

Operating Instructions

WeldCube



EN Operating Instructions



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Device concept	WeldCube is an industrial PC with special software for monitoring networked welding systems in manufacturing areas. The graphical user interface with self- explanatory symbols allows simple and clear management of up to 50 TPS or DeltaSpot welding systems that form part of a networked production line. The location and status of each welding system can be seen at a glance. Tried and tested settings can be copied easily from one system to another.
Application areas	 The application area encompasses all digital devices from the Fronius product family in automated and manual applications MIG/MAG welding and brazing (CMT) TIG welding DeltaSpot - spot welding Plasma welding
Welding system requirements	 Digital power source Free LocalNet connection with "Ethernet" option on the power source If no LocalNet connection is free: LocalNet passive splitter For retrospective evaluation of welding data: RCU 5000i remote control or enable data documentation (Docu) and enable JobExplorer For some functions, an RCU 5000i remote control must be connected to the respective power source.
Firmware ver- sions	 The device firmware must always be kept up-to-date in order to be able to use all WeldCube functions without any restrictions. Minimum requirements: TS 4000 / 5000, TPS 2700 / 3200 / 4000 (CMT) / 5000 (CMT) / 7200 / 9000 Power source firmware: OFFICIAL UST V4.33.21 or higher OFFICIAL UBST V1.08.6 or higher RCU 5000i firmware: OFFICIAL RCU V1.15.127 or higher

MICROSOFT software license	Observe the software license conditions accessible via the following link:		
conditions		http://www.fronius.com/QR-link/0005	

The WeldCube user interface

The WeldCube user interface	After logging in to WeldCube, the following menu items are available in the menu on the user interface:
	- Machines

- Parts -
- Arc welds
- Spot welds
- Statistics
- Consumption figures
- Part administrationMaterials
- Part monitoring
- Configuration

Machines

General

In the "Machines" menu item, all the configured welding systems in a network are listed.

Information on the individual welding systems, jobs, the components in use and the relevant welds can be called up.

Machines

Overview	
I	Info (machine information page) Jobs Component history Log book Welds

Live view

The machines are displayed sub-divided by status.

Brief information

Machine information page

...

Status indicators used:

Machine is online, weld ok (no errors, no warnings)

- ? Machine is not online
- Fault on the machine
- 🤣 🛛 Machine is currently welding
- The machine displays a warning

Overview

All the configured welding systems in a network are listed and the following data is displayed:

- Name *
- Serial number
- Model
- Location
- IP address
- Last welded

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The devices listed can be sorted in ascending or descending order based on the data displayed.



When you click on the menu symbol, the sub-menu opens. The following data can be selected:

Info

when selected, the information page for the system is displayed

Jobs **

JOB when selected, the jobs saved in the machine are displayed



i

Component history **

when selected, all changes made to the system are displayed, together with the date and time of the change:

- Addition of components
- Removal of components
- Updates



Log book**

when selected, the log book of the machine is displayed.

The

Date range

selection box can be used to specify the history time period:

- Unlimited
- Last 7 days
- Last 30 days
- Today
- Specific (from/to, calendar entry, click on the "Apply" button to display)

The

Show

selection box can be used to sort the log data displayed:

- All
- Jobs
- User
- Firmware
- Error

The date, type and details of the log data are displayed.

In the event of errors, the duration of the error is shown in the text if it is no longer present.

The duration of an error is calculated from the start of the error to the occurrence of the next error or an error reset.



Welds

when selected, the display switches either to the "Arc welds" menu item or the "Spot welds" menu item, depending on the welding process.

The following data is displayed:

Arc welds

- Machine name
- Machine serial number
- Model
- Location
- IP address
- Seam number
- Date
- Duration [s]
- Limit violations
- Errors
- Part serial number
- Part item number

Spot welds

- Machine name
- Machine serial number
- Model
- Location
- IP address
- Spot number
- Program number
- Date
- Part serial number
- Part item number
- Errors
- Limit violations

When a sub-menu item is selected, this is opened and displayed. The other available sub-menu items can be selected in the upper section of the page.

- * The information page for the machine is displayed by clicking on the device name.
- ** Only on TPS machines

Live view Green area:

All active welding systems in a network are listed. After clicking on the system required, the brief information is displayed with the following data:

- Serial number
- Name
- Model
- Location
- IP address
- Last welded

The information page for this machine can be called up from the brief information.

