InteliVision 5 CAN, InteliVision 5 CAN Backlit

Controller Display Unit equipped with CAN interface

SW version 1.9.0

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Global Guide

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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 instructions about InteliVision 5 CAN display unit that shall be full filled during the installation and maintenance.

This manual provides general information on how to install and use InteliVision 5 CAN display unit.

1.3 Legal notice

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1.4 General warnings

1.4.1 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 Document history

Revision number	Related sw. version	Date	Author
5	1.9.0	1.12.2017	ComAp
4	1.3.0	13.9.2012	ComAp
3	1.2.0	16.2.2012	ComAp
2	1.1.0	3.8.2011	ComAp
1	1.0.0	9.5.2011	ComAp

1.6 Related products

Product	Description	Order code
InteliSys Gas	Industrial grade controller for gas gen-set based CHPs and power generation applications	I2GASXXBAB
InteliSys^{NTC} [[[Undefined variable Specific.BaseBox]]]	Premium Parallel Gen-set Controller	IS-NTC-BB
InteliGen^{NTC} [[[Undefined variable Specific.BaseBox]]]	Complex Parallel Gen-set Controller	IG-NTC-BB
InteliGen **NT** BaseBox	Complex Parallel Gen-set Controller	IG-NT-BB
InteliMains^{NTC} [[[Undefined variable Specific.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

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2.1 General description

InteliVision 5 CAN is the display unit equipped with CAN interface. It is designed as a Plug and Play solution with economical visibility of all engine data and monitoring information in colorful display. The compact ComAp InteliVision 5 CAN display unit is suitable for harsh environments.

Because of the same cut-out as I-RD-CAN the InteliVision 5 CAN can be easily used as a replacement..

InteliVision 5 CAN is offered in two hardware modifications:

- InteliVision 5 CAN
- InteliVision 5 CAN Backlit
  - Germanischer Lloyd MARINE approval
  - Backlighted keyboard

Note: *Just onlyInteliVision 5 CAN Backlit version is covered by Germanischer Lloyd MARINE approval. The only difference between these two versions is a presence of the standard or backlighted keyboard version. Both versions are IP65 protected from all sides and equipped with the binary output switch for HORN signaling. CAN interface is galvanically isolated.*

Both versions supports the InteliDrive controllers (ID-DCU, ID-DCU-Marine, ID-Mobile, ID-Mobile Logger) and InteliGen-NT and InteliSys NT family controllers as well.

InteliVision 5 CAN Global Guide is mainly dedicated to describe functionality with regards to InteliDrive controller family. It is supposed to use IntelIVision 5 CAN and InteliVision 5 CAN backlit mainly in InteliDrive controller applications.

Optional accessories are available :

- **InteliVision 5 Harness-2:** 2m prefabricated cable with unassigned wires at the end
- **InteliVision 5 IP 65 Connector:** connector set containing connector body and 10 corresponding terminal female pins
- **ECU Simulator:** set containing supported USB/CAN converter and various cabling, for new firmware/font/logo download into the InteliVision 5 CAN

2.2 Controller Firmware and PC Software Supporting InteliVision 5 CAN

Actual controller firmware version
ID-DCU Marine-3.0.0
ID-DCU Industrial-3.3.0
ID-Mobile-2.3.0
ID-Mobile Logger-2.4.0

Table 2.1 Available firmware

PC software
DriveConfig-3.9.0
DriveMonitor-3.0

Table 2.2 Available software

Installation Package
InteliDrive 3.8.0 Install Suite

Table 2.3 Available package

2.3 How to connect InteliVision 5 CAN to the controller

2.3.1 Physical description

InteliVision 5 CAN is IP65 protected from the the both sides (front and rear). From that reason, there are not present screw terminals for wire connection as generally used on ComAp controllers and displays.

InteliVision 5 CAN is equipped by 8-pins waterproof automotive connector on the rear side. InteliVision 5 Harness-2 cable (more details in **InteliVision 5 Harness-2 (page 17)**) or cable manufactured by customer has to be used for InteliVision 5 CAN connection.

It is strictly recommended to use two ferrit cores on attached cable to the display in case of InteliVision 5 CAN Backlit version is used in Marine applications. Ferrit cores suppress transmitted interferences from the display to meet extended MARINE requirements given by Germanischer Lloyd standards. More details in **InteliVision 5 Harness-2 (page 17)**.

2.3.2 Address overview

Following table shows which display's CAN terminal addresses are supported by the specific controllers, and how many displays can be connected to the controller at the same time.

Supported CAN terminal addresses	InteliVision 5 CAN	InteliVision 5 CAN Backlit	InteliVision 8	InteliVision 12Touch	I-RD-CAN
InteliDrive DCU *1	1, 2, 3	1, 2, 3	1, 2, 3	-	1, 2, 3
InteliDrive DCU Marine *1	1, 2, 3, 4, 5	1, 2, 3, 4, 5	1, 2, 3, 4	1,2,3,4,5	1, 2, 3, 4, 5
InteliDrive Mobile	1, 2	1, 2	1, 2	-	-
InteliDrive Mobile Logger	1, 2	1, 2	1, 2	-	-

InteliGen NT *2	1,2,3,4	1, 2, 3, 4	1, 2, 3, 4	1,2,3,4	-
InteliSys NT *2	1,2,3,4	1, 2, 3, 4	1, 2, 3, 4	1,2,3,4	-
InteliSys GAS	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	-

Note: **1*
Address #3 can be in the controller enabled or disabled for InteliVision 5 CAN, InteliVision 8 or I-RD-CAN utilization by 5thRemPan setpoint value. ENABLED ~ address #3 is available for InteliVision 5 CAN (or InteliVision 8 or I-RD-CAN or InteliVision 12Touch), DISABLED ~ address #3 is not available for displays but it is dedicated for modem.

Note: **2*
Addresses #3 and #4 can be in the controller enabled or disabled for InteliVision 5 CAN, InteliVision 8 or InteliVision 12Touch by CANAddrSwitch1 (address #3) or by CANAddrSwitch2 (address #4) setpoint value. OTHER ~ address #3 or #4 is available for InteliVision 5 CAN (or InteliVision 8, or InteliVision 12Touch), MODEM ~ address #3 or #4 is not available for displays but it is dedicated for modem.

The following CAN addresses are used for modules connected to CAN2 (inter-controller CAN bus). There cannot be more modules using the same address connected at the same time, if they would be there, communication failure of modules with the same CAN address appears. CAN address can be changed using jumpers, configuration program or from the display - refer to the corresponding chapter or reference guide for detailed description.

Real CAN2 address	**CAN Addresses used for modules and displays**								
	IG-MU	**I-LB**	**I-LB (modem)**	**I-LB+** *3	**IG-IB** *2 **(IBConfig ≤ 1.5)**	**IG-IB** *4 **(IBConfig ≥ 1.6)**	**IV 8**	**I-RD-CAN**	**IV 5CAN**
121								5	5
122			2				4	4	4
123	2	2		1	1	2	2	2	2
124	1	1		2	2	1	1	1	1
125	modern		1				3	3	3

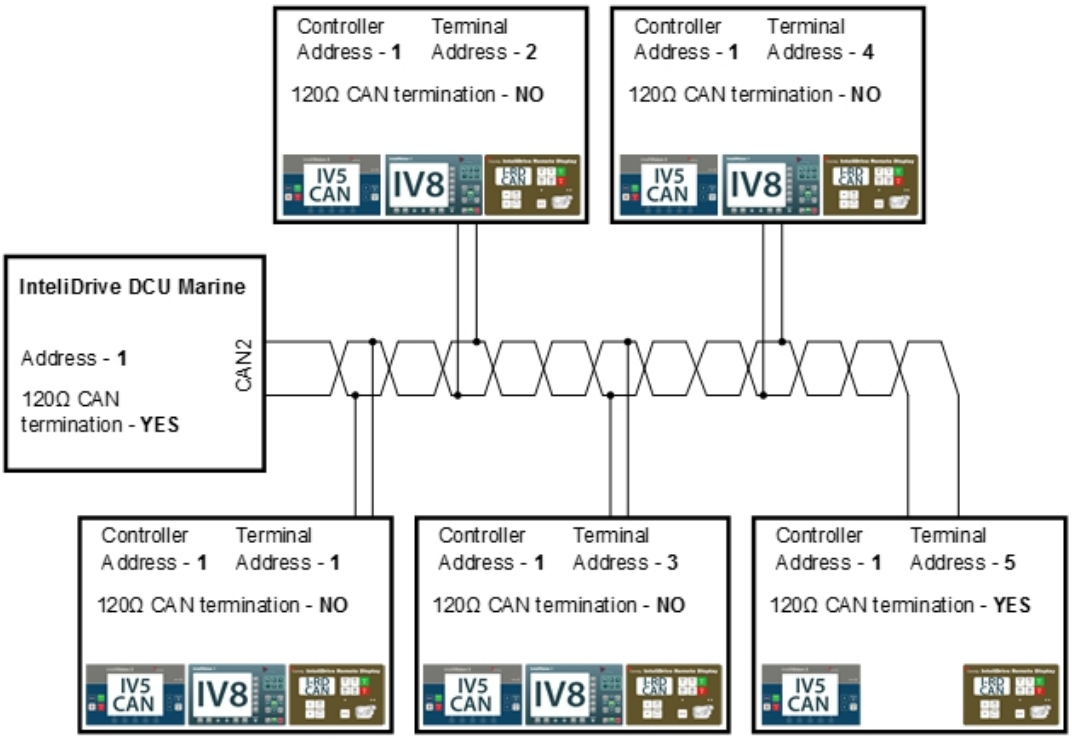
Note: **3*
Please note that USB port is using its CAN address only if an external device is connected to the USB port of I-LB+. Make sure that other device (e.g. IG-IB) is not using the same CAN address as USB port of an I-LB+, because using USB port could interrupt CAN communication.

Note: **4*
Please note that addresses 1 and 2 (123, 124) are exchanged in versions IBConfig ≤ 1.5 and IBConfig ≥ 1.6.

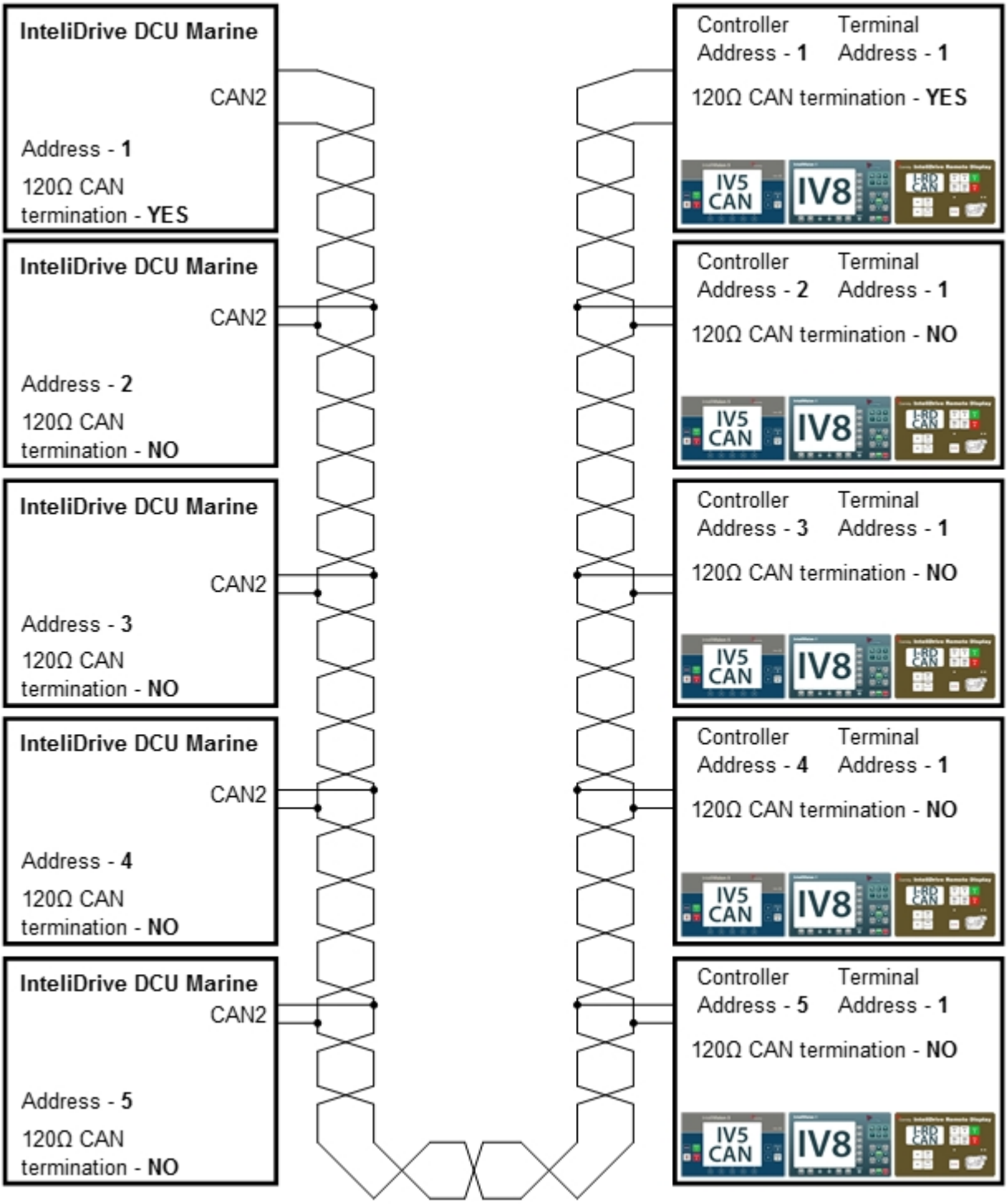
2.3.3 Connection rules

Example of the controller connection between InteliDrive DCU Marine and the display units. Each topology must follow the rules in the connection table (see above).

