User manual – Body Drum XL

KRTR40XL-04

Jasopels
–professionel til skindet

User manual
Body Drum XL

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Preface

- This User Manual is an important part of your new machine. Read the manual carefully and use it as a reference book.
- This manual contains important information about safety and the proper use of the machine.
- The manual should be stored with the machine. It is important that the user manual is supplied with the machine upon resale and loan out.
- The user of the machine must make sure that the operator, service personnel and others who have access to the machine are instructed on the proper use and handling of the machine. Read this user manual for more information.

Symbol explanation

Please read this manual and follow the instructions.
In order to emphasize certain information, the following symbols are used:

Note!!

A triangle containing an exclamation mark is a symbol that warns you of important instructions or information concerning this machine.

Warning!!

A triangle containing a warning about an entanglement and crush hazard.

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Introduction to the machine

- The drum allows to tumble more mink bodies than drums known before.
- The drum is equipped with a built-in control system, a front belt for drum filling and another belt for drum emptying.

Note!!

- The user of the machine must make sure that the operator, service personnel and others who have access to the machine are instructed on the proper use and handling of the machine. Read this user manual for more information.
- The machine may only be used for the purpose it is designed for.
- If any problems occur with the machine or its operation, the machine must be properly shut off before correcting the problem, unless the correction can be made using the machine's control buttons.
- The user manual must always be kept available for the operator.

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Commissioning

- Before the body drum can be used, make sure that it is levelled on a flat, stable surface. (Use the adjustable legs in order to achieve a proper position).
- The machine may only be used for tumbling mink bodies.

DANGER!
In order to avoid entanglement and crush, it is important not to touch moving parts of the machine while it is operating.
This applies to the interior part of the drum and external devices (if installed), such as stay or conveyor belt connected with the control system.

- Do not try to stop any moving parts using hands; in order to avoid hazardous situations, **always use the Emergency Stop.**

- KRTR40XL Body Drum is factory-fitted with a 5-pole CEE plug. (3x400V – N –Pe)

Note!!
Machine's connecting cable must be earthed. The warranty shall become invalid if the above-mentioned recommendation is not followed.

(unintended programs may be started or errors may occur)

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Important!
Any works inside the machine,
such as cleaning, position adjustment etc.,
may only be performed
when the power supply is disconnected.

Note!
In order to avoid possible damage to the control system microcontroller and other electrical system during thunderstorms it is recommended to disconnect the power supply when the machine is not in use.

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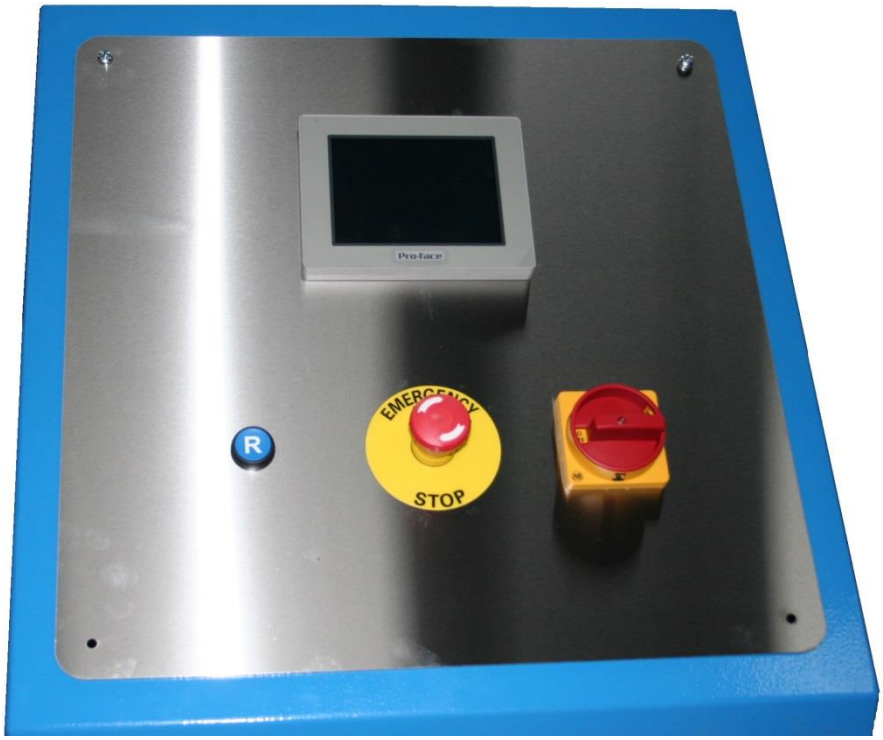
Operation

Front Panel



Main Switch
Switches on/off the main power supply.

Emergency Stop
Immediately stops the machine.
Disconnects the power supply for the drum's frequency converter and possibly for all the connected conveyor belts and stays. In order to turn the machine on again after using the Emergency Stop, deactivate the stop (turn it and pull out). Then press the blue reset button, which will approve the alarms on the Control Panel. (see description on page 11).

Reset
Approves the alarms and reconnects the Emergency Stop.
Please note that the Emergency Stop must be in the "out" position (deactivated).

Control Panel:
Used for general operation and setting
See further sections hereof for description (page 10).

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Connections

CEE Plug and Sockets

Plug (power supply)

One 16 A CEE plug is located in the top row on the left. Here you may connect the power supply to the machine using a CEE extension cord.

NOTE: The machine will not work without a neutral conductor. This means that there must be 5 conductors located in the power supply cable.
Appropriate information is also stated on the data plate located on the switchgear.

Drum CEE Plug

2 sockets in the top row supply the drum engines with power from the frequency converter. If the drum is rotating in the wrong direction, switch the two engine conductors and the direction will change.

NOTE: Never disconnect the power supply of a working engine if it is controlled by the frequency converter. This may result in damage to the frequency converter.
Before disconnecting the plug of a drum engine, make sure the drum has been disconnected from power/stopped.

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CEE Plug Dust Stay:

In order to connect the stay removing dust from the machine, use the plug located in the bottom row on the right side. The plug is labelled "Dust Stay".
!! In order to avoid problems, make sure that the engine's Emergency Stop fits the engine!!

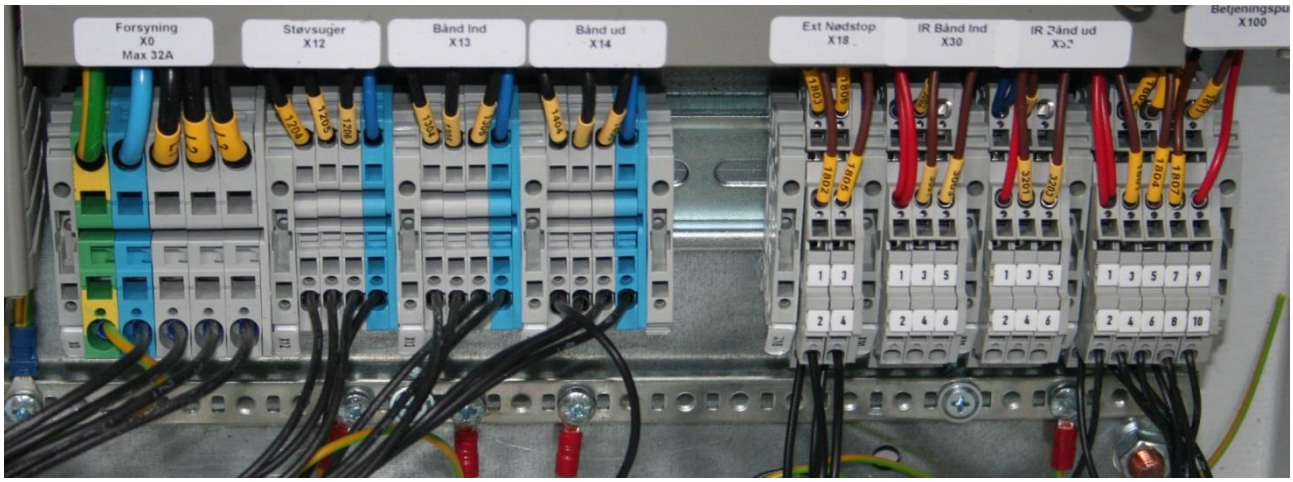
CEE Plug Inwards Belt: (filling the machine)

In order to connect the belt for filling the machine with mink bodies, use the plug labelled "Inwards Belt"
!! In order to avoid problems, make sure that the engine's Emergency Stop fits the engine!!

CEE Plug Outwards Belt: (emptying the machine)

In order to connect the cleaning belt that will receive mink bodies while emptying the machine, use the plug labelled "Outwards Belt".
!! In order to avoid problems, make sure that the engine's Emergency Stop fits the engine!!

Connecting the sensor and other devices



An additional Emergency Stop and sensor fittings for controlling the inwards and outwards belts may be connected in the bottom part of the switchgear.

X18 - External Emergency Stop

The external Emergency Stop may be connected to these terminals.
The way of connection is presented in the electrical diagram.

X30 - Sensor and control signals for the Inwards Belt

The sensors for signalling filled or empty belt may be connected to these terminals. Additionally, there is a signal for the belt equipped with autonomous control system, which informs the belt control system when the drum requires the belt to move.
The way of connection is presented in the electrical diagram.

X30 - Sensor and control signals for the Outwards Belt

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Additionally, there is a signal for the belt equipped with autonomous control system, which informs the belt control system when the drum requires the belt to move.
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Function description:

Program description

Start: If the Control Panel is set on Production Page, and the screen displays "ready to work", there will be also the [Start] key enabled on the screen. Press the Start key and the drum will start to rotate.

Filling the drum:

Inwards Belt: After the drum is switched on, the [Inwards Belt] key is displayed. If a loading belt is connected to the drum and the [Inwards Belt] key is pressed, the belt will activate and will be filling the machine with mink bodies until it gets empty or is stopped.

Tumbling time:

The drum will work for the time period set by the user. After this time the drum starts to empty.

Emptying the drum:

The drum changes the rotation direction and is emptied.
If the control system cleaning belt is connected (depending on settings and connected devices), the drum will activate the cleaning belt.

The cleaning process may be divided into two stages. This means that the drum contents may be separated into two batches.

In this case it is good to equip the drum with a cleaning belt fitted with a limit switch / signalling device which informs that the drum is empty.

After one half of the contents is removed from the drum and loaded on the cleaning belt, the operator should start to empty the cleaning belt. Upon emptying the cleaning belt, the drum activates automatically and gets empty by loading the remaining contents on the cleaning belt.

Now you may start a next tumbling process. The cleaning belt may be emptied any time.
In case the cleaning belt is not empty when the drum is ready to be re-emptied, stop the drum.
The drum will not start the emptying process until the cleaning belt is empty and ready.

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Control Panel

Display
Informs the user on the current action of the drum.
The display contains control keys that Start - Pause - Stop the drum, etc.
The display also allows you to check the engine status.
Other menu pages contain working parameter settings, alarm settings, etc.

Introduction:

Touch the screen on the input field in order to change the setting values. (input fields have blue background).
The screen will display a window for entering a new setting value. Then press [Enter].
There are digits above the input field. They state the minimum and maximum values that may be entered.
Press [CANCEL] in order to change a setting value.

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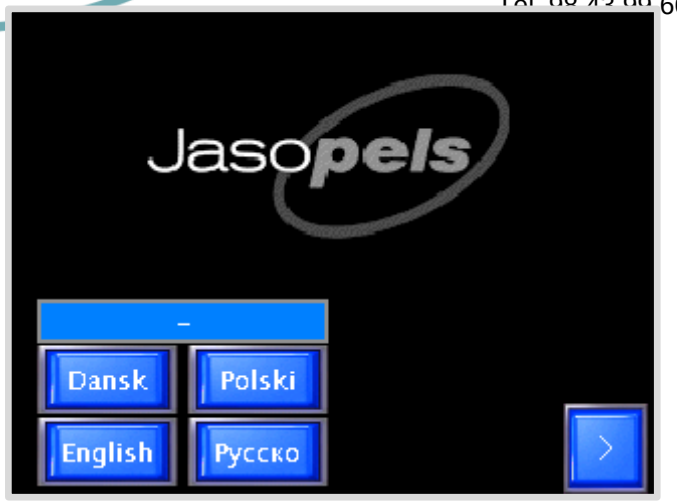
Start Page:

After connecting the machine to power supply, the start screen is displayed.

Here you may choose the language.

If you do not want to change the language, press **[>],** to go to Production Page.



Emergency Stop:

The view displayed after a power stoppage or Emergency Stop.

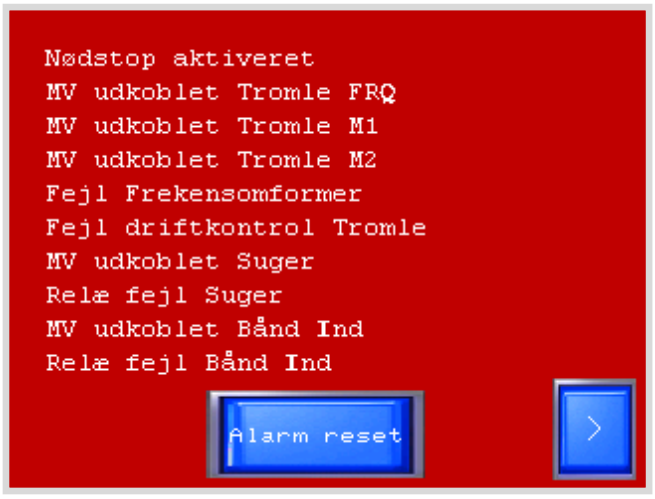
It may occur that the display does not show all the alarms presented in the picture.

Alarm reset:

In order to restart the machine after a power stoppage or Emergency Stop:

1. First make sure that the Emergency Stop is deactivated (is not pressed).
2. Then press the blue reset button.

The screen will show the Start Page or the view displayed before the alarm was activated.



Production Page:

Allows starting - emptying or stopping the machine, or stopping the programs. The disabled keys are not displayed. Instead, the screen shows a field labelled the same as the key, so that you know this key is disabled.

The working field contains the information on the current drum process and the time remaining for next stage.

The engine status is shown below the keys.

Press the **[>]**key located in the bottom right corner to enter Main Menu.

See the next page for a more detailed description.

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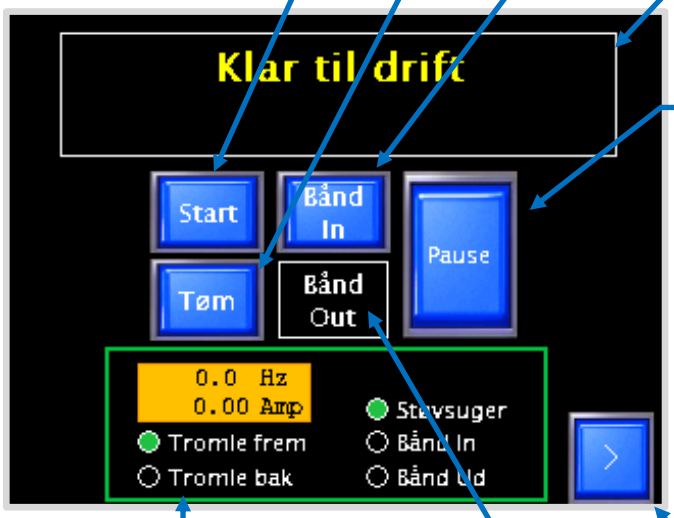
Operation:



After the Start key is shown you can start/restart the drum.

The Empty key is displayed if you may go directly to the emptying process.

This key is shown only when it is possible to start filling the drum.

This field shows the machine's working mode. If the drum is performing a process which ends in a particular moment, this field will display the remaining time.

This key allows pausing the drum.
This means that the drum will "remember" the status from the moment of pressing the pause key.
Press [Start] key to restart the drum.

When [Pause] key is pressed, it will change colour into red and will show the word [Stop]. Pressing the key with the word [Stop] shown will result in cancelling the process performed at the moment, and the drum will (from the controlling point of view) be ready to start a new process.

Press this key to enter the Main Menu
where you may change program settings, alarm settings, etc.

This field shows the engine status.

The key is shown only when the drum is empty and the belt is ready for emptying.

