Hydrosteel 7000TL

Instrument User Manual V1.2

Register your instrument online to receive your extended warranty.

Unrivalled Detection.

www.ionscience.com

Register your instrument online for extended warranty

Thank you for purchasing your Ion Science instrument.

The standard warranty of your instrument can be extended to up to five years on PhoCheck Tiger and two years on other Ion Science instruments.

To receive your extended warranty, you must register your instrument online within one month of purchase (terms and conditions apply.)

Visit www.ionscience.com/instrument-registration

Part number: 910424

Declaration of conformity

Manufacturer: Ion Science Ltd, The Way, Fowlmere, Cambridge, SG8 7UJ, UK

Product: HY7K-TL

Product Description: An intrinsically safe fixed continuous monitor comprising of a photo-ionisation detector for detecting and measuring volatile organic compounds with a 4-20mA output

Directive 94/9/EC **ATEX**

Identification: Ⓔx II 3G Ex nA IIC T4 (-40°C ≤ Ta ≤ +60°C)
Notified Body: Self certified by Ion Science limited, Cambridge, SG8 7UJ UK

Ionscience09866 Examination certificate issued 27th January 2011
Ref Ion Science Cert Report 910420

Standards

BS EN 60079-0:2006	Electrical Apparatus for Potentially Explosive Atmospheres – General Requirement
BS EN 60079-11:2007	Explosive Atmospheres - Equipment Protection by Intrinsic Safety 'i'
BS EN 60079-15:2007	Explosive Atmospheres - Equipment Protection by other means 'n'
BS EN 61010-1:2010	Safety requirements for electrical equipment for measurement, control and laboratory use – General requirements

Other Standards

BS EN ISO 9001:2000	Quality Management Systems – Requirements
BS EN 13980:2002	Potentially Explosive Atmospheres – Application of Quality Systems

On behalf of Ion Science Ltd, I declare that, on the date this product accompanied by this declaration is placed on the market, the product conforms to all technical and regulatory requirements of the above listed directives.

Name: Mark Stockdale **Position:** Technical Director

Signature:  **Date:** 20th November 2008

Contents

Statements

Responsibility for Use
Hydrosteel 7000 flux monitor for permanent installation provides flux readings that are subject to interpretation. Ion Science Ltd can accept no responsibility for the incorrect use that may causes harm or damage to persons or property.
Inadequate performance of the gas detection equipment described in this manual may not necessarily be self-evident and consequently equipment must be regularly inspected and maintained. Ion Science recommends that personnel responsible for equipment use institute a regime of regular checks to ensure it performs within calibration limits, and that a record be maintained which logs calibration check data. The equipment should be used in accordance with this manual, and in compliance with local safety standards.

Warnings
• User Manual**:** Read and understand this user manual completely before operating Hydrosteel 7000 TL instrument.

• Servicing: No part of the Hydrosteel 7000 may be opened in a hazardous area. The Hydrosteel 7000-TL battery pack must be serviced in a Non Hazardous environment and by Ion Science authorised service centres only.

• Battery Charging: Charge Hydrosteel 7000-TL battery pack in a Non Hazardous environment in clean and dry conditions only.

• Opening Enclosure: Never open battery enclosure to access timer while in a potentially explosive or hazardous location. Do not open the battery to adjust the timer unless the environment is clean and dry

• Battery Connection: Care should be taken to keep the open face of connectors clean and dry.

Quality Assurance
Hydrosteel 7000 has been manufactured in compliance with ISO9001:2008 and BSEN 13980:2002, which ensures that the equipment supplied to our customers, has been designed and assembled reproducibly, and from traceable components.

Disposal
Dispose of Hydrosteel 7000, its components in accordance with all local and national safety and environmental requirements. This includes the European WEEE (Waste Electrical and Electronic Equipment) directive. Ion Science Ltd offers a take back service. Please contact us for more information.

Calibration Facility
Ion Science Ltd offer a calibration service including the issue of certification using equipment which are themselves traceable to UK national standards.

Legal Notice
Whilst every attempt is made to ensure the accuracy of the information contained in this manual, Ion Science accepts no liability for errors or omissions, or any consequences deriving from the use of information contained herein. It is provided "as is" and without any representation, term, condition or warranty of any kind, either express or implied. To the extent permitted by law, Ion Science shall not be liable to any person or entity for any loss or damage which may arise from the use of this manual. We reserve the right at any time and without any notice to remove, amend or vary any of the content which appears herein.