- Up to five displays can be connected to InteliDrive DCU Marine controller:

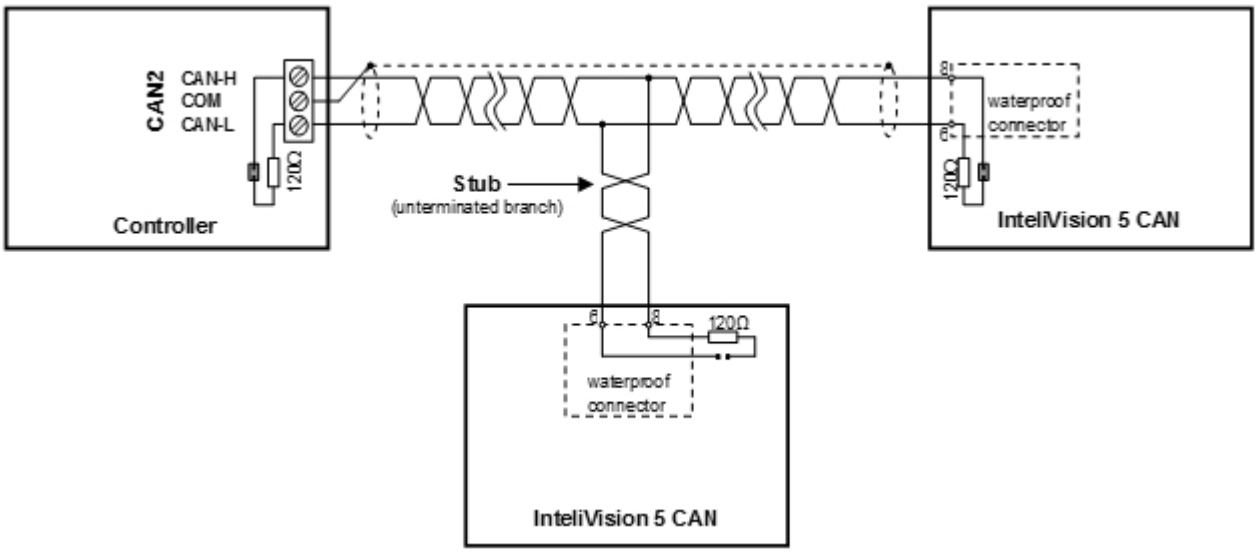


- There can be up to five displays connected to the CAN bus in the same time:



2.3.4 CAN bus connection rules

Generally, in ideal case the CAN bus line should have line topology, bus from one unit to the next one (no star, no cable stubs, no branches) both ends must be terminated by the 120Ω (internal or external) resistor. Maximal CAN bus length is up to 200 meters when 250 kBd bus speed or up to 900 meters in case of 50 kBd speed. For CAN data cables details see chapter **Technical data (page 50)**.



Note: *See* ***Installation and wiring (page 14)*** *chapter how to connect/disconnect built-in 120Ω terminator in InteliVision 5 CAN.*

Note: *CAN bus ISO 11898 standard recommends a maximum un-terminated stub length of 0,3m for a 1Mbps signaling rate. Using 50 / 250kbps rate implemented in ComAp controllers and careful CAN bus design, longer stub lengths can be acceptable. It is recommended to construct cable stubs (un-terminated branches) as short as possible, preferably up to 1m.*

Extending the CAN bus length, "T" network configuration, interconnection of CAN bus segments with different speed (50 or 250 kbps) can be realized by I-CR module (CAN repeater) provided by ComAp. See corresponding documentation for more details.

2.3.5 Communication detection

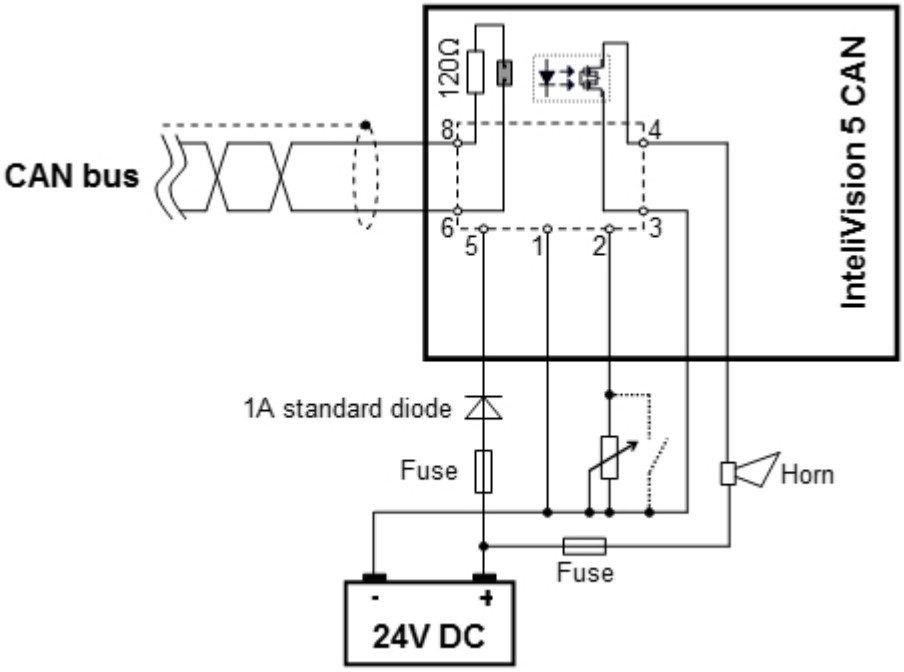
Connection is established in case of the communication parameters are set correctly, otherwise the communication error screen is displayed.

- Use ↑ or ↓ and choose appropriate address and press Enter.

If communication parameters are correct the error screen disappears. InteliVision 5 CAN identifies connected controllers and configuration is downloaded automatically without any additional dialogue. In case of need, communication addresses can be modified in Communication menu – see **Communication (page 33)**.

2.4 Power supply, analog input and binary output connection

See **Installation and wiring (page 14)** chapter for pin-out and dimensions description.



Note: *Binary output is used for Horn function without possibility of configuration (pin 3, pin 4). It is Solid State Relay with galvanic separation - like free contact. Max 36VDC / 0,5A.*

Note: *Pin 2 – Analog / Binary Input for display and buttons backlit control. Connect resistive pot for continuous backlit change: 0Φ ~ 0%; 2400Φ ~ 100%. Or just place contact to switch between 0% and 100% intensity.*

Note: *The 1A standard diode in power feeding circuit is important to meet MARINE requirements given by Germanischer Lloyd standards.*

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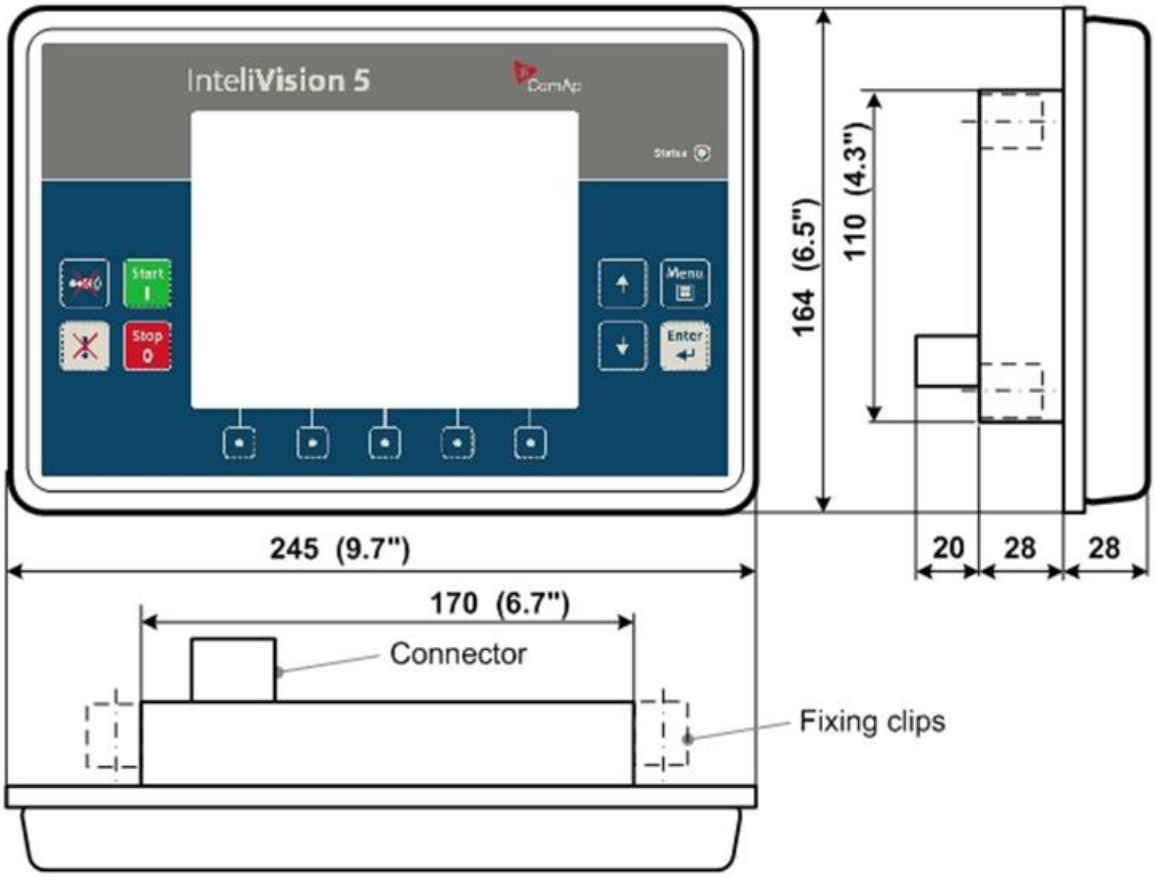
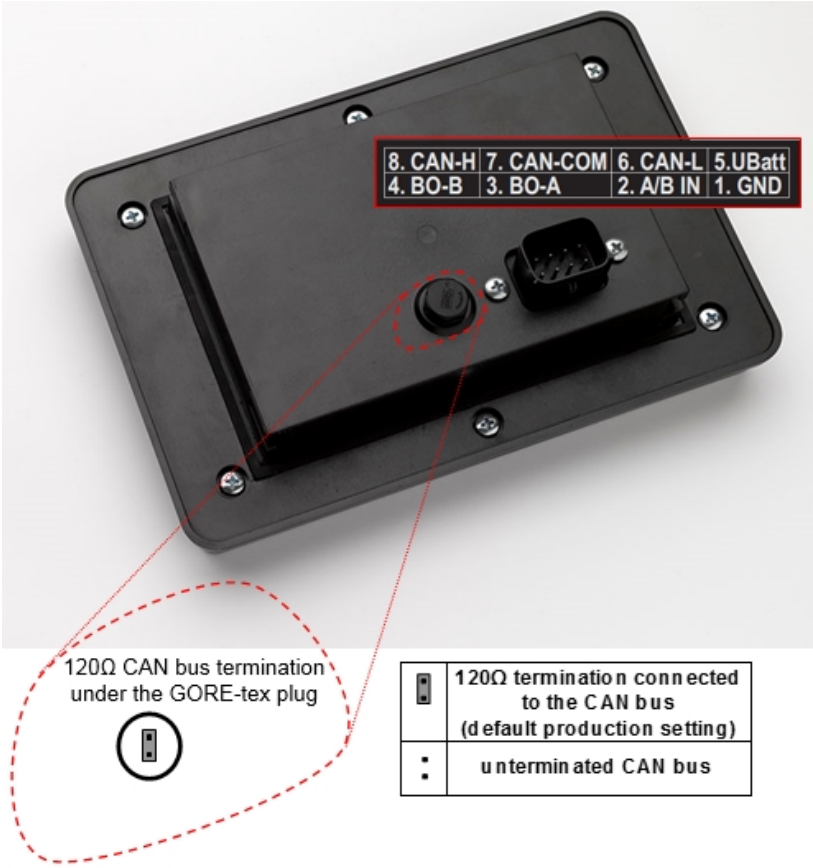
3.1 Dimensions, terminals and mounting

