



NavView User Guide – 24 Alarms

Document: 4DN_NVUG_S24_01B

Release: 01

Revision: B

Released: 7/17/2024

4D Nav, LLC

REL	REV	ISSUE DESCRIPTION	PREPARED	REVIEWED	APPROVED	DATE
01	B	Alarm Custom Sound	SW	GAW	GAW	July 17, 2024
01	A	Initial release	SW	GAW	GAW	May 24, 2024

© Copyright 2024 4D Nav LLC

Unless explicitly stated otherwise, all rights including those in copyright in the content of this document are owned or controlled by 4D Nav LLC (4D Nav). Except as otherwise expressly permitted under copyright law or by 4D Nav, the content of this document may not be copied, reproduced, republished, downloaded, posted, broadcast, or transmitted in any way without the written permission of 4D Nav.

Table of Contents

24.	Alarms.....	1
24.1	MANAGING ALARMS.....	1
24.2	ADDING ALARMS	1
24.3	CONFIGURING ALARMS	2
24.3.1	DATA SOURCES	2
24.3.2	CONDITIONS.....	5
24.4	MONITORING ALARMS	7
24.4.1	ALARMS STATUS.....	7
24.4.2	ALARM CONSOLE	8
24.4.3	TEXT WINDOW.....	9

24. ALARMS

The Alarm feature enables a user to create alarms using C programming operators to generate a conditional test equation of data source observations. This is a very flexible tool that can be used to create complex test conditions.

Alarms configured and triggered on one instance of NavView are published to other NavView clients, licensed and unlicensed, connected to the same Network Services.

If Roles and Privileges are enabled, the user must be logged in as Online, Supervisor or Administrator to manage the Alerts.

24.1 MANAGING ALARMS

Alarms are managed from the Alarm Service Configuration window, see Figure 24-2. This is accessed from the Setup ribbon by clicking on Alarms in the Configure section, see Figure 24-1. Figure 24-2 Alarm Service Configuration Window.

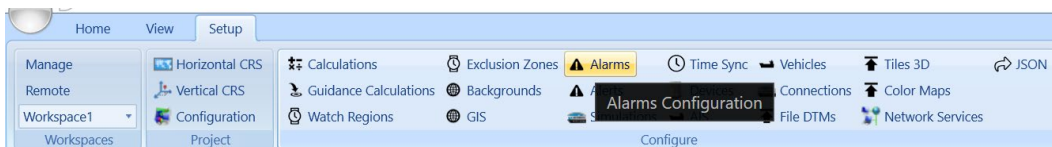


FIGURE 24-1 SETUP RIBBON - ALARMS

24.2 ADDING ALARMS

An Alarm is added from the Alarm Service Configuration window, see Figure 24-2.

The configuration window features an **Alarms** tab with add and remove buttons, see Figure 24-2 and a **Styles** tab used to control the default styles for alarms, see Figure 24-3.

