Afbeelding met Lettertype, symbool, tekst, logo

Automatisch gegenereerde beschrijving

Operating Manual

HORTI TRACK

Afbeelding met tekst, diagram, lijn, schermopname

Automatisch gegenereerde beschrijving

Afbeelding met Lettertype, symbool, Graphics, logo

Automatisch gegenereerde beschrijving

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# 1 WHAT IS HORTITRACK

Hortitrack is a program that keeps track of everything on the benches, lets the system command and maintain the data.

The greenhouse system continues to run even when Hortitrack is not running.

# 2 STARTUP

Under normal circumstances, the software is set to start on its own. The following discusses is how to manually stop and start the application.

The application consists of two parts.

: Logistics service ( background application for updating data )

: Horti track ( visual user interface )

The 'Logistics service ' is required to use Hortitrack. It must therefore be started before the application is launched.

## 2.1 LOGISTIC SERVICE

To start it, click on the icon in the taskbar:



Once the application is started, it can be found in the lower right menu:

Afbeelding met tekst, schermopname, Rechthoek, stekker

Automatisch gegenereerde beschrijving

To close it press the right mouse button and then exit. To open it click on open

Afbeelding met schermopname, tekst, Rechthoek, ontwerp

Automatisch gegenereerde beschrijving

### Information screen:

Afbeelding met tekst, schermopname, scherm, software

Automatisch gegenereerde beschrijving

By default, both 'start' buttons must be pressed. This should go automatically at startup.

If after startup it says at Connected: **Disconnected**, there is a problem with communication to the PLC.

Afbeelding met tekst, schermopname, Lettertype, nummer

Automatisch gegenereerde beschrijving

You can try closing and starting the application to solve it. And otherwise check the network.

## 2.2 HORTITRACK

To launch the application press the icon in the taskbar:



### Login

You will be greeted with a login screen.

Default login credentials:

username: user

password:

Afbeelding met tekst, schermopname, Lettertype

Automatisch gegenereerde beschrijving

Click on log in to continue.

Afbeelding met tekst, schermopname, scherm, diagram

Automatisch gegenereerde beschrijving

Black - Navigation bar

Orange - Page ( in this case the layout )

Yellow - Side panel ( overview of active commands , load commands and faults

Brown - Statistics

Green - Connection information

# 3 HORTITRACK

## 3.1 NAVIGATION

Afbeelding met tekst, schermopname, Lettertype, nummer

Automatisch gegenereerde beschrijving

The various items will be covered later. To open a particular page press the link in the navigation menu. After the page is opened it will be displayed. The other pages that were already open remain open in the background. To close a page click on the cross next to the item header. ( X next to 'Container' )

Afbeelding met tekst, schermopname, Lettertype, lijn

Automatisch gegenereerde beschrijving

The menu shows several folders. Click on the folder to open it and show the items.

Below is a brief description of the various items.

|  |  |
| --- | --- |
| Layout | Afbeelding met tekst, schermopname, scherm, diagram  Automatisch gegenereerde beschrijving  Main page for operating the greenhouse. This is where the containers and alarms are shown and is the page through which most operations are done. |
| Containers | Afbeelding met tekst, nummer, lijn, Perceel  Automatisch gegenereerde beschrijvingThis is a list of containers that are or have been active in the system. In this log, certain containers can be filtered and searched back. |
| Workorders | Afbeelding met tekst, schermopname, nummer, Parallel  Automatisch gegenereerde beschrijvingThis is a list of work orders that the system has processed or are still active. |
| Loadorders | Afbeelding met tekst, schermopname, lijn, Lettertype  Automatisch gegenereerde beschrijvingThis is the list of loading commands active/history. |
| Category | Afbeelding met schermopname, software, tekst  Automatisch gegenereerde beschrijvingThis is a list of categories, a category groups different products. |
| Product | Afbeelding met schermopname, software  Automatisch gegenereerde beschrijvingA list of different products/species. |
| Active alarm log | A list of alarms currently active in the system |
| Alarm log | Afbeelding met tekst, schermopname, nummer, software  Automatisch gegenereerde beschrijvingHistory of alarms recorded. |
| Emergency log | Afbeelding met tekst, nummer, software, lijn  Automatisch gegenereerde beschrijvingList of active emergency stops. |

## 3.2 LAYOUT TERMS

The layout is a simplified visual representation of the grow area. It is helpful to know what the various items mean.