3.1.1 InteliVision 5 CAN,

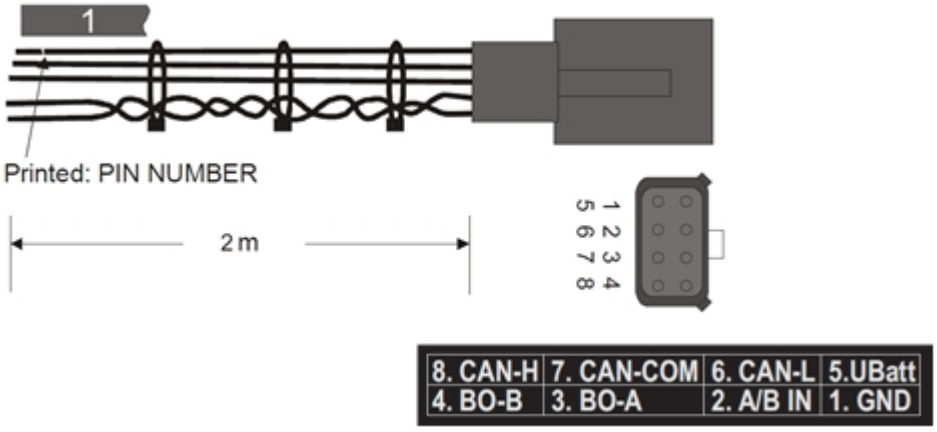




1-5	Power supply 8 – 36VDC
6-8	CAN bus (with galvanic separation)
3-4	Binary output configured for Horn function. It is Solid State Relay with galvanic separation. Max 36VDC/0,5A (like free contact).
2-1	Analog/Binary Input for display and buttons backlit control. Connect resistive pot for continuous backlit change: 0Φ ~ 0%; 2400Φ ~ 100%. Or just place contact to switch between 0% and 100% intensity.

Note: *It is necessary to screw out/in GORE-tex plug to be able to terminate the CAB bus line with the terminating resistor. Make the screwing gently by hand, holding also the bottom part of the plug, not only the upper part. Inadequate force can damages the GORE-tex plug!*

3.1.2 InteliVision 5 Harness-2



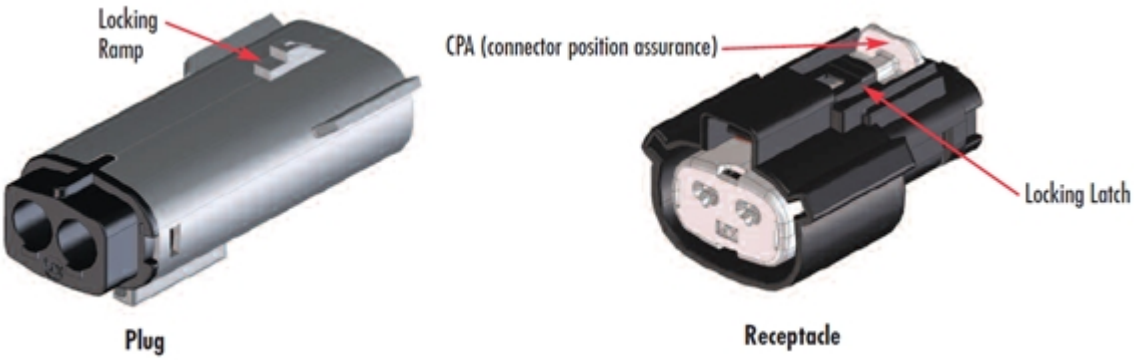
3.1.3 InteliVision 5 IP 65 connector

Connector package contains the connector body and 10 corresponding terminal female pins.

- Female terminals are intended to crimp-in 18-22 AWG wire range (diameter 0,644 - 1,024 mm, cross section 0,326 0,823 mm^2).
- Cable manufacturer has to use at least Molex tools as Manual Hand Crimp Tool (63811-4400) and Terminal Extraction Tool (63813-1500) for the Cable production.

3.2 How to plug-in the Harmess cable

Note: *There are used pictures of two-pins Molex MX150L connectors in description below. 8-pins, dual rows, vertical, PCB header version of the Molex plug is used in InteliVision 5 CAN body. 8-pins, dual rows Molex receptacle version is used on the Harness cable. System how to plug-in and extract the Harness cable is identical.*



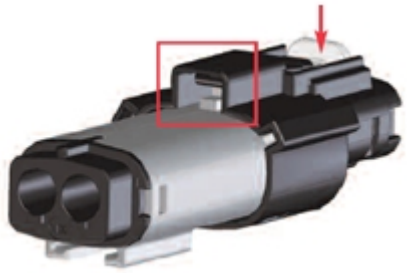
- Firmly push connectors together until you feel them snap together, you should hear a click. This audible and tactile confirmation ensures the connectors are properly and fully mated.

- Press CPA towards plug to engage the secondary lock.

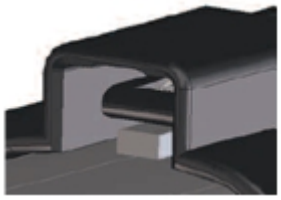
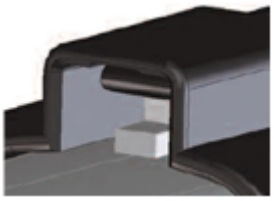
3.3 How to extract the Harmess cable

- Pull out CPA

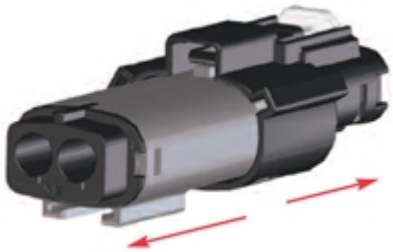
- Fully depress locking latch



Note: *Locking latch must be fully depressed to release the locking ramp on the plug and allow the connectors to be separated!*

	
Locking latch shown down, cannot un-mate connectors	Locking latch shown fully depressed, latch releases locking ramp

- Pull connectors apart



3.4 CAN Bus line ferrit cores

It is strictly recommended to be mount two ferrit cores on the attached cable to the display in case of InteliVision 5 CAN Backlit version is used in Marine applications. Ferrit cores suppress transmitted interferences from the display to meet extended MARINE requirements given by Germanischer Lloyd standards.

Two ferrit cores are packed inside InteliVision 5 CAN Backlit ComAp original packing.

It is necessary to assembly both ferrit cores on the Harness cable by snapping as close as possible to the InteliVision 5 CAN Backlit display.

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4.1 GUI overview

This chapter provides general information on how to operate the InteliVision 5 CAN display.

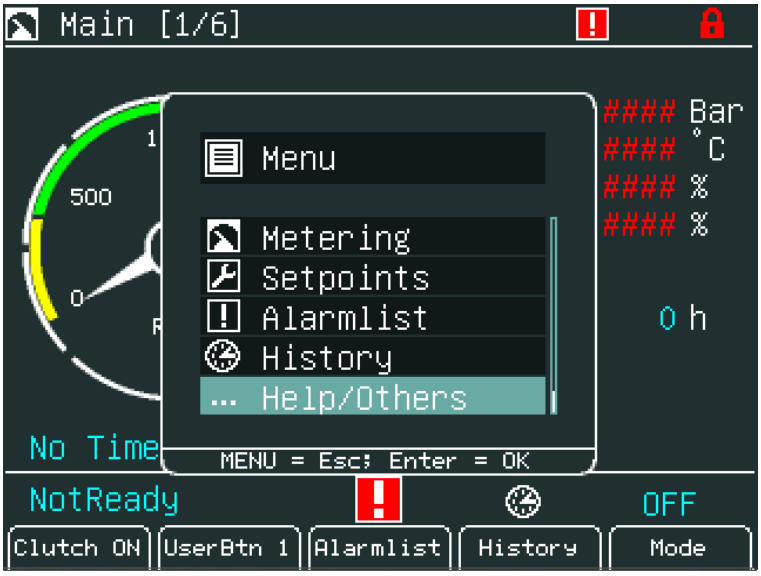
1	**Status:** Status LED indication (green = InteliVision 5 CAN is powered)
2	**Navigation buttons:** Arrows for movement + Menu and Enter button
3	**Context buttons:** Control or select submenu/sub-options buttons
4	**Control buttons:** Horn reset, Fault reset, Stop and Start buttons

4.2 Navigation buttons

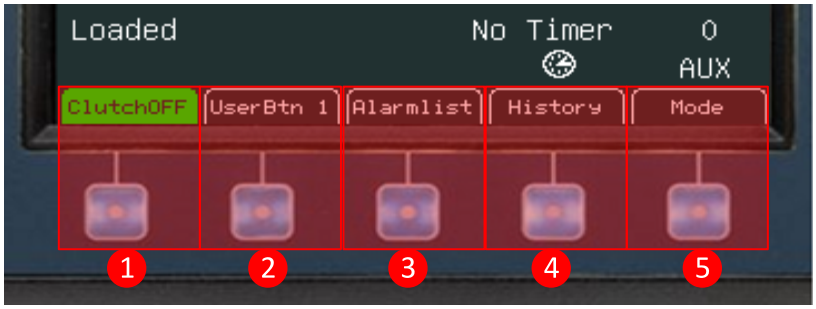
	**Menu:** Jump to menu/sub-menu page or escape from any dialog window
	**Enter:** Confirms a value or opens a value adjustment within setting dialogs
	**Down arrow:** Movement down

	**Up arrow:** Movement up

Note: *To leave (Escape) the menu, use Menu button.*



4.3 Context buttons



1	**Clutch ON/OFF**: Clutch control (close/open)
2	**UserBtn 1:** User Configurable button no. 1
3	**Alarmlist:** Jump to Alarm list
4	**History:** Jump to history screen
5	**Mode:** Jump to the controller mode window

__Note:__ All context buttons are user configurable up to customer's demands, overview above corresponds to default screen configuration included in default controller's archives.

4.4 Control buttons

	**Start:** Start command
	**Stop:** Stop command
	**Fault reset:** Acknowledges faults and alarms (active only in Alarm screen)
	**Horn reset:** Deactivates the horn (audible alarm)

__Note:__ START and STOP buttons are independent on the InteliVision 5 screen, menu or sub-menu. The buttons work analogously to START/STOP buttons on a controller. The buttons can be deactivated by InteliVision 5 CAN lock mode, indicated by  icon.

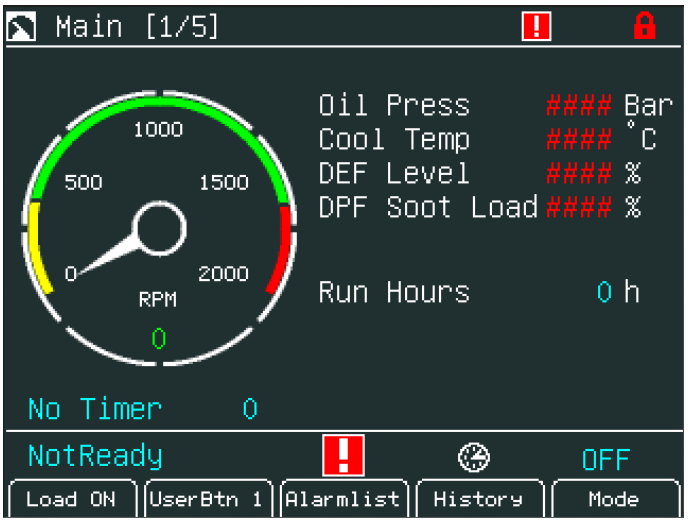
4.5 Metering screens

The Metering screen is mainly intended for values overview. The home (main by default) metering screen appears after the InteliVision 5 CAN and controller are powered up. The jump to the first metering screen is performed after 15 minutes of inactivity and only in case there is no active and unconfirmed alarm i n the controller.

