The heart of smart control

InteliVision 12Touch

12,1" display unit for ComAp controllers

SW version 1.3.1

Global Guide

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1 Document information

1.1 Clarification of notation

Note: This type of paragraph calls readers attention to a notice or related theme.

IMPORTANT: This type of paragraph highlights a procedure, adjustment etc., which can cause a damage or improper function of the equipment if not performed correctly and may not be clear at first sight.

Example: This type of paragraph contains information that is used to illustrate how a specific function works.

1.2 About this guide

This manual contains important instruction sabout InteliVision 12Touch display unit that shall be fullfilled during the installation and maintenance.

This manual provides general information how to install and use InteliVision 12Touch display unit.

This manual is dedicated for:

▶ Operators of gen-sets

▶ Gen-set control panel builders

▶ For everybody who is concerned with installation, operation and maintenance of the gen-set

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Name of SW	Modificated	Type	License condition web address
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Free Type 2.6	NO	GPLv2	http://www.freetype.org/license.html
OpenGL Mathematics (GLM)	NO	MIT	http://glm.g-truc.net/copying.txt
Harfbuzz	NO	old MIT	http://harfbuzz.org/
QuaZip	NO	LGPL	http://quazip.sourceforge.net/index.html

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Warning: Some forms of technical support may be provided against payment. There is no legal or factual entitlement for technical services provided in connection to resolving problems arising from cyber-attack or other unauthorized accesses to ComAp's Products or Services.

General security recommendations and set of measures

1. AccessCode

• Change the AccessCode BEFORE the device is connected to a network.

• Use a secure AccessCode – ideally a random string of 8 characters containing lowercase, uppercase letters and digits.

• For each device use a different AccessCode.

2. Password

• Change the password BEFORE the device enters a regular operation.

• Do not leave displays or PC tools unattended if an user, especially administrator, is logged in.

3. Controller Web interface

• The controller web interface at port TCP/80 is based on http, not https, and thus it is intended to be used only in closed private network infrastructures.

• Avoid exposing the port TCP/80 to the public Internet.

4. MODBUS/TCP

• The MODBUS/TCP protocol (port TCP/502) is an instrumentation protocol designed to exchange data between locally connected devices like sensors, I/O modules, controllers etc. From it's nature it does not contain any kind of security – neither encryption nor authentication. Thus it is intended to be used only in closed private network infrastructures.

• Avoid exposing the port TCP/502 to the public Internet.

5. SNMP

• The SNMP protocol (port UDP/161) version 1,2 is not encrypted. Thus it is intended to be used only in closed private network infrastructures.

• Avoid exposing the port UDP/161 to the public Internet.

1.4 General warnings

1.4.1 SW and HW versions compatibility

Be aware to use proper combination of SW and HW versions.

HW revision	Compatible SW version
InteliVision 12Touch - HW 1.0	InteliVision 12Touch 1.0.0 InteliVision 12Touch 1.1.0 InteliVision 12Touch 1.2.0 InteliVision 12Touch 1.3.1

1.4.2 Dangerous voltage

Always connect grounding terminal, which is situated on the chassis of the display unit.

> IMPORTANT: Do not use out of range power supplies.

1.5 Certifications and standards

EMC

- ► EN 61000-4-3 ed.3 - Radiated elmag. field immunity
- ► EN 61000-4-2 - Electrostatic discharge
- ► EN 61000-4-4 ed.2 - Fast low energy transients/bursts
- ► EN 61000-4-5 ed.2 - Slow high energy transient/surges
- ► EN 61000-4-6 ed.3 - Conducted high frequency interference
- ► EN 61000-6-4, table 1 - Conducted emissions
- ► EN 61000-6-4, table 1 - Radiated emission from enclosure
- ► EN 60945:03 - Maritime navigation and radiocommunication equipment and systems – General requirements - Minimal distance 80cm from the compass

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(PROG.CNTRL. 4XC2)

Power supply

- ► VW 80101, part 3.14; ISO 16750-2 - Reset behaviour during voltage drop
- ► IEC 60533, part 7.2 - External power supply failure
- ► IEC 60533, part 7.2 Table 4 - Power supply variation
- ► EN 61000-4-29 - Operating Voltage

Vibration

- ► EN (IEC) 60068-2-6 test Fc - Sinusoidal vibration
- ► IEC 60068-2-27: Shock test

Temperature

- ► EN 60068-2-1 ed.2 - Temperature test
- ► EN (IEC) 60068-2-2 Bd - Dry heat
- ► EN (IEC) 60068-2-1 Ad - Low temperature
- ► EN (IEC) 60068-2-30, Db - Cyclic damp heat test
- ► EN (IEC) 60068-2-2 Bd - Long time Dry Heat
- ► EN (IEC) 60068-2-1, Ab, Ad - Long time Low Temperature
- ► EN 60068-2-5 - Sunshine IEC 60529 - Test of Ingress Protection (IPxx)

Reliability
▶ IEC 60092-504 - Insulation resistance
▶ EN 60695-11-5:05 - Flammability
List of standards is available on: https://webstore.iec.ch/

1.6 Document history

Revision number	Related sw. version	Date	Author
3	1.3.1	1.12.2017	Ondrej Rais
2	1.1.0	31.3.2017	Ondrej Rais
1	1.0.0	3.10.2016	Ondrej Rais

1.7 Related products

Product	Description	Order code
InteliSys Gas	Industrial grade controller for gas gen-set based CHPs and power generation applications	I2GASXXBAB
InteliSys^{NTC} BaseBox	Premium Parallel Gen-set Controller	IS-NTC-BB
InteliGen^{NTC} BaseBox	Complex Parallel Gen-set Controller	IG-NTC-BB
InteliGen **NT** BaseBox	Complex Parallel Gen-set Controller	IG-NT-BB
InteliMains^{NTC} BaseBox	Mains Supervision Controller Base Unit	IM-NTC-BB
InteliSys NTC Hybrid	Hybrid Gen-Set controller	IS-NTC HYBRID
InteliDrive DCU Marine	Engine controller for marine application	ID-DCU MARINE

1.8 Test reports

The number of the test report	Certified laboratory	Date
505059-01/01	EZÚ	23.12.2015
504383-01/01	EZÚ	6.1.2016
505059-01/03	EZÚ	27.1.2016
505059-01/02	EZÚ	23.2.2016
600885-01/01	EZÚ	31.3.2016
600885-01/02	EZÚ	31.3.2016

2 System overview

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2.1 General description

InteliVision 12Touch, industrial operator panel equipped with a 12,1" colour, multi-touch screen, is dedicated together with the main ComAp controller to visualise and control single gen-set and drive controllers in various applications.

InteliVision 12Touch is a new generation display unit for ComAp InteliVision 12Touch, InteliGen NTC BaseBox,InteliGen NT BaseBox, InteliSys NTC BaseBox, InteliMains NTC BaseBox, InteliSys NTC Hybrid family of controllers, InteliDrive DCU Marine 3.0.0. It is designed as an intuitive, easy to use Plug and Play solution and delivers high visibility of all engine data, monitoring information and trend history in a bright, colourful and impressive industrial capacitive touch based design. The Plug and Play solution ensures the User buy the display unit and controllers, puts it together and it works for most of the applications. No additional programming skills or learning complicated tools are needed. The display unit allows the configuration of all the controller parameters. The display unit also supports the extended trending of the specified values.

2.2 Supported controllers

Product	Description	Order code
InteliSys Gas	Industrial grade controller for gas gen-set based CHPs and power generation applications	I2GASXXBAB
InteliSys^{NTC} BaseBox	Premium Parallel Gen-set Controller	IS-NTC-BB
InteliGen^{NTC} BaseBox	Complex Parallel Gen-set Controller	IG-NTC-BB
InteliGen **NT** BaseBox	Complex Parallel Gen-set Controller	IG-NT-BB
InteliMains^{NTC} BaseBox	Mains Supervision Controller Base Unit	IM-NTC-BB
InteliSys NTC Hybrid	Hybrid Gen-Set controller	IS-NTC HYBRID
InteliDrive DCU Marine	Engine controller for marine application	ID-DCU MARINE

Table 2.1 InteliVision 12Touch firmware vs supported controllers

2.3 Connection to PC

InteliVision 12Touch is connected to the PC using the standard USB A-B cable. Microsoft Active Sync (WinXP) or Microsoft Windows Mobile Center must be installed on the PC. When the Display Unit is switched on the connection between the display and PC is established. Windows Mobile Device Center (or Active Sync) automatically opens the connection dialog window where the information about connected devices can be found. When the display is correctly connected to the PC then the next programming step using IVProg can be performed.
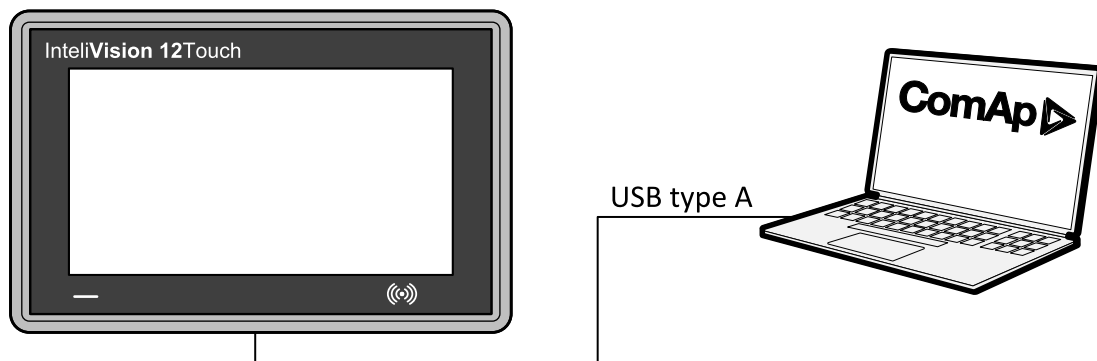

Image 2.1 Connection to PC

2.4 PC tools

2.4.1 IVProg

The InteliVision 12Touch display unit is programmed by the IVProg utility. It can be started from GenConfig PC tools or directly via menu start in Windows. The IVProg utility is included in the installation suite for a controller and it is installed automatically. The IVProg utility can also be used for Images and Skins upload into the InteliVision 12Touch display unit. InteliVision 12Touch comes with the ComAp default Skin. There is no software available for user skin modifying. User skins must be developed in ComAp. Skins consists of only sets of colours used in Graphical User Interface, which means, there is no change regarding dimensions or forms if customized skin is used.

Microsoft ActiveSync (for Windows XP) or Microsoft Windows Mobile Device Center (WMDC; for Windows Vista, Windows 7 or Windows 10) must be installed on your computer to make IVProg run.

You can download these drivers from Microsoft web page http://www.microsoft.com/. To install these drivers properly, follow Microsoft instructions.

The IVprog utility supports 64-bit Windows Vista, Windows 7 and Windows 10.

Image 2.2 : IVProg Utility

Instructions

IVprog is the utility ensuring programming of the InteliVision 12Touch display unit. When ActiveSync (WinXP) or Windows Mobile Device Center (WMDC) connection between InteliVision 12Touch and PC is established using the standard USB A-B cable, the IVProg utility can be started. There are 3 options how to start IVProg. From the Windows start menu (Start - All Programs - ComAp PC Suite - Tools - IVProg), using menu in GenConfig Software (File - Firmware Upgrade - InteliVision FW upgrade), or clicking on associated files of *.ivp package.

For InteliVision 12Touch firmware upgrade, download the latest Firmware (*.ivp package) from ComAp website. Start the IVProg utility and click on write firmware button. Choose the correct latest ivp file and start the upgrade. The unit will be programmed.

*Note: Firmware can also be upgraded by the display unit own. Menu Administration - Import / Export - Firmware. Use the *.ivp file (downloadable from ComAp website) for the upgrade.*

2.4.2 Image Manager

The ImageManager utility is included in the GenConfig Software. The main purpose of the external pictures is to allow users modification and build their own Metering screens and use their own pictures, schemes, block diagrams, etc. to build an impressive view of the application in the Metering screens. The ImageManager utility is dedicated to the external images managing and building of *.ivi packages. External images (*.ivi packages] must also be stored in the display for correct function. If there are no External images in the display and even you can see the external images in GenConfig (Screen Editor) nothing is displayed on the display InteliVision 12Touch.
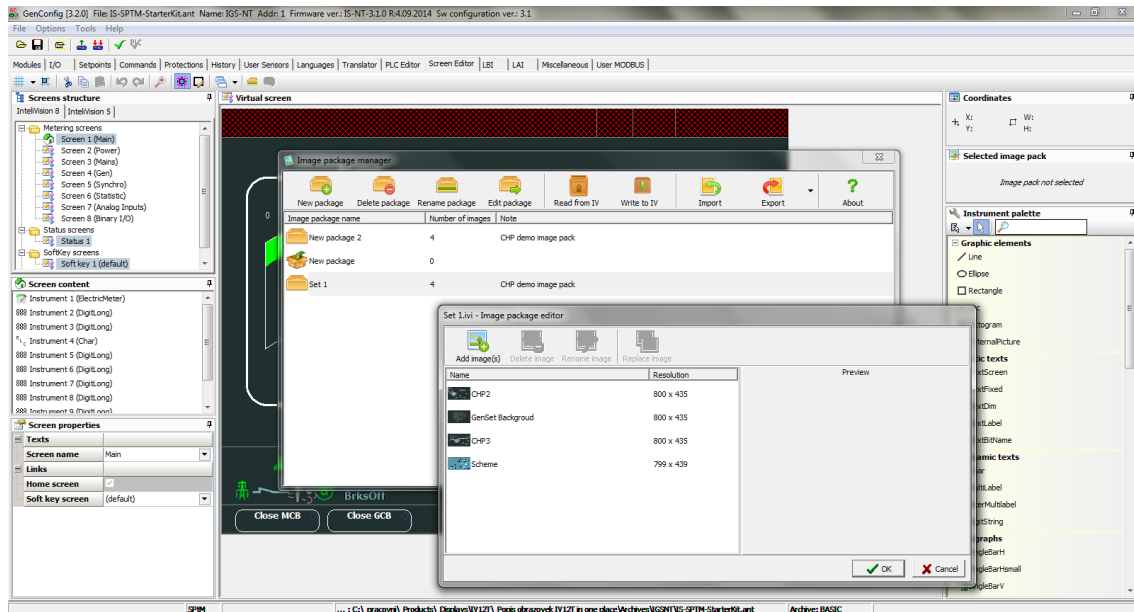
Image 2.3 Image Manager (part of GenConfig Software)

Note: For more information on how to work with Image Manager (adding of pictures, writing to display) see the help in GenConfig Software by pressing F1 key.

IMPORTANT: The screen resolution of the Metering screen is 800 x 660 px. It is recommended to not to exceed this resolution for external pictures.

2.4.3 Screen Editor

InteliVision 12Touch is distributed with the default metering screens. The screens are predefined in each configuration (archive). The User is able to modify the metering screens if necessary.The default screen template should cover most of the applications.

The user can easily modify the screens himself by drag&drop using predefined commands and pictures in the powerful easy to use graphical utility Screen Editor.

