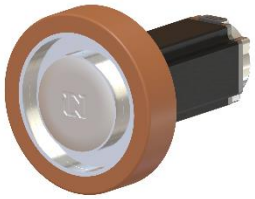
iMR 500

Double Encoder, Brake, No Drive



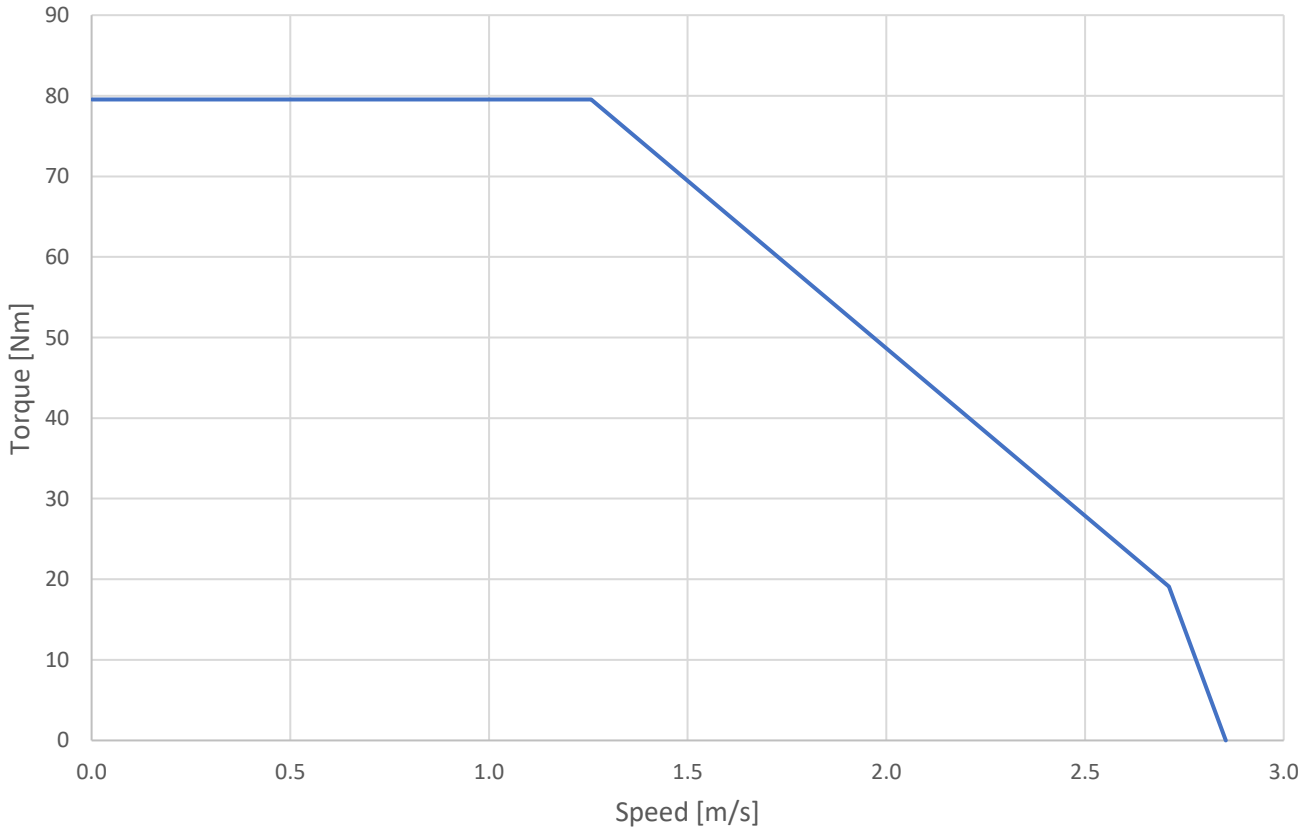
Order number:
1L085B026NXXXD-GV04

Characteristic	Unit	Value
Wheel Diameter	mm	202
Gearbox Type		Planetary Helical
Gearbox Ratio		10:1
Rated Voltage	V_{DC}	48
Max Torque	Nm	79.5
Max Speed	rpm	270
	m/s	2.85
	km/h	10.30
Peak Power	W	1,480
Max Radial Load per wheel	N	5000
Unit weight	kg	8