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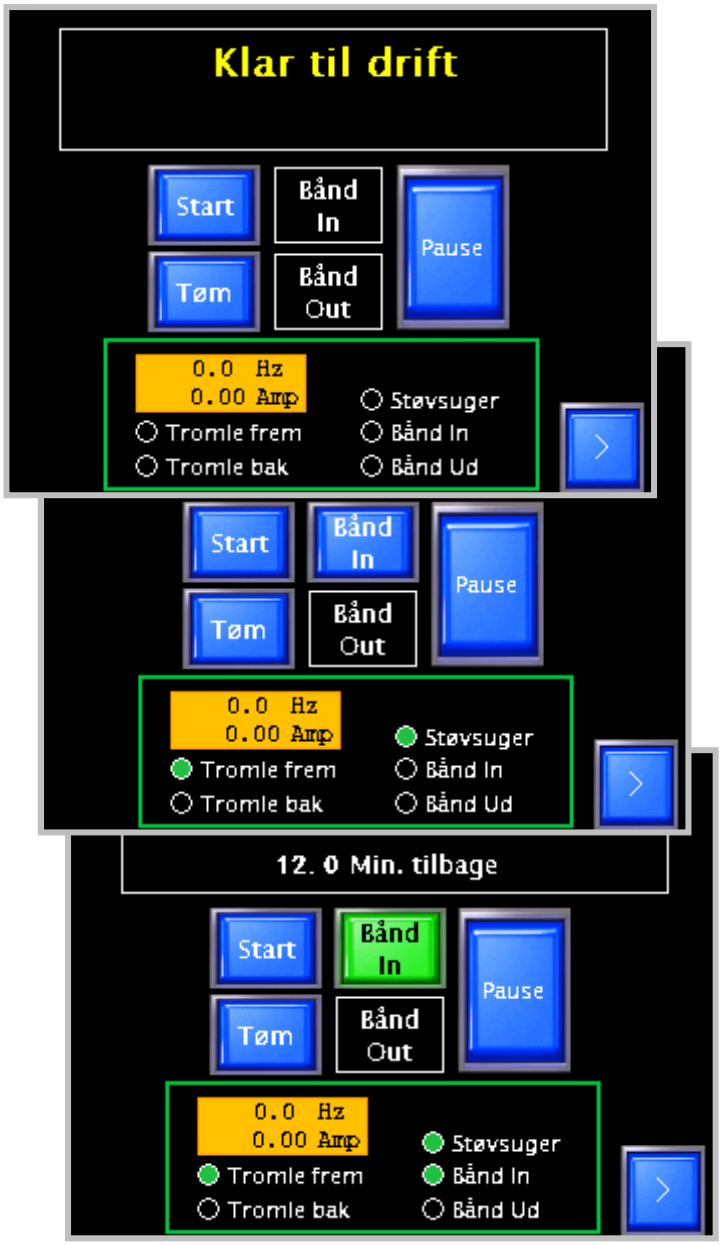
Start/Work

Before starting the machine you may
Use the keys Start - Empty and Pause.

Pressing the [Start] key results in starting the drum and displaying the [Inwards Belt] key.

Press the [Empty] key to start the emptying process.
You may also start the process while the drum is working, in such case the remaining tumbling time will be skipped.



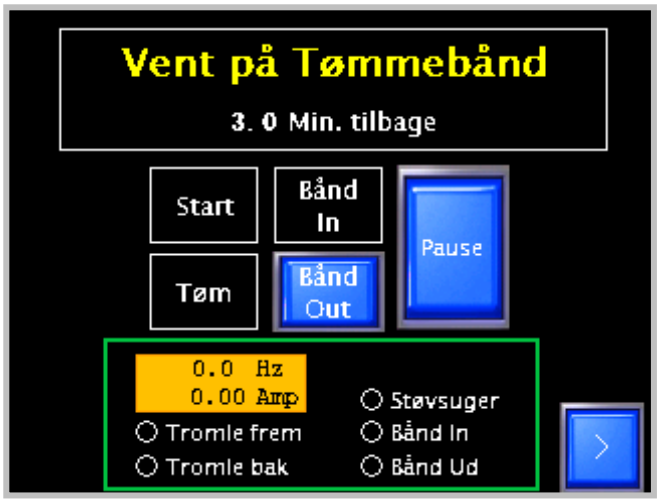
Press the [Inwards Belt] key to start the belt, the key will become green.

You may stop the belt by pressing [Inwards Belt], the key will become blue again.

After the belt is emptied (the light beam at the end of the filling conveyor has not been broken) the belt is stopped, and the key is again highlighted blue till the tumbling process is completed.

The -04 version of the program allows setting the belt to a Pause/Work mode, thanks to which the mink bodies are able to fall into the drum funnel on time.

(see section "Settings" on page 17for description)



After the tumbling time ends, the drum's rotation direction changes and the contents are unloaded on the cleaning belt (emptying).

If the user set the machine so that the contents are unloaded in two batches, the drum will stop after the first emptying period, and the machine will show the information "Wait for the emptying belt". This means the cleaning belt must be emptied before removing the remains from the drum. The cleaning belt is emptied by pressing "Outwards Belt".

(see Settings on page 20 for how to control the belt)

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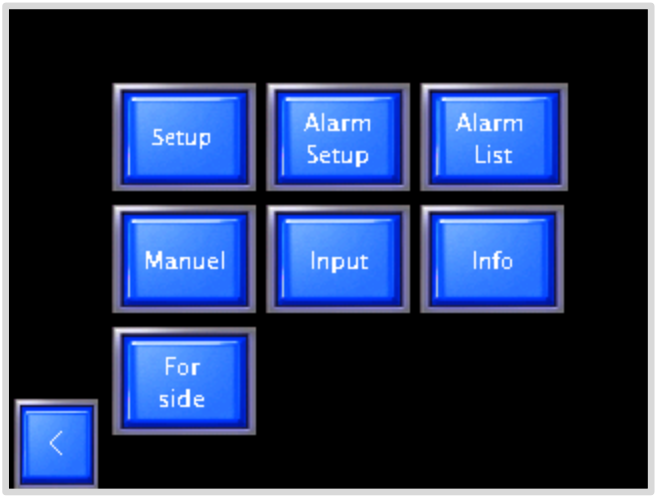
Main Menu:

The page provides access to various settings, information and manual control.

Keys:



Settings: opens the program settings such as tumbling times, belt control, etc. (see page 10)

Alarm settings: setting the alarms. Here you may set the times and choose if the alarms should be active or not (see page 23)

Alarm list: opens the alarm list, the page is enabled only if any of the alarms is active
(see page 24)

Manual: opens the page for manual engine control (see page 21). The page may be accessed only when the drum is tumbling, emptying or is paused. In order to control the machine manually, display's Production Page must show the information "Ready to work".

Inputs: this page shows the status of the PLC controller (see page 22)

Information: this page shows the information concerning machine start-up, time-meters, PLC controllers and program versions installed on the Control Panel (see page 22)

Main Page: return to the Start Page where you may choose the language (see page 11)

[<]: leads back to Production Page

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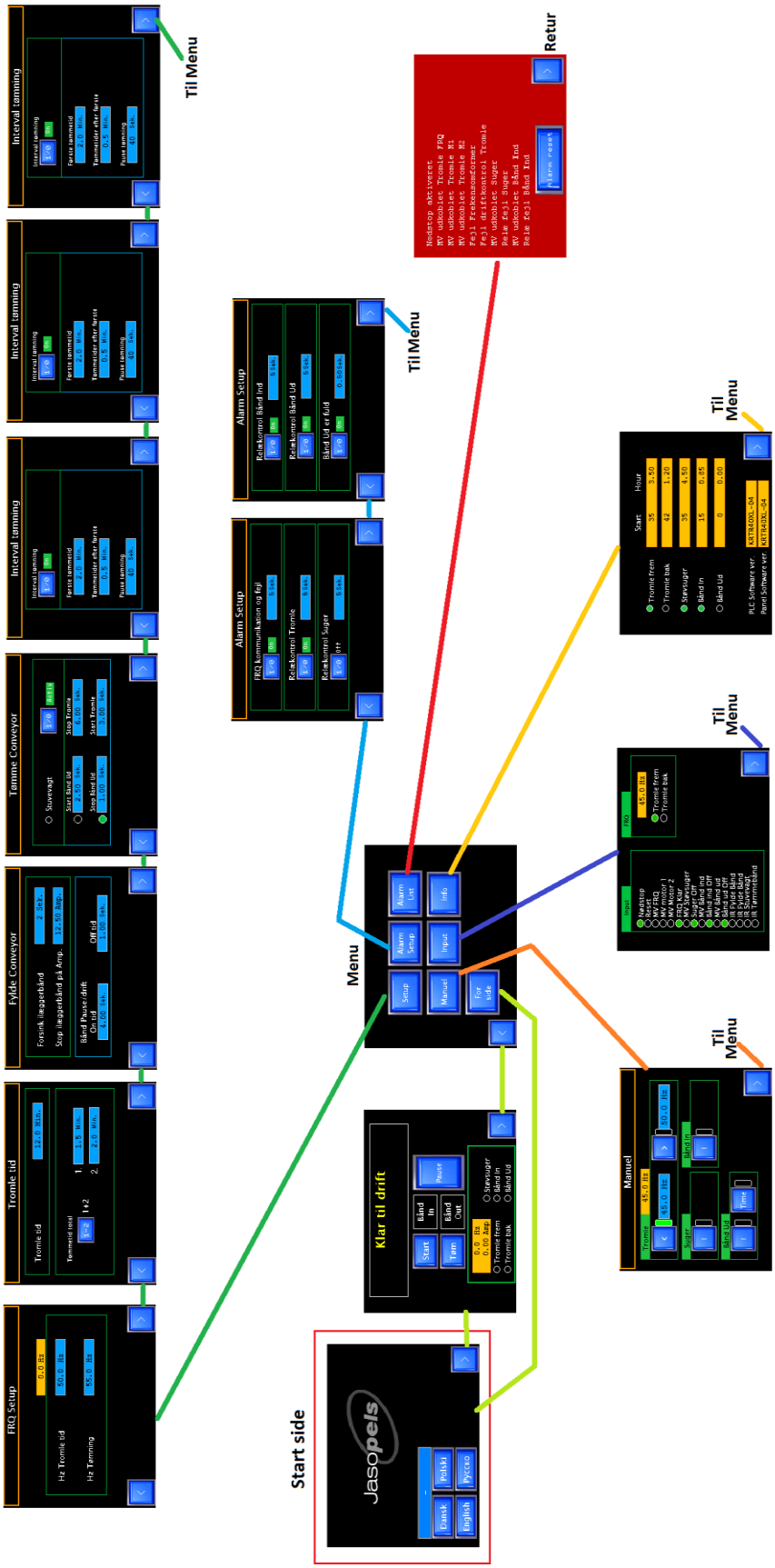
Menu view



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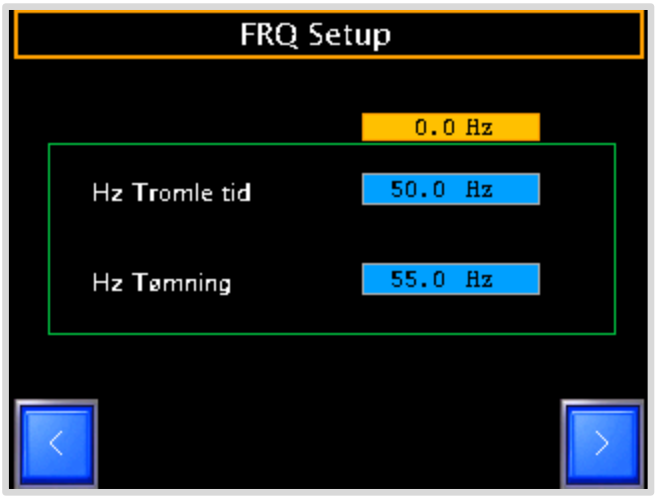
Settings: Work settings:

Main Page [>] Production [>] Main Menu [Settings]

FRQ settings:

Here you may choose the output frequency (rotation speed) of the drum during tumbling and emptying.

Note: in Europe the normal frequency is 50 Hz.



Tumbling time:

Here you may choose:

Tumbling time.

Emptying:

You may choose if the drum should be emptied in one step or the contents should be divided into two batches.

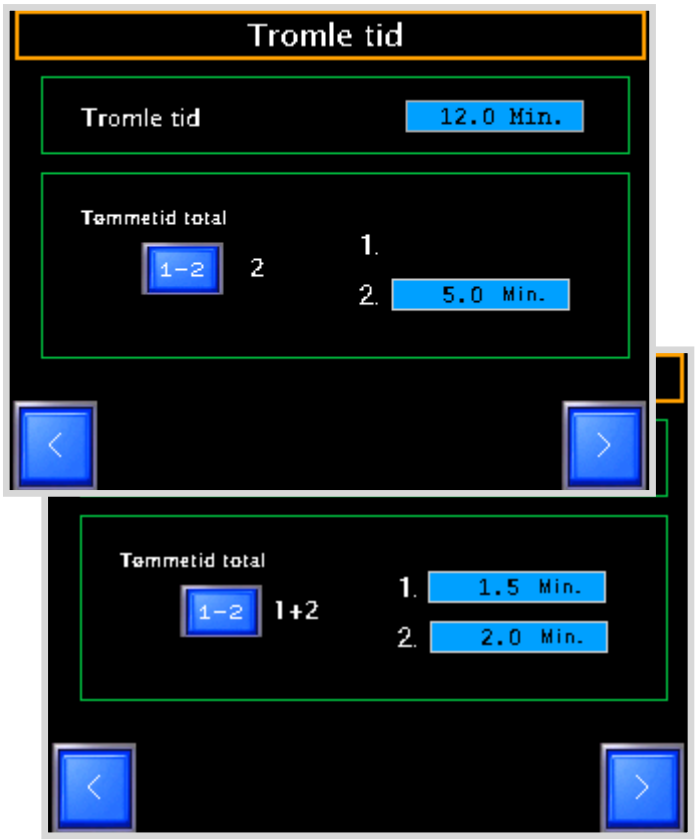
1 emptying time

If the user set the drum for 1-step emptying, there should be number 2 displayed by the [1-2] key, and time 1 setting should disappear from the screen.

2 emptying times

If the user set the drum for dividing the contents into two batches, there should be numbers 1+2 displayed by the [1-2] key. In this way you may determine the time of removing the first batch of drum's contents. After the set time, the drum will stop and will be waiting for the cleaning belt to become empty, then it will start to unload the remaining contents on the emptying belt.

Please note that the belt must be started by the operator!



Input field explanation: 1.0 min. = 60 sec. & 0.5 min. = 30 sec., etc.

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Filling conveyor:

The filling conveyor is located at the end of the drum where it is filled with mink bodies.
The conveyor serves as a buffer in front of the drum, so that the drum may independently fill itself upon start. However, the belt must be activated by the operator.

Work description:

Filling the belt: If the belt is not emptied, interrupting the fill sensor will result in activating the belt which will keep working till the signal stops again. (The fill sensor sends a light beam from one side of the belt to the other, and it is located where the mink bodies are loaded on the belt).

Blocking the light beam at the end of the belt will disable the belt.

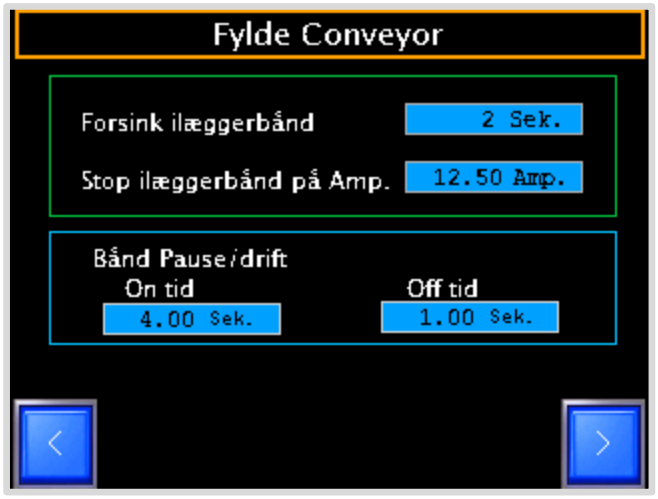
Emptying the belt: After starting the drum and after the filling conveyor receives the start signal from the operator, the belt will fill the drum with mink bodies until the light beam at the end of the belt is broken.
In the -04 program version you may set the belt to a pause/work mode during drum filling.

Note!

The description stated above does not apply if you use a cleaning belt with an automatic control system. In this case the drum control system will not receive signals from the sensors.

Settings:

Here you may choose the parameters of emptying the filling conveyor.



Empty the filling conveyor: with this parameter (time) you may delay the start of the filling conveyor relative to the drum starting time.
Note: if the drum is started, you must activate the filling conveyor on the Production Page (using [Inwards Belt] key]).
This time guarantees that the drum will be working when the belt is started. This function is particularly useful in case the drum is stopped due to an alarm or otherwise.

Stop the loading belt at a given ampere level: with this function you may set the belt so it interrupts the drum filling when it is loaded with a given number of amperes.
Program version -04

Belt pause/work: Here you may control the belt so it fills the drum in steps. This function may become useful if you use a wide belt with a large amount of mink bodies.
Start time (on): belt working time
Stop time (off): belt stoppage time

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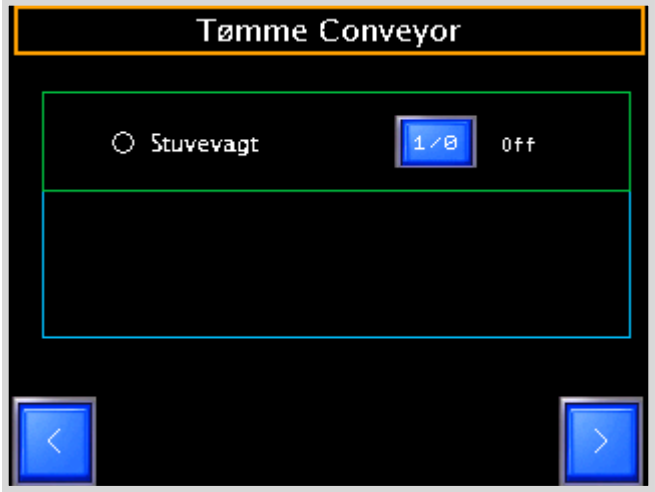
Emptying conveyor (fill sensor):

The emptying conveyor is located at the end of the drum where it is emptied.
During the emptying process the belt will start/stop depending on the chosen control mode.