Image 2.4 : Illustrative picture of the Screen Editor (part of GenConfig)

3 Technical data

Power supply

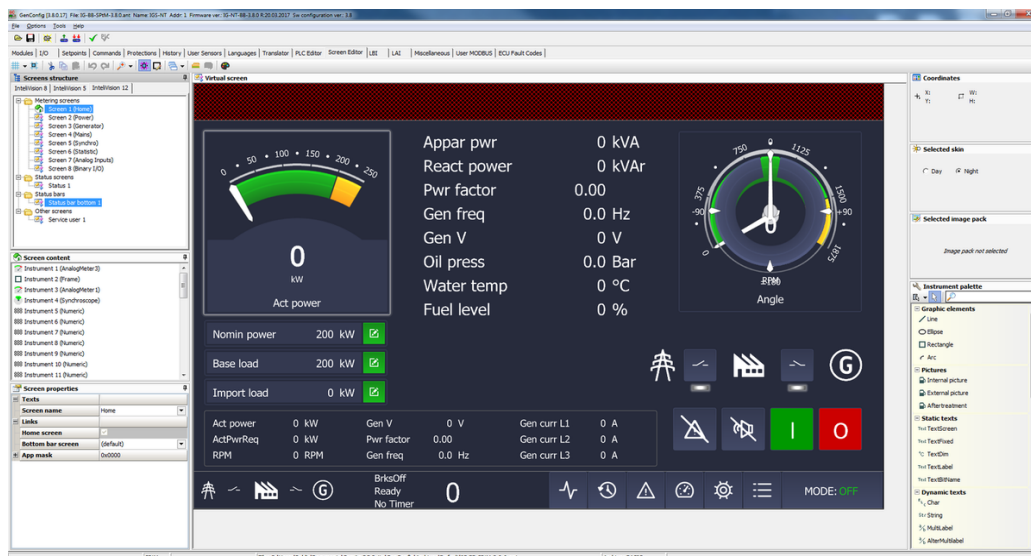|	
Power supply range	8-36 VDC
Power consumption (typical values)	2 A / 12 V 1 A / 24 V 0.7 / 36 V (Actual consumption depends on LCD backlight intensity and actual CPU consumption.)
Max, Power Dissipation	24W

Operating conditions

Operating temperature	-30 to +70° C
Storage temperature	-30 to +80° C
Front panel protection	IP65
Humidity	95% without condensation IEC/EN 60068-2-30

Interfaces

RS-485	Galvanic Isolation Terminating resistor - DIP switch
CAN	Galvanic Isolation Terminating resistor - DIP switch
Ethernet port	100 Mbit/s (Not Used)
USB port B (Device)	Galvanic Isolation (Dedicated for Firmware Upgrade)
2 x USB port A (Host)	0,5 A max Overcurrent Protection Non-Isolated

Analog inputs

Resistive input	Non-Isolated 0 - 2400 Ohm Accuracy 5% (Dedicated for external LCD backlight control)

Binary outputs

Mosfet	Isolated 0,5 A @ max. power supply voltage Overcurrent Protection (Active when controller's Horn output is activated)

CPU

CPU performance	nVidia Tegra 3 4 x CPU cores (1.3 GHz) 2 x GPU cores

LCD specification

LCD panel	12.1"
Resolution	1280 x 800 px
Pixel Pitch	0.204 x 0.204 mm
Color Depth	16.7M (TrueColor)
Color Pixel Arrangement	RGB vertical stripes
Luminance	1000 cd/m2
Viewing Angle (CR > 10)	-85 to +85° (H/V)
Backlight	LED

Mechanical

Housing	Aluminium Alloy
Front Glass	Chemically Strengthened Antiglare
Mounting	6 integrated clips
Weight	2400 g
Recommended cut-out	311 x 206 mm (12.24 x 8.11 in)
Minimal / maximal panel thickness	2 - 13 mm (0.08 - 0.51 in)

Operating system

OS	Microsoft Windows CE 7

Other functions

Audio	Internal Buzzer (used for internal Horn feature)

4 Installation and wiring

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4.1 Dimensions, Terminals and Mounting
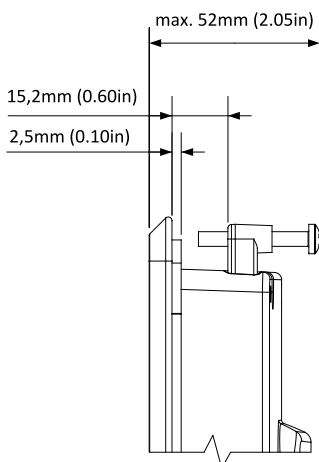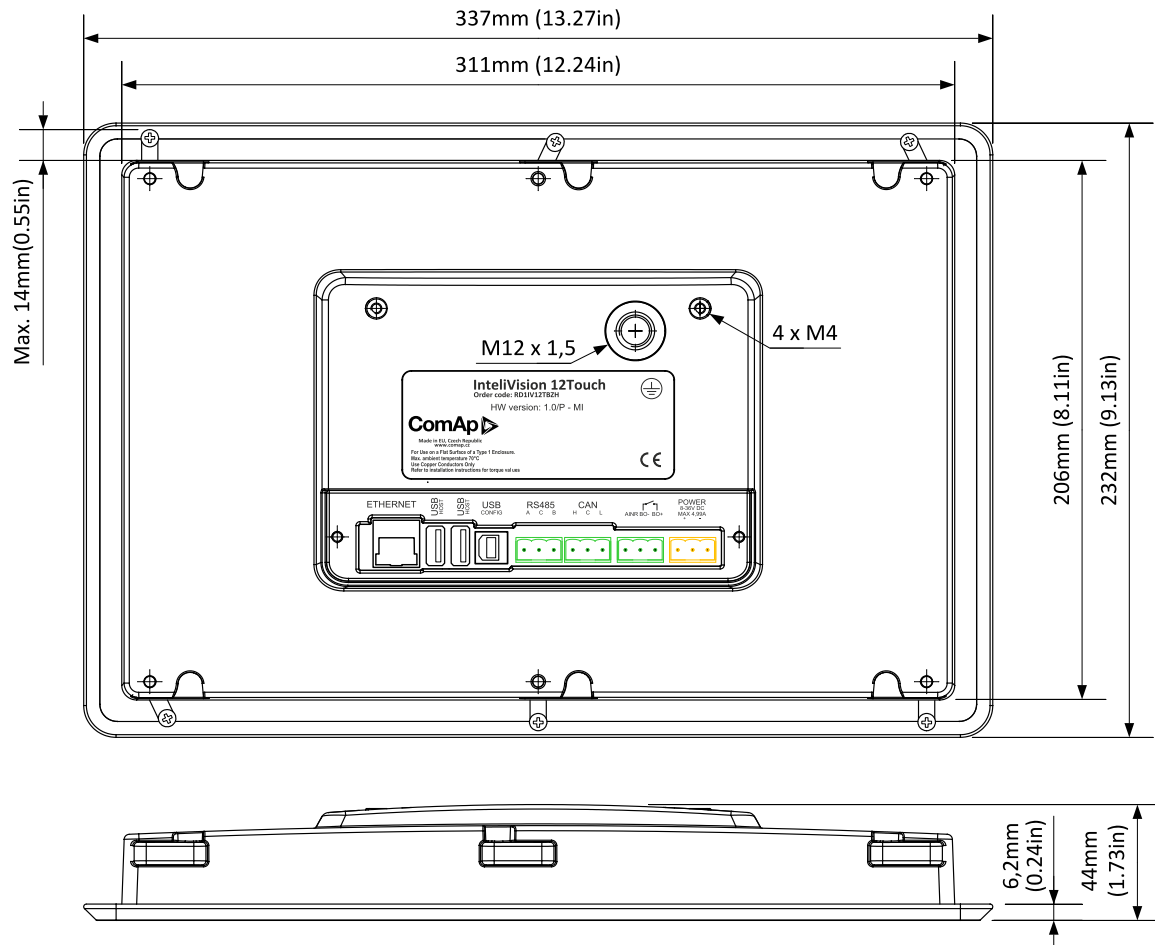
InteliVision 12Touch can be mounted into the panel doors. Integrated holders are used for Display unit mounting.

The recommended cut-out dimension for the unit is 311 x 206 mm (12.24 x 8.11 in). Approximately 1mm wider than the unit size on each side.

The panel thickness range is 2 - 13 mm (0.08 - 0.51 in).

4.2 Wiring diagrams

4.2.1 Earthing protection

Threads for grounding screws are marked by red bars on the picture below.
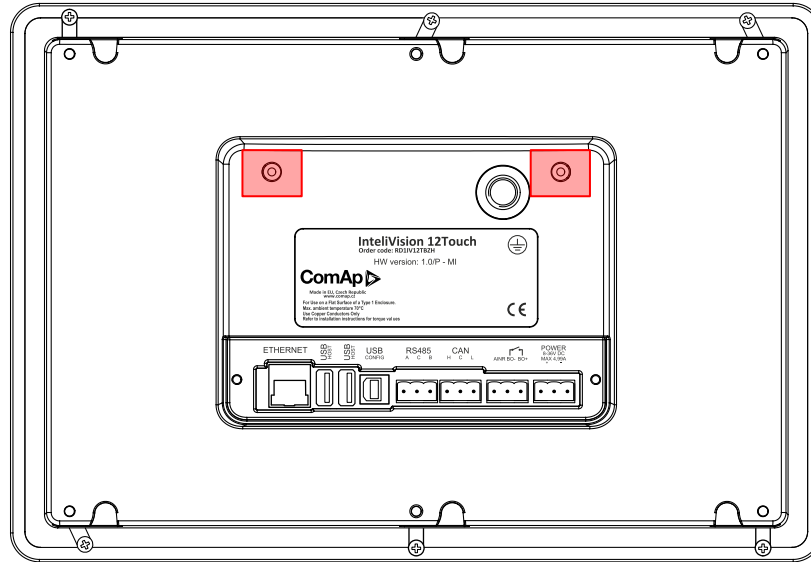
Image 4.1 Earthing protection - grounding threads

> **IMPORTANT: Each installed unit must be correctly grounded using the ground terminal placed on the back side of the chassis.**

4.2.2 InteliVision 12Touch and InteliVision 12Touchcontroller
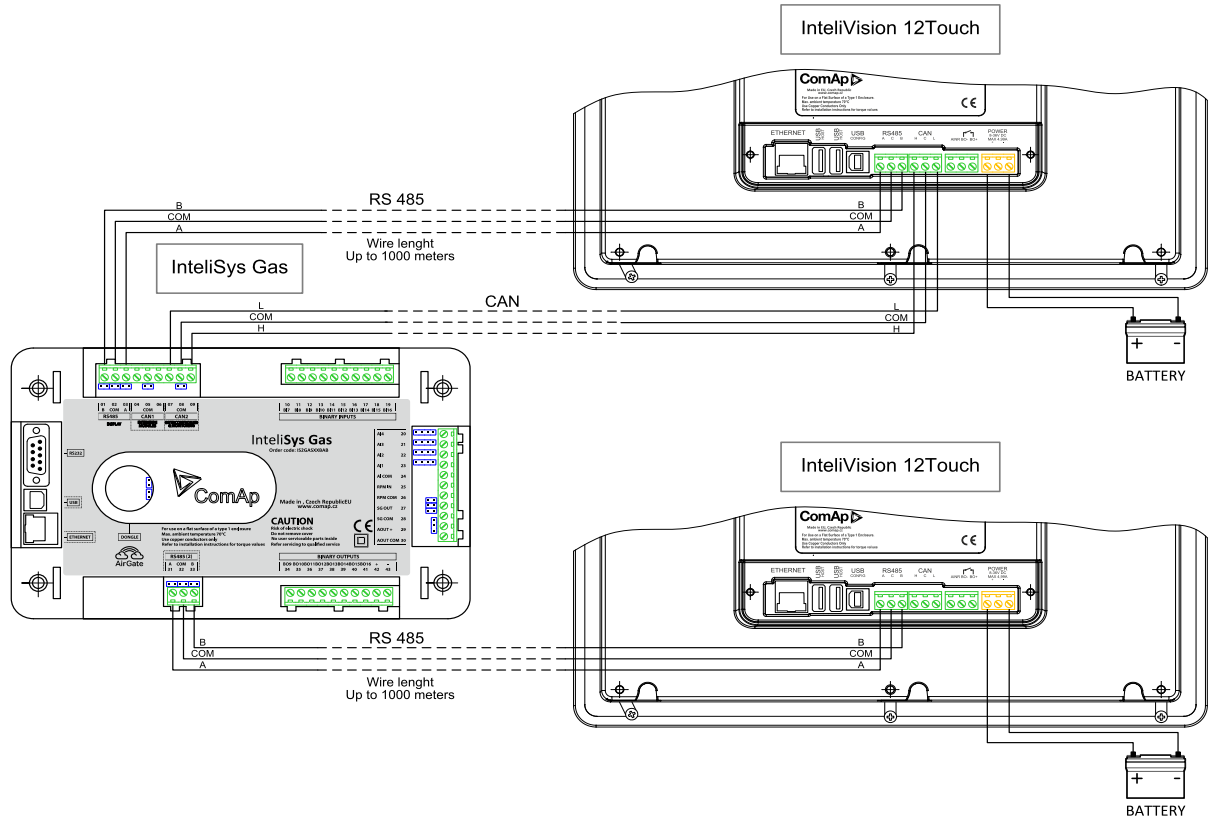
4.2.3 InteliVision 12Touch and IGS-NT family controller
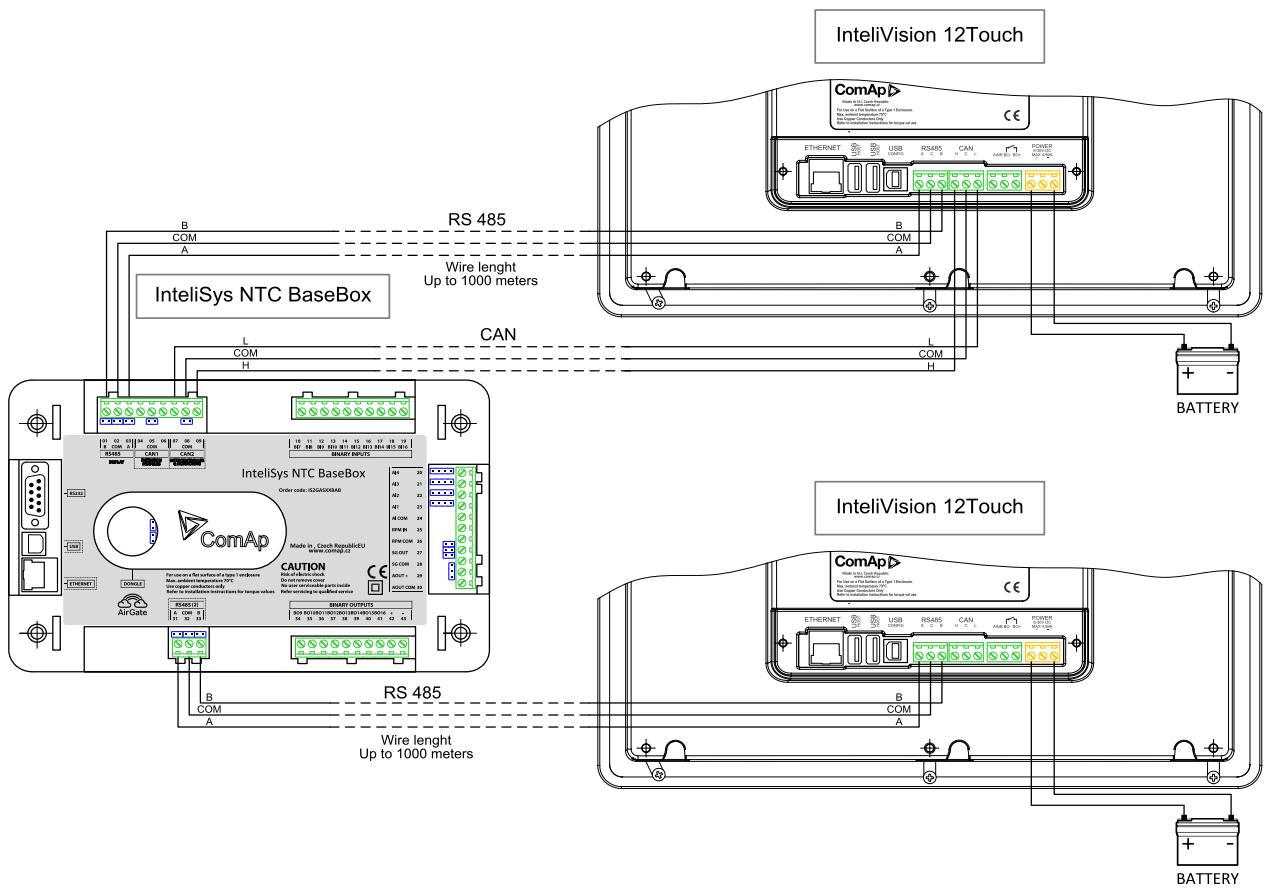
Note: *InteliGen NT BaseBox controller is also supported. It is possible to connect display unit via port RS-485 (1). The setpoint RS485(1) conv. in the setpoint group Comms settings must be enabled.*