Orange area:

Status / Machine / Problems

All non-active welding systems or welding systems with errors within a network are listed. In the case of welding systems with errors, the error number and the corresponding error description are also shown.

After clicking on the required system, the brief information is shown with the following data:

- Serial number
- Name
- Model
- Location
- IP address
- Last welded

The information page for this machine can be called up from the brief information.

Machine inform- The machine information page shows the following data: **ation page**

Name of system

- Serial number
- Model
- Location
- IP address

Operating status overview

- Ten most frequent errors (pie chart)
- Number of errors within the last week (bar chart)

Components

- Last update (date, time) *
- Valid since (date, time) *
- * The format depends on the browser language used.

Clicking on the

Expand all

button displays all the available data for all components.

When activated, the

Display details

selection box displays additional information for troubleshooting (for the service engineer).

Data from individual components can also be displayed by clicking on the arrow symbols.

Jobs - overview All jobs saved in a TPS welding system are sub-divided into groups by job number and name.

When a group is selected, all the jobs in this group are highlighted. The jobs can also be selected individually.

i	Display selected job	*	
	History for this job		
	 Date range Hide unchanged values Compare selection Reset selection 		
Π	Display history for selected job(s)	*	
	- Date range		

- Calculated Q-Master limits for selected job(s)
 - Date range
 - Standard deviation factor
 - Refresh
 - Send all jobs to machine

Job name | Voltage [V] | Amperage [A] | Wire speed [m/min] | Voltage graphic Amperage graphic | Wire speed graphic | Recalculated error rate [%] | Send job to machine

*

4	Reset selection	*
Ð	Select all jobs	*

* Menu items in the upper section of the page

The views can also be called up by clicking on the menu symbols:

- i Details for this job
- History for this job
- History for selected jobs (only if multiple jobs are selected)
- Calculate Q-Master limits for this job
- Calculate Q-Master limits for selected jobs
 (only if multiple jobs are selected)

NOTE!

Modifying a job can be time-consuming.

The transmitting of changed values to the machine can be checked in the job history.

Jobs: Display selected job

When jobs are selected individually, the

Display selected job

button is activated.

When you click on the button, the job data are shown in various groups depending on the device, e.g.:

- General
- Process
- Process parameters
- Process pre-sets
- Mode
- Mode pre-sets
- Job correction
- Q-Master
- Documentation

Using the

History for this job

button, the history of the job from creation to the latest version can be displayed, including all changes.

Changes are highlighted in yellow.

The

Date range

selection box can be used to specify the history time period:

- Unlimited
- Last 7 days
- Last 30 days
- Today
- Specific (from/to, calendar entry, click on the "Apply" button to display)

In the job history view, unchanged values can be hidden by enabling the

Hide unchanged values

selection box.

If multiple entries are highlighted, these can be compared using the

Compare selection

button. The selected entries are listed alongside one another.

Changes are highlighted in yellow.

Using the

Reset selection

button, the selection that has been made can be reset.

Jobs: Display history for selected job(s)

The history of jobs can also be displayed by clicking on the

Display history for selected job(s)

button.

The

Date range

selection box can be used to specify the history time period:

- Unlimited
- Last 7 days
- Last 30 days
- Today
- Specific (from/to, calendar entry, click on the "Apply" button to display)

Jobs: Calculated Q-Master limits for selected job(s)

Click on the Calculated Q-Master limits for selec-

ted job(s)

button to display the calculated Q-Master limits for the welds of the machine and the relevant jobs from the last seven days with three times the standard deviation.

A progress display is shown.

The

Date range

selection box can be used to specify the history time period:

- Unlimited
- Last 7 days
- Last 30 days
- Today
- Specific (from/to, calendar entry, click on the "Apply" button to display)

The

Standard deviation factor

input field can be used to enter the standard deviation factor.

Click on the

Refresh

button to display and recalculate the values.