Introduction to Hydrosteel 7000TL

The Hydrosteel 7000 TL (Transportable light) is an instrument for the measurement of hydrogen flux from pipes & vessels in Zone 2 hazardous areas.

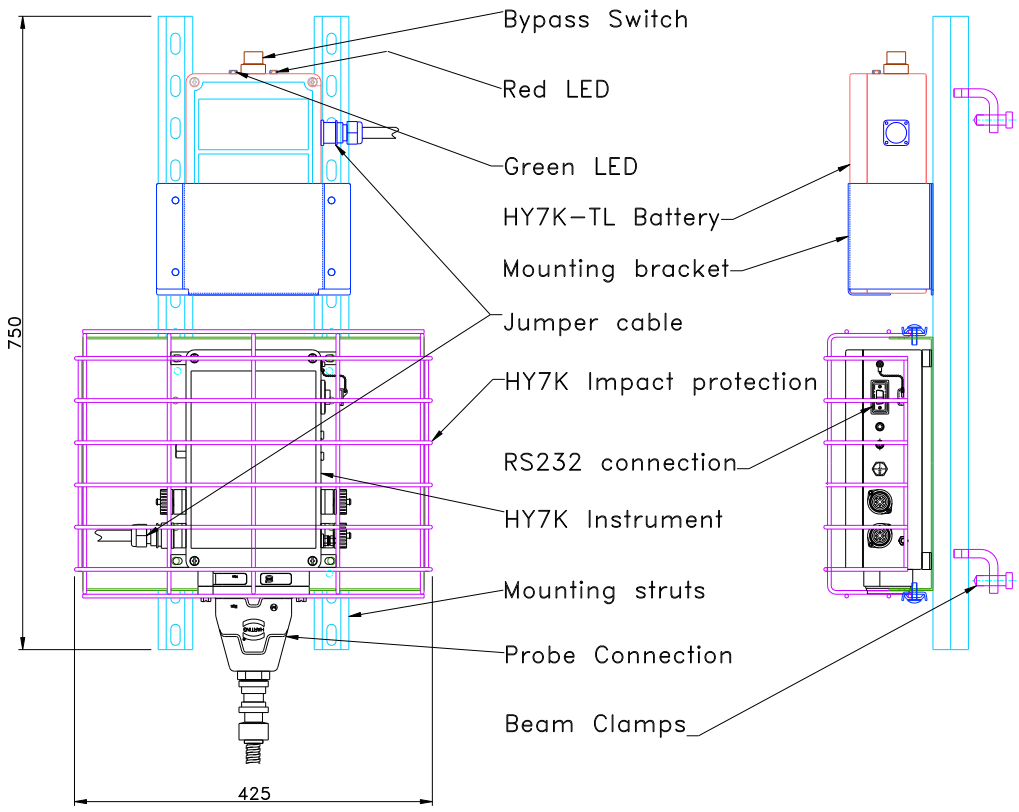
The system is made of a number of sub components. It comprises of a Hydrosteel 7000 in a protective housing, a timer operated battery box with mounting bracket, interconnection jumper cable, and safe area battery charger. See layout drawing for a pictorial representation.

Note the Hydrosteel 7000 when powered with this battery in zone 2 area must be protected from impact by the use of impact guards only removable by use of a tool or installation in a suitably rated enclosure. For operation details of the Hydrosteel 7000 please refer to Hydrosteel 7000 instrument manual.

HY7K-TL battery
The Hydrosteel 7000 TL is powered from the timer operated battery box mounted locally. The battery box is connected using a jumper cable to the Hydrosteel 7000. The timer inside the battery enclosure is used to program the number of measurement cycles per day and switches on the Hydrosteel 7000 on and off as required. There is an override switch on the outside of the battery (with Green indicator LED) to power the Hydrosteel out side it's normal timings to enable customer data download. Also included is a Red LED that indicates when the battery power is low and requires charging.

