



FT NavVision[®] (version 09.18.02.xxxx)

Operator's Manual

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Because of continuous development of the software, it may occur that the manual does not cover the entire functionality of the delivered software. In no way can the user obtain any rights because of this.

References

Not applicable.

Introduction

You are now the proud user of FT NavVision[®] or of a part thereof. An advanced overall solution for navigation and other types of data display on board of vessels or for industrial applications. It can process the most complex data.

FT NavVision[®] Navigation, alarm monitoring and control system consists of several software modules and other parts which can be used independently or in combination with. However, in combination with each other they will enhance their functionality. Together with the suitable hardware FT NavVision[®] will form a unique hard & software combination, state of the art onboard equipment.

About the operator's manual

This manual has a modular structure. This means that chapters can be added or removed depending on the way your unique FT NavVision[®] software package is compiled. This implies that you will only receive the information that is relevant to you.

Each module/viewer deals with a distinct aspect of FT NavVision[®], covered in depth over several chapters. Each specific section of the operator's manual contains a general introduction, explaining the software structure and the operating procedure.

Subjects like navigation, viewers, alarm systems and Radar are covered separately. Should you decide to expand your software package at a later date; the accompanying parts or chapters can be added where necessary to your current manual.

The basic manual consists of the basic features of FT NavVision[®]. This will, in basic, be extended with an extension of the alarm viewer for UMS or MMS. The main explanation for usage of the basic features for viewers as well as the extended viewers will be covered in separate manuals, as extension of this basic manual. While these viewers are optional, it will depend on your system whether these manuals are provided.

Abbreviations list

ABP	Alarm Button Panel
ACK	Acknowledge
BV	Bureau Veritas
COG	Course Over Ground
CPU	Central Processing Unit
CSV	Comma Separated Values
DAP	Duty Alarm Panel
DM	Dead Man's
ECR	Engine Control Room
FT	Free Technics
GEA	General Engineer's Alarm
GPS	Global Positioning System
GUI	Graphical User Interface
HMI	Human Machine Interface
I/O	Input/Output
LED	Light Emitting Diode
LOP	Local Operator Panel
LPU	Local Processing Unit
LR	Lloyds Register
MMS	Manned Machinery Space
NM	Nautical Mile
NMEA	National Marine Electronics Association
OWS	Operator Work Station
POI	Points-of-Interest
RINA	Royal Institution of Naval Architects
RPM	Rounds Per Minute
RTE	Route
SOG	Speed Over Ground
SMS	Short Message Service
TCP/IP	Transmission Control Protocol/Internet Protocol
TFT	Thin Film Transistor
UDP	User Datagram Protocol
UMS	Unmanned Machinery Space
UTC	Universal Time Coordinated
WPT	Waypoint

Safety instructions

The indications NOTE, CAUTION and WARNING have the following significance:

NOTE:

An operating procedure, practice or condition etc., which it is essential to emphasize.

CAUTION:

An operating procedure, practise or condition etc., which, if not strictly observed, may damage or destroy equipment.

WARNING:

An operating procedure, practise or condition etc., which, if not carefully observed may result in personal injury or loss of life.

Document revisions

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1. Functional description

This chapter introduces the FT NavVision® monitoring, control and alarm system. The following subjects are covered:

- Overview
- Application architecture
- System components

1.1 Software version

This operator's manual complies with FT NavVision® software version: Build **09.18.02.xxxx**.



Figure 1-1: Bridge console equipped with FT NavVision® (typical)

1.2 Overview

FT NavVision[®] is a modular, integral software solution for the maritime industry. It can replace all instruments, switchboards and alarm panels.

The system allows control and monitoring of all data and equipment such as engines, generators, pumps, refrigeration and hydraulic systems. The list is endless.

It is possible to use several modules/viewers as a standalone or in combination with one of the other modules.

1.3 FT NavVision[®] modules (licenses)

NOTE:

All NavVision[®] modules are related to a hardware key (license), to be used in every computer. Without a FRT connector (Key), FT NavVision[®] software is not functional. If you wish to obtain a software version again, due to a lost FRT connector, you must purchase the software again at full costs.

As mentioned before FT NavVision[®] exists of a number of modules/viewers and communication protocols which are activated by license numbers, which can be put together and can be fully tuned to the operator's requirements. The viewers can be divided in two (2) groups, namely:

- Viewers which are linked to the inputs of the system
- Viewers which are complementary, useable in addition to the viewers which are linked to the inputs.

Hereafter you will find a presentation of regular FT NavVision[®] viewers linked to inputs:

Module (viewer)	Description
Navigation **	Containing display of navigation charts and navigation functionality. Also offers the possibility to manage the waypoint and scanning of charts.
Navigation Extra **	The same functionality as FT NavVision [®] Navigation, supplemented with the possibility to command an autopilot plus the display of three (3) instruments and AIS (Automatic Identification System).
Navigation Pro **	Navigation Extra, including advanced analogue viewer.
Single Engine ***	A viewer to monitor all data for one engine, one generator and two tanks.
Dual Engine ***	A viewer to monitor all data for two engines, two generators and two tanks.
Tank Level ***	A viewer to monitor up to twenty (20) tanks (as one viewer).
Alarm basic *	Offers the possibility to show alarms
Alarm MMS *	Offers the possibility to show alarms + the possibility to connect and modify several alarm stations + show alarms for MMS (Manned Machinery Space)
Alarm UMS *	Offers the possibility to show alarms + the possibility to connect and modify several alarm stations + show alarms for UMS (Unmanned Machinery Space) + DM (Dead Man's) timers.
AC/DC ***	A viewer to monitor electrical system data.
Victron Multi ***	A viewer to monitor a Victron Multi power source.
Camera ***	Offer the possibility to show images of up to eight cameras.
Radar **	An integrated radar plus control panel.
Fishfinder **	An integrated video sounder plus control panel
Network Server	A necessary module when using server PC's in a network. The modules retrieve their data from the main system within the network.
Network Client	Necessary when using client PC's in a network. The module retrieves its data from the main system in the network.

1.4 FT NavVision® complementary modules

Module (viewer)	Description
Docking ***	A viewer specially designed for entering and docking into a harbour.
Triple Engine ***	A viewer that displays triple engine data (in a single viewer).
RPM ***	A viewer consisting of main instruments incl. digital values.
Generator Pro ***	Offers the possibility to monitor two generators in a single viewer. Switching between a maximum of eleven (11) different generators is feasible.
Layout **	A graphics viewer that enables you to open and draw up to twenty (20) mimics.
Analogue 1 – 3 ***	A viewer for the display of several types of data in combination with other viewers. The viewer consists of analogue and digital instruments.
Environmental ***	Offers oil platform related information such as: weather, wave, current and position data etc.

- * Described in basic manual
- ** Described in separate manual
- *** Described in overall manual

1.4.1 Communication

The communication part is responsible for the communication with the outside world (physical & data link layer), telemetric and establishes this up to the processing module.

Supported physical layers are:

- Serial communication
- Parallel communication
- Multicast
- TCP/IP¹
- UDP/IP²
- Audio
- Video.

1.4.2 Data processing

The data processing part of FT NavVision[®], processes all the data received from communication protocols, sends requests from the application to the different communication protocols and is responsible for intelligent control.

1.4.3 Dynamic & configuration data

All values within FT NavVision[®] consist of dynamic and configuration data. Current value, desired value and requested value are dynamic data fields. Setting of low and high alarms and calibration are configuration data.

1.4.4 Dynamic data

Every value in the dynamic data consists of a primary and a secondary source. The value from the primary source is used for calculations and the instruments. The value from the secondary source is used when the primary source is not updated within the maximum interval for that source. A value in FT NavVision[®] is called data value and consists of e.g. alarm and control data.

1.4.5 Configuration data

Every value within FT NavVision[®] can be configured with the same parameters. The configuration consists of calibration settings, appearance and alarm settings.

The configuration of a value is called configuration value. It consists of e.g. alarm & calibration settings and labelling.

1.4.6 Human Machine Interface (HMI)

FT NavVision[®] consists of its own build/developed human interface in order to create a real time, unique look and feel feature.

¹ TCP/IP = Transmission Control Protocol/Internet Protocol (communication protocol)

² UDP = User Datagram Protocol (transport protocol used in the internet)

2. Taskbar (basic)

2.1 Introduction

This chapter explains how to use the control functions and displays of the different FT NavVision® modules/viewers.

2.2 Taskbar location

The taskbar (see [Figure 2-1](#)) is situated at the top of the screen and basically looks as follows:



Figure 2-1: Taskbar (basic)

NOTE:

Depending on the number of modules/viewers the full taskbar or less will be visible. Only in case of multiple software functionality the taskbar will become too extensive and scrolling will be a necessity.

The taskbar is the navigator of FT NavVision®. The Graphical User Interface (GUI) consists of several buttons for starting up the individual modules/viewers.

2.3 Taskbar functionalities

- By moving the cursor over the line of buttons in view, you can scroll until you find the button you wish to select. If there are more buttons than the available space on the screen allows, move the cursor on one of the arrows as located on the far left and far right side of the taskbar.
- By clicking a particular button, you will open the corresponding module/viewer beneath the taskbar in the remaining part of the screen. If there is more than one screen available, the screen as configured conform the setup in “Tools” opens
- If no screen is chosen (see “Tools” button), a vacant screen will be randomly selected.
-



Figure 2-2: Module/viewer (typical)

- The selected and activated button will obtain a green spot (see [Figure 2-2](#)), to indicate that the corresponding module is activated as well
- A module/viewer (navigation, tank, engine etc.) can be closed by clicking the corresponding button again. In case you work with just one screen, a module will close by clicking another button of one of the other modules/viewers
- When you have the disposal of several screens, it will be possible to display the viewers of the modules on these screens
- To the right of the taskbar there is an alarm zone (see [Figure 2-3](#)), which will display the activated alarms. One or two alarms will directly be visible. In case of multiple incoming alarms (> 2), they will alternately appear (scroll) on the taskbar
- You can open the corresponding alarm report screen by clicking in the alarm zone. Alternately with the left mouse button click the alarm button on the taskbar to access the report screen also.



Figure 2-3: Alarm zone on taskbar (typical)

2.4 Taskbar buttons

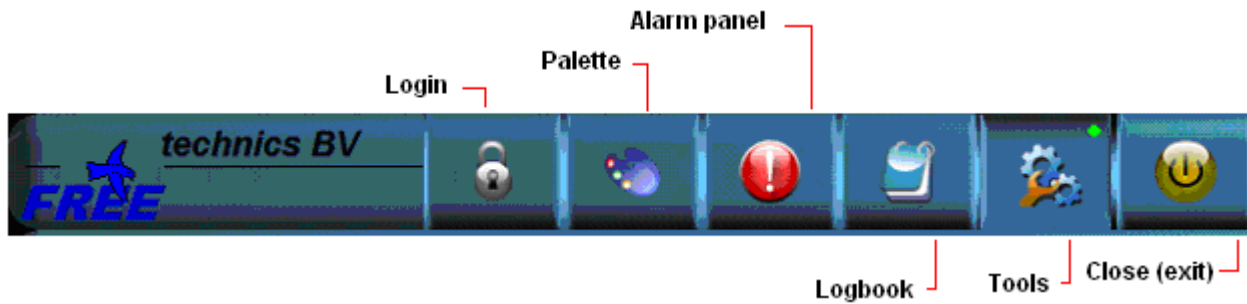


Figure 2-4: Taskbar buttons (basic)

The taskbar (see Figure 2-1) is standard compiled of several fixed modules/viewers which are necessary to have the software perform optimally and to be able to setup the system and showing the alarms. These modules are always included, regardless of the fact what modules you decide to purchase.

The basic FT NavVision[®] taskbar consists of the following buttons (from left to right):

- Login
- Palette
- Alarm panel
- Logbook
- Tools
- Close (exit).

2.4.1 Login



NOTE:

Be aware of the fact that from standard delivery, the system is not login protected (no password required).



Figure 2-5: Operator login screen

2.4.2 Palette



The “*Palette*” button is used to set up the Graphical User Interface (GUI) of FT NavVision® for sun, day, and night situations. For each situation a different colour scheme can be selected for foreground, background and text.