The following values are displayed:

Job name | Voltage [V] | Amperage [A] | Wire speed [m/min] | Voltage graphic Amperage graphic | Wire speed graphic | Recalculated error rate [%] | Send job to machine*

	Click on the	
	Send all jobs to machine	
	button to transmit all recalculated Q-Master limit values to the machine simultaneously.	
	*	
	After refreshing, a	
	Send job [no.] to machine	
	button is generated for each job. Click this button to transmit the calculated Q-Master limit values for each job to the machine.	
Jobs: Reset se- lection	Using the	
	Reset selection	
	button, the selection that has been made can be reset.	
Jobs: Select all	Click on the	
jobs	Select all jobs	
	button to select and mark all jobs.	
Component his- tory	The history for all components in a TPS welding system is displayed in a time line with the date and time.	
	Here, the display shows whether a component or a module has been added or re- moved and whether an update has been carried out on a component or a module.	
	Component added [green font]	
	Component removed [orange font]	
	Component has been updated [blue font]	
	 The next column shows which component was updated the previous version and the updated version 	
	The initial machine status is displayed at the lower end of the time line.	

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When selected, WeldCube switches either to the "Arc welding" menu item or the Welding operations "Spot welding" menu item, depending on the welding process. The following data is displayed:

Arc welding operations

- Machine name _ _
- Machine serial number
- Model -
- Location -
- IP address -
- Seam number -
- Date -
- Duration [s] -
- Limit violations -
- Complete -
- Component serial number -
- -Component item number

Spot welding operations

- Machine name -
- Machine serial number -
- Model -
- Location -
- IP address -
- Spot number -
- Program number -
- -Date
- Component serial number -
- Component item number -
- Errors -
- -Limit violations

Further information is contained in the "Arc welding" and "Spot welding" sections.

Components

General The "Parts" menu item shows all the parts that have been welded in a system configured as the user wishes within a network.

The part serial numbers and part item numbers are displayed.

A text filter and a filter wizard are available to simplify the part search.

Click on the

Show more results

button to double the number of search results.

Text filter	When you click on Help , the possible search parameters are displayed.						
	To search:						
	1 Enter the required search parameters						
	2 Select the search parameter						
	3 Enter value						
	4 Click OK						
	The components are displayed and so	orted accordingly.					
	Example						
	Search for the device serial number serialnumber: 12345678 ==> OK All components welded at the power source with serial number 12345678 are displayed.						
					Filter wizard	ard are displayed.	possible search parameters of the filter wiz-
						the text filter.	are identical to the search parameters of

_	
1	

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Select the required search parameters

2 Enter value

3 Click the **Save** button

The components are displayed and sorted accordingly.

Part report for arc welds

When you click on the eye symbol, the part report for the selected part is displayed.

The part report for arc welds shows the following data:

Status of part

- Part serial number
- Part item number
- Part name
- Configured processing steps
- Number of welds
- Number of OK welds*
- Number of faulty welds*
- Number of missing welds*
- Number of multiple welds*
- Number of unconfigured welds*
- Arc time [s]
- DeltaSpot weld time [s]
- Number of limit value violations

* incl. pie chart

Images of the part (if images for the part have been saved in "Part administration")

Processing steps

Expand all	Button for displaying all processing steps
Collapse all	Button for hiding all displayed pro- cessing steps
Chart scaling mode selection box	Automatic / machine
Not OK (processing step numbers)	

Processing step number | Status

Seam

- Weld details (linked to the arc welds of the part)
- Seam number
- Weld date
- Errors
- Duration [s]
- Limit violations

Machine

_

- Name *
 - Machine serial number
- Model
- Location
- IP address

Graphical depiction of the welding history

The following parameters are displayed over the time axis:

for arc welds

- Wire speed [m/min] green
- Amperage [A] red
- Voltage [V] blue
- Welding speed [cm/min] yellow

for spot welds

- Force [kN] blue
- Amperage [kA] red
- Voltage [V] green
- Resistance [µOhm] khaki

Average voltage Average current Average wire speed

Welding history of the individual weld sections (e.g. for a MIG/MAG weld)

Command values

- Welding mode
- Duration
- Job number **
- Gas consumption
- Reference number of weld characteristic
- Wire speed [m/min]
- Arc length correction [%]
- Pulse correction [%]
- U approximately [V]
- I approximately [A]

Limits

- Current command value [A]
- Voltage command value [V]
- Wire speed command value [m/min]
- Max. duration of current deviation [s]
- Max. duration of voltage deviation [s]
- Max. duration of wire speed deviation [s]
- Reaction
- * displayed as a link; opens machines / info page for the machine

** displayed as a link; opens machines / jobs / displayed job no.

Part report for spot welds

When you click on the eye symbol, the part report for the selected part is displayed.