Hydrosteel 7000
Hydrosteel 7000 operates a 10 minute measurement cycle. The unit draws a controlled flow of sample gas from the probe into the unit, where the concentration of hydrogen gas in the sample is measured. At the end of each cycle, all readings and diagnostic are logged to the internal memory. If the 4-20mA outputs are powered they will provided output the latest reading at the end of each measurement cycle. See Hydrosteel 7000 manual for further information on its operation.

Layout diagram



Installation procedure

1) I identify installation location and mounting method
2) Pre-Charge the battery in safe area
3) Move all equipment to installation site
4) Mount HY7K-TL system using beam claps to suitable hand rail or other structure
5) HY7K installation. Please refer to HY7K manual
    a. Mount probe
    b. Mount probe bracket
    c. Connect sample conduit to probe
    d. Terminate sample conduit (Connect Cut to length as appropriate)
    e. Connect sample conduit to HY7K instrument
    f. Mount Hy7K instrument within impact protection, (if not already mounted).
    g. Clad probe for weather protection
6) Battery mounting
    a. Fit battery mounting bracket if it is not already secured onto the mounting struts.
    b. Fit battery box into bracket as described by sliding it in for the top with the switch and connector upper most.
7) Connect battery to HY7K using jumper cable supplied.
8) Switch over ride power on. Check HY7K switches on after ~15 seconds as indicated by the illumination of the Red ELD on the outside of the HY7K.
9) Check operation of HY7K (HY7K Manual)
    a. Let instrument run for at least 2 measurement cycles.
    b. Perform data download and confirm operation. Use lap top computer loaded with ISL software.
10) Program timer. (Timer instructions sheet as referenced)
    a. Test timer. Program time with an imminent switch on and watch to ensure correct switch on.
    b. The program timer with full program.

Leave instrument to run over night. Data download should be performed in next day or so to confirm timing is acceptable.

Operating procedure

The Hydrosteel is powered by TL battery pack. The Hydrosteel 7000 will be switched on and off according to the settings on the timer contained within the battery pack. When the Hydrosteel is on it will operate as normal please see the Hydrosteel 7000 manual for full details. Normal operation is a 10 minute measurement cycle.

The timer is capable of great switching flexibility. So practically any duty cycle or on time may be program from one measurement per day to continuous measurement. Measurements at specific times are also possible to check the effect of a regular process change such as inhibitor dosing.

To set the timer the lid will need to be removed by unscrewing the four crosshead screws in the corners. The photograph below shows the hY7K-TL with the lid removed. The battery lid must only be removed in clean dry environment.

Please note:
In order to ensure that the HY7K safely finishes its 10 minute measurement cycle, each period of the timer should be at least 1 minute longer than the measurement period. For example 11 minutes for 1 measurement cycle, or 21 minutes for 2 measurement cycles in a row.

It is recommended to set the measurement cycle with an understanding of the required response rate and the acceptable battery life.

Operating procedure

As a default timer has been set up to take one measurement every 3 hours. For this configuration T1 is set to 11 minutes, and T2 is set to 2hours 49 minutes. This timing has been set as follows:

The timer is shown in close up below for reference when reading the timer set up instructions.

Set clock time

- Press and hold “CLOCK” button,
  - Select day by pressing ‘DAY’ the appropriate number of times
  - Select hour by pressing ‘HOUR’ the appropriate number of times
  - Select 1 minute in advance of current by pressing ‘DAY’ the appropriate number of times
  - Press the ‘SEC’ button to set the time to 00 seconds. Press the ‘SEC’ as the time reaches the minute in advance that you have entered. (This will set the time exactly to within a ±2 seconds.
  - Release the clock button

Set on time (secondary command)

- Press the ‘TIMER’ button once. “ON” should be displayed on the left hand side of the time of the display.
  - Press the ‘MINUTE’ button 11 times to set the “ON” time to 11 minutes

Set off time (secondary command)

- Press the ‘TIMER’ button again once. “OFF” should be displayed on the left hand side of the time of the display.
  - Press the ‘HOUR’ button twice to set off time to 2 hours
  - Press the ‘MINUTE’ button 49 times to set the on time to 2 hours and 49 minutes.
  - Press the ‘CLOCK’ button to return to the display for the current time

Set start time (primary command)

- Press the ‘TIMER’ button again once. “1” should be displayed on the left hand side of the time of the display with “START” In the top right corner.
  - Press the day button as many times as necessary to ensure all the days of the week are selected.
  - It is not necessary to set any further time details. This will start the timer at 0:00 midnight thereafter it will run with secondary command timings.

