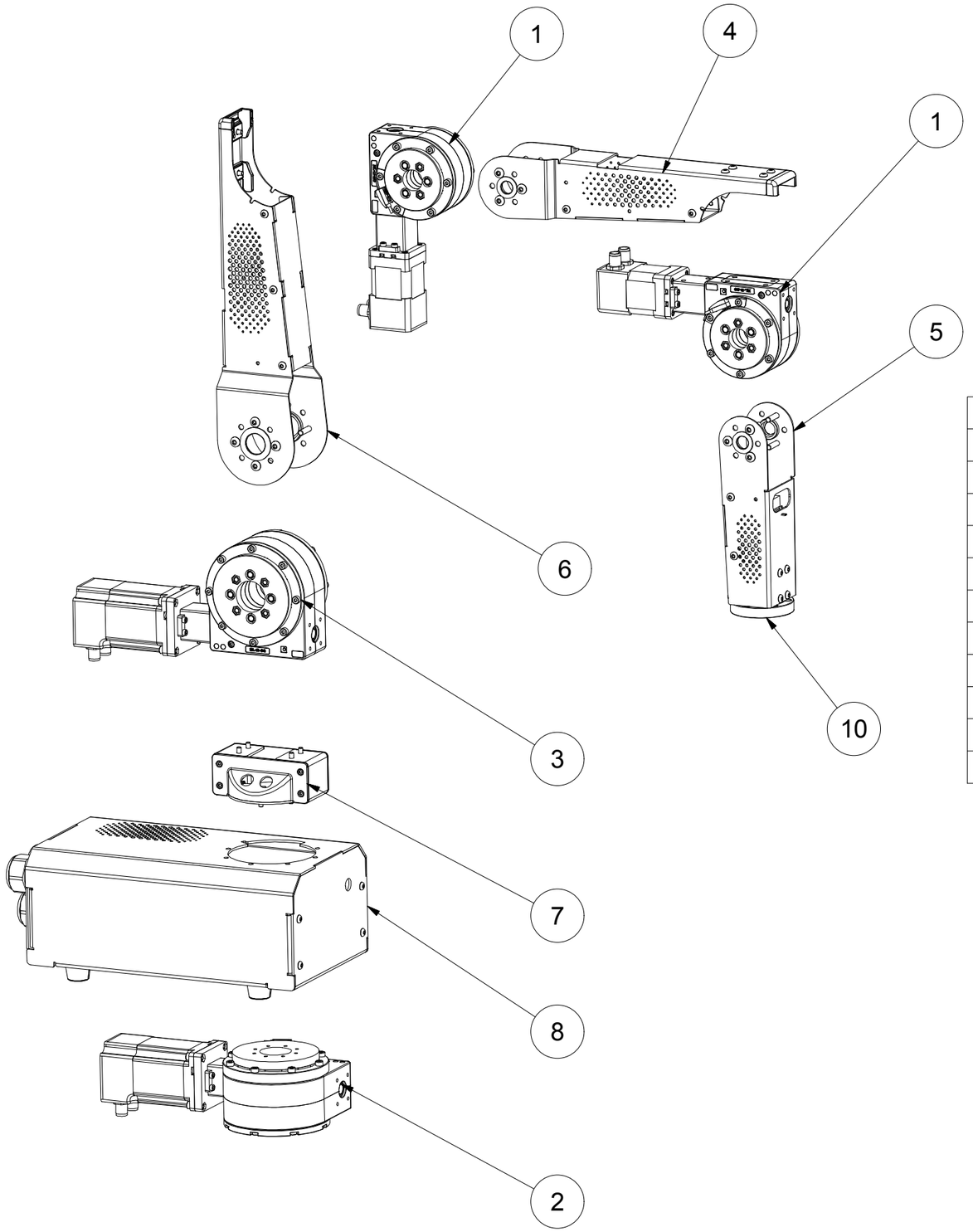


Stückliste			
OBJEKT	Anz.	Artikelnr.	Bezeichnung
1	2	RL-D-20-A0162	RL-D-20...01000 / MK-N17-02 / IK
2	1	RL-D-30-A0101	RL-D-30...01035 / MK-N23-02 / IK
3	1	RL-D-30-A0107	RL-D-30...01000 / MK-N23-02 / IK
4	1	RL-DC-20-20-240-AA	Connection part 240mm
5	1	RL-DC-20-S-170-AA	Connection part 170mm
6	1	RL-DC-30-20-270-AA	Connection part 270mm
7	1	RL-DC-30-30-T-01	Connection part 30-30
8	1	RL-DC-BL-30-BX-AA-02	Connection part Base-30
9	1	RL-DC-CBK-3322S-MEI-01	Chain/Cable Kit
10	1	RL-S-17-A0153	RL-S-17 / MK-N11-02 / IK

Freigabe | Datum: | Name: | Unterschrift:

Für Entscheidungen über die Geeignetheit der von igus® zu liefernden Produkte für bestimmte Anwendungsfälle und Konstruktionen, in die die igus®-Produkte einbezogen sind, ist ausschließlich der Kunde verantwortlich. Die ausschließliche Verantwortung des Kunden für die Konstruktion und/oder Verwendung liegt auch dann beim Kunden, wenn igus in die Entwicklung eines vom Kunden geschaffenen Produktes einbezogen wird und dabei, etwa durch Ratschläge oder Empfehlungen, mitwirkt.

