

SKALS

- we'll sort it out!

Manual Roller grader SRD



A/S SKALS MASKINFABRIK

HOVEDGADEN 56

DK-8832 SKALS, DENMARK

Tlf.: +45 87 25 62 00

Fax: +45 86 69 49 99

<mailto:skals@skals.dk>

<http://www.skals.dk/>

CE



1.0 Table of Contents.

1.0 Table of Contents.....	2
2.0 Description.	3
2.1. General description:	3
2.2. Assembling, mounting, and start-up of the machine:.....	3
2.3. Machine plate.	4
2.5. Working description:.....	5
2.6. Technical data:	5
3.0 Maintenance.	7
3.1. Maintenance:	7
4.1. Spare parts list.	8
4.2. Images for spare parts list.	9
5.0 Declaration of conformity with EU.....	11
6.0 Electrical diagram:	12

2.0 Description.

2.1. General description:

The roller grader is used for sorting of vegetables.

The machine consists of x- number of rotary roller set for sorting the vegetables.

The machine should only be used for sorting of vegetables.

2.2. Assembling, mounting, and start-up of the machine:

IMPORTANT! Place the machine on a level bedplate and make sure that it stands at the proper height, is horizontal (both in the longitudinal direction and transversely) and that it is stable.

Check that the motors have not lost any oil during transport.

Switch on the main voltage, and check that the rollers running in the right direction.
(towards the motor end)

The roller graders supply lines



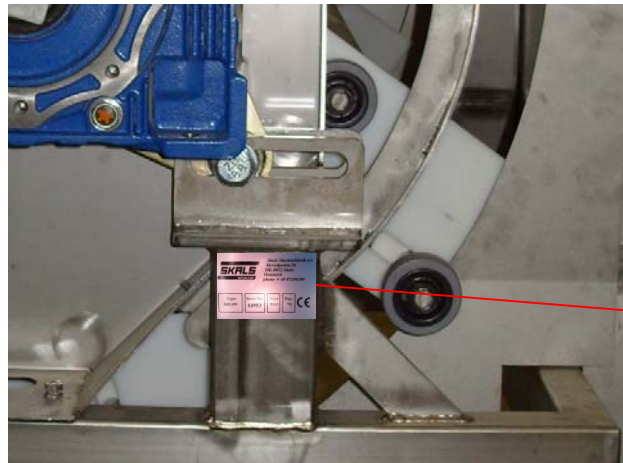
Before the machine is started up, all foreign objects must be removed from the machine. Let the machine work for a while without vegetables. The roller grader is now ready for use.

2.3. Machine plate.

The roller grader machine will be CE-marked when delivered. When contacting Skals A/S, please always state the CE-number.

The CE-marking will be found on the machine plate.

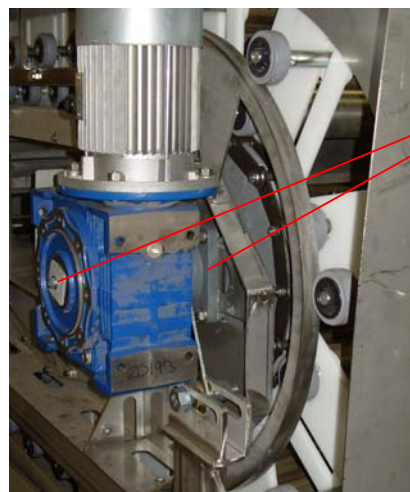
1. Type number
2. Delivery year
3. Serial number



Machine plate is placed close to motor on the frame. (remove the cover)

2.4. Guide to start-up:

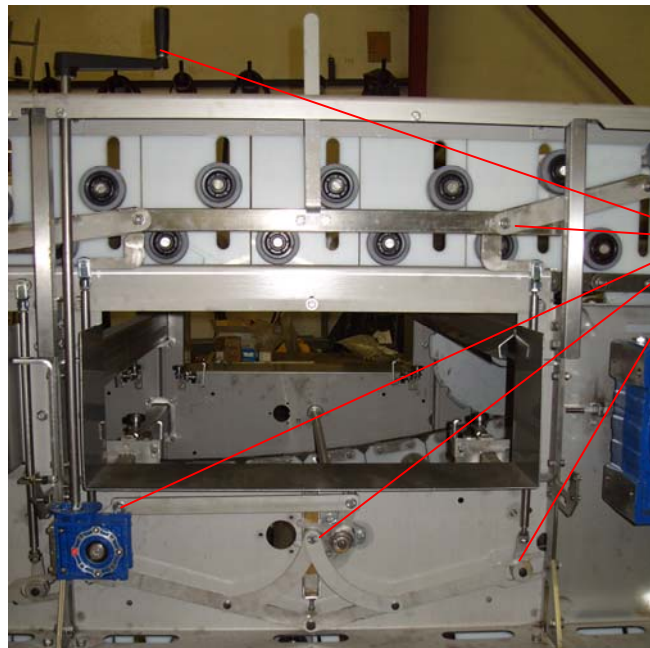
Ensure that the drive (shaft - motor - bearings) are tightened



Motor – bearings and shafts checked before start-up.

Check the height adjustment works properly after transport before start-up of the machine.

The first and in the following classifications can not be set higher than the front-range as the chain and wheel system is not designed for it.



Check that the height adjustment works before start-up, by rotating the handle of the machine.

2.5. Working description:

The Roller grader is made to sort the vegetables in sizes between 17,5mm to 124mm.

2.6. Technical data:

Standard design:

Gear for machinery is: NMRV130

Motor see table below:

Type:	Machine dimension			Tons	Motor-	Voltage (V)	Power	Weight (kg)
	Lenght	Width	Height (std)	pr. time.	power (kw)		230/400v	
2. Sortering								
SRD1202	3600	1200	1500-1600		2,2	400V		
SRD1502	3600	1500	1500-1600		2,2	400V		
SRD2002	3600	2000	1500-1600		2,2	400V		
3. Sortering								
SRD1203	4500	1200	1500-1600		2,2	400V		
SRD1503	4500	1500	1500-1600		2,2	400V		
SRD2003	4500	2000	1500-1600		2,2	400V		
4. Sortering								
SRD1204	5400	1200	1500-1600		3	400V		
SRD1504	5400	1500	1500-1600		3	400V		
SRD2004	5400	2000	1500-1600		3	400V		
5. Sortering								
SRD1205	6300	1200	1500-1600		3	400V		
SRD1505	6300	1500	1500-1600		3	400V		
SRD2005	6300	2000	1500-1600		3	400V		

Other technical data:

The main motors run with a frequency changing system.
It is placed in the joint management or in an electrical box by the machinery.