Activating the time switching’s

- Press the “MANUAL” button (if necessary) to ensure that the indicator bar is on above AUTO. This will activate the timer to use the settings that have been programmed. (the other two options on and off will respectively, either cause the unit to run continuously or keep it switched off.

For alternate programming refer to the TM620C-3 timer instructions contained in the appendix.

Battery information

Battery Life
The battery life will depend on environmental effects and age of the battery as well as the number of measurements taken per day. The table blow shows estimated battery life with different timings. (assuming system is operating with in operating temperature range of -20˚C to +60˚C)

No. of measurement cycles per day	Estimated safe Battery life in weeks
1 (single measurement)	39 (9 months)
2	34 (8 months)
4	27 (6 months)
8	19 (4.5 months)
12	15 (3.5 months)
24	9 (2 months)
48	5.1 (1.2 m)
72	3.5 (24 days)
144 (continuous)	1.8 (12.9 days)

Battery replacement
The battery box is connected to the Hydrosteel unit by jumper cable with IP67 connectors on each end. The cable may be disconnected at either the Hydrosteel or TL battery connector. It is best when removing the battery for charging to disconnect the jumper cable at the battery connector. This way the jumper cable will remain connected to the Hydrosteel 7000 and is less likely to get misplaced during the charging process.

The battery box is held in the Transportable system by means of a battery mounting bracket as shown in the front page picture and layout drawing. To remove the battery box, simply lift the box up and pull forwards, when clear of the mounting bracket. Please note that there are no retaining bolts or fittings to be removed before the battery box removal.

Refitting the battery box is a reversal of this procedure.

Battery charging
Please note the following:

- Batteries must be charged outside the hazardous area:
- Charging should only be performed in a dry and clean area in order to avoid any damage to the battery charger

1. Connect the Charger output to the battery by means of the external connector
2. The charger will fully charge the battery in 9 hours. So an overnight charge will safely charge the batteries.
3. LED's indicate the following charge status.
    - Orange indicates fast charge on going.
    - Yellow indicates final charge (normally 80-95% charged)
    - Greed indicates that battery has reached full charge
4. Disconnect the charger

For full details of charge profile and operation see charger instructions in appendix

Data download

Refer to appropriate section of the Hydrosteel 7000 manual for full details.

PLEASE NOTE: To down load data the Hydrosteel 7000 will have to be "**ON**".

Active the bypass power by turning the external switch, located on the top of the battery (Reference diagram on page 6 for location). The green LED will light to indicate that it is on. The Hydrosteel 7000 will then come on ~ 10 seconds later as indicated by a green LED on the outside. It is now possible to download the data as follows

Note: Refer to appropriate section of the Hydrosteel 7000 manual for full details.

1. Open and switch on the laptop.
2. Connect modem cable from PC coms port to Hydrosteel 7000 coms port. Make sure the instrument is switched on. If the Laptop or PC does not have a dedicated coms port then the USB to RS232 coms port adapter supplied with the Hydrosteel kit should be used. Follow the instructions with this item to load the drivers and set up the operation.
3. Start the 7K PC software and select settings.
4. Select "Search for instrument". The PC software will pole the existing com ports in ascending order to find which port the Hydrosteel is attached to. Once the instrument has been found select OK to continue. (If the instrument is not found by the PC software check the power and connections to the HY7K and if necessary use another coms port).
5. Select "connect to instrument" A window will appear as the software attempts to communicate to the Hydrosteel 7000. The top box will confirm the instrument status if the connection has been correctly made. If the communication fails an error message will be displayed "error failed to get data". See *Fault Finding*, page 42 of the Hydrosteel 7000 manual.
6. To download the data press download button. There is an option to download data only from a specific date. This might be the date of the last data download. A status bar will appear while the data downloads if the memory is full (1year +) this will take some time.
7. Once the data has downloaded it will be displayed as graph and table.
8. Save the data as required
9. Once the data has been downloaded and saved, we recommend that the logged data is erased. (This will minimise the data download time and prevent multiple files having the same data). From instrument menu select "Set/Clock/Erase data" then select "Erase logged data". Once erase is complete it will be highlighted at the bottom of the window.
10. When finished close the software, turn off and close the laptop then disconnect the cable.
11. Return the timer to "AUTO" mode and re-fit the Exd barrier lid.