Schutzvermerk nach DIN ISO 16016 beachten

Werkstoff:

mit ( ) gekennzeichnete Maße sind Prüfmaße

Zeichnungsänderungen:

Index	Änderung	Datum	Name

Maßstab:

Bauteilvolumen:

Zulässige Abweichung für Maße ohne Toleranzangabe							
Nennmaßbereich über	0,5	6	30	120	315	1000	2000
Nennmaßbereich bis	6	30	120	315	1000	2000	4000
DIN ISO 2768-m	± 0,1	± 0,2	± 0,3	± 0,5	± 0,8	± 1,2	± 2

Zeichnungsstand: 15.05.2017

	Datum	Name
erstellt	15.05.2017	F. Berger
geprüft		

igus® Plastics for longer life®

Spicher Str. 1a
51147 Köln
www.igus.de

Zeichnungsnummer: RL-10514

Assembly RL-D

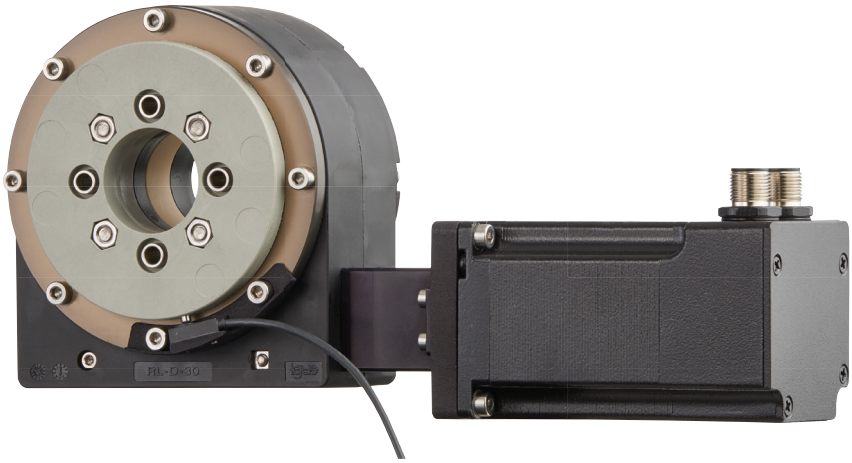
30-30-20-20-S

Artikelnummer:
RL-D-RBT-3322S-BC

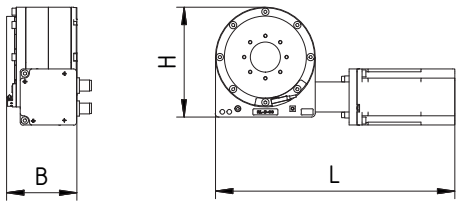
Blatt 1
A3

Dateiname: RL-D-RBT-3322S-BC - RL-10514.idw

Component
RL-D-30-A0101



Weight	2,1 kg
Max. output torque	20 Nm
Max. speed (at max. load)	9 rpm



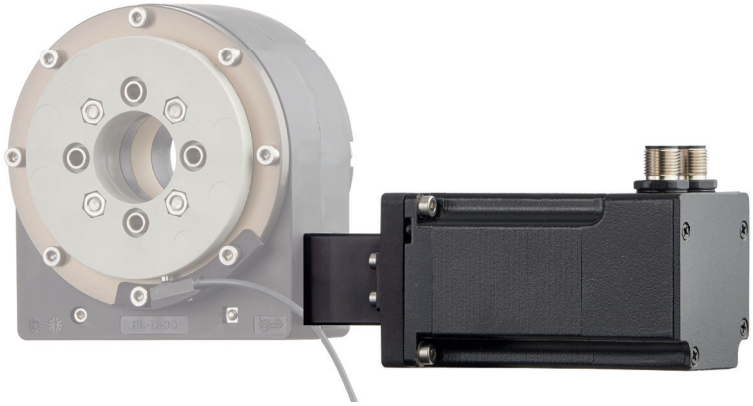
... Dimensions [mm]

B	L	H
70,5	240	110

... consisting of the following individual components

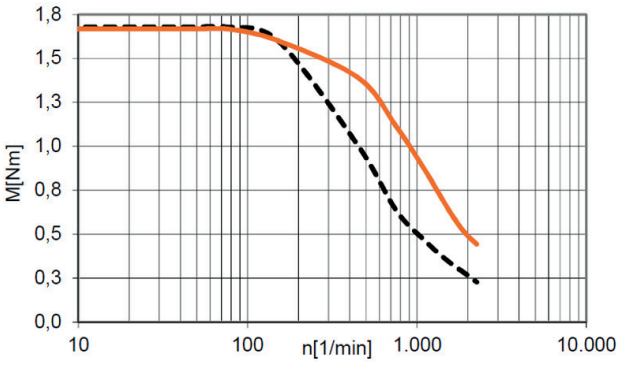
1. **Motor kit** RL-D-30-MK-C-N23-02
2. **Robot joint** RL-D-30-102-50-01035
3. **INI kit (option)** RL-D-30-IK-001

Motor kit
RL-D-30-MK-C-N23-02



... for distance over hubs	56 (Nema23)
Maximum voltage	60 VDC
Nominal voltage	24-48 VDC
Nominal current	4,2 A
Holding torque	2 Nm
Ratchet torque	0,068 Nm
Step angle	1.8 ± 5%
Resistance/phase	0.5 ± 10%
Inductivity/phase	2.2 ± 20%
Moment of inertia of rotor	0,48 kgcm^2
Shaft load, axial	15 N
Shaft load, radial (20 mm)	52 N

... Motor identification MOT-AN-S-060-020-056-M-C-AAAC



----- 24 VDC

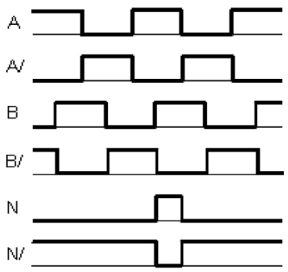
—— 48 VDC

The characteristic curves were determined in quarter step mode.