The part report for spot welds shows the following data:

Description

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- Part serial number
- Part item number
- Part name
- Status

Configured processing steps

- Number of welds
- Number of OK welds
- Number of faulty welds
- Number of missing welds
- Number of multiple welds
- Number of unconfigured welds
- Arc time [s]
- DeltaSpot weld time [s]
- Number of limit value violations

Images of the part

(if images for the part have been saved in "Part administration")

Processing steps

Processing step number | Status

Item

- Spot number
- Program number
- Date
- Errors
- Limit violations

Machine

- Name
- Serial number
- Model
- IP address
- Location

Graphical depiction of the welding history

The following parameters are displayed over the time axis:

- Force [kN] blue
- Amperage [kA] red
- Voltage [V] green
- Resistance [µOhm] khaki

Welding history of the individual weld sections (e.g. for a MIG/MAG weld)

Command values

- Welding mode
- Duration
- Job number
- Gas consumption
- Reference number of weld characteristic
- Wire speed [m/min]
- Arc length correction [%]
- Pulse correction [%]
- U approximately [V]
- I approximately [A]

Limits

- I approximately [A]
- Lower current limit [-A]
- Upper current limit [+A]
- Voltage command value [V]
- Lower voltage limit [-V]
- Upper voltage limit [+V]
- Wire speed command value [m/min]
- Lower wire speed limit [-m/min]
- Upper wire speed limit [+m/min]
- Max. duration of current deviation [s]
- Max. duration of voltage deviation [s]
- Max. duration of wire speed deviation [s]
- Reaction
- * displayed as a link; opens machines / info page for the machine
- ** displayed as a link; opens machines / jobs / displayed job no.

Arc welding operations

General The "Arc welding operations" menu item shows all arc welding operations that have been carried out on a system configured as the user wishes within a network.

The following are displayed:

- Machine name
- Machine serial number
- Model
- Location
- IP address
- Seam number

- Date
- Duration [s]
- Limit violations
- Complete
- Component serial number
- Component item number

A text filter and a filter wizard are available to simplify the search.

Click on the

Show more results

button to double the number of search results.

Text filter	When you click on Help , the possible search parameters are displayed.				
	To search:				
	 Enter the required search parameters Select the search parameter Enter value Click OK 				
	The welding operations are displayed and sorted accordingly.				
	Example Search for the device serial number				
	serialnumber: 12345678 ==> OK				
	All welding operations carried out on the power source with serial number 12345678 are displayed.				
Filter wizard	When you click on Filter wizard , the possible search parameters of the filter wiz- ard are displayed. The filter wizard's search parameters are identical to the search parameters of the text filter.				

General

- Id
- Serial number
- Machine name
- Model
- Machine location
- IP address
- Component serial number
- Component item number
- Seam number
- Welding mode
- Job number
- Complete (Yes / No)
- Faulty (Yes / No)

Date/Time

- from
- to

1st field: entry of day, month, year from calendar

2nd field: time

Limit violations

- Upper current limit exceeded
- Lower current limit undercut
- Upper voltage limit exceeded
- Lower voltage limit undercut
- Upper wire feed speed limit exceeded
- Lower wire feed speed limit undercut
- Upper welding speed limit exceeded
- Lower welding speed limit undercut

(Yes / No in each case)

To search:

1 Select the required search parameters

	2	
ĺ	-	

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Click the **Save** button

Enter value

The welding operations are displayed and sorted accordingly.

Arc welds

When you click on the eye symbol, the selected arc weld is shown.

The following data is displayed:

Seam

- Seam number
- Date
- Complete
- Duration
- Limit violations

Machine

- Name *
- Serial number
- Model
- IP address
- Location

Part

- Item number
- Serial number

Actual values (graphical depiction of the welding history) The following parameters are displayed over the time axis:

- Wire speed in m/min (green)
- Amperage in A (red)
- Voltage in V (blue)
- Welding speed in cm/min (yellow)

Welding history of the individual weld sections (e.g. for a MIG/MAG weld)

Command values

- Welding mode
- Duration
- Job number **
- Gas consumption
- Reference number of weld characteristic
- Wire speed
- Arc length correction
- Pulse correction
- U approximately
- I approximately

Limits

- I approximately [A]
- Lower current limit [-A]
- Upper current limit [+A]
- Voltage command value [V]
- Lower voltage limit [-V]
- Upper voltage limit [+V]
- Wire speed command value [m/min]
- Lower wire speed limit [-m/min]
- Upper wire speed limit [+m/min]
- * displayed as a link; opens machines / info page for the machine
- ** displayed as a link; opens machines / jobs / displayed job no.