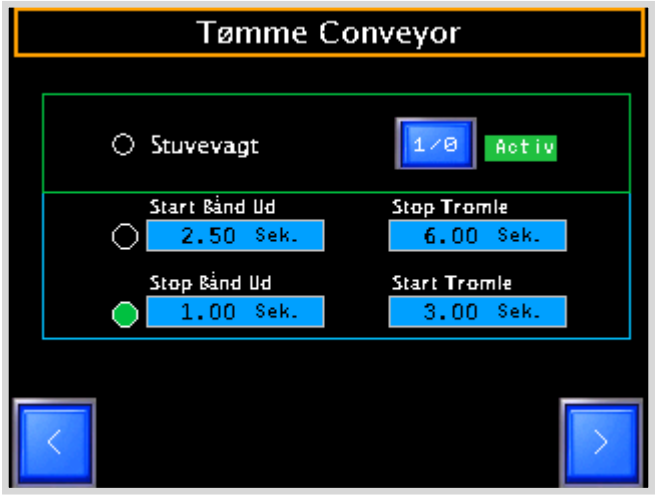
Fill sensor:

Here you may activate and set the fill sensor parameters.

The fill sensor sends a light beam from one side of the belt to the other, in the place where the drum unloads the bodies.

Fill sensor off

If the fill sensor is switched off, the word "Off" will show by the [1/0] key, and setting parameters will disappear from the Control Panel.



Fill sensor activation: Note: Activating the fill sensor results in deactivating the function of emptying in steps.
(see page 19for description)

If the fill sensor is on, you may set the following:

Start the Outwards Belt: the delay time of starting the belt - thanks to it the belt does not start just because a mink body fell out of the drum and broke the light beam.

Stop the Outwards Belt: the delay time of stopping the belt - thanks to it you have additional space under the light beam.

Stop the drum: the time of stopping the drum in case the fill sensor does not see the space across the belt while the belt must be emptied from mink bodies.

Start the drum: if the drum was stopped and mink bodies were removed, the work will be delayed by this time.

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Interval emptying:

Thanks to the option of interval emptying the drum may start and stop during the emptying process, which will prevent from belt overfill.

The function is activated automatically if the fill sensor on the emptying conveyor (cleaning belt) activates. The activated fill sensor makes sure that the belt is not overfilled.

Interval emptying deactivated:

If the interval emptying is switched off, the word "Off" will show by the [1/0] key, and setting parameters will disappear from the Control Panel.

Activating the interval emptying:

If the interval emptying is switched on, the word "On" will show by the [1/0] key.

First emptying time:

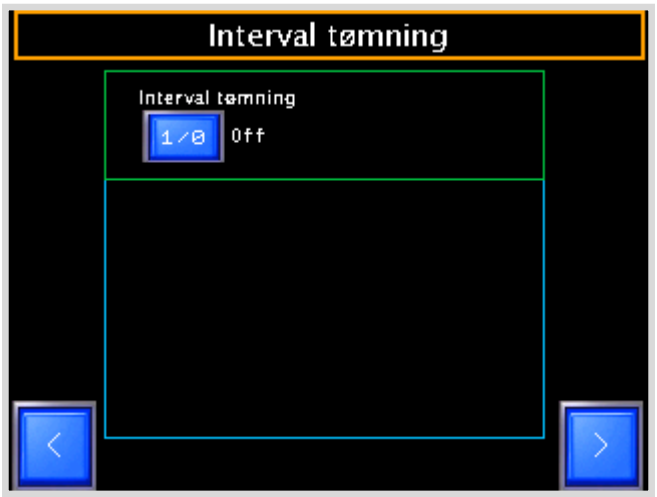
Upon starting the emptying process the belt will be empty, so there will be space for mink bodies under drum's outlet. For this reason, there is a separate time setting for the first work period, so the belt may be properly filled before the first drum stoppage.

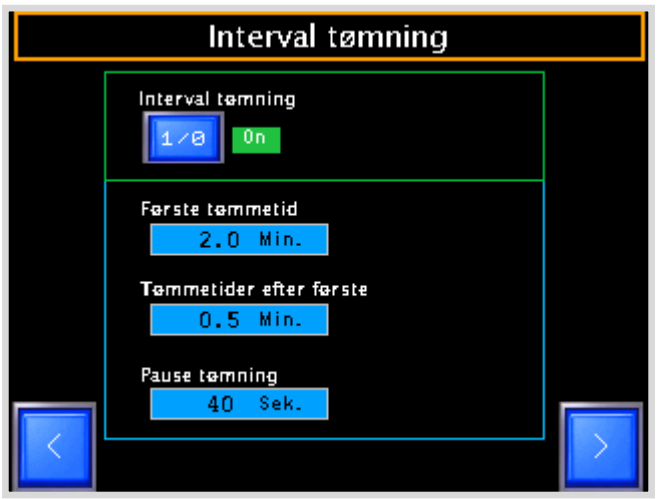
Subsequent emptying times:

After the first emptying time ends, the working time will depend on this parameter. The belt should just be filled up, so the working time should not be as long as the first one.

Emptying pause:

This parameter allows you to set the time when the drum will not work while the belt will be moving. This will provide more space on the belt under drum's outlet. This time is not included in the total emptying time.





Input field explanation: 1.0 min. = 60 sec. & 0.5 min. = 30 sec., etc.

Note!

The emptying time set on page 2 of settings (see page 16) is the maximum emptying time. The drum stops the emptying process after this time. This means that the maximum emptying time should be longer than the "First emptying time" on this page, if the machine is to have a break. The emptying time is counted only while the drum is working. (it is shown on the Production Page) This means that pauses are not included in the emptying time.

E.g. Emptying time = 3.2 min. The drum will be working for 2 + 0.5 + 0.2 min. and then it will stop.

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Belt control: emptying the emptying conveyor

After the drum is emptied from mink bodies, empty the belt. This should be done on the Production Page - the operator starts the belt using the [Outwards Belt] key.

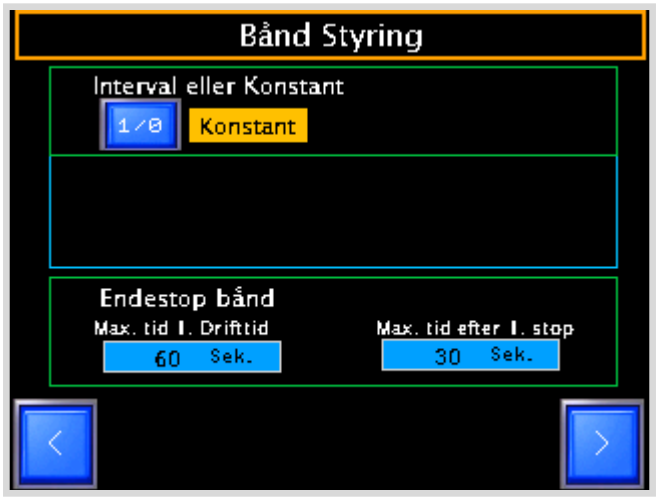
On these pages you may choose the belt control mode.

Time steps or constant mode

Constant mode:

The mode is activated by the [1/0] key. If the constant mode is active, the word [Constant] will appear in the orange field by the [1/0] key.

If you choose **this mode**, the belt will move constantly until it gets empty. The Pause/Work parameters will disappear.

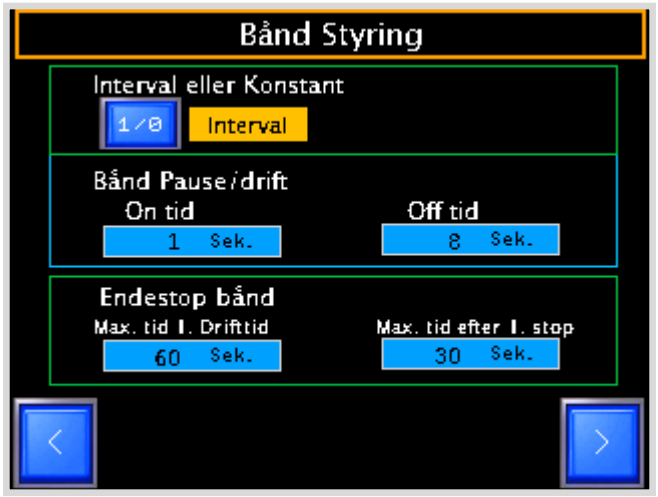


Time steps:

The mode is activated by the [1/0] key. If the time steps mode is active, the word [Time step] will appear in the orange field by the [1/0] key.

If you choose **this mode**, the belt will move constantly until the light beam at the end of the belt is broken. Then the belt is controlled by the pause/work settings.

This option is useful if the emptying belt is supposed to deliver mink bodies onto another belt that is unable to remove them as fast as the emptying belt may deliver them in the constant mode.



Limit switch - belt:

Settings used to record the "empty belt". Note: If the machine is set to the time steps mode, the emptying time will be counted only while the machine is working.

Max. time 1. Working time:

Time used as maximum emptying time until the light beam at the end of the belt is broken for the first time. In case the time ends and the light beam is not broken, the device deems the belt empty.

Max. time after 1st stop

In case the light beam at the end of the belt is broken, the timer is cleared and then the time setting is used to stop the belt.

Regardless if the machine is set to the constant mode or time steps mode, the time setting is then used as the max. working time with empty belt (the light beam is not broken).

Note!

The settings described above may not be applied if you use a cleaning belt with an automatic control system. In this case the drum control system will not receive signals from the sensors.

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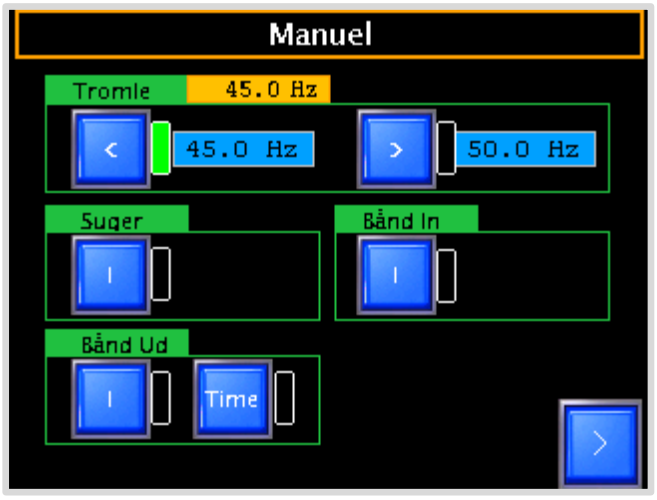
Manual control:

Main Page [>] Production [>] Main Menu [Manual]



Here you can control the engines manually.

However, the page is disabled if the control system started the tumbling or emptying process.

In order to open this page, the information "Ready to work" must appear on the Production Page in the Work field.

General information:
The engines are started only by pressing the button for a given engine.
By the button, there is a field highlighted green when the engine is working.

Drum:
Here you may control the drum during both rotation directions. You may also choose the drum rotation speed in the manual mode.

Stay:
The stay is started upon pressing the button and stops upon releasing it.

Inwards Belt:
The belt is started upon pressing the button and stops upon releasing it.

Outwards Belt:
The belt is started upon pressing the button and stops upon releasing it.
The machine is equipped with an extra button for this belt.
The belt is activated by pressing the [Time] key.
The belt stops automatically after the Empty Belt time passes. (if the light beam at the end of the belt is broken, the time is cleared).
The belt stops also when the key is pressed again.

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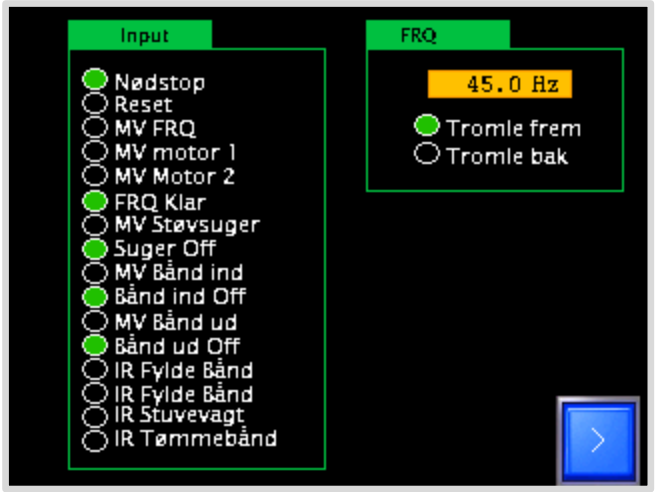
Input:

Main Page [>] Production [>] Main Menu [Input]

Here you may check the status of particular inputs on the PLC controller.



Information:

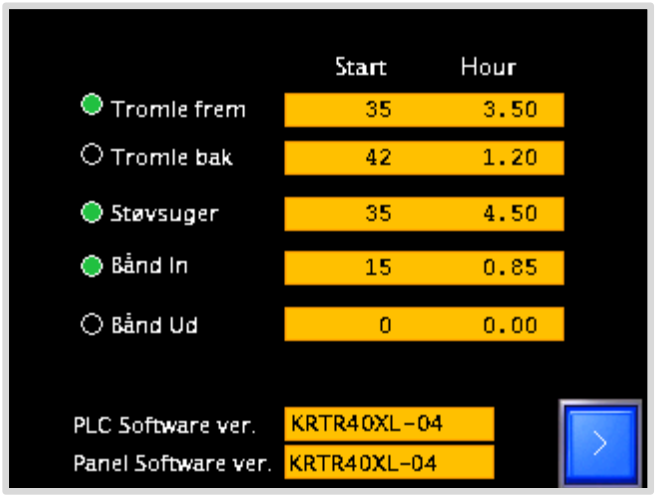
Main Page [>] Production [>] Main Menu [Info]

Here you may check the following:

The number of start-ups and working time for different engines.

Additionally, you may check here if a given engine is working.

You may also check the software versions of the PLC controller and Control Panel.



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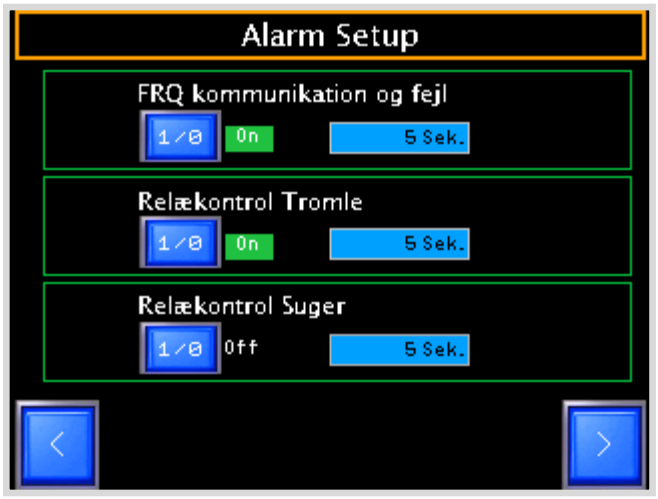
Alarm settings:

Main Page [>] Production [>] Main Menu [Alarm settings]



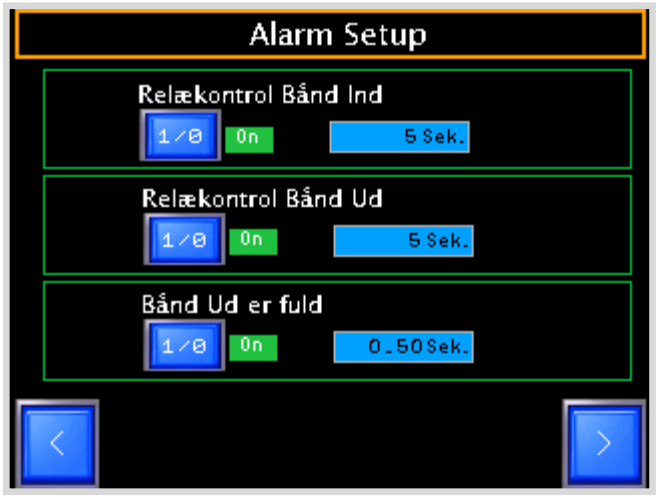
General information on alarms

The alarms may be activated/deactivated using the [1/0] key. The indicator located by the key informs you if the alarm is active (On) or not (Off).

You may set an alarm delay in the blue field.

FRQ - communication and errors:

Monitoring the communication with the frequency converter and (if the communication raises no concerns) checking for a possible error of the frequency converter.



Control with a relay - Drum:

Tumbling process control. In case the drum does not send back the work signal when it should start working, an alarm is activated after a set time.

Control with a relay - Stay:

Stay control. In case the stay does not send back the work signal when it should start working, an alarm is activated after a set time.

Control with a relay - Inwards Belt:

Performance control - Inwards Belt. In case the Inwards Belt does not send back the work signal when it should start working, an alarm is activated after a set time.

Control with a relay - Outwards Belt:

Performance control - Outwards Belt. In case the Outwards Belt does not send back the work signal when it should start working, an alarm is activated after a set time.

Outwards Belt full:

If the drum is set to two emptying times and the emptying process is started (the contents are being unloaded on the cleaning belt), this alarm controls if the light beam at the end of the belt is not broken. If the light beam is broken at the set time, the emptying process is stopped due to belt filling.