Refer to appropriate section of the Hydrosteel 7000 manual for full details.

Maintenance

The Hydrosteel 7000 should be serviced yearly or as recommended.

No servicing should be needed for HY7K-TL battery, however if a loss in battery capacity (run time) is noticed then the battery should be returned to Ion Science for testing and possible replacement.

The battery should be kept at 30% charge +-15% if is to be kept in storage for an extended periods of time. If the battery runs completely flat, time settings in the timer may be lost and will need to be reprogrammed when the battery has been recharged.

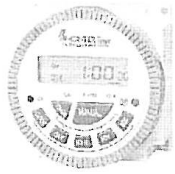
Apendix

Timer instructions
TM-620C-3

GENERAL INFORMATION

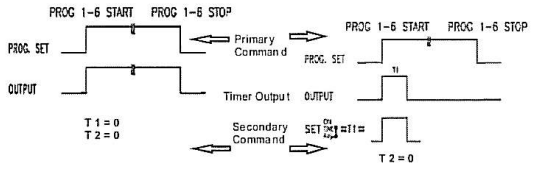
This Panel-Mount Digital Timer series can be produced for wide range of power supply sources, from 240Vac to 12Vdc, output format can be produced with either volt-free or volt-ouput.

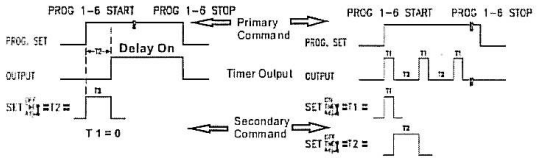
Equipped with Lithium CR2032 to provide programming memory backup.



TM-620C-series

This Digital weekly & Daily timer is accurate to the second, designed with unprecedented control-logic by **Two secondary-Command** defining duration of Timer's output at " **ON" (T 1)** status, and "**OFF"(T 2)** status, and with one **Primary-Command** by maximum **6** time-to-**Start**/time-to-**Stop**,to construct time-interval that secondary-command to implement its command within each of 6 time interval. Graphic description, as below:





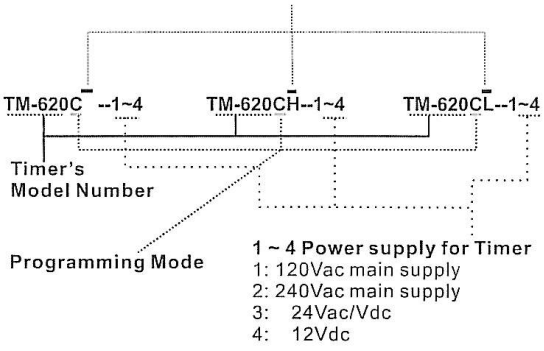
Also ,it provides 15-combination of Daily-Program s leads great convenience to users, in use of Timer on programming it to their demands for desired **DAYS** of **WEEK**.

1.	MO	TU	WE	TH	FR	SA	SU
2.	MO						
3.		TU					
4.			WE				
5.				TH			
6.					FR		
7.						SA	
8.							SU
9.	MO	TU	WE	TH	FR		
10.						SA	SU
11.	MO	TU	WE	TH	FR	SA	
12.	MO	TU	WE				
13.				TH	FR	SA	
14.	MO		WE		FR		
15.		TU		TH		SA	

DESCRIPTIONS TO MODEL CODE

Advise factory upon ordering, for requirements of
6 or 8 ON/OFF
12H or 24H clock format
Lithium CR2032 or Rechargeble V80H

: Volt-Free contact, 250Vac/16Amp Rating
H : Volt Output, 250Vac/20Amp Rating
L : Volt Output, 250Vac/16Amp Rating



PROGRAMMING THE TIMER #1

A.Functional description to buttons on panel

1. **TIMER** : Programs review & setting programs
2. **MANUAL** : To select "**ON**,**AUTO** or **OFF**"
3. **CLOCK** : To adjust current DAY and TIME
4. **DAY** : To adjust day of week
5. **HOUR** : To adjust Hour
6. **MIN** : To adjust minute
7. **SEC** : To adjust second
8. Ⓟ : Reset Timer's setting
9. **LED** : To indicate ON/OFF status