Screen colours are separately adjustable, and related to the user specific settings. This means that each time an operator logs in, the preferred colour scheme will automatically show up.

2.4.2.1 Sun, day and night palettes



Figure 2-6: Sun, day and night palettes (on taskbar)

To adjust the brightness of the screen depending on the ambient light conditions, the buttons “*Sun palette*”, “*Day palette*” and “*Night palette*” are available on the taskbar. Adjusting the colours to individual settings is rather simple.

2.4.2.2 Adjust palette button

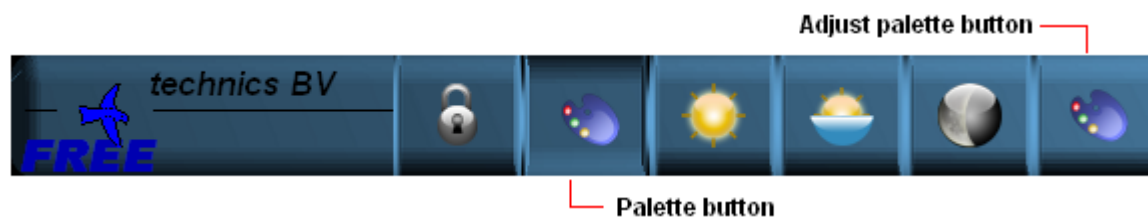
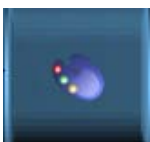


Figure 2-7: Adjust palette button (on taskbar)

The “*Palette button*” and “*Adjust palette button*” allows you to change the instrument layout text, instrument layout, gauge background and gauge text colours.

After having clicked the “*Adjust palette*” button (see Figure 2-7), colour settings can be made via the “*Colour palette*” button (Figure 2-8). In clockwise direction the settings are as follows:

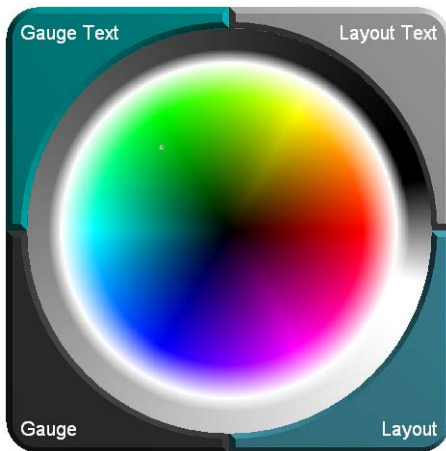


Figure 2-8: Colour palette button (typical)

- **Layout text**
The “*Layout*” button allows you to selectively alter the colour of the instrument button text
- **Layout**
The “*Layout*” button allows you to selectively alter the colour of the surrounding instrument layout
- **Gauge**
The “*Gauge*” button allows you to selectively alter the background colour of all gauges
- **Gauge text**
The “*Gauge text*” button allows you to selectively alter the gauge text, gauge pointer and gauge number indications.

The “*Adjust palette*” viewer operates independently from all other viewers, furthermore the personal settings depend on the user login.

Once this viewer is opened, it will overlap the others on the screen, and stays open, unless specifically closed. Click the “*Adjust palette*” button once more to close the viewer.

In the centre of this module, you will find the colour palette. The core is for choosing a colour; the outer ring is for determining the black and white nuances.

By effectively using the different colour options, you will create an optimal screen, no matter what the ambient light conditions are.

2.4.3 Alarm panel - basic system



2.4.3.1 Overview

The main purpose of the alarm system is to give the ship's crew all the basic alarms and status information they require in order to maintain safe and efficient operation of the machinery and other relevant equipment.

2.4.3.2 Alarm status

The "Alarm panel" button is used to access the alarm page and to monitor the active alarms. The alarms and monitored values are divided into alarm groups. When an alarm condition occurs, the buzzer will sound and the alarm is indicated on the "Alarm page" and "Taskbar" (see [Figure 2-9](#)). The number of new incoming alarms (on taskbar) is shown under the header "New:"

Alarm status	Description
Red (flashing)	An unacknowledged or unaccepted active alarm
Amber (steady)	An acknowledged or accepted active alarm

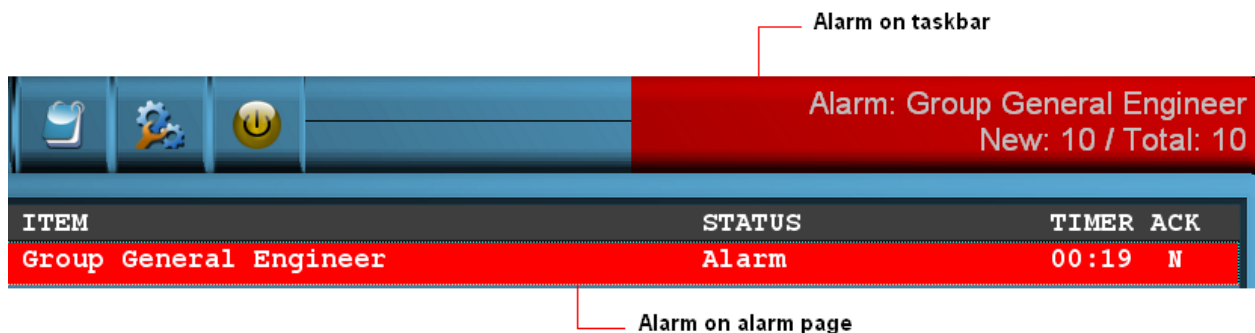


Figure 2-9: Alarm page and taskbar

DATE	TIME	GROUP	ITEM	STATUS	TIMER	ACK
07-10-10	12:12:02	Grp Reduce	Engine Fuel Temperature	High: 47.9 °C	00:05	N
07-10-10	12:11:34	Grp Nav	Auto Pilot Cross Track Error	Low: -4.41 nm	00:06	N
07-10-10	10:12:44	Grp Tanks	Fuel Tank 4 Level	Too Low: 0.0 L	02:05	Y
07-10-10	10:12:37	Grp Tanks	Fuel Tank 3 Level	Too Low: 0.0 L	02:05	Y
07-10-10	10:12:30	Grp Tanks	Fuel Tank 2 Level	Too Low: 0.0 L	02:05	Y
07-10-10	10:12:22	Grp Tanks	Fuel Tank 1 Level	Too Low: 0.0 L	02:05	Y
07-10-10	10:12:08	Grp Tanks	Fuel Tank Level	Too Low: 0.0 L	02:05	Y
07-10-10	10:11:19	Grp DC	Battery Voltage	High: 28.8 V	02:06	Y
07-10-10	10:10:11	Grp Reduce	Engine Gear Oil Pressure	High: 18.9 bar	02:07	Y

Figure 2-10: Alarm page information

Explanation of alarm page information (see Figure 2-10):

Column	Description
Date	Shows incoming alarm date (DD-MM-YY)
Time	Shows incoming alarm time (HH-MM-SS)
Group	Shows alarm group type
Item	Shows actual alarm message
Status	Shows alarm type and how alarm is triggered
Timer	Shows active alarm period
Ack	Shows whether alarm is acknowledged Y(es) or N(o)

2.4.3.3 How to respond to an alarm

When an alarm condition occurs the buzzer will sound and the alarm message is indicated on the alarm panel. Do the following:

1. Read the alarm information on the display
2. **Take the appropriate action (where necessary)**
3. Acknowledge and silence the alarm condition by double-clicking the red flashing (active) alarm.
4. Check that the alarm message is no longer displayed when the alarm situation no longer exist.

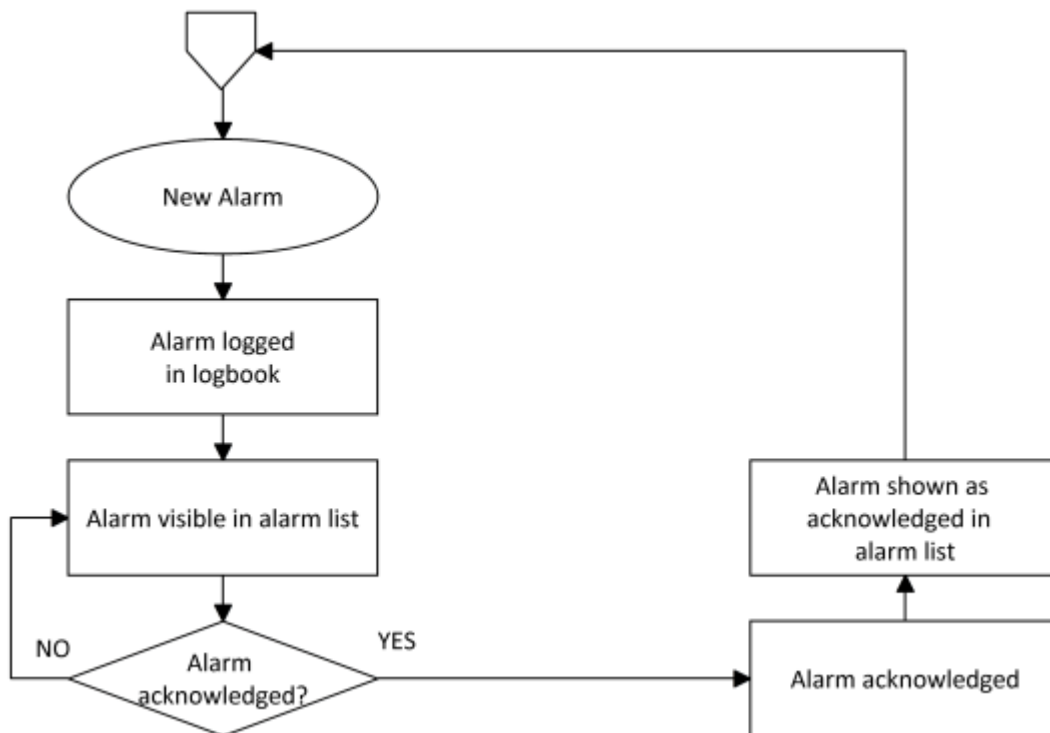


Figure 2-11: Flowchart alarm handling (basic system)

NOTE:

Once all active alarms are acknowledged, the red exclamation mark (right-hand top corner) on the taskbar is shown (see [Figure 2-12](#)).

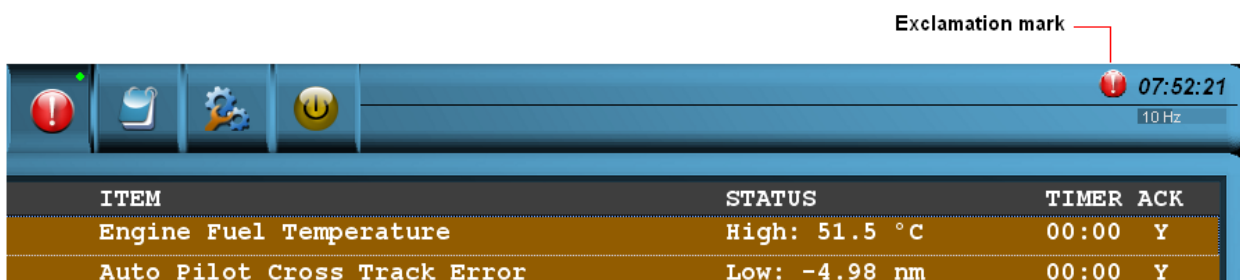


Figure 2-12: Exclamation mark (acknowledged alarms)

2.4.4 Alarm panel - basic system (incl. MMS)



Figure 2-13: Overview taskbar

2.4.4.1 General

The main purpose of the alarm system (incl. MMS³) is to give the ship's crew all the basic alarms and status information they require in order to maintain safe and efficient operation of the machinery and other relevant equipment. In comparison to the basic taskbar an extra button is added i.e. the "Group viewer" button.

NOTE

Assignment of alarm stations is only permitted by a dedicated engineer.

In addition "Alarm stations" fields (described separately) are added under "Tools". Through the "Alarm stations" fields, user specific alarm stations (locations) can be assigned. Assigned alarm stations consist of e.g.:

- Large screens
- Small screens (panel PC's)
- Alarm Button Panel (ABP)
- Buzzer(s).