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Displaying the alarms

Main Page [>] Production [>] Main Menu [Alarm list]

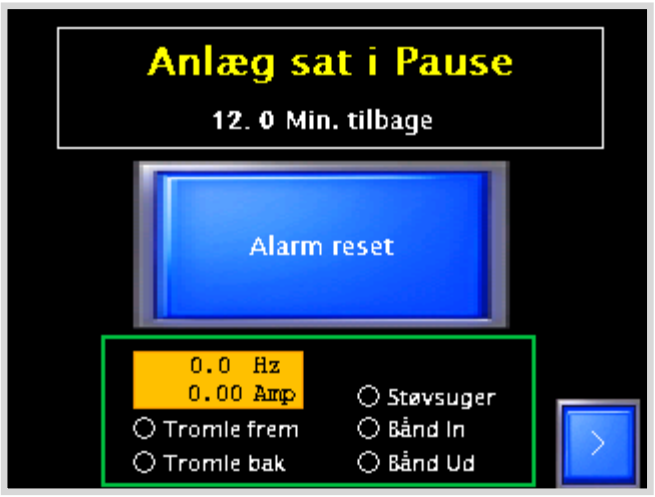
Alarm list:

Here you may check current alarms:

The page appears automatically when an alarm is activated.
You may exit the screen by pressing the [>] key located in the bottom right corner, even if the errors have not been removed or approved. Then you return to the view displayed before the error occurred.

Production Page in case of alarm:

On the Production Page, a large Reset key covers the operating keys, so the drum may not be restarted before removing and approving all the errors.



Reset procedure in case of alarm:

1. The alarm is activated and the drum is paused.
2. The alarm list appears.
3. If the alarm is activated due to an emergency stoppage of the machine, turn and pull out the Emergency Stop and press the blue reset button located by the Emergency Stop.
4. If the alarm is activated by the overloaded engine protection switch, it must be reconnected.
5. You may approve the alarm by pressing alarm reset on the panel or the blue button located by the Emergency Stop.
6. You may restart the drum by pressing the start button.

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Alarm description:

Alarm	Description
Emergency Stop	The Emergency Stop has been used. The alarm could also have been activated due to power stoppage. Restart the machine by switching off the Emergency Stop and pressing the blue reset button.
Error Frequency converter	No communication between the PLC controller and frequency converter or there is an error of the converter. Check if the converter is connected to power. If it is, press the reset button.
Drum Control Error	The alarm will be activated if the frequency converter is not transmitting the signal back to the PLC controller. Restart the machine by pressing reset.
The engine protection switch Drum Frequency Converter has been activated.	The alarm is turned on when the engine protection switch located before the frequency converter is activated. Restart the machine by reconnecting the engine protection switch and pressing reset.
The engine protection switch has been activated Drum M1	The alarm is turned on when the engine protection switch 1 is activated. Restart the machine by reconnecting the engine protection switch and pressing reset.
The engine protection switch has been activated Drum M2	The alarm is turned on when the engine protection switch 2 is activated. Restart the machine by reconnecting the engine protection switch and pressing reset.
The engine protection switch has been activated Stay	The alarm is turned on when the stay engine protection switch is activated. Restart the machine by reconnecting the engine protection switch and pressing reset.
Relay error Stay	The alarm is turned on if the relay is not activated when the engine is about to start. Restart the machine by pressing reset.
The engine protection switch has been activated Inwards Belt	The alarm is turned on when the Inwards Belt engine protection switch is activated. Restart the machine by reconnecting the engine protection switch and pressing reset.
Relay error Inwards Belt	The alarm is turned on if the relay is not activated when the engine is about to start. Restart the machine by pressing reset.
The engine protection switch has been activated Outwards Belt	The alarm is turned on when the Outwards Belt engine protection switch is activated. Restart the machine by reconnecting the engine protection switch and pressing reset.
Relay error Outwards Belt	The alarm is turned on if the relay is not activated when the engine is about to start. Restart the machine by pressing reset.
Outwards Belt full	The light beam at the end of the cleaning belt has been broken during the drum emptying process. Restart by removing the obstacle that prevents the light beam from "seeing" the opposite side and press reset.

KRTR40XL-Service

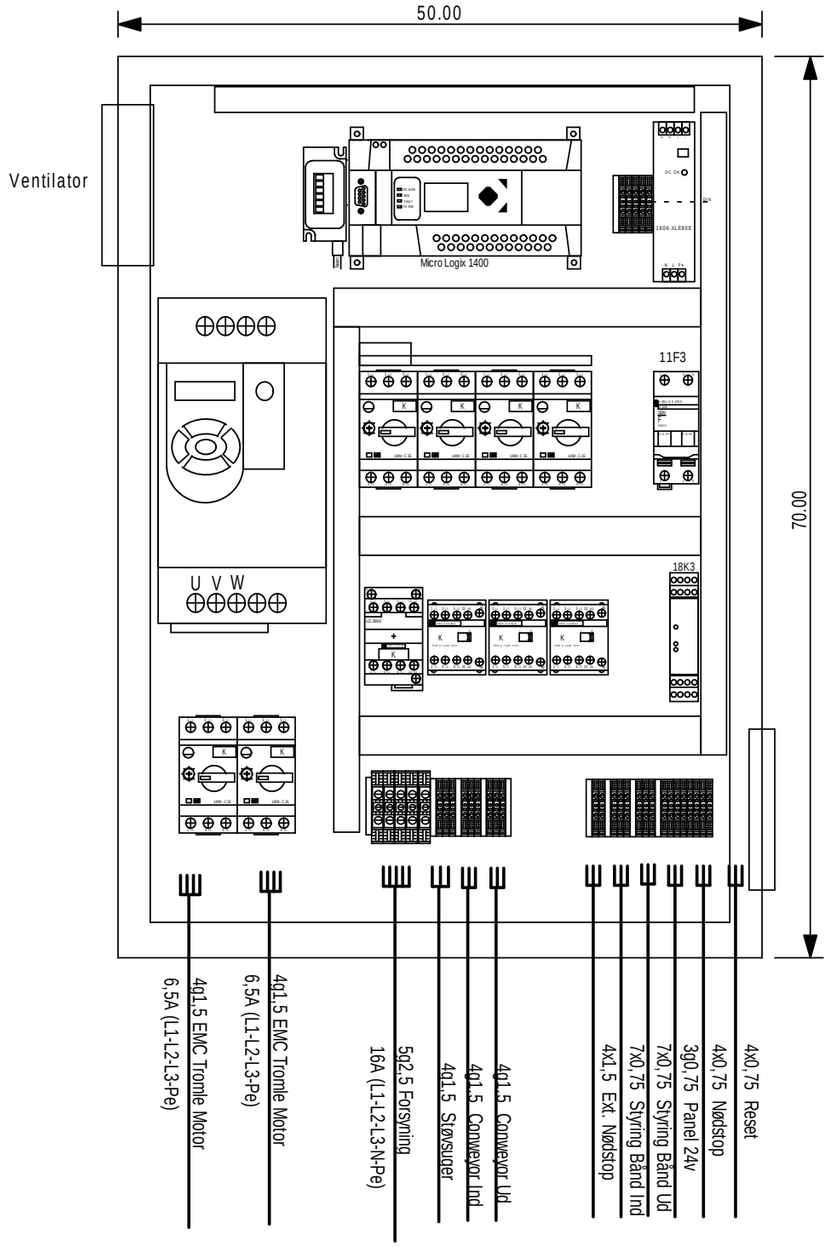
El-dokumentation

XL Kropstromle

m. Conweyor styring og sug

Type - serie nr : KRTR40XL-Service

oprettet dato 12-08-2014



Front

ST7525 = 50 bred/70 Høj/25 Dyb (cm)

Jasopels	Kropstromle KRTR40XL Kropstromle for mink	Layout Styring for suger, conweyor for fyldning og tømning	Proj. nr.: KRTR40XL-Service	Tegn. nr.:	Rev.: 19-10-2014 / Init.: JCG
			Dato: 07-08-2014	Funkt.:	Plac.: / Blad: 2

Lednings Farver / funktion

Hovedstrøm

>1,0 # Lys Blå	= Nul i effekt kredse
>1,0 # Sort	= Effekt kredse

Styrestrøm 230v AC

0,75# Lys Blå	= 230v AC Nul
0,75# Sort (BK)	= 230v AC

Styrestrøm 24v AC

Styrestrøm 24v DC

0,75# MørkBlå (DBU)	= Gnd 24v DC
0,75# Rød (RD)	= 24v DC
0,75# Brun (BR)	= Mellemledninger

Fremmed spænding

alle # Orange (OG)	= Fremmed spænding (udefra kommende)

Init.:	JCG
Blad:	4
Rev.:	19-10-2014
Plac.:	
Tegn. nr.:	
Funkt.:	
Proj. nr.:	KRTR40XL-Service
Dato:	07-08-2014

Ledningsfarver

Kropstromle KRTR40XL

Kropstromle for mink

Jasopels

Lednings numre

Forsynings ledninger f.eks 24V AC opmærkes ikke, da de kan identifiseres ud fra farve.
Hvis der er flere styrestrøm sikringer bliver forsynings ledninger efter sikringer,
mærket med sikringsnummer.
Forsynings ledere L1-L2-L3 & N mærkes ikke med side nr.

Numre på S pladsen
henviser til kredsskema
side nr.

SSSNN

Numre på N pladsen
er lednings nr. på
aktuelle side (altid 2 cifre)

På Hovedstrøms ledninger kan der ud over Side og nr.
være mærket med Fase nr. f.eks. XXYYL1
Der kan derfor være op til 4 forskellige ledninger med
samme XXYY nr. men hvor slutbetegnelsen er forskellig.

Stardart farve forkortelser

BK Black Sort
BN Brown Brun
RD Red Rød
OG Orange Orange
YE Yellow Gul
GN Green Grøn
BU Blue (incl. light blue) Blå (inkl. lys blå)
VT Violet (purple) Violet
GY Grey (slate) Grå
WH White Hvid
PK Pink Lyserød
GD Gold Guld
TQ Turquoise Turkis

GNYE Green-and-yellow Grøn-gul (jord)

DS/EN61346-2

A : Berøringsskærm
B : Føler, Detektor, Måleelement, Fotoceller, Temperatur
C : Buffer, Kondensator
E : Kedel, Lys, og varme element
F : Sikring, Termisk beskyttelse, Overspændingsaflader
G : Generator, spændingsforsyning
K : Relæer, Kontaktorer, Filter
M : Motor, Aktiveringsspole
N : Analog elementer
P : Måleudstyr, Signallampe, Testudstyr
Q : Effekt afbrydere, adskiller
R : Modstande
S : Afbryder i styrekredse
T : AC/DC omformer, Frekvensomformer
U : Isolator
V : Filter, Halvleder
W : Samleskinne, Kabel
X : Terminaler, Stik, Fatninger

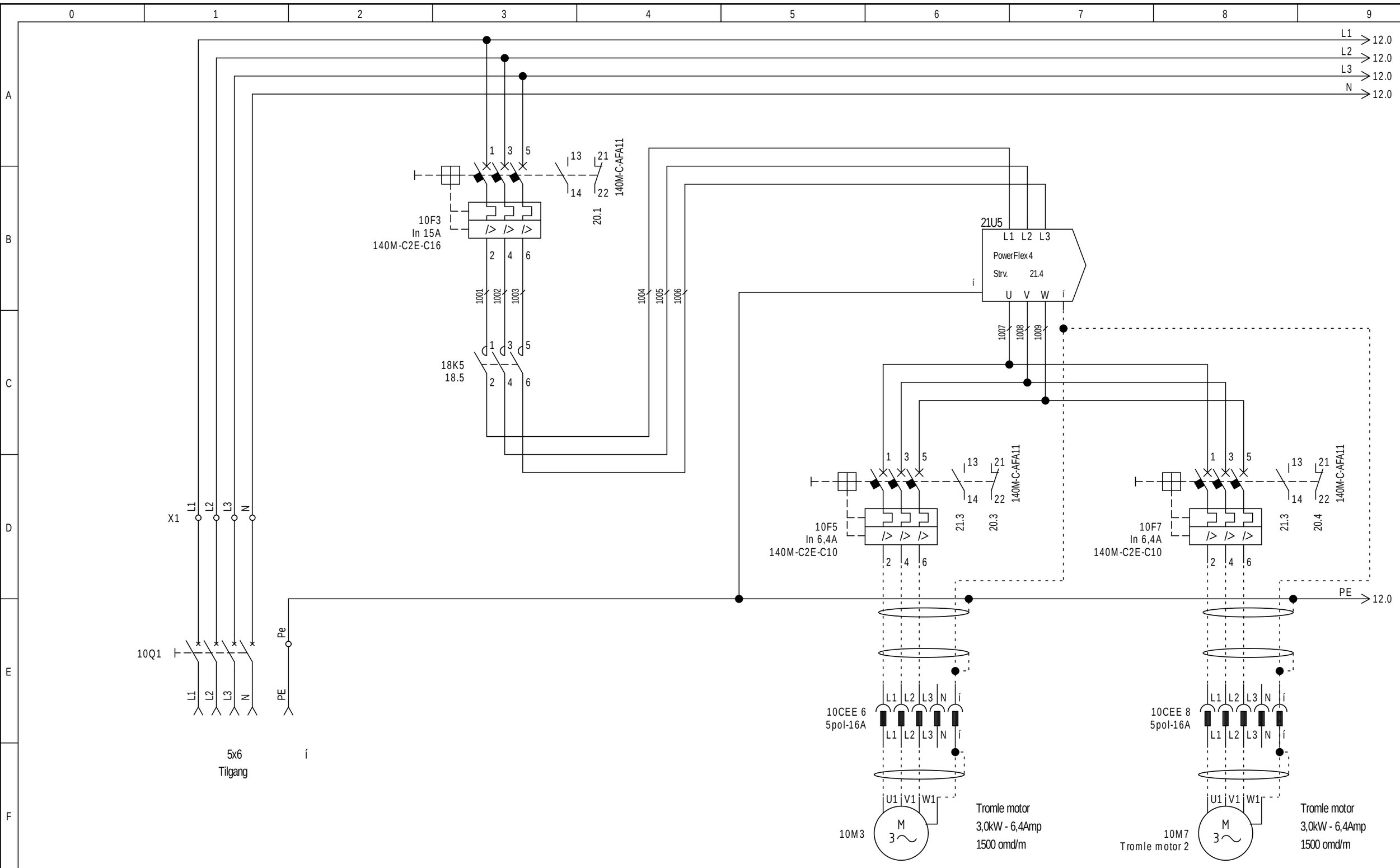
SR Silver Sølv

Init.: JCG
Blad: 4 a
Rev.: 19-10-2014
Plac.:
Tegn. nr.:
Funkt.:
Proj. nr.: KRTR40XL-Service
Dato: 07-08-2014

