

Category	Scrambler
Product Overview	<p>A micro-mobility masterpiece! The fully-loaded HyperScorpion features a massive 1,000W Bafang motor to fuel off-road speeds up to 30mph. Equipped with a 52V/19.2Ah battery, the HyperScorpion is capable of an impressive 70+ mile riding range.</p> <p><i>Due to ongoing supply chain constraints in the e-bike market, components listed are subject to change without prior notification. All new components have been carefully tested and inspected to ensure they meet, and in most cases exceed, the performance standard of the item we are replacing.</i></p>
Key Features Overview	<ul style="list-style-type: none"> 1,000 W RetroBlade Geared Hub Motor 28 MPH Top Speed / Class 3 30+ MPH Top Speed Throttle Only Performance 52 Volts Advanced Battery System 19.2 Ah (995 Wh) Hyper Extended Range Battery 995 Wh Capacity 35 Amp Peak Controller (1,800 W Peak) Race Track Mode Setting Tektro Hydraulic Disc Brakes LCD Advanced Matrix Display Torque and Cadence Pedal Sensor Half Twist Throttle Included 1A USB port 8 Speed Shimano Cassette Transmission 20" x 4.25" Puncture Resistant Tires 100 dB Motorcycle Horn LED Front and Rear Lights with Turn Signals Rear Rack and Fenders Included Standard Lock on Grips
Color Options	<ul style="list-style-type: none"> Blue / Semi Gloss Black / Glossy Brushed Aluminum / Glossy <p>Note: 3 Layers paint Graphics placed under final clear coat</p>
Frame Sizes	One Size - Step Thru Frame
Motor	<ul style="list-style-type: none"> 1,000 Watts / Juiced-Bafang / RetroBlade 1,800 Watts peak power @ 35A 90 Nm Peak torque 5:1 Geared hub motor for higher torque output 425 RPM Super high speed winding Custom designed RetroBlade cast aluminum wheels Low-drag freewheeling clutch Shimano cassette standard
Battery Pack	<ul style="list-style-type: none"> 52V / 19.2 Ah Hyper Extended Range Battery 52 Volts system (14S6P Configuration) 995 Wh Capacity LG Chem (Korea) 45 Amp high rate BMS 84 Cells / 18650 Type Custom designed wide format inclosure Lockable and removable from the bike On-bike and off-bike charging capable 8 Amp charge capable 3-Pin XLR Charge Port Dual fuse setup IP 67 Illuminated power button 3C Discharge rating 600 Charge cycles to 60%

Controller	<p>12 Transistor / 35 Amp Peak Sine wave FOC Customized tuning algorithm Key switch ignition start Thermally managed 52V LED light output Overboost function Fully potted resistant construction Cruise control function Walk function XT60 connectors DC-DC 12 V converter up to 10A Firmware upgradable</p>
Performance	<p>Default Configuration: Class 2 E-Bike 20mph (32 km/h) Class 3 Capable: 28 mph (45 km/h) Optional Configuration: Class 3 and Class 1 E-Bike Optional Configuration: Race Track Mode: 30+ mph in Pedal Assist & Throttle *Configurations can be adjusted from the LCD display</p>
Throttle Control	<p>Half Length Twist Throttle (included) Default Throttle set to 20 mph per e-bike regulations User unlockable up to 30 mph in Race Track Mode</p>
Pedal Sensors	<p>Advanced Torque and Cadence Dual Sensor</p> <p>Torque sensor (included) Rear Drop-out frame-mounted strain gauge 1,000 samples per second</p> <p>Cadence sensor (included) 104 poles per crank revolution (maximum) Digitally filtered output</p> <p>Controller Software Athletically tuned assist software using the torque sensor, cadence sensor, speed measurement, voltage and controller temperature to modulate motor output. Intelligent pedal assist and throttle blending algorithms.</p>
Display Interface	<p>LCD Matrix Display Matrix Display with 120 x 64 Pixels Customized interface with 3-button layout 7 Levels assist: 0, ECO, 1, 2, 3, SPORT (28 mph), RACE (Unlimited) Basic and Advanced display modes Water resistant IP65 Backlit illuminated display 5 Pin quick-connect cable with brass lock-ring Auto start (Key switch start)</p>
Advanced Display Mode	<p>Toggle Advanced Display Mode to see following real-time metrics: Speed Trip Distance Volts Wh/mi Efficiency Amps Watts Controller Temperature Odometer Amp-Hours Watt-Hours Assist Level Setting</p> <p>*Hold Assist Up + Power button for 2 seconds to toggle Advanced Display Mode. **Hold Assist Down + Power Button for 2 seconds to reset Trip Counter</p>

Assist System's Functions	<p>Active Cruise Control Function Locks in any speed below 20 mph. Speed will be maintained without pedaling or using the throttle until: the brake is applied, pushing any button or giving additional throttle input. Pedaling can increase the speed, but e-bike will return to the pre-set speed if pedaling stops.</p>
	<p>Walk Function Push-button throttle limited to 6 kmh to assist when pushing or walking bike.</p>
	<p>LED Head Light Control Turn on the LED headlight light from the display console. Option to allow the headlight always stay on.</p>
	<p>Display Backlight Control Turn on the display's backlight to see the screen at night. Option to allow the headlight to always stay on.</p>
	<p>Torque Sensor Deactivation Function Turn off the torque sensor signal. The pedal assist will only use the cadence sensor input.</p>
	<p>Speed Limiter Set the maximum speed limit of the throttle or pedal assist system.</p>
	<p>Assist Level Limiter Set the maximum assist level that can be selected: ECO, 1, 2, 3, Sport or Race</p>
	<p>Low Voltage Limiter Set the lowest voltage allowed by the electric drive system. Used to control how deeply the battery is allowed to discharge.</p>
	<p>Display Brightness level Set the brightness level of the display</p>
	<p>Wheel Circumference input Set the precise wheel circumference in mm.</p>
<p>Race Track Mode Pedal assist is set to the most aggressive setting. The bike is not electronically speed limited. The top speed will be limited only by the power available to the motor. Use this setting on non-public roads only.</p>	
<p>Gear Following Mode Positive current to "follow" the planetary gear when the e-bike is coasting in Race Track Mode. Faster motor response to throttle input.</p>	

