTERISTICS	
Operating temperature (4)	from -20 to +70 °C
Degree of protection (5)	IP 67
GENERAL CHARACTERISTICS	
Communication interface	CAN BUS with differential transceiver
Weight	750 g
EMC class	EN 60945 - FCC Part 15 Rules 47

(1) The chain counter can reset itself if the voltage is less than 9 Vdc.
(2) Typical value with back-lighting off and windlass not on.
(3) Typical value with back-lighting on at highest level and windlass on.
(4) With temperatures below 0°C the crystals in the LCD slow down.
(5) With the plug correctly inserted into the socket. Excluding the area of the socket where the exit cable is fixed (IP 00).

Dimensions in mm (Inches)



SOCKET FOR HRC



4"
100 mm

	A	B	C
mm	ø25	ø38	ø46
inch	Ø1"	1" 1/2	1" 13/16

Name
DRILLING TEMPLATE

Model
SOCKET FOR HRC

Size
A5

Rev. 1 2 3 4

Scale 1:1

Drawing units mm/inch

File

Date 28/11/05

AMZ
YACHTING

Note - Notes

Quick®
Nautical Equipment

Rev 001A
January 2024

CHC 1103 B
Chain Counter

EN Product code and serial number

QUICK® SPA

QUICK® S.p.A. - Via Piangipane, 120/A - 48124 Piangipane (RA) - ITALY
Tel. +39.0544.415061 - Fax +39.0544.415047 - quick@quickitaly.com

www.quickitaly.com

User's manual