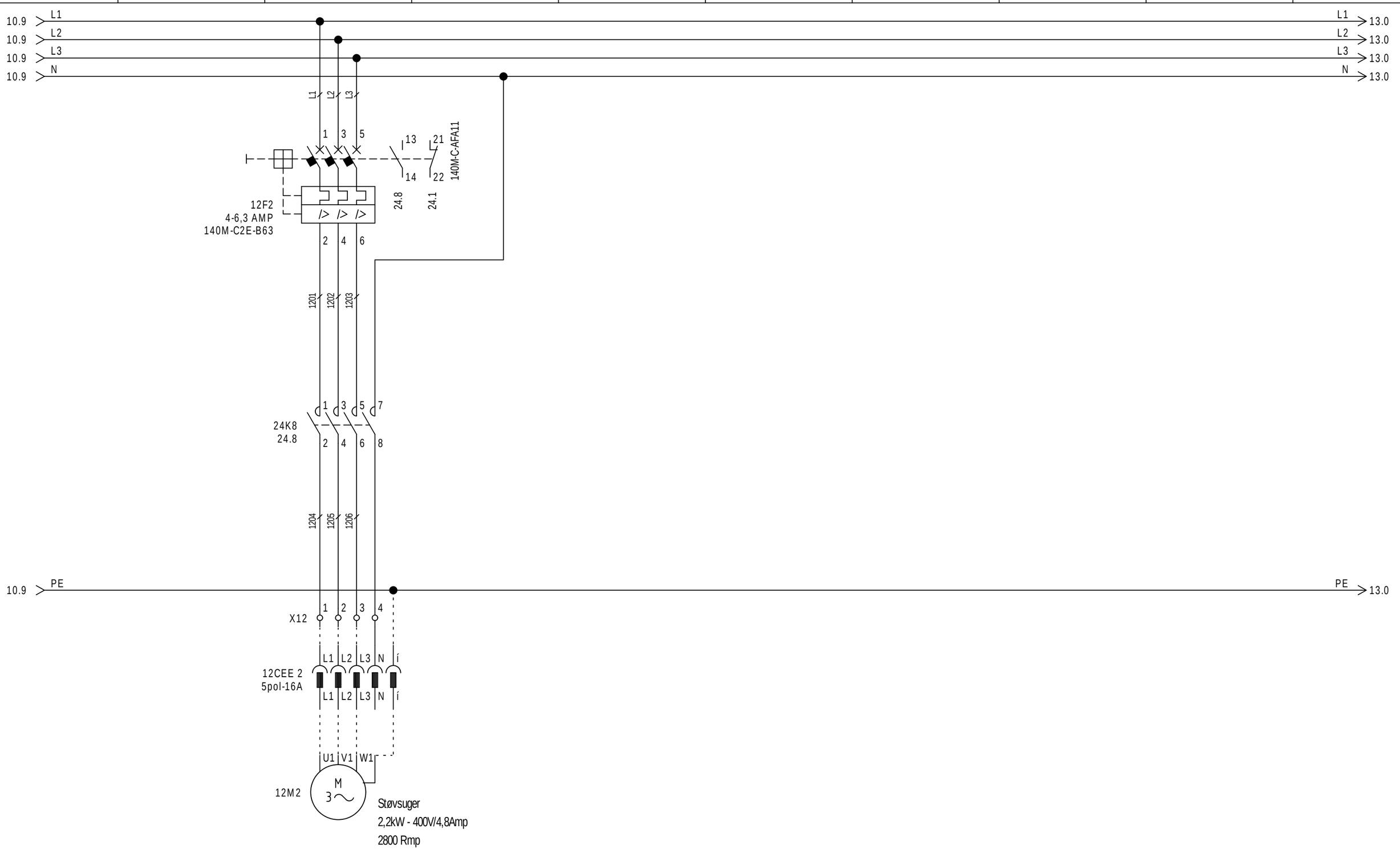
Standarter

Kropstromle KRTR40XL
Kropstromle for mink

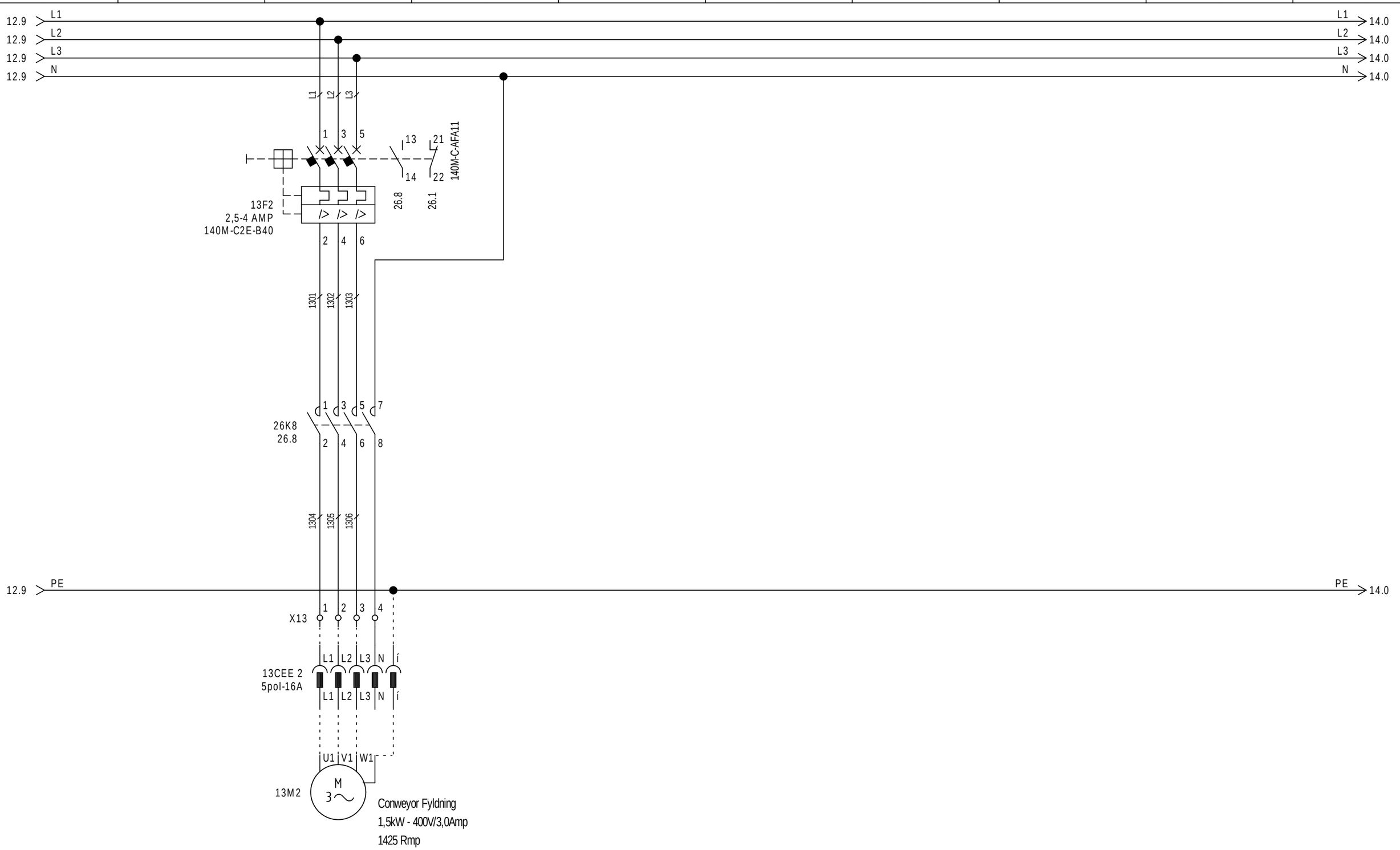
Jasopels



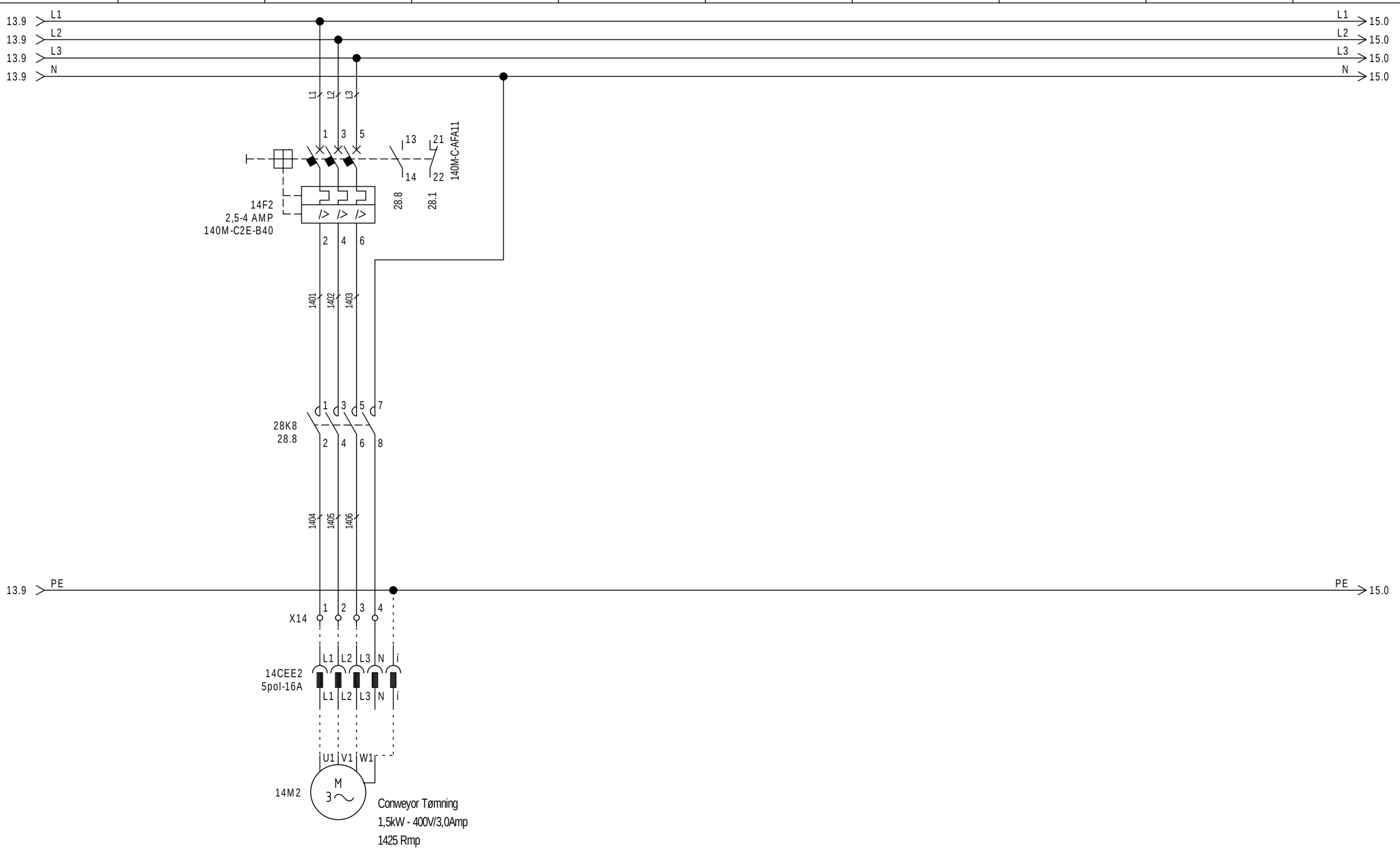
Jasopels	Kropstromle KRTR40XL Kropstromle for mink	Forsynign / Hovedstrøm	Proj. nr.: KRTR40XL-Service	Tegn. nr.:	Rev.: 19-10-2014 / Init.: JCG
			Dato: 07-08-2014	Funkt.:	Plac.: / Blad: 10



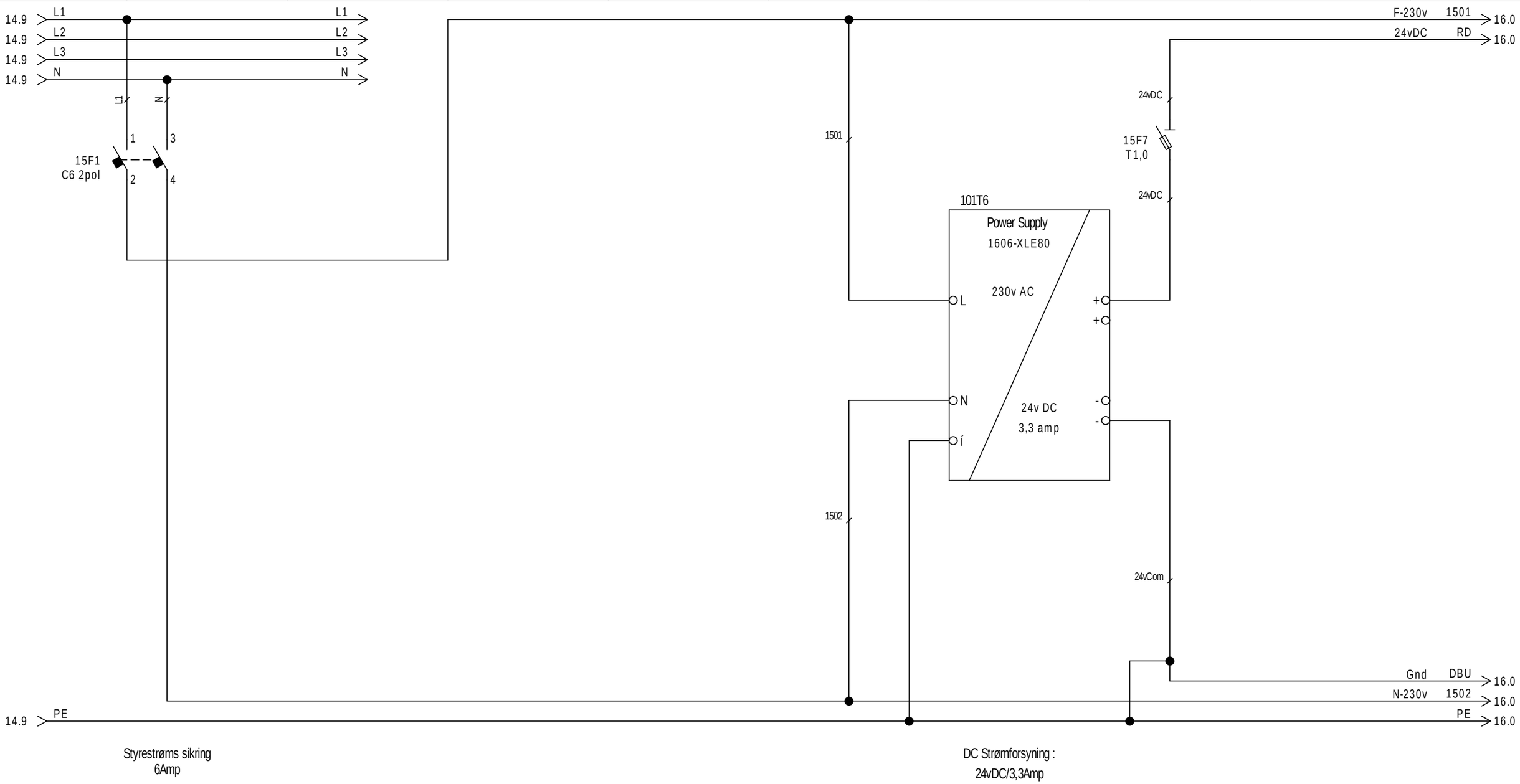
Jasopels	Kropstromle KRTR40XL Kropstromle for mink	Støvsuger	Proj. nr.: KRTR40XL-Service	Tegn. nr.:	Rev.: 19-10-2014 / Init.: JCG
			Dato: 07-08-2014	Funkt.: / Plac.:	Blad: 12



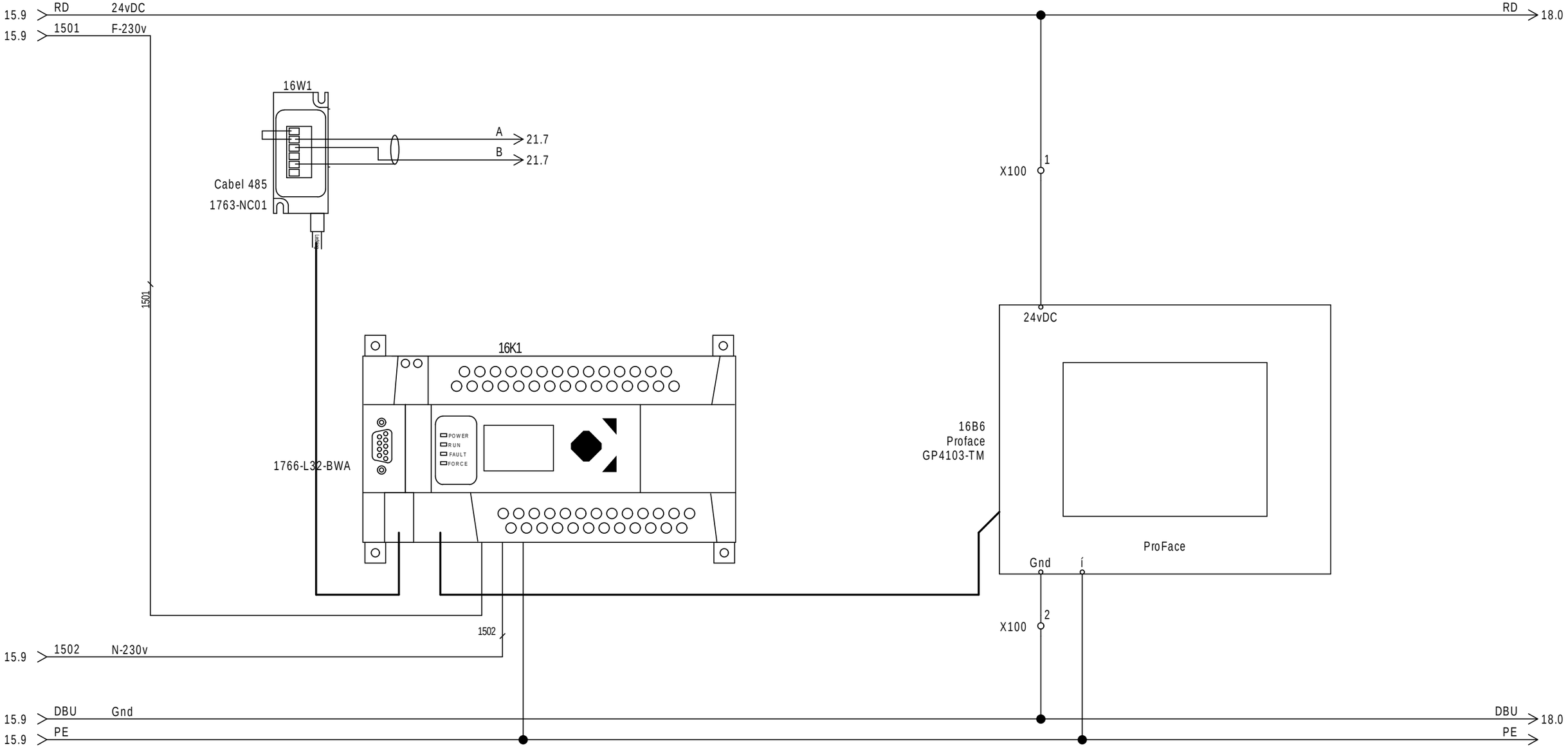
Jasopels	Kropstromle KRTR40XL Kropstromle for mink	Conweyor (Fyldning) Styrings udvidelse	Proj. nr.: KRTR40XL-Service	Tegn. nr.:	Rev.: 19-10-2014 / Init.: JCG
			Dato: 07-08-2014	Funkt.:	Plac.: / Blad: 13