|  |  |
| --- | --- |
|  | Segment, can take a container in different directions. |
| Afbeelding met tekst, lijn, schermopname, Lettertype  Automatisch gegenereerde beschrijving | Job, on this there are several containers in a row. A lane can be given a job to move the containers one by one to another location. |
|  | Elevator, this brings the containers to another level in the greenhouse |
|  | Stack, a stack of containers that can be emptied by the crane |
|  | Charging station, its operation is the same as a "segment. The charging station serves as the starting point for assigning charging assignments. |
| Afbeelding met vergrootglas, cirkel, spiegel, ovaal  Automatisch gegenereerde beschrijving | Status lamp or switch. |
| Afbeelding met Rechthoek, lijn, plein, schermopname  Automatisch gegenereerde beschrijving | Containers, in this case on a track. The colors can be changed. |
|  | Emergency stop, if this lights up the emergency stop is active. |

What is a container for the system and how does the system keep track of containers?

In the system, containers are tracked by means of a 'unique number'. This number stays with this container and is linked to the data in Hortitrack.

This number is called a "containerId" and re-appears in several places. This can be useful as a user to verify certain actions.

The number can’t be changed by the user. And is created by the system.

## 3.3 NAVIGATING in THE LAYOUT

Afbeelding met tekst, schermopname, scherm, diagram

Automatisch gegenereerde beschrijving

Navigating between different 'rooms' can be done using the navigation bar.

Afbeelding met tekst, schermopname, software, Lettertype

Automatisch gegenereerde beschrijving

The "screen overview" shows all the different spaces on a page. The different levels and workspace are the detail views.

The layout can be zoomed in and out using the scroll wheel on the mouse.

## 3.4 GREENHOUSE ROUTES

Afbeelding met Parallel, lijn, ontwerp

Automatisch gegenereerde beschrijvingThe multilayer cell consists of three layers. In each layer, the containers take the same route. However, the cell only has an input and output on the ground floor which is highlighted in blue. Part of the route of the cel is shown on the right.

In the cell, containers can move between floors by using the container lift.

To move containers from one lane to another, the system uses work orders. These assignments will be described further later and how to create them will be explained.

Afbeelding met tekst, lijn, diagram, Parallel

Automatisch gegenereerde beschrijvingThe progression of the route in the workspace is shown below. A washer, an overhead crane and several stackers are used in the workspace.

## 3.5 MOVING CONTAINERS

Containers can be sent to different locations or still be corrected later in several ways. The options are discussed below.

### 3.5.1 WORK ORDERS

A work order is basically an order given to a location to take containers to another location.

To issue a command to the system, it is necessary to press a job with the left mouse button.

Afbeelding met diagram, lijn, Rechthoek, tekst

Automatisch gegenereerde beschrijving

In this case, the '1FH11' lane is selected. This one lights up green. All possible destinations of this lane light up blue. Like '1FH13'. When a destination is clicked ('1FH13') a confirmation screen appears.

Afbeelding met tekst, schermopname, scherm, Lettertype

Automatisch gegenereerde beschrijving

In the confirmation screen, the number of containers to be moved can be changed. In this case it is '30' containers. If a job can rotate, the 'reverse order' checkbox can be checked. This makes an order of 30 containers from '1FH11' to '1FH13' and an order of 30 containers from '1FH13' to '1FH11'.

To have a job start at a later time, the delay checkbox can be checked.

Afbeelding met tekst, schermopname, Lettertype, wit

Automatisch gegenereerde beschrijving

There is then the possibility of delaying the assignment a number of hours / min. In this case, 3 hours.

As soon as 'OK' is pressed the command is sent to the system. And as soon as it 'can/may' start it is executed. These orders end up in the work order field on the right side of the screen.

\*The assignment may not start right away. This may be because it is either not possible or not yet allowed. As soon as the assignment is "on" the color in the assignment window changes.

Afbeelding met schermopname, diagram, lijn, nummer

Automatisch gegenereerde beschrijving

After the job is created, the job lights up. This is an indication that this "job" has an assignment. This frame indicates the number of containers that still need to be done. This number goes up to the maximum of the job.

Furthermore, in the 'workorder/assignments list' there will be an 'entry' for this assignment. All assignments in the system will be listed there under each other.

