**STEALTH I DC MANUAL**

**TECH SUPPORT** 1-888-588-4506  ....WEB  www.ChargeOnTheRun.com

**BLACK UNIT IS 24/36 ONLY**

**PLEASE READ AND UNDERSTAND YOUR NEW PRODUCT**

**IMPORTANT MESSAGE:** Before installing your newly purchased STEALTH I DC charging system be sure to read the following instructions completely, regardless of your familiarity with electricity or electrical systems. You must follow the instructions contained in this manual. This unit is an electrical component and can be damaged when installed wrong. If after reading, you have any questions please call our toll free tech support number (1-888-588-4506).

**ALWAYS WEAR SAFETY GLASSES WHEN WORKING WITH BATTERIES!**

**THE STEALTH I CONCEPT:** The Stealth I DC accepts power from any source. Whether you are using your engines alternator or AC power the Stealth I DC operates the same. The Stealth I DC and AC connects to your cranking battery and when your cranking battery reaches full charge, the Stealth I DC turns on and steps up the voltage to your trolling motor or aux. batteries. With the Stealth I volt meter in place and properly used the full battery maintenance program will keep you from going dead on the water as designed. The Stealth I DC charging system gets it’s power directly from your engine’s cranking battery. When in operation, the state-of-the-art technology applies on-demand charging voltage to your marine trolling or aux. batteries so they receive only the charging current required to replace energy that has been consumed. The Stealth I Smart Charging Circuit Design works to ensure your cranking battery voltage will not fall below 13.0VDC, thus, providing plenty of stand-by power to start your engine. The Stealth I DC also works to prevent “over-charging” of your trolling or aux. batteries by monitoring output voltage and then automatically switching to a float mode to maintain optimum charging. The life of the batteries will be longer due to the charging method. *(See Question & Answers at the end of the manual.)*

**FIGURE 1**

**STEALTH I DC (BLACK UNIT) is 24 and 36 volt system only**

**STEP 1:** RANGE TERMINALS

**NOTE:** If you are unsure what your system requirements are, check with your local marina, boat mechanic, or Stealth I Customer Service.

The Stealth I DC already comes equipped for a 24VDC system. *(Jumper on seen above)* *(1-888-588-4506)*

To convert to 36VDC remove the range jumper seen in (figure 1 step 1)

*(For 12 to 12 systems only) please call Tech Support  1-888-588-4506*

**STEP 2 : COMPONENTS**

(4) ¼” Nylon Spacers

(4) ¾” Mounting Screw

(1) Wiring Harness  ....  1 - RED 4’ power-in; 2 – YELLOW 4’ ground (crank neg.) and 6’ ground neg crank to neg trolling;

1 - ORANGE 6’ trolling power-out

(4) 3½’ Mounting Screws : with the Stealth I Pro or Stealth I Max Pack Pro
TOOLS REQUIRED FOR INSTALLATION
Drill
Phillips Screw Driver
3/8 and 5/16 Nut Driver
Volt Meter (May Be Required) makes finding the 24 and 36 volt positive leads easiest.

STEP 3 : INSTALLATION (FOR 12 TO 12 OR 48 VOLT INSTALLATION PLEASE CALL 1-888-588-4506)

1. Mount the Stealth I DC in an area that is least likely to be flooded or submerged. BE SURE and insert the one-quarter inch (1/4”) nylon spacers between the bottom of the Stealth I DC and the mounting surface as seen in (Figure 2 below), unless mounted with the Stealth I AC as seen in (Figure 3) with (3 ½”) mounting screws. A vertical mounting position is preferred for both installs (Figure 2).

NOTE: The AC unit is generally mounted behind the DC unit. The AC includes 4 spacers for mounting the DC on top of the AC, but it can be separated if space is limited or the DC was the only unit purchased as in figure 1 above.

IMPORTANT REMINDERS:

GROUNDS CONNECTED PROPERLY: Be sure the charger ground YELLOW is connected to the crank battery negative post and the power input RED is to the positive post of the crank battery. And the other batteries must be common grounded with the 10 gauge YELLOW 7’ cable included in the wiring harness. (See the grounds in the option pages 3-5)

DC LED LIGHT: When the green or red LED light is on, it indicates that the Stealth I DC is powered and monitoring the batteries as designed.