Press Ⓟ button to reset Timer before programming

B.Adjusting CLOCK

Press and hold **CLOCK** and then press **DAY** key, **HOUR** key, **MIN** key respectively to adjust clock of Timer to accurate **DATE, HOUR, MINUTE.** In 12-Hour-Format, **PM & AM** shall appear on LCD screen. In 24-Hour-Format LCD screen shall indicate 0:00 ~23:59

C. Starts to programming the Timer
****First to complete two Secon dary-Command setting**

1. Press **TIMER** key, LCD screen shall show ON TIME ADJ. 0:00 Timer has entered mode of setting **T 1** (its definition described at **GENERAL INFORMATION**)
2. Press **HOUR** key, **MIN** key and **SEC** key respectively, to set **operate duration** for **T 1**.
3. Press **TIMER** key again after finished setting **T 1**. OFF TIME ADJ. 0:00 shall appear on LCD screen, now Timer has entered the mode of setting **T 2**.(its definition described at **GENERAL INFORMATION**)
4. Press **HOUR** key, **MIN** key and **SEC** key respectively, to set **operate duration** for **T 2**.

Appendix

PROGRAMMING THE TIMER #2

**Then to start to setting Primary-Command

5. Press **TIMER** again, on LCD screen, users shall read 1 - - : - - - - START Timer has entered Primary-Command setting mode.
6. Press **DAY** key to select any of 15-combination of Daily-Programs to your application demand. Continuing to press **DAY** key, LCD shall alternating indicate among 15-combinations.
7. Press **HOUR** key, **MIN** key and **SEC** key respectively to set HOUR, MINUTE and SECOND for 1 - - : - - - - START
8. When finished setting 1 - - : - - - - START , Press **TIMER** key, to enter setting for "**1--:--STOP**". LCD screen shall show 1 - - : - - - - STOP
9. Press **DAY** key to select any of 15-combination of Daily-Programs to your application demand. Continuing to press **DAY** key, LCD shall alternating indicate among 15-combinations.

Chosen 15-combination of Daily-program for both "1- - : - -START" and "1- - : - - STOP" must be consistant

10. Press **HOUR** key, **MIN** key and **SEC** key respectively to set HOUR, MINUTE and SECOND for 1 - - : - - - - STOP
11. Repeat procedure stated on **5 ~ 10** to complete entire "6 **START** & **STOP**".

Upon finished setting for both Secondary-Command & Primary-Command, press **CLOCK key, Timer shall begin to run programs.

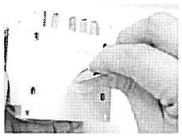
D. To review programs
Keep to press **TIMER** key, display on LCD screen shall alternating display among Secondary-Command(**T 1 & T 2**) and each setting of Primary-Command.(6 time-to-**START**/time-to-**STOP**)

E. How to use Override functions
This function effects in AUTO mode only.

Condition-1 When Timer's programs in executing, its output status is "**ON**". Pressing **MANUAL** key, to move indicator from " **AUTO** " to " OFF", Timer output shall turn to " OFF" status, programs overrided. Pressing **MANUAL** again to switch Timer status to " **AUTO** ", Timer's output shall continue maintaining " **OFF** ". till to next programmed opposite setpoint.

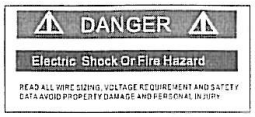
Condition-2 When Timer's programs in executing, its output status is "**OFF**". Pressing **MANUAL** key, to move indicator from " AUTO " to " ON", timer output shall turn to " ON" status,programs overrided. Pressing **MANUAL** again to switch Timer status to " AUTO ", Timer's output shall continue maintaining " ON " Till to next programmed opposite set point.

HOW TO REPLACE BATTERIES



Using a coin and flat-head screw-driver (or simply a larger flat-head screw-driver)

PROPOSED APPLICATION

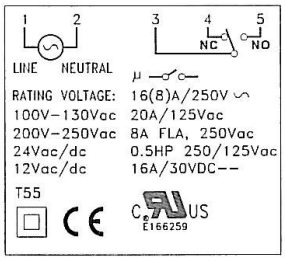


Output terminal of Timer is produced with Flat-head Jack-Type socket to provide convenient electrical wiring upon mounting Timer on equipments.