Afbeelding met tekst, schermopname, Lettertype, nummer

Automatisch gegenereerde beschrijving

In the command list is there are several options.

By clicking on an entry in this list, a command can be selected. It can then be modified using the 'Start' / 'Edit' / 'Cancel' buttons at the top of the list.

'Start' the selected command is 'forced' to start. Normally the system determines if the command 'can' / 'may' start. If this button is pressed this check is skipped. This should only be used by a user who knows the consequences. For example, it may be possible for the system to lock up by fetching too many 'containers'. In normal situations this doesn’t need to be used.

'Edit' a window appears where the number of 'containers' of the job can be changed. Should this be entered incorrectly.

'Cancel' the job is aborted. All containers in transit are finished. And if the assignment has already started with a new container it is also finished. After that, the assignment stops.

Afbeelding met tekst, schermopname, nummer, Lettertype

Automatisch gegenereerde beschrijving

Afbeelding met schermopname, lijn, diagram, ontwerp

Automatisch gegenereerde beschrijvingAfbeelding met tekst, schermopname, Lettertype, lijn

Automatisch gegenereerde beschrijving

It is possible to enter multiple assignments for a job. These are completed chronologically. The color in the job list changes according to the status of a job.

'Blue' the command is active and waiting for a release from the system / is in progress.

'Yellow' the assignment is non active, or a blocking assignment is in progress or in this case a previous assignment that has not yet been completed.

'Gray' a delayed command that waits until the start time is reached.

In the job, you can also see the difference. The first color is dark, this indicates that the job is in progress. The gray color after that indicates the next job.

### 3.5.2 CHANGE OF DESTINATION ON SEGMENT

If a container has come out of a lane, and the destination needs to be changed. You must push the 'segment status' off the segment where to container is.

Afbeelding met tekst, schermopname, nummer, Lettertype

Automatisch gegenereerde beschrijving

The image above shows the a container with the destination '1\_E1'. Click on the arrow in red. Then you can choose a new destination in the list. This is then visible again in the field where '1\_E1' is now shown.

If a container is sent to a segment and the container has arrived there. The destination is deleted. The container continues to wait here until a new destination is given.

### 3.5.3 CHANGING MULTIPLE CONTAINERS ON SEGMENTS

It is possible to change the destination of several containers on segments. Select the containers (\* see heading select containers ) and then press 'destination' in the 'layout menu bar'

Afbeelding met tekst, Lettertype, schermopname, logo

Automatisch gegenereerde beschrijving .

Then select the destination and click "Ok.

Afbeelding met tekst, schermopname, lijn, diagram

Automatisch gegenereerde beschrijving

### 3.5.4 User proces

In this sheet, it is possible to link your cultivation schedule to a phase or assign a selection of containers to a cultivation schedule. In each cultivation schedule, it is possible to assign a time and change various parameters such as speed, angle and pressure. To set this up properly, it is recommended to follow the following steps.

First, a process must be created.

Afbeelding met schermopname

Automatisch gegenereerde beschrijving

Then the process plan can be added and adjusted to the desired operation. It is possible to add several phases to the plan. For example, it is possible to first apply a process plan for 5 days and then assign another process plan. In addition, it is also possible to choose to mist the crop first and then provide the crop with a water recipe through ebb and flow.

Afbeelding met tekst, schermopname, nummer, software

Automatisch gegenereerde beschrijving

To set or adjust the process plan settings, click on the process plan. In the next window, the trigger can be set. Here you can change the period time of the process plan. Furthermore, it is possible to change the parameters of, for example, the spray boom here. Here you can adjust the speed, angle and pressure of the sprayboom and set it to the desired level.

Afbeelding met tekst, schermopname, nummer, Lettertype

Automatisch gegenereerde beschrijving

Afbeelding met tekst, schermopname, nummer, Parallel

Automatisch gegenereerde beschrijvingIt is also possible to assign a selection of containers to a process. A manual (semi-automatic assignment) can be created via this way. By selecting a number of containers, the process can be adapted to the container.

## 3.6 EMERGENCY STOP

If an emergency stop is active, an alarm is displayed in the 'layout'.

Afbeelding met tekst, schermopname, Lettertype

Automatisch gegenereerde beschrijving

With in the text which emergency stop was pressed.

Furthermore if an emergency stop is active there is an emergency stop icon on it in the 'layout'.