3.0 Maintenance.

3.1. Maintenance:

Be sure to replace defect or worn out components. (see Section 4 spare parts)

Lubrication of gear:

Gears without filling hole are provided with synthetic life oil and require no further maintenance.

Gears with inspection glass and filling hole use mineral oil with a viscosity of 220 cSt. When installing the machine, the upper tube plug must be replaced by a ventilating valve.

Be sure that the motors are always filled with oil to the middle of the inspection glass.

When cleaning after each operation, remove all plant residues, as you may otherwise risk to start a putrefaction in the succeeding operation.

Check the automatic lubrication at regular intervals.

Lubrication of chains:

Remove screens and lubricate or spray oil directly onto the chain in both sides.

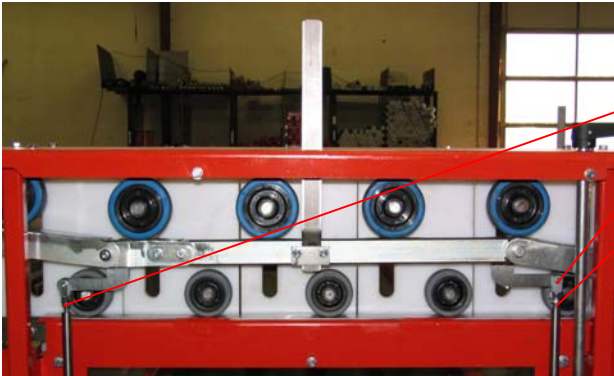
Lubrication of the chain is once a week, use automatic lubrication adjusted as needed.

4.0 Spare parts.

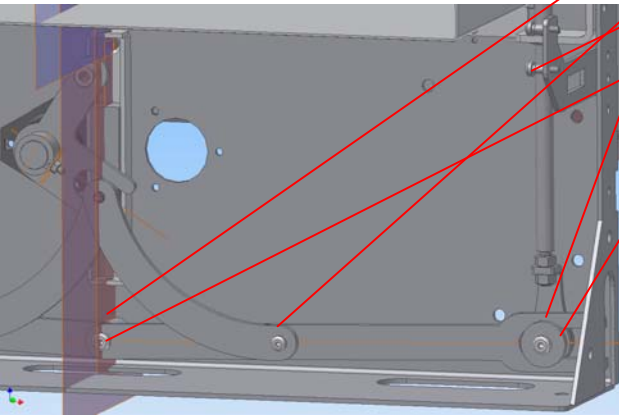
4.1. Spare parts list.

Pos:	Description:	Part no.:
1	Roller set	Roller set w/ wheel-roller-shafts-nylonpl. And stopper.
2	Fork piece	G 10x20 M10 right 140531020
3	Fork piece	G 10x20 M10 left 140571020
4	Security grip FKB 10x20	G10x20 M10
5	Pasbolt	M8x10x16
6	Pasbolt	M6x8x12
7	Pasbolt	M6x10x16
8	Slide flange bearing	9005-3004 Frimet FL8-10-5,5
9	Bearing	6000-2Z
10	Flange bearing Ø60	FY 60 WF YEL 2F
11	Plate flange bearing	RATR 25 2RS
12	Ball bushing	EGLM-16
13	Ball bearing for bands	60042RS
14	Handle	GN 471-160-B17
15	Carruing bushing	GFM 1719-09
16	Grip handle	07-0525
17	Bronze square	08328.ipt
18	Chain	MC56A100LZA5
19	Bronze bushing Ø60/Ø70	PBM607060
20	Gear for height adjustment	NMRV040
	Oil for chain-food approved	Castrol / 19 - 1810-220
	Motor/gear	see technical data table

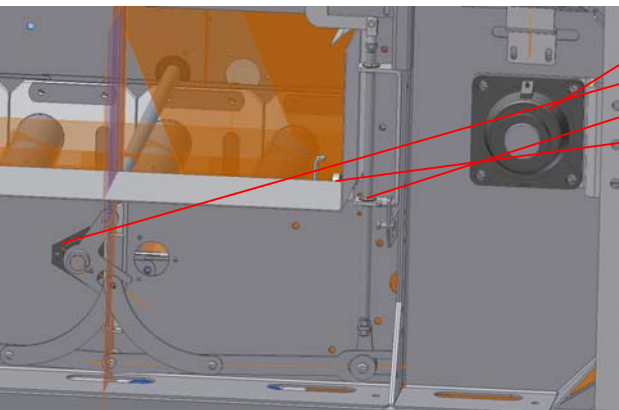
4.2. Images for spare parts list.



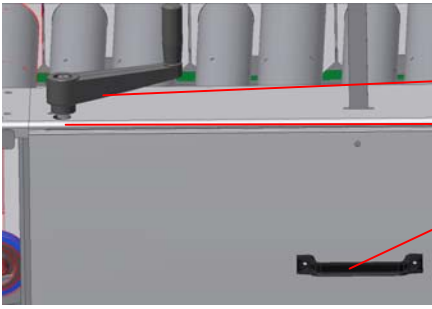
- 1: Roller set w/ wheel-roller-shafts-nylonpl and stopper.
- 2: Fork piece - G 10x20 M10 højre 140531020
- 3: Fork piece - G 10x20 M10 venstre 140571020
- 4: Security grip FKB 10x20 - G 10x20 M10



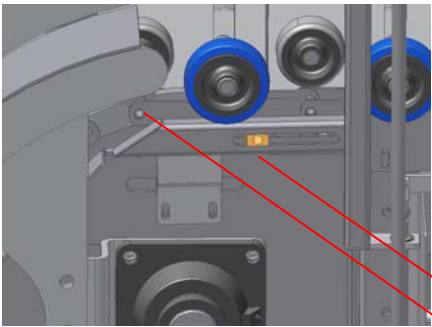
- 5: Pasbolt - M8x10x16mm.
- 6: Pasbolt - M6x8x12mm
- 7: Pasbolt - M6x8x16mm
- 8: Slide flange bearing - 9005-3004 Frimet FL 8-10-5,5 / bearings are hidden under pasbolt.
- 9: Bearing - 6000-2Z / bearings are hidden under Pasbolt and disc