2.4.4.2 Alarm status and handling

Alarm viewer and alarm handling is basically the same as described earlier.

As an extra feature it is possible (similar to UMS⁴) to assign specified alarms and alarm group outputs to different areas on the ship.

Besides having an alarm available at the bridge or machinery space, the same alarm may also be available in the crew rooms (public areas) or the captain's cabin.

Each particular alarm station can be setup to a predefined state. If, for example, the captain prefers to be warned by alarms of the fire-group and the general engineer's alarm only, FT NavVision[®] allows you to configure it up this way (*NOTE: this feature is Class restricted*).

In addition, UMS comes with on-duty select facilities (near the machinery space) as well as attended/unattended facilities, dead man's timer and call functions. All under Class rules with diverse fail safe measures. Each alarm station is fully adaptable to the crew's needs, only restricted by Class rules.

³ MMS = Manned Machinery Space

⁴ UMS = Unmanned Machinery Space



Figure 2-14: Panel PC (typical)

DATE	TIME	GROUP	ITEM	STATUS	TIMER	ACK
22-10-10	10:08:42	None	Group General Engineer	Alarm	01:07	N
22-10-10	10:02:41	Grp Tanks	Fuel Tank 4 Level	Too High: 100.0 L	01:13	N
22-10-10	10:02:41	Grp Tanks	Fuel Tank 3 Level	Too High: 100.0 L	01:13	N
22-10-10	10:02:41	Grp Tanks	Fuel Tank 2 Level	Too High: 100.0 L	01:13	N
22-10-10	10:02:41	Grp Tanks	Fuel Tank 1 Level	Too High: 100.0 L	01:13	N
22-10-10	10:02:41	Grp Tanks	Fuel Tank Level	Too High: 93.0 L	01:13	N
22-10-10	10:02:41	Grp Reduce	Engine Gear Oil Pressure	High: 17.3 bar	01:13	N
22-10-10	10:02:41	Grp Reduce	Engine Fuel Temperature	High: 58.6 °C	01:13	N
22-10-10	10:02:41	Grp DC	Battery Current	High: 11.3 A	01:13	N
22-10-10	10:02:41	Grp DC	Battery Voltage	High: 28.8 V	01:13	N
22-10-10	10:02:41	Grp Nav	Auto Pilot Cross Track Error	Low: -0.29 nm	01:13	N

Figure 2-15: Alarm page (typical)

2.4.4.3 Alarm button panel

In order to acknowledge alarms to persons an Alarm Button Panel (ABP) is used. The ABP consists of the following controls:

- *Test / on-off* button (green)
- *Dim* button (blue)
- *Silence/acknowledge* button (red).

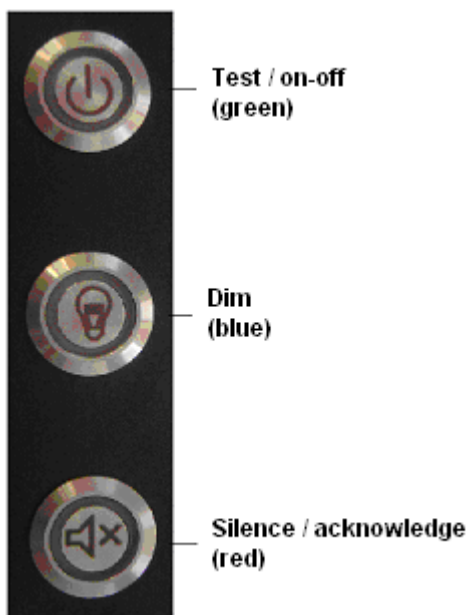


Figure 2-16: Alarm button panel

2.4.4.4 Control buttons

Button	Detail
Test (green)	Push and hold the “Test” button on the alarm button panel. All (button) LEDs are checked including the alarm buzzer.
Dim (blue)	To dim the alarm panel LEDs
Silence/acknowledge (red)	To acknowledge an alarm (if applicable) or to silence the buzzer for a certain period of time.

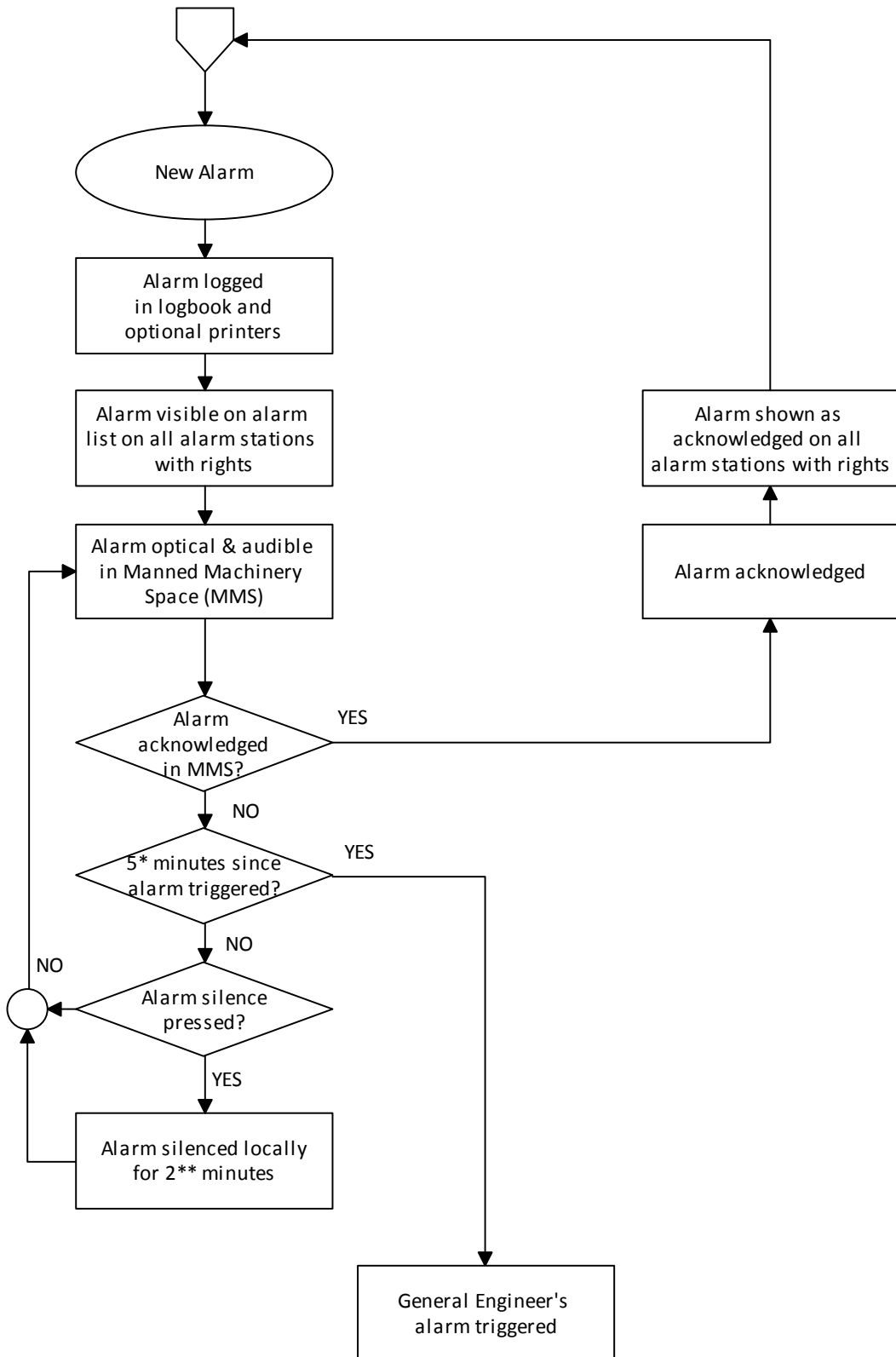


Figure 2-17: Flowchart alarm handling (incl. MMS)

2.4.5 Alarm panel - basic system (incl. UMS)



Figure 2-18: Overview taskbar

2.4.5.1 General

The main purpose of the alarm system (incl. UMS⁵) is to give the ship's crew all the basic alarms and status information they require in order to maintain safe and efficient operation of the machinery and other relevant equipment.

In comparison to the basic taskbar an extra button is added i.e. the "Group viewer" button.

NOTE

Assignment of alarm stations is only permitted by a dedicated engineer.

In addition "Alarm stations" fields (described separately) are added under "Tools".

Through the "Alarm stations" fields, user specific alarm stations (locations) can be assigned.

Assigned alarm stations consist of e.g.:

- Large screens
- Small screens (panel PC's)
- Alarm Button Panel (ABP)
- Buzzer(s).

2.4.5.2 Alarm status and handling

Alarm viewer and alarm handling is basically the same as described earlier.

As an extra feature it is possible to assign specified alarms and alarm group outputs to different areas on the ship.

Besides having an alarm available on the bridge or machinery space, the same alarm may also be available in crew rooms (public areas) or e.g. the captain's cabin.

Each particular alarm station can be setup to a predefined state. If, for example, the captain prefers to be warned by alarms of the fire-group including the general engineer's alarm only, FT NavVision[®] allows you to configure it in this way (*NOTE: this feature is Class restricted*).

⁵ UMS = Unmanned Machinery Space



Figure 2-19: Panel PC

The main purpose of this alarm system (incl. UMS⁶) is to give the ship's crew all the basic alarms and status information they require in order to maintain safe and efficient operation of the machinery and other relevant equipment. In addition, duty alarm panels (panel PC's) with on-duty select facilities installed at e.g. crew rooms (public areas) are used for the presentation and monitoring of alarms.

The duty alarm system provides machinery alarms to bridge, cabins, and public areas for an Unmanned Machinery Space (UMS). They display the information for machinery alarms and settings such as alarm status, alarm acknowledgement, alarm time duration, timer functions, and on-duty selection.



Figure 2-20: Alarm panel screen (incl. on-duty selection)

⁶ UMS = Unmanned Machinery Space

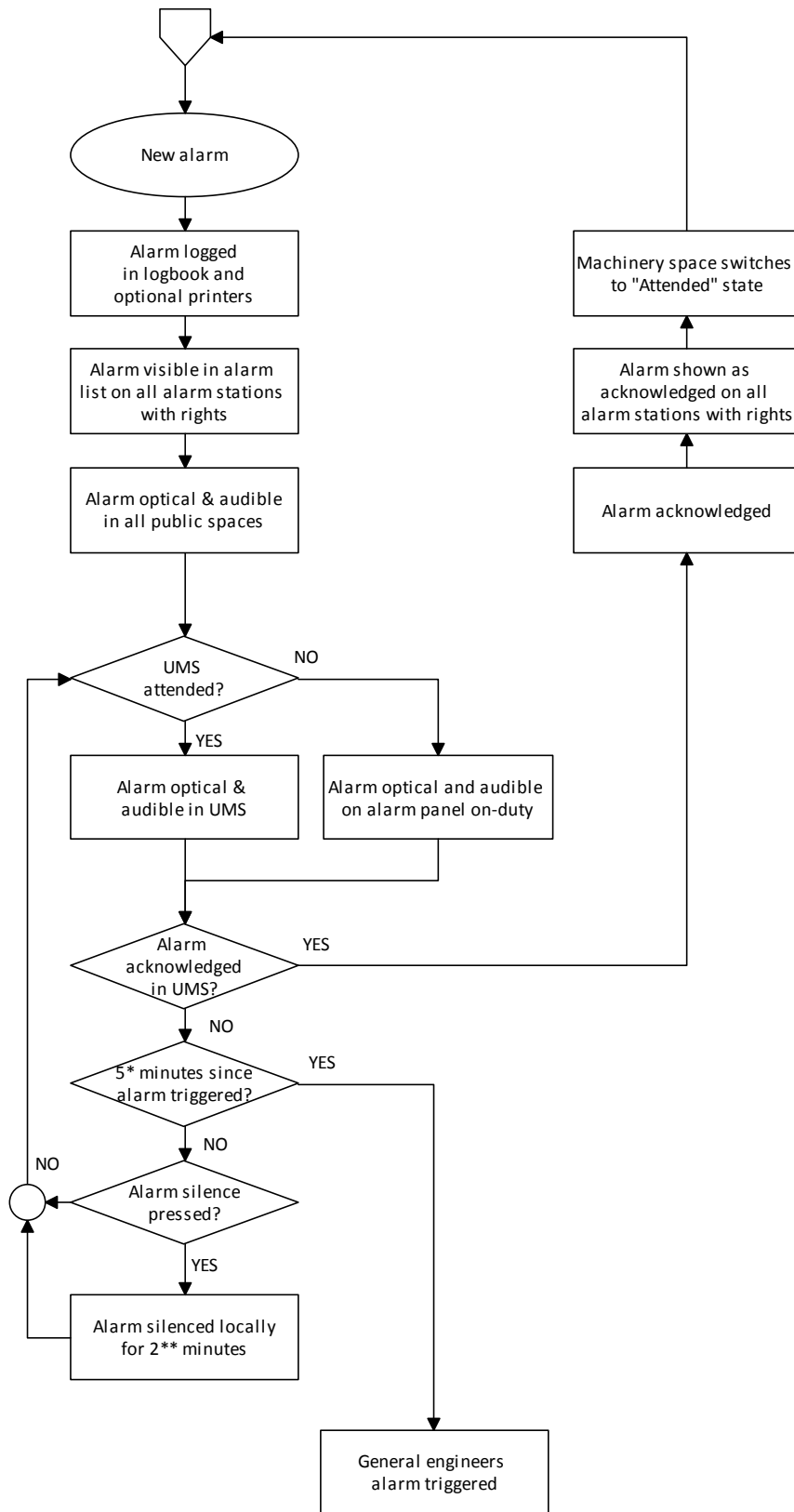


Figure 2-21: Flowchart alarm handling (incl. UMS)

