

PI micos PLS85

Content

Wiring-Scheme PLS-85 2SM MLS RS-422



2 Phase Stepper - Motor ST4018-L1206

Phase current	1.2 A
Phase angle	150°
Step	200
coil resistance	33 Ohms
coil inductance	4.2 mH
holding torque	260 mNm
pitch	1 mm
resolution/step	1.5 µm

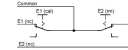


Motor Pinout & Cable

Cable type: LFCY 4x2x0.14mm² open-end

Pin No. (mm)	Function	Color
1	A+	Red
2	A-	Blue
3	B+	Orange
4	B-	Green
5	0V	Black
6	0V	White
7	0V	Grey
8	0V	Brown

Limit switches are wired as normal closed!
 E1: hand limit in negative direction (near motor)
 E2: hand limit in positive direction



Interface Encoder

Cable type: LFCY 4x2x0.14mm²

Color	Pin	Function	Color
White	15	B+	White
Black	16	B-	Black
Grey	17	A+	Grey
Blue	18	A-	Blue
Green	19	0V	Green
Orange	20	0V	Orange
Red	21	0V	Red
Yellow	22	0V	Yellow
Brown	23	0V	Brown
Pink	24	0V	Pink

Technical Data:

Encoder: Interpolator 100x coded in DB15 connector shell

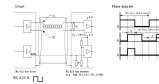
Read by Microcontroller

Pin	1	0V
Pin	2	0V
Pin	3	0V
Pin	4	0V
Pin	5	0V
Pin	6	0V
Pin	7	0V
Pin	8	0V
Pin	9	0V
Pin	10	0V
Pin	11	0V
Pin	12	0V
Pin	13	0V
Pin	14	0V
Pin	15	0V
Pin	16	0V
Pin	17	0V
Pin	18	0V
Pin	19	0V
Pin	20	0V
Pin	21	0V
Pin	22	0V
Pin	23	0V
Pin	24	0V

Mechanical Limit-Switches:

Control Point	A & B 1° reverse limit
Control Type	Normally closed
Control Voltage	24V DC
Operating Temperature	-20°C to +70°C (max. to 100°C)

Optical Encoder LIA20 RS-422



Order # 6234-9-3210 VAR 0000
 Version: 4.20
 15/04/2013 08:20:00

Website:	https://www.physikinstrumente.de/de/produkte/lineartische/tische-mit-dc-buerstenlosen-dc-blcdc-schrittmotoren/pls-85-praezisions-linearversteller-601301/#specification
Serial Nr.:	111 20 102
Id.No:	6234-9-3210
Encoder:	Numerik Jena LIA20-P401-kZ, Grating period 20µm, Interpolation 400 (not 100!), ->Resolution 50nm - theoretical value! Validation in April2020 with much worse value
Repeatability unidirectional	0,1µm
Steppermotor:	1,2A, 200 fullsteps per revol.
Conversion of Encoder in Tango	20.000 / 1mm
ebiss order /year / price	10087537 / 23.02.2012 / 3.800€
history	repair of Encoder in 2014 / 560€