Spot welding operations

General The "Spot welding operations" menu item shows all spot welding operations that have been carried out on a spot welding system configured as the user wishes within a network.

The following are displayed:

- Machine name
- Machine serial number
- Model
- Location
- IP address
- Spot number

- Program number
- Date
- Component serial number
- Component item number
- Errors
- Limit violations

A text filter and a filter wizard are available to simplify the search.

Click on the

Show more results

button to double the number of search results.

Text filter	When you click on Help , the possible search parameters are displayed.				
	To search:				
	 Enter the required search parameters Select the search parameter Enter value Click OK 				
	The welding operations are displayed and sorted accordingly.				
	Example Search for the device serial number				
	serialnumber: 12345678 ==> OK				
	All spot welding operations carried out on the power source with serial number 12345678 are displayed.				
Filter wizard	When you click on Filter wizard , the possible search parameters of the filter wiz- ard are displayed. The filter wizard's search parameters are identical to the search parameters of the text filter.				

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General

- Id
- Component serial number
- Component item number
- Serial number
- Machine name
- Model
- Machine location
- IP address
- Spot number
- Program number
- Faulty (Yes / No)

Date/Time

- from
- to

1st field: entry of day, month, year from calendar

2nd field: time

Limit violations

- Has a limit violation
- Upper current limit exceeded
- Lower current limit undercut
- Upper force limit exceeded
- Lower force limit undercut

(Yes / No in each case)

To search:

۲

1 Select the required search parameters

2 Enter value

3 Click the **Save** button

The spot welding operations are displayed sorted accordingly.

Spot welds

When you click on the eye symbol, the selected spot weld is shown.

The following data is displayed:

Item

- Spot number
- Program number
- Date
- Errors
- Limit violations

Machine

- Serial number
- Name *
- Model
- IP address
- Location

Part

- Item number
- Serial number

Electrode

- Spot counter (moveable arm)
- Spot counter (fixed arm)
- Type (moveable arm)
- Type (fixed arm)
- Limit (moveable arm)
- Limit (fixed arm)

Process tape

- Length used (moveable arm)
- Length used (fixed arm)
- Type (moveable arm)
- Type (fixed arm)
- Length (moveable arm)
- Length (fixed arm)
- Process tape consumption (moveable arm)
- Process tape consumption (fixed arm)

Actual values (graphical depiction of the spot welding history) The following parameters are displayed over the time axis:

- Wire speed in m/min (green)
- Amperage in kA (target current ... bright red, actual current ... dark red)
- Force in kN (target force ... light blue, actual force... dark blue)
- * displayed as a link; opens machines / info page for the machine

Statistics

General In the "Statistics" menu item, statistical evaluation of all welding operations carried out on a welding system available in the network takes place. A wide range of filter and grouping options are available. The statistical values can be output as a bar chart, a line diagram or a matrix diagram.

Statistics

The criterion for the statistical evaluation is determined in the

Value to be displayed

selection list:

- _ Energy
- Gas consumption _
- Wire consumption (weight) _
- Wire consumption (length)
- Process tape consumption -
- Process tape consumption (moveable _ arm)
- Process tape consumption (fixed arm)
- Process duration
- Welding operation error rate
- Section error rate _

- Total number of welding operations
- Total number of sections _
- Number of welding operations with errors
- Number of sections with errors
- Gas costs
 - Wire costs

The time period for the statistics can be defined using the

Date range

-

selection list:

- Unlimited -
- Last 7 days _
- Last 30 days _
- Todav
- Specific (from/to, calendar entry, click on the "Apply" button to display)

The statistics can be grouped using the

grouped by

selection list.

The following grouping options are available:

- Hour _
- Day
- Week
- Month
- Year -
- Machine name
- **IP** address _
- Machine serial number _
- Machine location
- Component item number

Job/program number Seam/spot number

- Gas
- Wire
- Wire type
- Wire diameter
- Process tape (moveable arm)
- Process tape (fixed arm)
- Process tape

Click on the button



to remove the grouping.

