

Proshot Dual Multi-shot surveying



USER MANUAL CTPS100

This user manual explains how to use, configure and maintain the Proshot system. Please read and ensure you understand these guidelines before using the product.

Disclaimer

While every effort has been made to ensure that the information contained in the guide is accurate and complete, no liability can be accepted for any errors or omissions. Camteq reserves the right to change the specifications of the hardware and software described herein at any time without prior notice.

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Camteq make no warranties for damages resulting from corrupted or lost data due to mistaken operation or malfunction of the Proshot system.

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Introduction

Congratulations! You are using the latest in digital survey instrumentation for down-hole exploration.

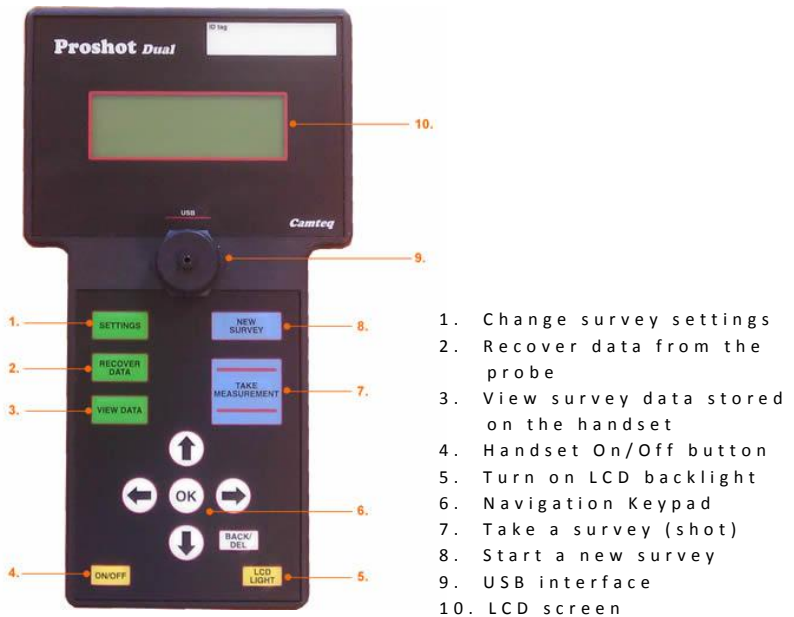
This user guide provides all the information you will need to use and care for your product.

Proshot System

The Proshot handset provides wireless connectivity to any Proshot camera probe. You can configure, start a down-hole survey and download survey data effortlessly.

Handset

The Proshot handset layout and key button functions.

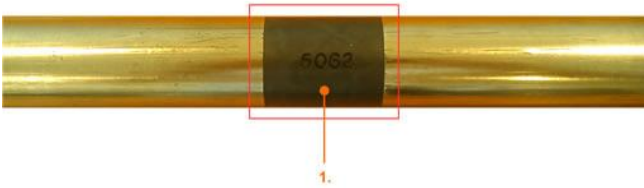


Proshot probe

The Proshot probe is assembled as a single unit with two brass sleeves attached to a black centre piece (the communications window). The centre piece has the probe identification number engraved into it.

The communications window enables the probe to communicate to the handset using wireless technology.

Please ensure the communications window is clearly visible when initiating a survey or downloading survey data (i.e. not covered or underground).



1. Wireless communications window

Menu Options

Pairing

The Proshot probe can be used with any Proshot handset by following the pairing process. To pair a handset to a probe, please follow these steps:

1. Press the <Settings> button
2. Select “Probe pairing” from the menu
3. Select “Manual SN entry”
4. Enter the probe serial number. The probe serial number can be found engraved into the black centre piece.
5. Press <OK>
6. On successful pairing the display will show “Connection to probe successful.”

The handset is now paired to the probe and can be used to conduct down-hole surveys. If you receive an error message while pairing, please go to the “No Response message” section at the back of this user manual.

Survey Options

The Proshot system provides a number of options to customise your down-hole surveys. These options can be changed in the “Survey options” menu.

Survey options include:

- **Survey default name:** *Change the default name of each survey to enable easy identification and to save manual entry at the beginning of each new survey.*
- **Start depth:** *Set the default start depth for each survey.*

- **Depth Interval:** *Set the default depth interval for each survey shot.*
- **Direction of survey:** *Select direction of the survey, either into the hole or out of the hole.*
- **Single or Multi shot:** *Ability to select probe shot mode.*

Info

To view the current software version of the handset or probe, please follow these steps:

1. Press the <Settings> button
2. Select “Info” from the menu
3. Select “Handset Version” or “Probe Version”

The following screen will be displayed:

```
Handset Info  
SW version 4.4.1.0  
2009/09/15 11:59:31
```

Date and Time

To set the date and time of the Proshot system, please follow these steps:

1. Press the <Settings> button
2. Select "Date and Time" from the menu
3. Set the date and time using the <Arrow> keys
4. Press <OK> when you have finished

The following screen will be displayed:

```
Set Date and Time
dd mm yy   hh mm ss
03 / 01 / 00   20 : 46 : 52
```

Reset handset

The Proshot handset stores survey data in memory for viewing or downloading to a USB key. Even after downloading data to a USB key the survey data remains on the handset as a backup.