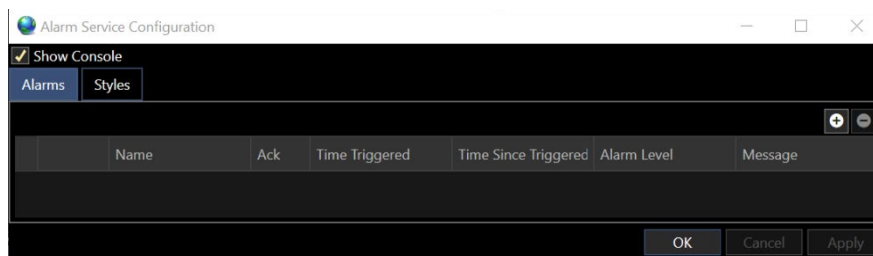


FIGURE 24-2 ALARM SERVICE CONFIGURATION WINDOW – ALARMS TAB

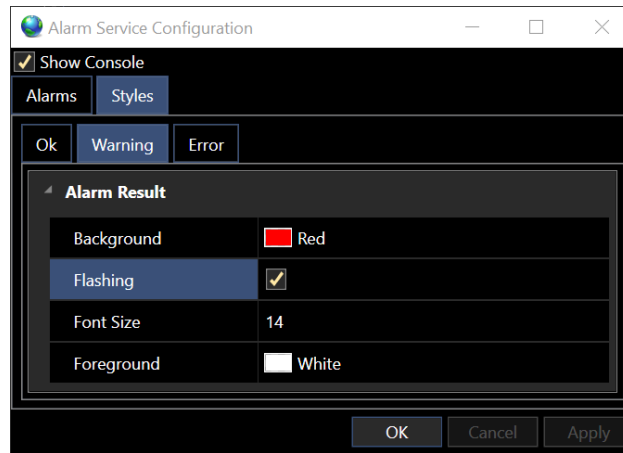


FIGURE 24-3 ALARM SERVICE CONFIGURATION WINDOW – STYLES TAB

- **Show Console:** When this is enabled, the Alarm Console window will open automatically when an alarm is triggered
 - **Background:** Color to display with event in the Text window, Alarm Status window and Alarm Console window
 - **Flashing:** Enable Alarm message in a text window to flash when triggered
 - **Font Size:** Message text size displayed in the Alarm Status window and Alarm Console window
 - **Foreground:** Message text color displayed in the Alarm Status window, Alarm Console window and Text window
1. To add an alarm, in the Alarms tab click the add button. This will add an alarm to the list to be configured, see Figure 24-4, Alarm 1 by default.

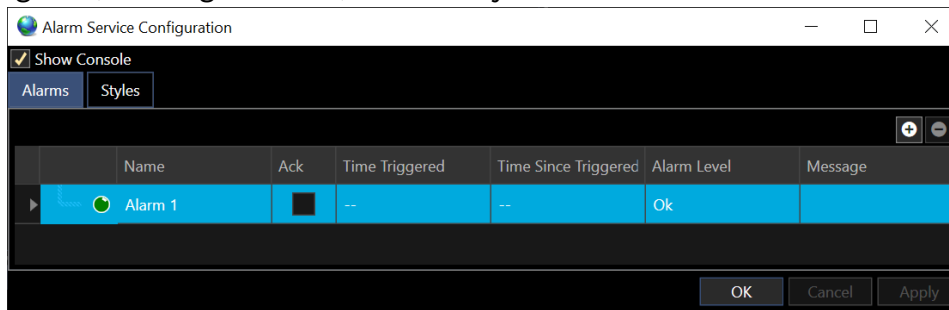


FIGURE 24-4 ALARM ADDED

24.3 CONFIGURING ALARMS

An Alarm requires a Data Source and a Condition to trigger the Alarm.