Note: *InteliMains NTC BaseBox controller is also supported via ports RS-485(2)*

Note: *InteliSys NTC Hybrid controller is also supported.*

4.2.4 InteliVision 12Touch and InteliDrive DCU Marine controller
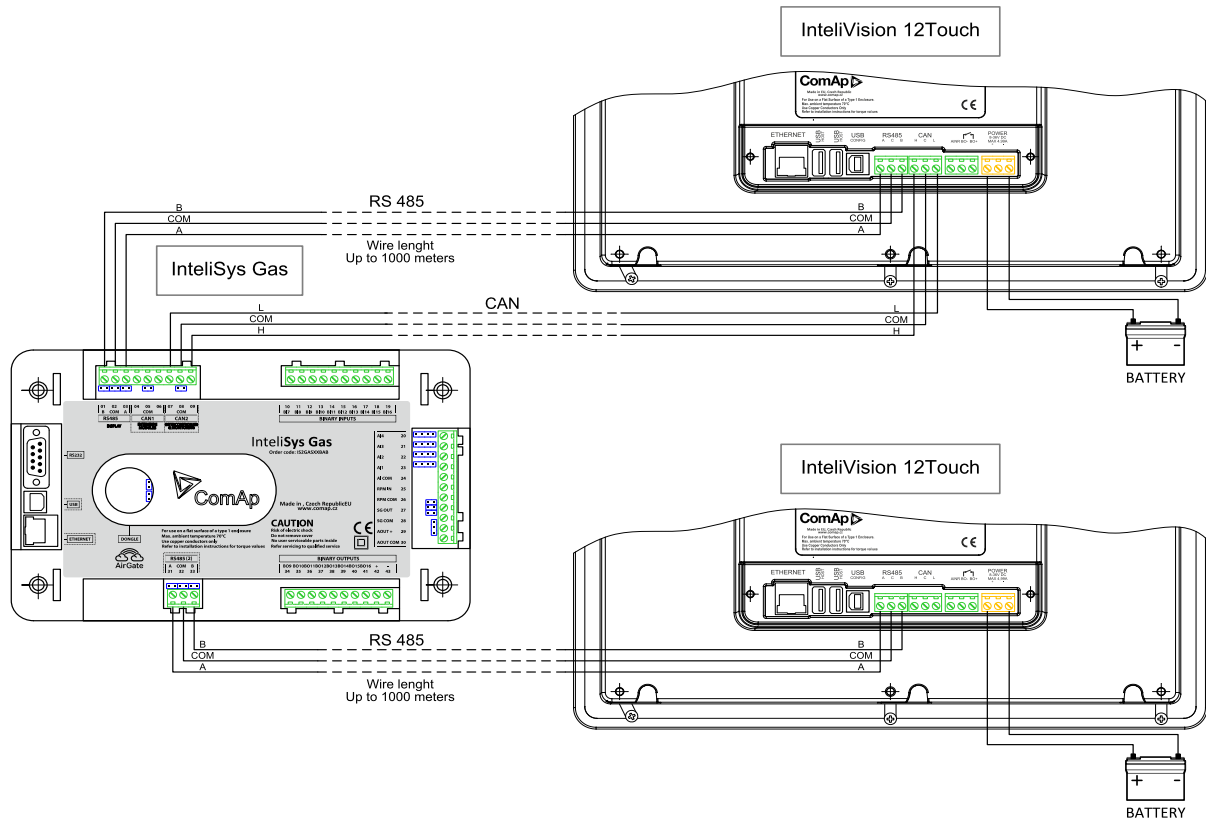
Note: *InteliVision12Touch is supported from the InteliDrive DCU Marine 3.0.0 controller firmware*

5 Graphical User Interface

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5.1 GUI overview

This chapter describes Graphical User Interface (GUI) of the InteliVsion 12Touch display unit. The entire GUI is touch based meaning there is no physical buttons such as InteliVision 8 or InteliVision 5 display units.

5.1.1 Gestures

InteliVision 12Touch uses gestures for configuring, moving, scrolling, commands and other functions.

Tap

The Tap gesture is the most known gesture. The gesture is defined as click on the touch area. It is a standard gesture which can be used for clicking on the buttons, areas, cells, etc.

Press and hold

The Press and hold gesture is defined by attaching finger into the touch area and releasing the finger after a time period. The period is stored in firmware and is not user defined. This gesture can be used e.g. for deleting the long number in the GUI dialogs.

Pan

The Pan gesture allows the user to move across the GUI. The gesture is done by one finger on the touch area moving in some direction.

Pinch in or out

The 2 points gesture which allows user zoom in or zoom out. The Gesture can be realized by two fingers moving in the opposite directions.

Screenshot

This gesture can be called by 2 fingers putting each of them into the different corners (left bottom and top right) of the display unit and smooth move from the actual finger positions. By calling this gesture The screenshot is made. An actual visible screen is stored on a USB stick if connected. If the USB stick is not connected the screenshot gesture is ignored.

5.1.2 Dialogs

Values, parameters and other names can be stored in the controller via dialogs. There are several dialogs in the GUI. Dialogs for numbers, texts and lists. Available dialogs are described in the concrete chapters of this manual.

5.1.3 Pages

There are several screens called pages in the GUI, which are accessible by buttons in the bottom status bar. The actual GUI consists of 6 different pages : Trends, History, Alarmlist, Metering Screens, Setpoints and Administration. Each page has a different function and different structure. The description of the concrete pages is in special chapters in this manual.

5.1.4 Screens

Each type of controller has special set of screens stored in the configuration inside the controller. The description of the each screens (metering) is defined by the user via powerful easy to use Screen Editor in GenConfig PC Tool. Scrolling between the screens is performed using the pan/flick gesture.

5.1.5 Special screens

There are 2 special screens defined inside the set of screens : status screen, service screen and bottom status bar.

Status screen

The status screen is the special screen defined and stored in the controller memory. The status screen is accessible from the entire GUI by clicking on the very right icon in the top status bar. After click on the icon the special screen appears. Clicking on the same position hides the status screen. The purpose of the status screen is to allow the user to configure one screen with the most important information, meters and buttons placed in one screen accessible by one click. The status screen can be adjusted using the powerful easy to use Screen Editor in GenConfig PC Tool. By default the status screen is predefined by common buttons (MCB and GCB breakers, Alarm and Horn reset, Start and Stop button). There are also Analog meter for Active power value, Power factor meter and Timer preconfigured on the system states values.

Image 5.1 : Status screen preview

Service screen

The service screen is the special screen defined and stored in the controller memory. The service screen is accessible from the Administration menu by clicking on the Service Screen tab. The purpose of the service screen is to allow the site administrator to put into the display (resp. controller) important data for technical support. The service screen can be adjusted using the powerful easy to use Screen Editor in GenConfig PC Tool. By default the service screen is predefined by general information.

For more information about the Service screen and its administration **see Service screen - administration on page 46**.

5.1.6 Status bars

Bottom status bar

The bottom status bar is also a user defined special screen and can be adjusted using the powerful easy to use Screen Editor in GenConfig PC Tool. More than one bottom status bars could be defined. Each metering screen can display a different bottom status bar.
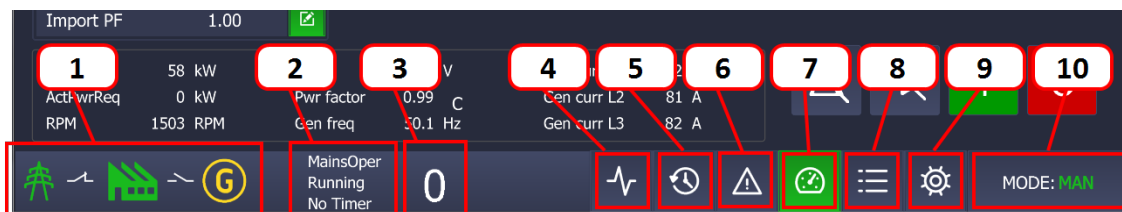

Image 5.2 : Bottom Status Bar

1. **Mimic diagram** - if this area is pressed Metering screen Control appears.
2. **GenSet status** - area is displaying the actual status of the genset.
3. **Status timer** - displays the actual status timer.
4. **Trends page button** - pressing this button from the entire GUI displays the Trend Page.
5. **History page button** - pressing this button from the entire GUI display the History Page.
6. **Alarmlist page button** - pressing this button from the entire GUI displays the Alarmlist Page.
7. **Metering screens button** - pressing this button from the entire GUI displays the predefined Metering screen.
8. **Setpoint page button** - pressing this button from the whole GUI leads to the show of the Setpoint Page.
9. **Administration page button** - pressing this button from the entire GUI displays the Administration Page.
10. **GenSet mode button** - by pressing the button mode the list of options appears. The user can easily change the mode of the controller from the entire GUI.

Top status bar

The top status bar can NOT be adjusted. The definition comes from the firmware and can not be user defined. All the information in the top status bar is fixed and controlled by ComAp.
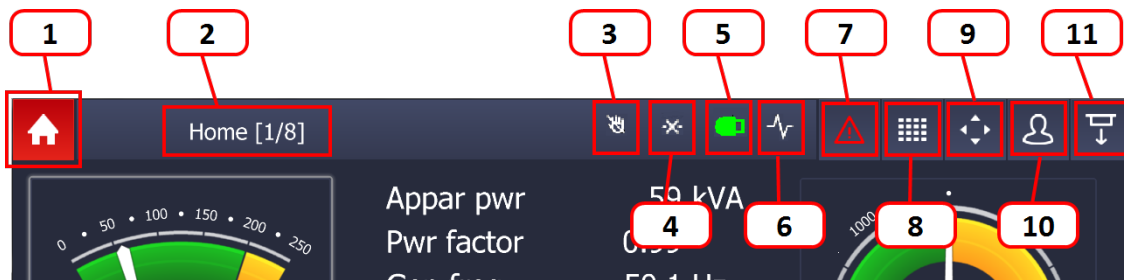
Image 5.3 : Top Status Bar

1. **Home button** - using the tap gesture on the Home button The return to Home screen is executed. Home button is available in entire Graphical User Interface.

2. **Page title** - each page and each metering screen has its own title. The first number in square brackets describes the actual metering screen position. The second number describes the total available number of metering screens.

3. **Access Lock** - if the access lock function in the controller is active the display is locked for security reasons. The icon is not the button, it only provides information about the actual state.

4. **Communication error** - the icon is displayed if any communication error appears. The icon is grey if the communication error has appeared sometime in the past but the communication was automatically reestablished. The icon is inactive if there is no communication error from the last display power up or touching connect button in the administration. The icon is not the button, it only provides information about the actual state.

5. **USB Stick** - the icon is active (lights green) if the USB stick is plugged in the display unit. Icon is inactive if there is no USB stick plugged in. The icon is not button, it provides only information about actual state.

6. **Trending** - the icon is active (lights green) when the trending is running. Icon is inactive when the trending is stopped. The icon is not button, it provides only information about actual state.

7. **Alarm indication** - if any alarm (Shut Down or Warning) appears the icon will start flashing red. Using the tap gesture on this button the jump to the alarmlist page is executed.

8. **Metering screens overview** - this button allows the user to move easily to the concrete metering screen by two taps. If the button is pressed the dialog with the metering screens is displayed, then it is possible to choose one of the desired concrete metering screen.

9. **Navigation arrows** - if this button is pressed the navigation arrows appear on the metering screens. Using these clickable arrows the user can move to other metering screens which can normally be done by the pan/flick gesture.

10. **User** - if any user is logged in to the controller the icon is green. If the button is pressed the Administration Page appears.

11. **Status screen** - using the tap gesture on this button the status screen appears. Another click on the same position will close the status screen. The purpose of the status screen is to allow the user to configure one screen with the most important information, meters and buttons placed in one screen accessible by one click.

5.2 Metering screens

Metering screens are dedicated for important controller values and setpoints. When the display is connected to the controller screen configuration is downloaded into the display. The concrete template of the screens

depends on the type of controller. After the configuration is downloaded specific meters, values and setpoints are displayed on the metering screens.

5.2.1 InteliVision 12Touch controller screens

InteliVision 12Touch controllers are predefined mainly for use in CHP applications at should cover most of this application type. The metering screens could be changed via powerful easy to use Screen Editor in GenConfig PC Tool.

The following structure is predefined in the controller archive by default :

1. Home

2. Statistic

3. Power (not in COX application)

4. Mains

5. Generator

6. Synchro

7. Power Management (Only in Combi and MINT application)

8. Analog Inputs

9. Binary I/O

Note: Other screens are added automatically If external modules, ECU modules and others are added using GenConfig software. The user is able to remove them manually if necessary.

Image 5.4 : Illustrative Metering screens for InteliVision 12Touch Combi application

5.2.2 InteliGen NTC and InteliSYS NTC controller screens

InteliSys and InteliGen NTC BaseBox controllers are predefined mainly for use in standard applications and should cover most of this application type. The metering screens could be changed via powerful easy to use Screen Editor in GenConfig PC Tool.

The following structure is predefined in the controller archive by default :

1. Home
2. Power
3. Generator
4. Mains
5. Synchro
6. Power Management (Only for Combi and MINT application)
7. Statistic
8. Analog Inputs
9. Binary I/O

Note: Another screens are automaticly added If external modules, ECU modules and others are added using GenConfig software. User is able to remove them manually if neccessary.

Image 5.5 : Illustrative Metering screens for InteliSys NTC BaseBox SPtM application

5.2.3 InteliDrive DCU Marine controller screens

InteliDrive DCU Marine (3.0.0 and higher) controller are predefined mainly for use in standard applications and should cover most of this application type. The metering screens could be changed via powerful easy to use Screen Editor in DriveConfig PC Tool.

The following structure is predefined in the controller archive by default :

1. Home
2. Analog Inputs
3. Binary I/O
4. Loadsharing (only in PRP application)
5. Statistic

Note: Another screens are automaticly added If external modules, ECU modules and others are added using DriveConfig software. User is able to remove them manually if neccessary.
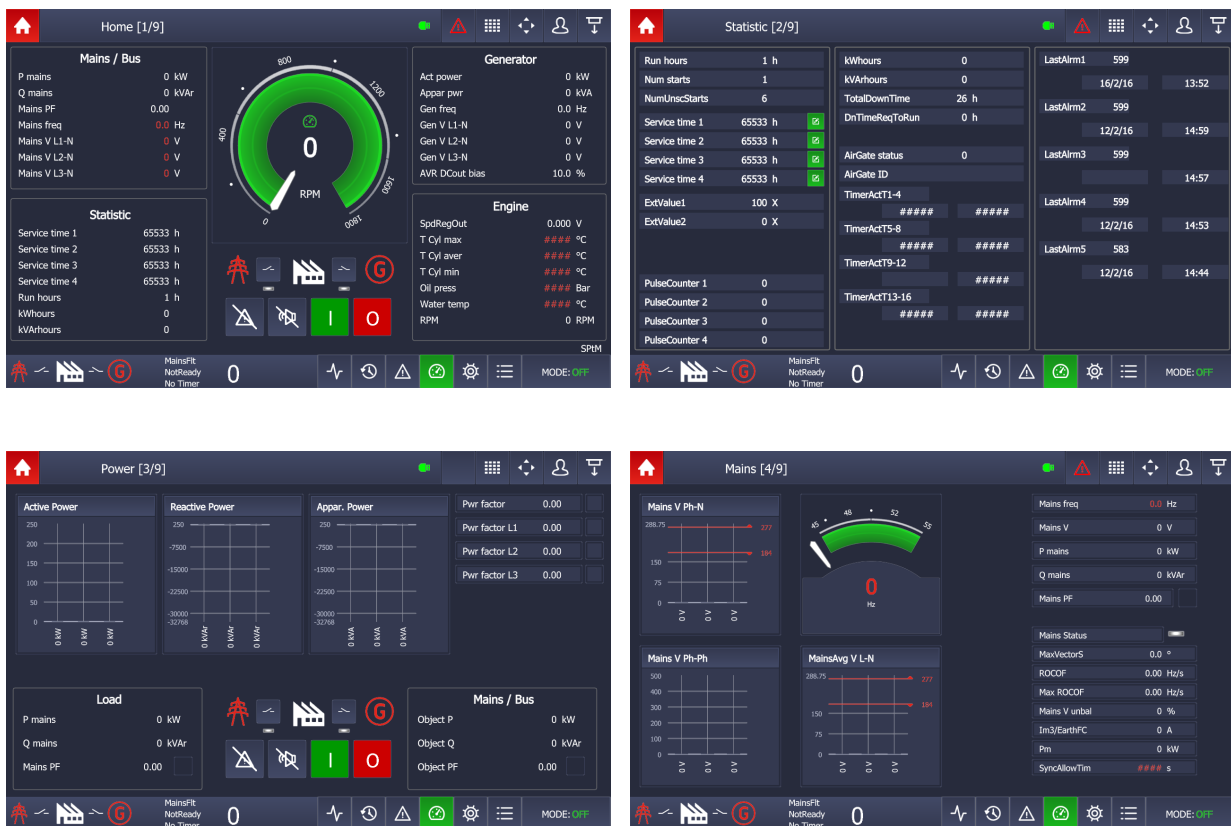
Image 5.6 : Illustrative Metering screens for InteliDrive DCU Marine (PRP application)

5.3 Trends

The Trends page is divided on to 4 main blocks :

▶ **Main Trends Window** is intended to display all trends, binaries, cursors. Gestures inside this window are allowed.