.

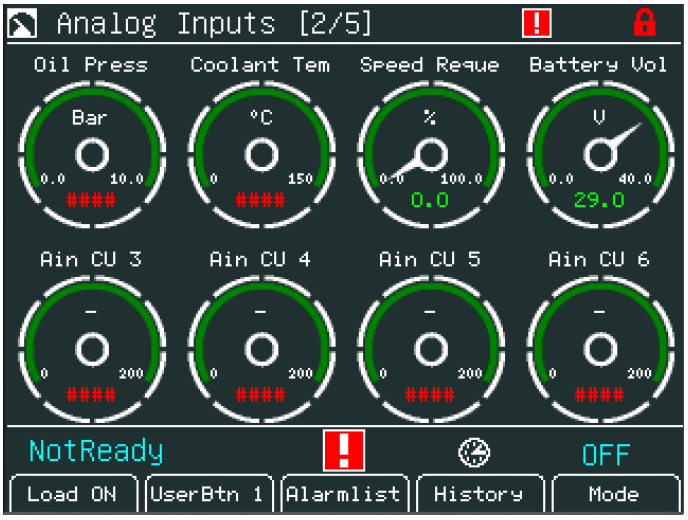
Arrows  or  are used for measurement screens browsing.

- Main screen

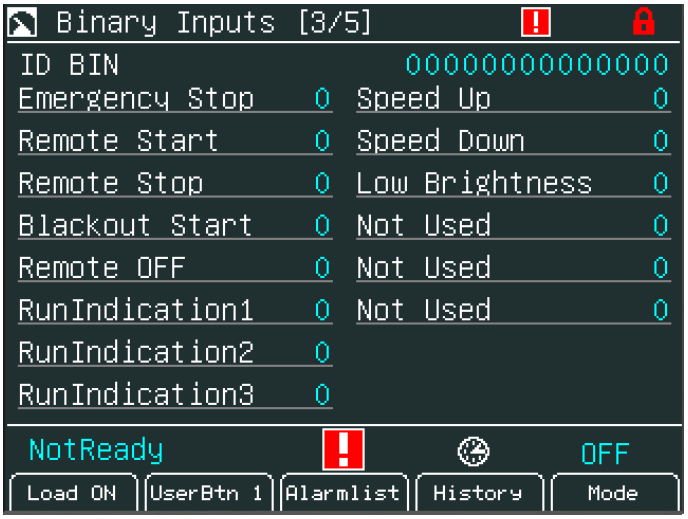


Note: *From the home measurement screen display will jump to the alarm list immediately when any alarms occurs.*

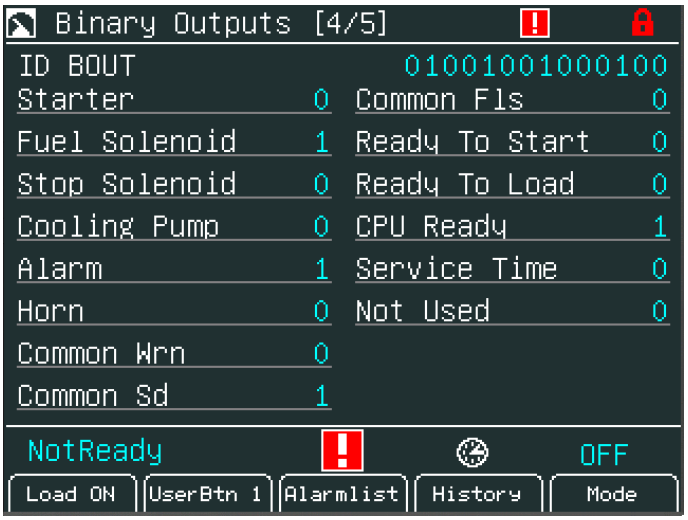
- Analog inputs



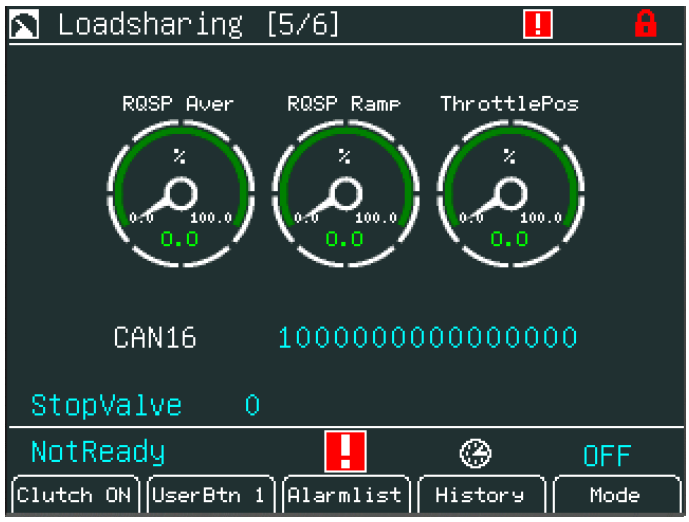
- Binary inputs



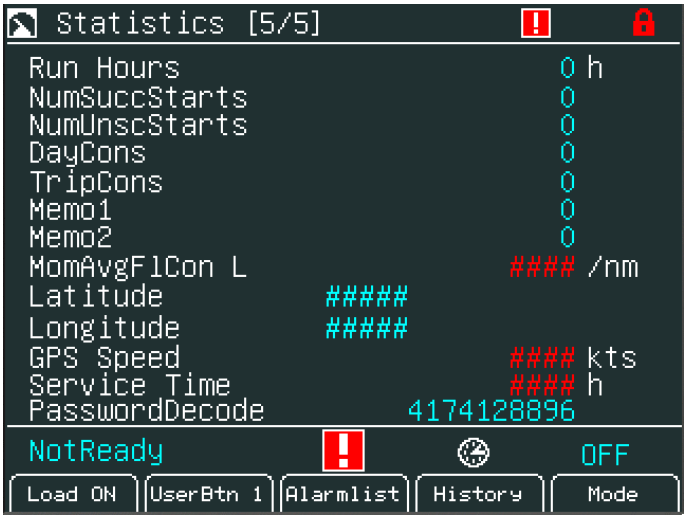
- Binary outputs



- Loadsharing



- Statistics

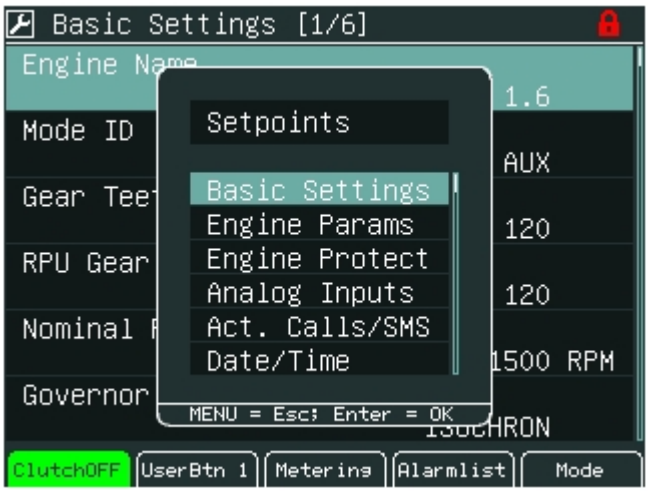


Other screens with ECU values, analogue or binary inputs/outputs can follow. It depends on the controller configuration.

Note: *Use or to scroll the screens.*
Screens could be hidden or the order of the screens could be modified by users.

4.6 Setpoints screens

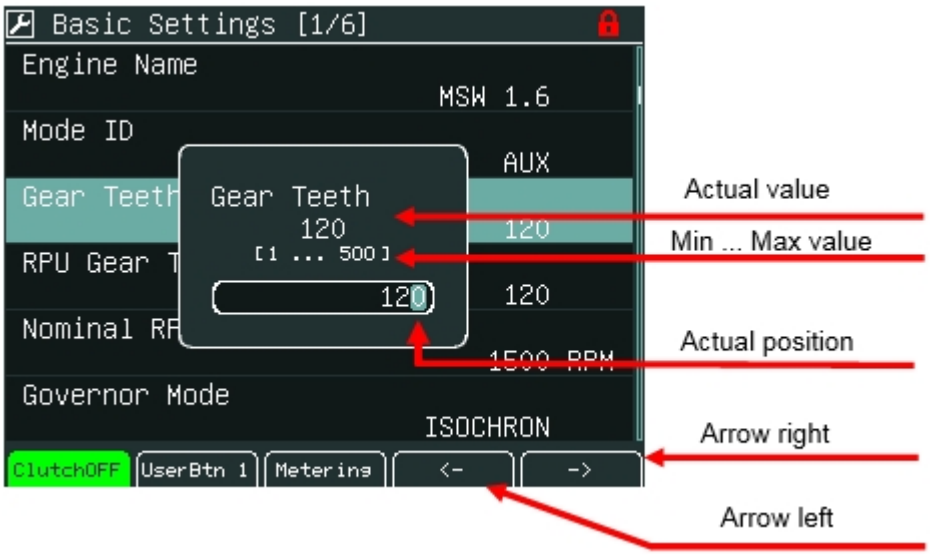
To go to Setpoints screen press button, use arrow to find proper item in menu and confirm it with button. The following sub-menu appears with the list of the setpoints groups.



Setpoints could be presented as a numeric, text, string or mixed value and they can be changed in the following ways:

4.6.1 Numerical value change

- Press the button when the proper setpoints group is chosen (e.g. ProcessControll)
- Use arrows or to go to a certain set-point (e.g. Gear Teeth) and press Enter button, see picture below:

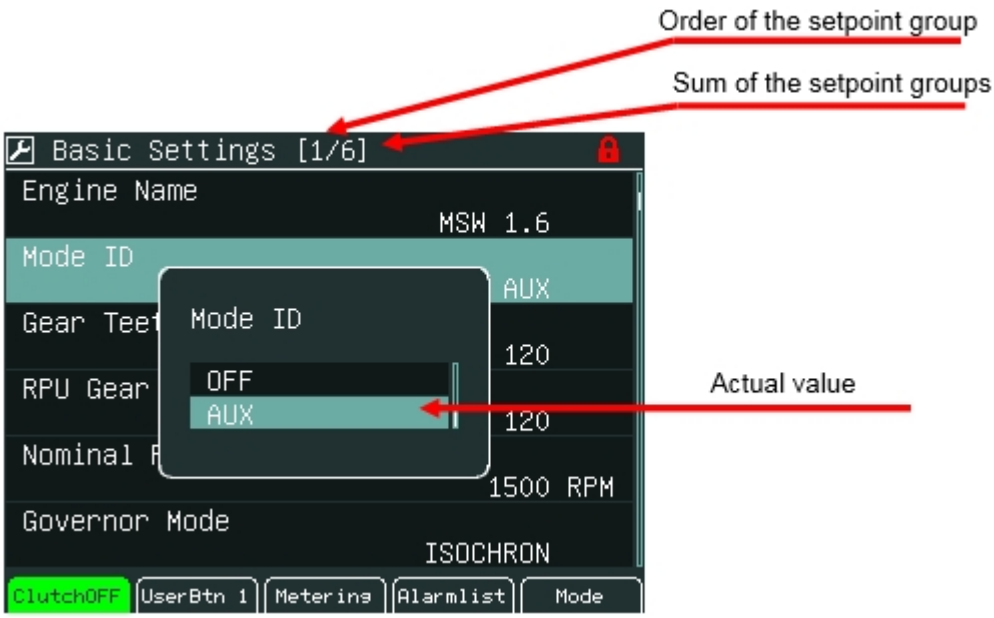


- Use → or ← buttons to go to a certain position of the field and use or buttons to change the value. Then use button to confirm new value.

Note: *If you set the value out of limit, the field will get red color and the new value is invalid. Invalid value cannot be confirmed.*

4.6.2 String selection

- Press the button when the proper setpoints group is chosen (e.g. Basic Settings)
- Use arrows or to go to a certain set-point (e.g. Mode ID) and press Enter button, see picture below



- Use or buttons to select the string from the list and press the button.

