

# Application Note

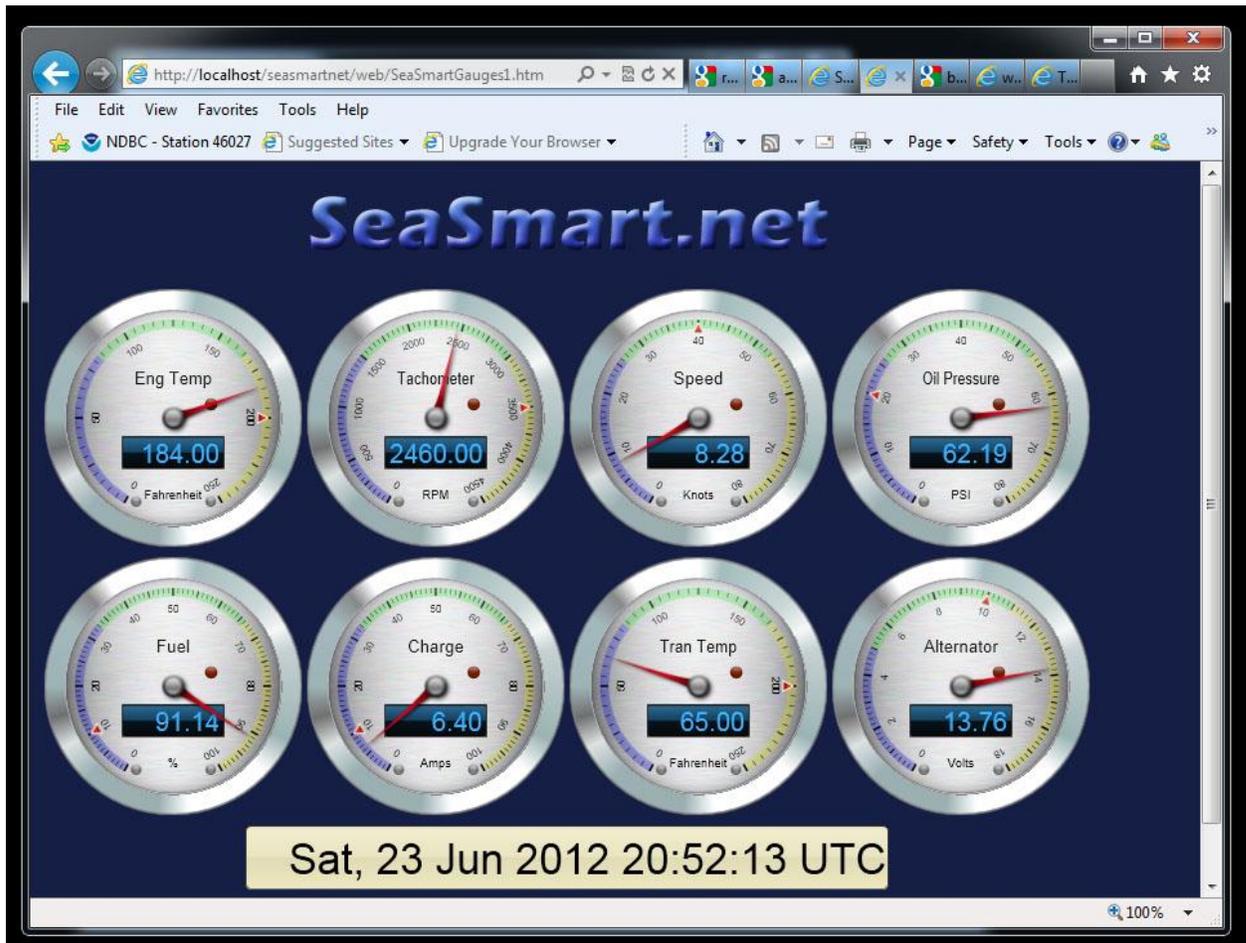
ANSS024 – netGauges User Configuration

Chetco Digital Instruments, Inc

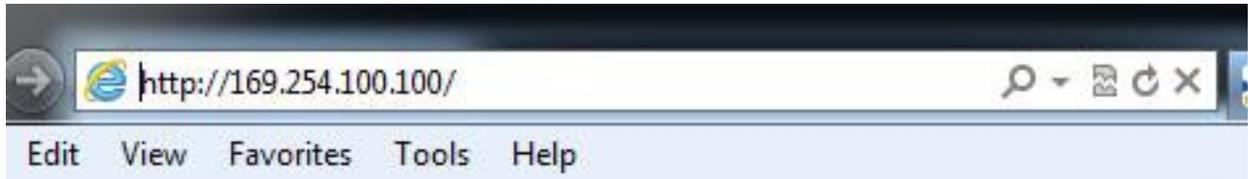
Revision 101714

**netGauges** is a browser based viewer for **SeaSmart** vessel data. **netGauges** is downloaded directly from any **SeaSmart** adapter's embedded Web server or from the **SeaSmart** Cloud Server depending on the network address entered. The host Browser requests data from the target device or Cloud Server and renders the information into user selectable gauges.