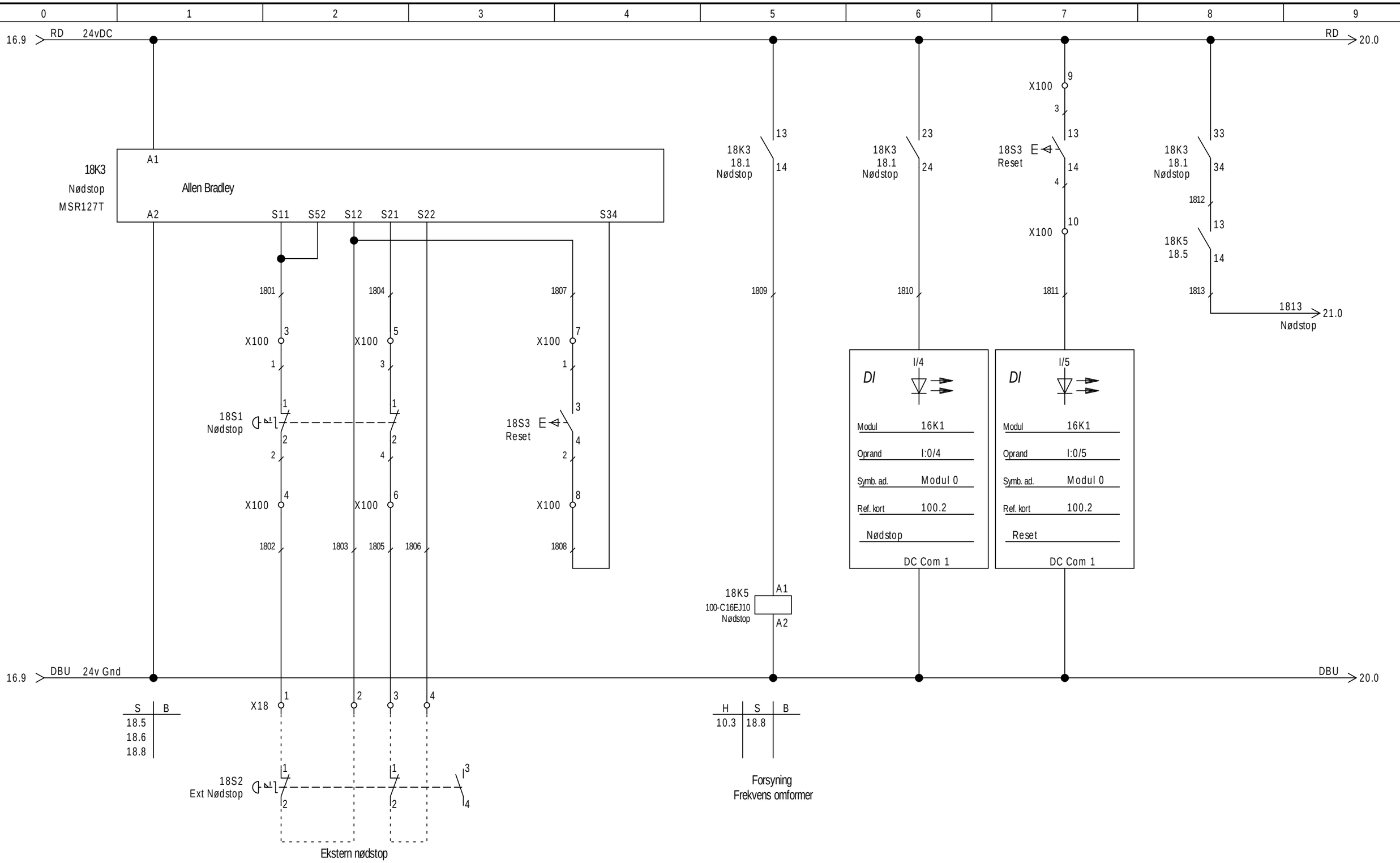
Jasopels	Kropstromle KRTR40XL Kropstromle for mink	Conweyor (tømning) Styrings udvidelse	Proj. nr.: KRTR40XL-Service	Tegn. nr.:	Rev.: 19-10-2014 / Init.: JCG
			Dato: 07-08-2014	Funkt.:	Plac.: / Blad: 14



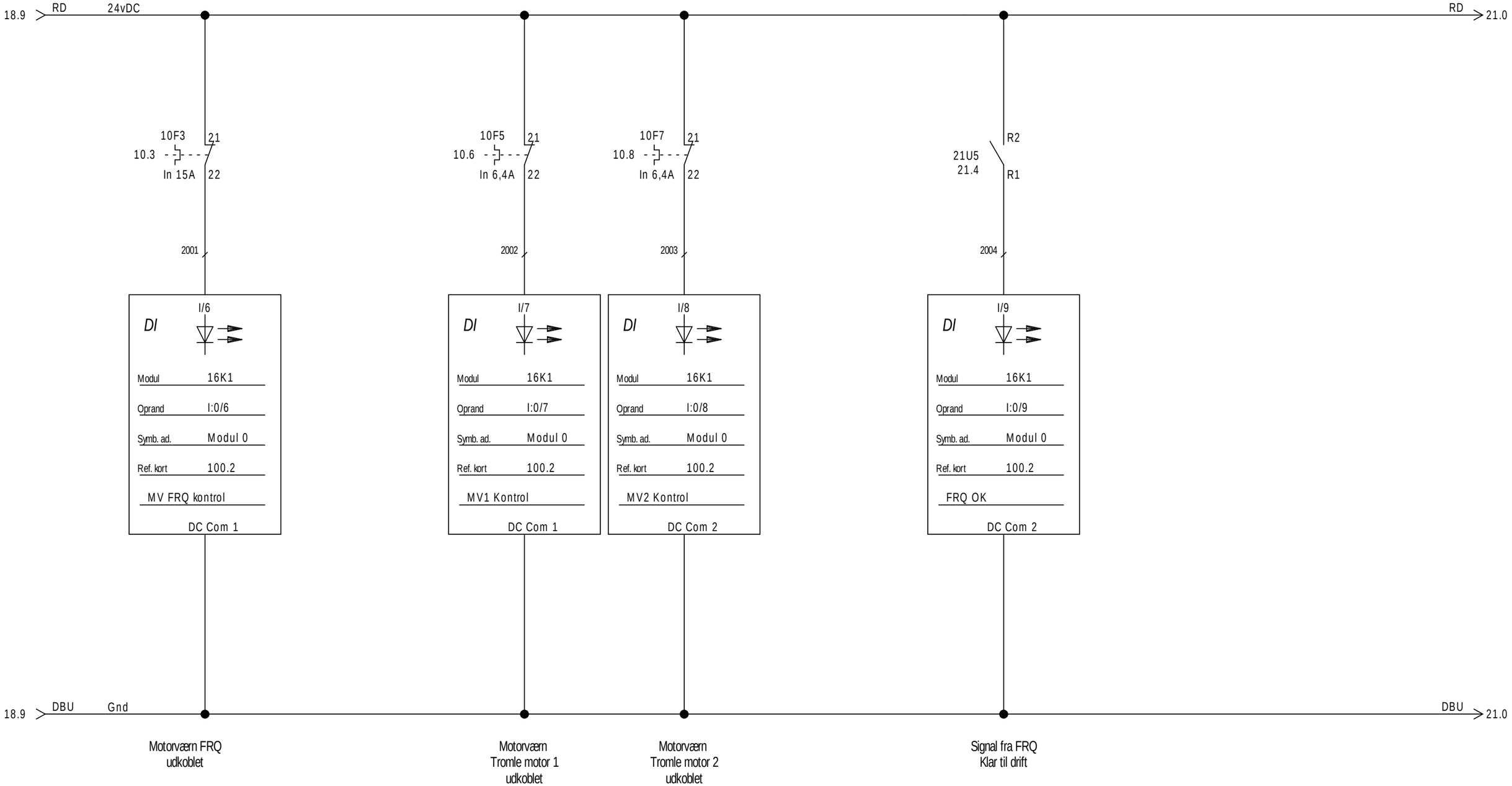
Jasopels	Kropstromle KRTR40XL Kropstromle for mink	Strømforsyning	Proj. nr.: KRTR40XL-Service	Tegn. nr.:	Rev.: 19-10-2014	Init.: JCG
			Dato: 07-08-2014	Funkt.:	Plac.:	Blad: 15



Jasopels	Kropstromle KRTR40XL Kropstromle for mink	PLC og Operatørpanel	Proj. nr.: KRTR40XL-Service	Tegn. nr.:	Rev.: 19-10-2014 / Init.: JCG
			Dato: 07-08-2014	Funkt.: / Plac.:	Blad: 16



Jasopels	Kropstromle KRTR40XL Kropstromle for mink	Nødstop	Proj. nr.: KRTR40XL-Service	Tegn. nr.:	Rev.: 19-10-2014 / Init.: JCG
			Dato: 07-08-2014	Funkt.:	Plac.: / Blad: 18