2.4.5.3 Alarm handling & duty select procedure (UMS)

For an Unmanned Machinery Space (UMS) special rules apply under Class. As the abbreviation UMS states, it is possible to leave the machinery space (engine control room) in an unmanned state (unattended), but certainly not unwatched. For this reason several features are available.



It is mandatory to have an engineer on watch. It is his/her responsibility to act upon any alarm. To help the engineer to perform his task there is a duty select facility within FT NavVision® to select (assign) the engineer that is on-duty and thus responsible.

At the time the engineer is present in the machinery space the *“Panel active”* button must be selected. All alarms will be shown in the machinery space and the engineer can act upon these alarms from the alarm panel.



Panel active button

As soon as the engineer decides to leave the machinery space he has to check out by deactivating the *“Panel active”* button. This will only be possible if it is allowed. If, for example, there is still an alarm active, the engineer will not be able to check out. Until all conditions are met, it will be possible to check out. In case no engineer on duty is selected while checking out, all alarm stations will sound and all the LEDs will blink, until an engineer is selected (either by pressing the *“Acknowledge button”* on any alarm station or select an engineer via the *“Duty select”* button in the machinery space).



Duty select button

While the engineer is still on-duty (as will be stated on the alarm panel), all the alarms are transferred to his cabin. Once arrived in his cabin the engineer can monitor the incoming alarms and must act upon them by going to the engine room.



Figure 2-22: Call button / on-duty indication / duty select button

It is NOT possible to acknowledge any alarm in his cabin. If reluctant to acknowledge the alarm (in the engine room) within 5 minutes, a General Engineer's Alarm (GEA) will sound on all alarm stations.

In public spaces (e.g. crew mess), chosen alarms will be visible all the time. You cannot acknowledge alarms in public spaces (for extra alertness).

As soon as the machinery space is "Attended", a "Dead Man's (DM) timer" (see Figure 2-23) starts to count down from 30 minutes to 0.



Figure 2-23: Dead Man's (DM) timer

It is an extra tool to watch over the engineer. It is the engineer's responsibility to press the timer reset button within every given 30 minutes to let the system know he is still alive. Failing to press the timer reset button within the given time will set of an alarm.

2.4.6 Duty alarm system

2.4.6.1 Overview

Duty Alarm Panels (DAPs) (see Figure 2-24) are dedicated panels installed in the accommodations and cabins. These panels display the alarms at these locations and invoke the on-duty engineer in case an alarm arises during “Unmanned” operation of the machinery space.

The panels are installed typically at the following locations:

- Cabins
- Mess rooms
- Bridge.

DAPs are the most frequently used panels. Also used are panels PCs, Alarm Button Panels (ABP) or solely a buzzer.

2.4.6.2 System description

The duty alarm system provides for signaling of machinery space alarms to the cabins.

NOTE

Be aware of the fact that duty select tasks can only performed from within the machinery room.

An engineer on duty can be selected from the alarm panel (machinery space). He will be warned when an essential alarm is present in the Unmanned Machinery Space (UMS).

The duty alarm function monitors the engineer working in the machinery space.

The GEA can also be engaged on demand from the alarm panel. Any engineer can be called on demand from the machinery space on the alarm panel.

2.4.6.3 Duty alarm panel

The duty alarm system exists out of DAPs connected to the alarm panel via a field bus cable.



Figure 2-24: Duty alarm panel (DAP)

2.4.6.4 Controls and indications

The on-duty selection, call, attended and unattended functions are implemented on a dedicated mimic. The on-duty mimic can be called up by selecting one of the two buttons at the bottom of the screen:

- Call button
- On-duty indication
- Duty select button.



Figure 2-25: Call button / on-duty indication / duty select button

2.4.6.5 Call button

From the duty alarm panel it is possible to call for a specific area (e.g. bridge or engine room), engineer or all engineers.

Press the “*Call button*” (see Figure 2-25), the call button indicator illuminates, and the selected area or engineer is called.

To cancel the call, push the “*Call button*” again.

2.4.6.6 On-duty indication

Press the “*Panel active*” button (see Figure 2-26) to signal that the machinery space is manned. Press the “*Panel active*” button again to signal that the machinery space is unmanned.

Via the “*Duty select button*” (see Figure 2-25) the responsible engineer (on-duty engineer) can be selected and will be displayed on the display.

2.4.6.7 Duty select button

Push the “*Duty select button*” (see Figure 2-25) and select the responsible engineer. The “*On-duty indication*” displays the responsible engineer.

2.4.6.8 Panel active button

The “*Panel active*” button (see Figure 2-26) is used to switch-on or switch-off the duty alarm panel.

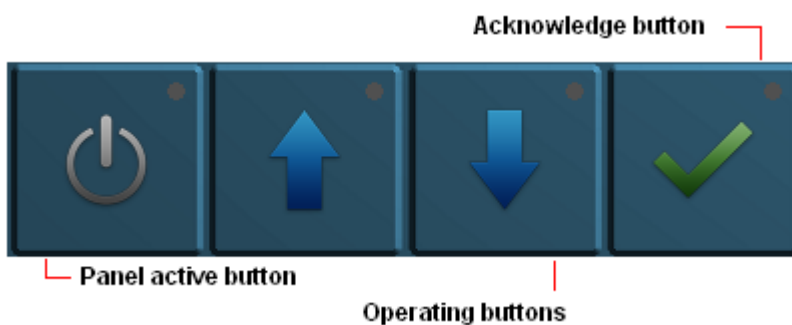


Figure 2-26: Panel active / operating / acknowledge button

2.4.6.9 Operating buttons

The “*Operating buttons*” (up & down arrow buttons - see [Figure 2-26](#)) are used for scrolling through the alarm page(s).

2.4.6.10 Acknowledge button

If during watch free operation an alarm occurs the normal procedure will be that the engineer on duty will receive an optical and acoustic alarm in his cabin. Accordingly he must acknowledge the alarm on his panel.

The alarm itself is still in the status not acknowledged. The engineer on duty must go to the machinery space, to acknowledge the alarm and solve the problem.

When the engineer on duty ignores the alarm in his cabin, a repeat alarm function will be activated. This means, after a specific period of time the duty alarm system generates a “*General Engineer’s Alarm*” (GEA) for all stations.

2.4.6.11 On-duty selection

The on-duty mimic contains duty selection and call buttons. In addition, the selection attended/unattended can be made. The “*Bridge watch safety timer*”, “*Machinery space watch safety timer*” including the “*Machinery space watch active button*” and “*Bridge watch active button*” is also implemented on the server (DM watch).

At the bottom of the screen, the state of the watch safety timer is displayed (see [Figure 2-27](#)): When the machinery space is “*Unattended*”, the machinery space watch safety timer is “*Off*”. When the machinery space is “*Attended*”, the machinery space watch safety timer is “*On*” (remaining time is counting down).

2.4.6.12 Watch safety timer

The watch safety timer (“*DM timer*”) remaining time is displayed at the bottom of each screen on the workstation. The timer counts down from 30 minutes back to 0 minutes.

When the timer reset has not taken place and the 3 minutes pre-alarm limit is reached, an alarm occurs on the workstation that no “*Reset*” button has been selected within the last 27 minutes.

The watch safety timer “*Remaining time*” indication displays now in a red.

When selecting the “*General Engineers Alarm*” (GEA) button, or after countdown to 0 minutes (3 minutes warning cycle has passed) this means that the “*Reset*” button has not been selected within the last 30 minutes and the GEA is invoked.

The watch safety timer enters the “*watch on; count down*” stage when the “*Timer*” button of the “*Alarm station*” is activated and the “*Attended*” button on the “*Release station*” (see [Figure 2-28](#)) is pressed. The unit returns to “*watch off*” by pressing the “*Unattended*” button on the “*Release station*”.

Turn the “*Timer*” button to “*Off*” (counterclockwise position) on the “*Alarm station*” to disable this station. The key cannot be removed from this position.

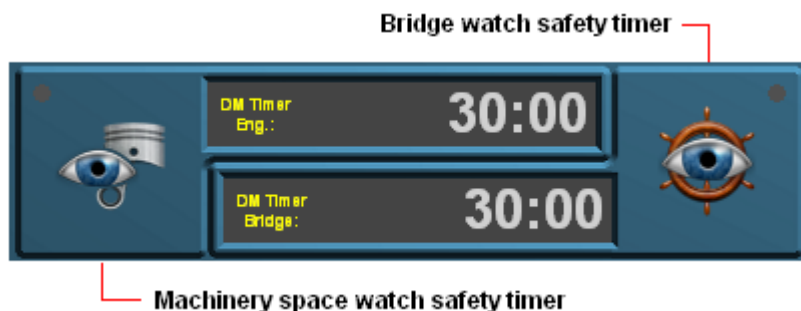


Figure 2-27: Watch safety timers

2.4.7 Dead man’s watch alarm (dedicated panel)

2.4.7.1 General

A “Dead Man’s (DM)” watch alarm provides a watch safety timer for personal protection, used when a single person works in an unattended area. The dead man’s watch alarm can consist of:

- A release station
- The alarm panel on the PC.

2.4.7.2 Release station

The release station (see Figure 2-28) is used to indicate whether a machinery space is “Attended” or “Unattended”. The release station consists of the following:

- “Timer” button (blue)
- “Unattended” button (red)
- “Attended” button (green).

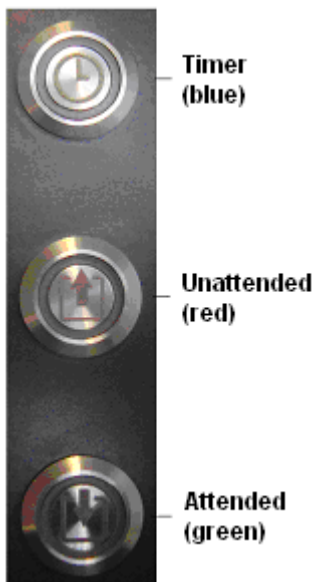


Figure 2-28: Release station

2.4.7.3 Controls (release station)

Button	Detail
Attended	Press the “Attended” button to signal the machinery space is manned. The button will be illuminated (green)
Unattended	Press the “Unattended” button to signal ECR is unmanned. The button will be illuminated (red).
Timer	The safety timer can be deactivated (disabled) by using the (safety) timer switch (especially used when the machinery space is already occupied).