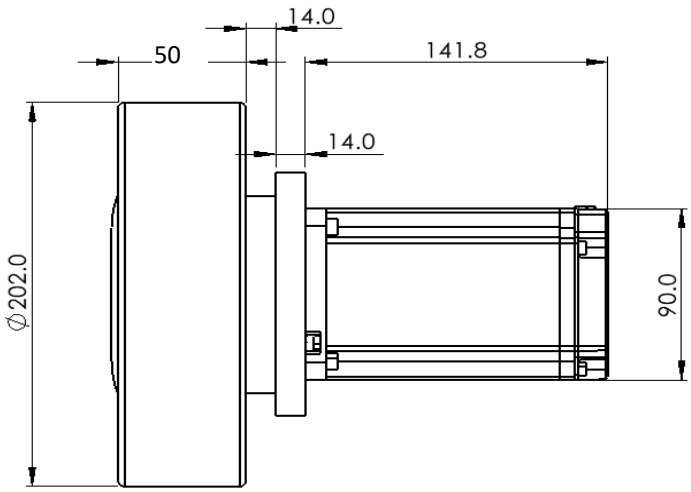
Characteristic	Detail
Wheel Material	PU-Rad: 78°±3° Shore A
Brake	Spring Applied 100 Nm at the wheel
Feedback	Double Incremental Encoder
Thermal Protection	48