Afbeelding met schermopname, ontwerp

Automatisch gegenereerde beschrijving

This gives an indication of where the emergency stop was pressed. It is not possible in Hortitrack to reset an emergency stop. This must be done physically, because off safety reasons.

In the emergency stop list ( see navigation ), the history of emergency stops pressed can be viewed.

List of emergency stops that are made / have been made.

Afbeelding met tekst, nummer, software, lijn

Automatisch gegenereerde beschrijving

## 3.7 ALARMS

When something goes wrong in the system, a red frame is displayed at the corresponding spot.

Afbeelding met Rechthoek, schermopname, Lettertype, tekst

Automatisch gegenereerde beschrijving

Orange - Warning

Red - Malfunction

Furthermore, this fault also appears in the side menu.

Afbeelding met tekst, schermopname, Lettertype, nummer

Automatisch gegenereerde beschrijving

To quickly view the fault, the status of the location can be accessed by double-clicking on the fault in the list.

The same window as discussed below will then open. The fault does not disappear until it is resolved and/or reset.

## 3.8 QUERY STATUS

In some cases, it is necessary to know the status of a segment or job. It is further explained below.

Some status messages contain the words forward/backward/left/right. This is defined as followed.

Afbeelding met tekst, diagram, lijn, schermopname

Automatisch gegenereerde beschrijving

### 3.8.1 JOB STATUS

By right-clicking on a job, the status can be called up.

Afbeelding met tekst, schermopname, scherm, nummer

Automatisch gegenereerde beschrijving

This shows the basic information again, as well as the job the job is doing ( Destination / Order Amount).

Furthermore, it shows how many containers fit in the lane('maximum') and are on it('amount').

When the track's drive is controlled, the speed can be seen by looking at the value of the 'speed' field.

The 'location/fqindex/trackindex' are internal data of the track. Which are used by 'HTV'.

In the status list box, the current status can be further seen. If there are failures, they will appear in this.

On the lower left is the option to reset the faults 'clear errors'. On the bottom right is a check mark that can be turned on to allow more adjustments to be made on the layout.

Afbeelding met tekst, diagram, lijn, schermopname

Automatisch gegenereerde beschrijving

The +1 and -1 buttons can be used to change the number of containers on the track. This need not be performed in normal operation but only in case of an error.

'Initiliaze track' brings the track back to its 'base' position and state. What the program was doing is reset. The track then enters a stop mode. When everything is back to normal, this mode can be removed by 'clear errors'.

### 3.8.2 SEGMENT STATUS

By right-clicking on a segment, the status can be called up.

Afbeelding met tekst, schermopname, scherm, nummer

Automatisch gegenereerde beschrijving

This shows the basic information again, as well as the container on it and its destination.

If the segment's drive is controlled, the speed can be understood by looking at the value of the 'speed' field.

The 'location/fqindex' are internal data of the job. Which are used by 'HTV'.

In the status list box, the current status can be further seen. If there are failures, they will appear in this.

The destination of a container can be changed by selecting a different destination in the dropdown box next to 'destination'.

On the lower left is the option to reset the faults 'clear errors'. On the bottom right is a check mark that can be turned on to allow more adjustments to be made on the layout.

Afbeelding met tekst, schermopname, scherm, Lettertype

Automatisch gegenereerde beschrijving

'Initialize segment WITH container'/'Initialize segment WITHOUT container' returns the segment to its 'base' position and state. What the program was doing is reset. The segment then shoots into a stop mode. When everything is back to normal this mode can be removed by 'clear errors'. If there is a container at this location and 'Initialize segment WITHOUT container' is done the system is told to remove this container. The internal container number is then deleted. This also works the other way around. If the container is not to be changed the button must be pressed with container.

### 3.8.3 STATUS LIST

If an error is active it is described in the status list. The 'errors' can have various causes and only go away after resetting.

Status information indicates what the segment is doing. This combined with faults can tell you something about what has happened or needs to happen.

Afbeelding met tekst, Lettertype, lijn, schermopname

Automatisch gegenereerde beschrijving

## 3.9 CONTAINERS

This is the container log with all the "containers/benches" in the system.

Afbeelding met tekst, nummer, lijn, Perceel

Automatisch gegenereerde beschrijving

### 3.9.1 CONTAINER DATA

Afbeelding met tekst, lijn, nummer, Perceel

Automatisch gegenereerde beschrijving

There are several pieces of data you can attach to a container. The most common is to add this data through a Load Order. This is explained in the loading orders section.