4.6.3 String edit

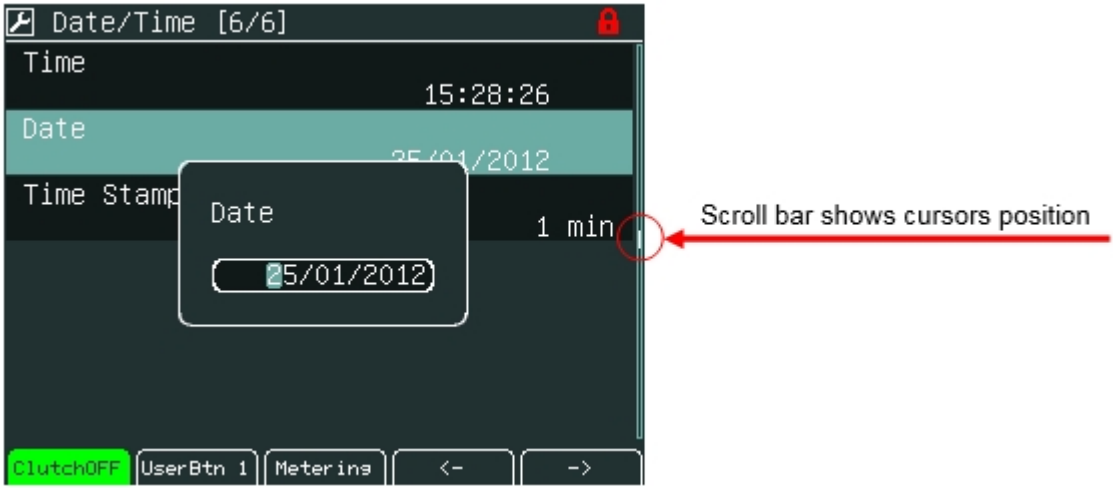
- Press the button when the proper setpoints group is chosen (e.g. Basic Settings)
- Use arrows or to go to a certain set-point (e.g. Engine Name) and press Enter button, see picture below:

- Use ↑ or ↓ buttons to select the character and → ← buttons for the next position and press Enter button.

Note: *There is available Remove, Insert and 0/a/A buttons for easier string editing and faster character navigation.*

4.6.4 Time and date edit

- Press the button when the proper setpoints group is chosen (e.g. Date/Time)
- Use arrows ↓ or ↑ to go to a certain set-point (e.g. Date) and press Enter button, see picture below:



- Use ↑ or ↓ buttons to select the character and → ← buttons for the next position and press Enter button.

4.6.5 Combined setpoints

- Press the button when the proper setpoints group is chosen (e.g. IV Settings)

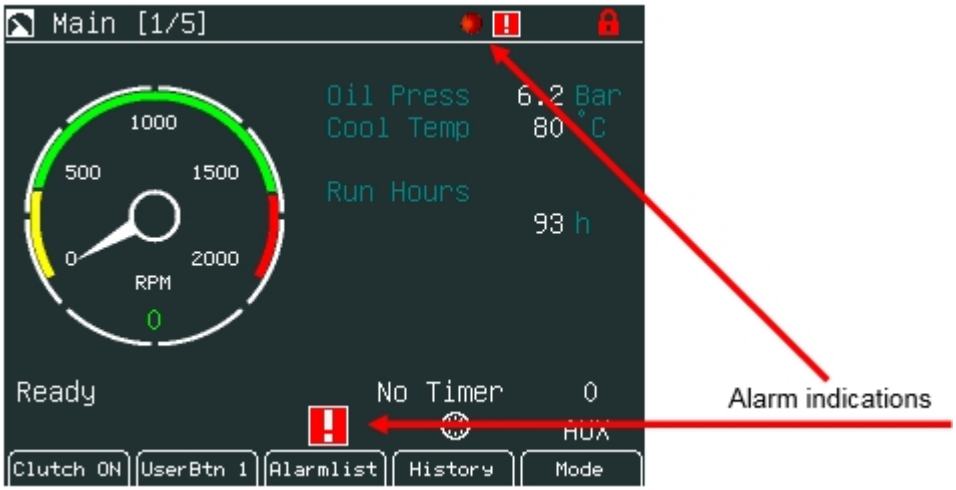
- Use arrows ↑ or ↓ to go to a certain set-point (e.g. Backlight Time) and press Enter button, see picture below:

- Use ↑ or ↓ buttons to select the number, → or ← for the next position or PREVIOUS/NEXT context buttons and press Enter button.

4.7 Alarmlist page

On the Alarmlist page the user is abel tobrowse and work with alarms. When an error occurs, a new alarm appears in the Alarmlist page, exclamation mark and red point icon start blinking on the measurement screens.

Image 4.1 : Alarmlist page overview (common alarms)



Note: *When a new alarm appears AlarmList screen is displayed automatically when Main Measurement screen is displayed. From different screen, AlarmList button has to be used to display AlarmList screen.*

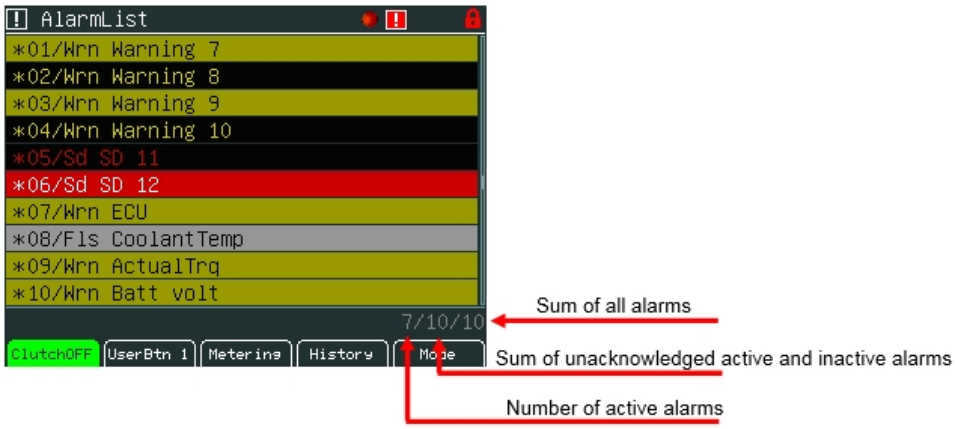
4.7.1 ECU Alarmlist page

InteliDrive controllers family controller have visually separated common and ECU alarms. The ECU Alarmlist page is accesible by the button in the user button section.

Image 4.2 : ECU Alarmlist page overview

4.7.2 AlarmList page navigation

- To go to AlarmList screen, press Alarmlist context button or button and choose AlarmList.



- Press button to confirm all alarms. The exclamation mark will stop blinking, the blinking red point icon disappears.
- Resolve the error. The alarm will disappear from the AlarmList and exclamation mark will turn off.

Note: *When the issue is resolved before Fault Reset button is used, the alarm still remains in the AlarmList (it will be turned black) till you press Fault Reset button.*

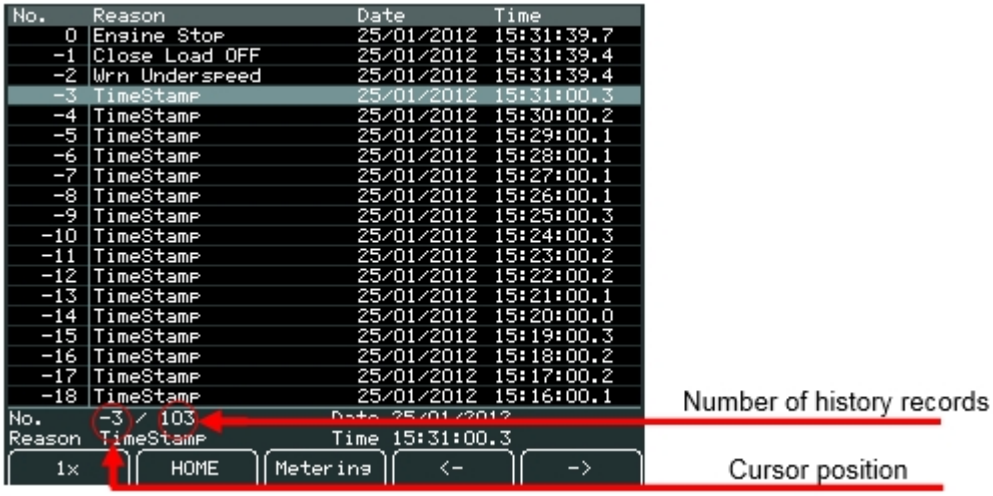
Types of alarm

*01/Wrn Warning 7	Active unacknowledged alarm (not confirmed by Fault Reset button)
01/Wrn Warning 7	Active acknowledged alarm (confirmed by Fault Reset button)
*02/Wrn Warning 8	Inactive unacknowledged alarm (resolved - visible only in unacknowledged state)

Note: *The asterisk indicates unacknowledged alarm status, background color or text color (acknowledged alarm) indicates alarm severity.*

4.8 History page

Press History context button or  and select the History in the menu. For details see following picture:



Context buttons	
Once/1xPage	Select page mode– scroll history by lines or page
Home	Jump to the first column when the first column is not on the screen
Metering	Jump to the last displayed Measurement screen
Arrow to left	Scroll to the left side
Arrow to right	Scroll to the right side

Note: *History depends on a controller configuration. History is erased when controller configuration is changed and reprogrammed. For more information how to change history columns see controller's Reference Guide.*

4.9 Help/Others menu

Sub-menu Help/Others contains following screens:

- Languages
- Password
- Communication
- ControllerInfo
- IV Info
- IV Settings
- Service Screen

4.9.1 Languages

- Press  button.
- Use  or  to choose **Help/Others** menu item and use 

- Use ↑ or ↓ to choose **Language** and use Enter.
  - Use ↑ or ↓ to choose correct language and press Enter

Note: *InteliVision 5 CAN will reboot when the language is changed. This reboot does not affect control unit.*

4.9.2 Password

It is necessary to enter password level 3 for possibility to change controller passwords.

To see information how to handle with passwords go to **How to enter a password (page 40)** and **How to change a password (page 41)** chapters.

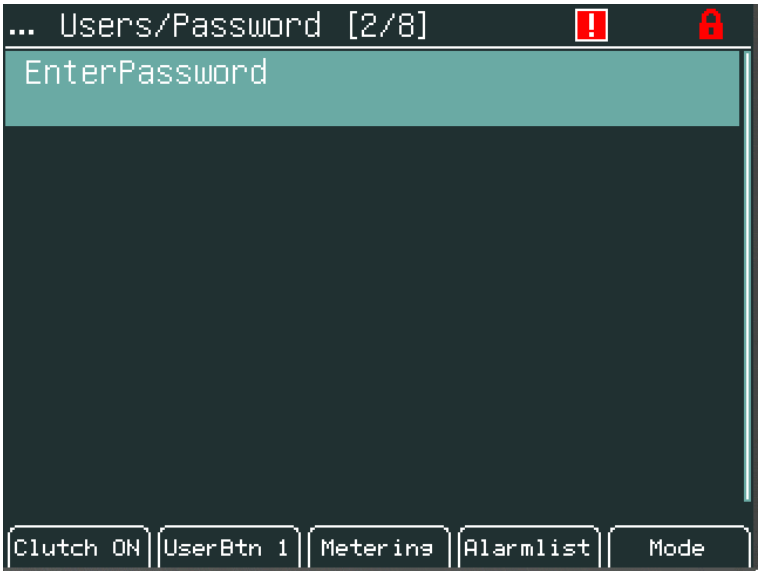
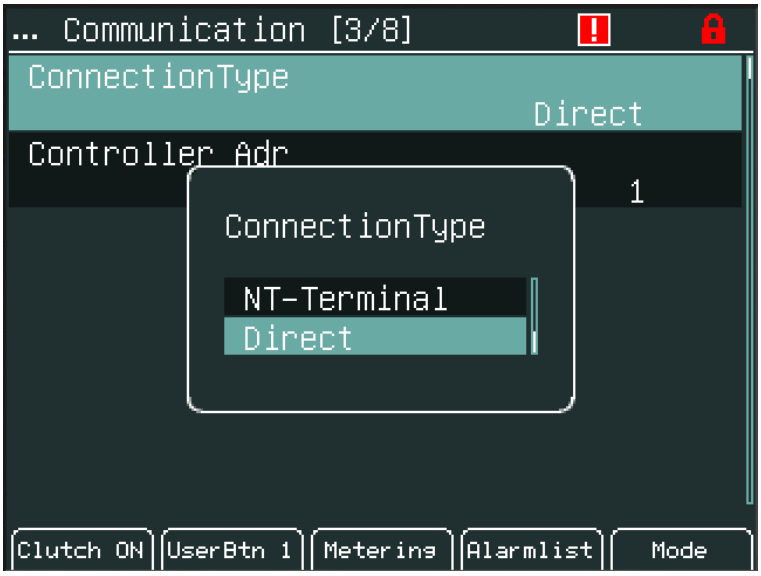


Image 4.3 : Administartion - Users and Password overview

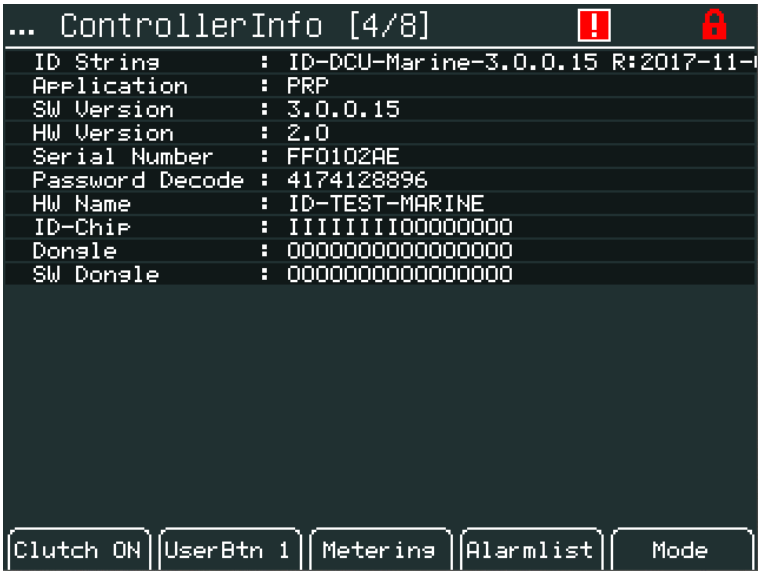
4.9.3 Communication

To see information on how to connect InteliVision 5 CAN display to a controller, go to **How to connect InteliVision 5 CAN to the controller (page 8)**.