MAINTENANCE: The breaker terminals and connections should be covered with white/clear grease or corrosion x (or a similar product), which protects against oxidation and corrosion.

BATTERY MAINTENANCE: Periodically checking your trolling batteries is essential for achieving maximum performance from your batteries. At least once a month you should check your battery acid levels and follow your manufacturer’s instructions for replenishing the same (For example, if electrolytes are low, you may add distilled water to some batteries if approved by the manufacturer). You should also periodically check your batteries for voltage and look for differences in voltage between your batteries. If there is more than a 2VDC difference between batteries after charging, the affected battery should be professionally tested and/or replaced.

THE STEALTH 1 DIGITAL GAUGE COMPLETES THE FULL BATTERY MAINTENANCE PROGRAM STEALTH 1 WAS DESIGNED TO BE. FOR INFO ON THE GAUGE CALL 888-588-4506.

****NOTE ****
WHEN LOOKING AT THE OPTIONS... NOTICE ALL BATTERIES ARE COMMON GROUNDED ... THE MOST COMMON MISTAKE IS LEAVING THE GROUNDS OFF.
OPTION #1
24 VOLT SYSTEM WITH AC

Breakers are manual reset only: Red & Yellow = 50amp
Orange output = 20 amp

YELLOW OR BLACK COMMON GROUND (NEG CRANK TO NEG TROLLING) GOES TO
24 VOLT NEG POST… (NEG. & POS. THAT DOES NOT HAVE THE JUMPER IS 24VDC
CONNECTIONS)

OPTION #1
24 VOLT SYSTEM WITH AC

Breakers are manual reset only: Red & Yellow = 50amp
Orange output = 20 amp

Yellow OR BLACK common ground

NOTE 1ST STEP
IF THE BATTERIES ARE NOT JUMPED AS SEEN, YOUR
BATTERIES ARE JUMPED IN THE PLUG, YOU DO NOT
HAVE TO ADD A JUMPER !!!

USE A VOLT METER TO FIND THE 24-VOLT POSITIVE AND
NEGATIVE.

TAKE THE METER POS. PROBE TO BAT 2 POS. AND
THE NEG. PROBE TO THE 1st
BAT NEG. POST.

IF THE READING IS NOT
YOUR 24 VOLTS THEN
REPEAT (ABOVE) AND
CHANGE POSITIVE TO BAT 1
NEGATIVE TO BAT 2

OPTION #2
36 VOLT SYSTEM WITH AC

If there is one crank battery both leads go to the crank from the AC.
Reds pos Blanks neg

The Range Jumper should be removed for 36 volts

ALL WIRE 10 GAUGE OR BIGGER

YELLOW or BLACK common ground

The 2 post without a jumper connected on the Batteries are your 36 VDC leads

IF YOU ARE NOT SURE CALL TECH SUPPORT 888-588-4506
OPTION #3
36 VOLT SYSTEM CRANK as TROLLING WITH AC

If there is only one crank battery both leads go to the crank from the AC.
Reds pos .........................Blacks neg

Series Jumper NEG to POS not a common ground here

YELLOW OR BLACK

RED

ORANGE

Trolling Neg. post is crank Neg

36 volt TROLLING lead post must be the trolling battery not at the crank

JUMPER MUST BE REMOVED (OFF) FOR 36 VOLTS

ALL WIRE 10 GAUGE OR BIGGER

OPTION #4

24 VOLT SYSTEM CRANK as TROLLING WITH AC

If there is only one crank battery both leads go to the crank from the AC.
Reds pos .........................Blacks neg

Series Jumper NEG to POS not a common ground here

The range jumper should be in place for 24 volts
Option #5
24 V SYSTEM WITH BATTERY SWITCH SHARING TROLLING BATTERY FOR EMERGENCY STARTING

*NOTE*
*When charging with Shore power/AC 120 turn battery switch to (# 1) or (off) position. *When the boat is in operation battery switch should be in the (#1) one position if setup as power disconnect also, If not turn off.