To erase stored survey data, please follow these steps:

1. Press the <Settings> button
2. Select "Reset handset" from the menu
3. The handset will display the following warning message "If you reset handset all memory will be erased. Press OK to reset"
4. Press <OK> to erase the survey data

Please note: *Resetting the handset will not modify any of your custom survey settings.*

Zero Roll Adjust

The Proshot probe can be zeroed to any roll angle. To zero the Proshot probe, please follow these steps:

1. Press the <Settings> button
2. Select “Zero Roll Adjust” from the menu
3. Press <OK> to perform a zero roll adjustment. The probes ROLL will now read zero at the current position.

Please note: *The probe must be within communications distance from the handset to perform this function. Ensure the handset is no more than 2 meters from the probe.*

Battery Level

To check the battery level of the handset, please follow these steps:

1. Press the <Settings> button
2. Select “Battery Level” from the menu
3. Battery level will be displayed

The following screen will be displayed:

```
Handset battery  
remain: 100%
```

Upload to USB

The Proshot system supports the uploading of survey to a USB device. Survey data is saved in standard CVS format allowing viewing in Microsoft® Excel® or any leading analysis package.

To save survey data to a USB key, please follow these steps:

1. Press the <Settings> button
2. Select “Upload to USB” from the menu
3. Insert USB device into USB port on front panel of the handset
4. Survey data will now be saved to the USB device

The following screen will be displayed:

```
Saving data to USB  
storage.  
Please wait...
```

Please note: *Do not remove the USB device from the USB interface until the handset is finished uploading data.*

Starting a new survey

To start a new survey simply press the <New Survey> button on the handset and follow the on-screen instructions.

After pressing <New Survey>, please follow these steps:

1. Type in Hole ID: Please type in the unique name of this survey
2. Press <OK> to initiate the survey
3. Press <Take Measurement> each time you wish to take a shot. Do not move the probe while a shot is being taken. Moving the probe will reduce the reliability of the survey data.

```
To take shot press  
TAKE MEASUREMENT  
To stop survey  
Press RECOVER DATA
```

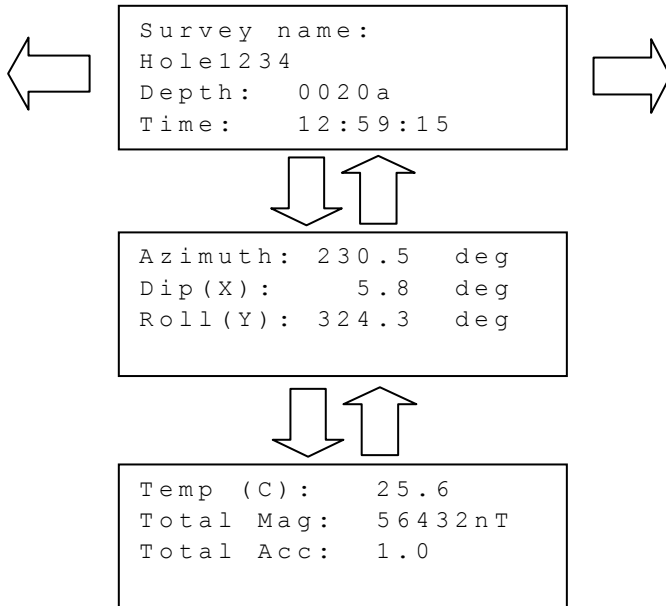
When the survey has been completed pull the probe out of the hole and press <Recover Data>. The handset will now download survey data from the probe ready for viewing.

Please note: *The probe must be within communications distance from the handset to initiate a survey or to recover data, ensure the handset is no more than 2 meters from the probe. Once the survey has been initiated it is ready to be placed down the hole.*

Viewing Survey data

To view survey data press the <View Data> key and scroll through the survey shots using the arrow keys.

The following screens will be displayed as you press the <Up> and <Down> keys to view survey data:



Press the <Left> and <Right> keys to scroll through the surveys stored on the handset.

Data Analysis

Survey data can be downloaded to a USB device for further analysis.

The data is stored in CVS format and can be imported into any spreadsheet software for analysis. The below table is an example of the data layout when imported into a spreadsheet.

Probe SN	Name	Depth	Date	Time	Azi	Dip	Roll	TotMag	TotAcc	Temp
5031	Hole1	0a	17/09/09	9:42:30	116.9	49.2	6.8	59,835.4	1.0	21.1
5031	Hole1	30a	17/09/09	9:42:58	117.2	49.3	276.8	59,857.1	1.0	21.2
5031	Hole1	60a	17/09/09	9:43:28	117.4	49.3	179.9	59,786.0	1.0	21.3

Table: Example

Please note: *The TotAcc column shows the total acceleration of the probe when the shot was taken. A TotAcc of 1.0 means that the probe was stationary and the data is accurate.*

If the TotAcc is greater or less than 1.0 the probe may have been moving or picking up vibrations from the string line, this data maybe less accurate.