... Motor encoder

Operating voltage	5 V
Signals/rotation	500
Line driver	RS422 protocol
Zero signal/index	yes

Signal shape
(clockwise)



... Motor weights

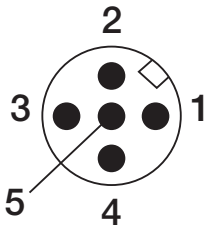
Strands	1,04 kg
Connector	1,12 kg
Encoder	1,14 kg
Encoder and brake	1,36 kg

... Operating data

CE	EMC guideline
Insulation class	B
Max. humidity	85 %
IP rating - motor housing	IP65 (shaft seal IP52), motor with stranded wires IP40
Max. allowable temperature increase	80 °C
Ambient temperature max.	+50°C
Ambient temperature min.	-10°C

... Pin assignment of stepper motor connector

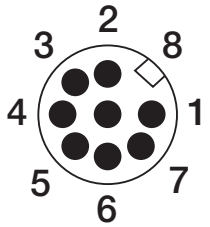
Motor size: 42, 56, 60 (Nema17, 23, 23XL)



PIN	Signal	Phase	Colour
1	A/	1	brown
2	A	1	white
3	B	2	blue
4	B/	2	black
5	PE	–	green-yellow
Housing	Shielding	–	–

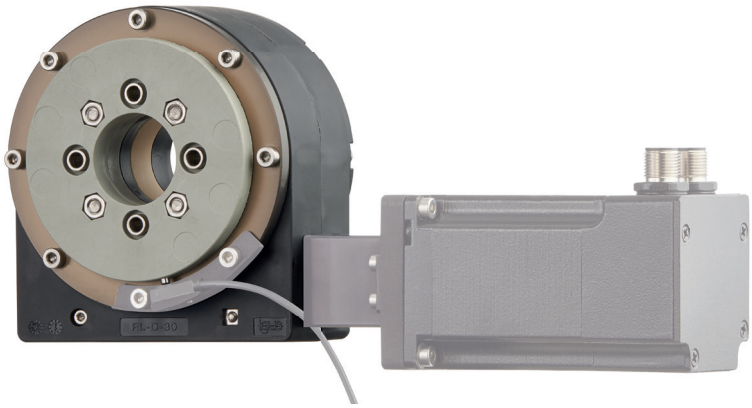
... Pin assignment encoder

Motor size: 42, 56, 60 (Nema17, 23, 23XL)



PIN	Signal	Colour
1	A	white
2	A/	brown
3	B	green
4	B/	yellow
5	0V	grey
6	N/	pink
7	N	blue
8	5V DC	red
Housing	Shielding	–

Robot joint
RL-D-30-102-50-01035

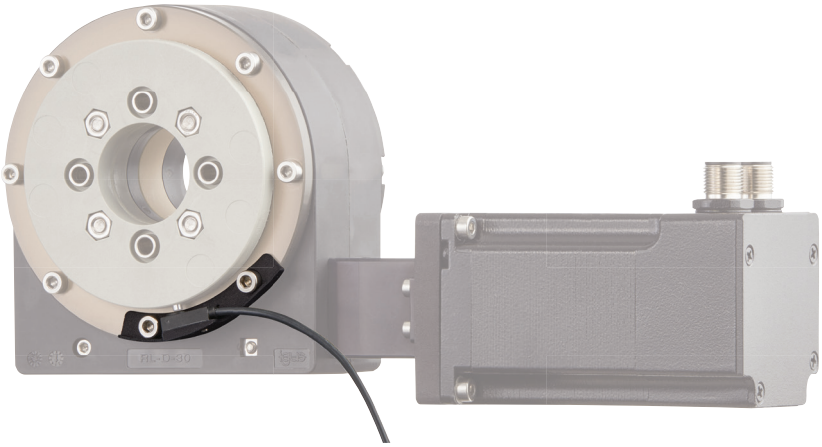


... Technical data

Max. output torque dyn., periodic use (<30% duty)	20 Nm
Max. axial stat. load in the case of horizontal mounting	< 700 N
Max. radial torque (permanent)	10 Nm
Efficiency	< 0.45
Transmission	50:1
Axis distance	40 mm
Backlash	< 0.5 °
Breakaway torque	< 7 cNm

Type			Dimensions [mm]		
RL-	D-	30-	102-	50-	01035
robolink®	Type	Installation size	Design	Reduction	Variation

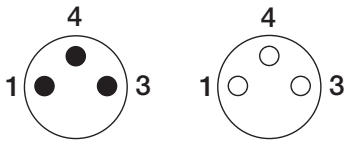
INI kit (option)
RL-D-30-IK-001



... Technical data

igus® part no.	INI-AB-I-025-A-AA
Fitting	M8 x 1
Switching output	PNP
Switching function	NO (Closer)
Operating voltage	10...30 V DC
Rated operational current	100 mA
Protection class	IP67

... Pin assignment INI kit



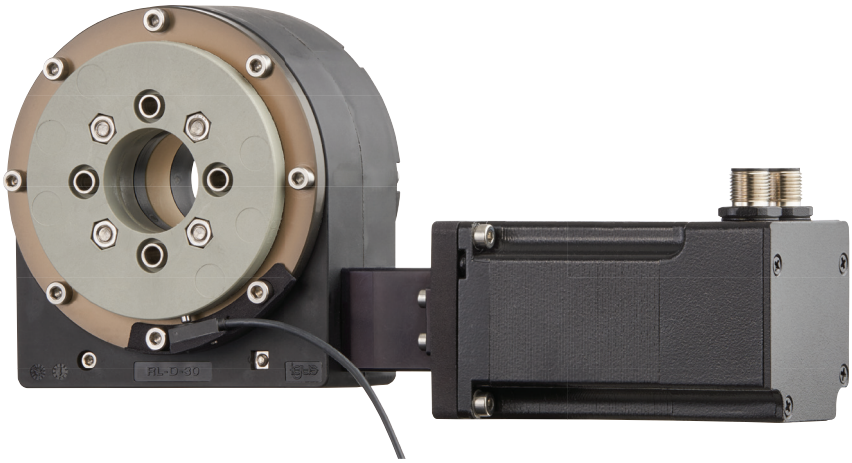
PIN	Signal	Colour
1	24V	brown
3	0V	blue
4	Signal	black

