

GBX 80 GEAR MOTOR



High-Performance Electric Motor with Integrated Gear Reduction

ENGINEERING DATASHEET

Jan 2026

1. GENERAL INFORMATION

Motor Model	GBX 80 GEAR MOTOR
Motor Type	Mid Mount with Integrated Gearbox
Application	Electric motorcycles, performance EV, Quad Bike, Go kart, ATV

2. ELECTRICAL SPECIFICATIONS

Rated Voltage	72V – 108V
Rated Power	30 kW
Peak Power	81 kW
Max Motor Current	1500A (Peak)
Control Signal	Sinusoidal Control
Max Efficiency	94%
Phase Wire Size	42 mm ²

3. TORQUE & SPEED

Rated Torque	71 Nm
Peak Torque	288 Nm @1100 Arms
Rated Output Speed	2900 RPM
Max Output Speed	3300 RPM (Field Weakening)
Gear Reduction Ratio	2.368 : 1

4. MECHANICAL SPECIFICATIONS

Motor Weight	15 kg
Dimensions	Ø180 × 220 mm
Shaft Type	6-Spline
Sprocket	520 Chain (12 / 13 / 14 Teeth)

5. THERMAL & COOLING

Cooling Method	Natural Air Cooling
Working Temp	80°C – 120°C
Peak Temp	150°C
Insulation	Class F (180°C)
Thermistor	NTC 100k

Note: Thermal design optimized for sustained high-load operation with monitored protection.

6. ENVIRONMENTAL & DURABILITY

Protection Rating	IP68
Housing Material	CNC Machined Aluminum

7. SENSOR & FEEDBACK

Sensor Type	Encoder
Resolution	High-resolution feedback
Compatibility	FOC / Sinusoidal

8. APPLICATION NOTES

Designed for high-torque mid-drive applications
Integrated gearbox reduces external drivetrain complexity
Suitable for off-road, performance, and industrial environments
Requires compatible high-current motor controller

9. SAFETY & HANDLING

Ensure proper mounting alignment
Verify controller current limits before operation
Do not exceed thermal limits without monitoring
Follow proper insulation and cabling standards

3SHUL GBX80 GEARED MOTOR DIMENSIONS