Many different page layouts and gauge styles can be instantly chosen and modified entirely on the host Browser platform. Since **netGauges** data requests return all the currently available instruments from the selected adapter or server, users are free to customize and modify the display panels in any suitable manner. Changes can be stored locally using built-in browser security for retrieval in latter sessions (if cookies are enabled).



In a typical user session, **netGauges** is loaded from the requested URL which identifies a unique **SeaSmart** adapter or Cloud Server location. Each **SeaSmart** adapter will have a default address (169.254.100.100 for example in AdHoc mode) or a network address may be manually assigned. The network address is entered in any compatible browser (Internet Explorer, FireFox, Safari, Chrome, and others) to access the embedded Web pages.



**netGauges** will determine if any user preferences are previously stored in local cookie files and apply them to the loaded Web Page. **netGauges** will then send out repeated requests for live data at user defined intervals and render the returned instrument data using the stored preferences. Individual gauge data can be instantly selected from the live NMEA 2000 stream and displayed on the Browser page. User preferences can be stored locally using browser cookies if enabled. Otherwise default configurations are loaded directly from the selected **SeaSmart** adapter or Cloud Server.

There are four main configuration tabs available by clicking (touch) of any of the active gauges. These tabs will appear below the gauge clock and can be expanded/collapsed to reveal desired configuration options.

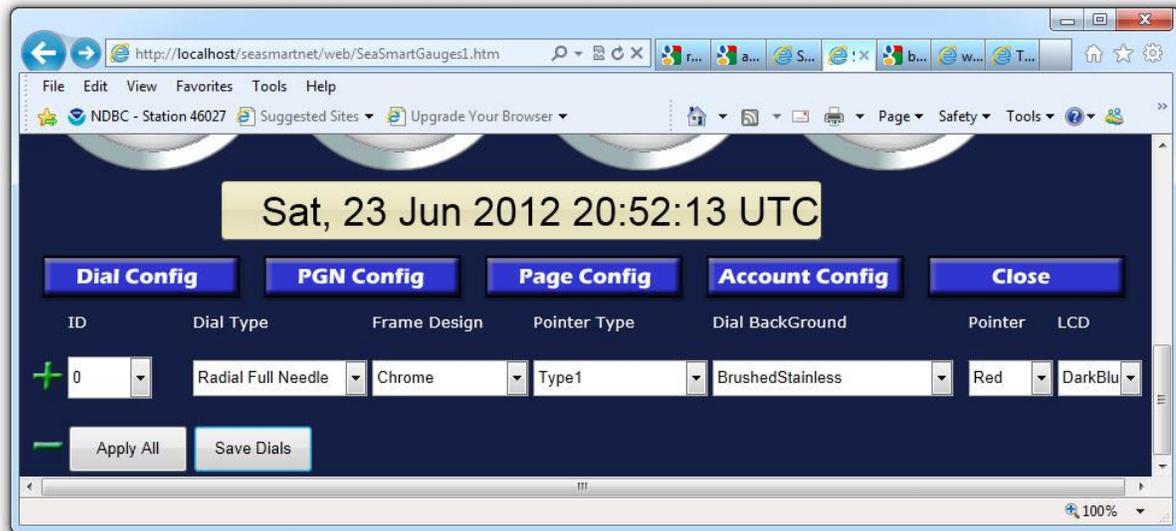


- **Dial Config** individual dial/gauge appearance and style
- **PGN Config** selects specific instrument from incoming data stream and assigns to each individual gauge
- **Page Config** specifies page layout and backgrounds. Also specifies page configuration options.
- **Account Config** specifies data source (local/server) and user account.

Selecting any gauge will reveal the configuration tabs. Selecting any of the tabs will further reveal the specific options. Each Configuration section can be expanded/collapsed by using the +/- symbols in the left hand column. The CLOSE tab will hide all the configuration tabs.