Contact:

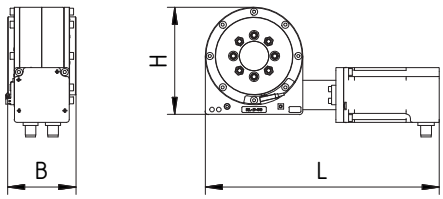
Martin Raak
Product Manager robolink®

Phone +49 2203 9649 409
Fax +49 2203 9698 409
mraak@igus.de

Component
RL-D-30-A0107



Weight	2 kg
Max. output torque	20 Nm
Max. speed (at max. load)	9 rpm



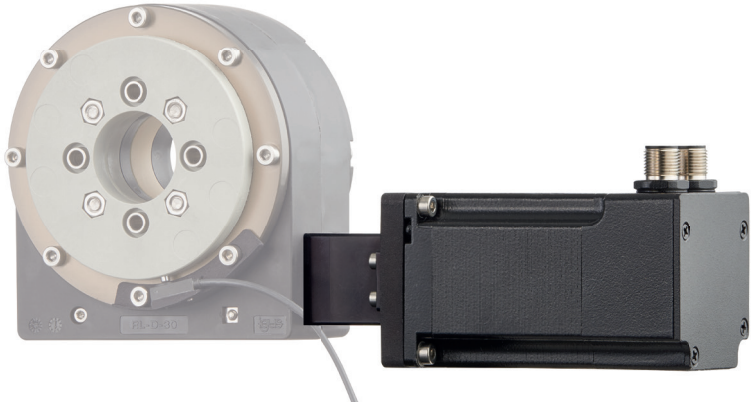
... Dimensions [mm]

B	L	H
70	240	110

... consisting of the following individual components

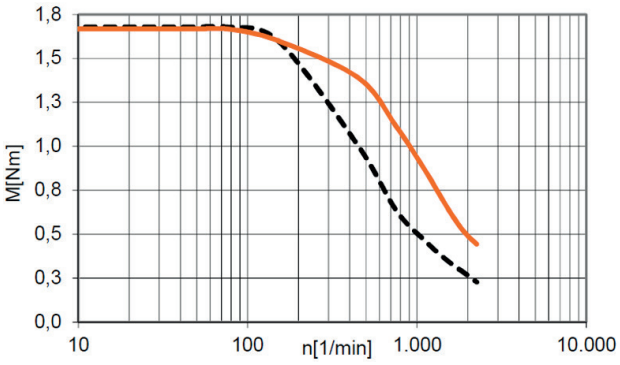
1. **Motor kit** RL-D-30-MK-C-N23-02
2. **Robot joint** RL-D-30-101-50-01000
3. **INI kit (option)** RL-D-30-IK-001

Motor kit
RL-D-30-MK-C-N23-02



... for distance over hubs	56 (Nema23)
Maximum voltage	60 VDC
Nominal voltage	24-48 VDC
Nominal current	4,2 A
Holding torque	2 Nm
Ratchet torque	0,068 Nm
Step angle	1.8 ± 5%
Resistance/phase	0.5 ± 10%
Inductivity/phase	2.2 ± 20%
Moment of inertia of rotor	0,48 kgcm^2
Shaft load, axial	15 N
Shaft load, radial (20 mm)	52 N

... Motor identification MOT-AN-S-060-020-056-M-C-AAAC



----- 24 VDC

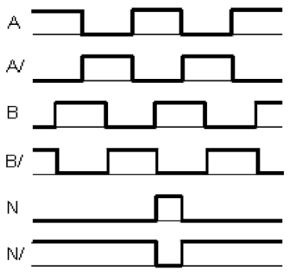
—— 48 VDC

The characteristic curves were determined in quarter step mode.

... Motor encoder

Operating voltage	5 V
Signals/rotation	500
Line driver	RS422 protocol
Zero signal/index	yes

Signal shape
(clockwise)



... Motor weights

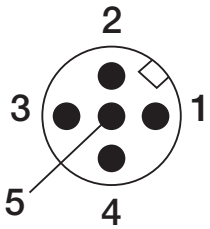
Strands	1,04 kg
Connector	1,12 kg
Encoder	1,14 kg
Encoder and brake	1,36 kg

... Operating data

CE	EMC guideline
Insulation class	B
Max. humidity	85 %
IP rating - motor housing	IP65 (shaft seal IP52), motor with stranded wires IP40
Max. allowable temperature increase	80 °C
Ambient temperature max.	+50°C
Ambient temperature min.	-10°C

... Pin assignment of stepper motor connector

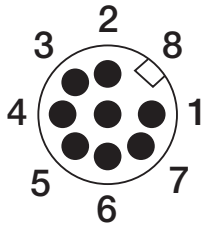
Motor size: 42, 56, 60 (Nema17, 23, 23XL)



PIN	Signal	Phase	Colour
1	A/	1	brown
2	A	1	white
3	B	2	blue
4	B/	2	black
5	PE	–	green-yellow
Housing	Shielding	–	–