With this (diagram/setup) the number 1 battery in the 24 or 36 volt bank becomes the number 2 cranking battery (NOTE: THE NUMBER 1 BATTERY WILL ALWAYS BE THE NEGATIVE OF YOUR TROLLING CIRCUIT CALL TECH SUPPORT IF YOU ARE NOT SURE...THIS IS A MUST....DON'T GUESS) and for usage turn to (1 & 2 both, all) on the battery switch for emergency starting. Run 2 to 5 min. and back to 1 or off.

SEE THE 2 GAUGE STARTING CABLE GOING TO THE #1 BATTERY POSITIVE FROM THE SWITCH POSITION # 2 IN THE DIAGRAM LISTED (#2 POS LEAD on the Back of switch) ALSO THE GROUND GOING TO THE CRANKING BATTERY MUST BE 2 GAUGE FOR STARTING.

Other Diagrams are available 888-588-4506
Most **IMPORTANT**...Does It Work?

**YOU CAN KNOW IT!**

Lets test it. After everything is hooked up as in the diagram for your application let’s make sure everything works correctly.

1...If Stealth’s voltmeter is attached to the output of the charger or the positive post of the trolling or aux batteries and is located in the console or for you to see. We can use Stealth’s voltmeter for this test. If not you will need a **digital voltmeter (it must be digital)**.

2...Now we disconnect the orange power out cable from the positive battery post

3...Now we have taken the battery load off of the charger.
   (A) If you are using the Stealth voltmeter you take the lead (letter E At the gauge) from the output breaker post or battery positive on the trolling or aux batteries and lay it to the side it is your voltmeter. It will be a small wire size (22 to 16) and your gauge after disconnect will read 7 to 8 volts. If this is your application, which is Stealth’s preference for installation as pictured on (page 9), then go to step #4. Our gauge was designed for this purpose of maintenance. (Note if your gauge is installed in the bow you cannot use it for this test)

(B) **If you are using a Digital voltmeter set it to DCV; 50 or the next voltage setting on the meter.**

4...Now plug in the AC 110 portion of the Charger.

5...Now if you are using the Stealth1 voltmeter you take the (22 to 16 gauge) lead in hand to use to check voltages. Hold it to the input breaker post (Red wire) labeled **POWER In at the charger** beside the **Red wire** (AS SEEN ON PAGE 1 FIGURE 1). Look at the meter allow it to settle and write down the voltage. It must be above 13 volts. If not allow it to charge the crank for few minutes then try again. Once you have reached 13 volts go to step 6.

   *If you are using a digital voltmeter then take the pos. and neg. leads in hand. Now go to the power in BREAKER and the ground BREAKER for the reading. Results should be 13 or above*

6...Now if the results are 13 volts or above, Stealth meter users take the lead to the power out BREAKER Orange and write it down. Do the same at the end of the Orange cable and the voltage should be the same.

   *Digital hand held takes the neg. probe to the ground breaker or a common ground and the pos to the power out Orange breaker and write it down. Then to the end of the Orange cable and the voltage should be the same.*

We have now checked the in-put voltage the charger is monitoring and the out-put voltage the charger is monitoring. Specks should be 27.0 to 28.3 for 24-volt systems and 41.0 to 42.3 for 36-volt systems. If not or any questions please call Tech support @ **888-588-4506**.

7...Now unplug the AC. Then hook the orange output cable back up to the charger or the battery Positive. After reconnecting the Orange output, plug in the AC and verify that the trolling or aux batteries voltage is climbing at the batteries. Hand held meter (24 volt) battery #2 pos. to bat #1 neg. & (36 volt) bat #3 pos. to bat #1 neg. Stealth meter users hold to 24 or 36 volt battery #2 or #3 positive. Again just verifying that the voltage is climbing. If it’s climbing you are good to go. **NOW YOU KNOW** and If not **PLEASE call tech support 888-588-4506**
TROUBLESHOOTING GUIDE

DC UNIT

Breakers: Red & Yellow = 50amp, Orange output = 20 amp. Manual reset only (black reset button at the end)

1. MY GREEN OR RED LIGHT DOES NOT COME ON
   Check the breakers. Check the wiring diagram. (Power-In to positive cranking, negative cranking to ground).

