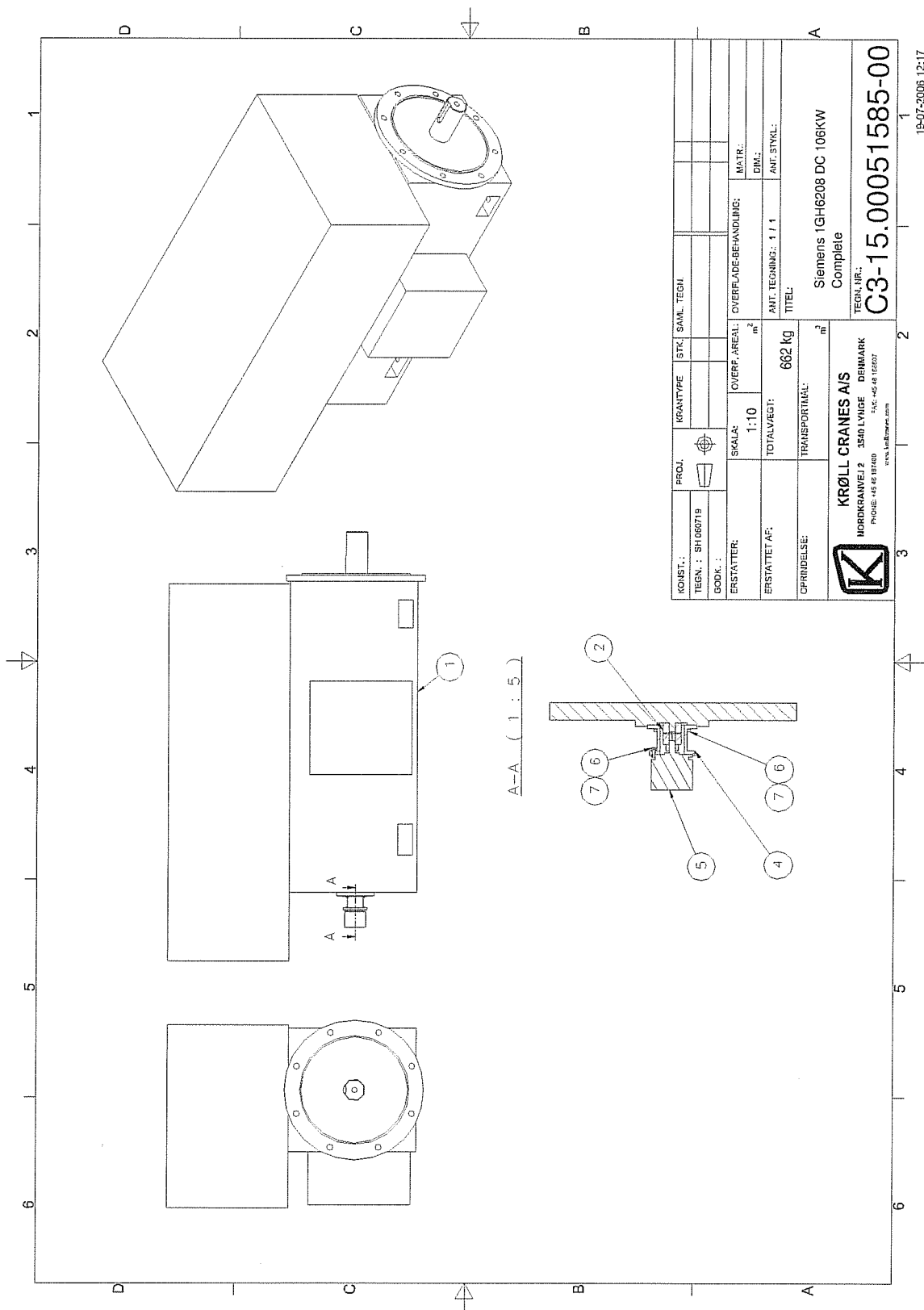


HOIST WINCH 106 kW

106 kW DC-MOTOR SPECIFICATION - P/N 15.00051585



BASIS DC-MOTOR SPECIFICATION P/N 15.00051585

Manufacturer: SIEMENS

Type: 1GH6208-0ND46-1VV3-Z

$P = 106 \text{ Kw}$

$U_a = 420 \text{ Vdc}$

$I_a = 280 \text{ A}$

$n_1 = 1080/2916 \text{ rpm}$

$U_f = 310 \text{ Vdc}$

$I_f = 8.8/\sim 2.4 \text{ A}$

INSULATION CLASS F – IP54

THERMO: KTY84

OPERATION CLASS: S1

ENCODER P/N 14.26381529

Manufacturer: LEINE & LINDE

Type: RSI503

$U = 9\text{-}30 \text{ Vdc}$

PPR = 1024

VENTILATION MOTOR

Manufacturer: PARLOCK

Type: MS90S2

$P = 1.5 / 1.8 \text{ Kw}$

$U = 400 / 480 \text{ Vac (Y)}$

$f = 50 / 60 \text{ Hz}$

$n_1 = 2840 / 3400 \text{ rpm}$

$I = 3.28 / 3.28 \text{ A}$

$\cos \varphi = 0.84$

OPERATION: S1

INSULATION CLASS F – IP55

BRAKE

Manufacturer: Bubenzer

Type: EMG Thruster, 19kg, IP56

2 brakes are fitted

$P = 0.3 \text{ kW}$

$U = 460 \text{ Vac } \pm 10\%$

$I = 0.5 \text{ A}$

$M = 1500 \text{ Nm}$

THYRISTOR CONVERTER SPECIFICATION P/N 13.20480873

Manufacturer

: SIEMENS

Type

: 6RA7078-6FV62-0

Supply

: 3 x 480 V/ 50-60 Hz

Armature output

: 400 V dc/280 A dc

Field output

: 310 V dc / 8.8 A dc

ADJUSTMENTS

Parameter changes

P51	=	40	All parameters can be changed
P52	=	3	All parameters are visible

Rated converter current

P76.01	=	100	Rated converter armature dc current, 100% x 400 A
P76.02	=	66.6	Rated converter field dc current, 66.6% x 15 A

Supply voltage for power section

P78.01	=	400	Supply for armature circuit, V
P78.02	=	400	Supply for field circuit, V

Motor data

P100	=	280	Rated motor armature current, A
P101	=	420	Rated motor armature voltage, V
P102	=	8.8	Rated motor field current, A
P114	=	10.0	Thermal time constant of motor, min.

Operation with pulse encoder

P83	=	2	Actual speed supplied by pulse encoder
P140	=	1	Pulse encoder type, two pulses 90°
P141	=	1024	Pulses per rev.
P142	=	1	Encoder supply, 15 V
P143	=	2916	Maximum speed, rpm
P144	=	2	4 x evaluation of pulse encoder signal
P145	=	0	No switch over of evaluation of pulse encoder signal
P146	=	0	Switch over time off
P147	=	0	Nominal measuring time = 1 mS

Field mode

P81	=	1	Field weakening activated
P82	=	2	Automatic connection of stand-still field
P257	=	15	Stand-still field, 15% of rated field current
P258	=	5	Time delay of stand-still field after stand-still, sec.

KTY85 sensor

P490	=	1	KTY84 sensor
P491	=	140	Alarm temperature
P491	=	155	Fault temperature
P493	=	3	Alarm (A029), Fault message F029 is displayed

Max. armature current

P171	=	130	System current limit in torque dir. I, % of rated motor armature current
P172	=	-130	System current limit in torque dir. II, % of rated motor armature current
P75	=	1	I ² T monitoring is ON

Ramp function generator

P303	=	3	Acceleration time - sec.
P304	=	2	Deceleration time - sec.
P305	=	1	Final rounding off lower - sec.
P306	=	3	Final rounding off upper - sec.

Brake control

P772	=	255	Output terminal 48 set to brake control
P80	=	2	Operation brake mode
P87	=	0.2	Brake release time, sec.
P88	=	1.0	Brake closing time, sec.

Anti-freefall

U320.01=	13	AND logic input, inverted input terminal 37
U320.02=	9380	AND logic input, OR logic output
U320.03=	9450	AND logic input, Inverter logic output
U380	=	164 Inverter logic input, Nmin
U350.01=	250	OR logic input, Brake control
U350.02=	9350	OR logic input, AND logic output
P440	=	9350 Crawling setpoint, OR logic output

Max speed

U220.01=	15	Max function input 1, Analog load input terminal 6
U220.02=	9212	Max function input 2, Analog switch 3 output
U244.01=	15	Analog switch 3 input 1, Analog load input terminal 6
U244.02=	9193	Analog switch 3 input 2, Max function output
U245	= 12	Analog switch 3, ON/OFF signal from terminal 37

Fault output

P771	=	107	Output terminal 46 set to fault output
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Reset input

P665	=	9580	Output pulse generator to reset input
U440	=	11	Inverted input terminal 36 set to pulse generator input
U441	=	1	Pulse generator set to 1 sec
U442	=	3	Timer mode (pulse generator)

Miscellaneous

P820.05 = 0 Fault 36 activated
U580 = 4 Supply supervision sensitivity

10% fixed setpoint / erection mode input

P322 = 9211 Analog switch 2 output, Main multiplier factor
P401 = 10 Fixed setpoint = 10%
P402 = 37 Fixed setpoint = 37%
P433 = 9150 Multiply output, Main setpoint
U150.02= 9210 Analog switch 1 output, Multiply input 2
U240.01= 1 Analog switch 1 input 1, Fixed setpoint 100%
U240.01= 401 Analog switch 1 input 1, Fixed setpoint 10%
U241 = 16 Input terminal 39, Analog switch 1
U242.02= 402 Analog switch 2 input 2, Fixed setpoint 37%
U242 = 9380 OR element 1 output, Analog switch 2
U350.01= 16 Input terminal 39, OR element 1 input 1
U350.02= 11 Input terminal 36, OR element 1 input 2

Joystick signal characteristic

U281 = 11 Analog setpoint input terminal 4 set to characteristic 1 input
U150.01= 9229 Characteristic 1 output, Multiply input 1

Setpoint characteristic for input terminal 4:

	Input X	Output Y
Index	U282	U283
• 01	- 100	- 100
• 02	- 30	- 5
• 03	- 25	- 2.5
• 04	- 22.5	- 1.0
• 05	- 20	- 0.5
• 06	20	0.5
• 07	22.5	1.0
• 08	25	2.5
• 09	30	5
• 10	100	100

Load controlled speed setpoint

U284.01= 9212 Analog switch 3 output, Characteristic 2 input
U242.01= 9230 Characteristic 2 output, Analog switch 2 input 1

Gain characteristic from input terminal 6:

	Input X	Output Y
Index	U285	U286
• 01	- 100	37
• 02	0	37
• 03	5	100
• 04	18	100
• 05	24	80
• 06	31	65
• 07	38	55
• 08	48	45
• 09	55	37
• 10	100	37

Pre control & current controller optimization

Values from optimization run P51 = 25

P110	=	0.108
P111	=	3.98
P112	=	27.7
P155	=	0.2
P156	=	0.045
P255	=	6.17
P256	=	0.1

Speed controller optimization

Values from optimization run P51 = 26

P225	=	14.25
P226	=	0.053
P228	=	53

Field weakening optimization

Values from optimization run P51 = 27

P117	=	1
P118	=	389
P119	=	34.9
P121	=	3.3
P122	=	6.7
P123	=	10.5
P124	=	14.4
P125	=	18.3
P126	=	22.3
P127	=	26.3
P128	=	30.2
P129	=	34.2
P130	=	38.3
P131	=	42.5
P132	=	46.7
P133	=	51.2
P134	=	56.0
P135	=	61.1
P136	=	66.8
P137	=	73.2
P138	=	80.7
P139	=	89.6
P275	=	1.75
P276	=	0.15

ADJUSTMENT OF THE OVERSPEED CONTROL SYSTEM

The adjustment should be made if the U10 relay has been changed, the max. speed of the winch has been altered, there is suspicion the setting has been changed or simply as a test that the relay is functioning.

The initial position for the potentiometer on U10 is with the knob turned fully home clockwise and the green LED should be ON. If not the sensor is either not connected or the polarity of the sensor has to be changed.

To avoid an emergency stop when setting U10, place a jumper between the terminals 1 and 4.

With no load on the hook, move the joystick to max. speed.

To make sure the motor is running at max. speed, check the encoder signal in the hoist converter U1 via parameter r24. The value of r24 should read 100% when the joystick is fully in/out.

Slowly turn the knob on U10 anticlockwise until U10 trips. This is indicated by the green LED switches OFF and the red LED switches ON. If there has not been placed a jumper the winch is emergency braked.

Turn the knob clockwise approx. 1/2 graduation back.

To reset the overspeed alarm system first press and then retract the red emergency stop button on the controller unit in the operator cabin.

The winch can now be cut in again. Check that the overspeed alarm system is not put into operation even if the joystick is abruptly moved to max. speed.

IMPORTANT: Remember to remove the jumper after the adjustment has been carried out.