

igus® robolink® D robot direct drive joints

... for building low-cost robotics



RL-D-20-A0105



1 Motor Kit

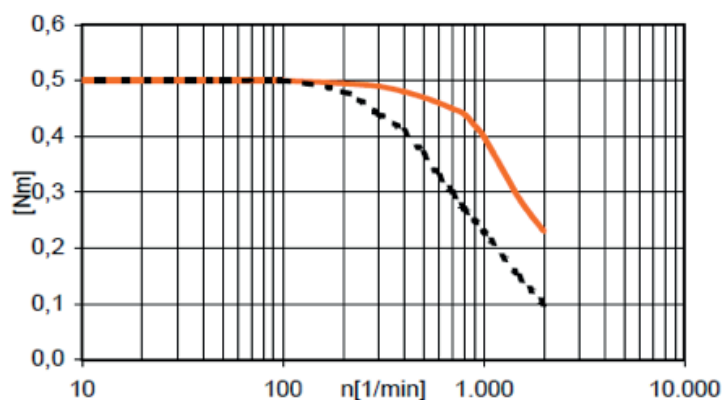
... for flange dimension

max voltage [VDC]	60
nominal voltage [VDC]	24-48
nominal current [A]	1,8
holding torque [Nm]	0,5
detent torque [Nm]	0,022
step angle [°]	1,8 ± 5 %
resistance / phase [Ω]	1,75 ± 10 %
inductance / phase [mH]	3,30 ± 20 %
moment of inertia / rotor [kg/cm ²]	0,082
max. shaft load axial [N]	7
max. shaft load radial [N]	20

RL-D-20-MK-C-N17-02
42(NEMA17)

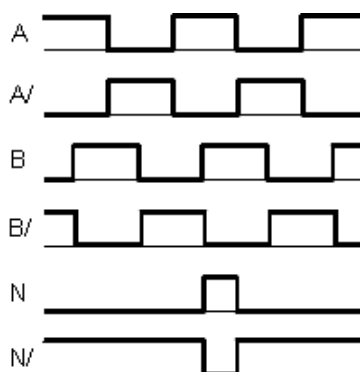
... motor characteristic

MOT-AN-S-060-005-042-...



... encoder motor

operating voltage [VDC]	5
impulse / turn [1/min]	500
zero impulse / index	yes
line-driver	RS422 protocol
signal sequence CW	A
(motor rotation clockwise)	A'
	B
	B'
	N
	N'



... weight

stranded wires [kg]	0,38
plug [kg]	0,43
encoder [kg]	0,45
encoder and brake [kg]	0,58

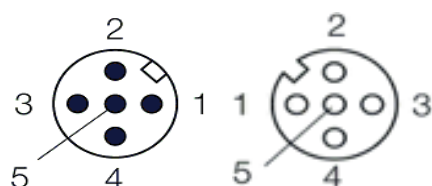
... operating data

ambient temperature [°C]	-10 ...+50
max temperature rise [°C]	80
insulation class	B
humidity (not condensing) [%]	85
protection class engine case	IP65 (shaft seal IP52), motor with stranded wires IP40
CE	EMV guideline

Pin assignment stepper motor

for flange dimension 42, 56, 60

(NEMA17, 23, 23XL)

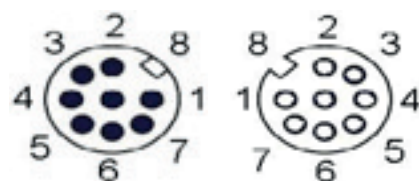


Motor bipolar M12 5-pole			Wires	Motor cable M12 5-pole
pin	signal	phase	color	color
1	A	1	brown	brown
2	A/		white	white
3	B	2	blue	blue
4	B/		black	black
5	PE		-	green/yellow
housing	shielding		-	-

Pin assignmen encoder

Flange dimension 42, 56, 60

(NEMA17, 23, 23XL)



Encoder M12 8-pole		Encoder cable M12 8-pole
pin	signal	color
1	A	white
2	A/	brown
3	B	green
4	B/	yellow
5	0V	grey
6	N/	pink
7	N	blue
8	5N DC	red
housing	shielding	shielding

2 Robot joint

... technical data standard version

weight	410 g
transmission	38:1
axis center distance	31 mm
efficiency factor	0,27-0,35
reverse play (output)	<0,5
breakaway torque	<5 cNm
max. input / output torque (static)	0,7 Nm / 0,8 Nm
max. axial static load at horizontal installation	1,0 kN (short) / 0,5 kN (long)

RL-D-20-101-38-01000

3 Ini kit (Option)

igus® art. No.	INI-AB-I-025-A-AA
connection	M8x1
switching output	PNP
switching function	NO
power input	10 ... 30 V DC
rated op. current	100 mA

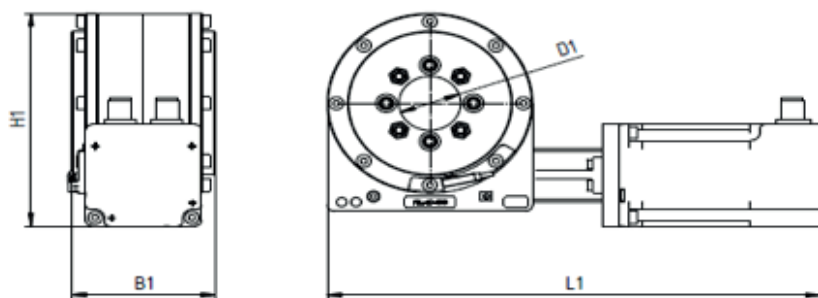
RL-D-20-IK-001

Joint construction kit

... robot joint with stepper motor

motor type	Step Motor NEMA 17
weight	980 g
max. rad. Torque (short time)	5 Nm
max. rad. Torque (permanent)	2-4 Nm
max. speed (at max. load)	5 rpm
max. axial dynamic load (horizontal)	500 N

RL-D-20-A0105



Dimensions [mm]

A0105

D1	L1	B1	H1
20	190,4	56	91,5



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