2. MY CRANKING BATTERY IS NOT CHARGING
   Check the water level in your battery, put a load test on it to make sure it does not have a bad cell. Check the fuse on the Stealth I AC. (YELLOW GLASS HOLDER may be shrink wrapped gray).

3. ONLY ONE OF MY TROLLING/AUX. BATTERIES IS CHARGING
   Check your wiring diagram. Check your jumper tab on the left side of the Stealth I DC right beside the light. It should be on for 24 volt system and off for 36 volt system. Make sure you are on the correct battery post see the options above. Load test the battery.

4. MY TROLLING/AUX. BATTERIES ARE NOT CHARGING
   Make sure the switch is on if rigged to a battery switch. Make sure you have a green light on the Stealth I DC. Check the breakers. Make sure your batteries are jumped together and properly common grounded (SEE OPTIONS ABOVE). Check the wiring diagram for all wires properly placed. Do a load test on the batteries.

5. HOW CAN I CHECK THE OUTPUT ON THE UNIT
   Disconnect the power out from the batteries. Put a voltmeter on the ground and power out on the Stealth I DC and you should get a reading between 27.4 – 28.3 Volts (24 Volt System) or 41 – 42 Volts (36 Volt System).

AC UNIT

1. I DO NOT GET GREEN LIGHTS SHOWING FULL CHARGE OR MY LIGHTS ARE FLASHING.
   Check the fuse. Check for clean and tight connections. Check the water level in the batteries. Load test the batteries.

2. I DO NOT HAVE ANY LIGHTS ON
   Make sure the Stealth I AC is plugged into AC power. Check extension cord. Call tech support. 1-888-588-4506

DIGITAL GAUGE

IF YOU DO NOT HAVE A STEALTH I DIGITAL GAUGE, CALL 1-888-588-4506 FOR A LOCATION NEAR YOU.

1. I AM NOT GETTING A READING ON MY GAUGE
   Check your wiring diagram and make sure there are no loose connections.

IF THESE SOLUTIONS DO NOT WORK, PLEASE CALL OUR TECH SUPPORT NUMBER 1-888-588-4506.

WARRANTY: The Stealth I DC has a three year unlimited warranty. The AC pro-rates the third year and the Gauge prorates over three years (Warranty registration card included)

For more information about the Stealth I Charging System, or if you have any questions or comments, contact us at:

Stealth 1 Charging ChargTech Industries  Toll Free 1-888-588-4506
7428 Hixson Pike  Phone (423) 842-2772
Hixson, TN 37343  Fax (423) 842-2784

E-Mail: StealthCharging@aol.com
www.stealth1charging.com
Manual for the Stealth I Digital Volt Gauge

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Introduction

The VF25 High Voltage Battery Monitor is powered from a 12V battery and accurately measures another battery for voltages between 9.5 and 44.0 VDC. You can set independent Low and High voltage alarms and continuously monitor the voltage at all times. When activated, the built-in 85 dB alarm will sound and the display will flash. Five levels of backlighting can be selected and all set-up, calibration constants and alarm values are saved to non-volatile memory. You can select to have either an external alarm output or standard NMEA 0183 compatible data output. If you select NMEA 0183, the voltage is output once per second as a 4800 BAUD serial data stream. This information can be sent to a computer for data logging or repeater at a remote location.

Specifications

Power supply: 9.5 to 16.0 VDC on screw terminal B
Measurement Range: 9.5 to 44.0 VDC on screw terminal E
Operating temperature: 32 to 122 °F (0 to 50 °C)
Size: 2.5" dia x 4.1" deep (61mm x 104 mm)
Accuracy: Better than 1% +/- 0.1 VDC front panel adjustable
Alarms: Independent High and Low Voltage Alarms - User settable 8.0 to 44.0 VDC
Display: 4 digit LCD, 5 levels of backlighting.
Output: 4800 Baud Serial Data; $IIXDR output once per second OR external alarm output (user selectable) on screw terminal C

Installation

Before starting the installation, please read this entire section first. Be sure to install the bulkhead gasket before you install the instrument. Finger tighten the screws that mount the instrument bracket - do not use tools.

