User Manual

Control system for Helideck

4600 4xx

Document properties (TUM7379)

Revision	Comment	Revision date	Approved
0	Dali floodlights and Beijer HMI	12.09.2024	FO
1	Dali floodlights and Beijer HMI	27.11.2024	FO

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Installation and operating manual

Contents

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Warnings and risk levels

DANGER
Non-compliance with the instruction results in risk of severe or fatal injuries to persons

WARNING
Non-compliance with the instruction may result in risk of severe or fatal injuries to persons

CAUTION
Non-compliance with the instruction may result in risk of injuries or damage to equipment

NOTICE
Non-compliance with the instruction may result in reduced lifetime of equipment, malfunctions etc.

General information

Before installation, make sure to read and understand this installation and operating manual.

Observe national assembly and installation regulations.

Always contact the manufacturer if anything is unclear, or if you notice any faults on the product or in this document.

This installation and operating manual shall be available to anyone operating, installing, inspecting, modifying or repairing the equipment.

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Marking and intended use

CAUTION
Not intended for use in “these” conditions (Where mud may be present, on helidecks, underground, direct sunlight, heavy vibrations, high risk of impact, harsh cleaning agents, high pressure washer etc.)

CE-marking

Other markings

For use in these areas and environments

Not for use in these areas and environments

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Special conditions for safe use

DANGER
Special conditions for safe use are critical conditions to maintain the safety of the equipment. These shall be adhered to in all cases and under all circumstances.

- If any critical conditions exist, list them here. Choose “Warning type” above as suited.
- If no special conditions are relevant, remove chapter completely

Technical data

Property	Value	Value
Input voltage and frequency	4600 4xx: 230V AC	
Power consumption	Max. 1500W	2100W Status Lights Activated
Ingress protection	IP55 (safe area)	
Communication	Modbus TCP	
Weight	43 kg (incl. packaging)	
Size	602x1902x413 (WxHxD)	
Housing	Rittal: Dipcoat primed, powder-coated, texture painted sheet steel.	

Product description

TRANBERG® 4600 Control System is designed to optimize the features of the following Stahl TRANBERG® products:

Applications

- TRANBERG® IMT Helideck Lights Circle & H
- Status lights: Up to 2 main lights and 2 repeater lights.
- Floodlights: Up to 2 Floodlight circuits.
- Perimeter lights: Up to 2 Perimeter lights circuits.
- Obstruction light: One Obstruction light circuit.
- Windsock: One Windsock circuit.
- Circle & H: One Circle & One H circuit.
- Auxiliary: Two Auxiliary light circuits.

The compact form factor result in a small footprint and the low weight makes it versatile to install.

The control panel is designed to be installed indoors in a safe area, and provisions are made for connecting an optional remote Ex-panel, or remote connection via Modbus TCP.

The control system is compatible with all sizes of helidecks. The Touch panel features a graphical HMI application for control, setup and monitoring of the control system and provides the operator increased situational awareness.

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Transport and storage

- Transport and store the equipment only in the original packaging
- Store the equipment in a dry and vibration free place
- Do not drop!
- “Product specific cautions”

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Installation

DANGER
Incorrect mounting and installation may lead to risk for falling objects, risk for electric shock or fire and risk for equipment malfunction. In turn, this can lead to severe damage and/or injuries.

Electrical connections

Terminal connections overview.

- X1: Power inputs
- X2: General lights output
- X3: Remote IO
- X4: BAMS
- X5: Status Lights
- X6 & X7: Circle H

For more details, see wiring drawing:

- 460A121648 for 4600411
- 460A121652 for 4600 431
- 460A121660 for 4600 461
- 460A121556 for 4600 471

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Commissioning

SEE COMMISSIONING PROCEDURE TTDTTD7666.

Once installed and with reference to the IMT CircleH Installation Manual (TUM6677) and user Manual (TUM6676), make sure that the system functionality is as per the Installation Manual and specifications:

Check the on/off control of all circuits from the HMI Touch Panel.

Check the local standard/bright control: the adjustment of the “BRIGHT” light level must be checked against the intensity of the perimeter lights (brightest of the three). The Circle lights must not be brighter than the perimeter lights and H lights no brighter than the Circle lights.

Check that the remote control repeats the system functionality as for the control cabinet (as relevant) by performing the same tests.

After configuration, all configured features, as well as the Fire and gas input and the overall function of the system should be tested. SEE COMMISSIONING PROCEDURE TTD 7666.

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Cyber Security

The Tranberg Helideck Control System has three user levels. User Passwords can be changed by the end-user. Default passwords are listed below.

User name: Viewer
The Viewer user is restricted to read access and therefore cannot operate circuits or change settings in the system setup screens. The Viewer user can access all screens to observe system status, and gain situational awareness.

User name: Operator
Default Operator Password: “Operator”

The Operator user has read and write access which means they can operate the system and change settings in the system setup screens.

User name: Administrator
Default Administrator Password: “Administrator”

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Spare HMI and/ Spare PLC

For the Tranberg Helideck Control System, the customer can purchase a spare HMI touch panel and/or spare PLC controller. These devices come pre-loaded with the required system software for seamless replacement.

When a faulty HMI or PLC is replaced with a spare device, the hardware swap is a one-to-one process. However, user-specific settings and configurations need to be re-entered to ensure proper system functionality.

Steps After Installation:

1. **Navigate to the Setup Pages**
   Access the HMI interface to configure the following settings:
2. **Setup Panel Screen**
   Configure panel-specific parameters.
3. **Setup Light Circuits**
   Enable the circuits in use for the Helideck.
4. **Setup Enable Lights for "All Helideck Lights On"**
   Enable the circuits to be controlled by this function.
5. **Setup Modbus TCP Server Connection**
   Enter the required IP address of the Modbus TCP client if used.
6. **Setup Local/Remote Mode**
   If two panels are in use, one must be Local panel and one must be set to Remote panel.
7. **Setup Status Lights**
   Setup Status Lights timeout and service parameters.