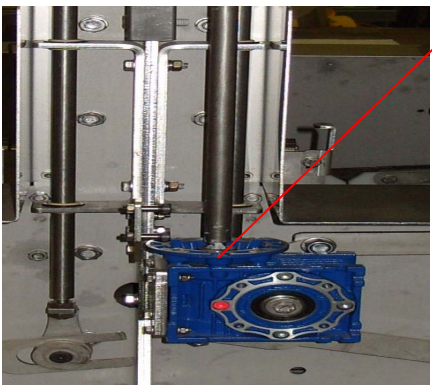
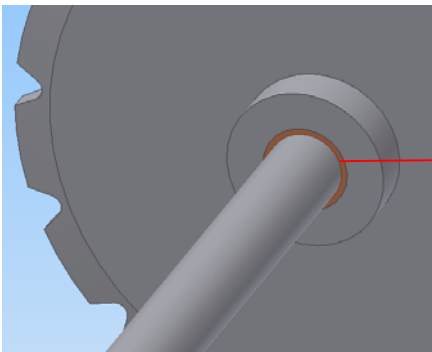
- 10: Bearing $\varnothing 60$ – FY 60 WF YEL 2F
- 11: Plate flange bearing - RATR 25 2RS
- 12: Ball bushing - EGLM-16
- 13: Ball bearing for band - 60042RS



- 14: Handle - GN 471-160-B17
- 15: Carrying bushing – GFM 1719-09
- 16: Grip handle - 07-0525



- 17: Bronze square – 08328.ipt
- 18: Chain - MC56A100LZA5
- 19: bronze bushing $\varnothing 60/\varnothing 70$ – 21026.ipt
- 20: Gear for height adjustment – NMRV040



5.0 Declaration of conformity with EU

Manufacturer	
Firm:	A/S Skals Maskinfabrik
Address:	Hovedgaden 56
	8832 Skals, Denmark
Telephone:	87 25 62 00

declares herewith, that

Machine:	Grader type SRD
Brand:	
Type, serial no., year:	

Is manufactured in accordance with the decisions of the Councils Directives:

- 1 Machinery Safety – Directive 98/37/EC
- 2 Low Voltage Equipment Directive (LVD) 2006/95/EEC
- 3 Electromagnetic Compatibility (EMC) Directive 89/336/EEC and 93/68/EEC as amended.