A 'product' is created in advance and ensures on easy retrieval of 'containers' with the same product as it remains the same.

'Product' has a special effect. A product contains a field color. The moment a container is assigned a particular product, it assumes the color of the product. The color of the container can still be overwritten.

'Tracing' displacement history of a container. The locations where it has been.

'Events' list of special events of the container.

### 3.9.2 SELECTING CONTAINERS IN THE LAYOUT

This can be done by holding down the "CTRL" key and clicking on a container with the "left" mouse button.

Afbeelding met schermopname, Rechthoek, lijn, Kleurrijkheid

Automatisch gegenereerde beschrijving

The containers selected will have a yellow border.

And other way is to turn on the selection button. In the menu. Now you can select without the 'CTRL' button.

Afbeelding met tekst, schermopname, Lettertype, Merk

Automatisch gegenereerde beschrijving

Deactivate selection can be done by clicking on the background in the layout. After editing, the selection is also deactivated.

### 3.9.3 SELECTING CONTAINERS IN THE Container log

This is done in the same way as in the layout. The selected rows now light up.

Afbeelding met tekst, schermopname, nummer, Lettertype

Automatisch gegenereerde beschrijving

To make the selected containers visible in the layout, the button 

'Show in layout' can be pressed.

The container log can also be filtered.

Afbeelding met tekst, schermopname, scherm, nummer

Automatisch gegenereerde beschrijving

By clicking on a column, the filter can be adjusted. To deactivate the filter, it can be removed again at the bottom left ( X button).

Afbeelding met tekst, schermopname, Lettertype, Rechthoek

Automatisch gegenereerde beschrijving

These can then be selected on the screen in the same way.

### 3.9.4 ADJUST CONTAINER(S) DATA



In the 'edit \* containers' the number of the selection can be reviewed.

'Edit containers': a page where to edit the data of all selected containers. This writes the same(modified) data to the containers.

'Copy': The data of the first selected container is transferred to all other selected containers.

'Destination': Allows the destination of all selected containers to be changed.

**Container filtering**

Afbeelding met tekst, schermopname, scherm, nummer

Automatisch gegenereerde beschrijving

By clicking on a column, the filter can be adjusted. To deactivate the filter, it can be removed again at the bottom left ( X button).

Afbeelding met tekst, schermopname, Lettertype, Rechthoek

Automatisch gegenereerde beschrijving

### 3.9.5 ASSIGN CONTAINER OF DATA VIA A LOAD COMMAND

Operation of a load order, in the 'layout' is a 'load station' this is a place where the 'containers' are loaded. If a 'container' lands on this 'segment' it belongs to the active load command. This way 'batches' of containers can get the same information.

Creating a new load command. Done by right-clicking on the load orders list in the 'layout'. And then pressing the 'New' button.

Afbeelding met tekst, schermopname, scherm, Lettertype

Automatisch gegenereerde beschrijving

Afbeelding met tekst, schermopname, nummer, Lettertype

Automatisch gegenereerde beschrijving

This is followed by a page where the load order data can be modified. Once a "container" is assigned to the load order, this data is copied to the container.

You can keep a loading assignment active for a number of containers. The 'containers required' field indicates how many 'containers' are to be assigned. The 'destination' indicates the destination of the 'containers'.

Stopping a command early. Press the right mouse button on a command and click 'done'.

Change number of containers, double click on a job and change either the 'number of containers' or the 'number of containers done'.

The data can also be modified later from a load order but it will only be used for the 'newly' assigned 'containers'.

Save command. Press one of the two buttons highlighted in yellow. ( \* the first is save only and the second is save and close the page ). After saving, the job appears in the list. If there is another job in front of it, it will be finished first.