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Operation HMI Screens

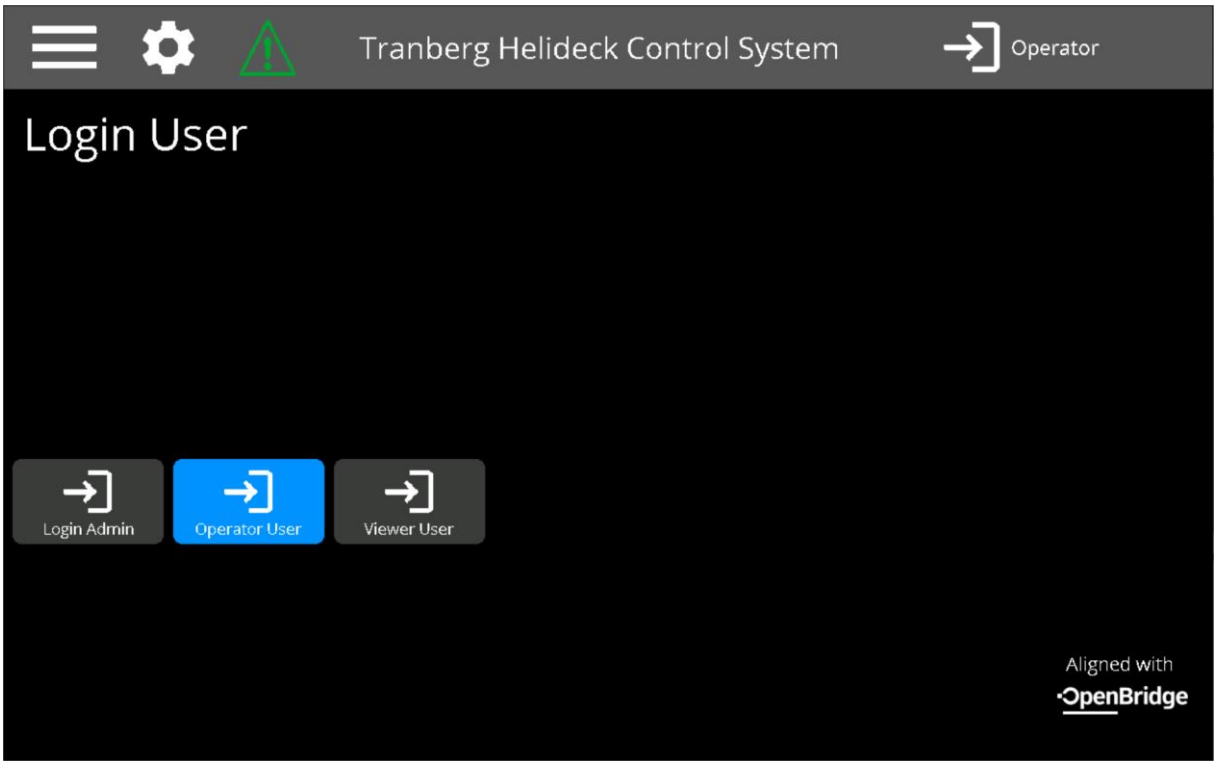
Login Screen

The login screen is shown on system startup. When the password manager is turned off, the user must select a role. Operator User or Viewer user.

Operator user has read and write access rights, whereas Viewer user only has read access rights.

If Administrator or Operator logs out, the user role is automatically set to Viewer as this this is the minimum user level.

Screen with Password manager turned off, and Operator User selected.

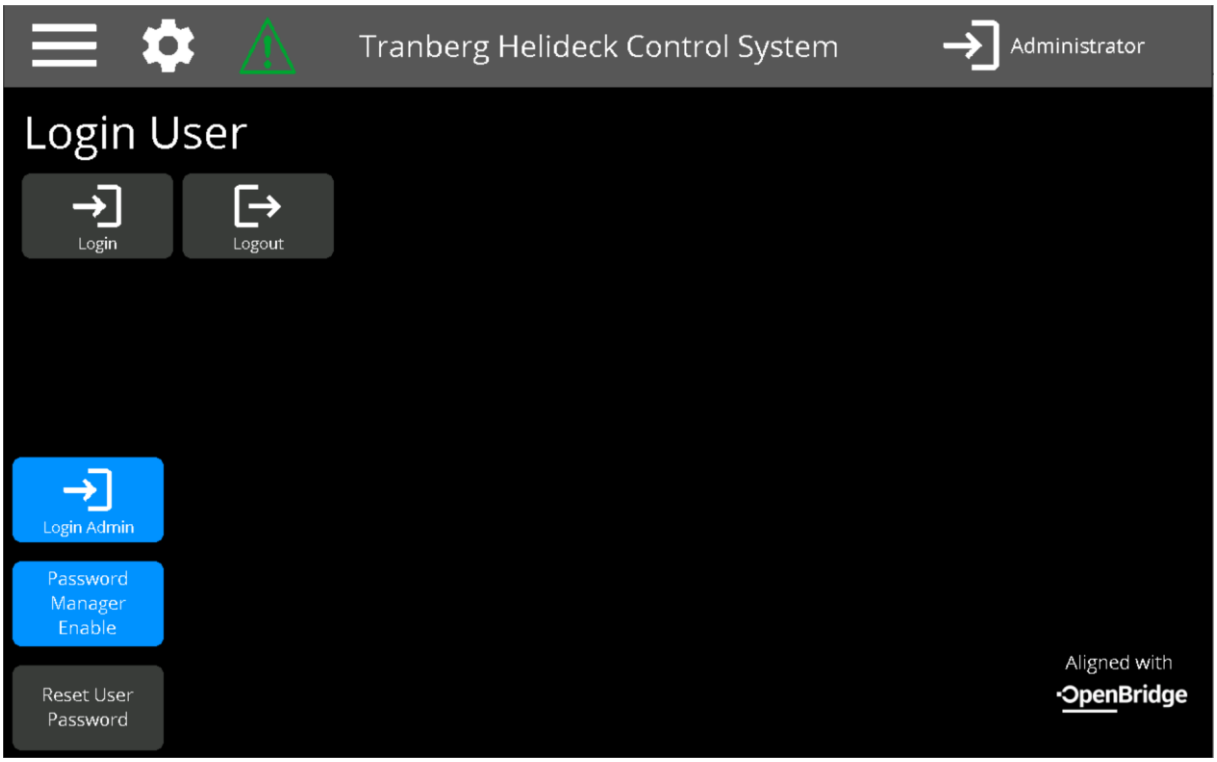


Navigation to control screens in the upper left corner. 

Navigation to setup screens from the Setup symbol l 

Navigation to alarms screen from the Alarms symbol 

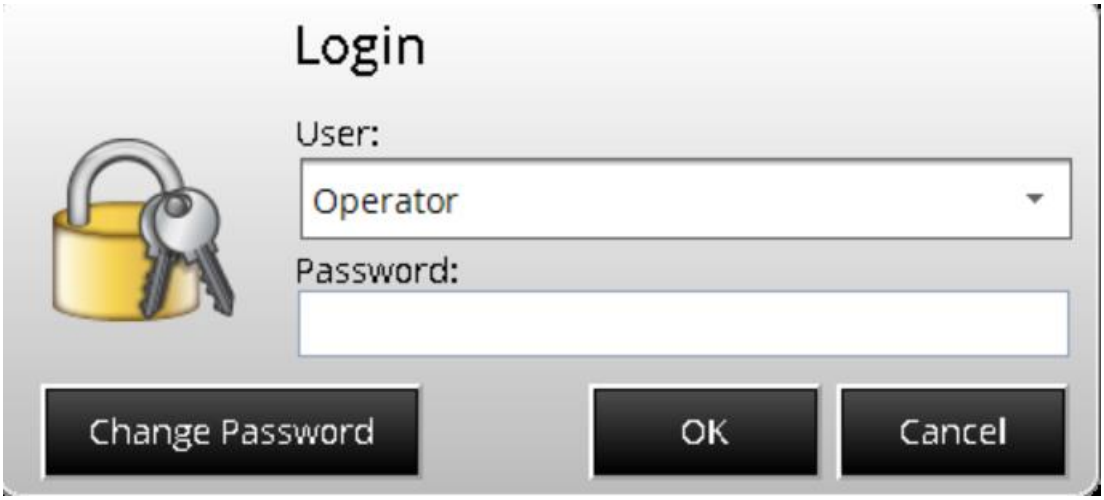
Screen when Administrator is logged in.