Title:	Productions Manager
Name:	Søren Lund Madsen
Firm:	A/S Skals Maskinfabrik

Date: _____

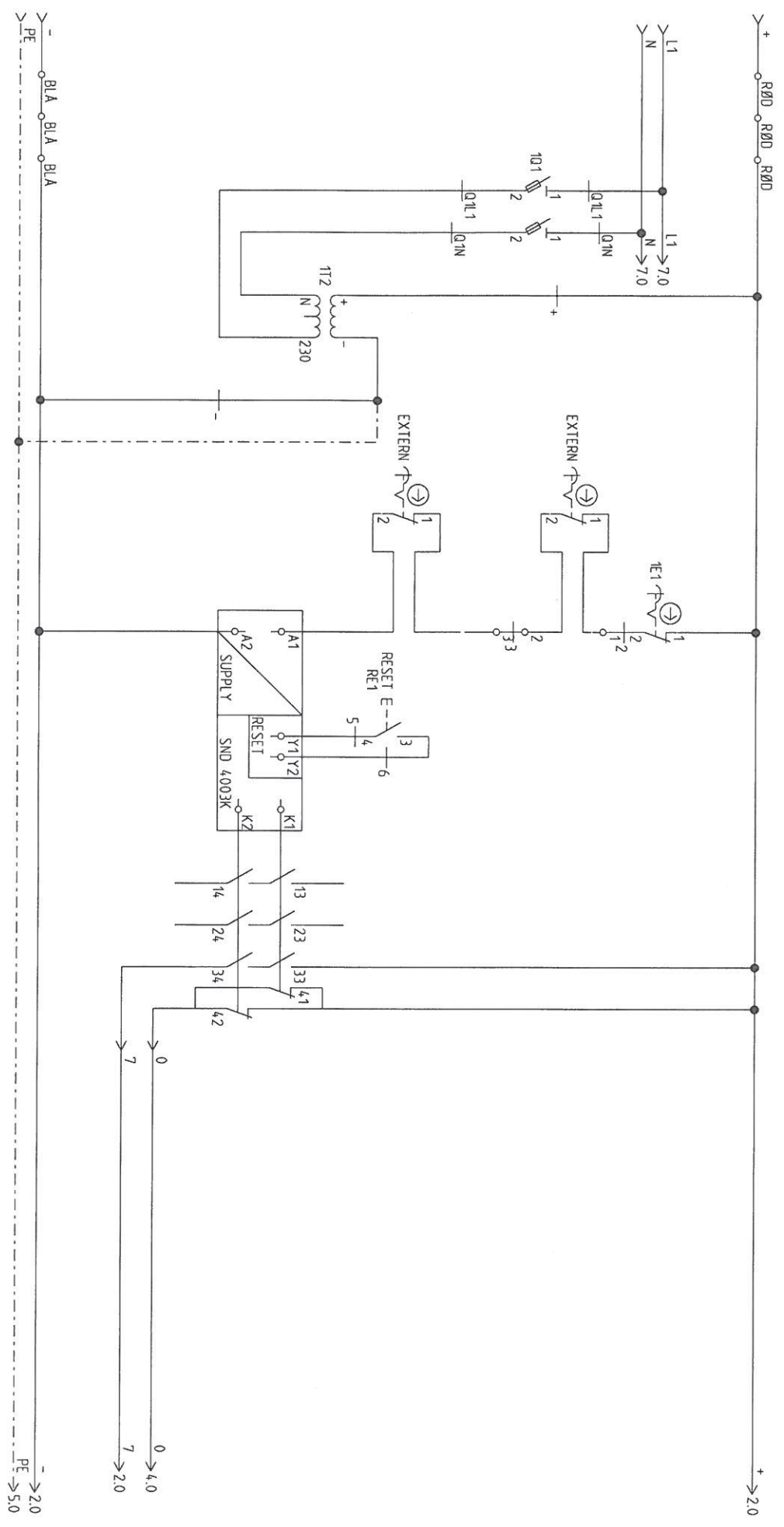
Signed:  _____





SRD – Roller grader

6.0 Electrical diagram:



Skals Maskinfabrik
 Hovedgaden 56
 DK-8832 Skals

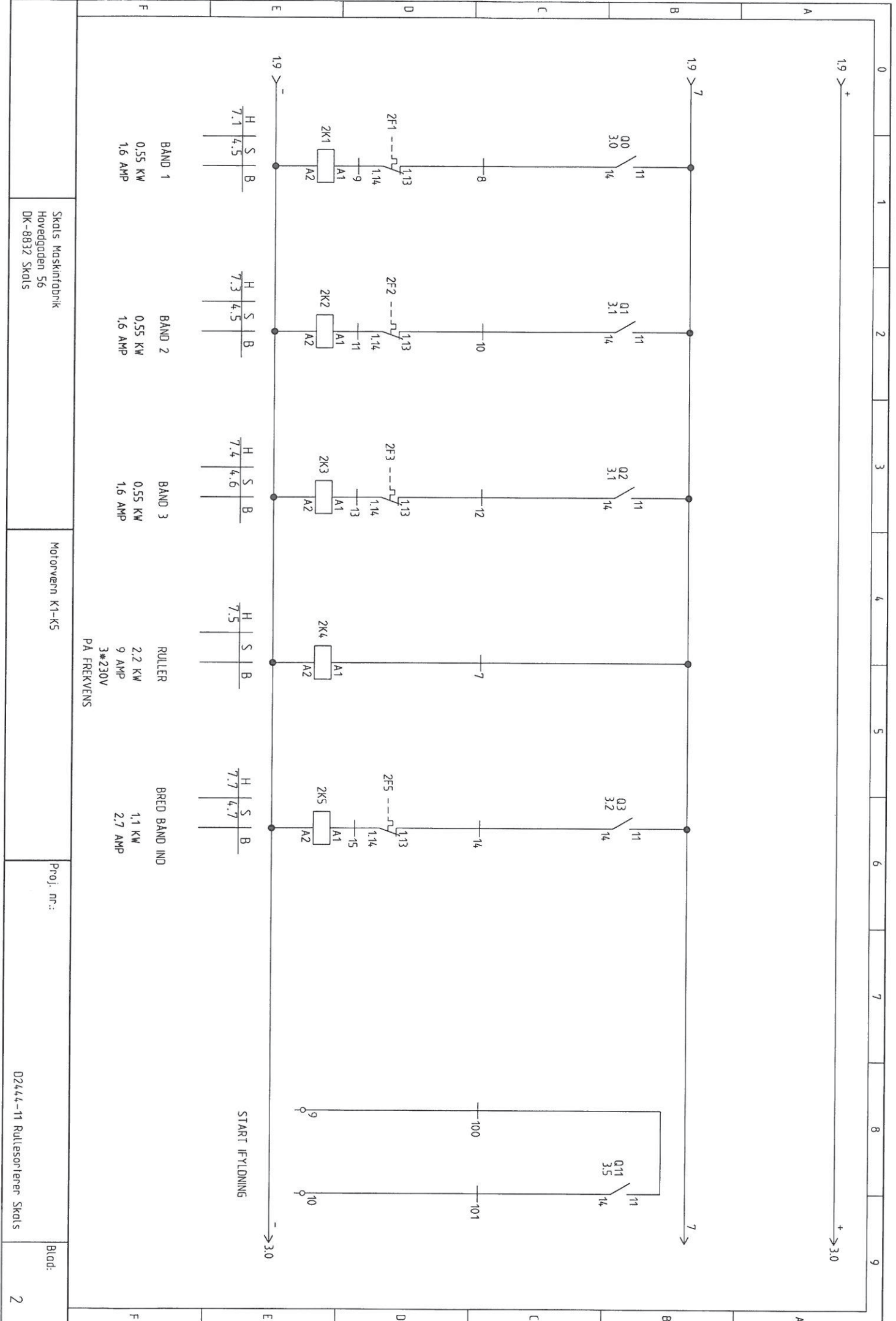
Nødsstop

Proj. nr.:

D2444-11 Rullesorteren Skals

Blad:

1



Skals Maskinfabrik
 Hovedgaden 56
 DK-8832 Skals

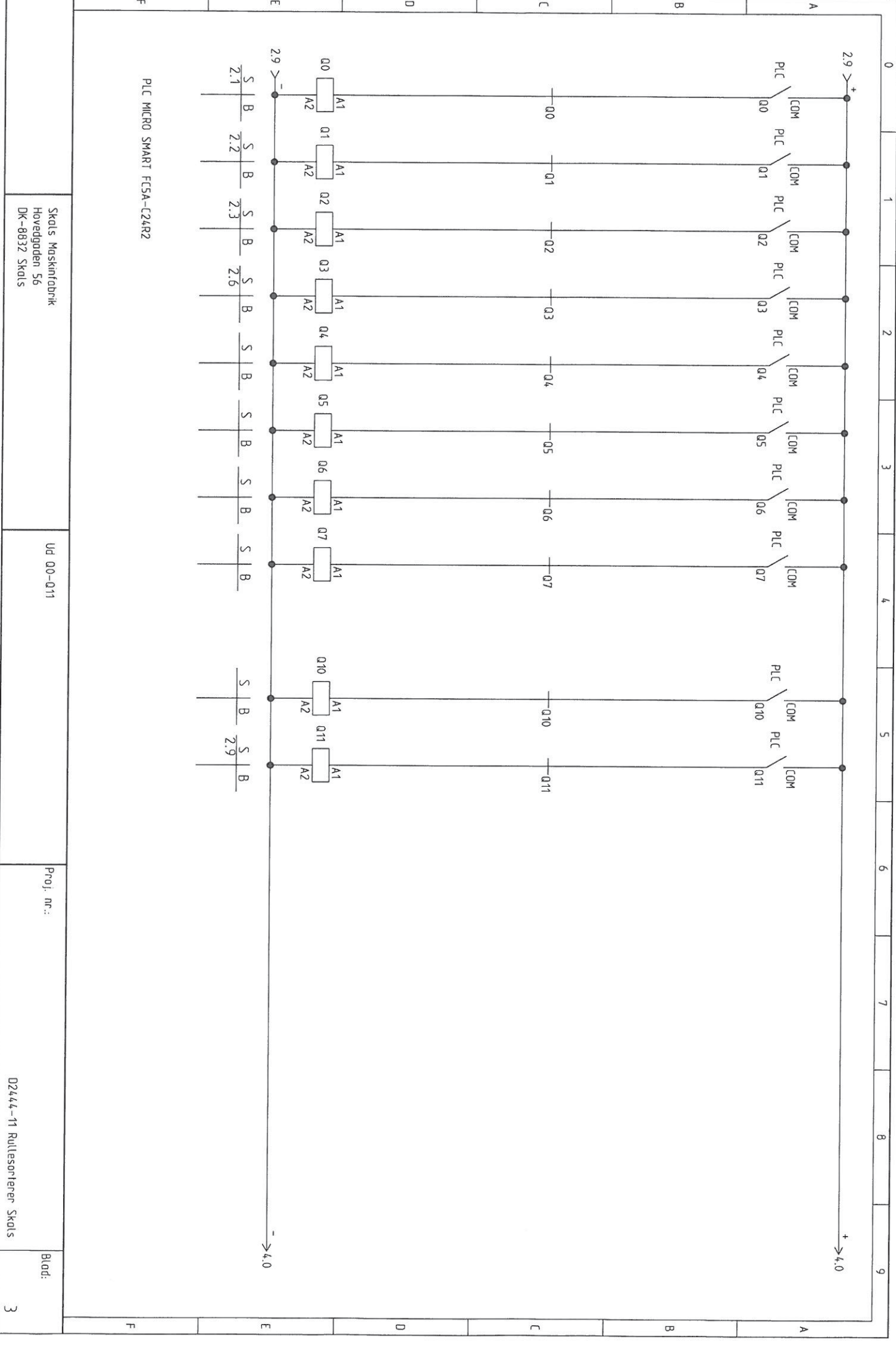
Motorværn K1-K5

Proj. nr.:

02444-11 Ruller-sorteren Skals

Blad:

2



0 1 2 3 4 5 6 7 8 9

2.9 >+ + >4.0

COM PLC I00
COM PLC I01
COM PLC I02
COM PLC I03
COM PLC I04
COM PLC I05
COM PLC I06
COM PLC I07
COM PLC Q10
COM PLC Q11

I00
I01
I02
I03
I04
I05
I06
I07
Q10
Q11

A1 A2
A1 A2
A1 A2
A1 A2
A1 A2
A1 A2
A1 A2
A1 A2
A1 A2
A1 A2
A1 A2
A1 A2
A1 A2

S B
S B
S B
S B
S B
S B
S B
S B
S B
S B
S B
S B
S B
S B

PLC MICRO SMART FCSA-C24R2

Skals Maskinfabrik
Hovedgaden 56
DK-8632 Skals

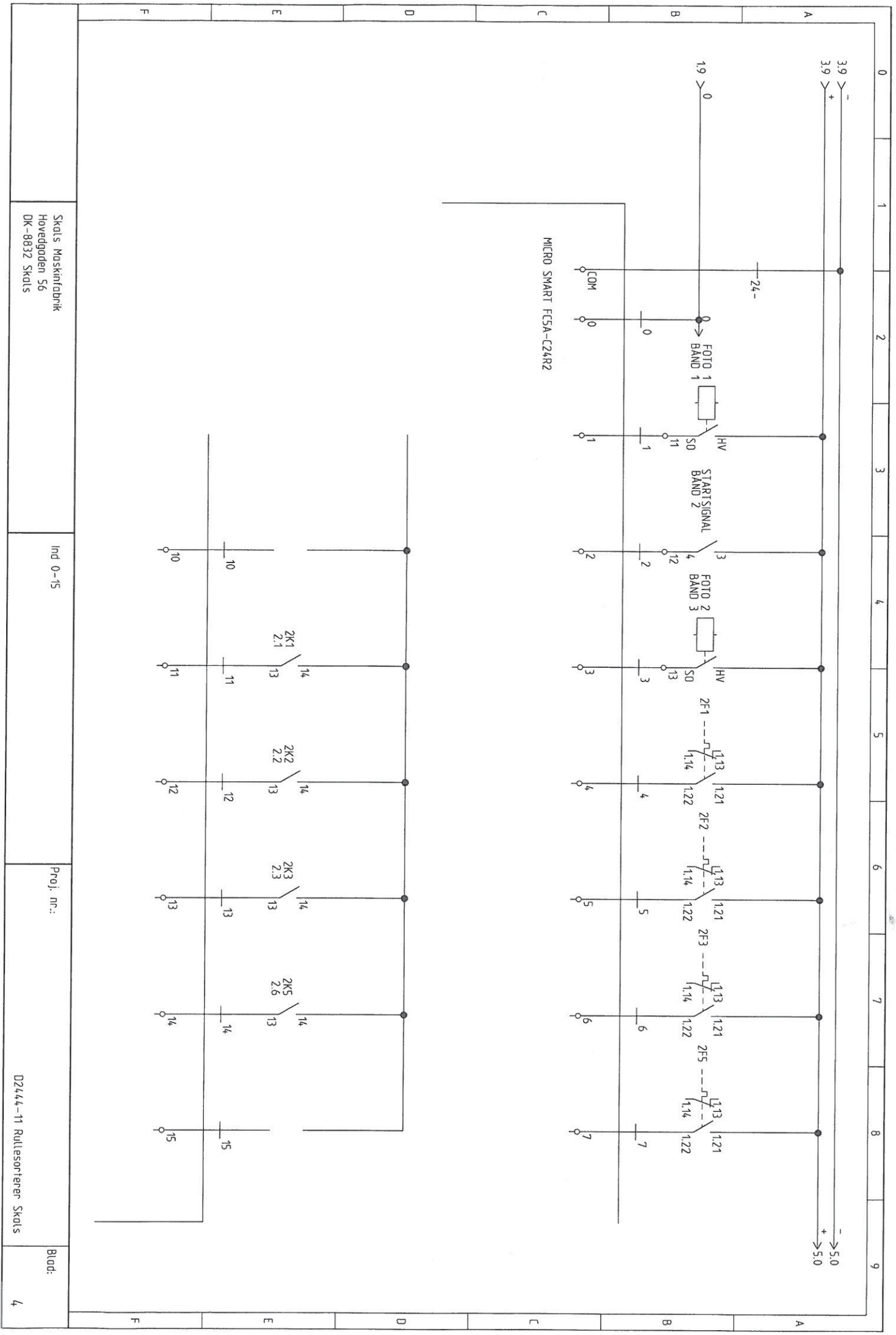
UD 00-011

Proj. nr.:

Blad:

O2444-11 Rullestoleren Skals

3



Skals Maskinfabrik
 Hovedgaden 56
 DK-8832 Skals

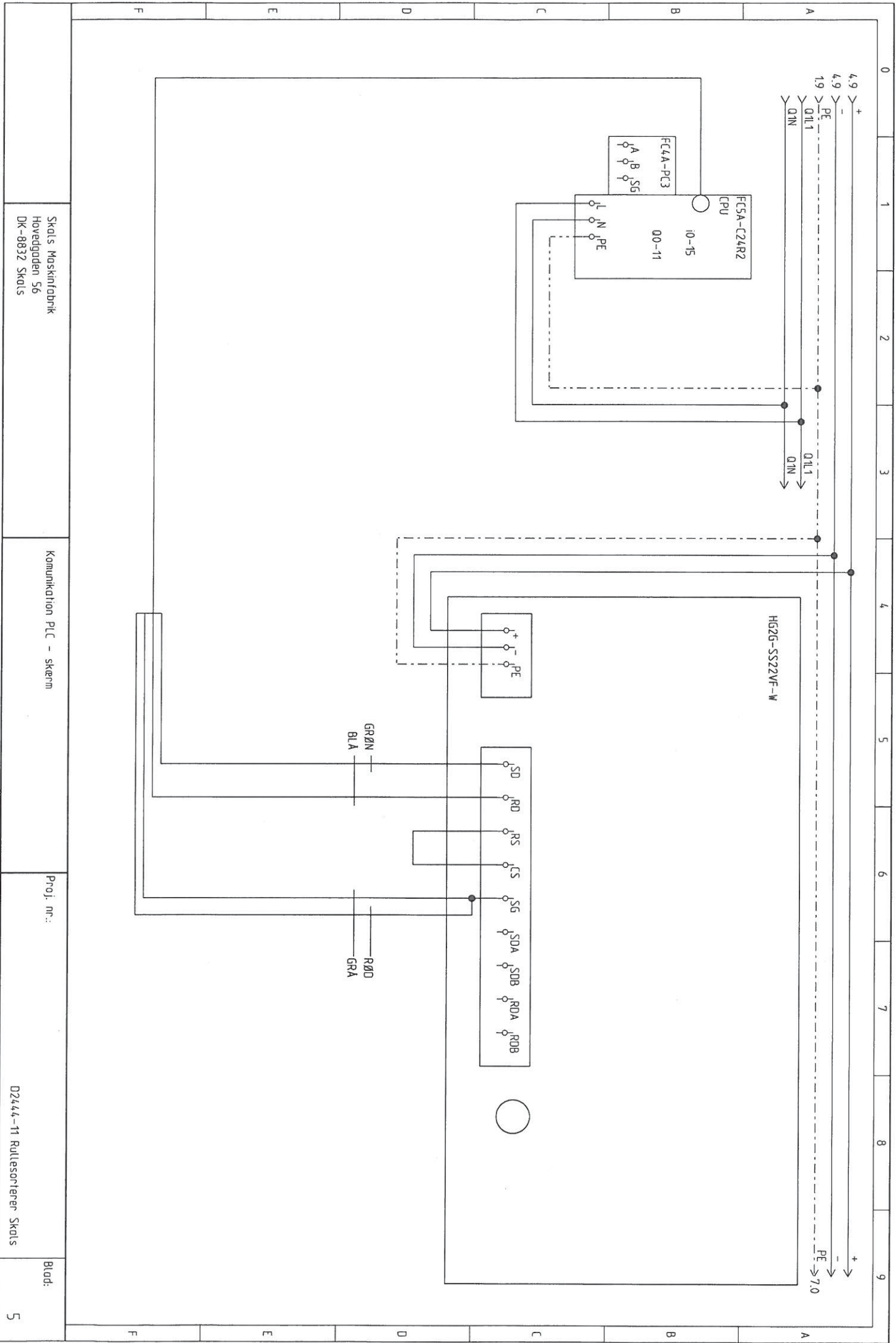
Ind 0-15

Proj. nr.:

D2444-11 Rulleortner Skals

Blad:

4



Skals Maskinfabrik
 Hovedgaden 56
 DK-8832 Skals

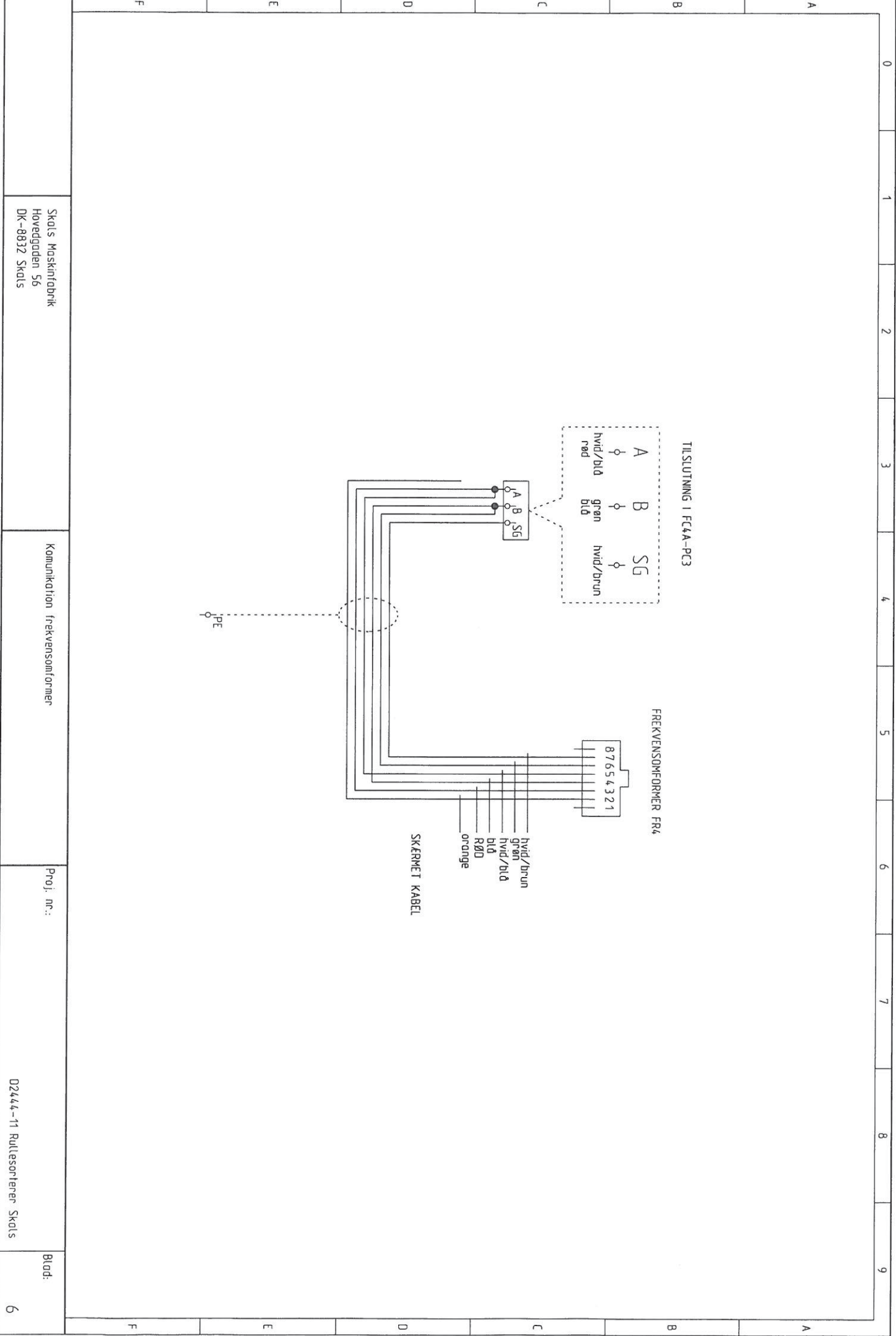
Kommunikation PLC - skærm

Proj. nr.:

D2444-11 Rullesorteren Skals

Blad:

5



Skals Maskinfabrik
 Hovedgaden 56
 DK-8832 Skals

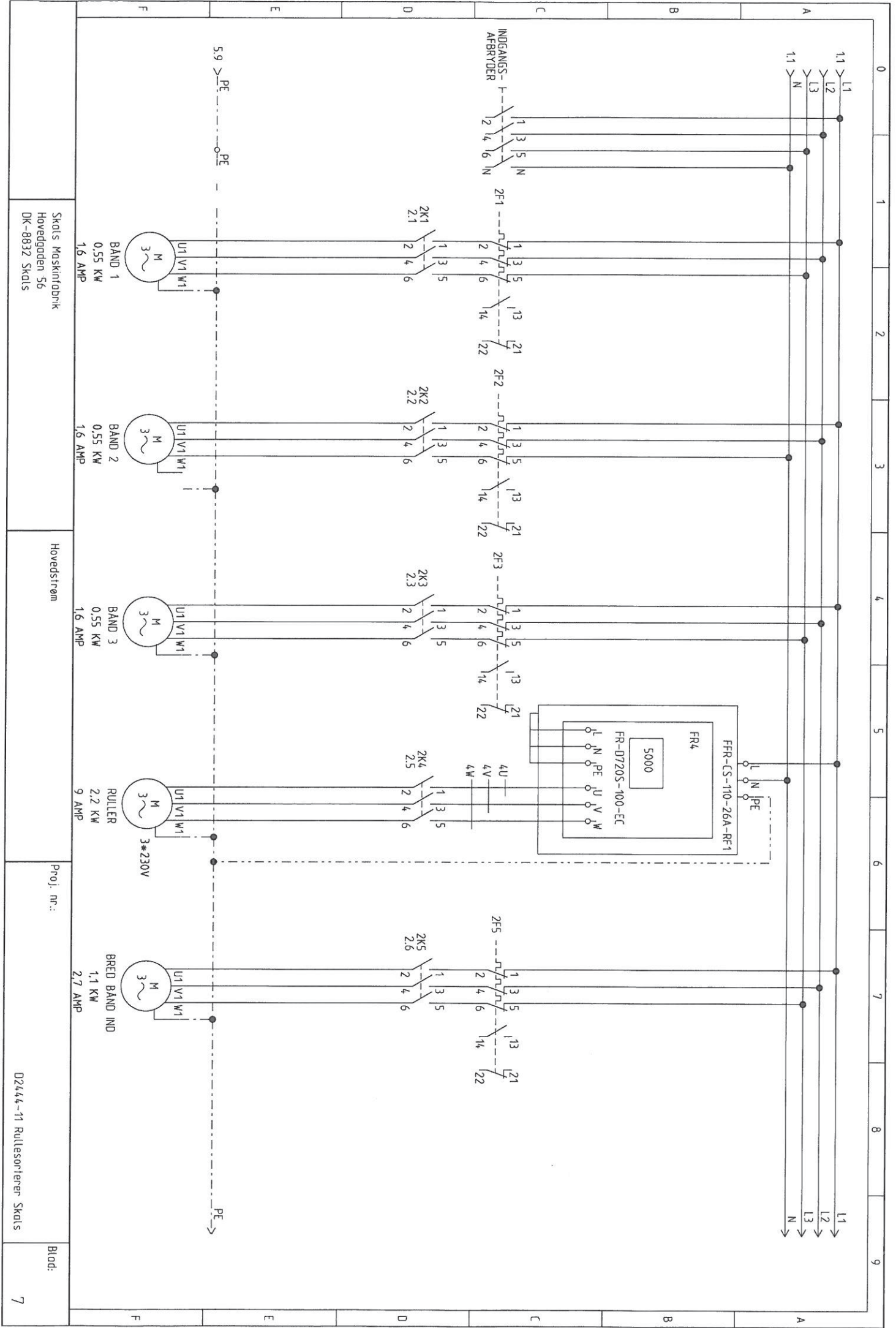
Kommunikation frekvensomformer

Proj. nr.:

02444-11 Rullesorteren Skals

Blad:

6



Skals Maskinfabrik
 Hovedgaden 56
 DK-8832 Skals

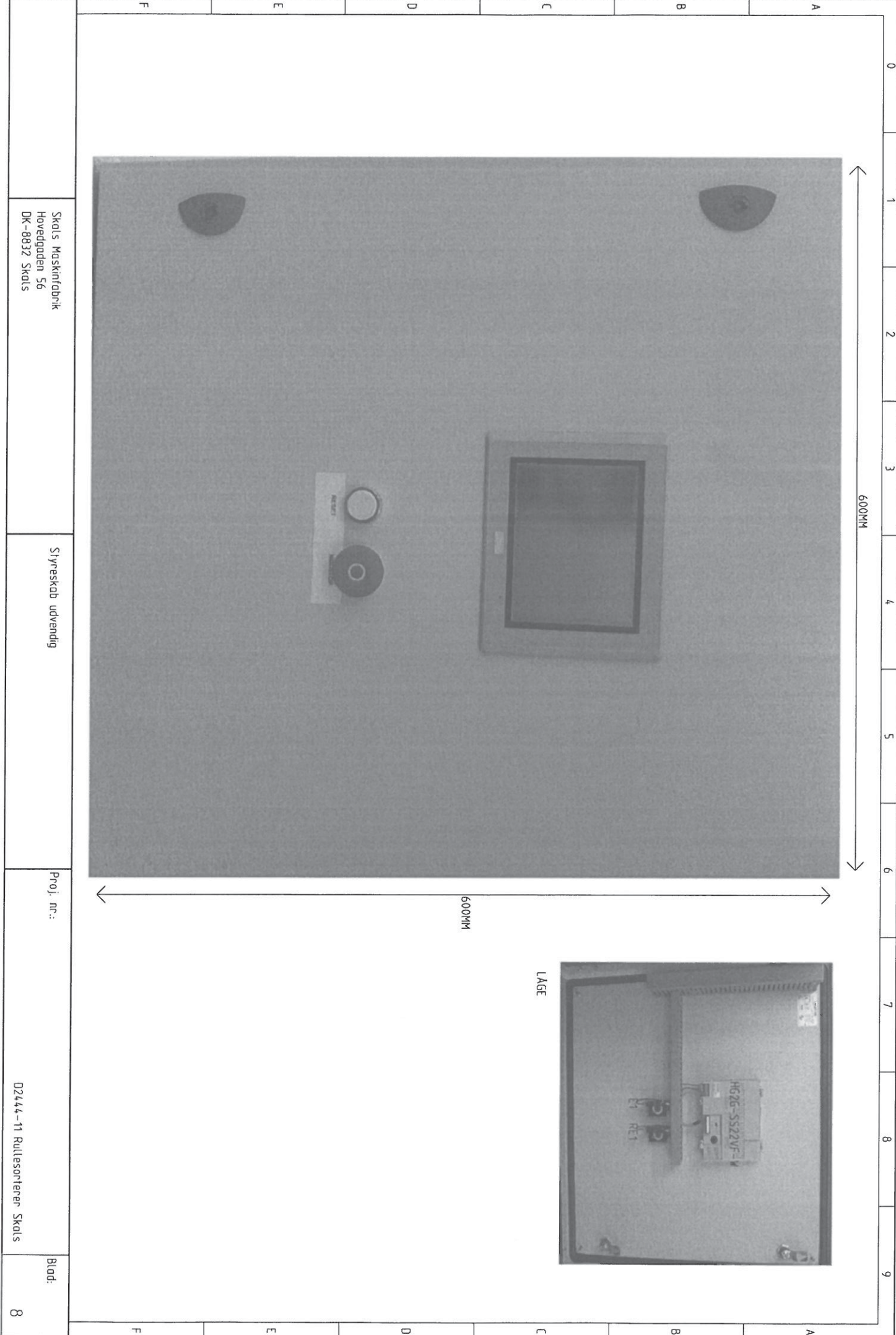
Hovedstrøm

Proj. nr.:

D2444-11 Rullesorteren Skals

Blod:

7



Skals Maskinfabrik
 Hovedgaden 56
 DK-8832 Skals

Styreskab udvendig

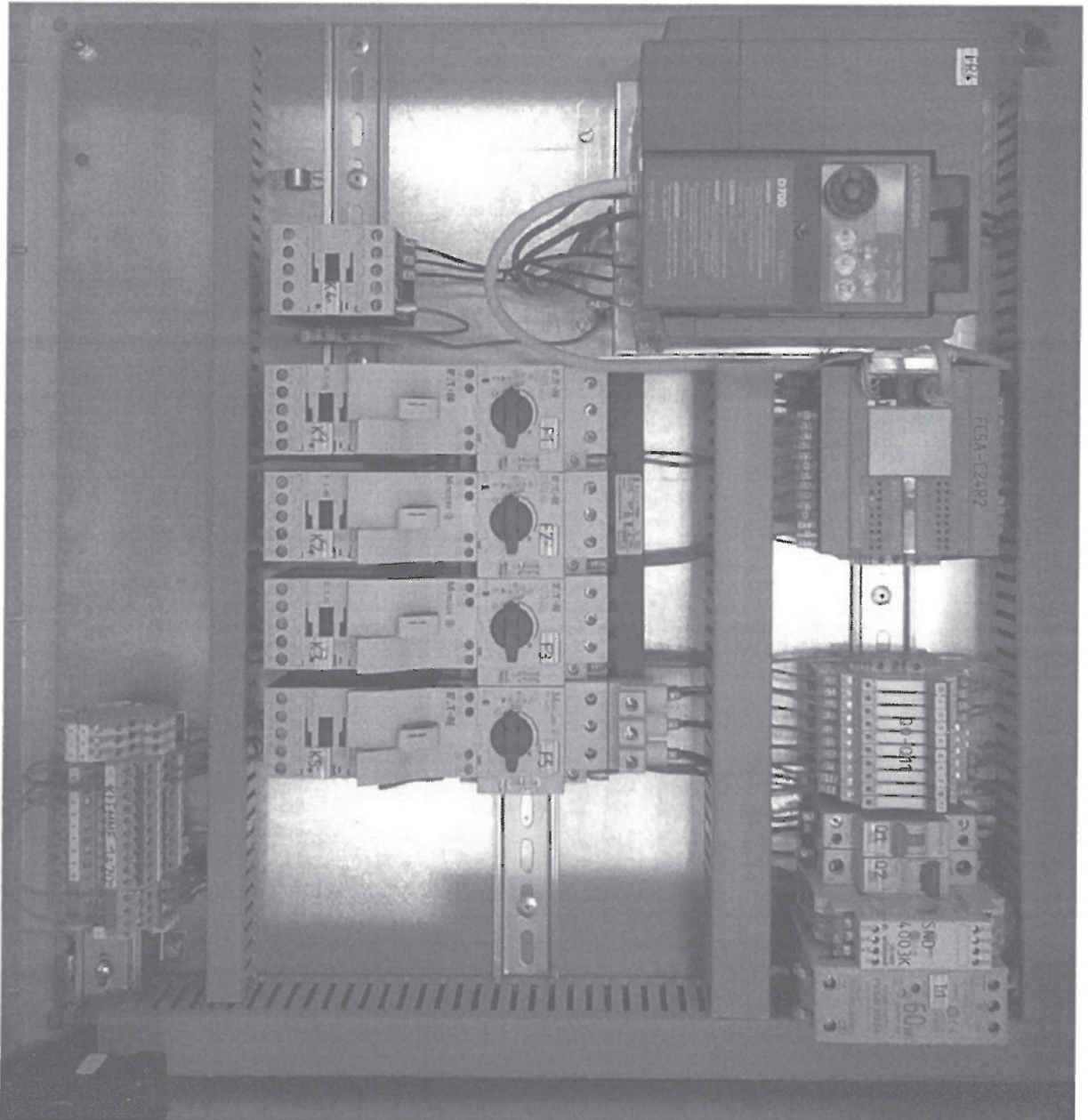
Proj. nr.:

0244-11 Rullesorteren Skals

Blad:

8

0 1 2 3 4 5 6 7 8 9



INDGANGSAFBRYDER

Skals Maskinfabrik
Hovedgaden 56
DK-8632 Skals

Styreskab indvendig

Proj. nr.:

02444-11 Rullesorteren Skals

Blad:

9

	0	1	2	3	4	5	6	7	8	9
		PARAMETER NR.	BESKRIVELSE	FABRIKSINDSTILLING	EKKO INDSTILLING				NOTER	
A		1	MAX. FREQUENCY	120	50					
		2	MIN. FREQUENCY	0	10					
		7	ACCELERATION TIME	5	5					
		8	DECELERATION TIME	5	2					
		9	ELECTRONIC THERMAL O/L RELAY	10	9					
		77	PARAMETER WRITE SELECTION	0	2					
		79	OPERATION MODE SELECTION	0	6					
B		80	MOTOR CAPACITY	9999	2.2					
		82	MOTOR EXCITATION CURRENT	9999	9					
		83	MOTOR RATED VOLTAGE	200	230					
		117	PU COMMUNICATION STATION NR.	0	1					
		118	PU COMMUNICATION STATION SPEED	192	96					
C		122	PU COMMUNICATION CHECK TIME INTERVAL	0	9999					
		160	EXTENDED FUNCTION DISPLAY SELECTION	9999	0					
		340	COMMUNICATION STARTUP MODE SELECTION	0	1					
		549	PROTOCOL SELECTION	0	1					
D										
E										
F										