Jasopels

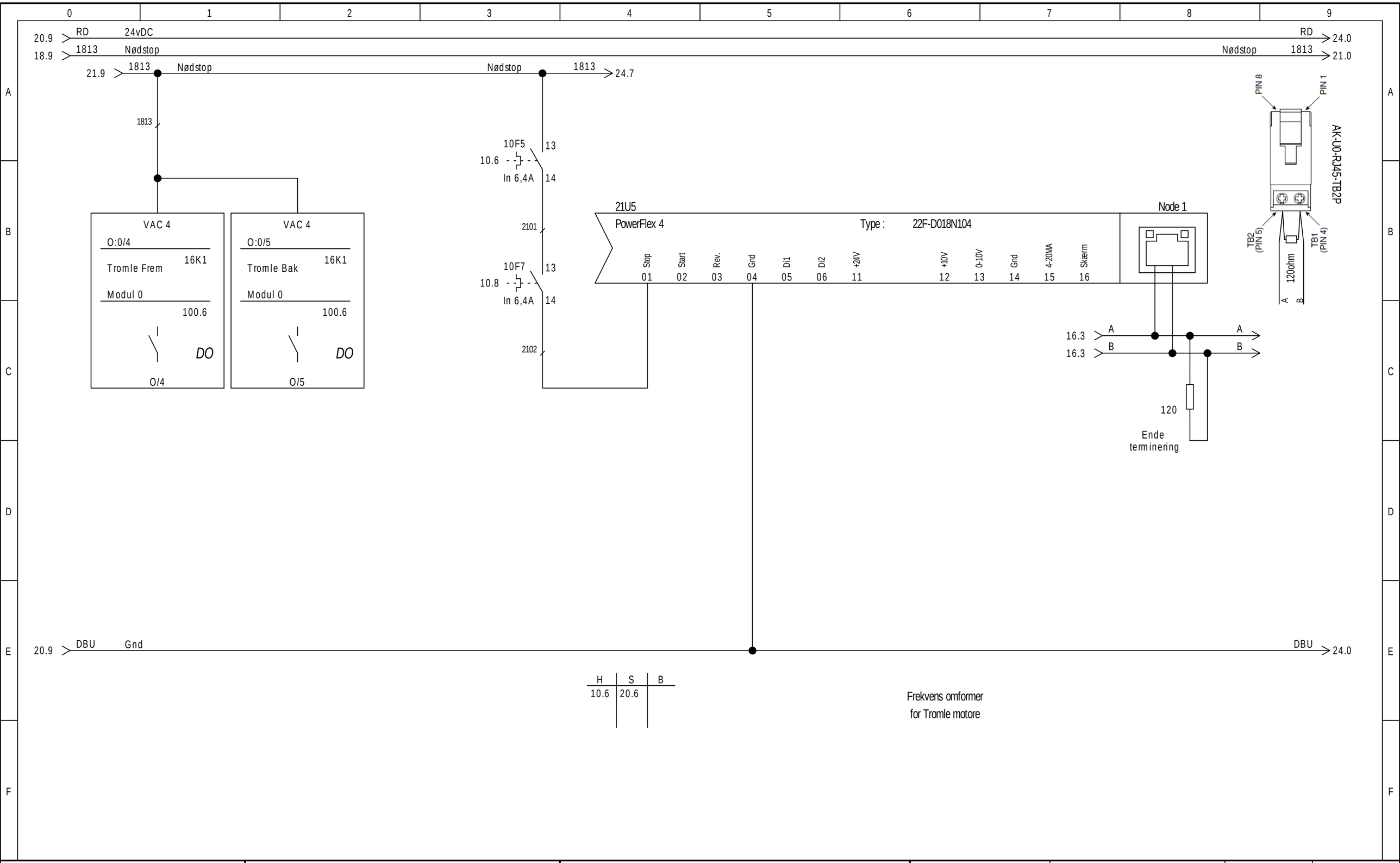
Kropstromle KRTR40XL

Kropstromle for mink

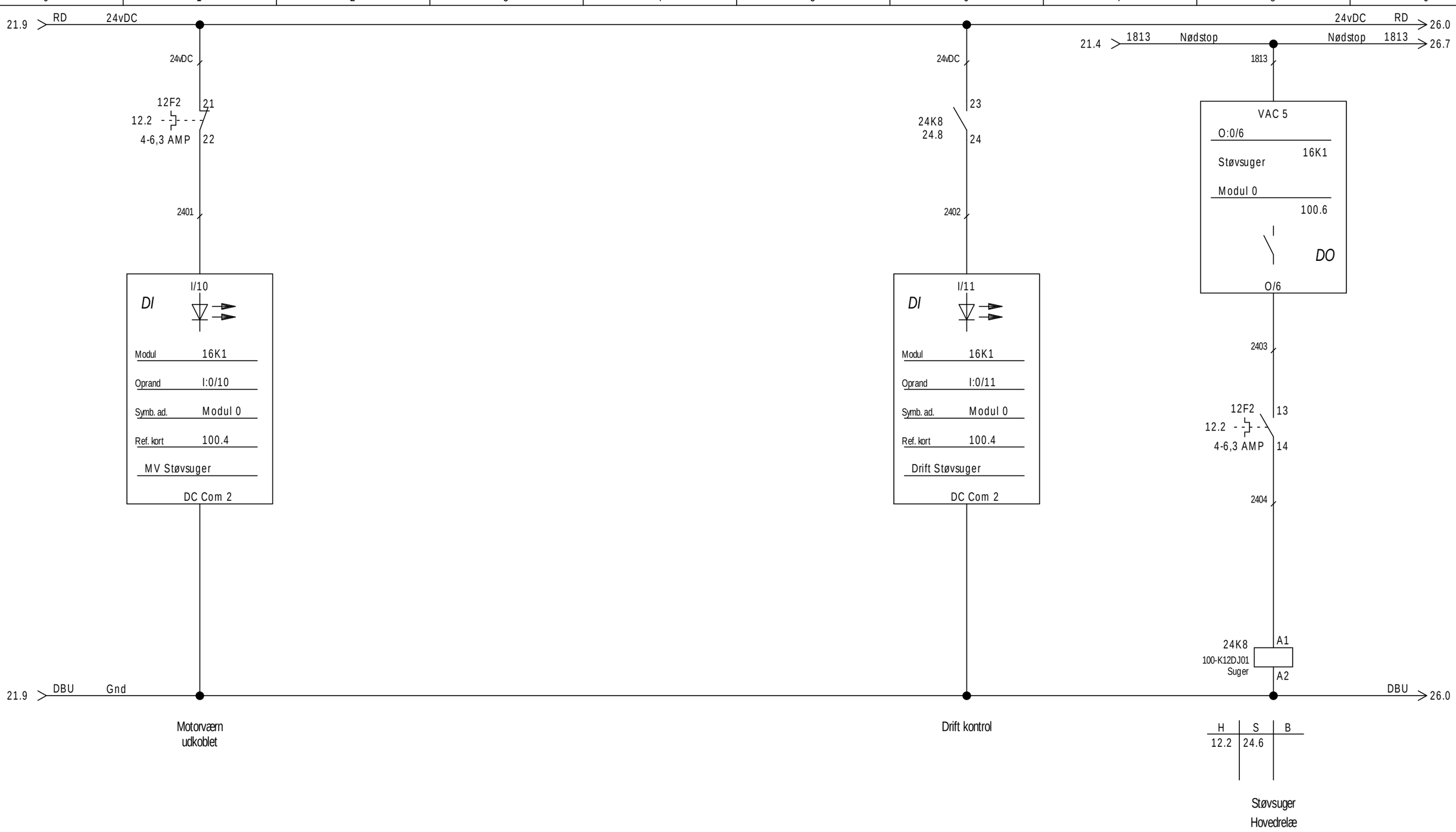
Tromle

Motor

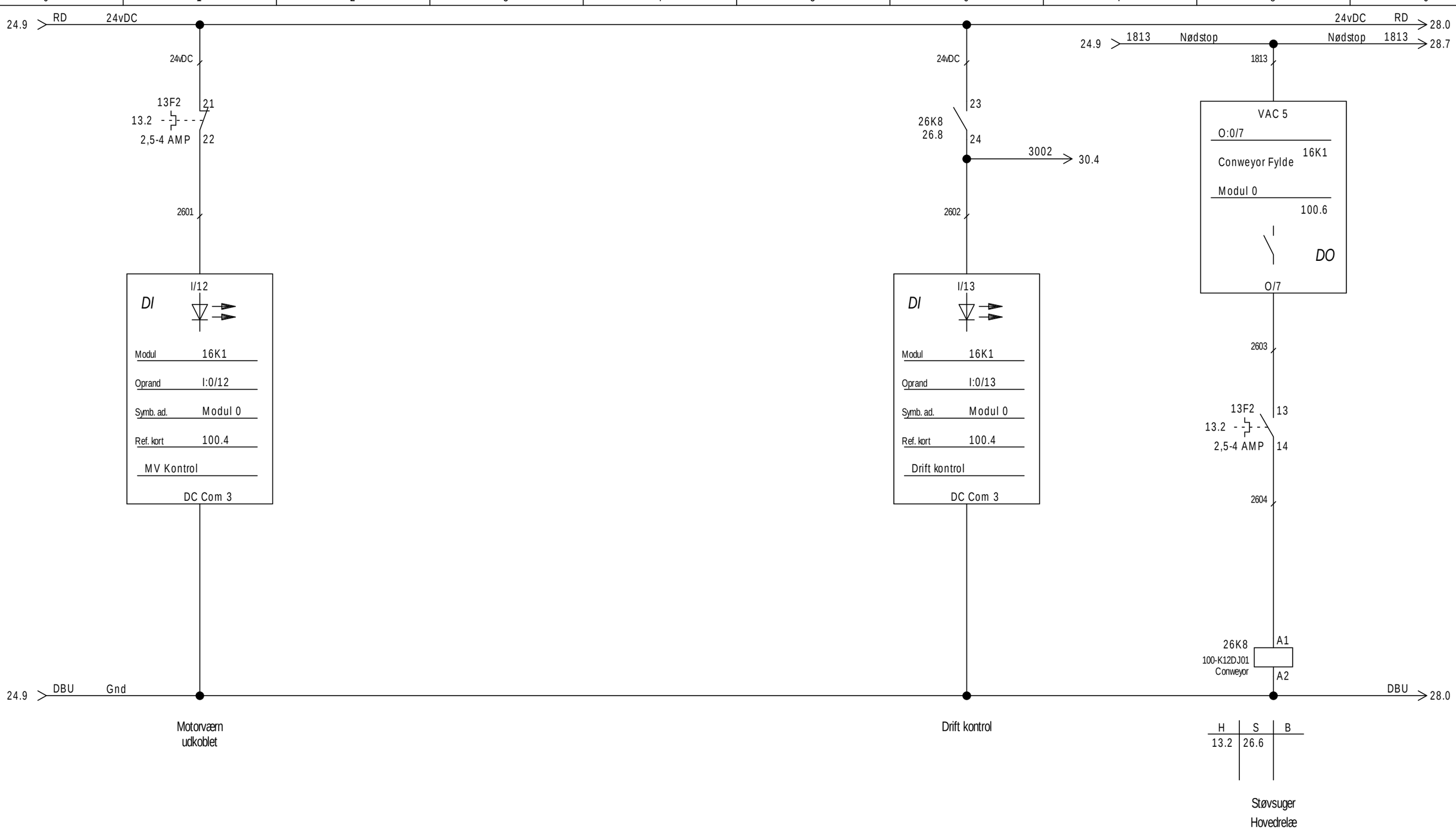
Proj. nr.:	Tegn. nr.:	Rev.:	Init.:
KRTR40XL-Service		19-10-2014	JCG
Dato:	**Funkt.:**	**Plac.:**	**Blad:**
07-08-2014			20



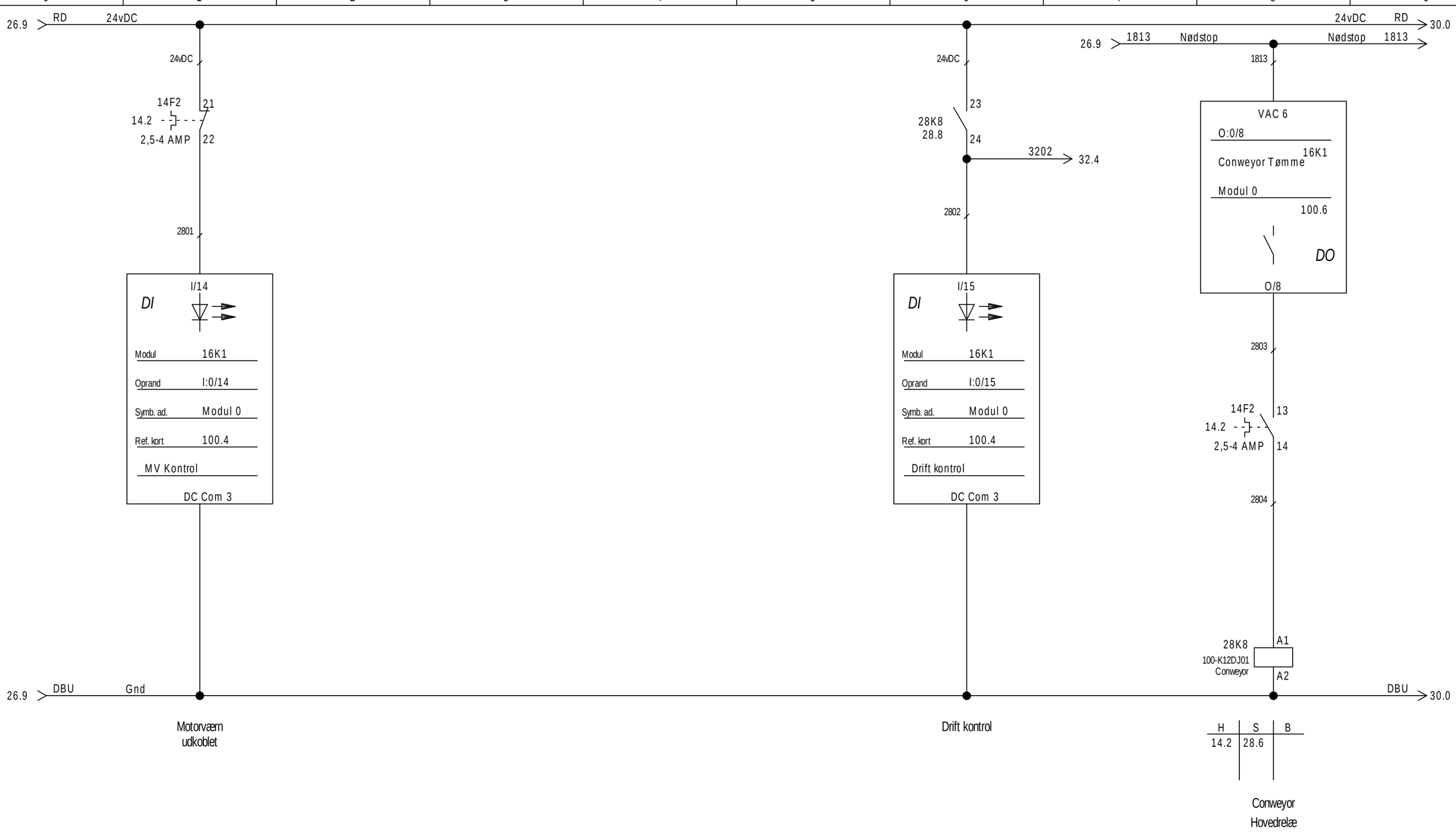
Jasopels	Kropstromle KRTR40XL Kropstromle for mink	Tromle FRQ	Proj. nr.: KRTR40XL-Service	Tegn. nr.:	Rev.: 19-10-2014	Init.: JCG
			Dato: 07-08-2014	Funkt.:	Plac.:	Blad: 21



Jasopels	Kropstromle KRTR40XL Kropstromle for mink	Støv Suger	Proj. nr.: KRTR40XL-Service	Tegn. nr.:	Rev.: 19-10-2014 / Init.: JCG
			Dato: 07-08-2014	Funkt.: / Plac.:	Blad: 24



Jasopels	Kropstromle KRTR40XL Kropstromle for mink	Conweyer Fyldning	Proj. nr.: KRTR40XL-Service	Tegn. nr.:	Rev.: 19-10-2014 / Init.: JCG
			Dato: 07-08-2014	Funkt.: / Plac.:	Blad: 26



Jasopels	Kropstromle KRTR40XL Kropstromle for mink	Conweyor Tømning	Proj. nr.: KRTR40XL-Service	Tegn. nr.:	Rev.: 19-10-2014 / Init.: JCG
			Dato: 07-08-2014	Funkt.: / Plac.:	Blad: 28

0 1 2 3 4 5 6 7 8 9

A B C D E F

28.9 RD 24vDC

RD 32.0

Drift signal fra Kontaktor

26.7 3002

3002

3001

DI	I/16
Modul	16K1
Oprand	I:1/0
Symb. ad.	Modul 0
Ref. kort	100.4
IR Fuld Bånd	
DC Com 3	

3003

DI	I/17
Modul	16K1
Oprand	I:1/1
Symb. ad.	Modul 0
Ref. kort	100.4
IR Tømt bånd	
DC Com 3	

28.9 DBU Gnd

DBU 32.0

X30 1 2 3 4 5 6

1 2 3 4 5 6 7

W3001
Fyldebånd Følere
7x1,0 OZ

Dåse/Styrebox på Fyldebånd

X30a 1 2 3 4 5 6

30U2 Br Bk Bl

IR Transmiter/Reciver

IR modtager Fuld Bånd

30U7 Br Bk Bl

IR Transmiter/Reciver

IR modtager Tømt bånd

Jasopels

Kropstromle KRTR40XL

Kropstromle for mink

Styring Fyldebånd

indikerer fuld bånd og Tømt bånd

Proj. nr.:	Tegn. nr.:	Rev.:	Init.:
KRTR40XL-Service		19-10-2014	JCG
Dato:	**Funkt.:**	**Plac.:**	**Blad:**
23-09-2014			30

0 1 2 3 4 5 6 7 8 9

A B C D E F

30.9 RD 24vDC

RD

Drift signal fra Kontaktor

28.7 3202

3201

3202

DI	I/18
Modul	16K1
Oprand	I:1/2
Symb. ad.	Modul 0
Ref. kort	100.4
IR Stuve vagt	
DC Com 3	

3203

DI	I/19
Modul	16K1
Oprand	I:1/3
Symb. ad.	Modul 0
Ref. kort	100.4
Fuld Bånd	
DC Com 3	