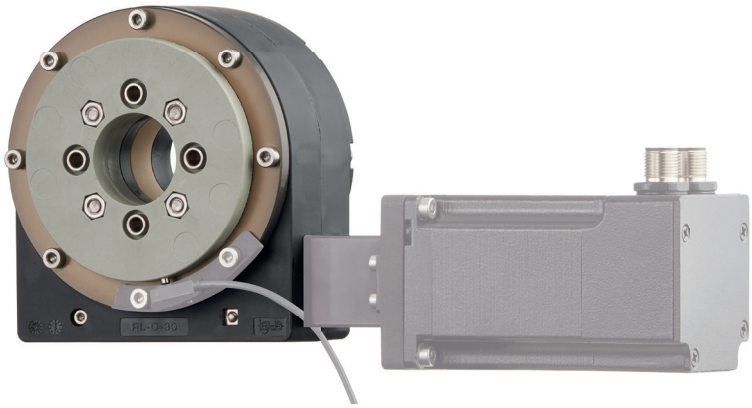
... Pin assignment encoder

Motor size: 42, 56, 60 (Nema17, 23, 23XL)



PIN	Signal	Colour
1	A	white
2	A/	brown
3	B	green
4	B/	yellow
5	0V	grey
6	N/	pink
7	N	blue
8	5V DC	red
Housing	Shielding	–

Robot joint
RL-D-30-101-50-01000

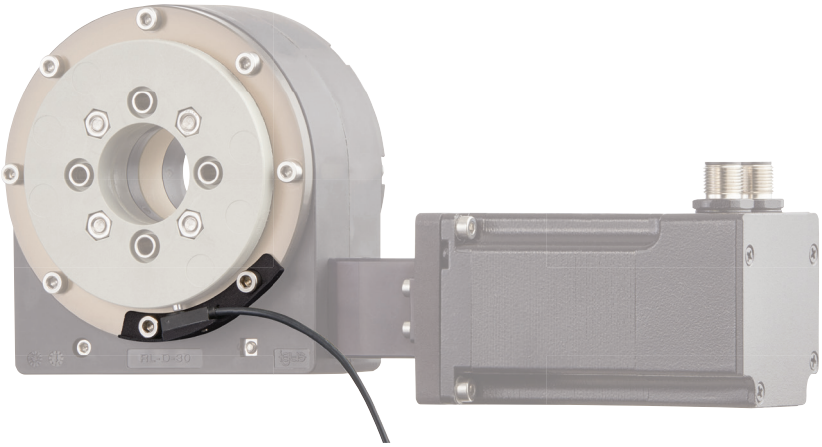


... Technical data

Max. output torque dyn., periodic use (<30% duty)	20 Nm
Max. axial stat. load in the case of horizontal mounting	< 700 N
Max. radial torque (permanent)	10 Nm
Efficiency	< 0.35
Transmission	50:1
Axis distance	40 mm
Backlash	< 0.5 °
Breakaway torque	< 7 cNm

Type			Dimensions [mm]		
RL-	D-	30-	101-	50-	01000
robolink®	Type	Installation size	Design	Reduction	Variation

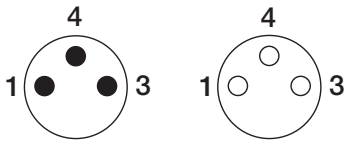
INI kit (option)
RL-D-30-IK-001



... Technical data

igus® part no.	INI-AB-I-025-A-AA
Fitting	M8 x 1
Switching output	PNP
Switching function	NO (Closer)
Operating voltage	10...30 V DC
Rated operational current	100 mA
Protection class	IP67

... Pin assignment INI kit



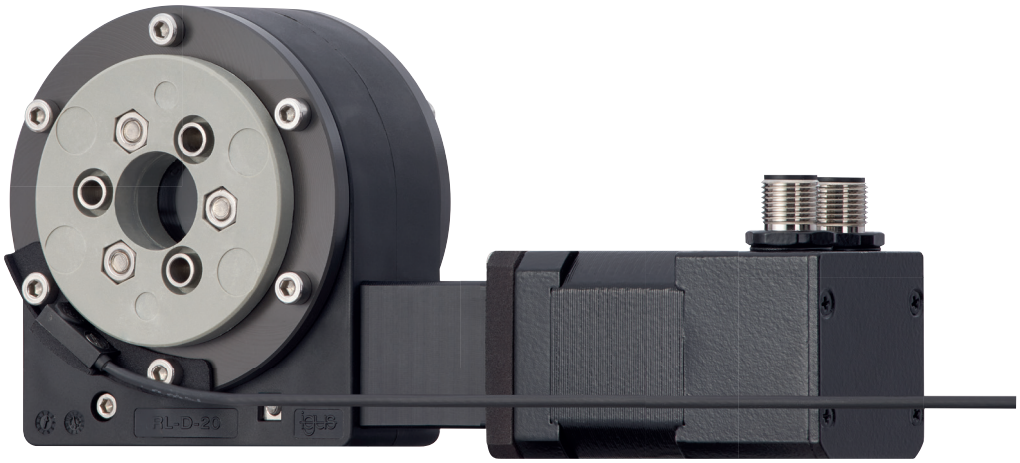
PIN	Signal	Colour
1	24V	brown
3	0V	blue
4	Signal	black

Contact:

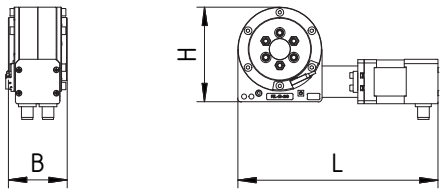
Martin Raak
Product Manager robolink®

Phone +49 2203 9649 409
Fax +49 2203 9698 409
mraak@igus.de

Component
RL-D-20-A0162



Weight	0,9 kg
Max. output torque	7 Nm
Max. speed (at max. load)	12 rpm



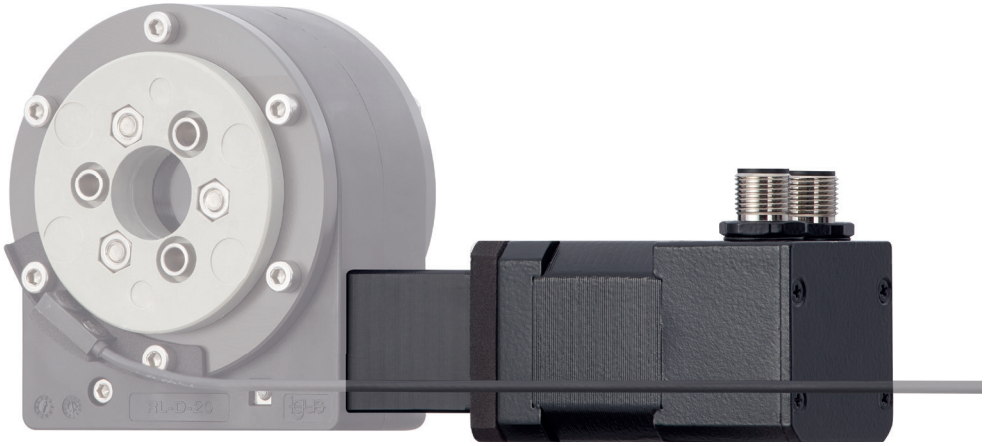
... Dimensions [mm]

B	L	H
56	191	90

... consisting of the following individual components

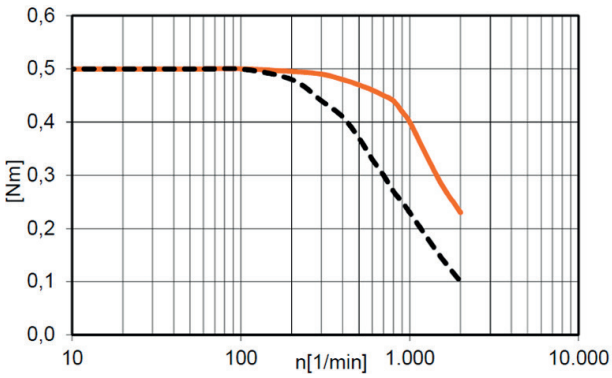
1. **Motor kit** RL-D-20-MK-C-N17-02
2. **Robot joint** RL-D-20-101-38-01000
3. **INI kit (option)** RL-D-20-IK-001

Motor kit
RL-D-20-MK-C-N17-02



... for distance over hubs	42 (Nema17)
Maximum voltage	60 VDC
Nominal voltage	24-48
Nominal current	1,8 A
Holding torque	0,5 Nm
Ratchet torque	0,022 Nm
Step angle	1.8 ±5 %
Resistance/phase	1.75 ±10 %
Inductivity/phase	3.30 ±20 %
Moment of inertia of rotor	0,082 kgcm^2
Shaft load, axial	7 N
Shaft load, radial (20 mm)	20 N

... Motor identification MOT-AN-S-060-005-042-M-C-AAAC



----- 24 VDC

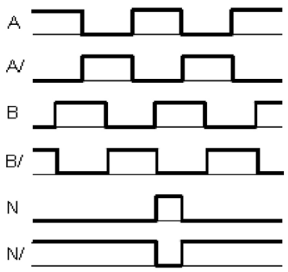
—— 48 VDC

The characteristic curves were determined in quarter step mode.

... Motor encoder

Operating voltage	5 V
Signals/rotation	500
Line driver	RS422 protocol
Zero signal/index	yes

Signal shape
(clockwise)



... Motor weights

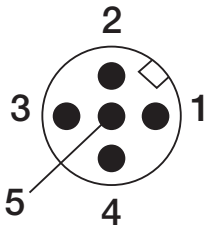
Strands	0,38 kg
Connector	0,43 kg
Encoder	0,45 kg
Encoder and brake	0,58 kg

... Operating data

CE	EMC guideline
Insulation class	B
Max. humidity	85 %
IP rating - motor housing	IP65 (shaft seal IP52), motor with stranded wires IP40
Max. allowable temperature increase	80 °C
Ambient temperature max.	+50°C
Ambient temperature min.	-10°C

... Pin assignment of stepper motor connector

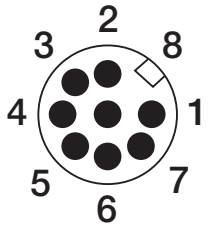
Motor size: 42, 56, 60 (Nema17, 23, 23XL)



PIN	Signal	Phase	Colour
1	A/	1	brown
2	A	1	white
3	B	2	blue
4	B/	2	black
5	PE	–	green-yellow
Housing	Shielding	–	–

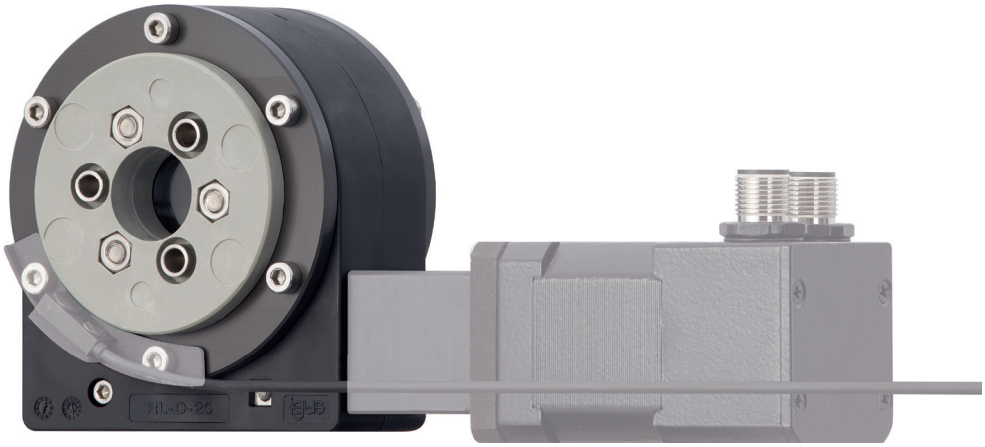
... Pin assignment encoder

Motor size: 42, 56, 60 (Nema17, 23, 23XL)



