

Operating Instructions Cabinet with Inverter for Isel iSA750

Software: WinPCNC USB

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Cabinet with Inverter for Isel iSA750



Short Description

This manual will help you with the initial start-up of the Isel iSA750 spindle. For more detailed information please refer to the individual manuals.



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1 Overview Cabinet



1	Air Inlet	4	Automatic Fuse
2	Fan	5	Inverter SKC 750 ¹

3 Power Button (with control light)²

Power 230V / 16A	External power supply	1
Power 230V to Zero-3	Power supply – switchable for automatic control (WinPCNC)	
M23 plug 8pol.	Motor Connection	
D-Sub 25pol. (0-10V)	Control line	



Connection Cable

¹ Inverter needs 230 Volt / 50hz

² The control light is on, when the spindle is turning on in the software WinPCNC



2 Connection Diagram (WinPCNC USB)





3 Connecting the Cabinet to the Zero-3 control

Look at the connection diagram!

Make sure that the control is turned off.

- Connect the cables with the Zero-3 controller and the external power supply.
- Make sure that you back up all connections with the knurled screws from loosening.
- Turn on the Power Buttons (Cabinet and Zero-3)

The control light of the cabinet power button is continues off! The control light is on, when the spindle is turning on in the software WinPCNC.



4 Settings in WinPCNC

These settings are needed:

Speeds	Signals/dwell tim	es Machine	parameters
Inputs	Pinning	Si	gnal wizzar
1255 Start	n/a		
1254 Stop	n/a	C USB ST	
1247 NBereit	LPT1 Pin11 inv	1.000.01	
1235 Refschalter X	LPT1 Pin13 inv	C CPU	
1000 B (1 B 11		C CPU+EA160802	
n/a	Accept		
Outputs	Pinning 🔥		Axes XY2
Q250 Boost	n/a 📔	Port address	Axis 4
Q242 Spindel	LPT1 Pin1	1 DT1 000	
Q243 Kühlung	LPT1 Pin14	LPTT Pres	Measure
Q244 Dosieren	n/a 🗸	LPT2 000- hex	Signal Wiz
LPT1 Pin17	Accept	Pinout test	Functions

Activating spindle

	rmat Co-ordinal	tes Misc. parameters	Ports
Speeds	Signals/dwell time	es Machine	parameters
Inputs	Pinning 📉	- Si	gnal wizzar
1255 Start	n/a		
1254 Stop	n/a	C LISE ST	
1247 NBereit	LPT1 Pin11 inv	1. 000 01	
1235 Refschalter X	LPT1 Pin13 inv	C CPU	
1000 D 2 1 1 1 11		C CPU+EA160802	
n/a	Accept	C CPU+LPT2	
Outputs	Pinning 🔥		Axes XY2
Q115 Ausgang M87	n/a	Port address	Axis 4
Q219 Toggle/Bereit	LPT1 Pin16 inv	1.071 000 1	
Q218 Drehzahl PWM	LPT1 Pin17		Measure
Q217 Profi-konstGeschv	v n/a 🗸 🗸	LPT2 000- hex	Signal Wiz
LPT1 Pin17	Accept	Pinout test	Functions

Activating PWM for spindle speed control



Speeds Data form	at Lo Signals/d	o-ordinates	Misc. pai	ameters Machine pa	Ports arameters
Machine specific parame	ters	: Y	z		Axes XY
Axes resolution	_200	00 _2000	_2000	Stps/Rev.	
Distance per revolution	_10.	000 _10.00	06.000	 mm/U	
Maximum speed	_10	0.00 _100.0	050.00		
Maximum start/stop spe	ed 🗔	3.20 3.2	03.20		
Shortest ramp	_400	_400	_400	ms	Axes XYZ
Invert movement direct	on Yes	▼ No ·	No V		Axis 4
Reference switch ate	end [rieg.			End	Measure
Reference sequence	z-y-x	•			Signal Wizz
Maximum spindle spee	J _24	JUU			Functions

Setting for max. spindle speed

Check the efficiency

To check the settings you must open the signal test (special functions)

Now you can move the slider (spindle speed). The spindle goes on and the speed can be regulated.

Limit switch X-		Spindle	0	Outout M70 (Q100)
Limit switch X+		Cooling	ŏ	Output M71 (Q101)
Limit switch Y-	õ	Dispense	ō	Output M72 (Q102)
Limit switch Y+	õ	Clean	õ	Output M73 (Q103)
Limit switch Z-	0	Job active	Ō	Output M74 (Q104)
Limit switch Z+	0	Molette	O	Output M75 (Q105)
Reference X		Length sensor	O	Output M76 (Q106)
Reference Y	O	Job start	O	Output M77 (Q107)
Reference Z	O	Job stop		
Reference 4/Xb	O	Spindlespeed	Spino	dle speed 0.0
Not ready	O	Housing		

Signal test for spindle speed



5 **Technical Data**

HF-Spindle Isel iSA 750 5.1

spindle motor with manual tool changer



Technical specification ISA 75 Torque at rated speed 22,000 rpm INmi 0.34 Speed Irpmi 3,000 to 24,000 Cut-off frequency [Hz] 300 Number of poles Z Rated voltage IVI. 230 Rated current [A] 3.4 cos d 0.79 5.6 = 40% rated output [kw] 0.75 Concentricity 0.01 Imml Weight [log] 2.6

Dimensioned drawings



iSA 750

Features

- Robust 2-pole AC motor
- (asynchronous motor)
- Square shape, Protection class IP54, insulation class F
- Aluminium extrusion A and B sides
- Motor shaft to take ER 16 collets Rated output 0.75 kW
- (S6-40% operation)
- Speed range
- 3,000 rpm. 24,000 rpm.
- Manual tool change
- M23 plug connection
 Incl. ER16 collet, Ø 6 mm
- Clamping range Ø 1 mm Ø 10 mm
- Intrinsic ventilation B-side
- Two precision bearings
 Controlled by frequency converter
- · optional:
 - CoolMin® (internal and external)
 - Frequency converter
 - Various collets, mounting plates, lead lengths
 - Suction device

Subject to technical changes,



5.2 Frequenz Converter SKC 750

Frequency converters



SKC 750 frequency converter, suitable for iSA 500, iSA 750 + iSA 900 Part no.: **311707 6000**

SKC 1500 frequency converter, suitable for iSA 1500 + iSA 2200 Part no.: 311715 6000

SKC 4000 frequency converter, suitable for iSA 3600 Part no.: 311740 6500

- Compact, pulse width modulated equipment in three output classes
- Input voltage, 230 V AC, single phase (SKC 750/1500) or 400 V AC, three phase (SKC 4000)
 Three phase, vector controlled control voltage
- Three phase, vector controlled control voltage frequency 0...1500 Hz
- Fast spindle braking with highly stressed, integrated brake resistance in the sub-frame
- Turn-off EMC filter
- · Programmable inputs and outputs, relay output
- · User-friendly control unit for configuring spindles
- 95 operating and display parameters for both simple and demanding applications (e. g. spindle energy sink in no load)
- Protection class: IP 20
- Control types: SPS; 0...10 V; 0...20 mA; with
 - operating unit; CAN Bus (additional module required)
- Approved: CE; C-Tick; UL



6 Customer Service

For technical information, please contact our Technical Customer Service:

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If you have questions, please contact our customer service via e-mail or phone. We advise you gladly.

Numerous suggestions and information can be found on our website:

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