2.4.7.4 Alarm button panel

In order to acknowledge alarms to persons an Alarm Button Panel (ABP) is used (see Figure 2-29). The ABP consists of the following controls:

- “*Test / on-off*” button (green)
- “*Dim*” button (blue)
- “*Silence/acknowledge*” button (red).

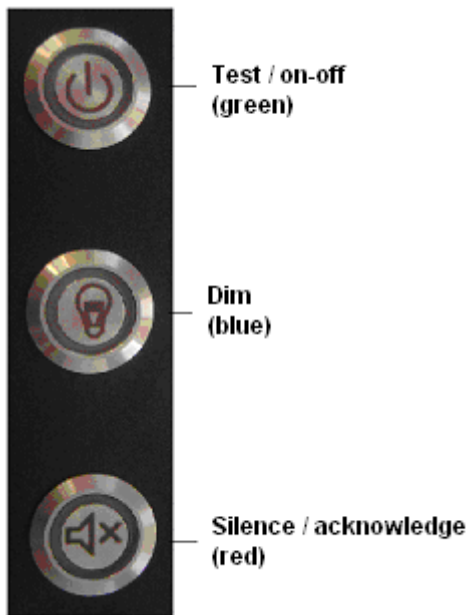


Figure 2-29: Alarm button panel

2.4.7.5 Controls (alarm button panel)

Button	Detail
Test / on-off	Push and hold the “ <i>Test</i> ” button on the timer reset station. All (button) LEDs are checked including the alarm buzzer.
Dim	To dim the alarm panel LEDs
Silence/acknowledge	To acknowledge an alarm (if applicable) or to silence the buzzer for a certain period of time.

2.5 Personnel alarm

2.5.1 General

A personnel alarm provides a safety timer for personal protection, used when a single person works in an unattended area. The personnel alarm consists of a “Release station” (see Figure 2-30).

2.5.2 Release station

The “Release station” is used to indicate whether a machinery space is “Attended” or “Unattended”. The release station consists of the following buttons i.e.:

- Timer + key
- Unattended (illuminated)
- Attended (illuminated).
-

Button	Detail
Timer	<ul style="list-style-type: none"> • Turn the “Timer” switch to “Off”, to disable this station. The key cannot be removed from this position. • Turn the “Timer” switch to “On”, and remove the key to engage the watch safety timer and attended / unattended functions.
Unattended	When the machinery space is “Unattended” the engineer needs to set the state to “Attended” when entering the machinery space. This action triggers the safety timer.
Attended	When the machinery space is “Attended” the engineer needs to set the state to “Unattended” when leaving the machinery space. This action triggers the safety timer.

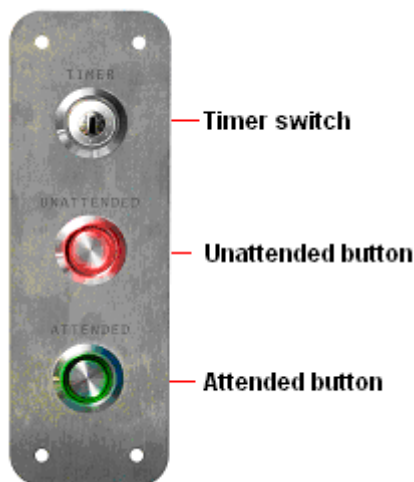


Figure 2-30: Release station

2.5.3 Group viewer



Group viewer button



The “Group viewer” button provides the operator sensor status overview.

Measured sensor values (not always shown on your screen) can be monitored via the “Group viewer”.

In order to show as much values as possible, a list is used where every line consists of one value.

This way not every value has to be shown in a mimic or viewer. But, if necessary, it can be viewed by the user in the group viewer.

As soon as the viewer is opened, you will notice two boxes at the bottom. Here you will find all configured or available categories and groups. For example, by selecting the group “Generators”, all available generator values are shown. By refining your search in the right box to “Generator 1” only the relevant information for this group will be shown.

Sensor status of all available and configured fields assigned to Category Generators						
Group	Field	Value	Unity	Alarm	Status	I/O Source
Generator	Generator Glow	Off	Push	---	Manual / Ready / Remote	Simulated
Generator	Generator Start	Off	Push	---	Manual / Ready / Remote	Simulated
Generator	Generator Stop	Off	Push	---	Manual / Ready / Remote	Simulated
Generator	Generator Remote Ignition	Off	Switch	---	Manual / Ready / Remote	Simulated
Generator	Generator Remote Operation	Off	Switch	---	Manual / Ready / Remote	Simulated
Generator	Generator Remote Start/Stop	Off	Switch	---	Manual / Ready / Remote	Simulated
Generator	Generator Throttle Activate	Off	Push	---	Manual / Ready / Remote	Simulated
Generator	Generator Throttling Active	Off	Switch	---	Manual / Ready / Remote	Simulated
Generator	Generator Start/Stop PTO	Off	Switch	---	Manual / Ready / Remote	Simulated
Generator	Generator AC Apparent Power	3611	Volt Ampere	---	Normal	Calculated In
Generator	Generator AC Average Current	0.93	Ampere	---	Normal	Simulated
Generator	Generator AC Average RMS Current	0.93	Ampere	---	Normal	Simulated
Generator	Generator AC Average RMS Voltage	0.93	Volt	---	Normal	Simulated
Generator	Generator AC Coil 1 Temperature	61.2	Celcius	---	Normal	Simulated
Generator	Generator AC Coil 2 Temperature	61.2	Celcius	---	Normal	Simulated
Generator	Generator AC Coil 3 Temperature	61.2	Celcius	---	Normal	Simulated
Generator	Generator AC Current	9.7	Ampere	---	Normal	Simulated
Generator	Generator AC Delta Frequency	54.6	Hertz	---	Normal	Simulated
Generator	Generator AC Delta Phase	25.4	Angle	---	Normal	Simulated
Generator	Generator AC Delta Voltage	277.2	Volt	---	Normal	Simulated
Generator	Generator AC Frequency	54.6	Hertz	---	Normal	Simulated
Generator	Generator AC L1 Apparent Power	1543	Volt Ampere	---	Normal	Simulated
Generator	Generator AC L1-L2 Peak Voltage	88.6	Volt	---	Normal	Simulated
Generator	Generator AC L1-L2 Voltage	88.6	Volt	---	Normal	Simulated
Generator	Generator AC L1-N Peak Voltage	88.6	Volt	---	Normal	Simulated
Generator	Generator AC L1 Power	1543	Watt	---	Normal	Simulated
Generator	Generator AC L1 Reactive Power	1543	Volt Ampere	---	Normal	Simulated
Generator	Generator AC L2 Apparent Power	1543	Volt Ampere	---	Normal	Simulated
Generator	Generator AC L2-L3 Peak Voltage	88.6	Volt	---	Normal	Simulated
Generator	Generator AC L2-L3 Voltage	88.6	Volt	---	Normal	Simulated

At the bottom of the table, there are two dropdown menus: the first is set to 'Generators' and the second is set to '<All>'.

Figure 2-31: Sensor status view (typical)

Example:

Group box “Tanks” is selected in combination with a field “< All >” (see Figure 2-32) all possible tank sensor information is provided.

Alternately, when refining your search to a field e.g. “Fuel tank 1” sensor information concerning fuel tank 1 only, will be provided (see Figure 2-33).



Figure 2-32: Group box w/o specified field



Figure 2-33: Group with specified field

2.5.3.1 Explanation of columns

Column	Description
Field	Specific field name
Value	The measured value (e.g. voltage, frequency or temperature)
Unity	The unity of the measured value (e.g. V, Hz or °C)
Alarm	“---“ = no alarm When an alarm condition exists the alarm type is indicated as well. New alarms are shown in red Acknowledged alarms are shown in amber.
Status	Field status e.g. auto/manual, ready/not ready, remote/local, timeout, main/standby
I/O source	Component or source that does the measurement (Wago, ModBus etc.).

2.5.4 Logbook



With the “*Logbook*” button you can open the logbook file. All actions within the system are recorded, and at all times you can look back at the history of the system. All events are recorded from beginning to the last minute.

2.5.4.1 Logbook colours

In the “*Logbook*” screen all system events will be registered and displayed chronologically. In order to easily distinguish the relevant information, logbook reports are divided into four (4) groups of colours (see [Figure 2-34](#)). These colours are explained as follows:

- **White**
Reports to indicate the system is busy processing data
- **Green**
Reports to confirm a certain system task is successfully completed
- **Red**
Reports to indicate a system error has occurred and/or an alarm is set
- **Orange**
Reports to indicate an alarm has been confirmed or that a white or green report has been interrupted
- **Blue**
Reports to indicate that parts of the system have been initialized.

DATE	TIME	GROUP	MESSAGE	STATUS	4202 / 4205
13-10-10	08:16:09	Grp Tanks	Fuel Tank 1 Level	Out alarm: 01:21u	
13-10-10	08:14:21	Grp Tanks	Fuel Tank Level	Too Low: 2.0 L	
13-10-10	08:07:18	Grp Reduce	Engine Gear Oil Pressure	High: 5.3 bar	
13-10-10	08:07:17	Grp Reduce	Engine Gear Oil Pressure	Out alarm: 01:12u	
13-10-10	07:56:09	Grp Tanks	Fuel Tank Level	Out alarm: 01:01u	
13-10-10	07:53:19	Grp Reduce	Engine Fuel Temperature	High: 50.3 °C	
13-10-10	07:52:52	Grp Nav	Auto Pilot Cross Track Error	Low: -0.05 nm	
13-10-10	07:52:50	Grp Reduce	Engine Fuel Temperature	Out alarm: 00:00u	
13-10-10	07:52:24	Grp Nav	Auto Pilot Cross Track Error	Out alarm: 00:00u	
13-10-10	07:52:17	Grp Nav	Auto Pilot Cross Track Error	Alarm Ack: 00:00u	
13-10-10	07:52:15	Grp Reduce	Engine Fuel Temperature	Alarm Ack: 00:00u	
13-10-10	07:52:14	Grp Reduce	Engine Fuel Temperature	High: 50.1 °C	
13-10-10	07:52:13	Grp Tanks	Fuel Tank 4 Level	Alarm Ack: 00:57u	
13-10-10	07:52:12	Grp Tanks	Fuel Tank 3 Level	Alarm Ack: 00:57u	
13-10-10	07:52:11	Grp Tanks	Fuel Tank 2 Level	Alarm Ack: 00:57u	
13-10-10	07:52:08	Grp Tanks	Fuel Tank 1 Level	Alarm Ack: 00:57u	
13-10-10	07:52:07	Grp Tanks	Fuel Tank Level	Alarm Ack: 00:57u	
13-10-10	07:52:04	Grp Reduce	Engine Gear Oil Pressure	Alarm Ack: 00:57u	
13-10-10	07:52:02	Grp Reduce	Engine Fuel Temperature	Out alarm: 00:57u	
13-10-10	07:52:02	Grp Reduce	Engine Fuel Temperature	Alarm Ack: 00:57u	
13-10-10	07:52:02	Grp DC	Battery Voltage	Alarm Ack: 00:57u	
13-10-10	07:52:02	Grp Nav	Auto Pilot Cross Track Error	Low: -0.14 nm	
13-10-10	07:52:01	Grp DC	Battery Current	Out alarm: 00:57u	
13-10-10	07:52:01	Grp DC	Battery Current	Alarm Ack: 00:57u	
13-10-10	07:51:58	Grp Nav	Auto Pilot Cross Track Error	Out alarm: 00:57u	
13-10-10	07:51:58	Grp Nav	Auto Pilot Cross Track Error	Alarm Ack: 00:57u	
13-10-10	06:54:16	System	PC-HUIB is ready for use		
13-10-10	06:53:53	System	PC-HUIB is starting (Build 09.18.01.1285)		
13-10-10	06:53:53	System	-----		
08-10-10	14:02:47	System	PC-HUIB has been shut down		
08-10-10	09:18:10	Grp Tanks	Fuel Tank 4 Level	Too Low: 2.0 L	
08-10-10	08:59:58	Grp Tanks	Fuel Tank 4 Level	Out alarm: 02:21u	
08-10-10	08:58:10	Grp Tanks	Fuel Tank 3 Level	Too Low: 2.0 L	

Figure 2-34: Logbook colours (typical)

2.5.4.2 Logbook functionalities

The logbook has the following functionalities:



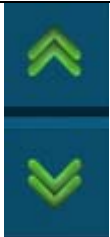
- Navigation/scroll buttons
- Time period
- Print current selection
- Alarms from all stations
- Alarms
- Switching
- Network
- Serial communication
- System.

2.5.4.3 Scroll buttons



Figure 2-35: Scroll buttons (counter clockwise rotated) - (typical)

The scroll buttons (see [Figure 2-35](#)) are used to navigate through the logbook. The scroll buttons are explained as follows:

	<p>With the auto scroll button activated the report list will automatically scroll with every new incoming report. When this button is not activated, the list will freeze. Also used to jump to the last entry.</p>
	<p>Scroll (single) buttons. To scroll up or down (one line at the time) the report list.</p>
	<p>Scroll (double) buttons. To scroll up or down (per page) the report list.</p>

2.5.4.4 Time period button



The “*Time period*” button allows you to define the view period (time frame) of all entries to be displayed.

2.5.4.5 Alarms from all stations button



By selecting the “*Alarm from all stations*” button all alarm messages are shown, that are monitored by FT NavVision® including the alarm messages not related to this alarm station (optionally for MMS⁷ or UMS⁸ versions)

⁷ MMS = Manned Machinery Space

⁸ UMS = Unmanned Machinery Space

2.5.4.6 Print current selection (optional when printer installed)



By selecting the “*Print current selection*” button the printer will start to print the alarm log.

2.5.4.7 Alarms button



By selecting the “*Alarm*” button all assigned alarm station messages will be shown.

2.5.4.8 Switching button



By means of the “*Switching*” button all fields being switched by FT NavVision® will be displayed i.e. hard or soft wired I/O or the switching of viewers (or a combination of).

One logbook entry will state the following information (column “*Message*”):

21-09-09 13:57:48	Grp Network	Viewer: Close (Master)	ON
21-09-09 10:39:21	Grp Network	Viewer: Adjust Palette (Master)	OFF
21-09-09 10:37:45	Grp Network	Viewer: Logbook (Master)	ON

- Field name (e.g. Viewer: “*Adjust Palette*”) being switched
- Process name (e.g. Master) that switches the field
- “*On*” or “*Off*” status of the field being switched to.

2.5.4.9 Network button



Every FT NavVision® Ethernet network connection will be logged under network entries. The following is shown:

- **White**
When a system tries to connect to a device
- **Green**
When the system successfully establishes a connection with a device
- **Red**
System fails to connect to a device or
Connection with a device has been interrupted or
General network error has occurred.

07-09-10 13:38:26	192.168.25.42	Moxa UC-711X, Port 1 [LAN10]	Conn. established
07-09-10 13:38:26	192.168.25.41	Moxa UC-711X, Port 1 [LAN2]	Conn. established

2.5.4.10 Serial communication button



By selecting the “Serial communication” button the history of the serial communication systems are shown.

- **White**
The system is trying to open a (local) serial connection or the system is initializing a serial protocol instance
- **Green**
The system successfully opened a serial connection
- **Red**
A serial connection error has occurred.

06-10-10 15:29:56	System	-----	
06-10-10 14:25:01	Protocol	BMV-602 communication (LAN10)	Initialized
06-10-10 14:25:01	Protocol	Faget Communication (LAN9)	Initialized
06-10-10 14:25:01	Protocol	Faget Communication (LAN2)	Initialized

2.5.4.11 System button



General FT NavVision® system information is being logged here.

- **Green**
Successful process start
- **Red**
A serious problem has occurred in the process.

29-08-10 05:02:49	Process	Comm: Faget Communication	Process start
29-08-10 05:02:49	System	TestPc01 is ready for use	
29-08-10 05:02:49	Process	Data: Alarms	Process start
29-08-10 05:02:49	Process	Data: AutoSwitch	Process start
29-08-10 05:02:49	Process	Process: Operation Mode	Process start

2.5.5 Tools



The “Tools” button (see [Figure 2-36](#)) is rather comprehensive and allows system settings and control of different functionalities with regards to the operation of FT NavVision®.

Most settings can only be performed (once-only) by the installation/commissioning engineer.

Logged-in under “Operator” you do have the following features available (see [Figure 2-36](#)).



Figure 2-36: Tools button features

2.5.5.1 Field settings

Via the “*Field settings*” button (see [Figure 2-36](#)) you are able to edit or change alarm settings, display options, calibrations and functionalities of FT NavVision®. There has been taken care that different kind of functions and options are logical separated form each other. When clicking the “*Field settings*” button the following settings become available i.e.:

- Alarm
- Min/Max
- Tune
- Comment.

2.5.5.2 Alarm

When clicking the “*Alarm*” button (see [Figure 2-37](#)) a window with files become available. These files concern secondary files with fields per input or status item. For each and every item it is possible to set an alarm. That can be a low, high or status (on/off) alarm.

NOTE:

Deselecting the checkmark box “Show all” (see example below) allows you to monitor the actual incoming sensor data.



Click the group in which you like to set-up one of the fields in alarm, then click on the appropriate field in the right-hand side pane.

An alarm level set-up box appears, with a “*User*”, “*Warning*” and “*Critical*” settings under the first tab “*Alarm Level*”. The boxes automatically select the unities, after clicking the “*User*” box the “*Low*” and “*High*” values are shown (see [Figure 2-38](#) and [Figure 2-39](#)).

Having logged-in under “*Operator*” only the “*User*” alarm level can be set. Most of the features under the tabs “*Inhibit properties*” and “*Auxiliary properties*” are only accessible when having the appropriate user rights e.g. “*Administrator*”.

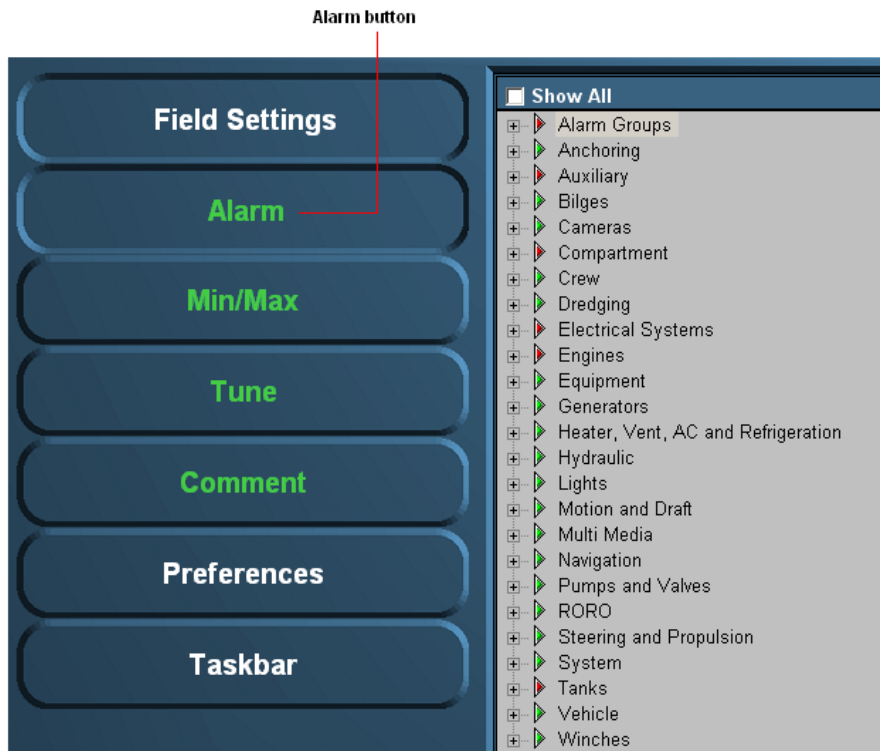


Figure 2-37: Alarm button

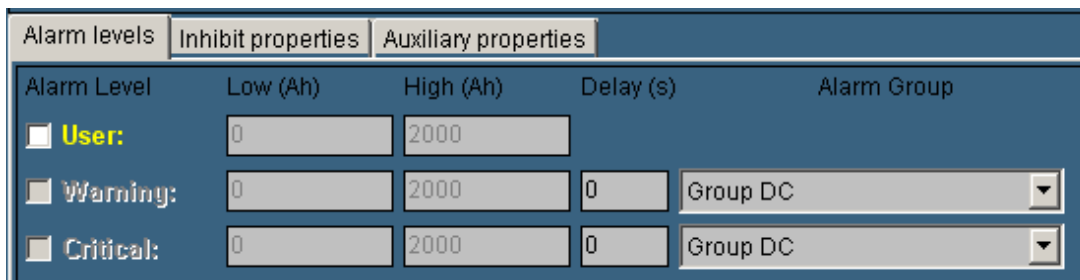


Figure 2-38: Alarm level setup (layout 1)

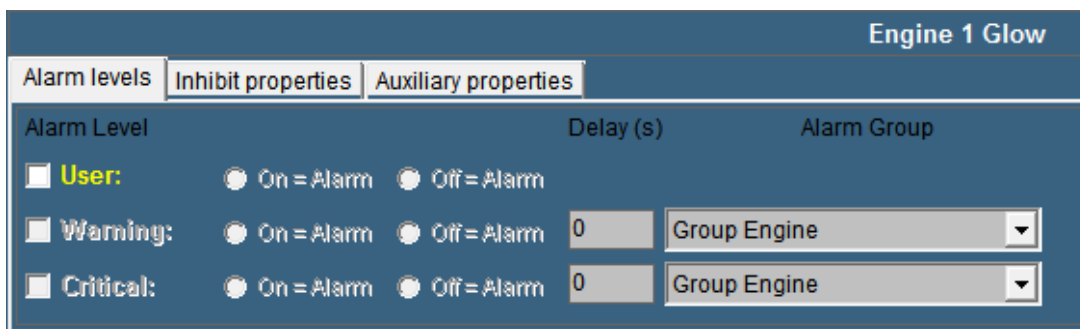


Figure 2-39: Alarm level setup (layout 2)

Under “*Inhibit properties*” (see Figure 2-40) you can tick the “*Inhibit “Sensor failure” alarms*” box. By ticking this box the *Inhibit “Sensor failure” alarms* condition becomes active and prevents alarm messages, caused by *sensor failures*, to pop-up. As long as the “*Sensor failure*” condition is inhibited, no alarm message can be shown on the alarm panel.



Figure 2-40: Inhibit properties

2.5.5.3 Min/Max

With the “Min/Max” button (Figure 2-41) a window with all groups of equipment and available inputs in the system opens. The main groups comprises of secondary groups with fields per input. For every item in the system it is possible to change the instrument.



Figure 2-41: Min/Max button

Clicking on one of the fields will activate a “Min/Max” menu consisting of the following settings:

- Instrument range (Administrator)
- Zone marking (Administrator)
- Default unit (operator)
- Filter (operator)
- Request timeout (operator)
- Maximum pulse time (operator).

With the “Min/Max” button (see Figure 2-41) the instrument boundaries can be set. For example the “Engine 1 Oil Pressure” indicator can be set as follows:

Engine 1 Oil Pressure			
Instrument range:	0	to	10 bar
Zone marking:	2	to	8 bar
Default Unit:	Bar		
Filter:	1	sec.	
Request timeout:	1250	ms	
Maximum pulse time:	1000	ms	

Figure 2-42: Min/Max settings

2.5.5.4 Instrument range

The instrument range field is used to define the measuring range (scale) of the instrument. For example: the “Engine 1 oil” indicator (see Figure 2-43) is scaled from 0 - 10 bar.

NOTE:

Logged-in as an operator you cannot change the instrument range and the zone marking.