24.3.1 DATA SOURCES

1. Double click on the alarm to open the Alarms Configuration window, see Figure 24-5.

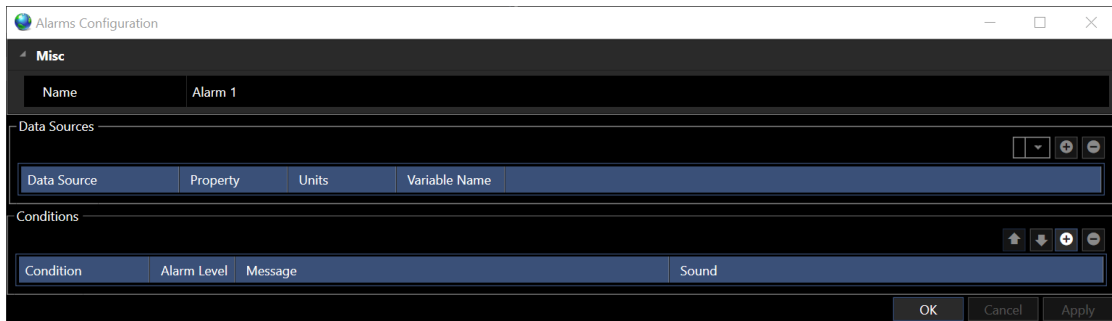


FIGURE 24-5 ALARMS CONFIGURATION WINDOW

2. Assign a **Name** for the alarm.

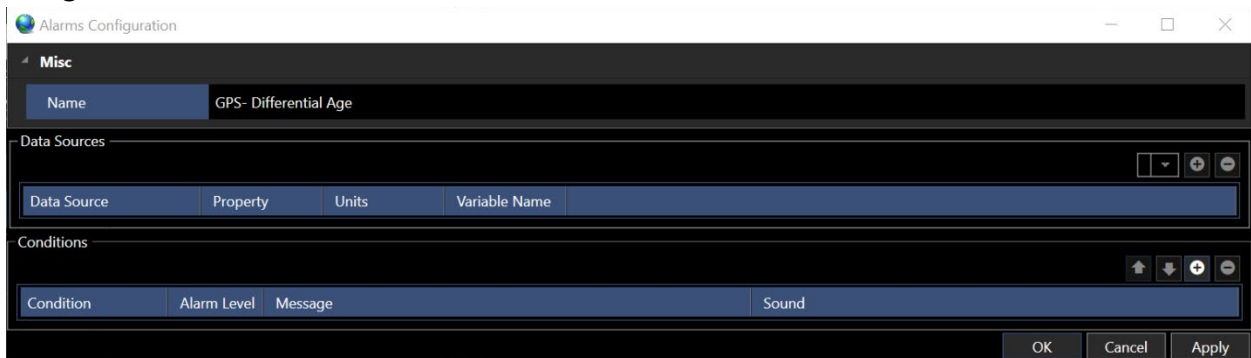


FIGURE 24-6 ALARM NAME

3. **Data sources** are added from the dropdown button, and any data from within the NavView system can be added, see Figure 24-7
4. When a data source is added, it appears in the table view, and a Variable Name is assigned to it. The default is for variables to be named as A, B, C, D, but this can be modified if desired, see Figure 24-8

Note: Multiple data sources may be added and each one must have a unique variable name.