Afbeelding met tekst, Lettertype, schermopname, diagram

Automatisch gegenereerde beschrijving

# 4. Alarm codes

This table shows the possible solutions to the problems that might occur in the system.

|  |  |  |
| --- | --- | --- |
| Alarm: | Description: | Solution: |
| General Warning | General warning for the system | Look at the other warnings for more details |
| General Alarm | General alarm | Look at the other alarms for more details |
| Manual push-through is on | Push through by hand is on | N/A |
| Configuration disable warning(s) | Configuration to disable warning(s) | N/A |
| Configuration auto reset alarm(s) | Configuration to automatically reset alarm(s) | N/A |
| Add container? | Add container to the system? | N/A |
| Clear error(s) | Clear error(s) | N/A |
| Initialize track? | Initialise the track | N/A |
| Removing container? | Remove container from the system? | N/A |
| Track is in rest position | Track is in rest position | N/A |
| Track is in basic position | Track is in basic position | N/A |
| Intervention is required | Attention required at this location | Check what is wrong at the location. There are most likely more alarm(s) or warning(s) in the list. Use \*Clear Error(s)\* to reset everything |
| Alarm present | Alarm present | Check what is wrong at the location. There are most likely more alarm(s) or warning(s) in the list. Use \*Clear Error(s)\* to reset everything |
| Track is stopped, press \*Clear error(s)\* to start it again | Track is stopped, press \*Clear error(s)\* to start it again | Be sure to have checked the location physically first, to ensure the problems are gone. Once gone press \*Clear error(s)\* to restart |
| Track is off | Track is off | Track is off, press \*Clear error(s)\* to restart the track |
| Input or output location not in basic position | Input or output location not in basic position | Be sure to have checked the location physically first, to ensure the problems are gone. Once gone press \*Clear error(s)\* to restart |
| Sensor input ready not seen | Input ready sensor is not seen | Check the situation at the location and correct if necessary, then press \*Clear error(s)\* |
| Track not in base position | Track is not in his base position | Check the situation at the location and correct if necessary, then press \*Clear error(s)\* |
| Input sensor seen before input is started | Input sensor is made before starting with input | Check the input sensor, correct the issue's if necessary, then press \*Clear error(s)\* |
| Inverter in malfunction | Inverter is malfunctioning | Check the situation at the location and correct if necessary, then press \*Clear error(s)\* |
| Motor runs to long forward | Motor keeps running forward | Check what is wrong at the location, if there is nothing wrong, press \*Clear error(s)\* |
| Motor runs to long backwards | Motor keeps running backwards | Check what is wrong at the location, if there is nothing wrong, press \*Clear error(s)\* |
| Stop puller sensor faulty | Stop puller sensor is faulty | Check the right sensor on the pipes at the puller unit. Then press \*Clear error(s)\* |
| Stop pusher sensor faulty | Stop pusher sensor is faulty | Check the left sensor on the pipes at the pulling unit. Check if the track is full. Then press \*Clear error(s)\* |
| Track forward sensor faulty | Track forwards sensor is faulty | Check the sensor at the puller unit closest to the segment. Then press \*Clear error(s)\* |
| Track backwards sensor faulty | Track backwards sensor is faulty | Check the sensor at the puller unit furthest from the segment. Then press \*Clear error(s)\* |
| Tracks has done three attemps at removing container, unsuccesfully | Track tried 3 times to remove container from the track, failed 3 times | Check the track if there are containers, and if the puller brings them closer. Then press \*Clear error(s)\* |
| Automatic cycle takes very long time | Automatic cycle takes longer then it should | Check what is wrong at the location, if there is nothing wrong, press \*Clear error(s)\* |
| No configuration indicated | No configuration indicated | N/A |
| Track is stopped, press \*Clear error(s)\* to start it again | Track is stopped, press \*Clear error(s)\* to start it again | N/A |
| Container has no valid route | Container has no valid route | Use a different route. If the warning does not go away, press \*Clear error(s)\* |
| Order destination has no room for more containers | Order destination has no more room for containers | Make space, or choose different destination |
| Order cannot start/continue without container entry or job is empty | Order can’t start or continue without container entry or the job is empty | Cancel the order, and start a new one |
| Container input started from the back | Container input started from the back | N/A |
| Container input started from the front | Container input started from the front | N/A |
| Container input started from the left | Container input started from the left | N/A |
| Container input started from the right | Container input started from the right | N/A |
| Container input started from the outside or above | Container input started from the outside or above | N/A |
| Container output started to the back | Container output started to the back | N/A |
| Container output started to the front | Container output started to the front | N/A |
| Container output started to the left | Container output started to the left | N/A |
| Container output started to the right | Container output started to the right | N/A |