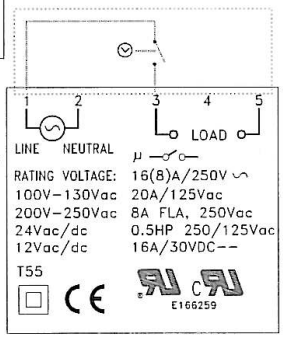
Subject to output formats and types of Contact Rating, there are 3 different styles in TM-620C-series.

Remark:
1. For voltage and electrical RATING information, please refer to the markings on the back of timer.
2. See the back of timer for proper wire connections.
3. Timer may need to be connected to power source in order to set the program.

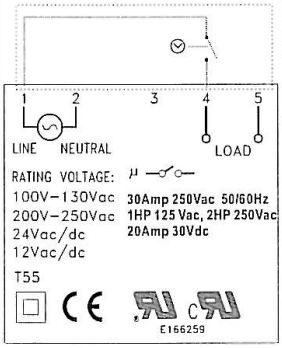
Follow graphic description below & Refer to section of **Descriptions to Model Code** on this instruction-sheet upon proceeding electrical wiring.



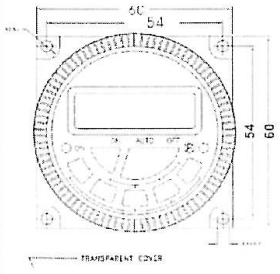
1.Volt Free 250Vac/16Amp

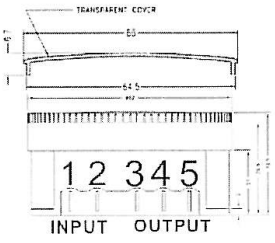


2.Volt Output 250Vac/16Amp



3.Volt Output 250Vac/20Amp





Appendix

Charger instructions

GB

INSTRUCTIONS FOR USE

READ THESE INSTRUCTIONS BEFORE USING THE CHARGER

This product is designed for indoor use only and should not come into contact with water or dust. To prevent overheating the product should not be covered whilst in use.

The mains socket should be easily accessible. In the event of operational error, the plug should be immediately removed from the socket.

This charger is designed for use with Lithium-ion batteries. For safety reasons, this charger must be used only for batteries which have the right number of cells in series: Output voltage divided by 4.1V or 4.2V.

The product contains dangerous voltages and the cover should not be removed. All service or maintenance work should be carried out by qualified personnel who can get assistance by contacting the manufacturer's agent.

A fuse protects the product against short circuiting and overloading. In the event that the fuse needs to be replaced, the same type and size of fuse should always be used.

In the event that the charger has this symbol on it, it is double-insulated (in insulation class II).

If the battery charger is mounted in a vehicle it can only be used when the vehicle is not in use.

If the product is labelled "EN60601-1" it complies with the requirements of electro-medical equipment and can be used in hospital environments, etc.
The product should not be used in the vicinity of flammable anaesthesia gases.

If the product is supplied with an exchangeable output plug, refer to the last page for assembly.

If the product has plastic casing, avoid it coming into contact with oils, grease etc., as most types of plastic can be broken down by chemicals and solvents.

Technical specification: See product labelling.

CHARGING INSTRUCTIONS

1. Do not connect the charger to the mains before it is connected to the battery.
2. Observe correct polarity when connecting to the battery terminals.
3. Connect the charger to the mains.
4. When charging is complete, disconnect from the mains before removing battery connections.

LOOK AFTER THIS MANUAL!

Dok nr. 2686A Art nr. 202686 02 07 03

Appendix

GB

WARNING

The charger has internal fuses which blows if a fault occurs in the charger. Such faults must be repaired by qualified service personnel.

LED's INDICATE FOLLOWING CHARGE STATUS

Fast charge
The charger is in constant current mode.
Charge current is maximum.