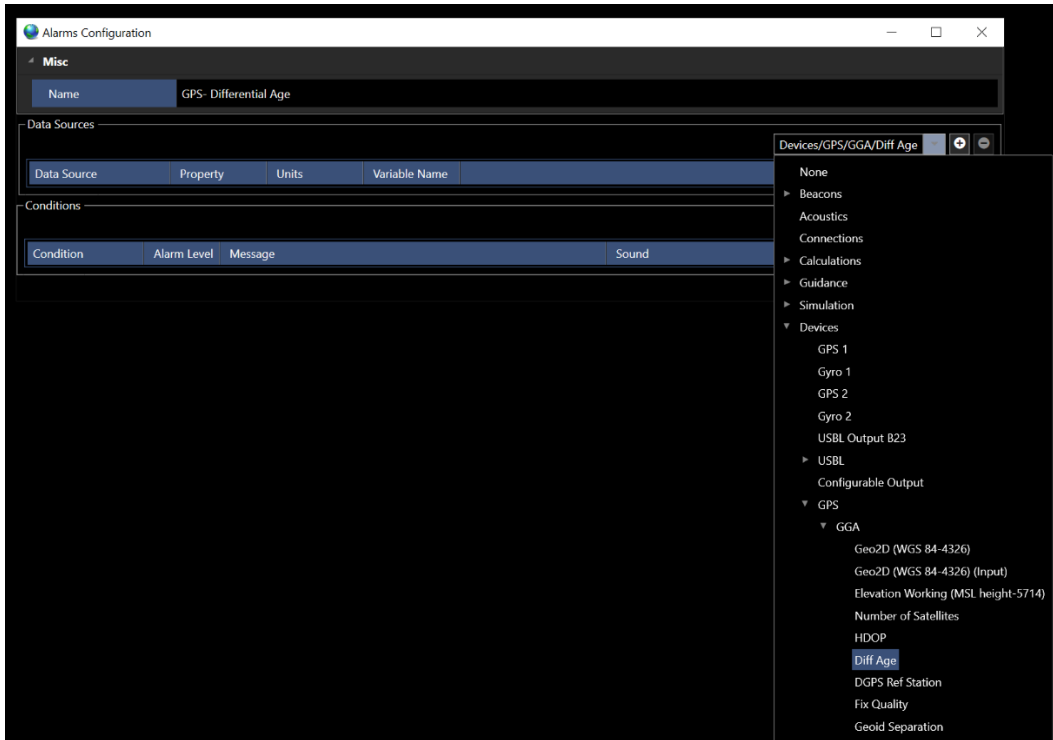


FIGURE 24-7 ALARMS – DATA SOURCES

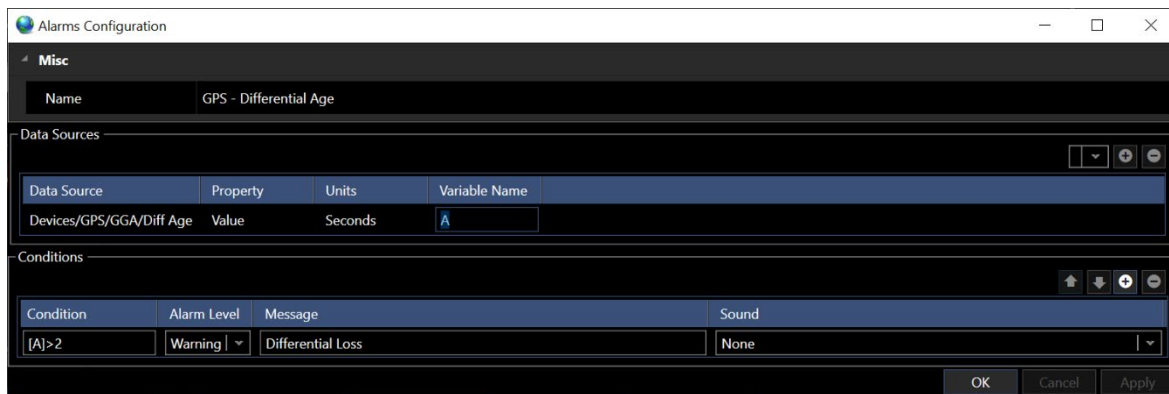


FIGURE 24-8 ALARMS – DATA SOURCE ADDED

- Property:** Depending on what data source was selected, the available properties can be found by clicking in the property box, see Figure 24-9

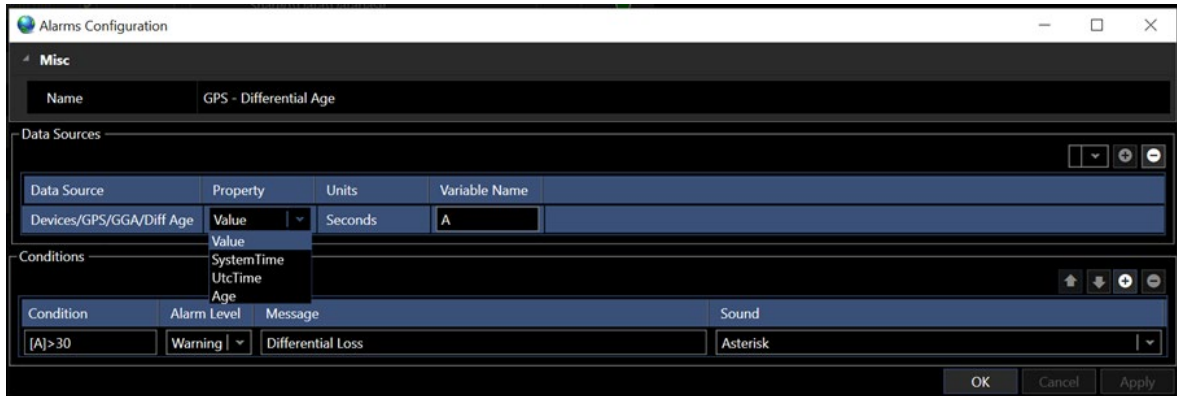


FIGURE 24-9 ALARMS – DATA SOURCE PROPERTY

- **Units:** From the drop-down, select the units associated with the selected data source property, see Figure 24-10

The selected unit will determine the number value that is extracted from the data source, and associated with the variable, in the conditions setup.