| Container output started to the outside or above | Container output started to the outside or above | N/A |
| Track is full | Track is full with containers | N/A |
| Status: Front module is a pusher | | |
| Status: Front module is a transport belt | | |
| Front module has a inverter malfunction | Front module has a inverter malfunction | Check the inverter (VFD) at the location and correct if necessary, then press \*Clear error(s)\* |
| Front module runs to long forwards | Front module run timeout reached-no movement of bench | Check the situation at the location and correct if necessary, then press \*Clear error(s)\* |
| Front module runs to long backwards | Front module run timeout reached-no movement of bench | Check the situation at the location and correct if necessary, then press \*Clear error(s)\* |
| Front module has a position error | Front module has a bridge error | Check the high/low sensor at the location and correct if necessary, then press \*Clear error(s)\* |
| Front module is full, or stop pusher sensor is covered | Front module is full, or stop pusher sensor is covered | Check the situation at the end off the lane and correct if necessary, then press \*Clear error(s)\* |
| Front module is not in base position | Front module is not in base position | Check if the module is in base (rest) position at the location and correct if necessary, then press \*Clear error(s)\* |
| Status: Back module is a pusher | | |
| Status: Back module is a transport belt | | |
| Back module has a frequency controller malfunction | Back module has a frequency controller malfunction | Check the inverter (VFD) at the location and correct if necessary, then press \*Clear error(s)\* |
| Back module runs to long forwards | Back module run timeout reached-no movement of bench | Check the situation at the location and correct if necessary, then press \*Clear error(s)\* |
| Back module runs to long backwards | Back module run timeout reached-no movement of bench | Check the situation at the location and correct if necessary, then press \*Clear error(s)\* |
| Back module has a position error | Back module has a bridge error | Check the high/low sensor at the location and correct if necessary, then press \*Clear error(s)\* |
| Back module is full, or stop pusher sensor is covered | Back module is full, or stop pusher sensor is covered | Check the situation at the end off the lane and correct if necessary, then press \*Clear error(s)\* |
| Back module is not in base position | Back module is not in base position | Check if the module is in base (rest) position at the location and correct if necessary, then press \*Clear error(s)\* |
| Initialize segment with container? | Initialize segment with container? | N/A |
| Initialize segment without container? | Initialize segment without container? | N/A |
| Segment is off | Segment has been manually stopped. | Check the situation at the location and correct if necessary, then press \*Clear error(s)\* |
| Status: Segment is at rest | | |
| Status: Segment is in base position | | |
| Status: Warning present | | |
| Status: Alarm present | | |
| Status: Container present | | |
| Status: Container is positioned correctly | | |
| Segment is not in base position | Segment is not in base position | Check at the segment if the sensors are clear and the bridge is low and correct if necessary, then press \*Clear error(s)\* |
| Bridge does not move or is in wrong position | Bridge does not move or is in wrong position | Check the bridge at the location and check if it can move freely and if the light off the air valve is switched on, then press \*Clear error(s)\* |
| Motor runs to long | Motor time out | Check the situation at the location and correct if necessary, then press \*Clear error(s)\* |
| Input cylinders not working, container not visible | Sensor bench present not active | Check the sensor on the bridge and the cylinders at the location and correct if necessary, then press \*Clear error(s)\* |
| Start input cylinder sensor faulty | Start input cylinder sensor faulty | Check the sensor on the bridge at the location and correct if necessary, then press \*Clear error(s)\* |
| Container is not properly positioned | Container is not properly positioned | Check the situation at the location and correct if necessary, then press \*Clear error(s)\* |
| Left sensor faulty | Left sensor faulty | Check the left bench detection sensor at the location and correct if necessary, then press \*Clear error(s)\* |
| Right sensor faulty | Right sensor faulty | Check the right bench detection sensor at the location and correct if necessary, then press \*Clear error(s)\* |
| Container present without destination | Container present without destination | Give container a destination |
| Water unit faulty | Water unit faulty | Check the water valve at the location and correct if necessary, then press \*Clear error(s)\* |
| Automatic cycle takes a very long time | Automatic cycle takes longer then it should | Check the rest of the statuses. This can also indicate a problem down the line. |
| Segment is stopped, press \*reset\* to start | Segment is stopped, press \*reset\* to start it | N/A |
| Container present but no ID | Container present but no ID | Check location/surrounding area for faults. “in automatic mode this should not occur” container present then start the location with container |
| ID present but no container | ID present but no container | Check location/surrounding area for faults. “in automatic mode this should not occur” no container present then start the location without container |