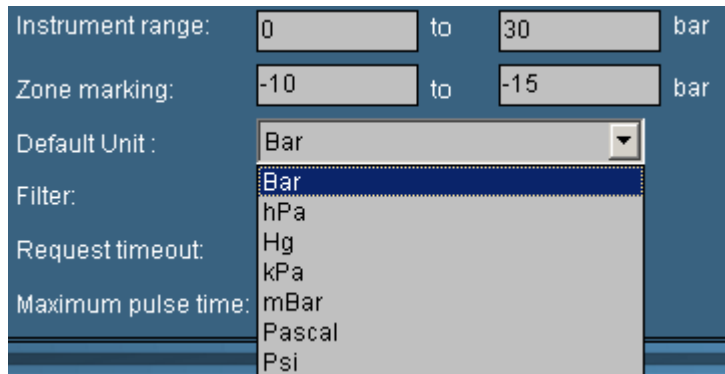
Figure 2-43: Engine 1 oil pressure indicator (0 - 10 bar)

2.5.5.5 Zone marking

Not applicable.

2.5.5.6 Default unit

At startup each instrument will show the unity in which it will display the data. Depending on the sensor type select the desired unity (see [Figure 2-44](#)).



The screenshot shows a configuration window with the following settings:

- Instrument range: 0 to 30 bar
- Zone marking: -10 to -15 bar
- Default Unit: Bar (selected in a dropdown menu)
- Filter: Bar (selected in a list)
- Request timeout: Hg
- Maximum pulse time: mBar

Figure 2-44: Default unit

2.5.5.7 Filter

If an instrument reading seems to be a little erratic, you can select a higher number to dampen the movement of the instrument pointer.

2.5.5.8 Request timeout

When a user tries to switch something in the system (i.e. switch on a fan), the FT NavVision® system will try to do this for a certain period of time.

During this time, the field is said to be in a pending status. If the change is not accepted within the specified request timeout, the request will be dropped and the field will be in the time-out status.

Example:

The operator tries to switch on a fan using a button on screen.

FT NavVision® changes the state of an output on a Wago module to signal the fan to switch on. In addition, the fan is also connected to a Wago input to reflect the current state.

This input state will be monitored to verify operating status of the fan. If the fan fails to report the running state, the Wago output will revert to the original (off) state to prevent possible damage.

2.5.5.9 Maximum pulse time

This setting is only related to Wago outputs which are specified to be of the type *impulse relay*. When an *impulse relay* is connected to a Wago output, the Wago output gives a pulse to make sure the relay will follow.

The pulse will be of a maximum length specified here.

Two following can happen:

- The pulse lasts for less than max. pulse time.
If the system has a feedback available related to this impulse output, there is no need to keep the output high when the relay is already triggered.
- The pulse lasts for the max. pulse time
Every other case.

2.5.5.10 Tune

- **Tune table**

The “Tune table” settings allows the user you to fine-tune the output of the sender.

Example 1: Sensor value too low

In such a case you must change the second input value. You can change the input value as follows: Input value = 0.8 → Real value = 1.

The statement above implies that for every input of 0.8 bar the output (actual reading) is 1 bar. In other words, any sensor input value of 4 bar corresponds with an instrument reading of 5 bar.

Example 2: Sensor value too high

Change the input value as follows:

Input value = 1.2 → Real value = 1.

The statement above implies that for every input of 1.2 bar the output (actual reading) is 1 bar. In other words, any sensor input value of 5 bar corresponds with an instrument reading of around 4 bar.

For threshold values you can change the first input value. If the pressure indication has to start later than given, you can put in “Input value = 0.2 → Real value = 0”

This will make the instrument starts displaying as soon as the threshold of 0.2 bar has been reached. This can be accomplished the other way around.

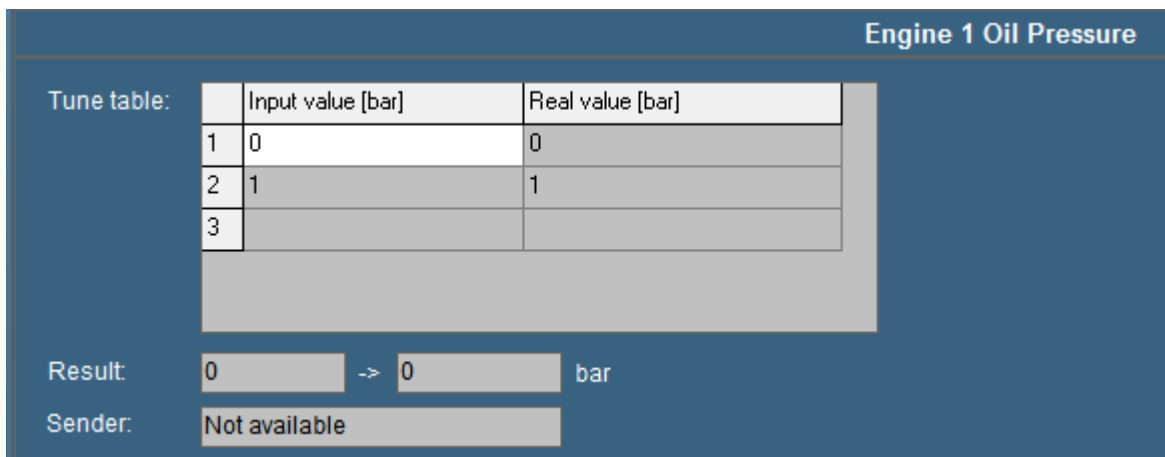


Figure 2-45: Tune table

- **Result**

The “Result” box displays the exact incoming measuring data. The second box displays this data via the respective instrument that is connected to the sensor.

If for example the sensor gives a pressure (bar) output for every 20 mV, the real time result may read “100 → 5 bar” (see [Figure 2-45](#)). As a result the sensor reads “100 mV” and indicated as “5 bar” on the instrument.

NOTE:

Values may differ per sensor type.

- **Sender**

In the “*Sender*” box (see [Figure 2-46](#)) displays the device name where the data is coming from. If the sender field shows “*Not available*” indicates that that the sensor isn’t giving any data (for a reason why it is not giving data, check the troubleshooting section).

Other items you can see in the box “*Sender*” are: NMEA, Wago, Serial, Modbus, Calculated in, etc. this gives you an indication where the signal is coming from.

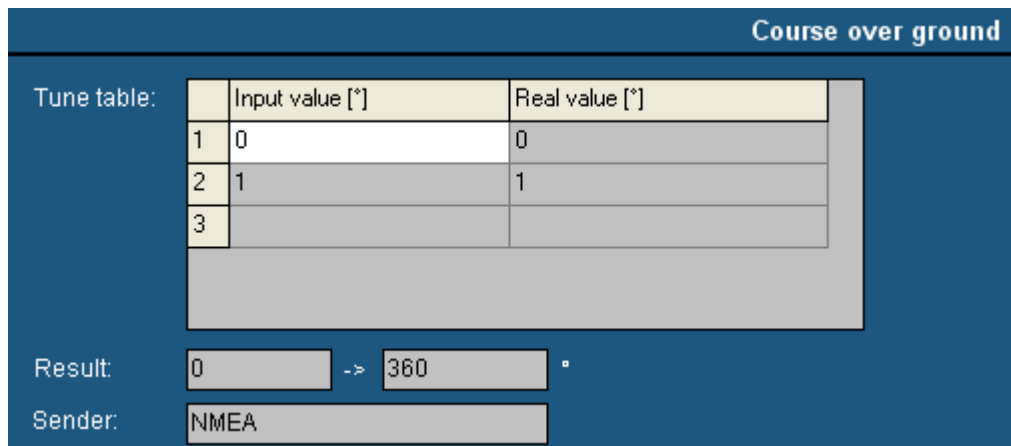


Figure 2-46: Sender box

2.5.5.11 Comment

In the “*Comment*” (see Figure 2-47) section you can change the names of different fields to get an overall clarity. These names can be changed for the clarity in an instrument or a logbook if the sensor has an explicit name. Sometimes you have to use an auxiliary field when the name for that sensor is not available.

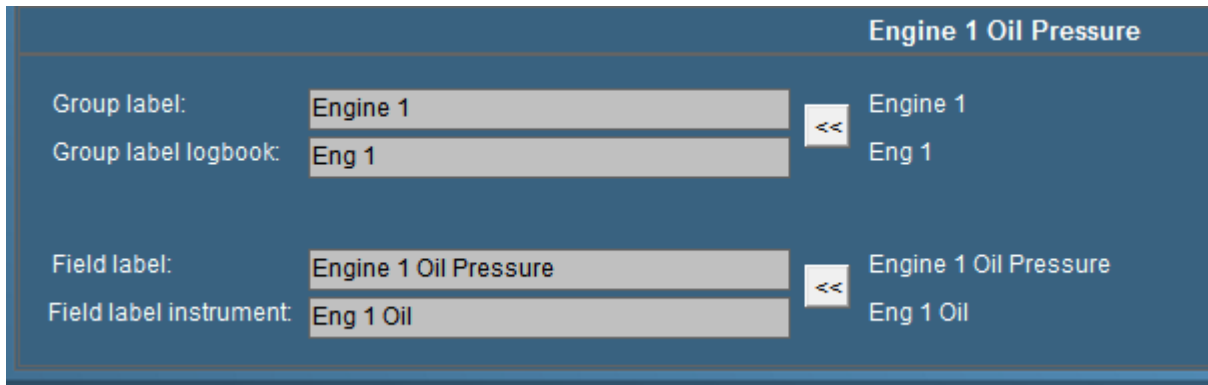


Figure 2-47: Comment

- Group label**
 Via “*Group label*” you can assign a field to a specific “*Alarm*” group. The name is written in full so there will be no misunderstanding. It is especially handy if you have different sensors, which are arranged in different groups. Once grouped, you change them in “*Group label*”. For more detailed information concerning alarm groups please refer to chapter “*Alarm stations*”.
- Group label logbook**
 is the label that is shown in the logbook (see chapter logbook). To save space you type an abbreviation of the group label. This is helpful to check in the logbook. All the alarms in the Logbook will have a group available so it is distinct where to place the alarm.
- Field label**
 The field label is the exact indication of the sensor. For every sensor in FT NavVision® you need a unique ID. That ID is the field label. Whether it is already preprogrammed or you rename an auxiliary field, that field label represents from then on the sensor. Knowing this, NavVision can connect this sensor to an instrument, calculate with it etc. mostly you will see the representation of this field label in the Wago (see Wago), but it is possible you find it in other, programming or calibration files.
- Field label instrument**
 The sensor name as shown on the instrument is set in the field label instrument. While there isn’t always that much space in an instrument, we use an abbreviation of the “*Field label*”. If you have to make up a name yourself be sure to choose a name that is representing the sensor and is clear, even in the abbreviation.

NOTE:

If there is a need to switch back to the old field names, then left-click the double arrow (on right-hand side of the group labels).

2.5.5.12 Preferences

Via “Preferences”, you can set several personal preferences (see [Figure 2-48](#)).