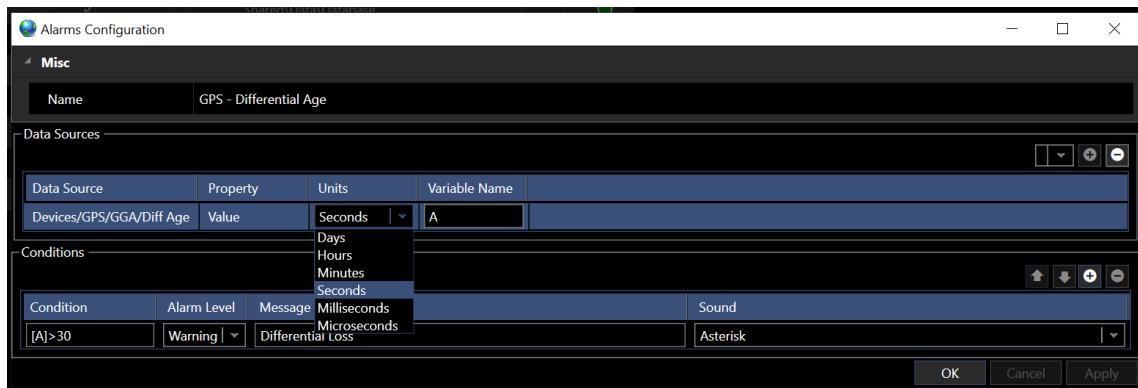


FIGURE 24-10 ALARMS – DATA SOURCE UNITS

Multiple data sources may be added and each one must have a unique variable name.

24.3.2 CONDITIONS

Conditions are setup as mathematical expressions which evaluate to true or false. If a condition is true the alarm will be triggered.

The following link has details on the available operators and their order of precedence.

[Operators and expressions - List all operators and expression - C# reference | Microsoft Learn](#)

Variables are entered into conditions using square brackets. Typing an open square bracket [in the condition text box will bring up a drop down of the available variable names, which have been set up in Data Sources.

1. To add a **Condition**, click the add button . This will open the Condition Result Dialog, see Figure 24-11

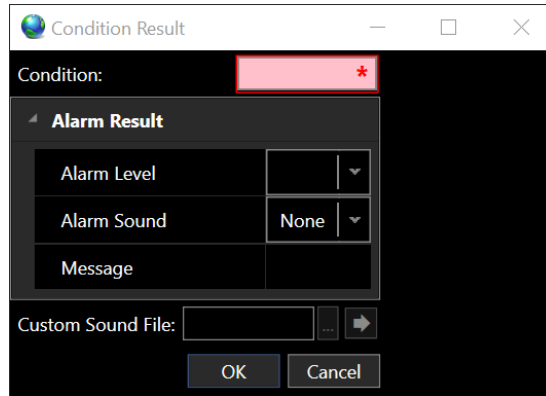


FIGURE 24-11 ALARMS – CONDITION RESULT DIALOG

2. Enter expression in the Condition box.
3. Setup Alarm Result notification.
 - **Alarm Level:** From drop-down menu, select Warning or Error
 - **Alarm Sound:** From drop-down menu, select notification to use when the Alarm is triggered
 - **None:** No sound notification or flashing screen
 - **Asterisk:** Sound notification and flashing screen
 - **Beep:** Sound notification and flashing screen
 - **Exclamation:** Sound notification and flashing screen
 - **Hand:** Sound notification and flashing screen
 - **Question:** Flashing screen, no sound notification
 - **Custom:** Plays mp3 or wav file, no flashing screen. Sound will be played at the Remotes if the sound file is located in the Sync Folder on the NavView that is acting as the server in Network Services

Note: Flashing screen notifications can be modified in Windows Settings>Ease of Access>Audio, see Figure 24-12.