Password Manager Enable: When this function is enabled, the Operator- and Viewer-user must log in with a password. Default passwords are:

Change Password

To change the password of a User. Select user, then “Change Password” from the Login prompt.



Enter the old password, then new password with confirmation.

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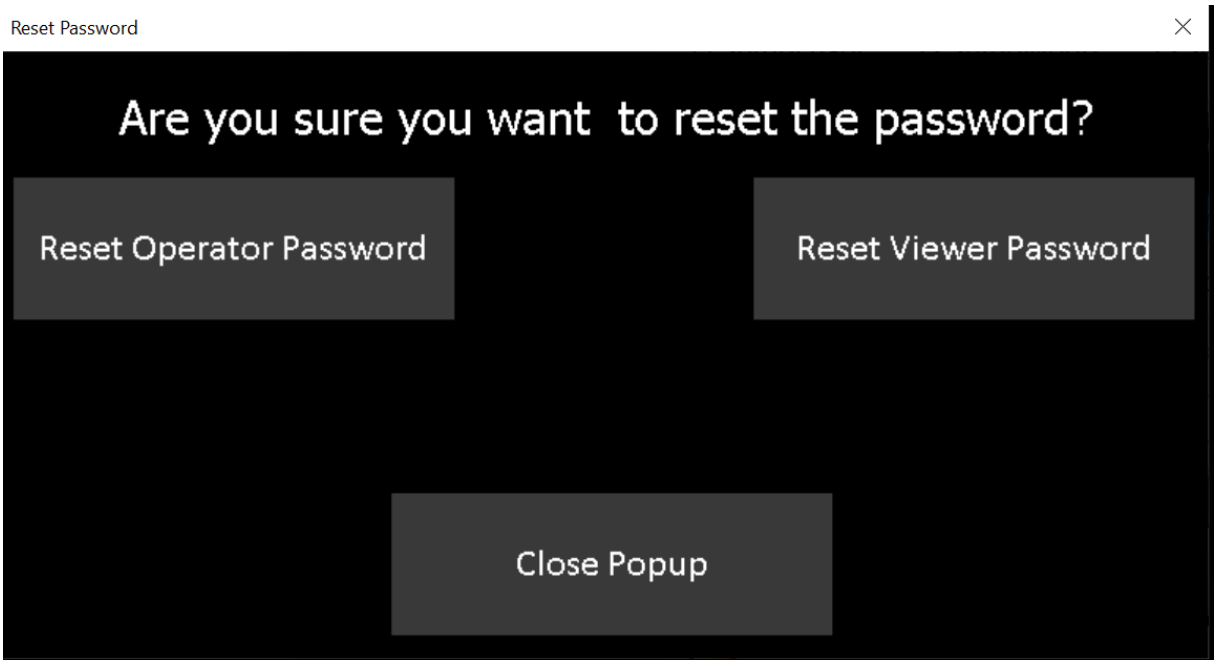
Reset Password to Default

Reset password can be done for the Operator and Viewer user roles.

To access “Reset User Password” Navigate to Login screen and login as Administrator.

Push the “Reset User Password” button and a popup will appear on the screen.



To reset the Operator password press the “Reset Operator Password” button. Popup will close and the password is reset to default value.

To reset the Viewer password press the “Reset Viewer Password” button. Popup will close and the password is reset to default value.

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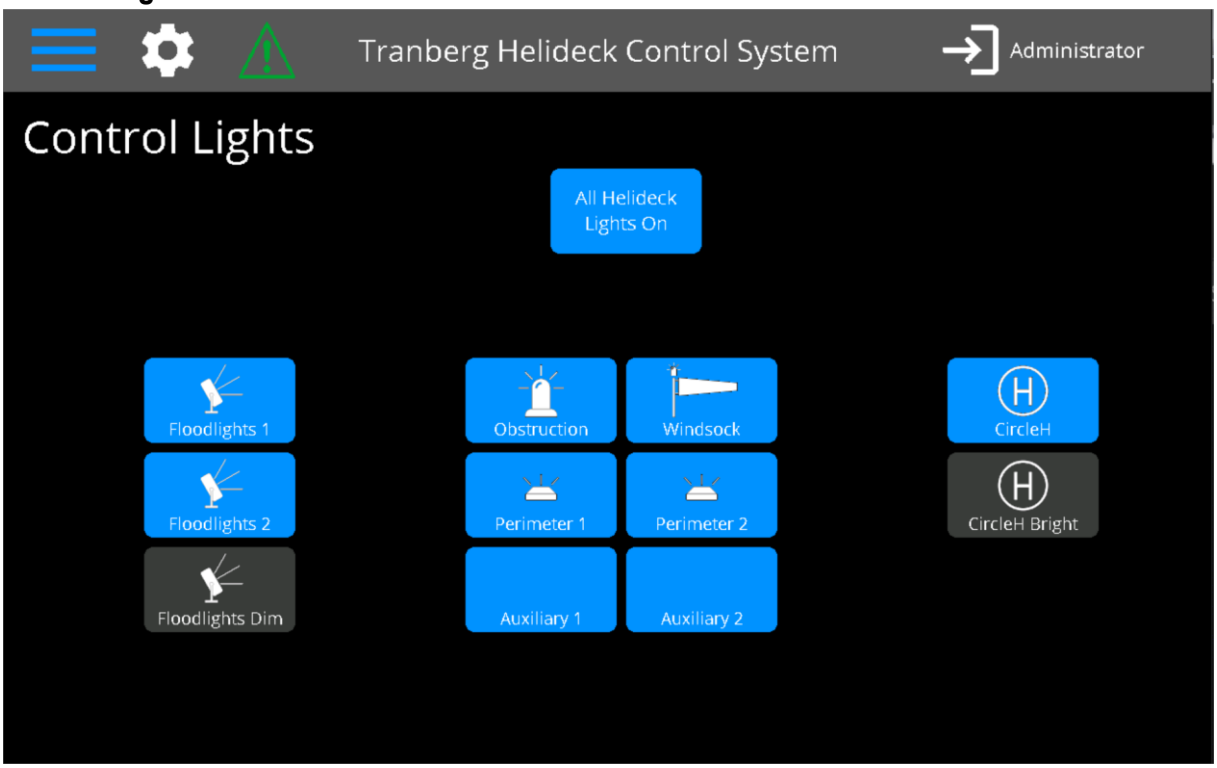
Control Lights Screen



The Control Lights screen contains control and monitoring of Helideck lights with buttons representing light circuits, or a circuit function (dim/bright). Each button controls one light circuit, or one function of the circuit.

Available functions:

The circuits are toggled on and off by pressing and holding the button for 1 second.

From the “Setup Lights” screen, the circuits that are in use can be enabled. Only the selected circuits will show in the Control Lights screen.

Each button has three modes to represent circuit status:

Blue: Circuit is on.

Grey: Circuit is off.