Click on the button

Add another group	
-------------------	--

to add a second group to the statistics.

Pressing the



button allows the sequence of the groupings to be changed.

Click on the button



to enter the following filter criteria:

- Machine serial number
- IP address
- Machine name
- Machine location
- Component item number
- Job/program number
- Seam/spot number
- Section number

The statistical result can be depicted in graphical form:

Bar chart (stacked)	
Bar chart (grouped)	
Line diagram	
Matrix diagram	

With the matrix diagram, the following sorting options can be specified using the

Sort diagram data by

selection list:

- default
- descending series total
- descending category total
- descending series and category total

Using the

Shrink to fit

button, the matrix diagram is shown smaller, so that it can be displayed in full on screens of various sizes.

Consumption figures

General

In the "Consumption figures" menu item, costs by part item number and a cost report are displayed if prices were saved for individual materials in the "Materials" menu item.

Consumption figures

The Date range

selection box is used to specify the time period for the consumption figures: - Unlimited

- Last 7 days
- Last 30 days
- Today
- Specific (from/to, calendar entry, click on the "Apply" button to display)

Costs by part item number

- Part item number
- Part name
- Total costs [€]
- Average costs by part [€]
- Costs by process step [€]
 Wire (linked to statistics / wire costs)
 Gas (linked to statistics / gas costs)

Cost report

Bar chart of total costs [€] by date

Component administration

General		Parts can be managed in the "Part administration" menu item. The item number and name of the part are displayed, new parts can be added.		
	Ξ			by clicking on the menu symbol:
		ø	Edit	When this is selected, the Edit part type page is displayed.
		\$	Duplicate	When this is selected, the part is copied and the Edit part type page is displayed.
		Ŵ	Remove	When this is selected, a security question is displayed. Following confirmation, the part is deleted.
			Calculate Q-Master limits	When this is selected, the Q-Master limits are calculated for the corresponding part

Calculating Q-When calculating the Q-Master limits, the relevant parts from the last seven daysMaster limitsare calculated using three times the standard deviation.A progress display is shown.

After the calculation is finished, the following data is displayed for the new limits:

- Progress step number
- Section number
- Voltage [V]
- Amperage [A]
- Wire speed [m/min]
- Graphical overview of voltage
- Graphical overview of amperage
- Graphical overview of wire speed
- Recalculated error rate [%]
 - (error rate in percent for the welds with updated limit values)

The

-

Date range

selection box can be used to specify the calculation time period:

- Unlimited
- Last 7 days
- Last 30 days
- Today
- Specific (from/to, calendar entry, click on the "Apply" button to display)

The

Standard deviation factor

input field can be used to enter the standard deviation factor.

Click on the

Refresh

button to display and recalculate the values.

Add new com-	Afte	er clicking on the	
ponent type / edit component	+	Add new component type	
	butt	ton, the Edit component type page is disp	Jayed:
	-	cription Item number * Component name * Rejection costs **	
	*	must be entered for new components	
	**	must be a figure between 0 and 10,000	
	Pro	cessing steps	
	÷	Add new processing step	1 - max. 20 characters
	×		Remove processing step
	Ima	ge x / x	
	<	Back	
			to navigation between multiple images
	>	Next	
	Ŧ	Add new image	
	×	Remove image	
	Use	the button	
	+		
		ransfer a processing step into an image: k on the button for the processing step ar	nd drag it to the required image

position (drag & drop)

To apply the newly created component or the changes, click on the

Save

button.

Cancel	Newly created components or changes will not be saved.
	changes will not be saved.

Materials

General	In the "Materials" menu item, data on the welded materials can be recorded. Data for welding wires, gases and other data can be entered.			
Welding wires	The following data is displayed for the welding wires: - Wire designation - Diameter [mm] - Density [g/cm³] - Costs [€/kg]			
	Values for density and costs can be entered.			
	To apply the changes, click on the			
	Save			
	button.	_		
	Cancel	Changes will not be saved.		
Gases	The following data is displayed for the gases: - Gas designation - Gas [€/l] Values for gas can be entered.			
	To apply the changes, click on the			
	Save]		
	button.			
	Cancel	Changes will not be saved.		
Others	The following data is displayed under "Others - Energy costs [€/kWh] - Efficiency for Tps [%] - Efficiency for DeltaSpot [%]	" <u>.</u>		
	Values can be entered.			
	To apply the changes, click on the	7		
	Save			
	button.			
	Cancel	Changes will not be saved.		