FIGURE 24-12 WINDOWS VISUAL NOTIFICATION

- **Message:** Enter a message to be displayed when the Alarm is triggered
- **Custom Sound File:** Displays the selected Custom sound file, see Figure 24-13

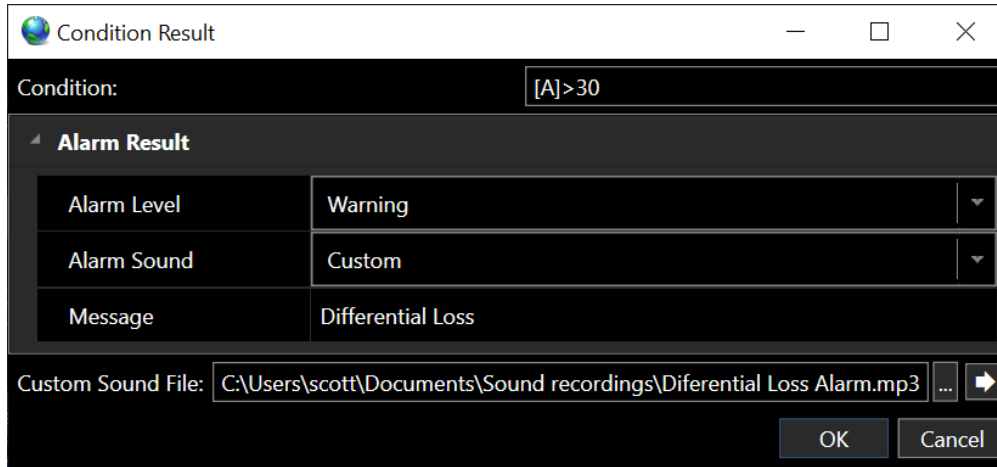


FIGURE 24-13 ALARM CONDITION EXAMPLE

4. Click **Okay** to accept the Condition setup.

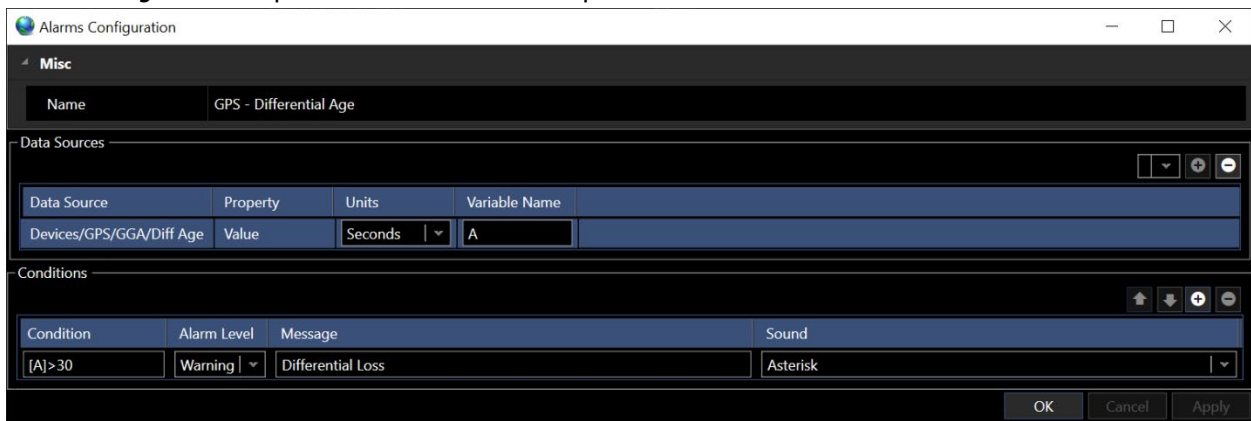


FIGURE 24-14 ALARM EXAMPLE – GPS DIFFERENTIAL LOSS

In the example above an alarm will be triggered if the GPS Differential Age is greater than 30secs. **Variable A** being Diff Age as setup in **Data Sources**.

Note: Conditions can be edited in the Alarms Configuration window.

24.4 MONITORING ALARMS

Alarms can be monitored using the Alarms Status window and/or the Alarms Console window.

24.4.1 ALARMS STATUS

Alarm Status is accessed in Alarms section in the View Ribbon, see Figure 24-15.