Red outline: Circuit has active alarm

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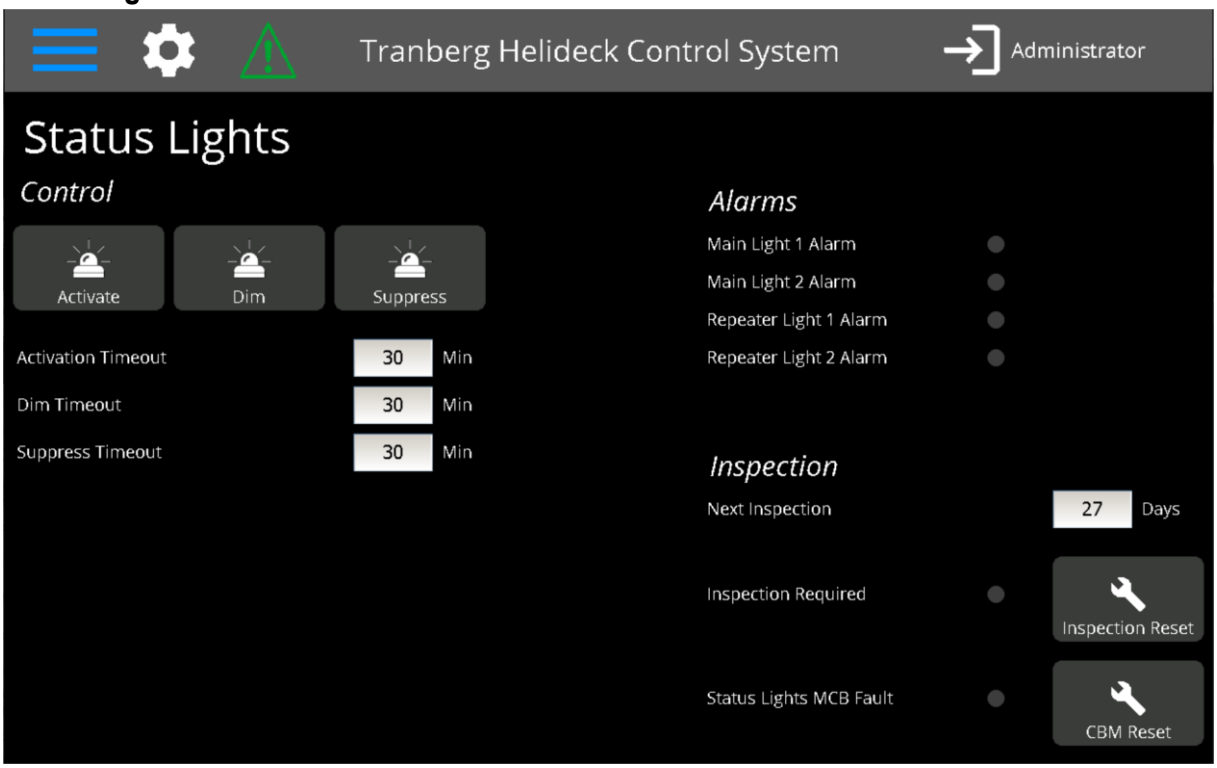
Status Lights Screen



The Status Lights screen contains control and monitoring of Status lights (main and repeater) with buttons representing the Activate, Dim and Suppress functions.

Available functions:

Activate

Activate button activates the Status Lights. Activate must be held for >2 seconds to toggle on/off.

Dim

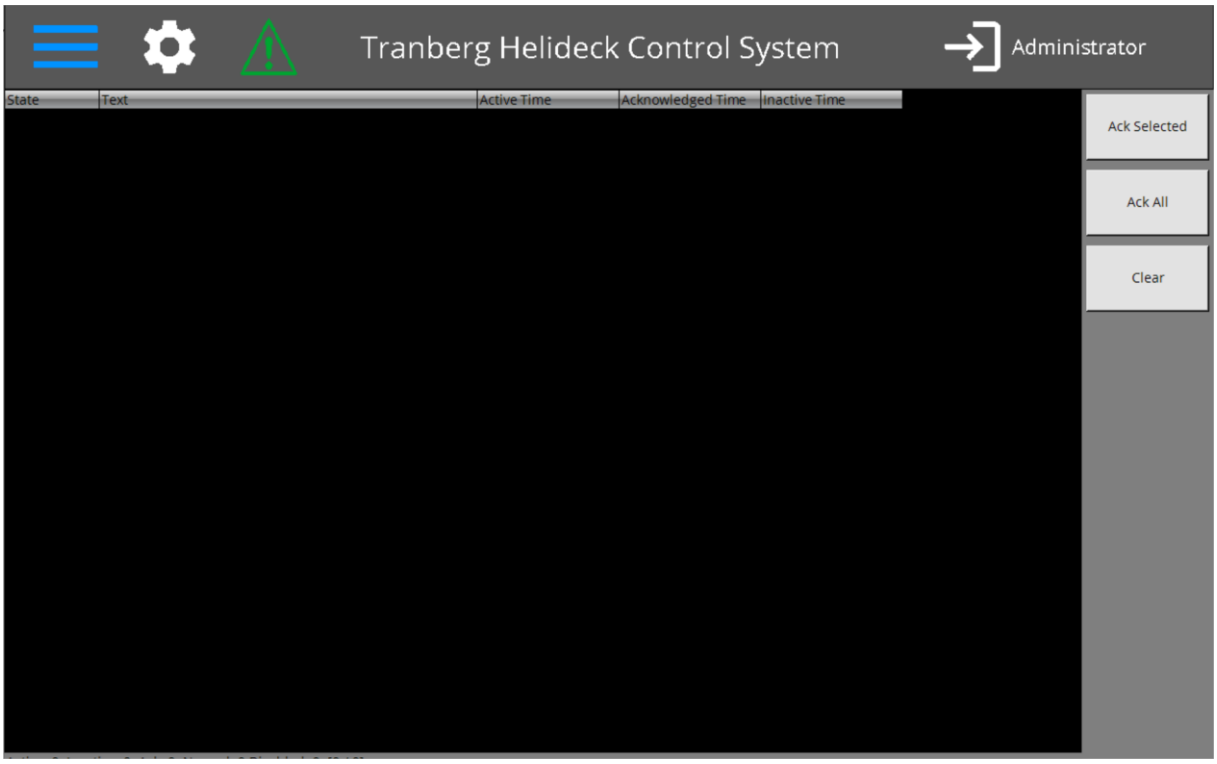
Dim button activates Dim mode of the Status Lights. The dim function will decrease light output and blink frequency. The Dim button must be pressed >2 seconds to activate dim on/off.

Suppress

Suppress button will suppress the Status Lights to prevent the lights to activate either from local HMI, or external signals such as fire&gas, pitch&roll and external command from Modbus or remote control panel.

Suppress Timeout and Timeout duration can be activated and set from the “Setup Status Lights” screen.

Alarms Screen



Alarms will be presented in the Alarms screen with a line including state, description, active time, acknowledge time and inactive time.

Available commands:
Ack selected – Acknowledges the selected alarm.

Ack All – Acknowledges all alarms in the list.

Clear – Clears all acknowledged and not active alarms.

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When alarm is active and not acknowledged the alarm will be red.

State	Text	Active Time	Acknowledged Time	Inactive Time
Active	Pitch & Roll External Signal Active	21.12.2022 10:13:27		

When active and acknowledged the alarm will be green.