Part monitoring

GeneralIn the "Part monitoring" menu item, the welding history of a welding system that
is currently welding is displayed.
The status of the welded part, the time of the last process and the process steps
marked in any available images are updated automatically.

Part monitoring The desired welding system that is currently welding can be selected in the selection box.

Click on the

Start	Pause
-------	-------

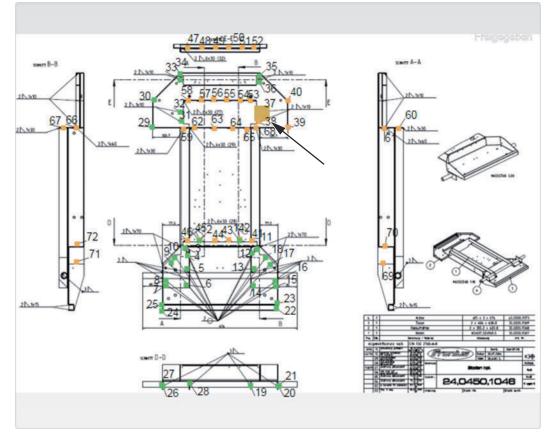
buttons to start or interrupt the display of the welding history for the selected welding system.

The Start button is always active, unless the display of the welding history has been interrupted by clicking the Pause button.

Part

- Display part report (linked to the relevant part report)
- Part serial number
- Part item number
- Status
- Last welded

Process steps that have already been welded are displayed in green in an available part image; process steps still to be welded are displayed in orange. This is pointed out visually before the welding of a process step begins.



For example: Part image with welded process steps (green), process steps still to be welded (orange) and process steps currently being welded (orange, bold)

EN

Configurations

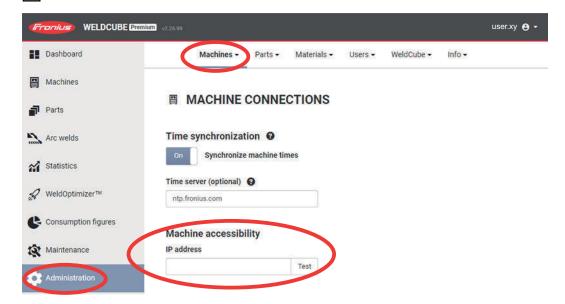
General

In the "Configuration" menu item, data can be specified for the following areas:

- Machines
- Part identification
- System settings
- Network
- User administration

- Notifications
- Back-up
- Recovery
- Export
- Updates

Establishing machine connections 1 Select Administration / Machines / Machine connections



Machine accessibility

The accessibility of the machines can be checked here with a simple network ping.

IMPORTANT! This ping does not check the reachability over the correct network ports!

Data collection

Enter the IP addresses of the machines to be connected to WeldCube Premium

It is possible to enter static IP addresses or IP ranges.

Example of static IP addresses: 192.168.0.21 192.168.0.22

IMPORTANT! Enter each IP address in a new line!

Example of IP ranges: 192.168.0.21-22 (the previously listed static IP addresses written as a range) results in: 192.167.0.21 192.168.0.21 192.167.1.21 192.168.1.21

If the entire range of a subpart of the IP address is to be used, it is possible to simply enter *. Example: 192.168.*

this corresponds to: 192.168.0-254

Data collection - advanced settings

The IP addresses in the field above are contacted by WeldCube Premium via UDP port 15000.

The query shows which machine type has this address.

If UDP port 15000 is not accessible due to the firewall or port forwarding, the IP addresses must be entered under "Advanced settings", under the correct machine category.

If an IP address is entered under the "Advanced settings", it is only contacted via the respective standard ports of the machine type; a connection via UDP 15000 is not necessary.

(Link to System requirements - Firewall and network / Connection to power sources)

Part identifica-
tionUseful evaluations require precise allocation of welds to parts and thus part
types.
For example, if a part type is defined by the item number in the WeldCube, a

For example, if a part type is defined by the item number in the WeldCube, a serial number defines a specific example of this type.

If there are no serial numbers available for parts in various processes, serial numbers can be generated by the WeldCube.

Serial and item numbers can be specified by the power source or WeldCube.

Displayed user interface

TPS



When settings are changed on one machine, the changes are applied to all machines.