PIN	Signal	Colour
1	A	white
2	A/	brown
3	B	green
4	B/	yellow
5	0V	grey
6	N/	pink
7	N	blue
8	5V DC	red
Housing	Shielding	–

Robot joint
RL-D-20-101-38-01000

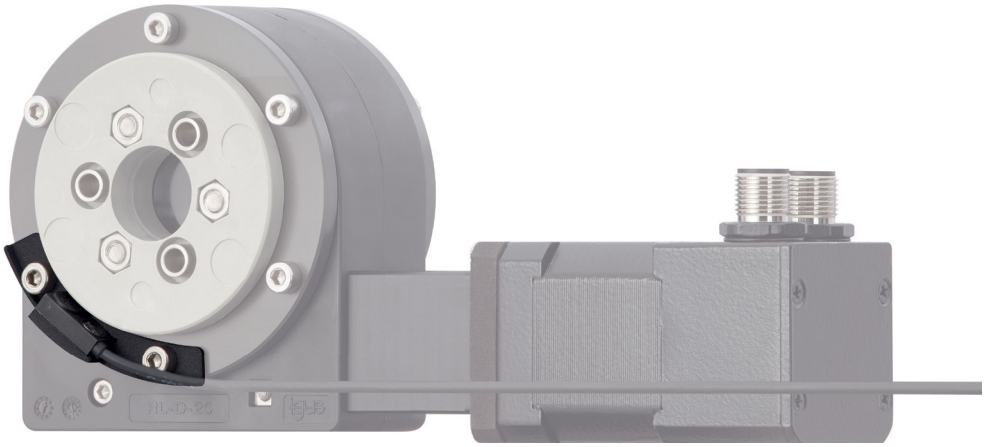


... Technical data

Max. output torque dyn., periodic use (<30% duty)	10 Nm
Max. axial stat. load in the case of horizontal mounting	< 500 N
Max. radial torque (permanent)	5 Nm
Efficiency	< 0.4
Transmission	38:1
Axis distance	31 mm
Backlash	< 0.5 °
Breakaway torque	< 5 cNm

Type			Dimensions [mm]		
RL-	D-	20-	101-	38-	01000
robolink®	Type	Installation size	Design	Reduction	Variation

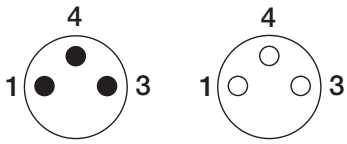
INI kit (option)
RL-D-20-IK-001



... Technical data

igus® part no.	INI-AB-I-025-A-AA
Fitting	M8 x 1
Switching output	PNP
Switching function	NO (Closer)
Operating voltage	10...30 V DC
Rated operational current	100 mA
Protection class	IP67

... Pin assignment INI kit



PIN	Signal	Colour
1	24V	brown
3	0V	blue
4	Signal	black

Contact:

Martin Raak
Product Manager robolink®

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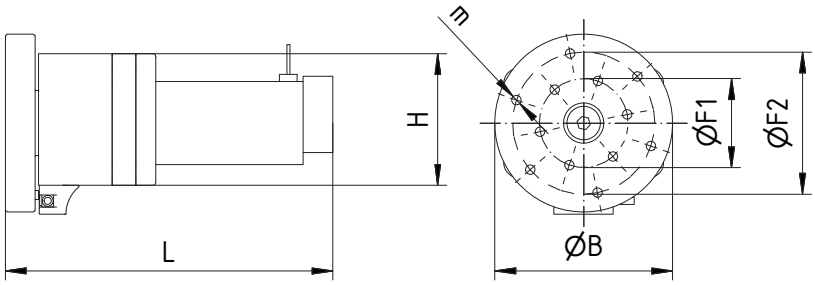
mraak@igus.de

Component
RL-S-17-A0153

Weight	0,4 kg
Max. output torque	0,6 Nm
Max. speed (at max. load)	6 rpm



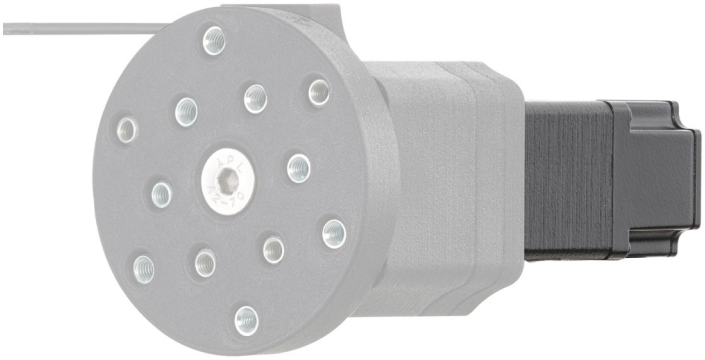
... Dimensions [mm]

B	L	H	F1	F2	m
60	111	44,5	30	48	12x M4

... consisting of the following individual components

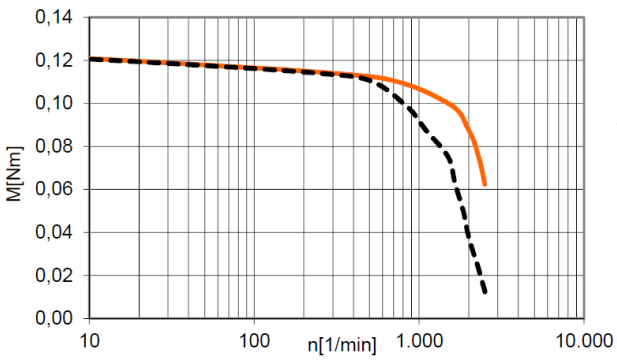
1. **Motor** MOT-AN-S-060-001-028-L-C-AAAC
2. **Robot joint** RL-S-17-N11-00-28-020K0
3. **INI kit (option)** RL-S-17-IK-01