Orange

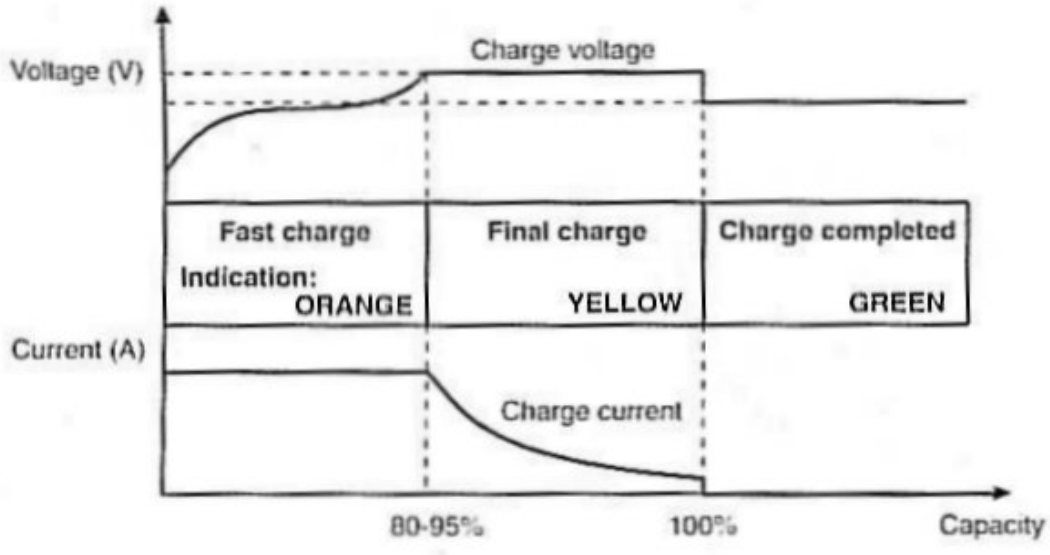
Final charge
The charger is in timer mode.
Charge current is less than maximum.
The battery is normally 80-95% charged when the LED-indicator changes to yellow.
The charger is in constant voltage mode.
The charger stays in this mode until the timer has run out (eg. 4h).

Yellow

Charge completed
The LED-indicator changes to green.
The charge is stopped.
Charge current is zero.

Green

Charging diagram



Dok nr 2686A Art nr 202686 02 07 03

Instrument warranty and service

Warranty

Standard Warranty can be extended to up to 2 years on the Hydrosteel 7000 when registering your instrument via our website: www.ionscience.com/instrument-registration

To receive your Extended Warranty, you need to register within one month of purchase (Terms and Conditions apply). You will then receive a confirmation email that your Extended Warranty Period has been activated and processed.

Full details, along with a copy of our Warranty Statement can be found by visiting: www.ionscience.com/instrument-registration

Service

Ion Science is pleased to offer a number of service options on our Hydrosteel 7000 product range that allow you to choose the instrument cover that best suits your needs.

At Ion Science we recommend that all of our gas detection instruments be returned for service and factory calibration once every 12 months.

Contact Ion Science or your local distributor for service options in your area.

Find your local distributor by visiting: www.ionscience.com

Contact details

UK Head Office
Ion Science Ltd
The Way, Fowlmere
Cambridge
SG8 7UJ
UK
Tel: +44 (0)1763 207206
Fax: +44 (0) 1763 208814
Email: info@ionscience.com
Web: www.ionscience.com

USA Office
Ion Science LLC
33 Commercial Drive
Waterbury
VT 05676
USA
Tel: +1 802 244 5153
Fax: +1 802 244 8942
Email: info@ionscienceusa.com
Web: www.ionscience.com

German Office
Ion Science Messtechnik GMBH
Laubach 30
Metmann-Neandertal
40822
GERMANY
Tel: +49 2104 14480
Fax: +49 2104 144825
Email: info@ism-d.de
Web: www.ism-d.de

Italian Office
Ion Science Italia
Via Emilia 51/c
40011 Anzola Emilia
Bologna
ITALY
Tel: +39 051 0561850
Fax: +39 051 0561851
Email: info@ionscience.it
Web: www.ionscience.it

Manual log

Manual Version	Amendment	Date updated	Instrument Firmware	PC Software
Transportable Hydrosteel 7000 V1.0	Original	15/03/10	N/A	N/A
Transportable Hydrosteel 7000 V1.1	Declaration of conformity added, warnings and text improved,	27/01/11	N/A	N/A
Transportable Hydrosteel 7000 V1.2	Manual format and layout updated	07/01/13	N/A	N/A