Charger	<p>52V / 2 Amps Standard charger (included) 2 Amps max charge rate 3 Pin XLR Connector UL Certified On-bike and off-bike charging</p> <p>52V / 4 Amps Turbo charger (optional) 4 Amps max charge rate 3 Pin XLR Connector UL Certified On-bike and off-bike charging</p> <p>52V / 8 Amps Advanced fast charger (optional) Grin Tech / Cycle Satiator 8 Amp max charge rate 3 Pin XLR connector UL Certified 80% Charge setting Storage charge setting Fully programmable Water resistant On-bike and off bike charging</p>
Range	See Real World Range Chart at Bottom of Page
Top Speed	See Top Speed Performance Chart at Bottom of Page
Wire Harness	<p>Wire harness 1-to-5 Quick connect cable 1 Amp USB Power Port Brass lock-ring Water resistant</p>
Frame	<p>6061 Aluminum Heat Treated Frame Integrated & removable down-tube battery Custom Designed Hidden cable channel system CNC battery compartment Water bottle cage mount Rear pannier rack mount Fender stay mounts 275 lbs (120 kg) total payload rating</p>
Rear Suspension	<p>Steel Spring Suspension Length: 310 mm</p>
Wheels	<p>Custom designed cast aluminum wheel Retro Blade front wheel Flat Black</p>
Spokes	Spoke-free Design
Tire	<p>Innova HV-5189 Custom with 5mm Layer Size: 20" x 4.25" Tread: Sheet Pattern Circumference: 1770 mm Protection: 5 mm puncture protection layer Tube: 20 x 4.0 Schrader valve Max Pressure: 35 psi Recommended Pressure: 25 psi</p>
Brakes	<p>Tektro HD-E350 Hydraulic Disc Rotors: Front: 180 mm Rear: 160 mm Hose: Front: 1,000 mm Rear: 1,850 mm Pad: Low-noise organic compound E10.11 B01S Style</p>
Transmission & Derailleur	<p>Shimano 8 Speed 11-32T Cassette Twist Shifter</p>
Bottom Bracket	<p>Neco B910 Axle Length: 164 BB Length: 100 mm Taper: English Square</p>
Transmission Chain Ring	<p>Pro Wheel 56T 170 mm Crank Outside and Inside chain guide</p>

Chain	KMC Z7 RB Rust Buster 8 Speed Compatible 128 Links
Pedals	Platform Pedals Wellgo B249DU Polymer bearing
Fork	Triple Clamp Fork Lockout: Hydraulic Lockout Steertube: 28.6 mm (1-1/8 Threadless) Dropout: Bolt-on
Grips	Velo Lock-on grips Clamp Diameter 22.2 mm
Handle Bar & Stem	Custom Designed Tall Moto Handlebar Clamp: 31.8 mm clamp Stem: 28.6 mm (1-1/8 Threadless) Length: 40 mm
Seat Post & Seat	Custom Designed Padded Single Seat Seat Length: 40 cm Seat Height: 12 cm Tall Seat Extender Option Available
Mud Guard	Front and rear mud guards Included Aluminum Flat black
LED Head Light	Custom Designed 2,000 Lumen Headlamp w/ Halo DRL 4 Element projector high beam LED Halo ring daytime running light CREE 20 Watt LED Powered by main battery Waterproof design IP69 Display controlled on/off function Halo Switch controller on/off high beam LED
LED Tail Light	Rear Combo LED Light with Brake Light and Turn Signals Always on taillight LED brake light function Right and left turn signals White LED license plate illuminator
Mirrors	Right and Left Mirrors (included) Standard 8mm thread base
Horn	Integrated 52V Motorcycle Horn Super Loud 100 dB 52 V Switch controlled
Rear Rack	Custom Designed Rack (included) Powder Coated Aluminum Pannier Rail Light Reflector holder 4 point frame mounted 50 lb (25 kg) rack payload
Weight Limits	Bike Weight Limits: 275 lbs (125 kg) total payload rating Rack Weight Limits: 50 lb (25 kg) rack payload
Warranty	1 Year Limited Warranty

Riding Range with included 52V / 13Ah battery (673 Wh)

Riding Style	Wh / mi	Range Miles	Range km
Economy Riding	10 wh/mi	67 Miles	112 km
Medium Speed Riding	15 wh/mi	45 Miles	75 km
Fast Speed Riding	20 wh/mi	34 Miles	56 km
Aggressive Riding	30 wh/mi	22 Miles	37 km

Riding Range with included 52 V / 19.2 Ah battery (995 Wh)

Riding Style	Wh / mi	Range Miles	Range km
Economy Riding	10 wh/mi	100 Miles	166 km

Medium Speed Riding	15 wh/mi	66 Miles	111 km
Fast Speed Riding	20 wh/mi	50 Miles	83 km
Aggressive Riding	30 wh/mi	33 Miles	55 km

E-BIKE MODEL	PEDAL ASSIST SPEED			THROTTLE ONLY SPEED	
	Class 2*	Class 3	Race Track Mode	Class 2 & 3	Race Track Mode
Scorpion (Spoke or Mag)	20 mph	28 mph	28 mph	20 mph	Up to 28 mph
HyperScorpion	20 mph	28 mph	30+ mph	20 mph	30+ mph