State	Text	Active Time	Acknowledged Time	Inactive Time
Acknowledge	Pitch & Roll External Signal Active	21.12.2022 09:36:28	21.12.2022 09:38:20	

When the alarm is not acknowledged and not active the alarm will be yellow.

State	Text	Active Time	Acknowledged Time	Inactive Time
Inactive	Pitch & Roll External Signal Active	21.12.2022 09:42:13		21.12.2022 09:42:18

When the alarm is not active and is acknowledged the alarm will be grey.

State	Text	Active Time	Acknowledged Time	Inactive Time
Normal	Pitch & Roll External Signal Active	21.12.2022 09:36:28	21.12.2022 09:38:20	21.12.2022 09:40:35

The clear button will remove all alarms where the alarm state is not active and the alarm is acknowledged.

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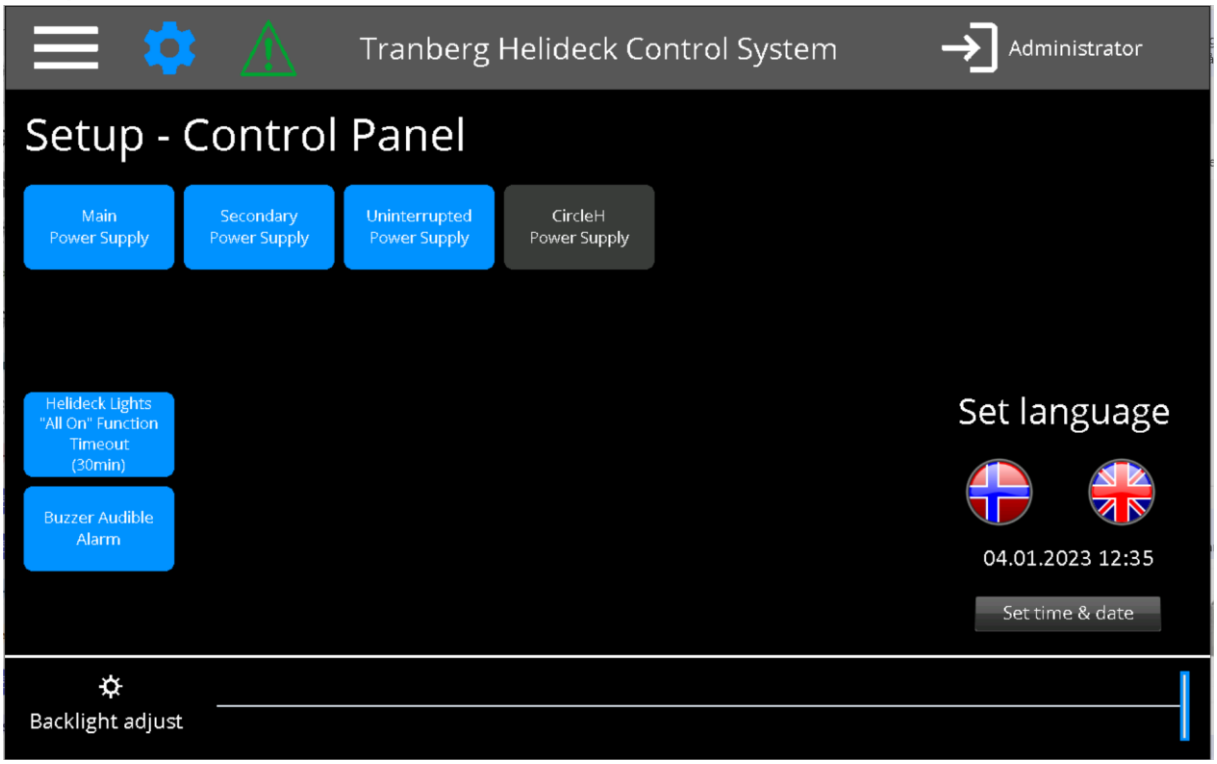
Setup - Panel screen



Available functions:
Main Power Supply - Enable if supply is in use and associated alarm shall activate in case of DC ok fault signal.

Secondary Power Supply - Enable if supply is in use and associated alarm shall activate in case of DC ok fault signal.

Uninterrupted Power Supply - Enable if supply is in use and associated alarm shall activate in case of DC ok fault signal.

CircleH Power Supply - Enable if supply is in use and associated alarm shall activate in case of DC ok fault signal.

Helideck Lights “All On” Function Timeout – Enable function if the 30min timer shall turn off “All Helidecks Lights On”.

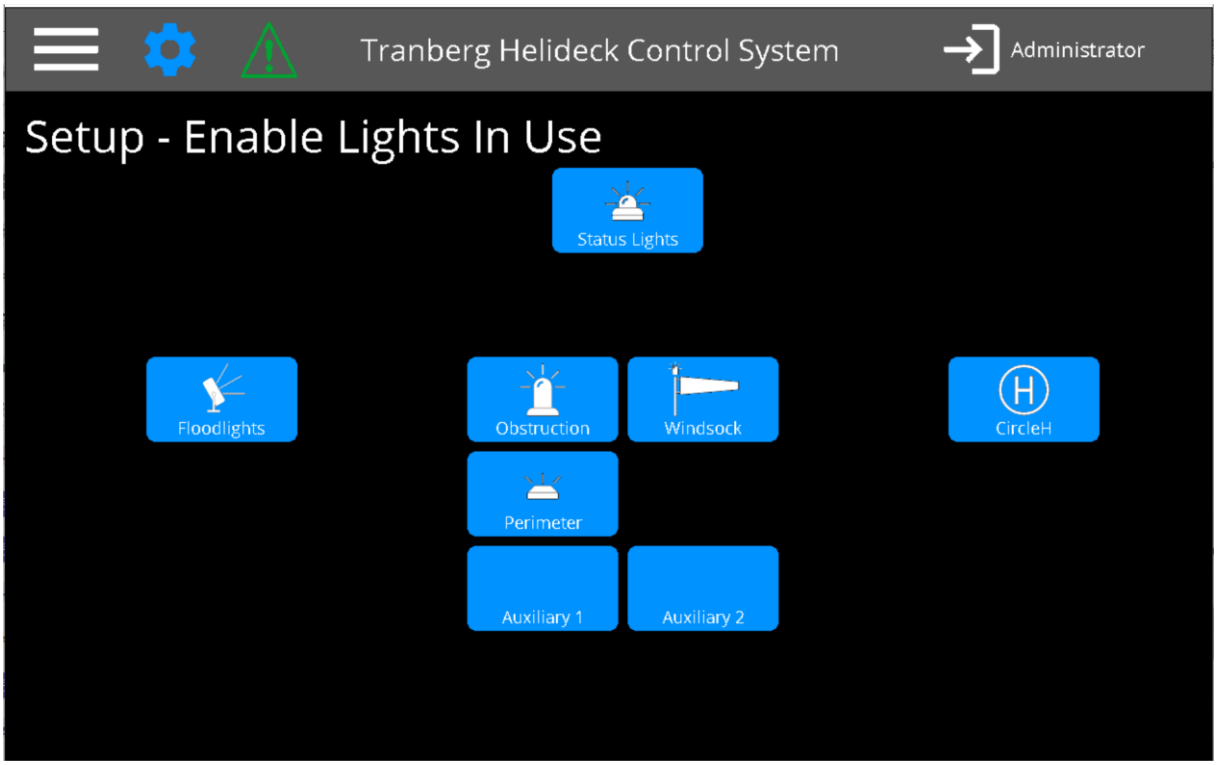
Buzzer Audible Alarm – Enable if a buzzer is installed and, connected to the system. Audible alarm will trigger if there is one, or more, unacknowledged alarm present.

