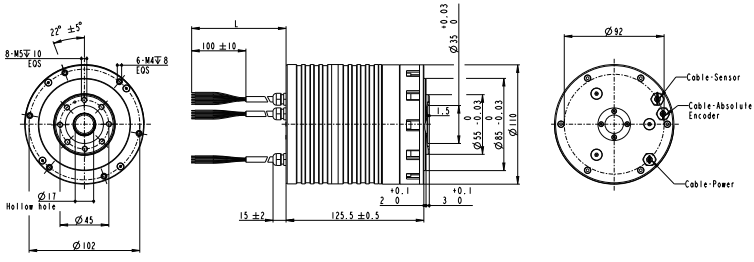
Robot Joint 90 ∅110 mm, 260 Watt

Modular Integrated Robotic Joint



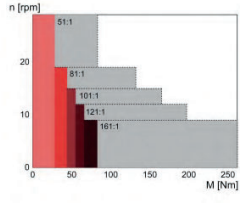
Gear-motor data													
1	Gear Ratio	X:1	51	51	81	81	101	101	121	121	161	161
2	Nominal voltage	V	24	48	24	48	24	48	24	48	24	48
3	No load speed	rpm	31	31	20	20	16	16	13	13	10	10
4	Nominal speed	rpm	29	29	19	19	15	15	12	12	9	9
5	Nominal current	A	12	4.1	12	4.1	12	4.1	12	4.1	12	4.1
6	Maximum current	A	36	12.3	36	12.3	36	12.3	36	12.3	36	12.3
7	Nominal torque	Nm	28	27	44	44	55	54	66	65	87	87
8	Maximum torque	Nm	83	82	132	131	165	163	197	195	262	260
9	Torque constant	Nm/A	2.8	8	4.4	12.8	5.5	15.9	6.6	19	8.7	25.3
10	Thermal time constant winding	s	18	18	18	18	18	18	18	18	18	18

Encoder specifications			
11	**Incremental encoder**		
12	Resolution, counts per turn	CPT	2048
13	Number of channels		3
14	Maximum frequency	kHz	100
15	Supply voltage	VDC	5±10%
16	Typical supply current	mA	55
17	Output signal		RS422
18	**Absolute encoder**		
19	Steps per turn		524288
20	Resolution (bit single turn)	bit	19
21	Signal protocol		SSI
22	Data encoding		Binary
23	Clock frequency	MHz	0.5…2
24	Timeout (monoflop time)	µs	20
25	Encoder supply voltage	VDC	5±10%
26	Typical supply current	mA	120
27	Output signal		RS422
28	Setup time after power on	ms	60
29	Absolute accuracy	°	±0.06
30	Repeated accuracy	°	±0.008
Other specifications			
31	Hollow shaft	mm	17
32	Weight	kg	3.4
33	Cable length (L)	mm	1000
34	Maximum radial load (dynamic)	N	1400
35	Maximum axial load (dynamic)	N	1400
36	Storage temperature	°C	-10…70
37	Operating temperature	°C	-10…40
38	Non-condensing humidity	%	0…75
39	Number of Pole pairs		11

Connection				
	Cable-Power			
40	U	Motor winding 1	AWG16	Red
41	V	Motor winding 2	AWG16	Black
42	W	Motor winding 3	AWG16	White
43	Brake+	Brake power supply+	AWG24	Red
44	Brake-	Brake power supply-	AWG24	Black
	Cable-Sensor			
45	V_HALL	Hall sensor power	AWG24	Red/White
46	GND_HALL	Hall sensor ground	AWG24	Black/White
47	H1	Hall sensor 1	AWG24	Yellow
48	H2	Hall sensor 2	AWG24	Brown
49	H3	Hall sensor 3	AWG24	Grey
50	V_ENC	Encoder power supply	AWG24	Red
51	GND_ENC	Encoder ground	AWG24	Black
52	CH A	Channel A	AWG24	Green
53	CH A/	Channel A/	AWG24	Green/Black
54	CH B	Channel B	AWG24	Blue
55	CH B/	Channel B/	AWG24	Blue/Black
56	CH I	Channel Index	AWG24	Orange
57	CH I/	Channel Index/	AWG24	Orange/Black

Optional			
Brake			
Supply voltage	VDC		24±10%
Duty cycle	%		100
Resistance	Ω		35
Reaction time (coupling)	ms		50
Reaction time (opening)	ms		20
Torque sensor			
Torque range	Nm		-200…+200
Instantaneous torque	Nm		600
Power supply	VDC		5
Output voltage	VDC		2.5±2
Bridge resistance nominal	Ω		350
Sensitivity	V/Nm		0.042
Axial force for crosstalk	N		250
Radial force for crosstalk	N		250
Controller			
Operating voltage	VDC		12…60
Continuous output current	A		12
Maximum output current	A		36
Interface			CANopen or EtherCAT
Cable			
Cable length (L)	mm		500, 1500, 2000

Operating Range



Cable-Magnetic Encoder (Absolute SSI encoder)				
V_ABS	SSI encoder power	AWG28	Red
GND	SSI encoder ground	AWG28	Black
CL+	SSI Clock+	AWG28	Green
CL-	SSI Clock-	AWG28	Yellow
DA+	SSI Data+	AWG28	Brown
DA-	SSI Data-	AWG28	Orange