- Pan/flick - the gesture allows movement through all the trending samples.
- Pinch in/out - zooming of the trend lines inside the window. There is also possibility to zoom in to only one axis using the pinch in/out gesture in the Axis space or time scale.
- Double tap - return to the default zoom

▶ **Channel panel** displays the actual values and values intersecting the trend lines and cursor lines. In the top right hand corner there is a button allowing the channel settings.

▶ **Detail panel** displays the additonal detail values

▶ **Function buttons** is intended for start, stop and clear the trend window.

Image 5.7 : General trends page overview

1. **X axis** - Date, Time

2. **Active cursor** - the cursor is intended for displaying and marking the actual stamps. The position of the cursors is conected to the Channel Panel (8). It is possible to move with the marked cursor using press & hold + pan gesture. The movement is allowed only inside the actual screen.

3. **Inactive cursor** - the same usage as the active cursor. The only difference is to identify which cursor is ready for movement.

4. **Cursor line** - the Cursor line is intended for simple reading of different channels in the same time position

5. **Grid** - the grid is displayed behind the trends charts. It is possible to change the density of the grid using the function button trend setting (see chapter *Trends Settings*).

6. **Trend line** - each channel can have different colour for better value identification. The color of the trend line match to the Value color in channel panel.

7. **Y axis** - the Y axis visibility of each configured channels can be displayed or hidden using the function button trend setting (see chapter *Trends Settings*).

8. **Channel panel** - the channel panel is intended to display the actual values and values intersecting the trend lines and cursor lines.

9. **Channel panel value**s

    a. Current - the actual value of each channel

    b. X1, X2 - the channel value intersecting the concrete cursor line X1 or X2. The vertical cursors must be switched on.

    c. Y1, Y2 - It displays the value relative to the axis Y. This value marks the user e.g. desired range of the concrete channel value.

10. **Actual binary value** - if the binary channel is configured the actual binary value is displayed in the channel panel

11. **Trend Icon** (Top Status bar) -if the trends are running the informative icon is shown in the top status bar

12. **Cursor buttons** - the cursor buttons is intended for the smooth move of the chosen cursor. The simple Tap gesture must be used. The cursors must be switched on in trends settings.

13. **Binary Values** - the binary values are displayed in the background of the Trend window. It can be switched on/off using the function button O/I (bottom right).
    Maximum 32 bits either from the same or different channel can be configured.

14. **Channel settings button** - the Channel settings dialog is intended for the configuration of the channel. It is allowed to configure a maximum of 16 channels (binary values included). See chapter *Channel Settings*.

15. **Details panel** - displays the additonal detail values

16. **Details panel values**

    a. X1,X2 - displays the time value intersecting the cursor lines X1 and X2

    b. Time delta - the difference between X1 and X2, that displays time between the cursor lines

    c. Free memory - if a USB stick is connected and trending on to the USB stick is switched on The remaining free memory is displayed

    d. Time period - the actual time sample period

17. **Function buttons (start/stop/clear**) - these buttons control the actual trending. The start button is intended for starting the trending. The stop button stops the trending. The clear button ensures the clearing of the trend window. The clear button is active only in case the trending is stopped.

18. **Function buttons (binary/show-hide bottom panel/trends setting)** - These buttons are always on the top.

    a. Binary values button - show/hide the binary values in the trends window

    b. Bottom panel button - show/hide the all the botom panels (start/stop buttons included)

    c. Trends settings button - opens the trends setting dialog (see chapter *Trends Settings*)

19. **Trend Page button** - pressing this button from the entire GUI leads to the displays the Trend Page.

Note: To get the best view of the displayed trends it is recommended to manually set the typical value range for each channel. The default ranges can cause a fragmented view of the trend window.

IMPORTANT: If the trending is started it is not possible to make changes in the channel settings. The only graphical and export function is allowed in the trends settings dialog.
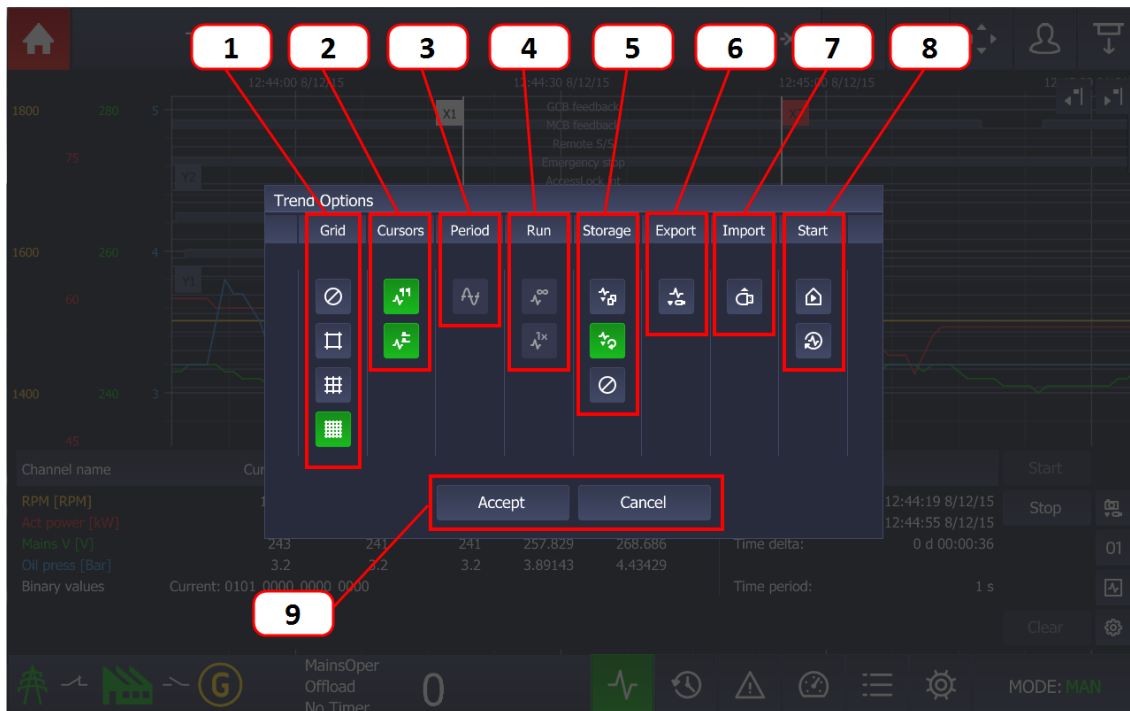
5.3.1 Trends settings

Image 5.8 : Trends Settings Dialog

1. **Grid** - it is possible to set 3 levels of grid density or switch off the grid in the background in the main Trends window.

2. **Cursors** - switching on/off the horizontal or vertical cursors. The cursors are intended to easily distinquish the trends channels. The user is simply able to deduct the value directly from the trend line. The cursors are also connected to the channel panel where the actual and intersecting values are displayed.

3. **Period** - the button opens another dialog where the user is able to set sample time period.

4. **Run** - the section is intended for the choice of the

   a. cyclic mode (trending is repeated continuously)

   b. or trending until the memory dedicated for trending is full.

5. **Storage** - the section is intended to select the file amount

   a. multiple file storage - data is saved to the multiple files, each file is 4MB in size, this option is available only in case the a USB stick is connected to the display unit. The trending can use the entire USB memory stick.

   b. single file storage - data is saved to one file. The size of the file is 4MB ~ reserved RAM memory for trends. When the memory reaches 4MB, the oldest data in file is rewritten by new data in case the cyclic mode in section RUN is active. It works as cyclic buffer. In case the the cyclic mode in RUN section is inactive the trending is stopped when the 4MB buffer of the trends data is stored. The samples also remain in the display memory until the display unit is switched off. This option is available only in case a USB stick is connected to the display unit

   c. Trending in the background - if the trending in the background is active the samples are stored on a USB stick (if connected). The storing of the samples can be switched off even if a USB stick is connected, then the trends are stored only in the internal memory.

6. **Export** - ensures the export of the actual sets of samples from the internal memory to a USB stick. The *.trd (ComAp proprietary format) and *.csv (coma separated format, e.g. csv) files are supported.

7. **Import** - ensures the import the sets of samples from a USB stick to the internal memory. The trending must be stoped otherwise the function is not available because of the consistency reason. The only *.trd (ComAp proprietary format) file is supported for import.

8. **Start** - extended functions

   a. Home button - if the button is active the trending will start when the Home button (top left corner) is pressed or gesture visiting the home page is done.

   b. Autostart - if the button is active The trending is recovered even if the display unit went through the hard reset, power failure or communciation error.

9. **Acknowledgment buttons** - ensure the choice confirmation. Until the button Accept is not pressed the setting is not validated. The Cancel button deletes all the settings actually made by the user.
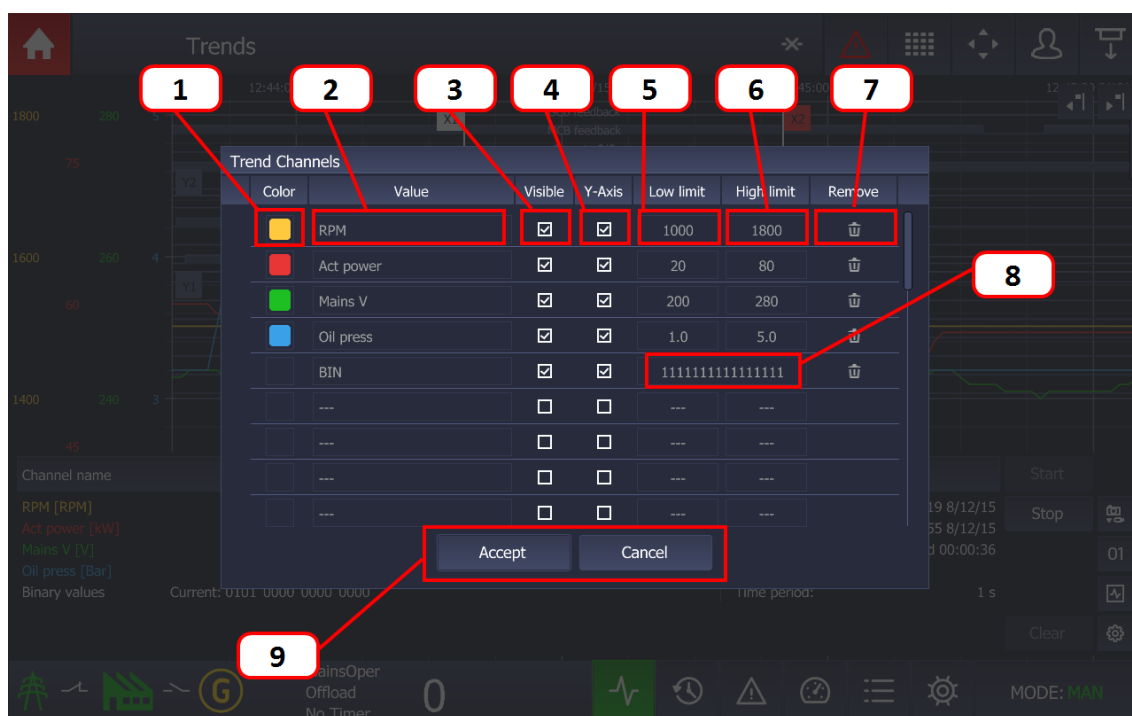
5.3.2 Channel settings

Image 5.9 : Channel Settings dialog

1. **Channel color** - there is the possibility to change the trend line colour, 16 colours are available. The colour dialog appears when the simple Tap gesture is called.

2. **Channel value** - the value menu appears if the gesture tap in the cell in the value collumn is called. Inside the value menu the user is able to choose the requested channel value. The value availibility depends on the type of configuration stored in the controller.

3. **Trends channel visibility** - the checkboxes in the column Visible ensure the visbility of the trends lines. If the channel is configured and the checkbox Visible is not checked the trend line will not be visible but will be logged in the internal memory or a USB stick. The user is able to switch on/off the visibility independently for each channel.

4. **Y-axis visibility** - checkboxes in the column Y-axis ensure the visbility of the Y-Axis labels. It is recommended to display a few mandatory Y-Axis labels to have a good overview of the main trend window with trend lines.

5. **Low limit value** - the low limit column is intended for changing the low border of the value range. For the best view of the displayed trends it is highly recommended to set this limit to the minimum expected value with some reserve.

6. **High limit value** - the high limit column is intended for changing the low border of the value range. For the best view of the displayed trends it is highly recommneded to set this limit to the minimum expected value with some reserve.

7. **Quick channel removal** - clicking on the trash bin icon the actual channel is not configured.

8. **Binary value options** - calling this dialog using tap gesture in the cell with the binaries allows the user to see only the requested bits in the binary value. Note in total 32 bits can be displayed in the background of the trend window.

9. **Acknowledgment buttons** - ensure the choice confirmation. Until the button Accept is not pushed the setting is not validated. The Cancel button deletes all the settings actually made by user.

5.4 History

The history page displays the records of the important moments in the controller history.

There are 3 types of history records :

▶ **Event records** - are also known as standard history records. This type of record appears in case the controller event has been made. The time stamp history also belongs in the event history. The time record is stored for a specified period of time.

▶ **System records** - are also known as text history record. These type of records are generated during the user login/off or controller programming.

▶ **Premortem record** - is visually a different block of records generated just before the shutdown alarm
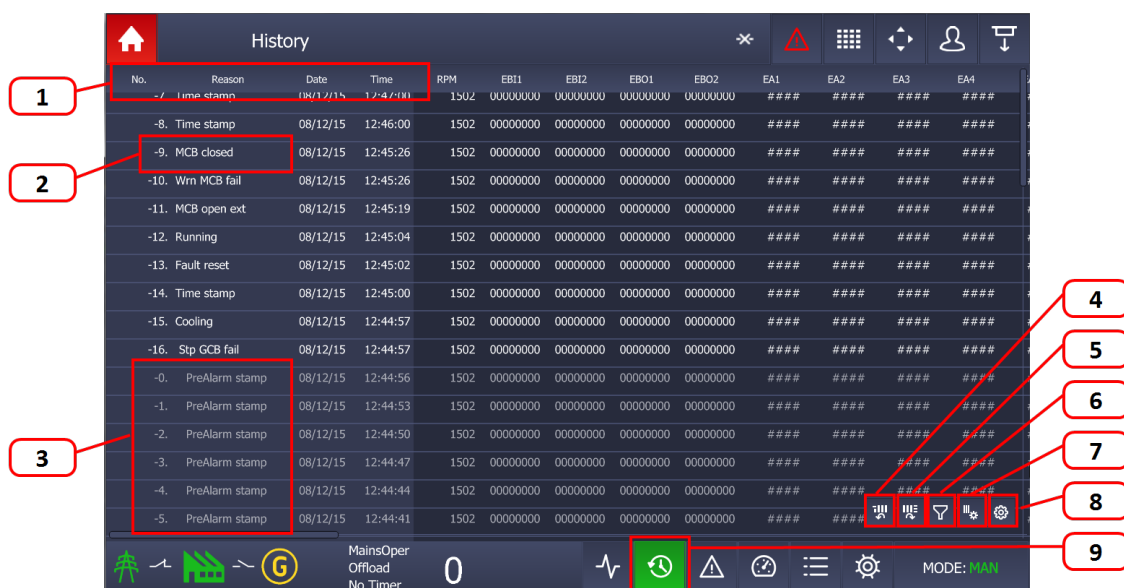

Image 5.10 : History page

1. **Fixed columns** - has a different shade of colour. Fixed columns are always merged and anchored on the left side of the history page. Anchored columns can be adjusted using button column settings (point 7.)

2. **Event history record** - this type of record appears in case the controller event has been made. The time stamp history also belongs in the event history. The time record is stored for a specified period of time.

3. **Premortem history record** - is visually a different block of records generated just before the shutdown alarm.

4. **Jump to first column button** - the jump to the first column is performed if the button is pressed.

5. **Jump to last column button** - the jump to the last column is performed if the button is pressed.

6. **Filter row button** - the dialog Filter Row appears if this button is pressed. Displaying / hiding of the specified type of the records can be adjusted using this dialog (See chapter Row Filter for more information).

