



AGV • AMR WHEEL DRIVE

XR15-W (151x140x50mm)

ULTRA-LOW PROFILE WHEEL MOTOR

PELONISTECHNOLOGIES.COM





The XR15-W Wheel Drive is a flexible solution for Automated Guided Vehicles (AGVs) and Automated Mobile Robots (AMRs) that are designed for low-voltage applications.

Its external rotor configuration, featuring high-performance rare-earth magnets rotating around a stationary winding, makes it an excellent choice for various wheel-based systems.

Whether you're constructing a mobile robot, an automated vehicle, or industrial machinery that relies on wheel propulsion, the XR15-W can deliver reliable and efficient performance.

COMPACT SIZE AND POWER

Despite its compact dimensions, the XR15-W generates a continuous torque of 8 N-m at 450 RPM. This balance of power and size makes it suitable for applications where space is limited but performance remains crucial. The motor operates efficiently at low voltage levels, making it suitable for battery-powered applications.

DIRECT DRIVE WITH INTEGRATED ENCODER

The XR15-W Wheel Drive offers a direct drive solution, eliminating the need for additional gears or transmissions. The built-in high-resolution encoder ensures precise position feedback, enabling accurate control and navigation.

PLUG-AND-PLAY INTEGRATION

The XR15-W comes as a complete solution, ready to be seamlessly integrated into your robot. Simply add a compatible tire to match your specific application, and you're ready to go.

Its plug-and-play nature facilitates easy integration into existing systems, making it ideal for rapid deployment and development.

MULTIPLE DRIVE WHEELS

The systems design allows using multiple XR15-W drive wheels on a single vehicle and has benefits of:

Higher Weight Payloads: Distributing the load across multiple wheels enables handling heavier payloads.

Higher Speed Applications: Using multiple wheels enhances the overall speed capability of the vehicle.

DUST AND MOISTURE PROTECTION

The XR15-W comes in an IP54-rated housing, providing protection against dust and water ingress. This makes it suitable for various environments, including warehouse floors and refrigerated storage.

RELIABLE OPERATION

The XR15-W incorporates a frameless motor design, reducing mechanical complexity and ensuring maintenance-free operation. It also includes an integrated thermal sensor for temperature monitoring and overheat protection, contributing to its long life expectancy.