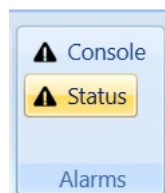


FIGURE 24-15 ALARMS STATUS – VIEW RIBBON

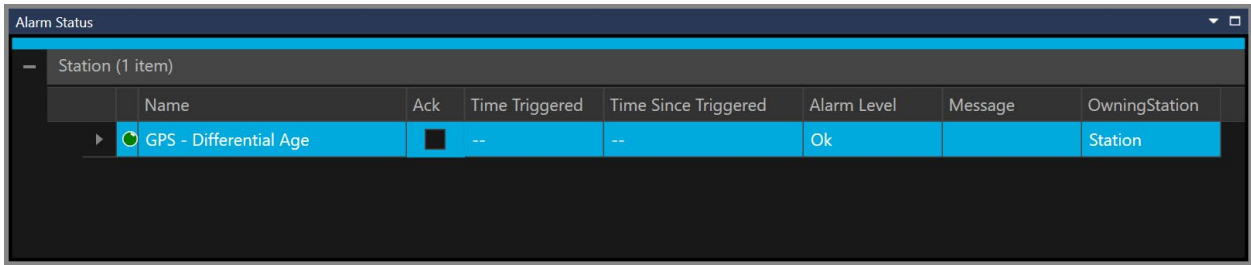


FIGURE 24-16 ALARM STATUS WINDOW

- **Name:** Alarm Name
- **Ack:** Displays if alarm has been acknowledged

Note: The alarm can be acknowledged by right clicking on alarm and select **Acknowledge**. This will also acknowledge alarm in the Alarm Console window.

- **Time Triggered:** Displays time alarm was triggered
- **Time Since Triggered:** Displays duration of alarm
- **Alarm Level:** Okay, Warning or Error. See Syles tab, see Figure 24-3
- **Message:** Displays alarm message added in Alarm Configuration
- **Owning Station:** Indicates the NavView Station where alarm was triggered

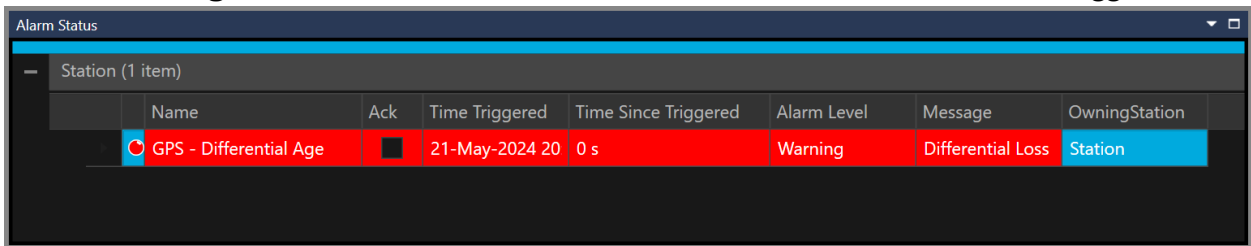


FIGURE 24-17 ALARM STATUS – ALARM TRIGGERED

24.4.2 ALARM CONSOLE

The Alarm Console is required to have Network Services enabled which is used to store the alarm events and broadcast to NavView Remote Clients. An alarm event is a record of an alarm being triggered, including the time and what condition was met.

Alarm events shown in the Alarm Console window can be accessed by selecting Console in Alarms section in the View Ribbon, see Figure 24-15. Alarm Console will automatically open if **Show Console** is enabled in the Alarm Service Configuration window. The user may then select the triggered alarms and acknowledge them.

To acknowledge an Alarm,

1. Select alarm to acknowledge.
2. Click the Acknowledge button or right click on alarm then select Acknowledge.

Note: This will also acknowledge alarm in the Alarm Status window.

Alarm events are cleared from the console display if they are both acknowledged and are no longer triggered (Cleared).

