37Nm Autonomous Rack System

DCE is the market leader in providing Electric Power Steering, with a range of solutions available.
Our electric steering rack can be used for manual (when optional EPAS16 CTS is added) or autonomous applications and is designed to replace the original steering rack.

- Ideal for small autonomous vehicles such as people mover pods and delivery vehicles.
- Complete powered rack to replace the existing manual steering rack.
- Input shaft allows manual as well as autonomous control.
- System can provide up to 37Nm / 27 ft.lb of torque to the rack pinion.
- CAN Bus control using one of the three following options:
    - Sending a simulated torque sensor signal.
    - Sending a +/- duty cycle demand for direct control of the EPAS motor.
    - Sending heading and gain request for the EPAS motor to steer to.

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Parts required:

- 1x EPR02 Electric Powered Rack
- 1x EPAS18A Autonomous ECU
- 1x EPAS19 Wiring Harness
- 1x PNA1141 1080 Degree Steering Angle Sensor

Technical Specification

Operating Voltage	Nominal 13.8V DC
Maximum current draw	80 Amps
Powered Rack Weight	6.3kg / 13.89lbs
Maximum Torque Assist On Pinion	37Nm / 27ft lb.
No Load Rack Travel Speed	110mm per second
IP Rating (with steering gaiters fitted)	IP65
Operating Temperature	-20 to 120°C / -4 to 248°F
Motor Rated Power	220 Watt
Input Pinion Spline Pattern	9/16” x 36
Rack Travel	109.65mm
Rack Ratio	64.5mm per pinion revolution
Lock To Lock	1.7 turns
Rack Bar Threads	M16 x 1.0

For every 10Nm of force applied to the pinion, a tangential force of 973.4N is generated at the rack bar end.

Optional Accessories

EPAS07b	Input Straight Coupler
EPAS16	CTS (Contactless Torque Sensor - DTM)

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