Set Language – Select the symbol corresponding to the desired system language. English or Norwegian.

Set time & date – Popup for adjusting system date and time.

Backlight Adjust – Slider to adjust the backlight level of the panel.

Setup – Light circuits



Available functions:

Each light circuit is represented with a button.

To enable a light circuit press the button and enabled state is represented with a blue color of the circuit button.

To disable a light circuit press the button disabled state is represented with a grey color of the circuit button

All active light circuits will be available for control and monitor from the “Control Lights” screen

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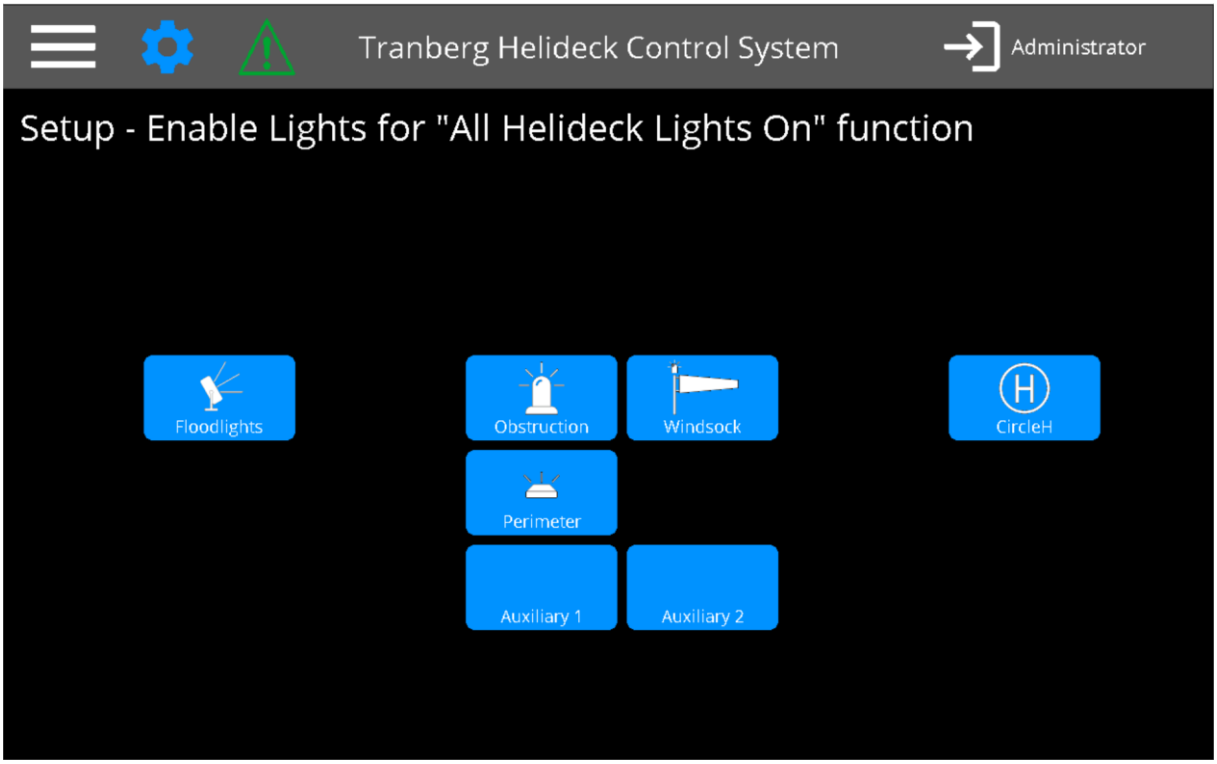
Setup - Enable lights for “All Helideck Lights On” function

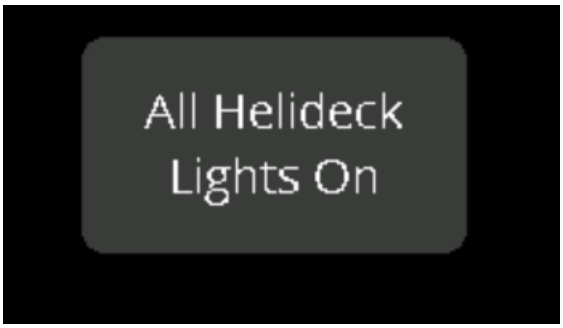


All enabled light circuits will be available for control and monitor from the “All Helideck Lights On” button in the “Control Lights” screen

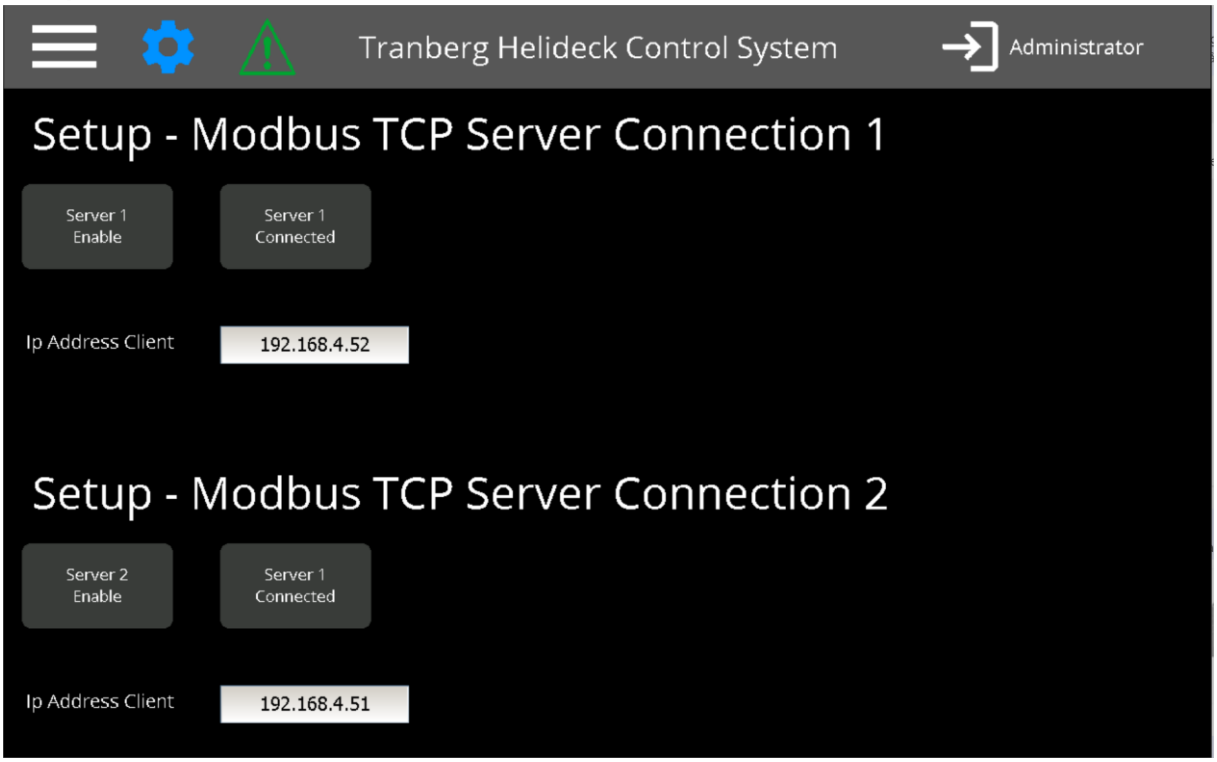
Available functions:
Each light circuit is represented with a button.