Figure 1

![Diagram of installation process](Image)
Stealth recommends the D connection on the gauge be connected to the navigation switch.

- Drill a 2-1/8" (55mm) mounting hole where you desire to mount the instrument (Figure 1).
- Bring the wires out the mounting hole and make the connections to the screw terminal on the instrument case back as shown in Figure 2 and Figure 3.

**WIRE TO THE CHARGER**

- Screw Terminal (On Case Back)
- ALL WIRES AWG 14-22 GAUGE (0.6 - 1.5 mm)
- TO POWER OUT +9.5 TO +16.0 VDC (E)
- TO NEG POWER IN (A) GROUND +9.5 TO +16.0 VDC
- TO POS POWER IN (B) = +9.5 TO 16.0 VDC
- BACKLIGHTS (D) ON/OFF
- Connect to NAV Switch

**Figure 2**

- Carefully check all your wiring against those shown in Figures 2 and 3. If everything is wired correctly you can mount the VF25 in the instrument hole. Be sure the bulkhead gasket is in place and use only finger tension to tighten the bracket hold-down nuts. Do not overtighten the bracket or you may damage the case - do not use tools to tighten the nuts.

Again leave enough wire from E to reach the charger and trolling or aux Batteries. Also if E is connected to the Stealth DC power out post put it on under the nylon nut for easy finger removal.

This gauge can be wired to read both cranking and trolling for instructions call tech support

**FULL SYSTEM EXAMPLE**

*NOTE* The gauge reads 9 to 44 volts by design to handle the 12, 24 and 36 volt systems. (E) Is the voltage reading lead and should go to the battery positive post you wish to read. (A) Is 12 vdc ground and (B) is 12 vdc positive and should be on a switch if you wish to turn the gauge off...on/off switch is optional. (D) Goes to NAV switch for the backlight.
Operation

Key Functions

The keys are used to select what to display, backlights, calibrate volts, turn alarms on/off and set alarm values. New information is automatically saved to memory.

Turning Alarms ON/OFF

Press the key 1/2 second to turn alarms ON. The alarm icon pointer will blink. Press the key 1/2 second to turn the alarms OFF.

Backlight Intensity

Press the key 1/2 second to adjust the backlight level for night-time viewing. Each time you press the key 1/2 second, the level will get brighter 1.

Setting Low Volts Alarm

Press and hold the key for ten (10) seconds. You will hear a beep and the Low Volts alarm value will be displayed. Use the and keys to set the desired alarm value. Press the key for 1/2 second to save the Low Volts Alarm value to memory.

Selecting NMEA 0183 or External Alarm Output

The monitor comes factory pre-set to output NMEA 0183 compatible serial data. If you do not need this feature or would rather have an external alarm output on screw terminal (C), do the following:

While viewing battery voltage, press and hold down both the and keys for 10 seconds (until you hear a long beep). This operation switches the output mode between NMEA 0183 and External Alarm. The new output mode is automatically saved to memory.

When the external alarm output is activated, a 5V signal (10 mA Max.) is output on screw terminal (C).

2, 3, 4, OFF, 1, 2, ... etc. Screw terminal pin (D) must be switched ON for the backlights to work.

Display Volts

Quick press the key to display volts.

Setting High Volts Alarm

Press and hold the key for ten (10) seconds. You will hear a beep and the High Volts alarm value will be displayed. Use the and keys to set the desired alarm value. Press the key for 1/2 second to save the High Volts Alarm value to memory.

Calibrating the Instrument

The voltmeter can be calibrated at any time by using the front panel keys. To calibrate the voltmeter, press and hold down the key for three seconds while applying power to the instrument. Use the and keys to make the displayed value read correctly. Press the key to save the calibration data to memory.