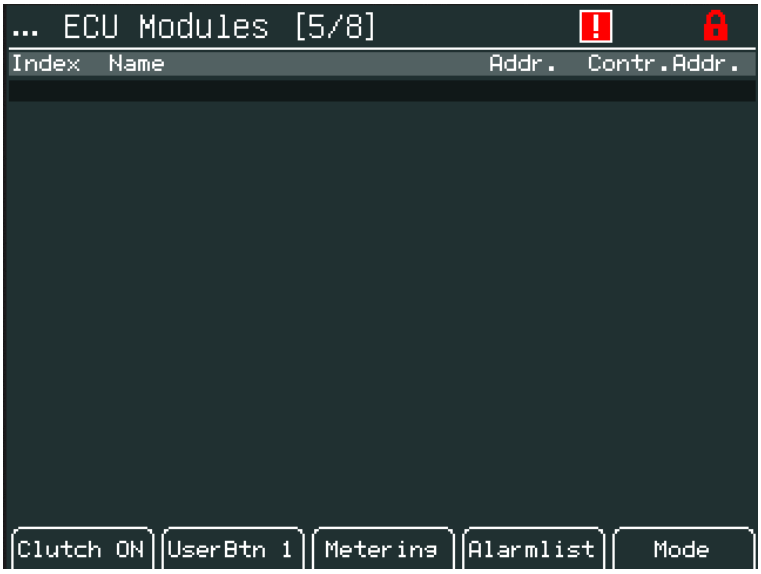
4.9.4 ControllerInfo

To see information about the control unit see Controller info page. See the picture below:



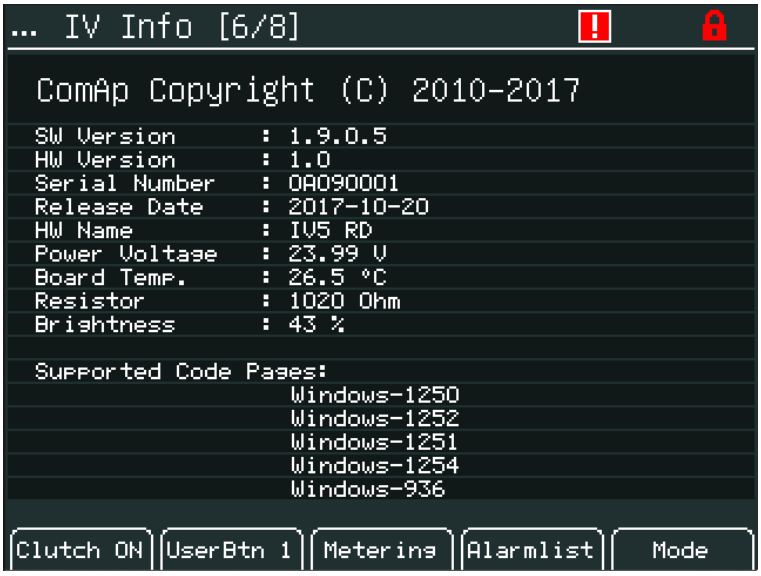
4.9.5 ECU Modules

To see information about the connected ECU units see the ECU Modules page. See the picture below:



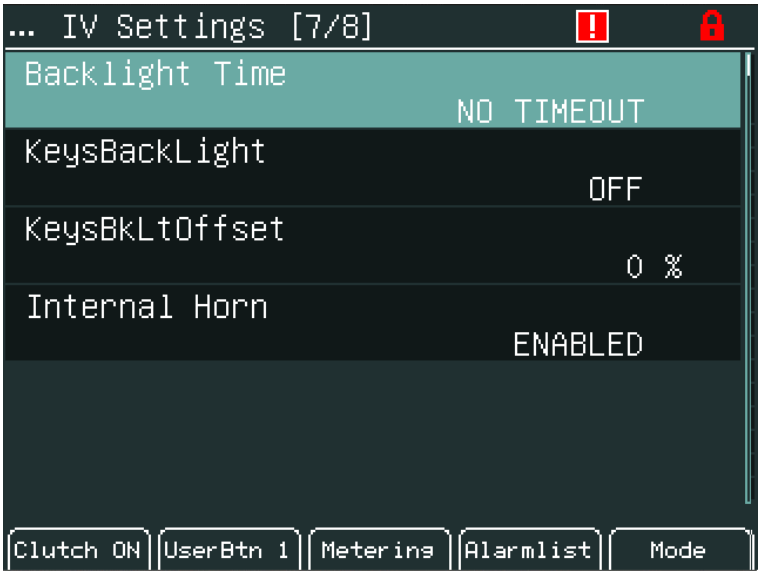
4.9.6 IV Info

Information about the InteliVision 5 properties can be seen in IV Info screen. See the picture below:



4.9.7 IV Settings

Setting of parameters related to InteliVision 5 CAN back-light and Internal Horn features.



Backlight Time settings allow switching off display and keyboard backlight. Backlight time could be switched off based on the time from 1 to 240 minutes or never.

KeysBackLight setting enables or disables keyboard backlight, the parameter does not influence display backlight. The parameter is available for InteliVision 5 CAN Backlit version only.

KeysBkLtOffset parameter enables to decrease keyboard backlight intensity in comparison to display backlight. Keyboard backlight intensity is decreased from adjusted value described in chapter

How to change display brightness (page 48) by the parameter value. The parameter is available for InteliVision 5 CAN Backlit version only.

Internal Horn setting enables or disables Internal Horn functionality.

4.9.8 Service screen

Context information like telephone number, name of the service organization and etc… could be placed on this screen.

The Service screen can be modified in the Screen Editor SW in DriveConfig.

5 Quick help

This chapter provides information on how to quickly find important data. To be more familiar with InteliVision 5 CAN menu, see **Graphical user interface (page 20)**.

5.1 Main icons description 38
5.2 How to view a controller mode 39
5.3 How to view a controller status 39
5.4 How to view a timer status 39
5.5 How to view a control clutch status 40
5.6 How to enter a password 40
5.7 How to change a password 41
5.8 How to log out 42
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5.11 How to change setpoints 44
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5.13 How to change display brightness 48

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5.1 Main icons description

Icons at the top of InteliVision 5 display	
	Terminal is locked; password was not entered
	Terminal is NOT locked; password is entered
	Access to InteliVision 5 CAN is locked; the mode is activated via “Remote lock” binary input or via LOC mode of InteliDrive controller
	Red exclamation mark ▶ flashing symbol means a new alarm in the alarm list without operator’s look-in into the alarm list ▶ stable symbol means active alarm presence in alarm list ▶ the symbol disappears when the alarm list is cleaned out
	Flashing icon indicates presence of not acknowledged alarm in Alarm List

Icons at the bottom of InteliVision 5 display	
	Red exclamation mark, the same behavior as exclamation mark at the top, the symbol is/is not present on display screen up to screen configuration stored in controller
ClutchOFF	Green button; closed clutch
Clutch ON	Button contour; opened clutch

Icons referring to specific screens	
	Menu screen
	Measurement screen

	Setpoints screen
	Alarm list screen
	History screen
	Help/Others screen

5.2 How to view a controller mode

Controller Mode is displayed in the right bottom part of the screen.

5.3 How to view a controller status

Controller status is displayed in the left bottom part of the screen.

5.4 How to view a timer status

Timers as Prestart, Cooling etc. are displayed in the right bottom part of the screen.

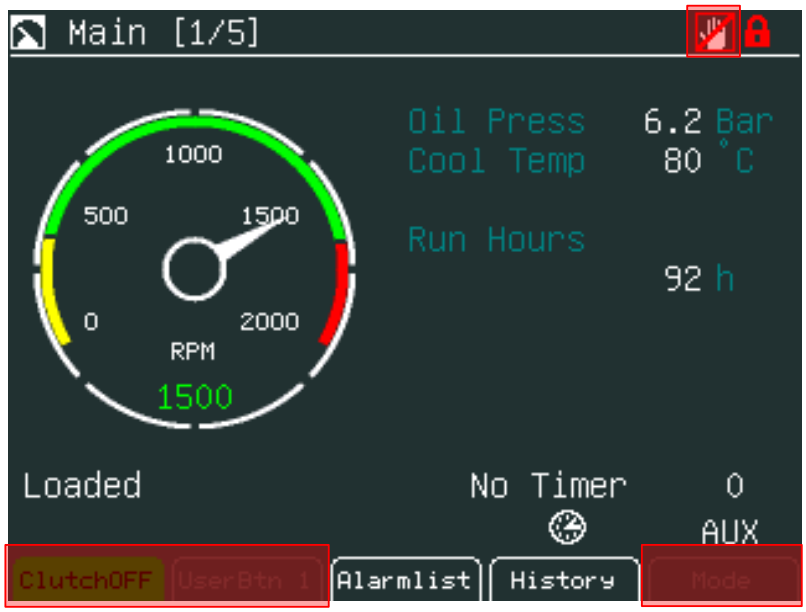
5.5 How to view a control clutch status

The clutch status is displayed in two ways. It is indicated via “Loaded” controller status in left bottom part of InteliVision 5 CAN display. Moreover it is indicated by clutch button color. The bottom buttons of InteliVision 5 CAN are SW configurable, so it depends on customer’s configuration if there is associated clutch functionality to the button or not.

Green button; closed clutch

Button contour; opened clutch

Mode button and command buttons are disabled when InteliVision 5 CAN lock is active – indicated by  icon. SW button link has gray link around (when no color background is used) and dark green when clutch status is highlighted.



5.6 How to enter a password

To enter a controller password (password for 3 protection levels 1-2-3):

- Press  button
- Use  or  to choose **Help/Others** and press 

- Use ↑ or ↓ to choose **Password** menu item and press Enter
- Use ↑ or ↓ to go to **EnterPassword** and press Enter
- Use → or ← to select the digit and us e ↑ or ↓ to set the number you need to enter. See the picture below:

Note: *The appropriate password level (1-2-3) to the inserted password is unlocked. Properly inserted password is indicated by unlocked icon indicated entered password level* 3 *in the right upper corner of the display.*

5.7 How to change a password

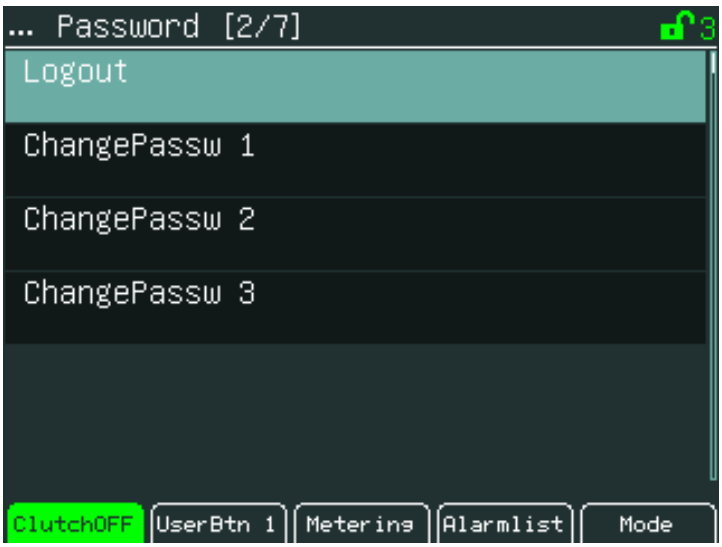
It is necessary to enter password level 3 for possibility to change controller passwords.