To enable a light circuit press the button and enabled state is represented with a blue color of the circuit button.

To disable a light circuit press the button disabled state is represented with a grey color of the circuit button



Setup – Modbus TCP Server Connection



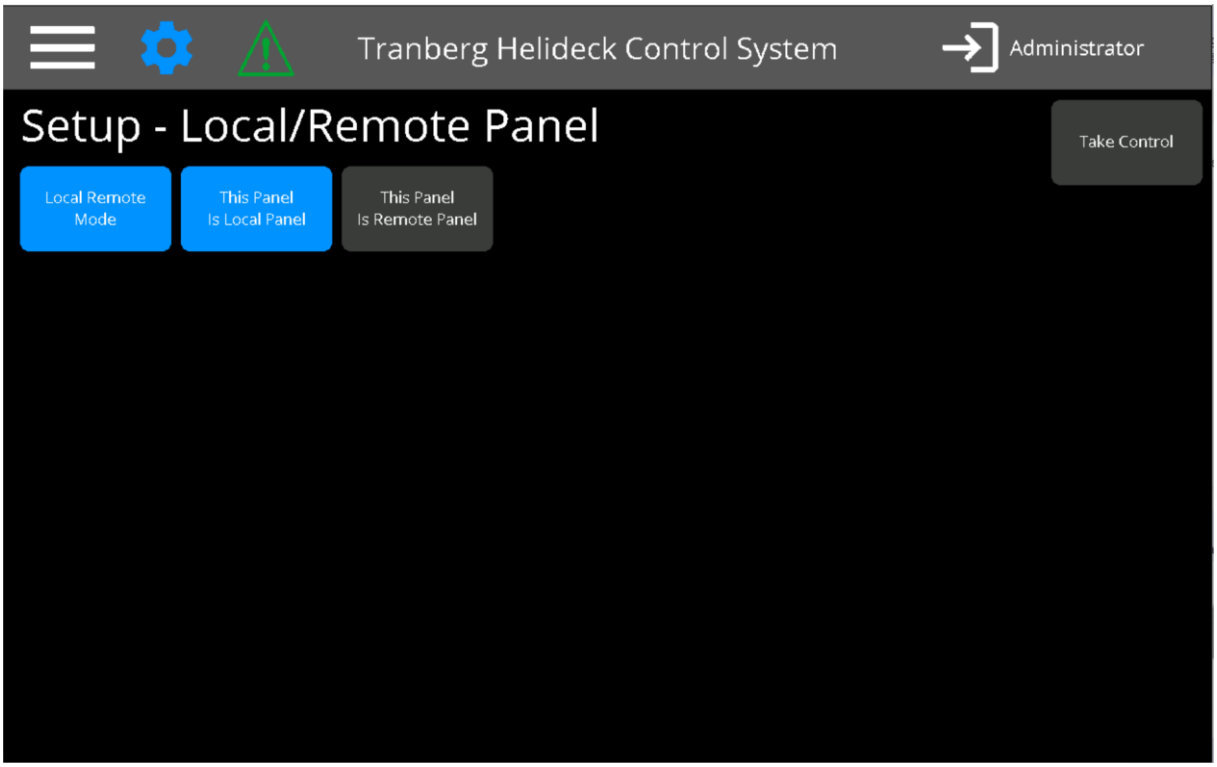
The 4600 3xx series has two available Modbus TCP Servers. Only one client can connect to a server at a time.

Available functions:
Server Enable – Enables the Server connection and allows for incoming connection.

Server Connected – Shows the status of client connected.

Ip address: Ip address of the client.

Setup – Local/Remote Panel



Local/Remote mode is used when the system has two touch panels connected. If this mode is enabled a touch panel must “Take Control” to get Operator user read and write access rights. When a panel takes control the other panel is automatically logged in as “Viewer” with read access rights.

Available functions:
“Local Remote Mode” – When enabled the Local/Remote mode is active and the two panels must be assigned local or remote panel

“This Panel is Local Panel” – When enabled sets this panel as local panel. This would usually be the touch panel installed in the control cabinet door, or situated in close proximity to the control cabinet.

“This Panel is Remote Panel” – When enabled sets this panel as remote panel. This would usually be the touch panel installed in the HLO office, Bridge or other remote location.

“Take Control” The take control button will be available across system screens when Local/Remote mode is enabled. When the button is blue this panel has control. For a panel to take control the button is pressed and this panel is logged in as “Operator” with corresponding access rights. The other panel is automatically logged in as Viewer with corresponding access rights.

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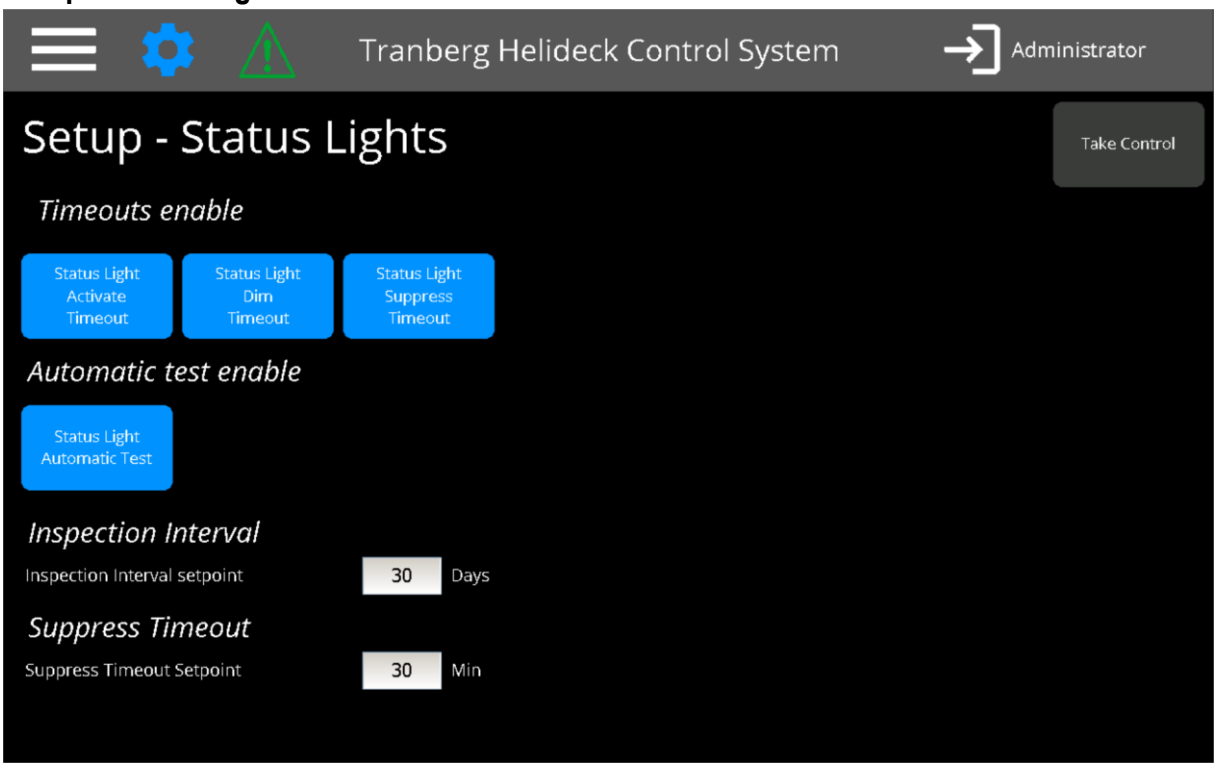
Setup – Status Lights