7. **Column settings button** - the dialog column settings appears If this button is pressed. Anchor, visibility and movement of the columns can be adjusted (see chapter Column settings)

8. **History settings button** - by pressing this button the settings button is hidden or displayed.

9. **History page button** - by pressing this button from the entire GUI displays the History page.
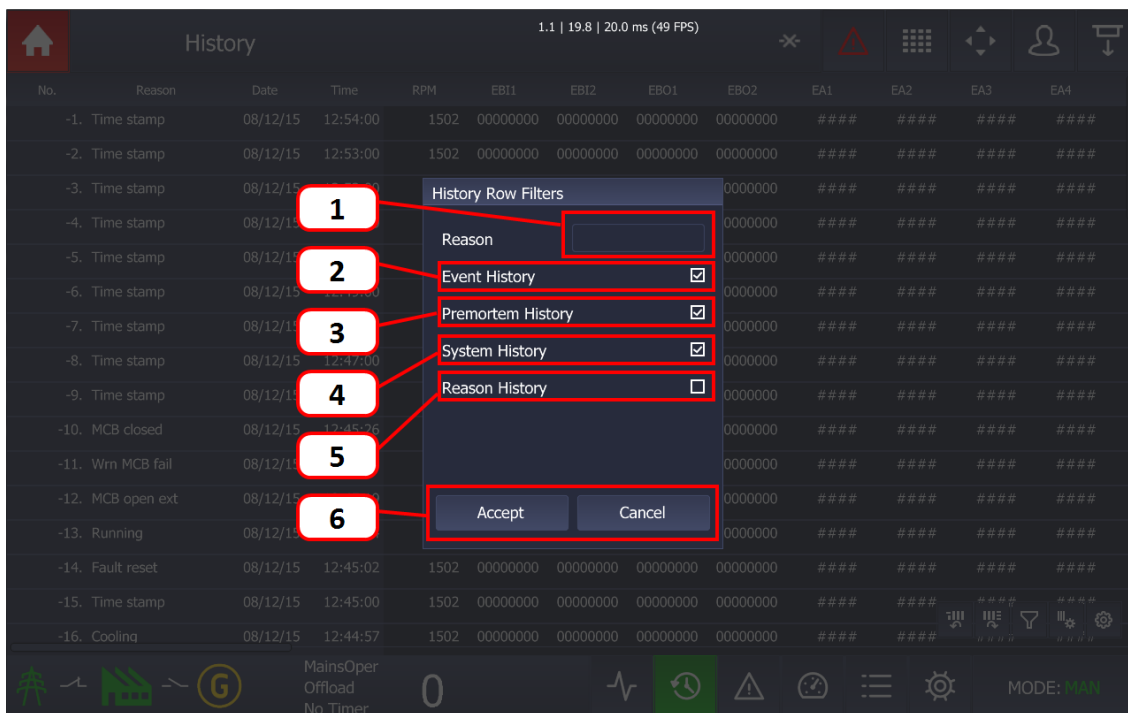
5.4.1 Row filter

Image 5.11 : Filter Row Dialog

1. **Reason area filter** - by pressing the reason area the string dialog appears. Then user writes the requested text filter. The reason history checkbox MUST be checked to filter the rows using the inserted text. If the checkbox is not checked the inserted text will not be included.

2. **Event history checkbox** - if the checkbox is checked the event history is displayed.

3. **Premortem history checkbox** - if the checkbox is checked The Premortem history is displayed.

4. **System history checkbox** - if the checkbox is checked the system history is shown.

5. **Reason history checkbox** - if the checkbox is checked the reason history area is taken to the account and The records are filtered based on the inserted text.

6. **Acknowledgment buttons** - ensure the choice confirmation. Until the button Accept is not pressed the setting is not validated. The cancel button deletes all the setting actually made by user.
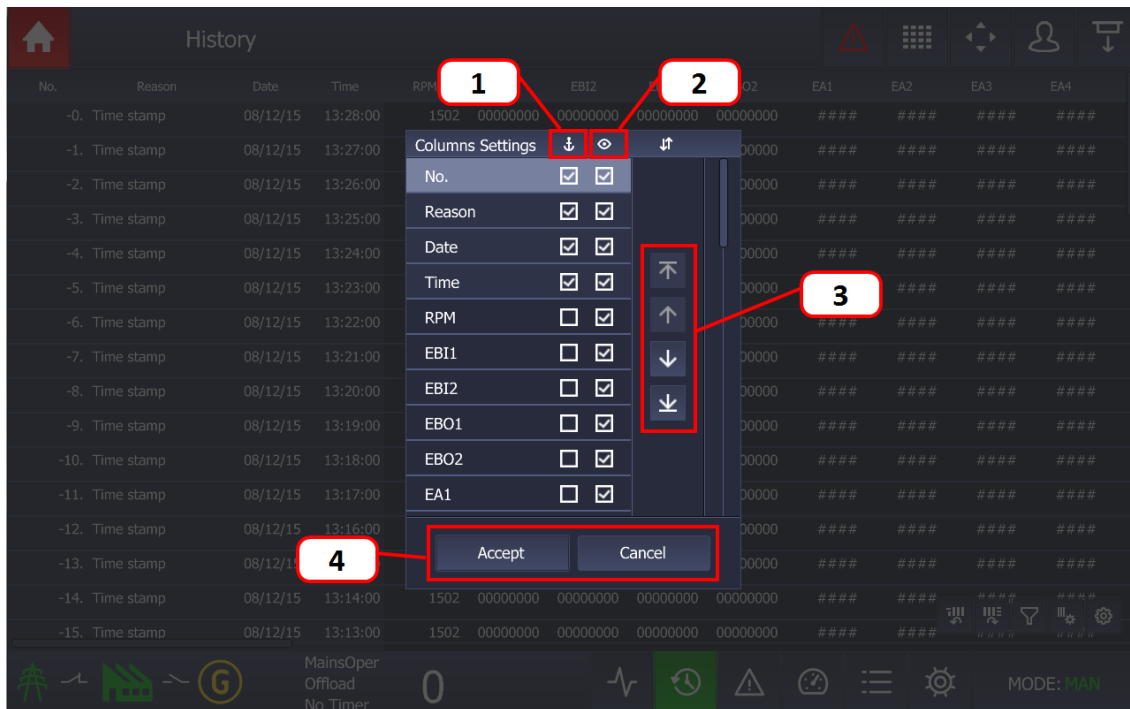
5.4.2 Column settings

Image 5.12 : Column Settings Dialog

1. **Anchor columns** - if the checkbox in the concrete position is checked the column is anchored to the last anchored position. If the checkbox is unchecked the column is released to the first released position.

2. **Columns visibility** - the visibility checkbox is intended for displaying /hiding the requested columns. The visibility has no other function. The anchored or released columns can be visible or not.

3. **Moving arrows** - the arrow buttons move the selected column up and down.

4. **Acknowledgment buttons** - ensure the choice confirmation. Until the button Accept is not pressed the setting is not validated. The Cancel button deletes all the setting actually made by user.

5.5 Alarmlist

The alarmlist page is intended for displaying the controller alarms. If any of the following type of the controller alarm occurs The alarmlist page is displayed and also the alarm button in the Top status bar starts flashing RED, even if it is not the shutdown alarm. The Automatic jump to the Alarmlist page is performed only in case the actual GUI position is the Home metering screen. The alarm button in the top status bar is informative icon where the display unit informs the user that there is any alarm stored in the controller unit. Pressing the button opens the alarmlist page. The alarmlist page is displayed until the alarmlist contains the not confirmed alarms.

There are 4 different types of controller alarms :

▶ **Warning** *(often also known as 1st level alarm)* - represented by the YELLOW colour. These types of alarms inform the user that something is wrong and need to be checked and confirmed.

▶ **Shutdown** *(often also known as 2nd level alarm)* - represented by the RED colour. These types of alarms protects the GenSet or Engine during the wrong state.

▶ **ECU alarm** - represented by the BLUE colour. This type of alarm comes from the ECU units.

▶ **Sensor fail alarm** - represented by the WHITE colour. A special kind of alarm that appears if any connected sensor emits the wrong state.

For more information about alarm types **see Alarms types on page 53**.

Image 5.13 : Alarmlist Page

1. **Alarm item number** - displays the number of the concrete alarm.

2. **Alarmlist item star** - describes if the alarm is CONFIRMED or NOT COFIRMED. The confirmation action is performed by the Alarm reset button (point 7.)

   a. Star is displayed - alarm is NOT CONFIRMED

   b. Star is not shown - alarm is CONFIRMED (using alarm the reset button)

3. **INACTIVE alarm** - if the alarm occurs and then the fault (cause of the alarm) is removed the row background is not colored

4. **ACTIVE alarm** - if the alarm occurs and the fault continues the row background is coloured. The colour depends on the type of the alarm.

   a. Warning - yellow

   b. Shutdown - red

   c. ECU - blue

   d. Sensor fail - white

5. **Topstatus bar Alarmlist button** - If there is an alarm in the controller The alarm button in the top statusbar starts blinking red. This is information that something is wrong and need to be checked.

6. **Alarm statistic** - shows the basic statistic of the controller alarms

    a. Active - the number of active alarms

    b. Unconfirmed - the number of not confirmed alarms

    c. Total - the total amount of alarms contained in the controller alarmlist

7. **Alarm control** - the alarm control section is intended for alarm confirmation and horn reset function.

    a. Alarm reset - by pressing this button all visible alarms are confirmed. It means the user makes clear that He understands the alarms and is really sure about the actual status of the faults.

    b. Horn reset - if the horn controller function is activated the Display starts to produce sound via internal buzzer. The binary output on the display is also activated. Pressing the Horn reset button the user switches off the internal buzzer (horn) and deactivates the binary output (e.g. external horn or light). The horn timeout can be adjusted via the Setpoint Page.

8. **Bottomstatus bar Alarmlist button** - by pressing this button from the entire GUI displays of the Alarmlist page.

Note: If the Alarmlist exceeds 8 items the heights of the rows are automatically lowered to display 16 alarms. The alarmlist page is automatically displayed if the new alarm appears. The home page is displayed by confirmation using the button Alarm-reset.
The internal buzzer can not be switched off by default. The internal buzzer is connected to the controller object Horn timeout in the group Engine protection.

> **IMPORTANT: InteliVision 12Touch displays maximum 16 alarms.**

5.5.1 ECU Alarmlist

InteliDrive controllers (compared to the InteliSys GAS, InteliGen and InteliSys based controller) have visually separated pages for common alarms and alarms comming from the ECU. It means that ECU alarms are displayed on the special ECU Alarmlist page.

The ECU Alarmlist page is accessible by pressing the ECU Alarm button on the Alarmlist page in the section Alarm control.
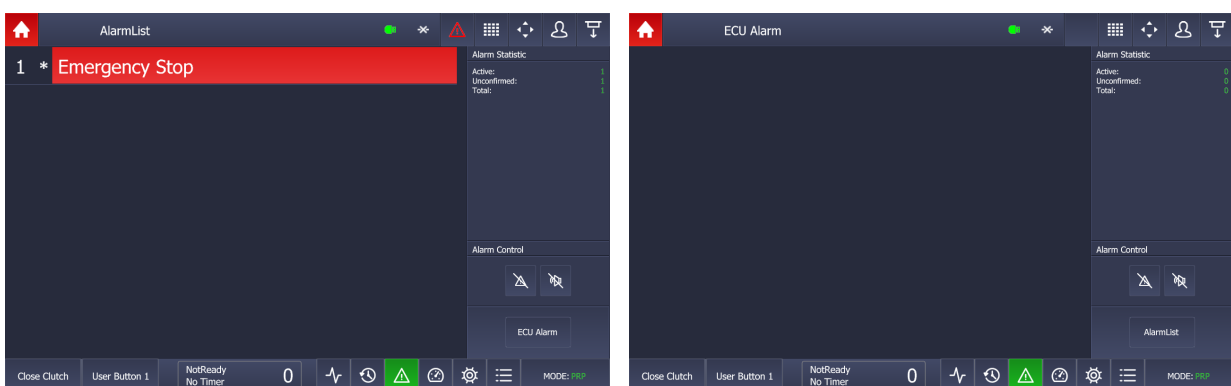

Image 5.14 : Alarmlist and ECU Alarmlist pages

5.6 Setpoints

The setpoint page is intended for setting the controller values. Each type of controller has specific setpoints to be set. The setpoints also depend on the type of application like SPtM, SPI, MINT, COMBI, COX (see the concrete manual of the requested controller for available setpoints to be set).

Image 5.15 : Setpoints Page

1. **Setpoints group** - the informative column setpoint group displays the available groups based on the controller and application type.

2. **Setpoint name** - each setpoint group contains specific setpoints. The informative column Setpoint name displays the available set of setpoints to be set in each Setpoint group. Pressing the item in the concrete row marks the entire row.

3. **Actual value** - by pressing the concrete cell in this column will display the specific dialog. There are several types of dialogs (alpanumeric, numeric, stringlist) and the type of dialog depends on the setpoint type.

4. **Information** - by pressing the concrete item in the column the setpoint name marks the chosen row and there is also more detailed information displayed in the Information panel, like units, limits, available stringlist values, information about a locked setpoint, etc.

5. **Setpoint Description** - the special panel is intended for user adjustable hint (help). See the chapter user editable help for setpoints.

6. **Setpoints button** - by pressing this button from the entire GUI displays of the Setpoints page.

5.7 Administration
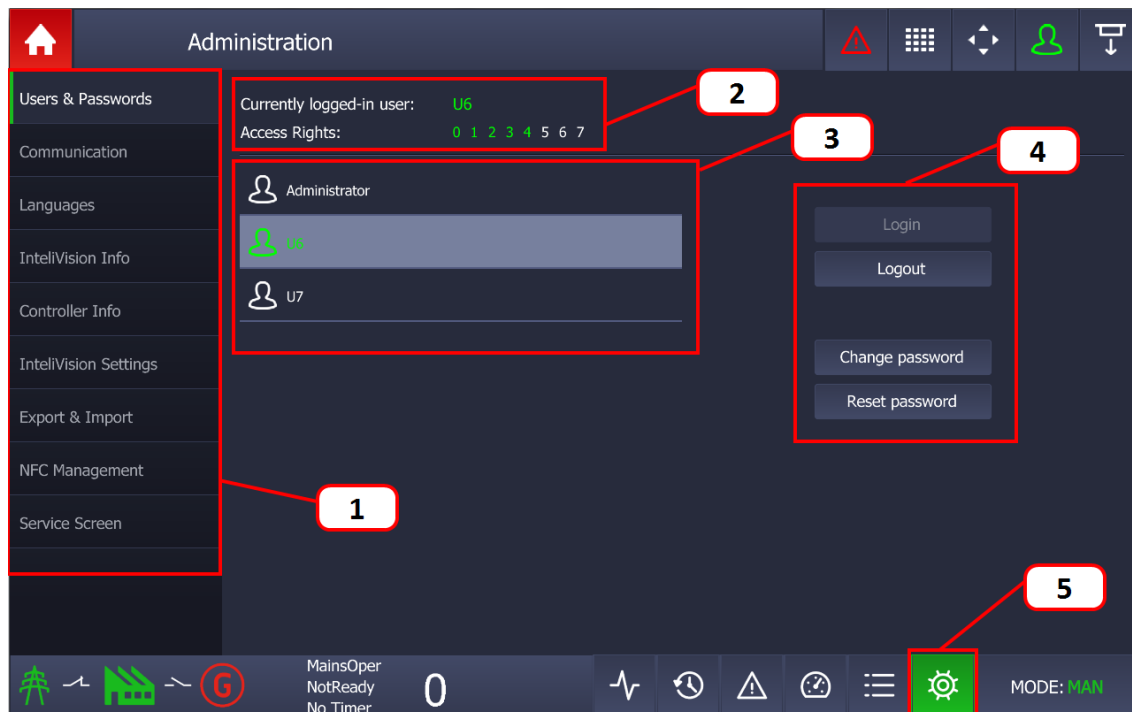
5.7.1 Users & Passwords

Image 5.16 : Administration Page - Users & Passwords

1. **Administration options** - the list of administration options.

2. **Logged User Info** - the information about rights of the actually logged user.

3. **Available Users** - the list of configured users in the controller configuration.

4. **Function buttons** :

    a. Login - after choice of user from the list of Available user the password dialog is displayed. The user must insert the correct password to be logged in. The login button is disabled if the same user is selected.

    b. Logout - the button is intended for logging out users

    c. Change password - the logged user is able to change his own password.

    d. Reset password - the logged user (with admin rights) is able to reset password to other users. Other users are not able to reset password.