Station	Date/Time (Local)	AlarmName	Level	Message	Condition	Acknowledged	Acknowledged Time (Local)	Cleared Time (Local)
1	22-May-2024 13:19:47	Alarm Service/GPS - Differential Age	Warning	Differential Loss	Diff Age:Value(Seconds)>2	<input type="checkbox"/>	--	--

FIGURE 24-18 ALARM CONSOLE – ALARM TRIGGERED

Station	Date/Time (Local)	AlarmName	Level	Message	Condition	Acknowledged	Acknowledged Time (Local)	Cleared Time (Local)
1	22-May-2024 13:19:47	Alarm Service/GPS - Differential Age	Warning	Differential Loss	Diff Age:Value(Seconds)>2	<input checked="" type="checkbox"/>	22-May-2024 13:22:04	--

FIGURE 24-19 ALARM CONSOLE – ALARM ACKNOWLEDGED

Station	Date/Time (Local)	AlarmName	Level	Message	Condition	Acknowledged	Acknowledged Time (Local)	Cleared Time (Local)
---------	-------------------	-----------	-------	---------	-----------	--------------	---------------------------	----------------------

FIGURE 24-20 ALARM CONSOLE – ALARM ACKNOWLEDGED AND CLEARED

To show a historical list of Alarms, check the box **Show All**, see Figure 24-21.

Station	Date/Time (Local)	AlarmName	Level	Message	Condition	Acknowledged	Acknowledged Time (Local)	Cleared Time (Local)
1	21-May-2024 11:06:56	Alarm Service/GPS - Differential Age	Warning	Differential Loss	Diff Age:Value(Seconds)>2	<input checked="" type="checkbox"/>	21-May-2024 11:07:26	21-May-2024 11:11:48
1	21-May-2024 11:17:27	Alarm Service/GPS - Differential Age	Warning	Differential Loss	Diff Age:Value(Seconds)>2	<input checked="" type="checkbox"/>	21-May-2024 11:18:08	21-May-2024 11:19:27
1	21-May-2024 11:20:58	Alarm Service/GPS - Differential Age	Warning	Differential Loss	Diff Age:Value(Seconds)>2	<input checked="" type="checkbox"/>	21-May-2024 11:21:33	21-May-2024 11:22:19
1	21-May-2024 13:31:17	Alarm Service/GPS - Differential Age	Warning	Differential Loss	Diff Age:Value(Seconds)>2	<input checked="" type="checkbox"/>	21-May-2024 13:33:26	21-May-2024 13:48:06
1	21-May-2024 13:58:27	Alarm Service/GPS - Differential Age	Warning	Differential Loss	Diff Age:Value(Seconds)>2	<input checked="" type="checkbox"/>	21-May-2024 14:14:55	21-May-2024 14:00:12

FIGURE 24-21 ALARM CONSOLE – ALARMS LISTING

24.4.3 TEXT WINDOW

Alarms can also be displayed in a Text window.

1. Open Configure Text Window dialog.
2. From Available Items expand Alarm Service then select Alarms to be displayed.



FIGURE 24-22 TEXT WINDOW – AVAILABLE ITEMS – ALARMS



FIGURE 24-23 ALARM IN TEXT WINDOW

- The Alarm message can be enabled to flash in the Text window by checking the Flashing box in Alarm Service Configuration dialog, Styles tab.

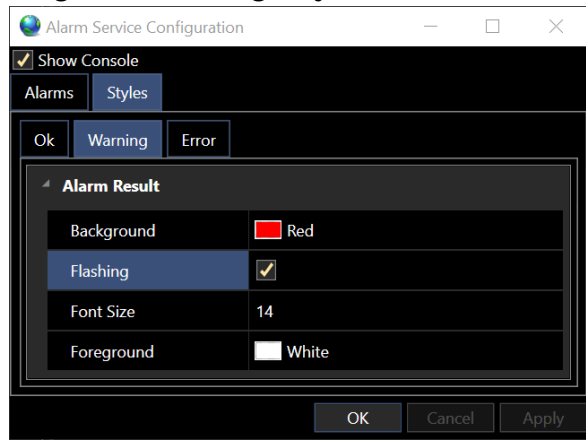


FIGURE 24-24 ALARM MESSAGE ENABLED TO FLASH