## Dial Config

**Dial Config** Settings for changing the type and style of each gauge. Individual gauges can be altered and changes applied to all gauges on a single page.

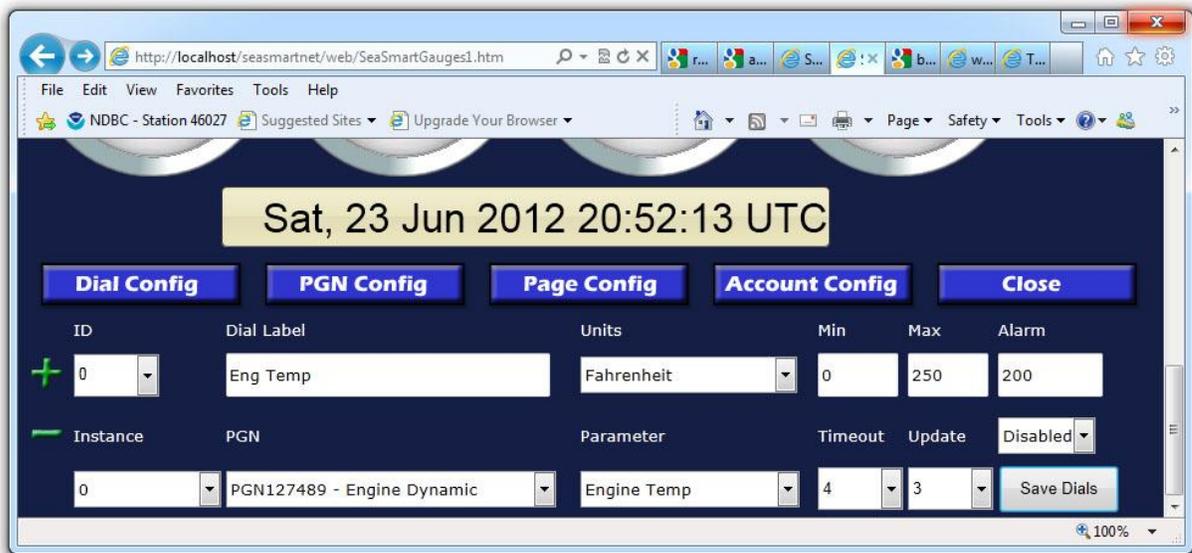


- **Dial ID** Selects the current gauge ID for modification (1-16). Dial ID can also be selected by click (touch) of any active dial on the current page. Dial ID can select any dial not currently visible.
- **Dial Type** Many different gauge types can be selected from round dials to Linear Bar graphs. Several specialty gauges can be chosen for Wind Direction, Compass, and Attitude. Once a gauge style is modified, the page must be reloaded (SAVE DIALS) before the changes take effect. If COOKIES are disabled dial type modifications are not recorded.
- **Frame Design** selects the bezel color and effect. Changes take effect immediately but are not saved unless dials are saved with browser cookies enabled.
- **Pointer Type** determines the style of pointer used. Does not apply to bar graph and text types of gauges.
- **Dial Background** determines the color and style of the background area of each gauge. Changes take immediate effect but are not saved unless dials are saved with cookies enabled.

- **Pointer color** selects the color for the pointer if shown. Does not apply to bar graph displays or text dials. Changes have immediate effect but must be saved with **SAVE DIALS**.
- **LCD Color** changes the color and style for the Digital data readout in the LCD portion of any applicable gauge. Not all gauges have a LCD section. Changes have immediate effect but must be saved with **SAVE DIALS**.
- **APPLY ALL** uses the currently selected dial style and applies to all gauges on the same page. Changes must be saved using **SAVE DIALS**.
- **SAVE DIALS** writes the current dial styles to a browser cookie if enabled. Cookies are stored on the local device and must be activated to keep any changes to the default settings. If Use Page Defaults is active, no changes can be saved with this option

**PGN Config**

**PGN Config** - This section selects the desired data assigned to each gauge. The NMEA 2000 data stream combines all vessel data on a common bus that is uploaded from the **SeaSmart** adapter or Cloud server. Each individual gauge can pick a specific data value for display by PGN Number and Parameter. Individual Alarms can also be set for each gauge.