5. **Administration button** - pressing this button from the entire GUI displays the Administration page.

User and Password page in InteliDrive based controllers

InteliDrive controllers (compared to the InteliSys GAS, InteliGen and InteliSys based controller) have different user management. InteliDrive based controllers have 1 unlogged user password level with access rights 0 and another 3 user password level with the access rights 1,2, or 3.
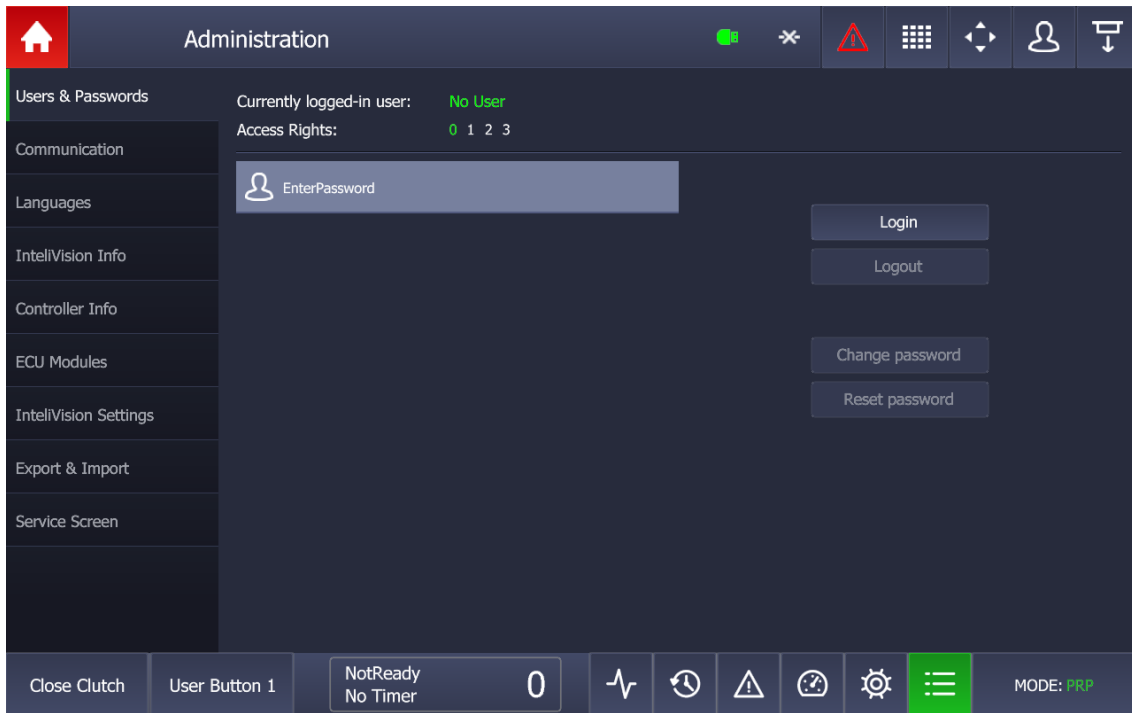
Image 5.17 : Administration Page - Users & Passwords for InteliDrive controllers

Note: *The Administration - Users & Passwords page style is automatically selected based on the connected controller.*

5.7.2 Communication

Image 5.18 : Administration Page - Communication

1. **Connection type** - by pressing the cell area the list of possible interfaces is displayed.
2. **Controller address** - by pressing the cell area the list of possible controller addresses is displayed.
3. **Connect button** - after interface and controller settings are made the connect button must be pressed to establish a connection between the display unit and controller

CAN Interface option

CAN Interface option is extended about the Terminal Address

▶ there are free 3 up to 5 terminal addresses for one CAN bus line based on the controller to which the user want to connect

- InteliGen BaseBox, InteliSys BaseBox and InteliSys GAS based controllers have 4 available terminal adresses
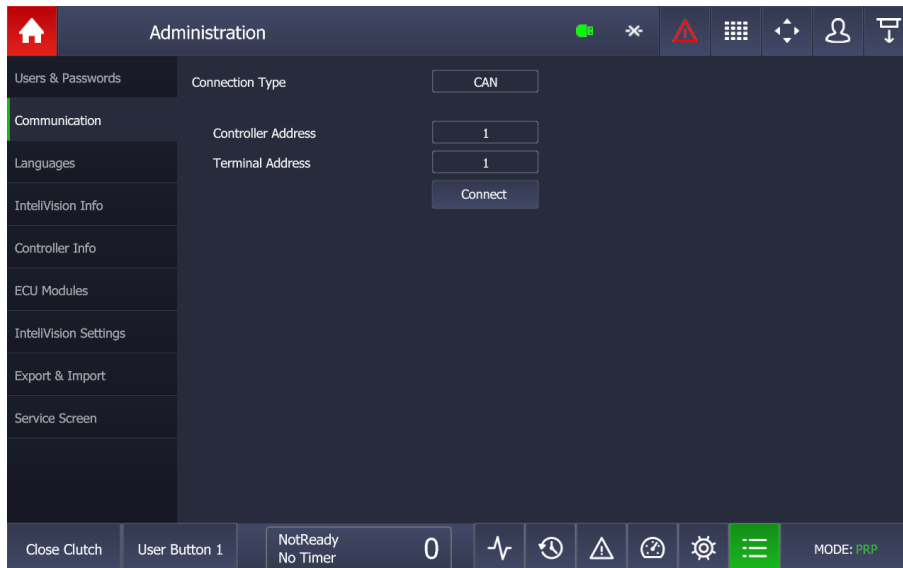- InteliDrive DCU based controllers have 5 available terminal adresses

Image 5.19 : CAN Interface dialog option

> **IMPORTANT: The terminal addresses affect entire CAN bus line. It means that there are maximum 5 free terminal addresses on each CAN Bus line.**

5.7.3 Languages

Image 5.20 : Administration Page - Languages

1. **Language settings** - the list of languages stored in the controller configuration is displayed in the list of possible languages. In case there is another language in the controller configuration the GUI system English language is set by default. The GUI can be translated to the following GUI languages only :

- ► English
- ► German
- ► Chinese
- ► Spanish
- ► Czech
- ► Arabian
- ► Russian
- ► Korean

Note: The GUI languages does not mean the languages in the controller configuration.

Note: InteliVision 12Touch can show common code pages (437, 708, 720, 737, 775, 850, 852, 855, 857, 858, 860, 861, 862, 863, 864, 865, 866, 869, 874, 932, 936, 949, 1250, 1251, 1252, 1253, 1254, 1255, 1256, 1257, 1258, 20127, 20261, 20269, 20866, 21027, 21866, 28591, 28592, 28593,28594, 28595, 28596, 28597, 28598, 28599,28603, 28605, 29001).
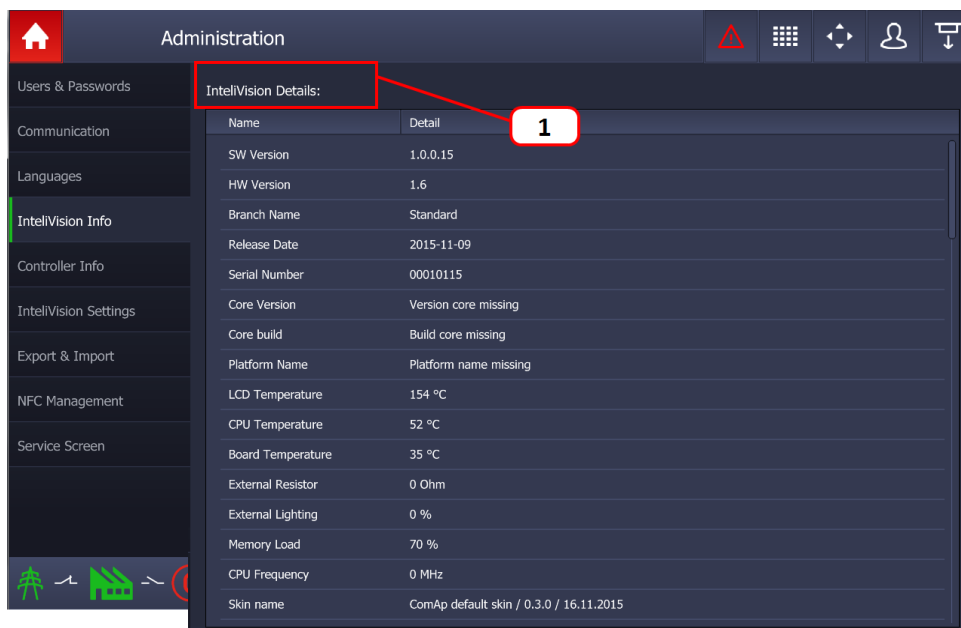
5.7.4 InteliVision Info

Image 5.21 : Administration Page - InteliVision Info

1. **InteliVision 12Touch details** - the list of information about the display unit (SW version, HW version, Branch, Release date, etc.)
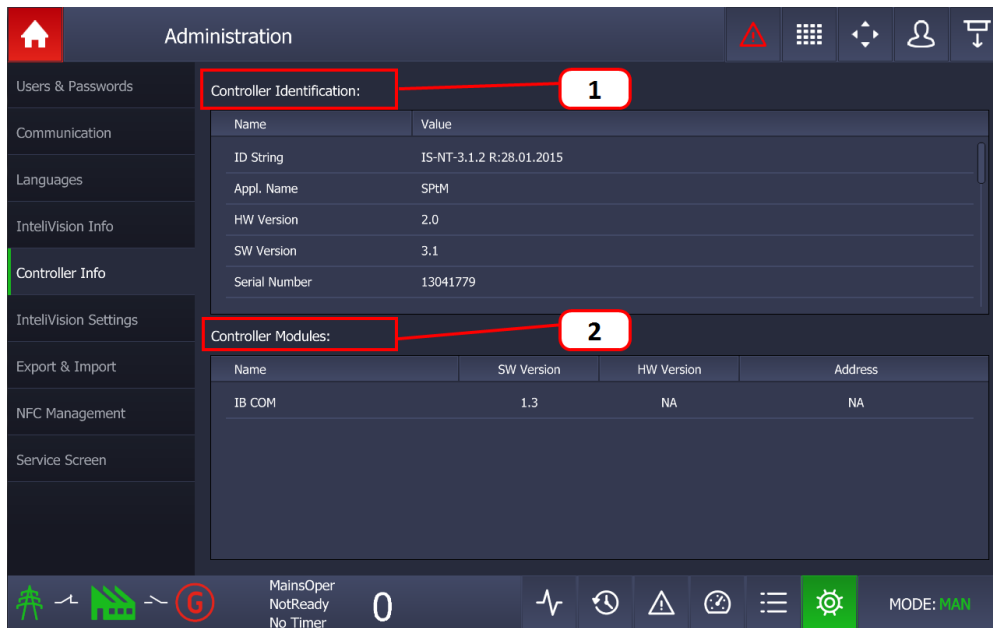
5.7.5 Controller Info

Image 5.22 : Administration Page - Controller Info

1. **Controller identification** - the list of information about the connected controller
2. **Controller modules** - if any modules are connected to the controller the list of these modules are displayed in the table

Note: The ID chip info is displayed as binary value (with LSB on the left side). PC tool InteliMonitor displays the same value in hexadecimal form. E.g. : InteliVision 12Touch - 1000000001000000; InteliMonitor - 0x0201

5.7.6 InteliVision Settings

1. **Backlight Time** - if the cell area is pressed the dialog for time settings is displayed. The user is able to set the period from 1 up to 241 minutes. There is also the option to set NO Timeout which means the display unit is backlighted forever.

2. **Skin Control** :
    a. Auto - the day or night skin is chosen automatically based on the light sensor in the front panel
    b. Day - the day skin is set manually
    c. Night - the night skin is set manually (by default)

3. **Brightness Control** :
    a. Auto - the value of the backlight is set automatically based on the light sensor in the front panel
    b. Manual - the value of the backlight must be set manually using the slider
    c. External - the value of the backlight is set using the external resistor connected to the analog input. The expected value of the external resistor (potentiometer) ranges from 0 - 2400 Ohm. If the value of the external resistor is out of the range the default value is the value set by manual choice.

4. **Brightness Manual** - the slider to set the backlight value

5. **Internal Horn**- the internal horn and also binary output on the display unit are activated based on the state of the setpoint Horn Timeout
    a. Enabled - the internal horn and binary output is enabled and activated based on the setpoint (communication object) Horn Timeout
    b. Disabled - the internal horn and binary output are fully deactivated

IMPORTANT: It is strongly recommended to use backlight on the standard level max. 60%. Maximal backlight intesinty level of 100% is suitable only for sun readeable application. Be aware that higher intesity level means higher surface front glass temperature and lower lifetime.

IMPORTANT: It is strongly recommended to use Backlight Time (timer) set on the reasonable amount of time (approximately 30 minutes) during the normal running genset or engine phase. It is becasue of saving lifetime of the display unit. The display unit is still running if the backlight is off. For switching on the LCD backlight the simple gesture tap is necessary.

5.7.7 Export & Import

Image 5.24 : Administration Page - Export & Import

1. **Import function** - by pressing the concrete button activates the dialog for import.

   a. Trends - for importing the trends values from the existing file. The only *.trd file is supported for import.

   b. Logo - the user is able to replace the ComAp logo (ComAp eyes) for his own logo. The supported file type is *.png. The logo will be resized to the size of the display (1280 x 800).

   c. Firmware - the firmware can be upgrade using *.ivp file provided by ComAp. The firmware must be saved in the specific directory on a USB stick (see the Important note below)

   d. Image pack - the desired images can be imported to the display unit. The images must be stored as *.ivi package (use ImageManager - part of GenConfig to create an *.ivi package file)

   e. Clone - the clone is the complete copy of the entire InteliVision 12Touch unit. The display unit expects *.ivc file to import the clone of the display unit.

   f. Settings - the *.ivs file is expected for import function. The *.ivs file contains a brightness setting, history settings, chosen language, trends channel settings, trends settings.

   g. Skin - the *.ivk file is expected for the import function. The *.ivk file contains the custom or default skin. By default only the ComAp skin exists, for more information about custom skin contact ComAp.

   h. Hint - *.qm binary file with the custom setpoint hints is expected. For more information on how to create the custom hint (help) in the Setpoint page see chapter Extended functions.

2. **Export function** - by pressing the concrete button activates the dialog for export.

   a. Trends - for exporting the trends values from the existing file. The *.trd (ComAp proprietary format) and *.csv (coma separated format, e.g. csv) files are supported (in the Trends settings). Here in the administration panel only the *.csv file is supported.

   b. Logo - the user is able to save the actual logo (ComAp eyes) on a USB Stick. The USB stick must be plugged in. The logo will be saved as logo.png to the specific directory on a USB stick.

c. Firmware - the actual firmware can be saved to the *.ivp file as a backup. The firmware will be stored in the specific directory on a USB stick (see the Important note below)

d. Image pack - the actual images stored in the display unit can be backed up on a USB stick. The image package file *.ivi is created in the specific directory on a USB stick.

e. Clone - the clone is the complete copy of the entire InteliVision 12Touch unit. The display unit will export the clone to the *.ivc file. The feature is intended for installations or applications where similar display units are used.

f. Settings - a specific *.ivs file is created in the specific directory on USB stick. The *.ivs file contains a brightness setting, history settings, chosen language, trends channel settings, trends settings.

g. Skin - an *.ivk file with the actual skin is created in the specific directory on USB stick. The *.ivk file contains the custom or default skin. The ComAp skin exists by default only. For more information about custom skin contact ComAp.

h. Hint - an *.ivts file with the actual setpoint hints is created. For more information on how to create the custom hint (help) in the Setpoint page see chapter Extended functions.

i. Controller archive - actual archive of the connected controller is stored to the specific directory on USB stick

j. All history - the actual history records are stored as *.csv file into the specific directory on USB Stick

Note: Once the USB stick is inserted to the display unit the InteliVision 12Touch directory and its subdirecotries are created automatically.

IMPORTANT: Requested files to be imported must be saved in the specific directory on a USB Stick. The directories are created once the USB stick is inserted in the display unit.