Motor
MOT-AN-S-060-001-028-L-C-AAAC



... for distance over hubs	28 (Nema11)
Maximum voltage	60 VDC
Nominal voltage	24-48
Nominal current	1 A
Holding torque	0,12 Nm
Ratchet torque	0,004 Nm
Step angle	1.8 ± 5%
Resistance/phase	2.3 ± 10%
Inductivity/phase	1.8 ± 20%
Moment of inertia of rotor	0,018 kgcm^2
Shaft load, axial	7 N
Shaft load, radial (20 mm)	20 N

... Motor identification MOT-AN-S-060-001-028-L-C-AAAC



----- 24 VDC

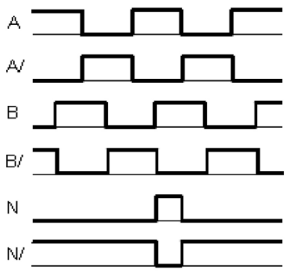
—— 48 VDC

The characteristic curves were determined in quarter step mode.

... Motor encoder

Operating voltage	5 V
Signals/rotation	500
Line driver	RS422 Protocol
Zero signal/index	yes

Signal shape
(clockwise)



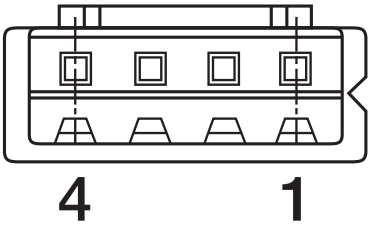
... Motor weights

Strands	0,2 kg
Connector	0,25 kg
Encoder	0,27 kg
Encoder and brake	-

... Operating data

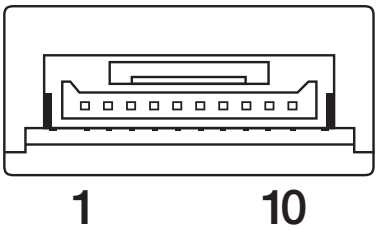
CE	-10 ... +50
Insulation class	B
Max. humidity	85 %
IP rating - motor housing	IP65 (shaft seal IP52), motor with stranded wires IP40
Max. allowable temperature increase	80 °C
Ambient temperature max.	+50
Ambient temperature min.	-10

... Pin assignment of stepper motor connector



PIN	Signal	Phase	Colour
1	A	1	white
2	A/	1	brown
3	B	2	blue
4	B/	2	black

... Pin assignment encoder

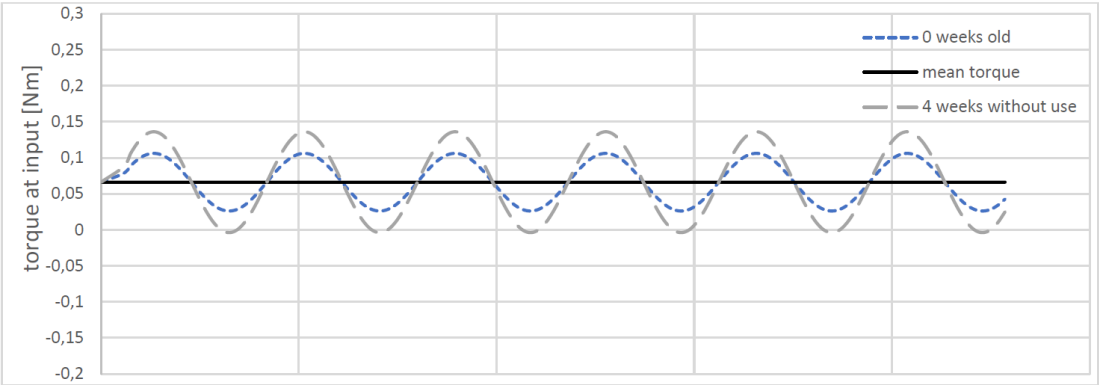


PIN	Signal	Colour
1	Shielding	–
2	A	white
3	A/	brown
4	B/	green
5	B	yellow
6	N/	grey
7	N	pink
8	GND	blue
9	5V DC	red
10	Shielding	–

Robot joint
RL-S-17-N11-00-28-020K0

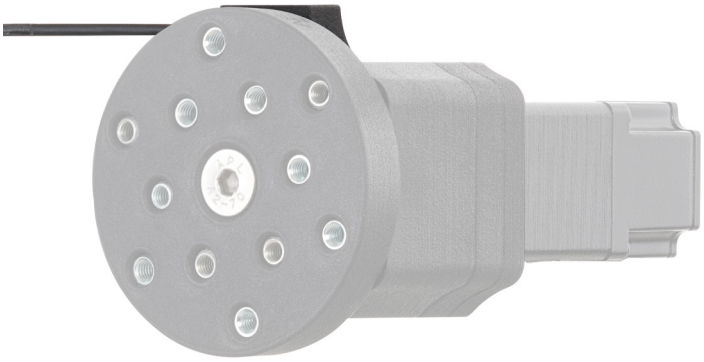
... Technical data

Max. output torque dyn., periodic use (<30% duty)	0,75 Nm
Max. axial stat. load in the case of horizontal mounting	< 20 N
Max. radial torque (permanent)	0.5 Nm
Efficiency	< 0.2
Transmission	28:1
Axis distance	0 mm
Backlash	< 1°



Torque fluctuations due to relaxation of the shaft ring when the output torque is 0.5 Nm (simplified illustration)

INI kit (option)
RL-S-17-IK-01



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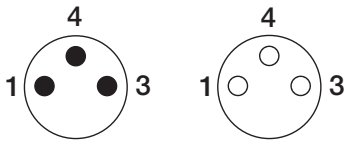

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