- Enter a password for password level 3 according to chapter **How to enter a password (page 40)**
- Press Menu button
- Use ↑ or ↓ to choose **Help/Others** and press Enter
- Use ↑ or ↓ to choose **Password** menu item and press Enter
- Use ↑ or ↓ to choose the password level which are you going to change, i.e. **ChangePassw 1 or 2 or 3** and press Enter button
- Use → or ← to select the digit and us e ↑ or ↓ to set the number you need to enter. See the picture below:

5.8 How to log out

To log out:

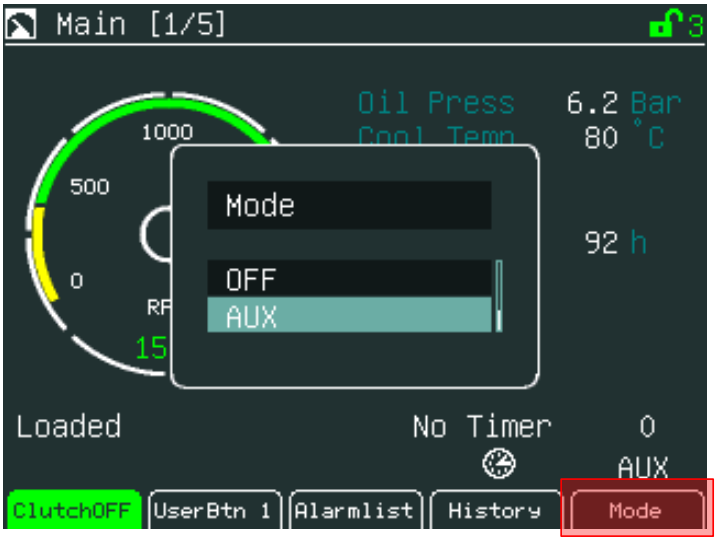
- Press Menu button
- Use ↑ or ↓ to choose **Help/Others** and press Enter
- Use ↑ or ↓ to choose **Password** menu item and press Enter
- Use ↑ or ↓ to choose **Logout** and press Enter



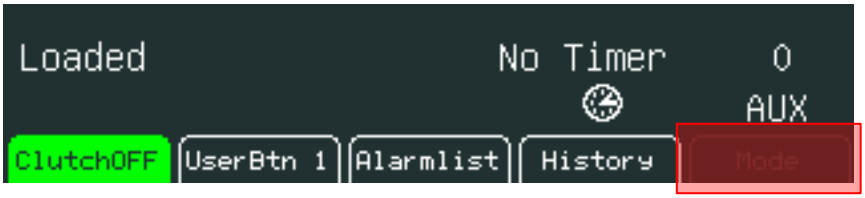
5.9 How to change controller mode

To Change a Controller Mode:

- Press **Mode** context button in right bottom corner of the display (see the picture below)
- Use ↑ or ↓ to choose menu item and press Enter



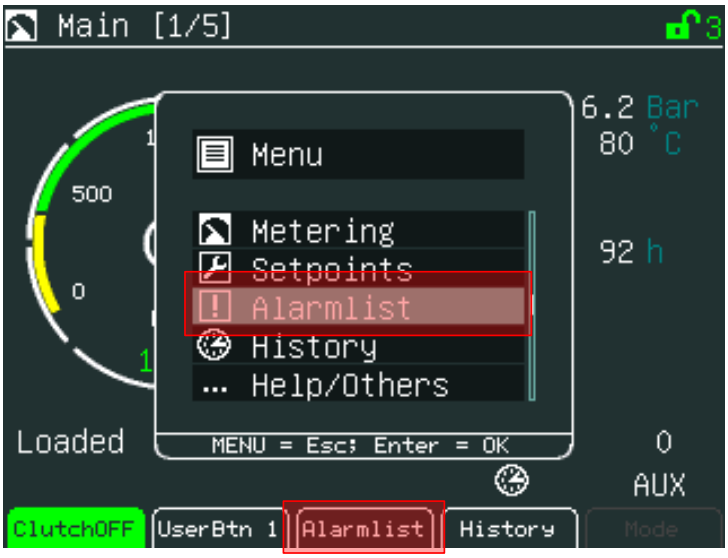
Note: *Mode button is disabled when InteliVision 5 CAN receives information about "Remote OFF" or "Remote HRB" activated mode from a controller.*



5.10 How to find alarms

To find alarms:

- Press Menu button
- Use ↑ or ↓ to choose menu item **AlarmList** and press Enter
- Or use context button **AlarmList** to jump directly to Alarm list

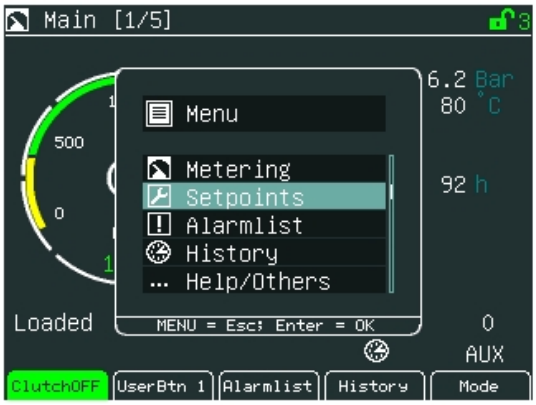


Note: *From the first measurement screen controller will jump to the alarm list immediately when any alarms occurs.*

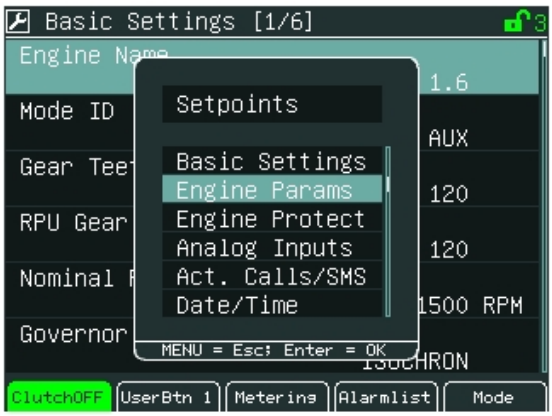
5.11 How to change setpoints

To change setpoints:

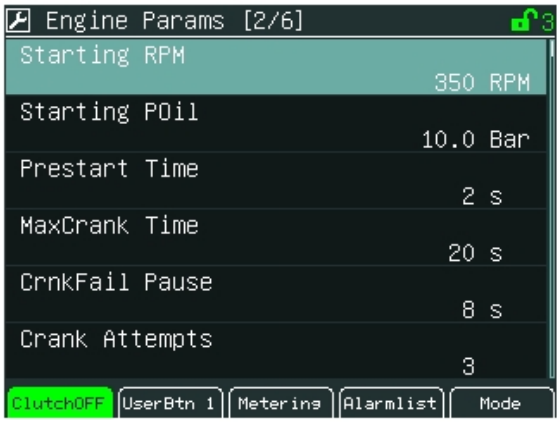
- Press Menu button
- Use ↑ or ↓ to choose **Setpoints** item and press Enter



- Use ↑ or ↓ to choose required setpoints group and press Enter



- Use ↑ or ↓ to choose requested setpoint and press Enter



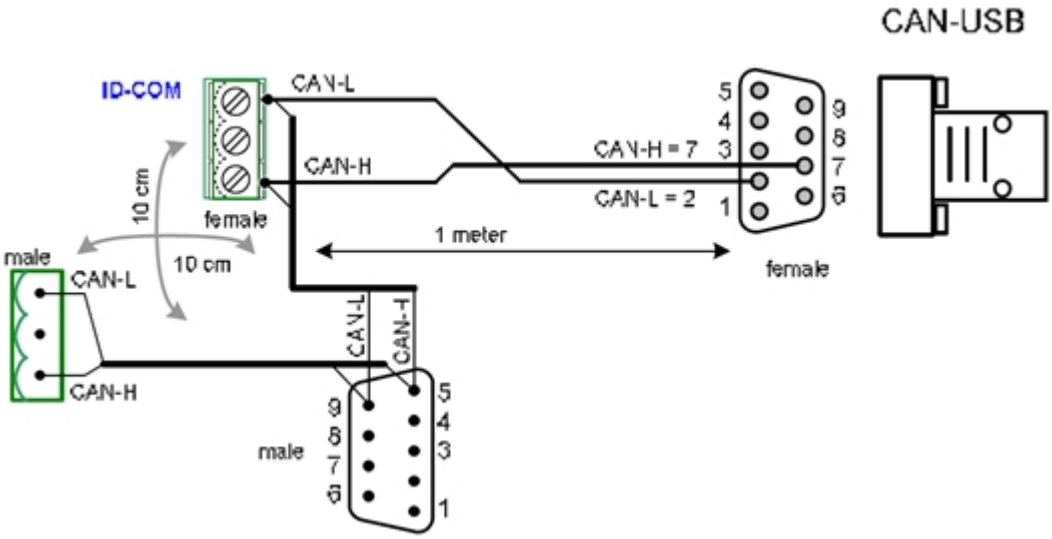
How to edit setpoints see **Setpoints screens (page 26)**.

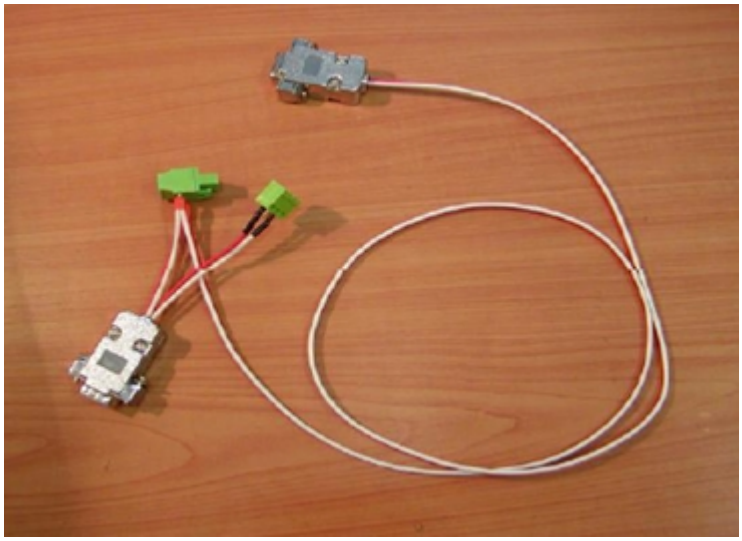
5.12 How to program InteliVision 5 CAN

To update InteliVision 5 CAN the IV5CANprog PC SW is supposed to be used. PC software is free nad available on the ComAp web pages in download section. USB/CAN converter has to be used for connection between PC and InteliVision 5 CAN. Only USB-CANmodul1 provided by SYS TEK www.systec-electronic.com is supported by IV5CANprog application.

There is available **ECU Simulator** product from ComAp which contains the supported USB/CAN converter, suitable cabling and ECU simulator application install CD (not needed for InteliVision 5 CAN reprogramming).