Warnings and Notes

1. Screw terminal (D) must be connected to 9.5 VDC minimum in order for the backlights to turn ON. If screw terminal (D) is not connected to at least 9.5 VDC the backlights will turn OFF. This provides remote control of the backlights.
FREQUENTLY ASKED QUESTIONS ABOUT THE STEALTH CONTINUOUS CHARGING SYSTEM

Q. WHAT IS THE STEALTH SYSTEM?
A. THE STEALTH SYSTEM IS THE MOST ADVANCED, PATENTED, SOLID STATE BATTERY MAINTENANCE SYSTEM AVAILABLE ON TODAY’S MARKET.

Q. WHAT IS THE SYSTEM’S FUNCTION?
A. THE STEALTH SYSTEM TAKES VARYING INPUTS OF VOLTAGE, WHETHER FROM A GENERATOR / ALTERNATOR, OR AN A/C POWER SOURCE, AND DELIVERS PURE OUTPUT POWER TO CHARGE AUXILIARY BATTERY BANKS SIMULTANEOUSLY, TO KEEP THEM AT MAXIMUM READINESS LEVELS.

Q. WHAT ARE OTHER ADVANTAGES OF THE SYSTEM?

Q. WHY WAS THE STEALTH SYSTEM CREATED?
A. THERE WAS A DEMAND IN THE BASS FISHING INDUSTRY TO BE ABLE TO KEEP AUXILIARY (TROLLING MOTOR) BATTERIES CHARGED IN EXTREME DEMAND CONDITIONS, TO EXTEND FISHING TIME. THE AUXILIARY BATTERIES ARE CONTINUOUSLY CHARGED USING THE ‘HOST’ VEHICLES ELECTRICAL GENERATION SYSTEM. THE SYSTEM CAN EVEN CHARGE WHILE THE BOAT IS IN TOW USING THE VEHICLES POWER OUTPUT.

QUESTIONS AND ANSWERS CONTINUED

Q. HAS THIS SYSTEM PROVEN TO BE EFFECTIVE?

Q. WHAT IS THE STEALTH A/C?
A. FISHERMAN KNEW THAT ALTHOUGH THEY MIGHT NOT NEED TO CHARGE THEIR BATTERIES, WITH AN A/C UNIT NEARLY AS FREQUENTLY AS IN THE PAST, THEY WANTED THE OPTION TO DO SO READILY AVAILABLE. SO WE CREATED THE STEALTH A/C.

Q. HOW DOES THE STEALTH A/C ATTACH?
A. THE STEALTH A/C UNIT WILL MOUNT ON ANY STEALTH D/C UNIT, WITH THE PROPER BOLTS AND SPACERS. THE STEALTH A/C UNIT MOUNTS IN A ‘PIGGY BACK’ MANNER, TO FORM THE STEALTH MAX-PAK. THE MAX-PAK NOW PROVIDES ALL YOU WILL EVER NEED IN AN ‘ON BOARD’ CHARGING SYSTEM, SINCE IT PROVIDES A/C PLUG IN CAPABILITY TO COMPLIMENT THE STEALTH D/C UNIT AND VOLTAGE GAUGE.

Q. ARE THEIR OTHER ADVANTAGES TO USING THE STEALTH SYSTEM?
A. YES. SINCE THE STEALTH SYSTEM CAN TAKE VARYING INPUTS OF D/C CURRENT, AND GIVE A CONSTANT D/C OUTPUT VOLTAGE AT CONSISTENT EFFICIENCY LEVELS NEVER BEFORE OBTAINED, THIS ALLOWS A BOAT OWNER TO CONSIDER THE USE OF OTHER SOURCES OF INCONSISTENT D/C POWER INPUT. SUCH AS SOLAR, WIND, OR WATER POWER GENERATORS AND THE TOW PACKAGE.
Also the Tow Package is available

40 amps while towing.
Easy install Harness
Make AC take a backseat
No hassle battery charging (just go fish)
Who cares whether I can get to an outlet
And again on the run charging (just drive)

Call and ask about your system...

888-588-4506