



ESYNC L3 INTEGRATED E-AXLE

TECHNICAL DATASHEET

Compact, high-efficiency integrated eAxle with in-house dual speed gearbox and PMSM motor. Engineered for reliable torque, low noise and high durability in real-world duty cycles.



30 Nm
TORQUE

9:1 TO 18:1
GEAR RATIO
DUAL SPEED GEAR BOX

Up to
1 TON GVW

<80 dBA
LOW NOISE

>91%
EFFICIENCY

50,000 Km
WARRANTY

MECHANICAL & PERFORMANCE

Configuration	Integrated Motor + Axle
Gear Type	Single Speed & Dual Speed
Gear Ratio	9:1 to 18:1
Max Torque	30 Nm
GVW Capacity	Up to 1 Ton
Drive Type	Rear Axle Drive
Gradeability	Up to 7° - 10°
Axle Length	~ 33" - 35"
Mounting	Standard 3W Chassis Compatible

MOTOR SPECIFICATIONS

Motor Type	PMSM
Rated Power	1.2 kW / 1.5 kW
Peak Power	~2.4 - 2.7 kW
Rated Voltage	48V / 60V
Rated Speed	~2400 RPM
Max speed (No Load)	~3500 RPM
Peak Torque	32 Nm
Efficiency	>91%
Cooling	Passive Air Cooling

ELECTRICAL PARAMETERS

Operating Voltage Range	42V - 60 V
Controller Compatibility	UART
Current Rating	50A - 55A
Regenerative Braking	Supported
Protection	IPX4

NVH & DURABILITY

Noise Level	<80 dBA
Vibration Profile	Up to 10G
SST (Salt Spray Test)	480 hrs
Thermal Stability	Optimized for Urban Duty Cycle

KEY FEATURES

- ✓ In-house made dual-speed gear box
- ✓ Integrated Motor + Axle Design
- ✓ High efficiency >91%
- ✓ Low Noise Operation <80dBA
- ✓ High Durability for Urban Duty
- ✓ Optimized for Stop-start Traffic
- ✓ Designed & Manufactured in India

KEY BENEFITS

- ✓ Lower Cost per Km
- ✓ Higher Uptime for Fleet Operators
- ✓ Smooth Torque Delivery in Stop-go Traffic
- ✓ Reduced Maintenance Requirements
- ✓ Designed for High Utilization and Long Life

INTEGRATION & COMPATIBILITY

- ✓ Compatible with Standard 3W Chassis Platforms
- ✓ Supports UART Protocol
- ✓ Easy Integration with Esync Controllers & Battery Systems
- ✓ Customizable Gearing Based on Application

MATERIALS & CONSTRUCTION

- ✓ High-strength Steel Axle Tubes
- ✓ Forged Brackets for Structural Integrity
- ✓ Precision Machined Gears (In-house)
- ✓ Sealed Housing for Contamination Protection

PRODUCTION LINE TESTING

- ✓ Resistance & Inductance Testing
- ✓ Hi-Pot Testing
- ✓ Torque Speed Validation
- ✓ Efficiency Testing
- ✓ Noise Testing

TESTING & VALIDATION



VALIDATION TESTING

- ✓ Thermal Behaviour
- ✓ Vibration & Durability
- ✓ Endurance Testing
- ✓ Field Lifecycle Testing
- ✓ Water & Dust Resistance Testing

APPLICATIONS



E-RICKSHAW



CARGO E-LOADER



E-MOBILITY FLEETS

QUALITY & MANUFACTURING

- ✓ 100% In-house Gear Manufacturing
- ✓ Automated Assembly Lines
- ✓ Robotic Welding & Sealant Application
- ✓ End-of-line Testing
- ✓ Full Traceability Systems

480 hrs
SALT SPRAY
TESTED

IP65
PROTECTION



ENGINEERED FOR
REAL-WORLD PERFORMANCE



BUILT FOR RELIABILITY
DESIGNED FOR INDIA



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