If the selection box is activated, the changes to one machine are applied to all machines.

- Machine
- Item number source () (machine / WeldCube)
- Serial number source (machine / WeldCube)
- Configuration

If the cursor is moved over the symbol, a help message will be displayed.

To apply the changes, click on the

Save	
button.	
Cancel	

Changes will not be saved.

Possible combinations for generating serial and item numbers

Item number source	Serial number source	Application
		Automated applications: robot specifies both values
Machine	Machine	Manual applications: manual serial number increment on the RCU 5000i
Machine	WeldCube	Automated applications without part counter in the robot program
WeldCube	Machine	Manual applications: serial number increment on the RCU 5000i
WeldCube	WeldCube	Automated applications in which only one part type/item is welded (no imple-mentation in robot program)
WeldCube	WeldCube	one part type/item is welded (no i

System settings

Date & time

- Date (entry of day, month, year from calendar)
- Time (hour, minutes selection list)
- Time zone (selection list)
- Synchronise with time server (On / Off)
- Time server (direct entry)

System restart

- Restart now (button)

To apply the changes, click on the

Save

Cancel	Changes will not be saved.
--------	----------------------------

letwork	IMPORTANT! Changes and settings in the "Network" sub-menu require know- ledge of network technology.				
	 Information on the existing network connection MAC address DHCP (activated / deactivated) IP address (direct entry) Subnet mask (direct entry) Default gateway (direct entry) Obtain DNS automatically (activated / deactivated) DNS address (direct entry) Alternative DNS address (direct entry) 				
	To apply the changes, click	< on the			
	Save				
	button.				
	Cancel	Changes will not be saved.			
on					
011	Click on the button Create user				
011		characters)			
011	Create user to enter a new user: - Enter user name - Select user role - Enter e-mail address - Enter password (5-20 - Confirm password - Click the "OK" button	characters) ened by clicking on the menu symbol:			
on	Create user to enter a new user: - Enter user name - Select user role - Enter e-mail address - Enter password (5-20 - Confirm password - Click the "OK" button				

Click on the button

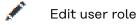
Create user role

to enter a new user role:

- Enter user role name (3-40 characters)
- Activate required roles

Configuration (Machines / System settings / Network / User administration / Messages / Back-up / Recovery / Export / Updates) Machines Materials Parts (Part administration / Part report) Spot welding Statistics TPS

- Click the "OK" button
 - The sub-menu is opened by clicking on the menu symbol:



When this is selected, the **Edit user role** page is displayed.



When this is selected, a security question is displayed. Following confirmation, the user role is deleted.

LDAP configuration

- Enter LDAP server (IP address)

To apply the changes, click on the

Save

button.

Cancel

Changes will not be saved.

Notifications

System error notifications

- Enter mail server (direct entry)
- Enter the address that should be used as the sender (direct entry)
- Enter e-mail recipient (direct entry)

To send a test message, click on the

button.

To apply the changes, click on the

Save

button.

Cancel

Changes will not be saved.

Back-up "Back-up" specifies where and how often a back-up of the available WeldCube data should take place.

Last successful back-up: [Date]

Storage location

- Enter path (direct entry)
- Enter user name (direct entry)
- Enter password (direct entry)

To change the entries, click on the

Edit

button.

To save a test back-up, click on the

Test

button.

Schedule

- Activate week day
- Select time (hour + minute, selection list)

To apply the changes, click on the

Save

button.

Cancel Changes will not be saved.

Recovery "Recovery" specifies the location from which back-up data should be drawn for recovering data to WeldCube.

Storage location

- Enter path (direct entry)
 - Enter user name (direct entry)
- Enter password (direct entry)
- Restore system settings (Yes / No)

To recover back-up data to WeldCube, click on the

Start recovery

button.

Cancel

no recovery

Export

Export specifies the location to which WeldCube data is exported.

Export possible (on / off)

Storage location

- Enter path (direct entry)
- Enter user name (direct entry)
- Enter password (direct entry)

To change the entries, click on the

Edit		
button.		

To carry out a test export, click on the

Test

button.

Automatic clean-up

- Activated (On/Off)
- Enter deletion after xx months (direct entry of months)

To export WeldCube data, click on the

Save

button.

Cancel

no data export

Updates

- Application - Search for update file
- Click the "Start Update" button

Operating system image

- Search for update file
- Click the "Start Update" button



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