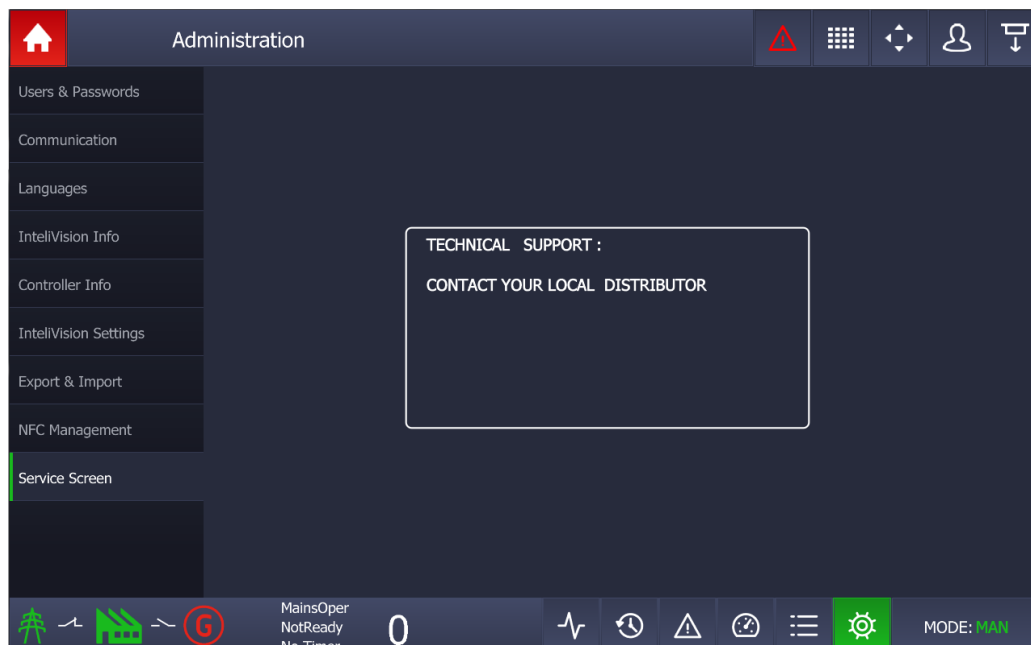## 5.7.8 Service screen - administration

Image 5.25 : Administration Page - Service Screen

The service screen is a special screen which can be adjusted using the powerful easy to use Screen Editor in GenConfig PC Tool. By default the service screen is predefined by general information.

6 Quick help

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6.1 Connection to the controller

InteliVision 12Touch supports the following controllers :

Product	Description	Order code
InteliSys Gas	Industrial grade controller for gas gen-set based CHPs and power generation applications	I2GASXXBAB
InteliSys^{NTC} BaseBox	Premium Parallel Gen-set Controller	IS-NTC-BB
InteliGen^{NTC} BaseBox	Complex Parallel Gen-set Controller	IG-NTC-BB
InteliGen **NT** BaseBox	Complex Parallel Gen-set Controller	IG-NT-BB
InteliMains^{NTC} BaseBox	Mains Supervision Controller Base Unit	IM-NTC-BB
InteliSys NTC Hybrid	Hybrid Gen-Set controller	IS-NTC HYBRID
InteliDrive DCU Marine	Engine controller for marine application	ID-DCU MARINE

Controller vs InteliVision 12Touch interfaces compatiblity matrix:

Controller Type (min version)	RS-485 (1)	RS-485 (2)	CAN2
InteliSys GAS	YES	YES	YES
InteliSys NTC BaseBox (3.7.0)	YES	YES	YES
InteliGen NTC Basebox (3.7.0)	YES	YES	YES
InteliGen NT BaseBox (3.7.0)	YES	NO	YES
InteliMains NTC BaseBox (3.5.0)	NO	YES	YES
InteliMains NT BaseBox (3.5.0)	NO	NO	YES
InteliSys NTC Hybrid (2.0.0)	NO	YES	YES
InteliDrive DCU Marine (3.0.0)	NO	YES	YES

The table above shows the controller interfaces which are supported and can be used for connection with InteliVision 12Touch.

> **IMPORTANT: CAN interface on the InteliVision 12Touch is supported from the version InteliVision 12Touch 1.3.1**
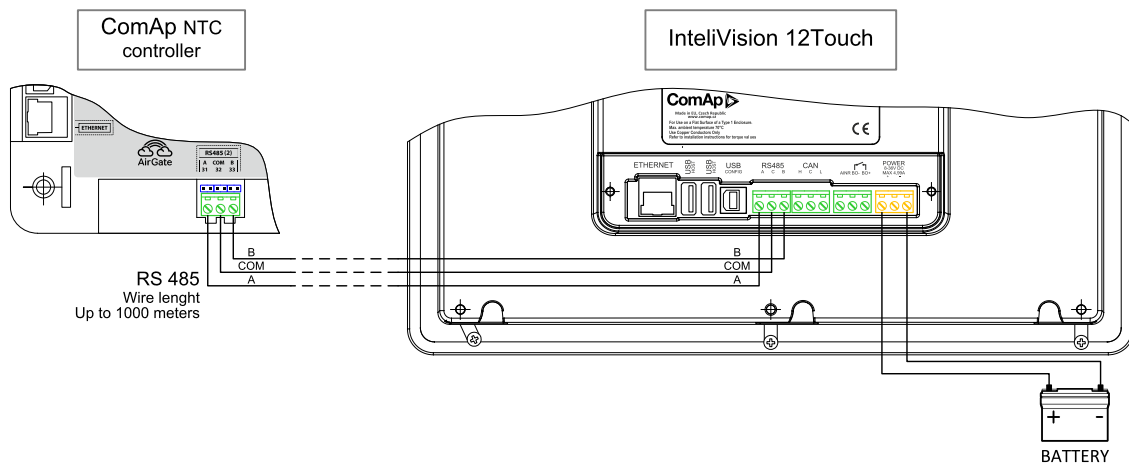
Image 6.1 : InteliVision 12Touch / Controller connection (Illustrative picture)

Auto detection or passive detection is not available on the RS-485 interface on the InteliVision 12Touch. The passive detection is partially supoprted on the CAN interface.

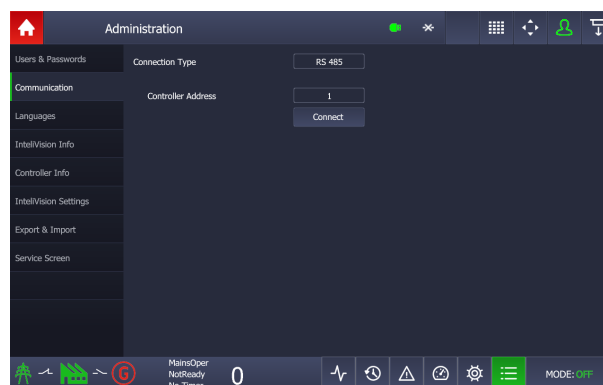To connect or change connection settings use the Administration Menu - Connection.

Image 6.2 : Connection to the controller

1. Connect the ComAp controller to the display using the standard twisted pair cable (2 wires).
2. Check the wires are connected correctly (A,B terminals).
3. Choose the connection type (RS-485 or CAN)
4. Choose the correct controller address.
5. Choose the correct terminal address (for CAN interface only).
6. Press the Connect button.

If the cabling and settings are right, the display unit InteliVision 12Touch will start to download the configuration from the controller to the display.

Note: If the display does not start with the downloading of the configuration from the controller try to check the wiring of RS-485 cables, check if the correct interface is selected, check the termination resistors on both ends, check the right controller address, check if the free terminal address is selected.

Note: There could be potencially several reasons why the communication is broken. The communcation wires are not connected correctly. Interference on the communication line. Termination resistors are switched off.

Note: The controller setpoint RS485(1)conv. in the group comms must be set as ENABLED if the controller is supposed to be connected to the display unit via RS-485 (1) port. The setpoint RS485(1)conv is present in the specific controller firmware.

IMPORTANT: InteliVision 12Touch supports only the newest controller archives (InteliVision 12Touch templates included) !!!

IMPORTANT: If the communication between InteliVision 12Touch and the controller is lost for some reason the display will try to re-establish communication twice, then the communication error appears and limited GUI is displayed. Check for possible faults (see note in this chapter), otherwise please contact your local technical support for help.

6.2 Logging in/off to the Controller

The user is able to log in/off to/from the controller via the Administration menu - Users & Passwords.
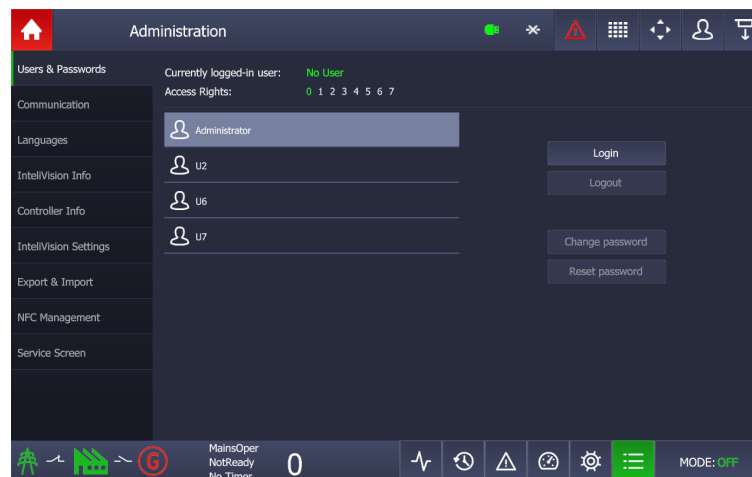

Image 6.3 : Administration menu - User & Passwords

1. Currently the logged in user is shown on the top of the page.
2. Press the line with the requested user to be logged in.
3. Touch the Login button, the Password dialog will appear.
4. Insert the correct password. If the password is not correct, the user is informed about it.
5. The button (user) in the top status bar turns green when the user is logged in.
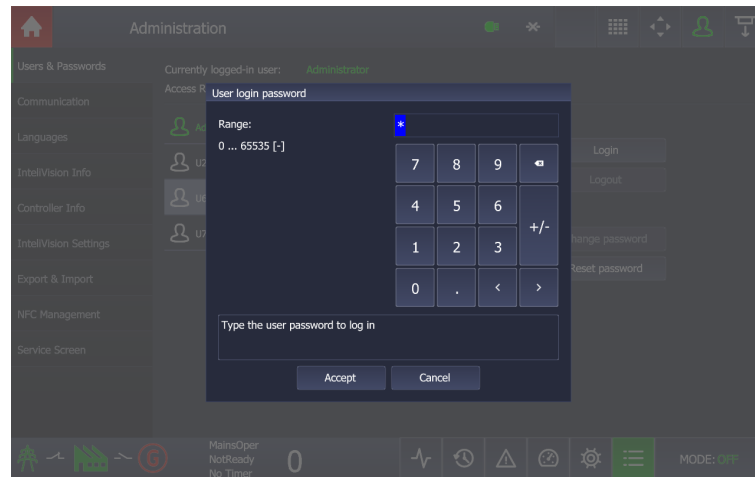
Image 6.4 : Password dialog

Note: The only logged administrator is able to reset the password to other users.

Note: Each user can change his own password.

IMPORTANT: Locked setpoints can not be changed. The user must be logged in to change the locked setpoints.

6.3 Important values

The important controllers values and system buttons are displayed by default and accessible from the Home and Synchrol metering screens. The breaker status, controller status and system timer are displayed on the bottom status bar. The statistic and all the system buttons are also displayed on the Status screen which is accessible from the top status bar and very right button (status screen button).
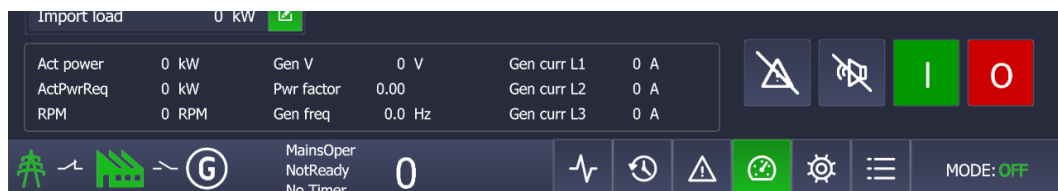

Image 6.5 : Important values

Note: Metering screens and bottom status bar are user adjustable using the powerful easy to use Screen Editor in GenConfig or DriveConfig PC Tool.
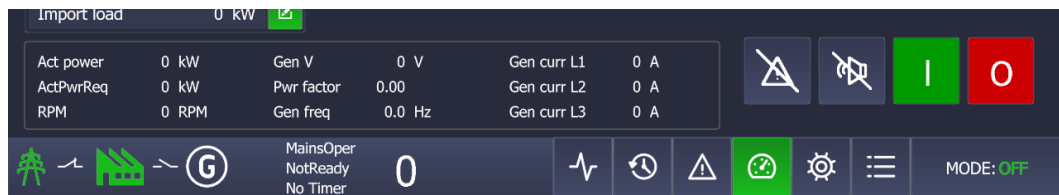
6.4 Gen-set mode change

Image 6.6 : Genset mode change

1. Press the button MODE on the bottom status bar
2. Press the requested GenSet mode.
3. If all the controller conditions are fulfilled the GenSet mode is changed.

6.5 Setpoints setting

The setpoints can be changed using the page Setpoints. There is also a instrument (meter) called the FastSetpointEdit, which is used for quick setpoint setting directly on a metering screen.

For more information about setpoints **see Setpoints on page 36**.

Image 6.7 : Setpoints Page (Setpoints edit)

Note: *The out of range setpoint image is displayed as a red field in the cell with the value. There is also a red dot in the top right hand corner of the concrete group.*

Image 6.8 : FastEditSetpoint instruments (meters)

6.6 Password change

The password change can be performed using the Administration Page - Users & Passwords.
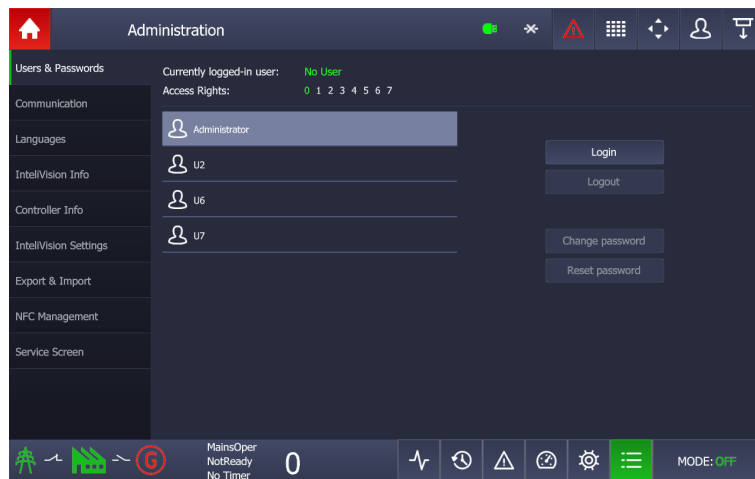

Image 6.9 : Password change

1. Choose the user pressing the concrete line.
2. Login to the controller.
3. Change your own password.

> **IMPORTANT: Each user can change only his own password. The only administrator can RESET the password to other users.**

6.7 Display brightness settings

The display brightness setting is adjustable using the Administration Menu - InteliVision Settings.
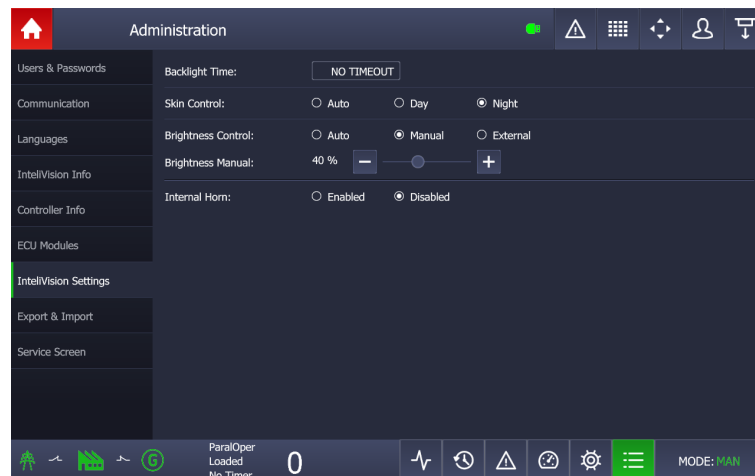
Image 6.10 : Display brightness settings

Backlight Time - can be set at a range of 1 to 254 minutes. The backlight time can also be switched off, which means the backlight never shuts down.

Skin Control

1. If the Auto mode is chosen the display unit switches from the day to night mode automatically based on the light sensor (in the front frame).

