



TINKER & RASOR

CORROSION MITIGATION INSTRUMENTATION

P. O. BOX 281 SAN GABRIEL, CA 91778 TEL: (626) 287-5259 FAX: (626) 287-0132

PRODUCT INSTRUCTIONS

Model QUASAR

The Quasar is a solid-state current interrupter capable of switching up to 100 amps of current. The Quasar uses a GPS receiver to achieve a timing accuracy of +/- 200 nanoseconds. The Quasar will operate for over 10 hours on its internal battery, or indefinitely on external 120 vac or 12 vdc power sources. Interrupt cycles from .005 seconds to 255.999 seconds. The Quasar will interrupt up to 2000 watts.

POWER ON

Indicates that the QC-100A is on when lit.

CIRCUIT CLOSED

Indicates that current will flow through the interrupter contacts when lit.

BATTERY CHARGING

Indicates that the battery is charging from an external AC or DC power source, or that the QC-100A is operating from external power.

12 VOLT AUX. CHARGE

Used to power the QC-100A or charge the internal battery from an external 12 volt DC power source.



CURRENT SELECTOR SWITCH

Use to select type of current to be interrupted, between DC and AC.

KEYPAD

Used to enter data.
B- Back
E- Exit
F- Forward

LCD DISPLAY

Used to view programming.

GPS LOCK

Indicates that the GPS receiver has acquired the GPS signal and updated the Quasar's internal clock.

Using the Quasar

1. Prior to turning the Quasar power on, use the POWER SELECTOR SWITCH to select type of current to be interrupted, DC or AC. Turn the Quasar on using the power switch on the front panel. The POWER ON indicator will light.
2. When the Quasar is turned on, the unit will automatically acquire the GPS signal and then display the current time and date. (Time displayed is UT, adjusted to local time by Longitude/Latitude location. Instrument does not adjust for Daylight Savings Time or other local changes, if applicable.)
If the Quasar has been previously programmed, the unit will begin execution of the program(s) stored in non-volatile memory.



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3. If GPS timing is not required, or the Quasar needs to be programmed, press “E” while the unit is searching for the satellite signal. *Note: if GPS timing is not used you will be prompted to enter the current date.*

4. SCROLLING MENU OPTIONS

Programming mode

Enter new programs, beginning with Program #1.

Delete existing programs as a group.

Note: 7 programs maximum.

Editing mode

Edit existing programs. Erase a single program.

Add a program, beginning with the next available program.

Cycle mode

Choose a program to cycle indefinitely. *Note: The Cycle function is only available in the non-GPS mode.*

View mode

Review programs currently stored in the Quasar’s memory or the current GPS time and date or the GPS location.

Exit

Leave menu and begin automatic execution of stored programs.

To Program the Quasar

- **Choose “1” from the menu.**
- **Press any key other than “E”.**
- **Enter the Program start date.** *Note: Start date must be equal or greater to the previous start date.*
- **Enter the Program stop date.** *Note: Start and stop dates may be equal for the same program.*
- **Enter the Program start time.** *Note: Enter local time using 24 hour format (military time e.g. 2:00 P.M. is 14:00.00). Program start time must be equal or later than previous program stop time if both programs are for the same day.*
- **Enter the program stop time.** *Note: Stop time must be later than stop time if the program starts and stops on the same day.*
- **Enter the program On interval.** *Note: How long you want the current to be applied to the structure.*
- **Enter the program Off interval.** *Note: How long you want the current to be removed from the structure.*



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To Delete All Programs

- Choose “1” from the menu.
- Press “E”.
- Press “1” to confirm delete.

To Delete A Single Program

- Choose “2” from the menu.
- Press any key other than “E”.
- Press “D”.
- Enter program number to delete.
The program is now deleted and the remaining programs are moved up.

To Add a Program

- Choose “2” from the menu.
- Press any key other than “E”.
- Press “A” to add a program. *Note: 7 programs maximum.*
- Enter program. *Note: Same steps as described in the programming mode.*

To Edit a Program

- Choose “2” from the menu.
- Press any key other than “E”.
- Press “E” to edit a program. *Note: 7 programs maximum.*
- Enter the program number to edit.
- Enter dates and times as in programming mode or press “F” to go forward to the next entry.

To Enter Continuous Cycle Mode

- Turn on the Quasar.
- When the display reads “Looking for GPS Press E to Exit” press “E”.
- Enter Current date.
- Choose “3” from the Main Menu.
- Enter a Program number to cycle, or “E” to exit.
The Quasar will begin interrupting immediately to the start and stop times in the selected program.
- To exit the Continuous Cycle mode, press any key while the unit is interrupting.

To View Program Contents

- Choose “4” from the menu.
- Press any key other than “E”.
- Choose “0” to view program, “1” to view GPS time or “2” to view location.
- Choose program number to display.
The Quasar will display start and stop dates.
- Press any key to move to the next display.
The Quasar will display start and stop times.
- Press any key to move to the next display.
The Quasar will display the On and Off intervals.



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- **Press any key to return to the Main Menu.**

Notes:

- **After Programming the Quasar**, the programs are stored in non-volatile memory until the user either over-writes or erases them, even if the unit is turned off.
- **To enter the GPS timer mode**, program the Quasar with at least 1 program, and allow the unit to acquire the GPS signal.
When the GPS time and date reaches the programmed start time and date the unit will begin interrupting until the programmed stop time and date is reached. If more than one program exists, the Quasar will automatically re-enter GPS timer mode after completion of the program, and wait for the next programmed start time. During the wait, current is applied to the structure.
- **To enter Main Menu** from the GPS timer mode, press “E” while time and date are displayed.

To Set Initial Interrupt State

To set the Quasar to start interrupting in either open (current interrupted) or closed (current conducting) mode:

- **From the Main Menu Press “A”.**
- **Then press “F”.**
- **Then press “C”.**
- **The display will read: “Set First Cycle”.**
- **Select “1” for ON (closed) or “0” for Off (open).**
- **Press “E” to exit the main menu.**

Connection of External Antenna

The external antenna (Tinker & Rasor part number 007-002) consists of three parts:

1. Magnetic mount active antenna with attached cable
 2. Radiating antenna
 3. Power cable
- **To connect the external antenna, place the magnetic mount antenna outside with as few obstructions as possible.**
 - **Connect the magnetic mount antenna within 3 feet (1 meter) of the Quasar.**
 - **Connect the power cable to the radiating antenna and to the 12 VOLT / AUX. jack on the front panel of the Quasar.**