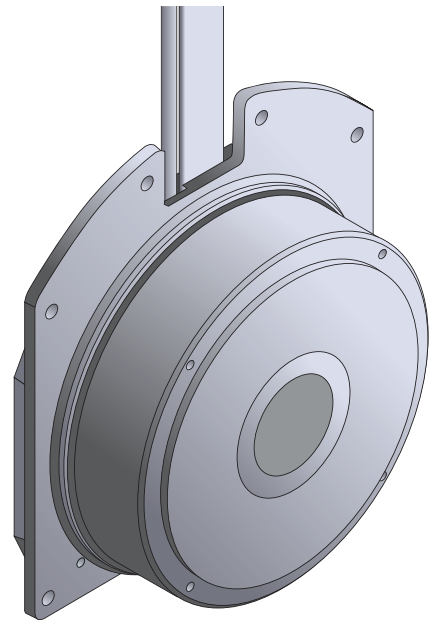
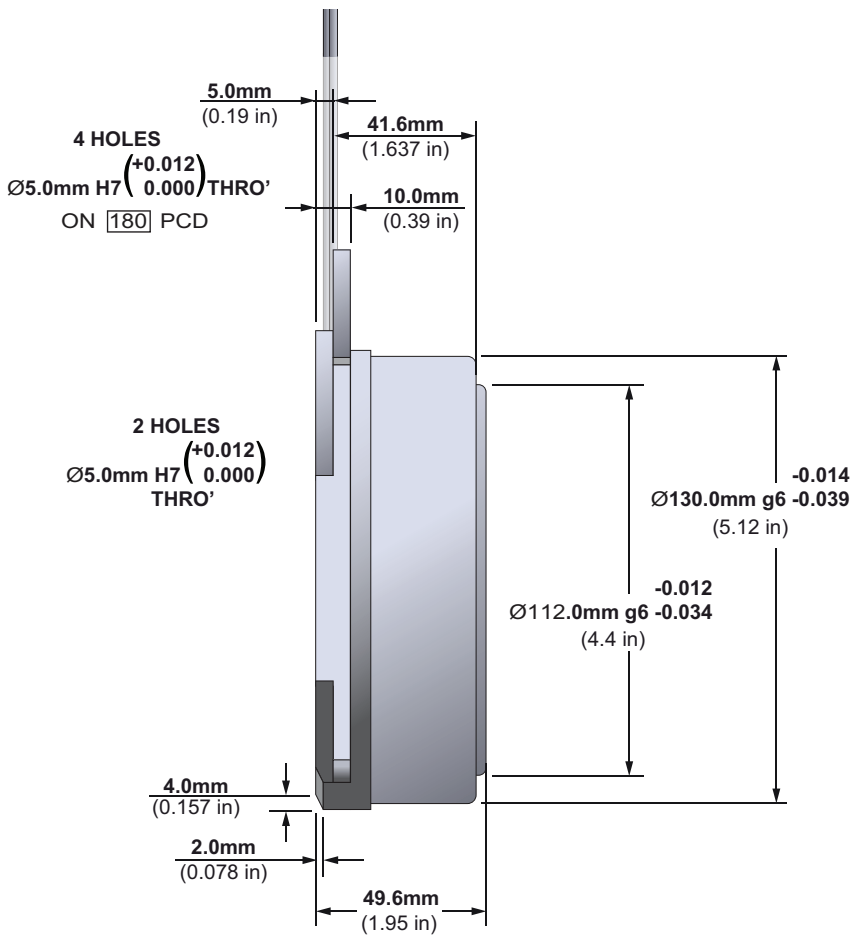
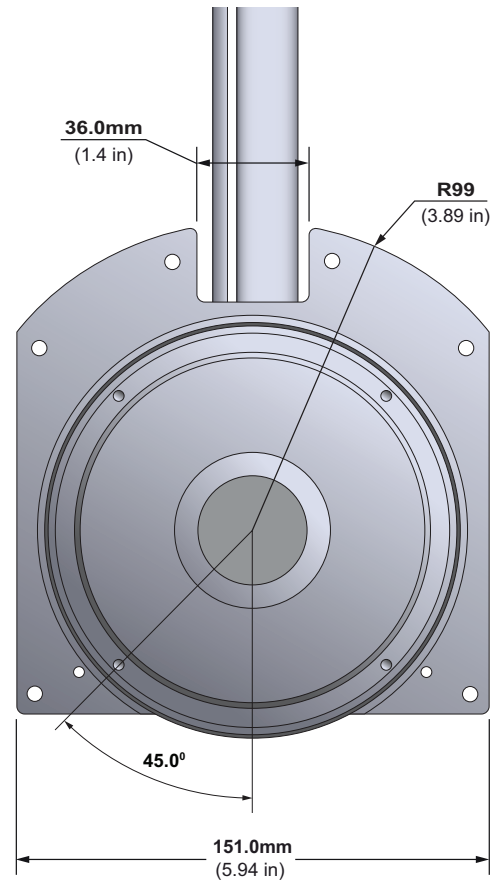
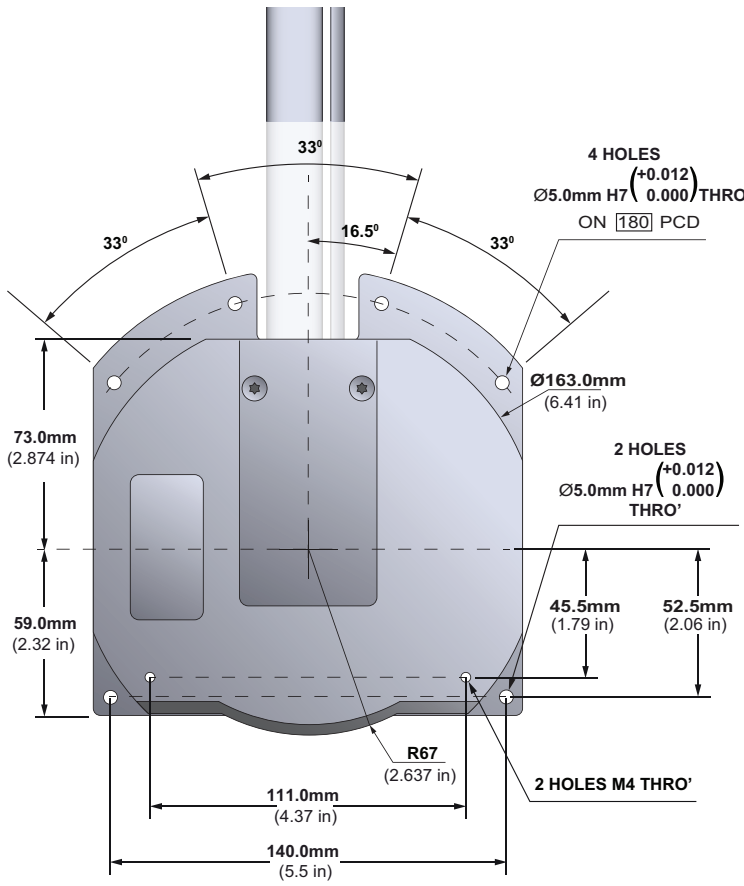
APPLICATIONS

- Warehouse Picking and E-Commerce Fulfillment
- Material Handling
- Logistics and Warehousing
- Pharmaceuticals
- Automotive
- Food and Beverage
- Hospital Transport and Mobility
- Security and Inspection
- Retail
- Automated Delivery
- Indoor Farming and Agriculture

The XR15-W streamlines wheel drive solutions, positioning it as a reliable option for automation, robotics, and other low-voltage applications. It seamlessly integrates with multiple "COTS" drive electronics.

For additional information or for assistance with your application, contact us at sales@pelonistech.com.

| Performance Specifications | | |
|-------------------------------------|---------------------------|---------|
| | Value | Units |
| Rated Torque | 8.0 | Nm |
| Rated Speed | 580 | RPM |
| Rated Power | 486 | W |
| Peak Torque | 13.0 | Nm |
| Speed at Peak Torque | 460 | RPM |
| Electrical Specifications | | |
| Rated Voltage | 42.0 | Volts |
| Rated Current | 12.0 | ARMS |
| Torque Constant Kt ($\pm 10\%$) | 0.46 | Nm/ARMS |
| Velocity Constant Ke ($\pm 10\%$) | 0.56 | VS/rad |
| Pole Pairs | 8 | |
| Encoder Resolution | 4,096 Differential Output | PPR |
| Integrated Thermal Sensor | 10K Ω NTC | |
| Mechanical Specifications | | |
| Overall Mass | 2.65 | kg |
| Max. Axial Load (@120mm PCD) | 1,000 | N |
| Max. Radial Load | 650 | N |
| Max. Moment Load | TBA | Nm |
| Environmental Specifications | | |
| Operating Temperature | -10°C to +40°C | |
| IP Rating | IP54 | |



INNOVATION IN MOTION



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