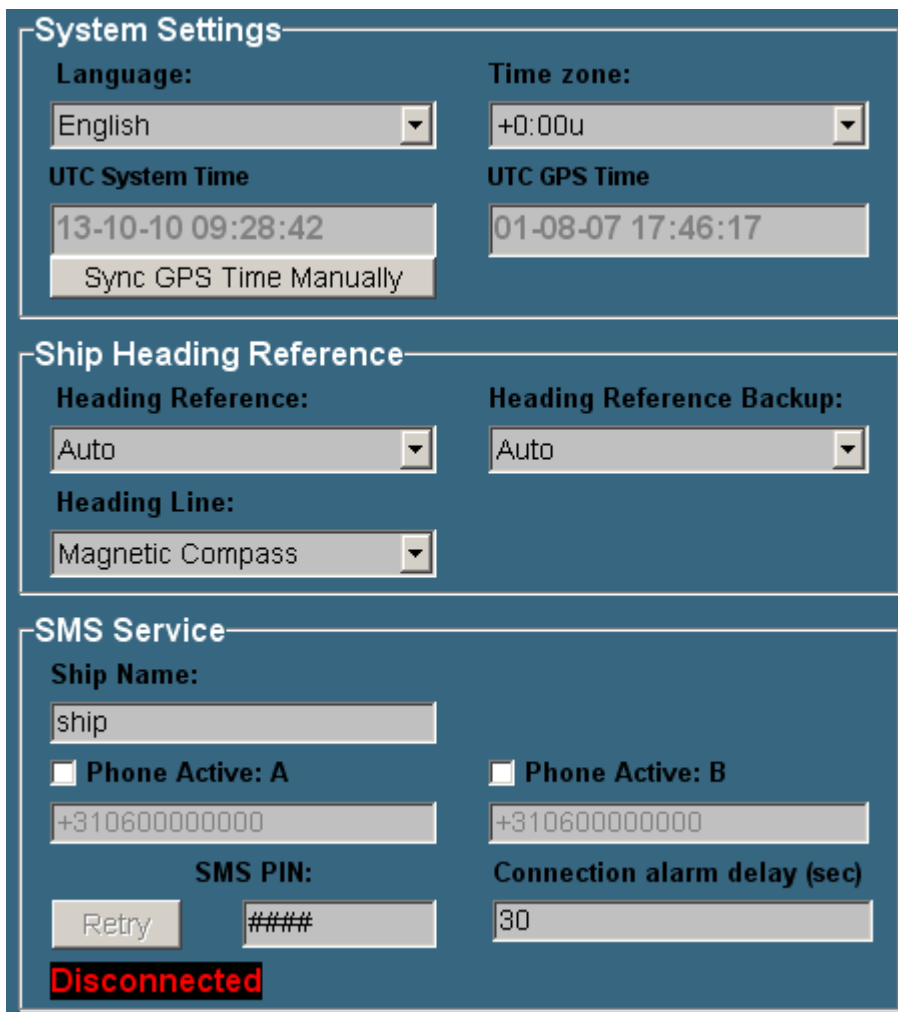


Figure 2-48: Preferences (typical)

2.5.5.13 Language and time zone



Figure 2-49: Language & time zone

By left-clicking the “*Language*” arrow (see [Figure 2-49](#)), a dropdown window appears to show all available software languages (some are activated at a later stage). Click on one of the available languages to set the default language for all software modules. By clicking the “*Time zone*” arrow allows you to set the relevant UTC⁹ time zone.

⁹ UTC = Universal Time Coordinated

2.5.5.14 UTC system time

This field shows the current UTC time of the system (see Figure 2-50).

2.5.5.15 UTC GPS time

This field shows (see Figure 2-50) the current UTC time received by the GPS, when the GPS is connected and a GPS signal is available.

2.5.5.16 Sync GPS time manually

When the GPS time is available and shown under the section “UTC GPS time” (see Figure 2-50), you can press the button “Sync GPS time manually” to make the FT NavVision system use the GPS UTC time as System UTC time.

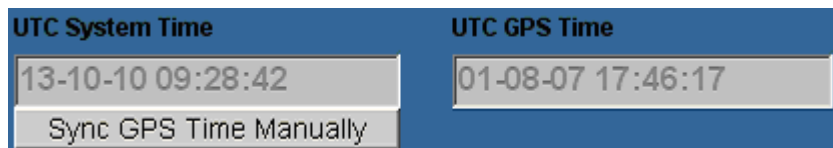


Figure 2-50: UTC system time

2.5.5.17 Ship heading reference

This option allows you to choose the default references for heading (see Figure 2-51), “Heading reference backup” and “Heading line”. The “Heading reference” options range from “Auto” to “Course over ground”, “Gyro compass”, “True compass” and “Magnetic compass”.

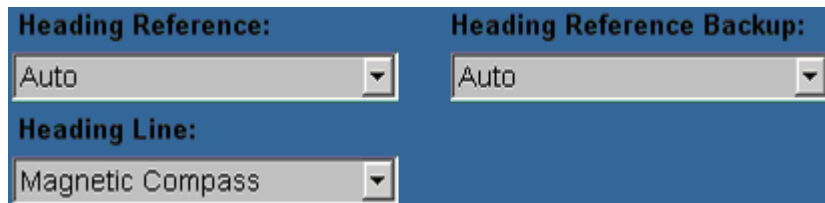


Figure 2-51: Heading reference

2.5.5.18 SMS service¹⁰ (ship name)

“Ship name” (see Figure 2-52) is used to enter your ship’s name into the software and transmit this within the SMS message. Of course, the name is entirely your own choice and has no influence on the software’s function itself.

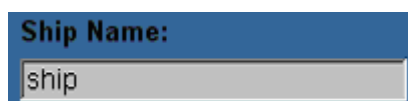


Figure 2-52: Ship name

2.5.5.19 SMS service (phone active: A/B)

NOTE:

When entering a phone number always include the country code of the receiving phones.

“Phone activate A/B” (see Figure 2-53) are used to store the telephone numbers of one or two mobile phones you want to receive text-messages with. First, tick off the checkbox for each phone in use and enter the phone-number of your choice.

¹⁰ Functionality only applicable with SMS hardware module + license

<input type="checkbox"/> Phone Active: A	<input type="checkbox"/> Phone Active: B
+310600000000	+310600000000

Figure 2-53: Phone active

2.5.5.20 SMS service (SMS PIN)

Via the field “SMS PIN”, enter a personal code (any combination), used to establish a connection between your phone and the system. The black box below shows whether a connection is established or not.

Detail	Description
Connected (green)	Indicates that a connection is made. Alarm messages are allowed to be sent to your mobile phone.
Disconnected (red)	Indicates that no connection is made. No alarm messages to be allowed.

SMS PIN:

Retry

Disconnected

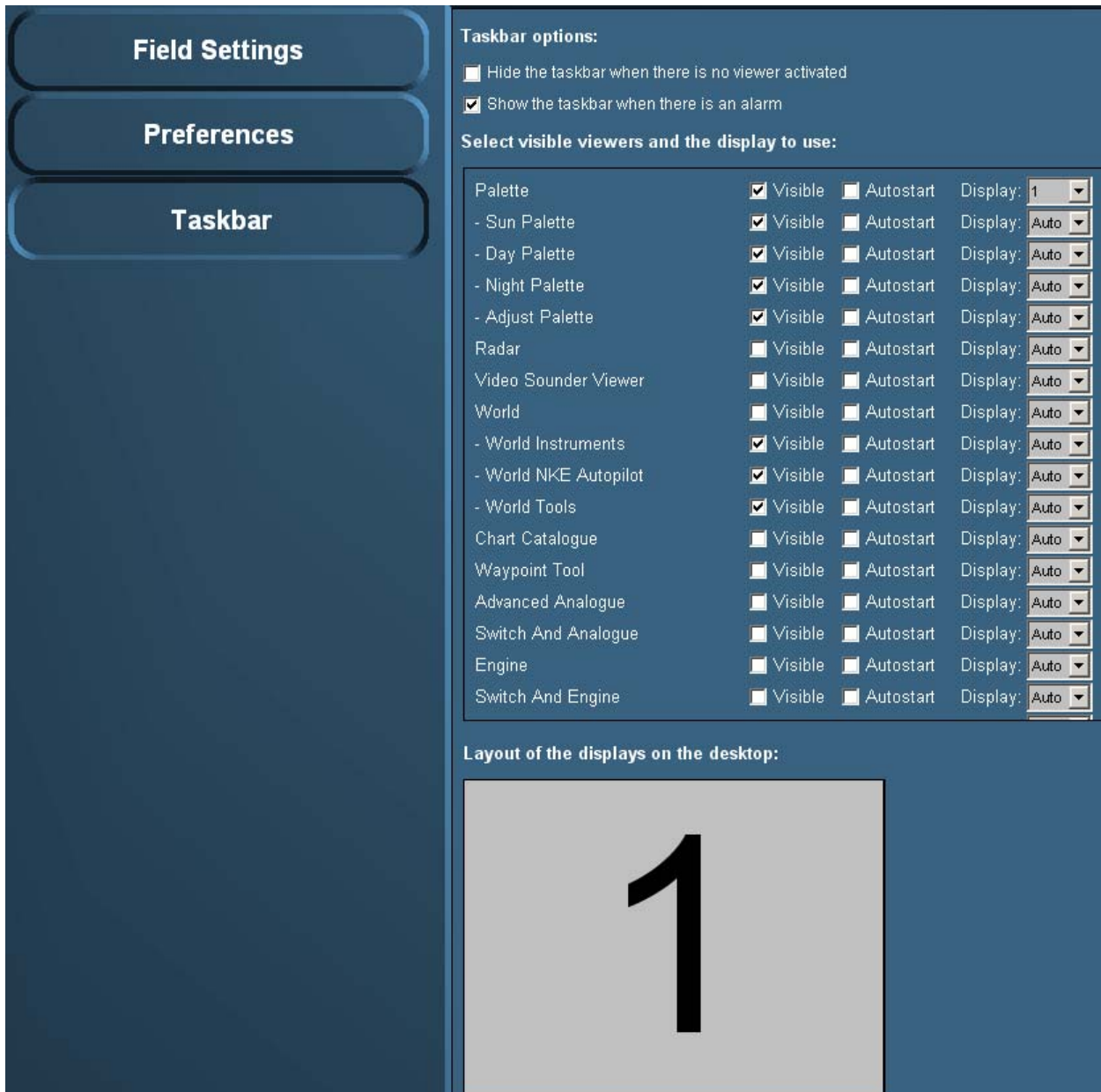
2.5.5.21 Connection alarm delay (sec)

The “Connection alarm delay” box shows the time period in which “false alarms” are prevented (inhibited) to come in. In other words incoming alarms will not be send within the time period as specified in the “Connection alarm delay” field.

Connection alarm delay (sec)

2.5.6 Taskbar

Via the “Taskbar” button (menu “Tools” > “Taskbar”) FT NavVision® taskbar can be configured.



The screenshot shows a configuration window with a sidebar on the left containing three buttons: "Field Settings", "Preferences", and "Taskbar". The "Taskbar" button is selected. The main area is titled "Taskbar options:" and contains the following settings:

- Hide the taskbar when there is no viewer activated
- Show the taskbar when there is an alarm

Below these are the "Select visible viewers and the display to use:" options, presented as a table:

Viewer	Visible	Autostart	Display
Palette	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
- Sun Palette	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Auto
- Day Palette	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Auto
- Night Palette	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Auto
- Adjust Palette	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Auto
Radar	<input type="checkbox"/>	<input type="checkbox"/>	Auto
Video Sounder Viewer	<input type="checkbox"/>	<input type="checkbox"/>	Auto
World	<input type="checkbox"/>	<input type="checkbox"/>	Auto
- World Instruments	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Auto
- World NKE Autopilot	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Auto
- World Tools	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Auto
Chart Catalogue	<input type="checkbox"/>	<input type="checkbox"/>	Auto
Waypoint Tool	<input type="checkbox"/>	<input type="checkbox"/>	Auto
Advanced Analogue	<input type="checkbox"/>	<input type="checkbox"/>	Auto
Switch And Analogue	<input type="checkbox"/>	<input type="checkbox"/>	Auto
Engine	<input type="checkbox"/>	<input type="checkbox"/>	Auto
Switch And Engine	<input type="checkbox"/>	<input type="checkbox"/>	Auto

Below the table is the "Layout of the displays on the desktop:" section, which contains a large grey box with the number "1" in the center, indicating the display configuration.

Figure 2-54: Taskbar options (typical)

2.5.6.1 Taskbar options

The taskbar can be configured (marked) as follows (see [Figure 2-54](#)):

Setting	Description
Hide the taskbar when there is no viewer activated	This option is used to set whether the taskbar should disappear or not in case all viewers are inactive. When the taskbar is hidden, simply make it reappear by moving your mouse to the top of the screen.
Show the taskbar when there is an alarm	This option allows the taskbar to appear whenever an alarm occurs. This overrides the above mentioned setting of the hidden taskbar.
Visible	This option allows you to deselect the availability of viewers. You can set which viewer should be displayed and be accessible through the taskbar or not. At start-up the normal setting is visible.
Autostart	The second option enables you to determine which viewers should be automatically opened at start-up of the software. <i>NOTE: Be aware of the fact that the selected number of viewers does not exceed the available number of screens of the computer.</i>
Display	The display box enables you to define on what screen which chosen viewer will be displayed. Every display box shows the number of screens available on the computer. In Auto, the viewer will be shown on the first available screen (this function is random).
Display layout	This shows the placement of the various screens attached to your computer. The display and available screen number are shown.



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