2. If the Day mode is chosen the display holds the day skin all the time

3. If the Night mode is chosen the display holds the night skin all the time (set by default).

Brightness control

1. If the Auto mode is chosen the display unit activates the backlight intensity automatically based on the light sensor (in the front frame)

2. If the manual mode is chosen the user is responsible for his own backlight intensity. The backlight intensity can be adjusted using the slider from 0 up to 100%. If 0 is set the user is able to see minimal backlight intensity to avoid total shutdown of backlight intensity. 100% intensity corresponds to 1000Cd/m2 backlight which is maximum backlight intensity.

3. If the External mode is chosen the display unit expects the external resistor (potentiometer) on its Analog input. The expected value range is from 0 - 2400 Ohm. If the value is out of range the manual choice is preferred.

> **IMPORTANT: It is strongly recommended to use maximum backlight if it is really needed. The temperature of the LCD and hence touch layer grows linearly with the set LCD backlight.**

6.8 Alarms types

All the alarms generated by the connected controller are collected in the Alarmlist page.

There are 4 different types of controller alarms :

▶ **Warning** *(often also known as 1st level alarm)* - represented by the YELLOW colour. These types of alarms inform the user that something is wrong and needs to be checked and confirmed.

▶ **Shutdown** *(often also known as 2nd level alarm)* - represented by the RED colour. These types of alarms protects the GenSet or Engine against the wrong status.

▶ **ECU alarm** - represented by the BLUE colour. This type of alarm comes from the ECU units.

▶ **Sensor fail alarm** - represented by the WHITE color. A special kind of alarm which appears if any connected sensor emits the wrong status.

Image 6.11 : Alarmlist page

For more information about the alarmlist **see Alarmlist on page 34**.

Note: If the Alarmlist exceeds 8 items the heights of the rows are automatically lowered to display 16 alarms.

Note: The Alarmlist page is automatically displayed if the new alarm appears and the actual GUI position is Home metering screen.. By confirmation using the button Alarm-reset the Home page is displayed.

> **IMPORTANT: InteliVision 12Touch shows a maximum of 16 alarms.**

6.9 Communication issues

If a communication error occurs, the red stripe at the top and bottom of any screen appears, the minimal GUI is also displayed. When a communication error relating to the change of a controller address occurs, follow the instructions in the chapter Connection to the controller.
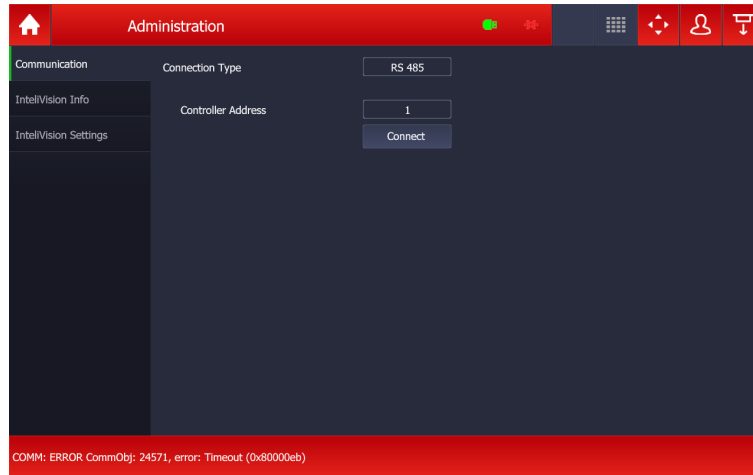

Image 6.12 : Communication error

When the cause of the problem is removed the communication error disappears, but the gray inactive icon of lost communication in the top status bar stays visible until the next restart.

6.10 Importing the firmware to the display unit

6.10.1 Firmware update using an import function in the display unit

Image 6.13 : Administration Page - Export & Import

1. **Firmware Import** - by pressing the button Firmware (IVP) in the section Import activates the dialog for Firmware Import. Following steps is step by step guide on how to update firmware of the InteliVision 12Touch using USB Stick import function.

    i. Download the latest InteliVision 12Touch firmware package from the ComAp website. Run the InteliVision 12Touch igc package. Then the InteliVision12Touch_xxxx.ivp firmware is stored in your harddrive automatically into the directory c:\Users\Public\Documents\ComAp PC Suite\Tools\IVProg\

    ii. Simply put your USB Stick to the InteliVision 12Touch display unit.The directory InteliVision12T and its subfolders are created automatically. The subfolder name which is dedicated for the firmware update is InteliVision12T/Application.

    iii. Put your USB Stick to your PC and copy the InteliVision_xxxx.ivp (from the point i) to the InteliVision12T/Application folder.

    iv. Put your USB Stick to the InteliVision 12Touch display unit again .

    v. Go to the Administration page - Export & Import and press the Firmware (IVP) button in the import section.

    vi. The display unit offers all the *.ivp files. Choose the preffers firmware to be imported.

    vii. The firmware is being updated.. After the update the unit is restarted automatically.

    viii. Wait until the unit is fully restarted, then you can remove the USB Stick from the display unit and use your new InteliVision 12Touch firmware.

2. **Firmware Export** - by pressing the button Firmware in the section Export activates the Firmware Export to the conrete folder.

i. Simply put your USB Stick to the InteliVision 12Touch display unit.The directory InteliVision12T and its subfolders are created automatically (if does not exist yet). The subfolder name which is dedicated for the firmware update is InteliVision12T/Application.

ii. Go to the Administration page - Export & Import and press the Firmware button in the export section.

iii. The actual firmware (*.ivp) stored in the display unit is exported to your USB Stick - folder InteliVision12T/Application.

Note: Once the USB stick is inserted to the display unit the InteliVision 12Touch directory is created automatically.

IMPORTANT: Requested files to be imported must be saved in the specific directory on a USB Stick. The directories are created once the USB stick is inserted in the display unit.
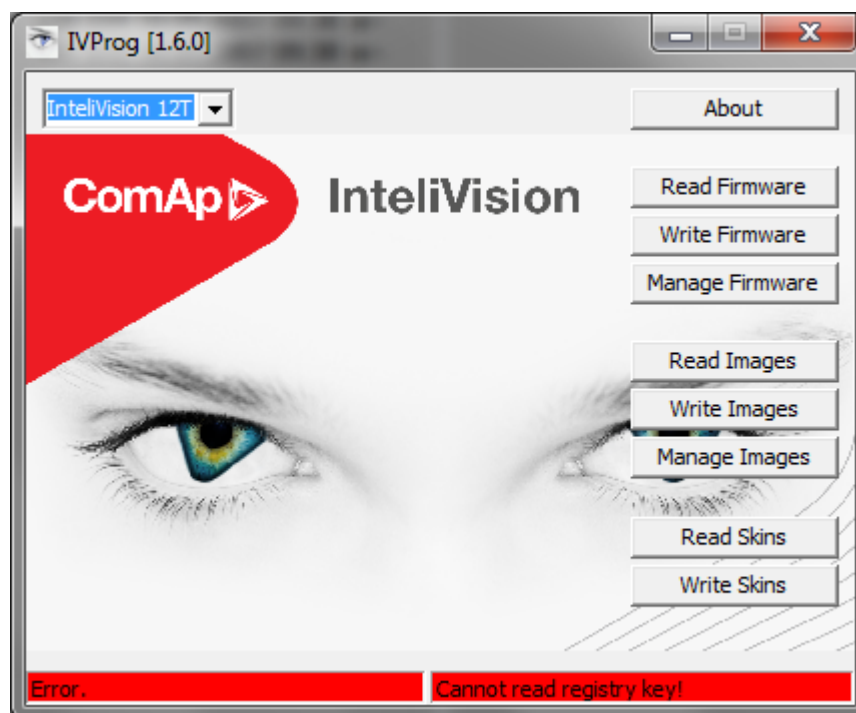
6.10.2 Firmware update using an IVProg utility

Image 6.14 : IVProg Utility

1. Microsoft ActiveSync (for Windows XP) or Microsoft Windows Mobile Device Center (WMDC; for Windows Vista, Windows 7 or Windows 10) must be installed on your computer to make IVProg run. You can download these drivers from Microsoft web page http://www.microsoft.com/. To install these drivers properly, follow Microsoft instructions. The IVprog utility supports 64-bit Windows Vista, Windows 7 and Windows 10.

2. Download the latest InteliVision 12Touch firmware package from the ComAp website. Run the InteliVision 12Touch igc package. Then the InteliVision12Touch_xxxx.ivp firmware is stored in your harddrive automatically into the directory c:\Users\Public\Documents\ComAp PC Suite\Tools\IVProg\.

3. Connect the display unit to your PC using the USB type A cable (see instruction in the the chapter Connection to PC) and click to the Write Firmware button.

4. Choose the prefered firmware for update and confirm the option.

5. Display unit firmware is being updated. After the update the unit is restarted automatically.

6.11 State messages

InteliVision 12Touch state message	Description
Autorun	Autorun is an initialization phase of the communication proccess.
Detecting	Controller detection sequence is in progress. Text disappears when controller is detected.
Checking	Controller configuration sequence is checking. Text disappears when controller is detected.
Reading cfg. Table	Controller configuration reading is in progress. Text disappears when controller is detected.
Preparing	Display setting Ok. The display is generating the GUI Interface.
Running	Indication of running display.
Controller is programmed	The controller upgrade process is processed.
Timeout	Communication line is terminated
Wrong Display HW	SW and HW mismatch. Correct firmware has to be programmed.
Invalid configuration table Error	Configuration table is invalid. Controller configuration has to be reprogrammed or upgraded.
Unsupported controller Error	Controller is not supported.
Unsupported cfg. table format Error	Controller configuration table is not supported. InteliVision 5 firmware upgrade is necessary.
Mismatch parameters length Error	Controller parameters mismatch. Controller configuration upgrade is necessary.
Mismatch const values length Error	Controller constants mismatch. Controller configuration upgrade is necessary.
Mismatch values length Error	Controller values mismatch. Controller configuration upgrade is necessary.
Mismatch val states length Error	Controller values states mismatch. Controller configuration upgrade is necessary.
Communication Error	Controller is detected; CAN communication level is not defined correctly. Reason of this behavior could be: CAN bus line is not terminated properly, environment disturbance is present or CAN line is too long.
Terminal addr collision Error	Another CAN bus connected equipment uses the same Terminal address for a given controller. Change Terminal address is necessary.
Screen template missing Error	Unsupported controller firmware, missing InteliVision 5 support.
Screen template version Error	Unsupported controller screen. InteliVision 5 firmware has to be updated.
Font not valid Error	Corrupted display font. Font programming was not done properly. Display firmware/font programming is necessary.
Font format not supported Error	Unsupported font, InteliVision 5 font or firmware is necessary.
Bitmaps not valid Error	Bitmaps (generator, engine, fuel and etc...) Firmware upgrade is necessary.
Bitmaps format not supported Error	Unsupported bitmaps format. (Engine, gen-set and etc...) Firmware upgrade is necessary.
Default lang. not supported Error	Default/Defined language error/not supported. Language change or code page change is necessary.

7 Custom configuration

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7.1 Custom logo

There is a possibility to change the starting logo (ComAp eyes).

Image 7.1 : ComAp starting logo

1. Make your own starting logo.

2. The image resolution is 1280 x 800 pixels. Target image format is *.png. the requested name of the new logo is logo.png.

3. Insert an empty USB stick into the display. The Display automatically creates the directories (folders).

4. Remove the USB stick from the display and insert it into your computer.

5. Find the folder Logo and copy your new logo.png inside this folder.

6. Remove the USB stick from the computer and insert it again in the display unit.

7. Go to the administration page - Export & Import.

8. Press the logo in the Import column, choose the logo.png and press Accept.

9. The new logo is stored in the display unit and will be displayed after the next display unit restart.

7.2 Setpoints help customization

The setpoint description can be changed using the free application QT Linguist. The numbers of communication objects are predefined, but it is possible to change these numbers to custom specific help. If the user customizes this description it is also automatically shown in the dialog where the user normally inserts the setpoints values. These numbers could be changed onto whatever you want. But be aware that ComAp does not support any misunderstanding on the custom specific description. All description is up to the user. See the instruction below on how to customize the setpoint description.
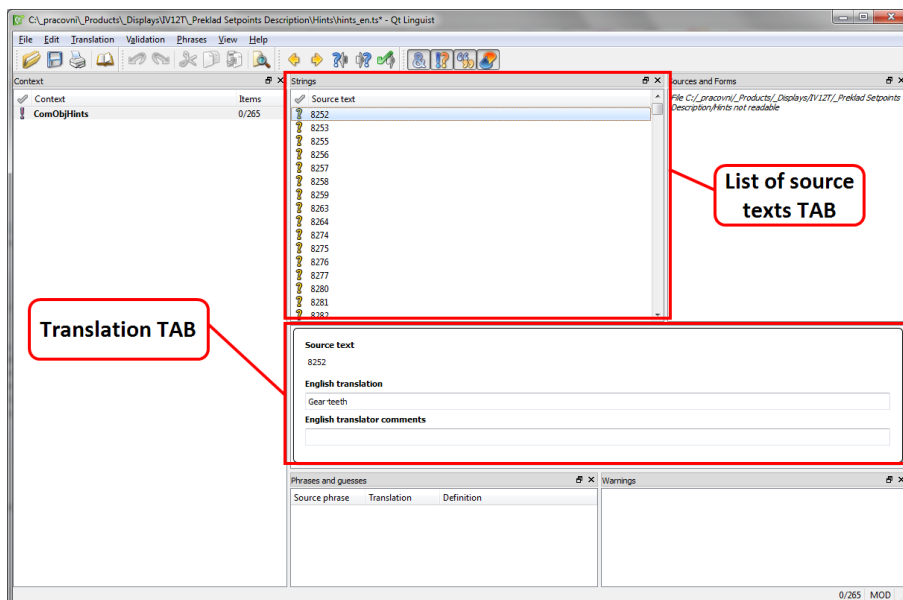
Image 7.2 Setpoints description (hint)

Image 7.3 : QT Linguist application

Instructions (how to change the setpoint description) :

1. Download the free application QT Linguist from the internet and install it on your PC.

    a. download link : https://github.com/thurask/Qt-Linguist/releases

2. Connect the InteliVision 12Touch to the controller.

3. Wait until the configuration table is loaded. Then you are able to export hints.

4. Insert the USB stick into the InteliVision 12Touch.

5. Go to the administration menu Import/Export. Press the hint button in the Export Column. The file hints.ivts is exported onto your USB stick into the hint folder. Hints.ivts file is the standard renamed *.zip package.

6. Open the hints.ivts in one of the compressing software, or rename it onto the hints.zip.

7. There are language mutations of the hints.ts files inside the hints.ivts (hints.zip).

8. It is up to you how many languages and which of them you need to customize.

9. Start the QT Linguist application and open the specific language version to be customized. On the image 7.3 you can see the hints_en.ts opened for customization.

10. In the TAB List of source texts (image 7.3) you can find all available setpoint descriptions for concrete controller. This list is set by the type of application. There are different lists for a conrete application (the list is downloaded with the configuration table). Hence, please be careful to import the customized description to different application type (e.g. the SPtM application may not respond to the MINT application setpoint description).

11. In the Translation TAB (Image 7.3) you customize the description. There is source text title to be translated. The main field is the English translation. Here the name of communication object is predefined . You can insert your own desired setpoint description for the relevant source text.

12. Fill in all the desired setpoint description one by one.

13. After you customize all the source texts you must release this customization as *.qm file. You will do it in the menu File - Release as. The dialog with the predefined name (here it is hints_en.gm) appears.

14. Place this file in one specific directory.

15. If you want to customize other language version do it the same way as for the English version and release the files to the same directory.

16. Compress these customized files using the *.zip compress application.

17. Rename the compressed zip file to the hints.ivqm file.

18. Now you are ready to import the hints.ivqm package back to the InteliVision 12Touch.

19. Copy the file hints.ivqm into the USB flash drive into the specific folder (Intelivision12T/Hints), which is the same folder where you found the exported hints.ivts file.

20. Insert the USB stick into the display, go to the Administration page - Import/Export.

21. Press the hints button in the import column and choose the hints.ivqm file for the import of the customized setpoint description.

22. If all the instructions are fulfilled the display will inform you of import success.

23. Now you can find your customized description in the setpoint page.

> **IMPORTANT: ComAp does not support any of the specific customized setpoint descriptions. The change of these descriptions is fully under the control of the end customer.**