30.9 DBU Gnd

DBU

X32 1 2 3 4 5 6

1 2 3 4 5 6 7

W3201
Tømmebånd Følere
7x1,0 OZ

Dåse/Styrebox på Tømmebånd

X32a 1 2 3 4 5 6

32U3a Br Bk Bl

IR Transmiter/Reciver

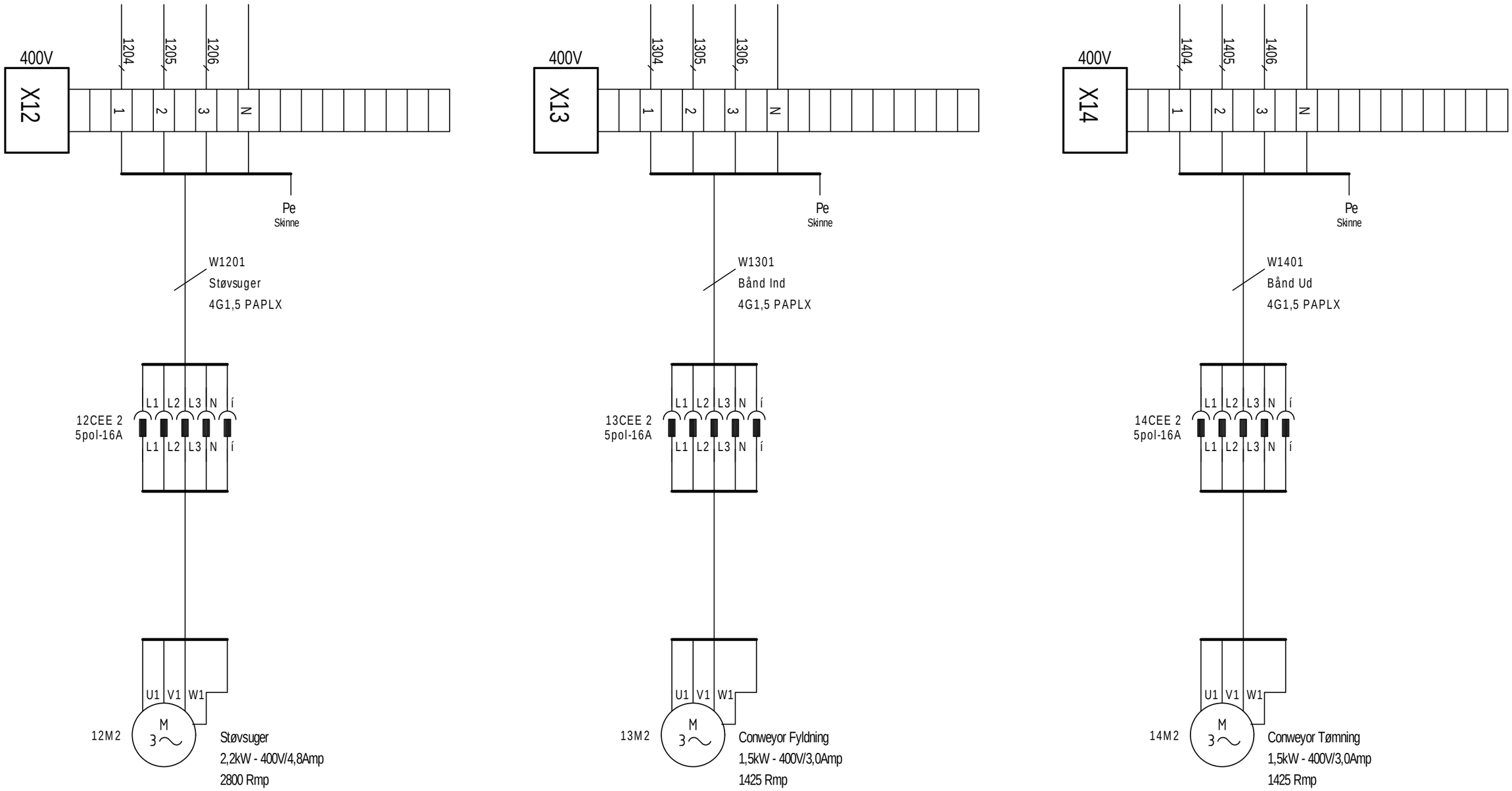
IR modtager Opstuvning

32U3b Br Bk Bl

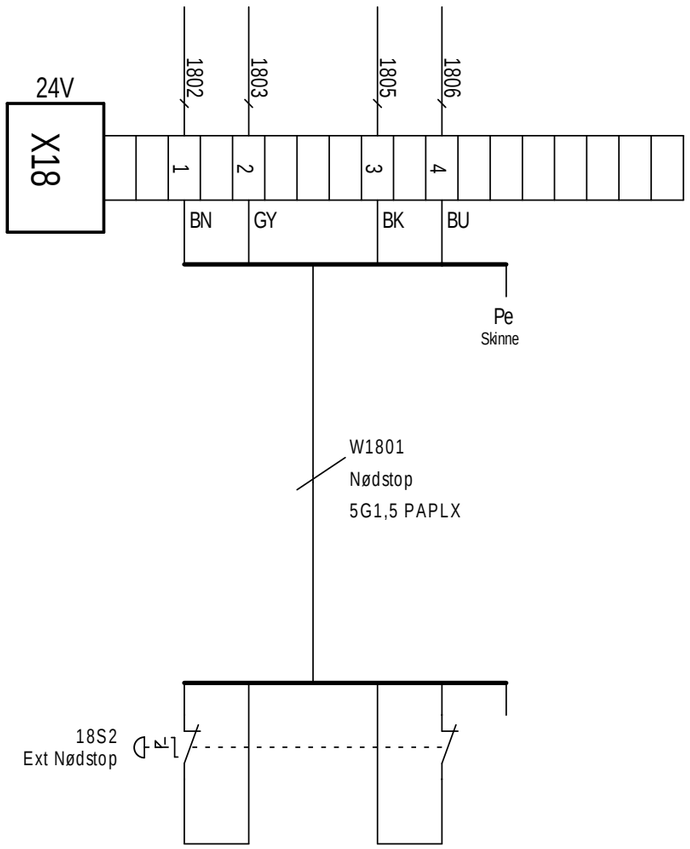
IR Transmiter/Reciver

IR modtager Fuld bånd

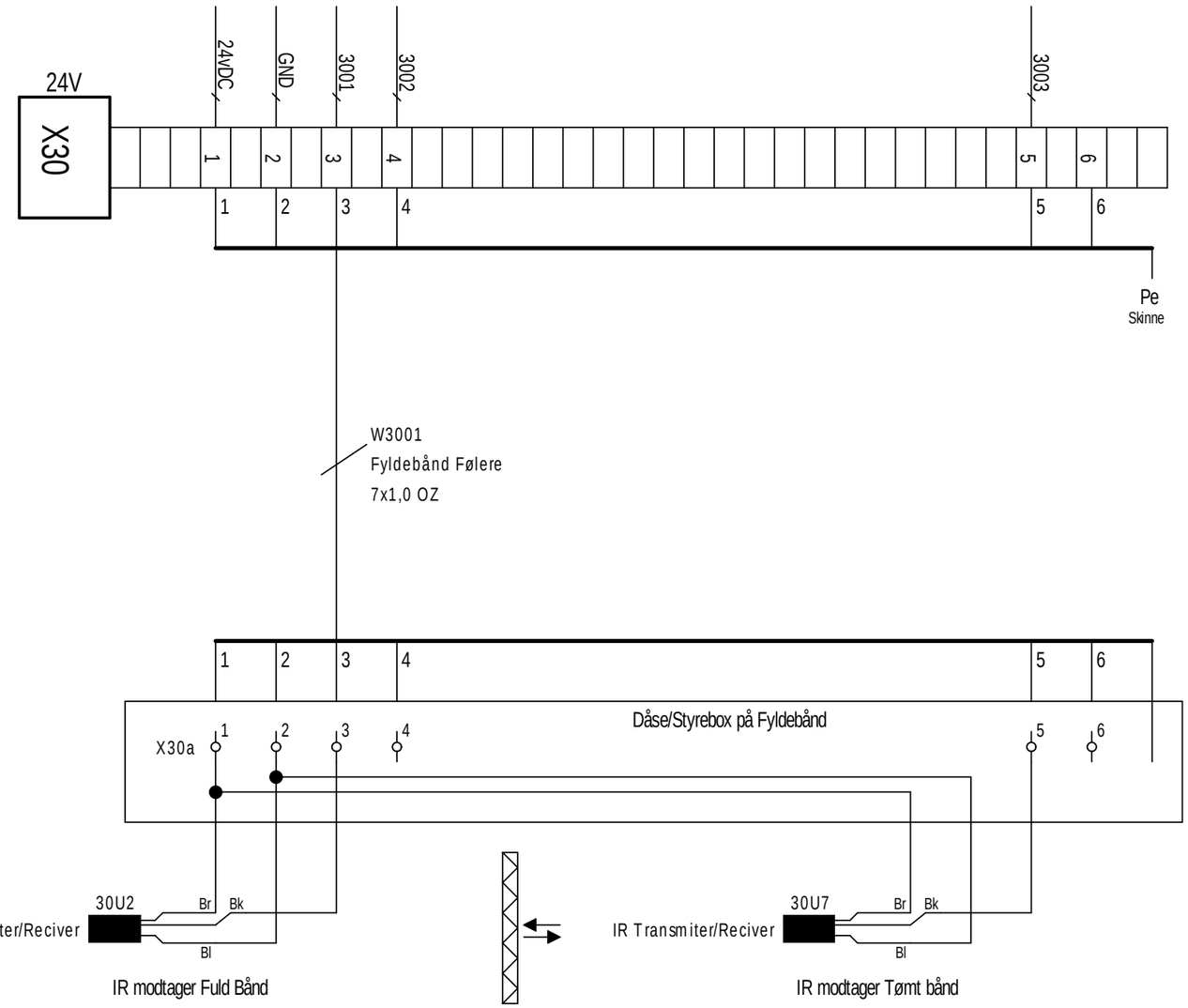
Jasopels	Kropstromle KRTR40XL Kropstromle for mink	Styring Tømmebånd indikerer opstuvning & fuld bånd	Proj. nr.: KRTR40XL-Service	Tegn. nr.:
			Rev.: 19-10-2014	Init.: JCG
			Dato: 07-08-2014	Funkt.:
			Plac.:	Blad: 32



Jasopels	Kropstromle KRTR40XL Kropstromle for mink	Klemmer X12 - X13 -X14	Proj. nr.: KRTR40XL-Service	Tegn. nr.:	Rev.: 19-10-2014 / Init.: JCG
			Dato: 26-09-2014	Funkt.:	Plac.: / Blad: 60



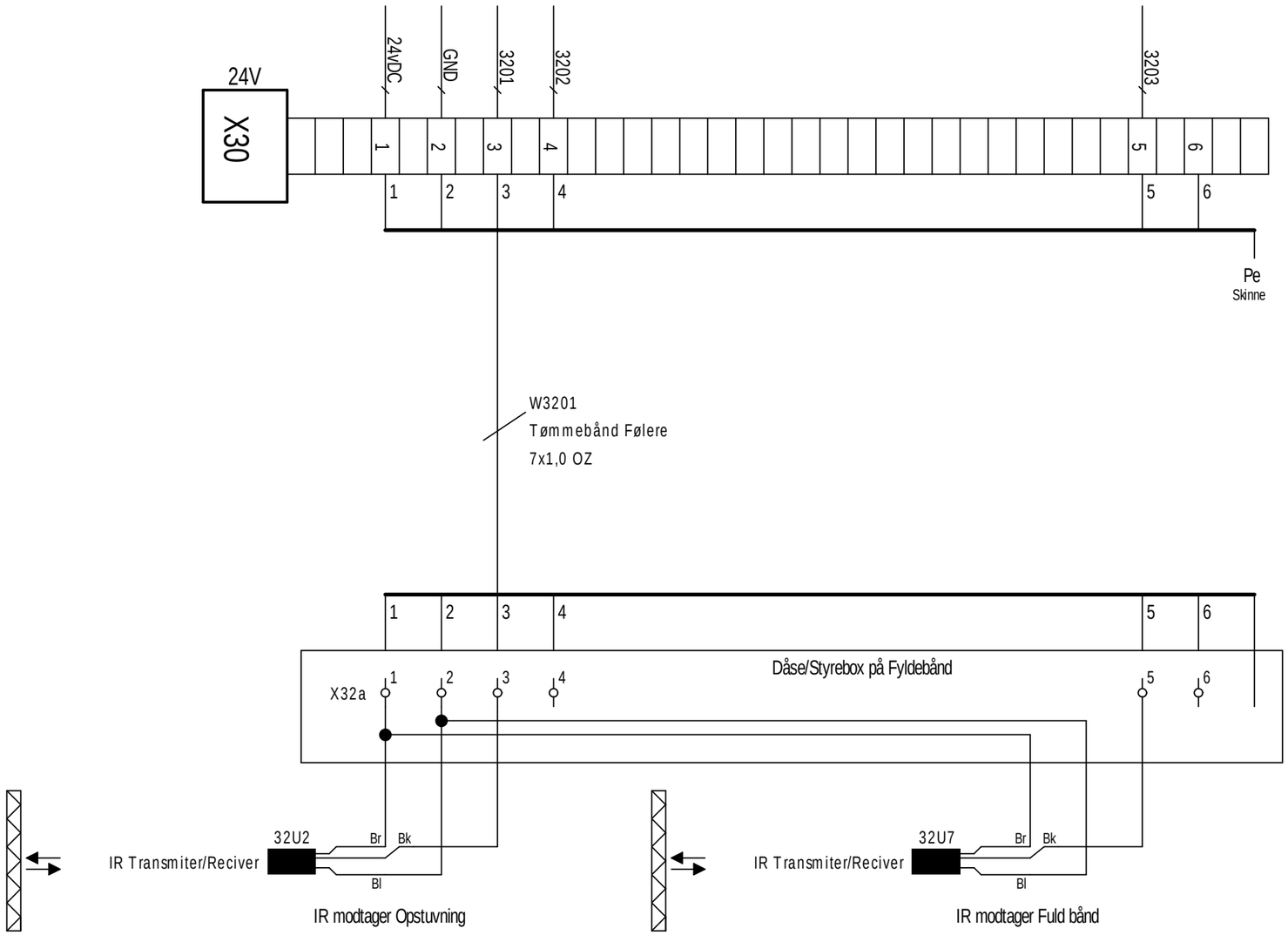
Ekstern Nødstop



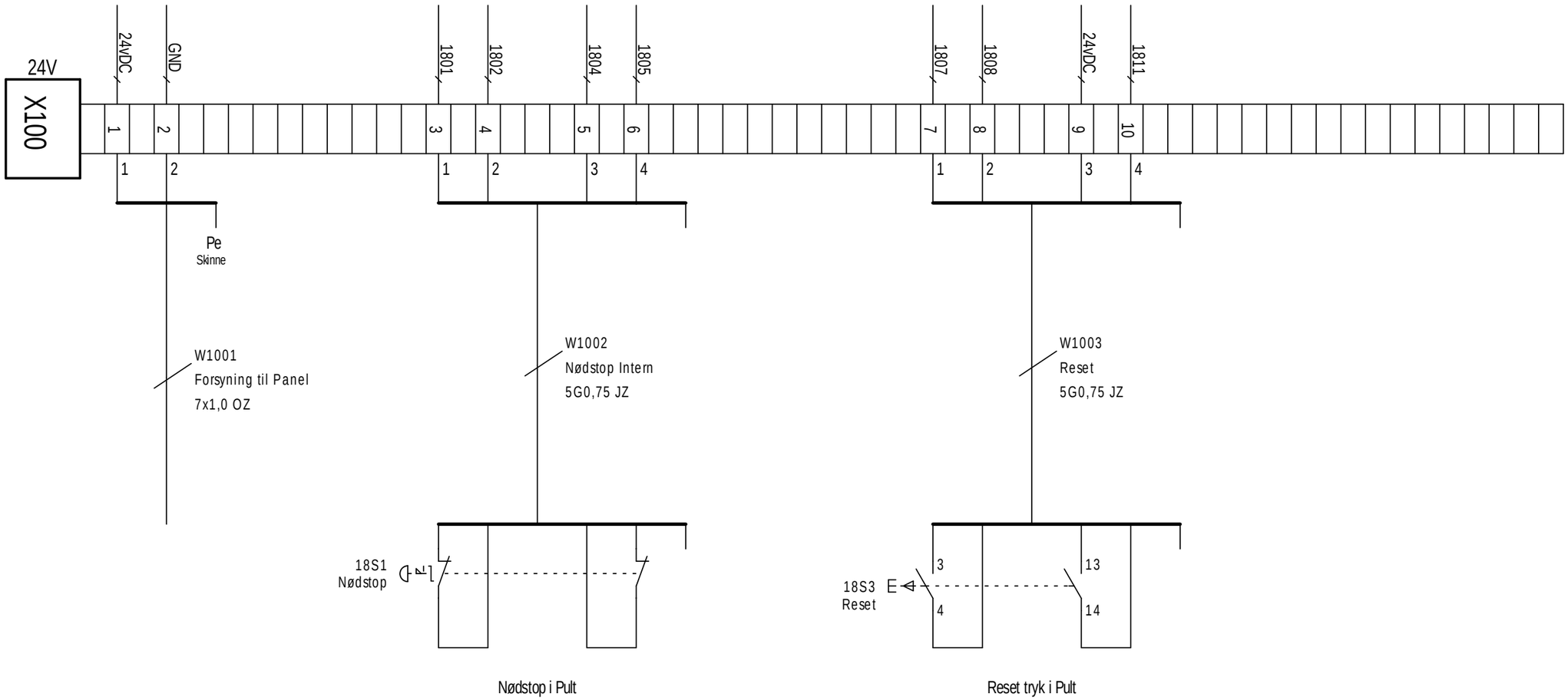
IR modtager Fuld Bånd

IR modtager Tømt bånd

Jasopels	Kropstromle KRTR40XL Kropstromle for mink	Klemmer X18 -X30 24vDC	Proj. nr.: KRTR40XL-Service	Tegn. nr.:	Rev.: 19-10-2014 / Init.: JCG
			Dato: 26-09-2014	Funkt.: / Plac.:	Blad: 62



Jasopels	Kropstromle KRTR40XL Kropstromle for mink	Klemmer X32 24vDC	Proj. nr.: KRTR40XL-Service	Tegn. nr.:	Rev.: 19-10-2014 / Init.: JCG
			Dato: 26-09-2014	Funkt.: / Plac.:	Blad: 63



Nødstop i Pult

Reset tryk i Pult

Jasopels	Kropstromle KRTR40XL Kropstromle for mink	Klemmer X100 24vDC	Proj. nr.: KRTR40XL-Service	Tegn. nr.:	Rev.: 19-10-2014 / Init.: JCG
			Dato: 26-09-2014	Funkt.: / Plac.:	Blad: 65

16K1

ML 1400

Input

I:0/0		I/0	DC Com 0
Modul 0			
I:0/1		I/1	DC Com 0
Modul 0			
I:0/2		I/2	DC Com 0
Modul 0			
I:0/3		I/3	DC Com 0
Modul 0			
I:0/4	18.6	I/4	DC Com 1
Modul 0 Nødstop			
I:0/5	18.7	I/5	DC Com 1
Modul 0 Reset			
I:0/6	20.1	I/6	DC Com 1
Modul 0 MV FRQ kontrol			
I:0/7	20.3	I/7	DC Com 1
Modul 0 MV1 Kontrol			
I:0/8	20.4	I/8	DC Com 2
Modul 0 MV2 Kontrol			
I:0/9	20.6	I/9	DC Com 2
Modul 0 FRQ OK			
I:0/10	24.1	I/10	DC Com 2
Modul 0 MV Støvsuger			
I:0/11	24.6	I/11	DC Com 2
Modul 0 Drift Støvsuger			
I:0/12	26.1	I/12	DC Com 3
Modul 0 MV Kontrol			
I:0/13	26.6	I/13	DC Com 3
Modul 0 Drift kontrol			
I:0/14	28.1	I/14	DC Com 3
Modul 0 MV Kontrol			
I:0/15	28.6	I/15	DC Com 3
Modul 0 Drift kontrol			
I:1/0	30.3	I/16	DC Com 3
Modul 0 IR Fuld Bånd			
I:1/1	30.8	I/17	DC Com 3
Modul 0 IR Tømt bånd			
I:1/2	32.3	I/18	DC Com 3
Modul 0 IR Stuve vagt			
I:1/3	32.8	I/19	DC Com 3
Modul 0 Fuld Bånd			

Output

O:0/0		O/0	VAC 0
Modul 0 Disp			
O:0/1		O/1	VAC 1
Modul 0 Disp			
O:0/2		O/2	VAC 2
Modul 0 Disp			
O:0/3		O/3	VAC 3
Modul 0 Disp			
O:0/4	21.1	O/4	VAC 4
Modul 0 Tromle Frem			
O:0/5		O/5	VAC 4
Modul 0 Tromle Bak			
O:0/6	24.8	O/6	VAC 5
Modul 0 Støvsuger			
O:0/7	26.8	O/7	VAC 5
Modul 0 Conweyor Fylde			
O:0/8	28.8	O/8	VAC 6
Modul 0 Conweyor Tømme			
O:0/9		O/9	VAC 6
Modul 0			
O:0/10		O/10	VAC 6
Modul 0			
O:0/11		O/11	VAC 6
Modul 0			

Analog Input

Analog Output

Jasopels	Kropstromle KRTR40XL Kropstromle for mink	PLC reference Modul 0	Proj. nr.: KRTR40XL-Service	Tegn. nr.:	Rev.: 19-10-2014 / Init.: JCG
			Dato: 07-08-2014	Funkt.: / Plac.:	Blad: 100

Dokumentliste

Sidefunktion (=)	Blad	Dokumenttype	Beskrivelse	Beskrivelse	Rev.dato
	1	Dokumentliste			19-10-2014
	1	Kredsskema	forside	XL Kropstromle	19-10-2014
	2	Kredsskema	Layout	Styring for suger, conweyor for fyldning og tømning	19-10-2014
	4	Kredsskema	Ledningsfarver		19-10-2014
	4 a	Kredsskema	Standarter		19-10-2014
	10	Kredsskema	Forsynign / Hovedstrøm		19-10-2014
	12	Kredsskema	Støvsuger		19-10-2014
	13	Kredsskema	Conweyor (Fyldning)	Styrings udvidelse	19-10-2014
	14	Kredsskema	Conweyor (tømning)	Styrings udvidelse	19-10-2014
	15	Kredsskema	Strømforsyning		19-10-2014
	16	Kredsskema	PLC og Operatørpanel		19-10-2014
	18	Kredsskema	Nødstop		19-10-2014
	20	Kredsskema	Tromle	Motor	19-10-2014
	21	Kredsskema	Tromle FRQ		19-10-2014
	24	Kredsskema	Støv Suger		19-10-2014
	26	Kredsskema	Conweyer Fyldning		19-10-2014
	28	Kredsskema	Conweyor Tømning		19-10-2014
	30	Kredsskema	Styring Fyldebånd	indikerer fuld bånd og Tømt bånd	19-10-2014
	32	Kredsskema	Styring Tømmebånd	indikerer opstuvning & fuld bånd	19-10-2014
	60	Kredsskema	Klemmer X12 - X13 -X14		19-10-2014
	62	Kredsskema	Klemmer X18 -X30	24vDC	19-10-2014
	63	Kredsskema	Klemmer X32	24vDC	19-10-2014
	65	Kredsskema	Klemmer X100	24vDC	19-10-2014
	100	Kredsskema	PLC reference	Modul 0	19-10-2014

Jasopels

Kropstromle KRTR40XL
Kropstromle for mink

Proj. nr.: KRTR40XL-Service	Tegn. nr.:	Init.:	Rev.:	Blad: 1
Dato: 19-10-2014	Funkt.:	Plac.:	Antal blade: 1	Næste blad: