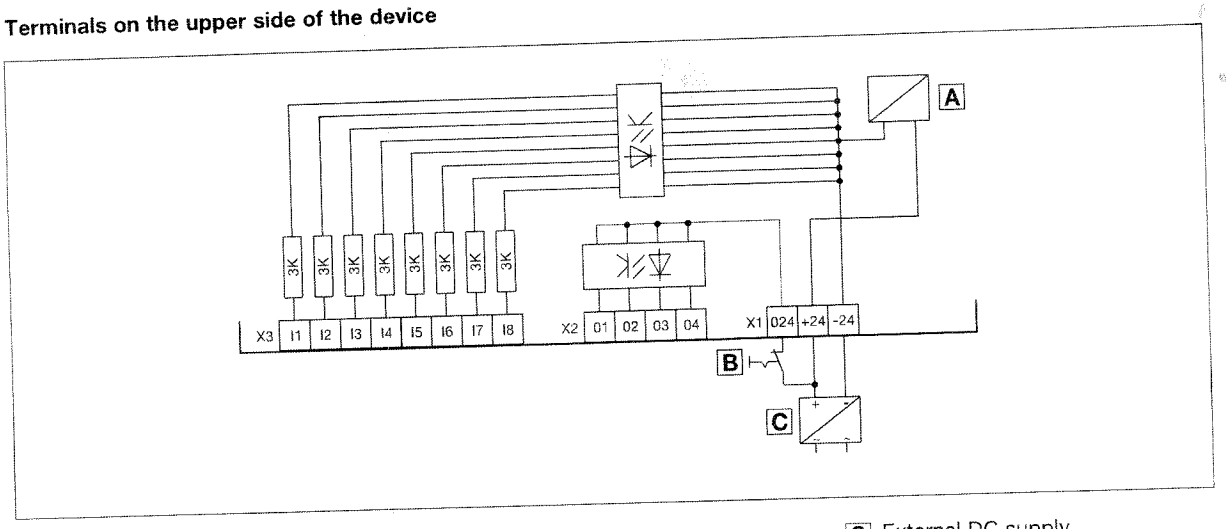
Drive PLC – Electrical installation

Terminals on the upper side of the device



A Control electronics supply B Emergency stop C External DC supply

X1	Voltage supply	Level
⏚ 24	GND voltage supply	Reference potential
+24	Supply voltage	+18 ... +30 V DC
+024	Supply voltage for digital outputs	+18 ... +30 V DC

X2	Digital outputs	Level
01	Output 1	+18 ... +30 V DC
:	:	
04	Output 4	

X3	Digital inputs	Level
I1	Input 1	LOW level 0 ... +4 V DC HIGH level +13 ... +30 V DC Input current 8 mA at 24 V DC
:	:	
I8	Input 8	

Standard I/O PT

X3	Signal type	Function (bold = Lenze setting)	Level			Technical data
8	Analog input	Actual or setpoint value input	0 ... +5 V **0 ... +10 V** -10 V... +10 V 0 ... +20 mA +4 ... +20 mA +4 ... +20 mA (monitored for open circuit)			Resolution: 10-bit Linearity error: ±0.5% Temp. sensitivity: 0.3% (0 ... +60°C) Input resistance – Voltage signal: > 50 kΩ – Current signal: 250 Ω
62	Analog output	**Output frequency**	0... +10 V			Resolution: 10-bit Linearity error: ±0.5% Temp. sensitivity: 0.3% (0 ... +60°C) Load capacity: max. 2 mA
28		Controller inhibit	1 = START			
E1 [1]	Digital inputs	**Activation of fixed frequencies (JOG)**		E1	E2	Input resistance: 3.3 kΩ 1 = HIGH (+12...+30 V) 0 = LOW (0...+3 V) (PLC level, HTL)
E2 [1]		**JOG1 = 20 Hz**	JOG1	1	0	
		JOG2 = 30 Hz	JOG2	0	1	
		JOG3 = 40 Hz	JOG3	1	1	
E3		**DC brake (DCB)**	1 = DCB active			
E4		**Reversal of direction of rotation**		E4		
		Clock./counter-clock. rotation (CW/CCW)	CW	0		
			CCW	1		
A1	Digital output	**Ready for operation**	0/+20 V with internal DC 0/+24 V with external DC			Load capacity: 10 mA 50 mA
9	–	Internal, stabilised DC supply for setpoint value potentiometer	+5.2 V (reference: X3/7)			Load capacity: max. 10 mA
20	–	Internal DC supply for actuation of the digital inputs and outputs	+20 V ±10% (reference: X3/7)			Max. load capacity: $\sum I$ = 40 mA
59	–	DC supply for A1	+20 V (internal, bridge to X3/20) +24 V (external)			
7	–	GND1, reference potential for analog signals	–			Isolated to GND2
39	–	GND2, reference potential for digital signals	–			Isolated to GND1

[1] Optional 0...10 kHz single-track (via E1) or 0...1 kHz two-track frequency input (via E1 and E2) 8200 vector E82xVxxxKxxxxxXXxx**2x** or later

Electrical connection	Push-on terminal strip with spring-clamp connection	
Connection options	Rigid: 1.5 mm² (AWG 16)	
	Flexible:	
	1.5 mm² (AWG 16)	without ferrules
	1.5 mm² (AWG 16)	with ferrules without plastic sleeve
	0.5 mm² (AWG 20)	with ferrules with plastic sleeve

Enco Mill Reverse Engineering

What we know

1		2	D2 C -
3	D2 C +	4	D2 A +
5	D2 A -	6	
7	D8 C -	8	D8 C +
9	D8 A +	10	D8 A -
11		12	D2 B -
13	D2 B +	14	D2 D +
15	D2 D -	16	

What we think we know

1		2	X Dir -
3	X Dir +	4	X Step +
5	X Step -	6	
7	Y Dir -	8	Y Dir +
9	Y Step +	10	Y Step -
11		12	Z Dir -
13	Z Dir +	14	Z Step +
15	Z Step -	16	Drive Enable +5V

CONNECTORS

TB2 STEP AND DIR CONNECTOR

TB2 is the 7I76s main step and direction output connector. Both polarities of step and direction signals are provided. Each channel on the interface uses 6 pins. TB2 is a 3.5 MM pluggable terminal block with supplied removable screw terminal plugs.

TB2 CONNECTOR PINOUT

TB2 PIN	SIGNAL	TB2 PIN	SIGNAL
1	GND	13	GND
2	STEP0-	14	STEP2-
3	STEP0+	15	STEP2+
4	DIR0-	16	DIR2-
5	DIR0+	17	DIR2+
6	+5VP	18	+5VP
7	GND	19	GND
8	STEP1-	20	STEP3-
9	STEP1+	21	STEP3+
10	DIR1-	22	DIR3-
11	DIR1+	23	DIR3+
12	+5VP	24	+5VP

Note: 5VP pins are PTC short circuit protected 5V output pins for field wring

Brown V+
Black GND
Blue Sig

CONNECTORS

TB4 SPINDLE CONNECTOR

TB4 is the spindle drive interface with isolated analog output and control signals for a spindle interface.TB4 is a 8 terminal 3.5 MM pluggable terminal block with supplied removable screw terminal plugs.

TB4 PINOUT

TB4 PIN	SIGNAL
1	SPINDLE-
2	SPINDLE OUT
3	SPINDLE+
4	NC
5	SPINDLE ENA-
6	SPINDLE ENA+
7	SPINDLE DIR-
8	SPINDLE DIR+

7
8
9
28
E4
20

Proc
Z 3080
X 3080
Y 3130