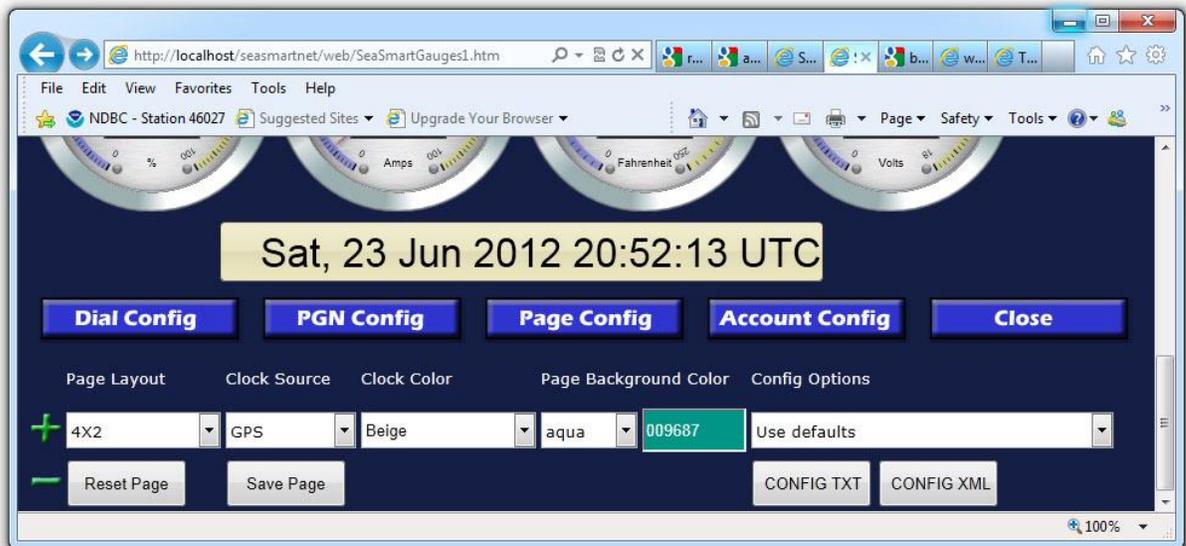
- **Dial ID** Identifies the dial position on the page. Clicking (touch) any dial on the page will also set the Dial ID
- **Dial Label** All dials can have a user entered label up to 32 characters. Type the desired label and use the tab key to apply to selected dial. Changes take effect immediately but must be saved for later recall.
- **Dial Units** Numerical values can be scaled to desired units using the drop down menu. Only units applicable to each dials data type will be used. Otherwise default values will apply.
- **Min** Sets the gauge/dial Minimum value. Applies to numerical values on the dial face and also to the digital readout. If actual gauge values are less then the minimum the displayed value will be clipped to the set minimum. Enter new value and use the tab key to apply. Dials must be saved for any changes to apply in new sessions

- **Max** Sets the gauge/dial Maximum value. Applies to numerical values on the dial face and also to the digital readout. If actual gauge values are greater than the maximum the displayed value will be clipped to the set maximum. Enter new value and use the tab key to apply. Dials must be saved for any changes to apply in new sessions
- **Alarm** User set alarm points can be applied. Type desired alarm values and use tab key to apply. Alarm points are shown as red markers on the dial face at the indicated position. The Alarm mode function applies to each individual gauge.
- **Alarm Mode** Defines the action when any gauge alarm is active. High or low level alarms can be selected. Default is Alarm Off. When an Alarm condition is active Red LED on dial face will flash. An optional Audio alarm can also be selected. An ALL OFF option will disable all alarms at once. Dials must be saved for any alarm actions to take effect.
- **PGN Instance** Many gauges can have multiple sources (instances). For example, Engine Temperature can apply to both Port and Starboard. The PGN instance matches the gauge information to a specific source (instance) and must match the values entered for each source device. Not all instruments have an instance option in which case the value is ignored. Changes take immediate effect but must be saved for later sessions
- **PGN Number** Selects the class of gauge information to look for from the instrument data stream. The combination of PGN Number, Parameter, and Instance will identify a specific instrument value from the combined data stream. Selecting a specific PGN Number will also alter the PGN Parameter list to match available options. Whenever a PGN number is changed, the other dial values are reset to defaults and must be adjusted to match. Any changes take immediate effect but must be saved for future sessions
- **PGN Parameter** Selects a specific instrument value based on PGN Number and instance. Whenever a PGN number is changed, the other dial values are reset to defaults and must be adjusted to match. Any changes take immediate effect but must be saved for future sessions
- **Timeout** Instrument data is constantly being transmitted as new updates become available. Most gauges have a repeat rate from several times a second to several minutes between updates. In between any individual gauge update the gauge values will hold the previous value until the Timeout is reached at which time the gauge will be blanked until a new value is available. Adjusting the timeout prevents the gauge values from being cleared before the next received update while still offering to indicate when no updates are being received. Timeout is based on the current global update rate and is simply the number of global updates