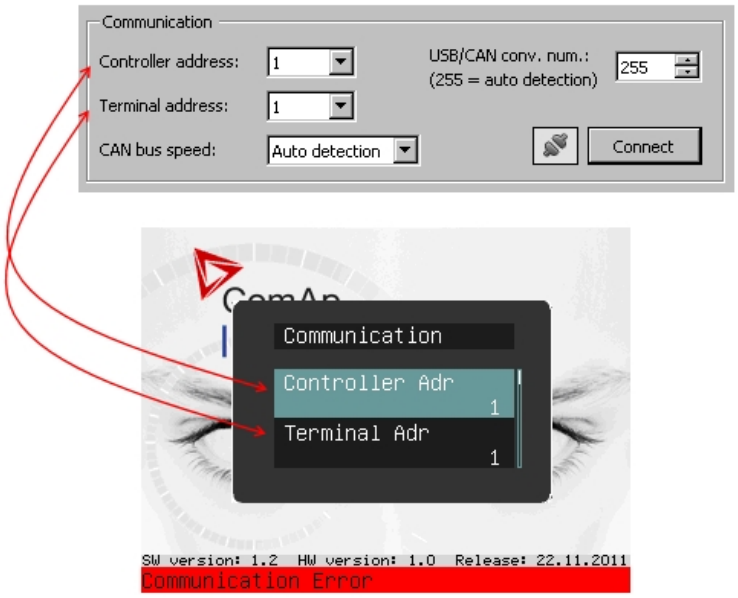
Cabling set available in ECU Simulator kit:



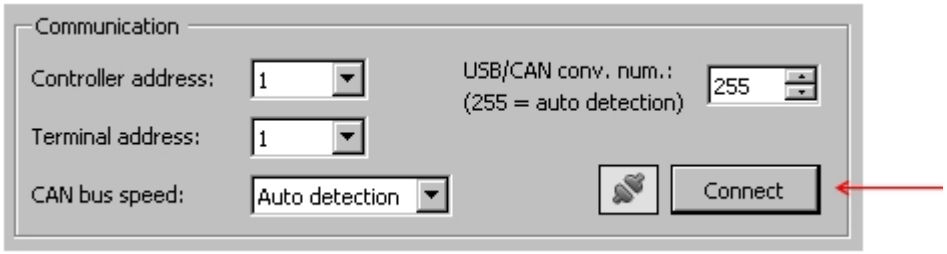


Update procedure:

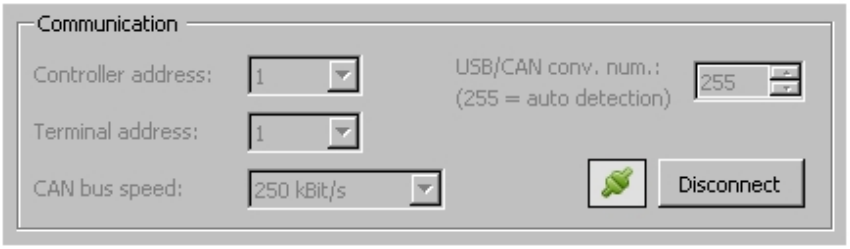
- Download from ComAp web pages and install IV5CANProg-Install-Suite-x.x installation package. The package contains also Windows drivers for SYS TEK USB/CAN converter, follow instructions of installation wizard.
- Connect USB/CAN converter to USB port of PC / notebook.
- Connect communication cable between the CAN bus (where the reprogrammed InteliVision 5 CAN is connected) and USB/CAN converter.
- Run the IV5CANprog application. The application requires .NET Framework installed in the Windows system, at least version 2.0. Error message is displayed in case of missing required .NET – use Microsoft Download Center for installation or run again IV5CANProg-Install-Suite-x.x installation package which contains also .NET installation tool.
- Set the right communication parameters in the first section of application window – Controller and Terminal addresses (addresses corresponding to InteliVision 5 CAN setting), use Auto detection for CAN bus speed, auto detection (255) for USB/CAN conv. num.



- Press *Connect* button

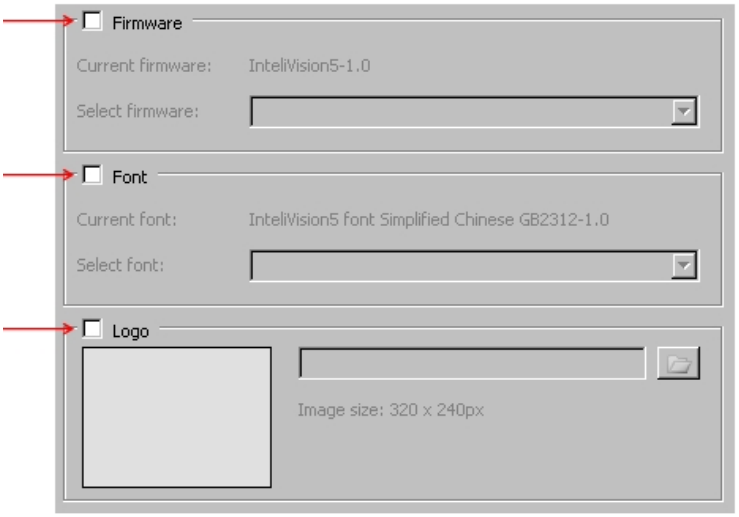


In case of successful connection are communication parameters locked, connection icon is changed into green connected state.

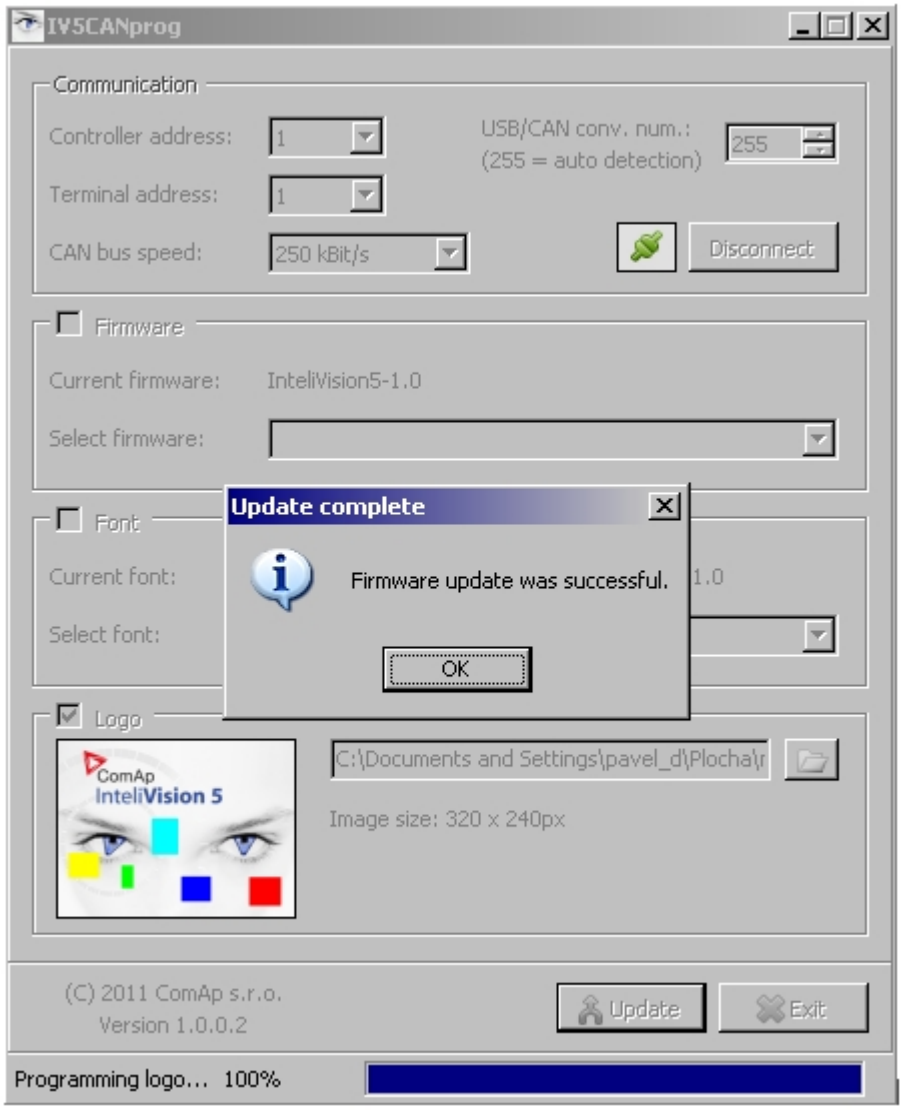


In case of unsuccessful connection is error message displayed. You have to check correct cabling and correct communication setting.

- Check boxes for Firmware/Font/Logo update are available if connection between PC and InteliVision 5 CAN is established. Check appropriate box and choose the file which should be uploaded into the InteliVision 5 CAN.

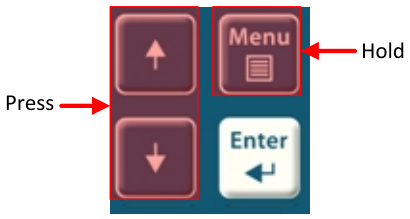


- Press *Update* button and the upload process will start. Update progress is indicated in the bottom part of application window.
- Info window pops up at the end of update procedure. In case that update was interrupted by some accident as power feeding interruption, cabling problem or problem with PC, the InteliVision 5 CAN can remain in boot state. Also in this fault state is the InteliVision 5 CAN still prepared to receive updates via CAN from IV5CANprog application, the update procedure can be repeated again. InteliVision 5 CAN supports only 250kBd speed in boot state.



5.13 How to change display brightness

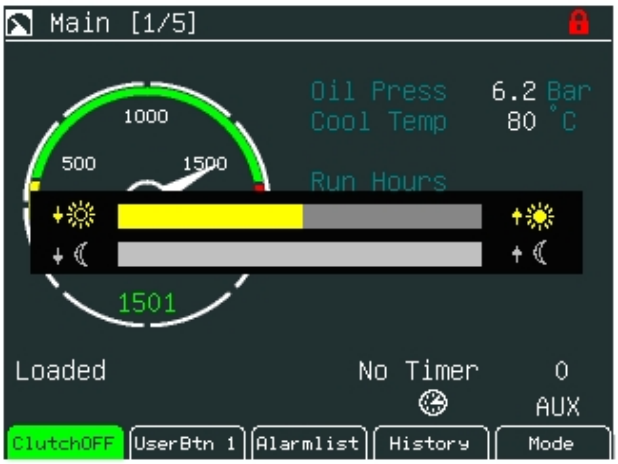
The brightness of the display can be changed by holding  button and repeated pressing  or  See the picture below:



Two modes are available in InteliVision 5 CAN. To switch between **Day** or **Night** mode hold button only several seconds. Pictogram for day or night appears on the screen.

To change day or night brightness intensity:

- Hold button until day/night mode on the screens appear
- Press and hold button with or to change brightness intensity



Note: *Brightness setting has priority in this order: analogue input brightness dimmer, keyboard. When the analogue input is used, small pictograms in brightness sub-menu appears.*

Note: *InteliVision 5 CAN Backlit version with back-lighted buttons uses the brightness setting for display and also for buttons light intensity. Additionally it is possible to attenuate buttons brightness in comparison to display brightness via KeysBkLtOffset parameter in Others / IV Settings menu.*

Note: *Display backlight could be switched off due to Backlight Time InteliVision 5 CAN setting. For backlight recovery any button has to be pressed.*

6 Technical data

Power supply

Voltage supply	8-36V DC
Consumption depends on supply voltage	0,7A at 8 VDC

Operating conditions

Operating temperature	-20...+70oC
Storage temperature	-30...+80oC
Flash memory data retention time	10 years
IP Protection	IP65

Standard conformity

Low Voltage Directive	EN 61010-1:95 +A1:97
Electromagnetic Compatibility	EN 61000-6-3
	EN 61000-6-4
	EN 61000-6-1
	EN 61000-6-2
Vibration	EN 60068-2-6

Mechanical

Front panel	245x164mm
LCD display cut-out	175x115mm
Weight	855g

CAN bus interface

Maximal CAN bus lenght: CAN bus mode = 250 kBd	200 m
Maximal CAN bus lenght: CAN bus mode = 50 kBd	900 m
Nominal impedance	120Φ
Cable type	twisted pair (shielded)
Nominal Velocity of Propagation	min. 75% (max. 4,4 ns/m)
Wire crosscut	min. 0,25 mm2
Maximal attenuation (at 1 MHz)	2 dB / 100m

Recommended Industrial Automation & Process Control Cables:
BELDEN (www.belden.com):
3082A DeviceBus for Allen-Bradley DeviceNet
3083A DeviceBus for Allen-Bradley DeviceNet
3086A DeviceBus for Honeywell SDS
3087A DeviceBus for Honeywell SDS
3084A DeviceBus for Allen-Bradley DeviceNet
3085A DeviceBus for Allen-Bradley DeviceNet
3105A Paired EIA Industrial RS485 cable
LAPP CABLE:
Unitronic BUS DeviceNet Trunk Cable
Unitronic BUS DeviceNet Drop Cable
Unitronic BUS CAN
Unitronic-FD BUS P CAN UL/CSA

HW modifications IV 5 CAN

CAN Galvanically Isolated	Yes
Binary Output	Yes
Analog Input	Yes
Backlight Keys	No
Protected IP	IP-65

HW modifications IV 5 CAN Backlit

CAN Galvanically Isolated	Yes
Binary Output	Yes
Analog Input	Yes
Backlight Keys	Yes
Protected IP	IP-65

LCD specifications

LCD panel	5,7"
Resolution	320 × 240 pixels
Pixel Pitch	0.120 x 0.360 mm

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7 List of possible events

InteliVision 5 CAN screen texts	Description
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.
Running	Indication of running display.
Wrong Display HW	SW and HW mismatch. Correct firmware has to be programmed.
Invalidate 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.

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