No Response message

The Proshot system uses wireless technology between the handset and the probe. This enables communication without the need for wires or for the user to disassemble the probe to download survey data.

In some circumstances the handset may not be able to communicate to the probe, when this occurs the following screen is displayed.

```
No response from
probe.
Press OK to retry or
BACK to cancel.
```

This may be caused by a number of reasons. If you see this message please review the following checklist and press <OK> to retry:

- Ensure the distance between the handset and the probe is no more than 2 meters
- Ensure there are no obstacles between the handset and the probe
- Ensure the communications window is clearly visible (i.e. not covered or underground)
- After performing the above checks, if you're still unable to communicate to the probe please check the batteries

Changing batteries

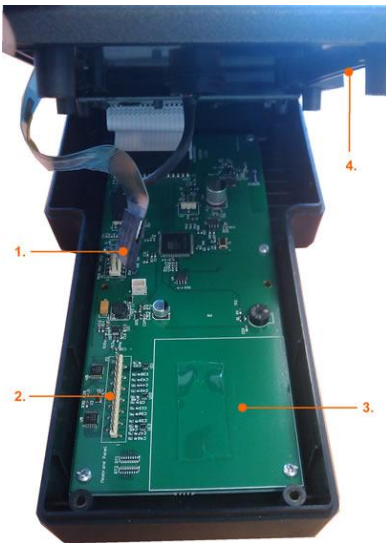
The Proshot has been designed to allow the user to change the handset and probe batteries.

Please note: Batteries must be purchased from Camteq. The use of unapproved batteries will void the product warranty and may damage the Proshot Dual's internal circuitry.

Handset

To change the handset battery, please follow these steps:

1. Unscrew the six screws
2. Gently open the handset, disconnecting the keypad cable from the keypad connector
3. Disconnect the battery
4. Remove the old battery and replace with the new battery
5. Connect the keypad cable and fasten screws



1. Keypad cable
2. Keypad connector
3. Area reserved for battery
4. Gasket seal channel

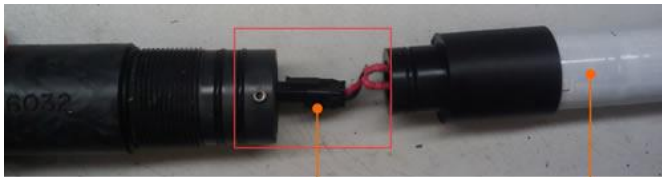
Please ensure that the battery is secure with little movement and that the gasket seal is in place before fastening screws.

Probe

To change the probe battery, please follow these steps:

1. Unscrew the brass cover from the probe
2. Loosen the grub screw
3. Disconnect the existing battery and replace with the newly supplied battery
4. Fasten the grub screw
5. Pair to the probe with the handset to ensure the system is working correctly after battery replacement
6. Ensure O-rings are in place and fasten brass cover

<INSERT PICTURES OF REMOVING BRASS BARREL,
CLAMPING PROBE AND USING SPANNER FLATS>



1.

2.



3.

4.

1. Battery connector
2. Camteq approved battery
3. Wireless Communications window
4. Grub screw

Calibration and Handling

The Proshot camera probe has been calibrated to a high level of precision – please see Specifications for more details.

The Proshot probe is a precision instrument and therefore should be treated with care. Extreme temperatures, heavy impacts, severe vibrations or general misuse will affect the accuracy of the probe and may damage the internal circuitry.

It is recommended that the probe be returned for maintenance and recalibration every 12 months to ensure the highest precision and reliability possible.

Final Word

Thank-you for choosing the Camteq Proshot camera system.

The Proshot system has been designed for accuracy, ease of use, and low maintenance, ensuring you get the maximum return on your investment.

If you have any queries or comments about the Proshot system or wish to learn more about our range of mining instrumentation, please visit our website at www.camteq.com.au.

We hope you enjoy using the Proshot camera system.

The Camteq Team.

Specifications

Proshot Camera Probe	
Part Number	CTPS100 - Standard precision
Operational temperature	-10°C to +70°C (+14°F to +158°F)
Storage temperature	-10°C to +120°C (14°F to +248°F)
Operating time	2 years (depending upon use)
Inclination accuracy	± 0.2 RMS*
Azimuth accuracy	± 0.5 RMS*
Survey Storage	999 survey shots
Power source	Alkaline battery (Non-rechargeable)
Communication	Wireless ISM 2.4GHz
Communication distance	1.5 – 2.0 meters
Ingress Rating	IP67

**It is recommended that the Proshot Camera is calibrated every 12 months to ensure accuracy is maintained.*

Proshot Handset	
Part Number	CTH100
Operational temperature	0°C to +60°C (+32°F to +140°F)
Storage temperature	-10°C to +120°C (14°F to +248°F)
Operating time	2 years (depending upon use)
Power source	Alkaline battery (Non-rechargeable)
Communication	Wireless ISM 2.4GHz
Ingress Rating	IP65

NOTE: Specifications subject to change without notice.