Setup Status Lights

Available functions:
"Status Light Activate Timeout" – When enabled the status lights will turn off after the set time. Only applicable for manual activation.

"Status Light Dim Timeout" – When enabled the status Dim mode will turn off after the set time.

"Status Light Suppress Timeout" – When enabled the Suppress function will deactivate off after the set time.

"Suppress Timeout" – Suppress Timeout value can be set from 30 to 120 minutes.

"Status Light Automatic Test" – When enabled will turn on the Status Lights for a brief moment to check Status Light health status. Any alarms will be presented in the Alarms screen.

"Inspection Interval" – The setpoint in days for Status Lights inspection notice, can be reset from the Status Lights screen.

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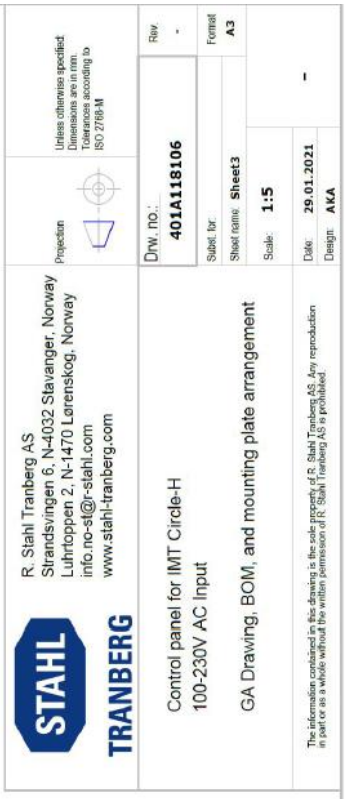
Dimensions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Tolerances according to
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Rev.
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Format
A3
Subst. for:
Sheet name
Sheet3
Scale:
1:5
Date
29.01.2021
Design
AKA
-
Control panel for IMT Circle-H
100-230V AC Input
GA Drawing, BOM, and mounting plate arrangement
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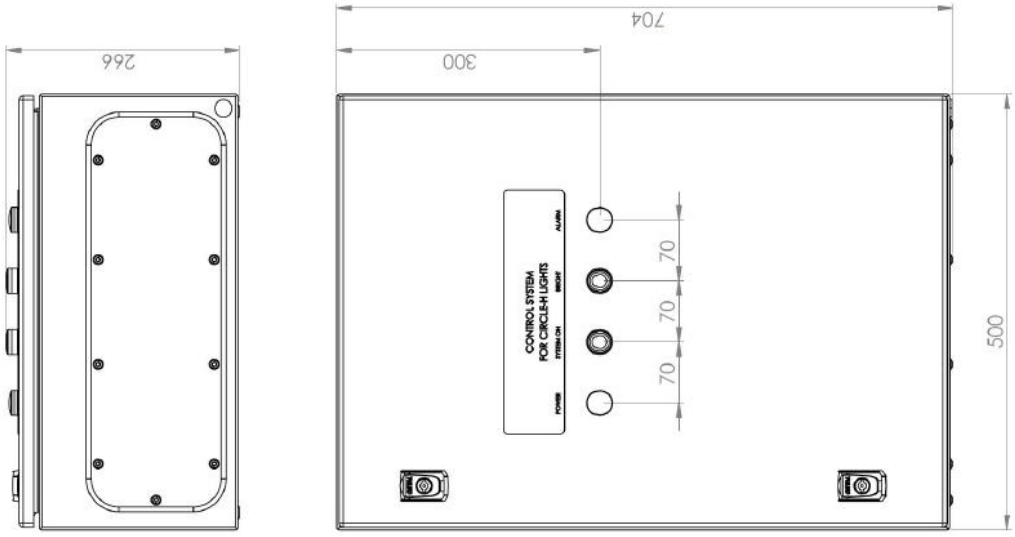
266
300
704
CONTROL SYSTEM
FOR CIRCLE-H LIGHTS
70
70
70
500

Maintenance and cleaning

Clean only with a damp cloth, water and mild detergents. Avoid chemicals with high or low pH, abrasives, high pressure washer, strong detergents, solvents, petroleum- or alcohol based cleaning agents and similar. Avoid any corrosive media.

To prevent dust, humidity and air contaminated with pollutants from entering the enclosure, avoid leaving the doors open unnecessarily for a long time.

After working on the enclosure, check that the door is closed properly.

All components and surfaces are examined for external damage.

Please refer to recommendation from Rittal:

Maintenance must be performed at regular intervals depending on use and ambient conditions, at least once annually and documented accordingly.

Nature and extent of the work to be performed:
The hinges of the doors are checked for ease of movement and sprayed with a suitable, water-free lubricant.

The lock is checked for ease of movement. All moving closure parts are sprayed with a suitable, water-free lubricant.

Gaskets in the contact edge area must be replaced completely if damaged. If the gasket is damaged outside the contact edges, the sealing effect is still sufficient as a rule.

Common agents such as talcum, vaseline or wax can be used to prevent damage due to gaskets freezing because of low temperatures.

All components and surfaces are examined for external damage.

Steel enclosures are also inspected for traces of corrosion. Any damage is repaired as follows: Damage to small areas that affect only a part of the surface (e.g. scratches): Lightly sand off the surface at the damaged place and remove all traces of corrosion as well as all contamination. Depending on the degree of damage, apply the Rittal touch-up paint either with a paint stick, a brush or a spray can (alternative: 2K-PUR acrylic paint).

Large area damage: Smooth the surface uniformly and clean with white spirit; then paint over the entire surface with Rittal touch-up paint (2K-PUR acrylic paint).

All maintenance work should be carried out by qualified personnel. The applicable guidelines on maintenance units must be observed.

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Disposal

CAUTION
This equipment or part of this equipment is considered EE-Waste, and shall be handled accordingly

- Observe national and local regulations and statutory regulations regarding disposal
- Separate materials when sending it for recycling
- Ensure environmentally friendly disposal of all components
- No component or packaging shall end up in the ocean during any stage of the product's lifetime

Compliance/Conformity

- EU_Doc: TDC6930

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