- to receive before clearing a individual dial/gauge. Timeout values of 4-6 are usually adequate. Timeout modifications must be saved to take effect.
- **Update** Defines the time interval in between each global request for new instrument data. **netGauges** will make repeated requests for new instrument data based on the selected Update Rate. When connected directly to a SeaSmart adapter, the Update Rate can be set to a small value( 0.5 to 1 second) since there is very little delay. Longer Update Rates may be required (3-6 seconds) when connected to **SeaSmart** Cloud server or remote adapters due to slower connection speeds. Using fast update rates over slower connections can over burden the network and degrade performance.
  - **Save Dials** Records all current dial/gauge settings to local browser cookie files for use in latter sessions. Some options may require a SAVE DIALS to reload the current page and take effect. If Use Page Defaults is active, no changes can be saved with this option

## Page Config

**Page Config** Contains parameters which affect the entire page. Most Page Config options will need to be saved before taking effect. If Use Cookies is not enabled, no changes can be recorded.



- **Page Layout** Specifies the grid pattern and number of gauges to display on each page. Choosing a large number of dials may increase initial page load times. Changes will not take effect until page is saved and reloaded.
- **Clock Source** Pick the NMEA 2000 source to use for the LCD Clock. Not all clock sources are available. An extra option is added to include any **SeaSmart** or **SeaGauge** units that are configured to output a local clock source.
- **Clock Color** Specifies the color and style to use for the LCD clock display.
- **Background Color** Specifies the page background color. A preset drop-down list is available to choose a color or a dynamic color picker tool. Either option can be used. Color changes take immediate effect, must be saved for future sessions.
- **Config Options** Determines how page modifications are handled.
  - **Use Defaults** Preset configurations for all parameters are loaded from the selected **SeaSmart** Adapter or **SeaSmart** Cloud Server. Any modifications must be applied to the matching Global File stored on the adapter. Any new Browser session or Page Reload/Refresh will always

- use the default settings. Browser “cookie” files are not used in this mode. No user modifications are stored in this mode.
- **Use Cookies** Allows all user modifications to be stored in local “cookie” files for use in any new Browser Session or page refresh/reload. This option must be selected before any changes can be saved.
  - **Use Server XML** Allows preconfigured options to be load from server based XML files stored on a **SeaSmart** adapter or **SeaSmart** Cloud Server. When the option is enabled, the target XML configuration file is queried and a configuration list built to allow user selection of pre-built configurations after the next Page reload/refresh. Any configuration in the XML list can then be used to setup the **netGauges** Pages. The Use Cookies option must be previously selected to allow XML configuration between Browser sessions. New XML configurations can be added to the adapter server file.
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- **Config TXT** Shows the current Global Config settings in text file format to be used to create/update a new Global Config file which can be loaded into a **SeaSmart** adapter for future Browser sessions. The data can be easily copied and pasted into an existing Global Config file.
  - **Config XML** Shows the current page configurations in XML format which can be copied and pasted into a existing XML Config file to provide an updated list of pre-configurations.
  - **Reset Page** Refreshes the page without saving any changes
  - **Save Page** Saves the current page modifications to a Browser Cookie file.

**Account Config**

**Account Settings** Configures the data source for Instrumentation data stream.



- Data Folder** Determine the data source identifier if accessing data from the **SeaSmart** Cloud Server. Enter the Unique 12 character **SeaSmart** device ID when accessing from the Cloud Server. Data access from a directly connected **SeaSmart** adapter will ignore this field. A special case of all zeros [000000000000] • will connect to **SeaSmart** Cloud server Demo data. Whenever a change is made to the Data folder address, use the tab key to enter the changes then pick the Account Type.
- Account Type** Determines the type of connection. Local is used when connecting directly to a **SeaSmart** adapter over wired (Ethernet) or wireless link using the adapters Network Address. Web is used when connecting via the **SeaSmart** Cloud Server which must be accompanied by the adapters Data Folder address. When connecting to the **SeaSmart** Cloud Server for the first time, be sure to enter the Data Folder address first then tab to select the Account type. Web Browser settings must have accepted cookies enabled to save account settings. Account settings apply to each **netGauges** page hosted on the **SeaSmart** adapter and must be set for each initial session.