t-Rex 3200 (short version, focus rotational speed)

I-44-47-L21 S2

Description

14-pole BLDC motor with high-performance neodymium magnets and three digital Hall sensors to detect the rotor position. The electrical connections are designed as a plug-in system. Additional power electronics are required to operate the motor. Motor design with a hollow shaft is also available upon request. This allows the implementation of output on both sides.

Special features

- Designed with **focus on rotational speed**
- Enormous performance density – 3 times stronger than motors of comparable size
- High overload resistance
- Ideally suited as direct drive, or generator for gearless applications
- Special winding upon request
- Design and manufacture of motor to specified operating point is possible

t-Rex 3200-I-44-47 L21 S2 DH	*3200.00-3002*
Rated voltage	24 VDC
Rated current	3.4 A
Rated torque	0.1 Nm
Rated speed	4600 rpm
Shaft power (output)	48 W
Max. efficiency	65 %
Idle speed	5168 rpm
No-load current	1.2 A
Stall torque	1.1 Nm
Starting current at idle speed	24 A
Torque constant	0.047 Nm/A
Speed constant	215 rpm/V
Motor parameters	
Terminal resistance (phase to phase)	0.29 Ohm
Terminal inductance (phase to phase)	171 µH
Rotor inertia	9.5 kg* mm²
Number of poles	14
Interconnection of the motor	Star
Number of coils per phase	2
Interconnection of coils	2 Series
Direction of rotation	bidirectional

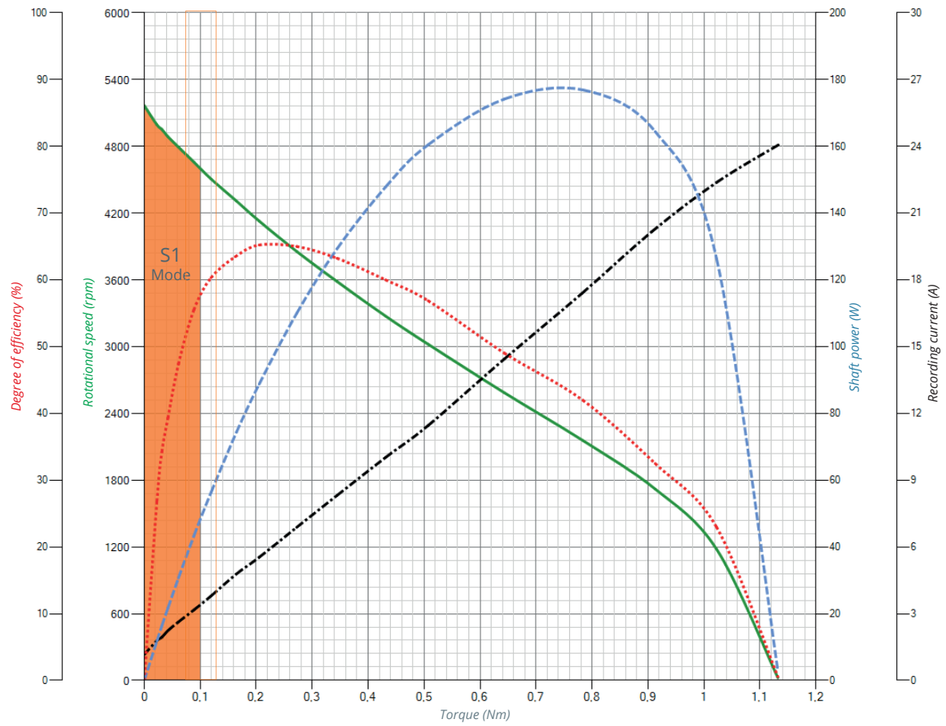
Note: Max. ambient temperature = 40 °C, controller-specific
At the nominal point (TU = 20°C), controller-specific

Only cyclical operation is possible with 36 V and 48 V

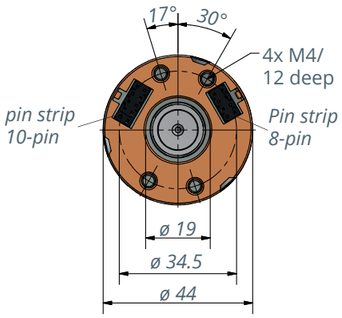
Motor cable approx. 1,5 m

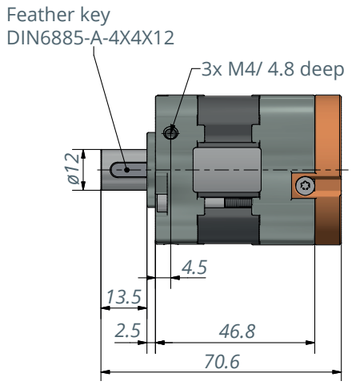
Item number: 3200.53-05

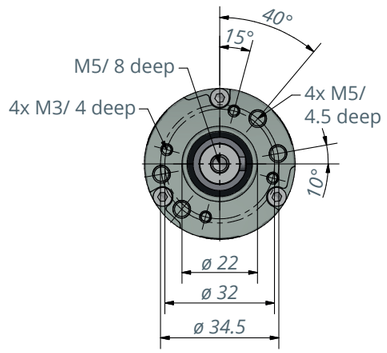
Motor characteristics at 24 V



3200.00-3002 with shaft







Digital Hall-sensors

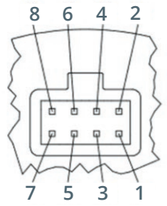
Supply of sensors
5 V DC +-10 %
Power consumption: < 70 mA

Output signals of sensors
„single ended“ TTL 5 V output

Signal structure
The Hall sensors have a 120° phase shift to each other. Due to the 14-pole design the **Signal frequency** is seven times higher than the speed

Temperature sensor:
NTC 10k B-value 3650 K

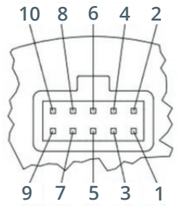
Hall-sensors



1= H2+
2= GND
3= H1+
4= GND
5= 5V
6= H3+
7= NTC 10K
8= NTC 10K

Socket strip RM 2.54 / 8 PIN
W+P 3491-08

Motor phases



1= -
2= U-Phase
3= U-Phase
4= U-Phase
5= V-Phase
6= V-Phase
7= V-Phase
8= W-Phase
9= W-Phase
10= W-Phase

Socket strip RM 2.54 / 10 PIN
W+P 3491-10