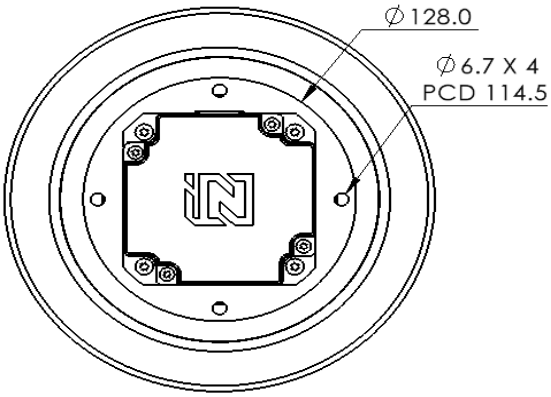
Solution Peak performance diagram

Output at the wheel



Dimensions

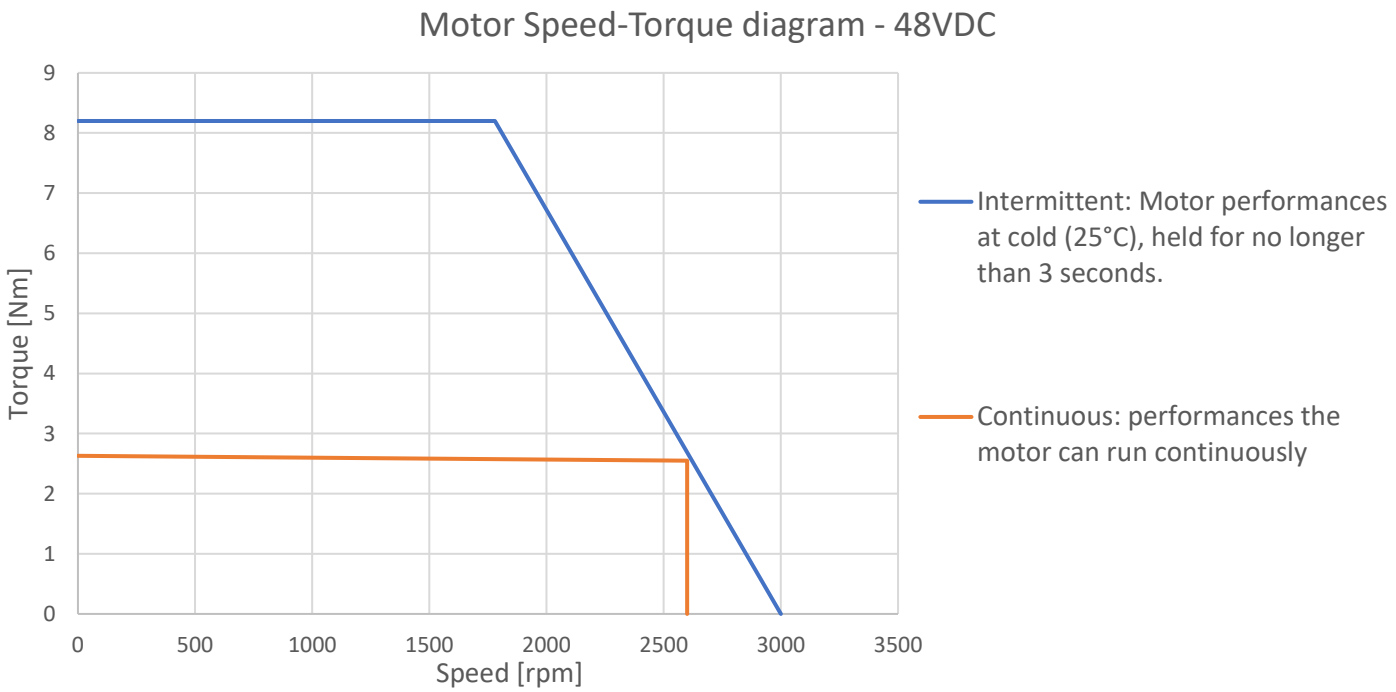




Motor specs

Characteristic	Abbr.	Unit	Value
Motor technology			SPM
No of poles			10
Rated Voltage	U_{mot}	V_{rms}	48
S1 Rated speed	n_n	rpm	2600
Maximum speed	n_{max}	rpm	3000
Rated power	P_n	W	694
Stall torque	M_0	Nm	2.63
S1 Rated torque	M_n	Nm	2.55
Peak torque	M_{max}	Nm	8.20
Stall current	I_0	A_{rms}	18
S1 Rated current	I_n	A_{rms}	17
Peak current	I_{max}	A_{rms}	61

Characteristic	Abbr.	Unit	Value
Torque constant (hot)	kt_{hot}	Nm/A_{rms}	0.15
Torque constant (cold)	kt_{cold}	Nm/A_{rms}	0.17
Voltage constant	ke	V/krpm	10.80
Winding resistance	R_{p-p}	Ω	0.098
Winding inductance	L_{p-p}	mH	0.5951
Max ambient operating temperature			40°C
Insulation class			F – 155°C



Feedback specifications

Characteristic	Value
Manufacturer	Renishaw RLS
Type	Double incremental encoder with Commutation signals
Resolution	12 bit; 4096 ppr
Hysteresis	0.18°
Accuracy	±0.5°
Supply voltage	5 V_{DC}
Current Consumption	13 mA to 50 mA

Brake specifications

Characteristic	Unit	Value
Operational voltage	V_{DC}	24
Max release voltage	V_{DC}	16
Max re-engage voltage	V_{DC}	8
Power	W	18
Torque	Nm	10
Response time	ms	250
Release time	ms	110
Insulation		Class F
Max backlash		3°

Connector guide

No connector, Cable leads only

Power:

Phase	Cable
U	Black, AWG14, x2
V	Blue, AWG14, x2
W	White, AWG14, x2

Cable length: 1.5 m

Thermistor:
Black and white AWG26 cables

Signal - Feedback 1

Signal	Colour
U	Black
V	Violet
W	Grey/Pink
A+	Pink
A-	Grey
B+	Green
B-	Yellow
Z+	White
Z-	Brown
Vdd (+5 V)	Red
GND	Blue

Signal - Feedback 2

Signal	Colour
A+	Pink
A-	Grey
B+	Green
B-	Yellow
Z+	White
Z-	Brown
Vdd (+5 V)	Red
GND	Blue

Cable length: 2m

NOTE: 1) The data provided in this datasheet is for guidance only and does not form part of any contract. 2) Motor, drive, gearbox and brake should undergo application testing to validate performance.