HEINZMANN®
thinking in drive and control

DIRECTPOWER

SYSTEM INFORMATION

Wheel hub-drive
Powerful and persevering

HEINZMANN bicycle drives of the DirectPower series are characterised by innovative technology and their flexibility.

The control unit is optionally available in a separate housing or integrated in the battery housing. In this way it can be flexibly used in different systems. The power electronics are located outside the motor. They are therefore not affected by possible engine heating and hence the system performance is not reduced. Depending on the engine different installation situations are conceivable.

The regenerative system can recharge when driving downhill and braking. This means that a greater range can be achieved. Standard dimensions of the bicycle industry are adhered to, which facilitates integration.

The DirectPower System gives our customers the greatest possible flexibility in product design. After sales service and spare parts planning are thus made much easier.

The possibility of having the drives rotate in both directions means that there is a wide range of applications, even outside the e-bike market e.g. for small cargo bicycles.

FEATURES

- EC wheel hub motor
- Rear wheel drive (version 180-25 also suitable for front wheel installation)
- Gearless and brushless
- Wear free and noiseless
- Support up to 50 km/h*
- Rated power up to 500 W*
- Regeneration
- Brake disc mount
- Plug-in cassette can be used
- External power electronics, no impairment of motor performance
- Reverse drive possible for special applications possible

* Licensing regulations and insurance obligations must be observed!

TECHNICAL DATA

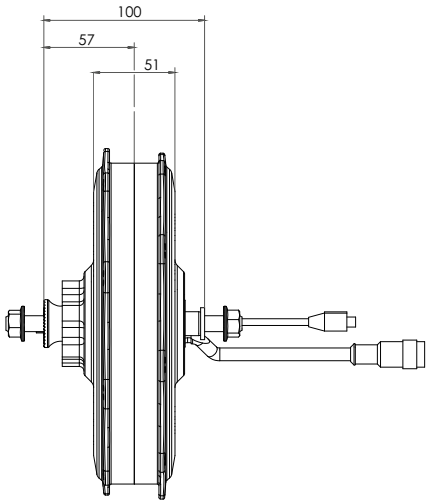
Motor data		PRA 180-25	PRA 180-30
Rated power		250 W	500 W
Nominal speed		210 min^{-1}	210 min^{-1}
Typical speed limit in km/h according to rim size	20“ 24“ 26“ 28“	25 km/h 32 km/h 34 km/h 37 km/h	 35 km/h 38 km/h
Rated torque		11.4 Nm (S1)	22.7 Nm (S2, 30 min)
Impulse torque		60 Nm	60 Nm
Weight		4.5 kg Front wheel 4.7 kg Rear wheel	5.2 kg Rear wheel
Cooling		by airstream > 5 m/s	by airstream > 5 m/s

Electrical data		
DC supply voltage	36 VDC	36 VDC
Motor voltage	22.8 VAC	25 VAC
EMF constant	84.5 V/1000 min^{-1}	89.7 V/1000 min^{-1}
Torque constant	1.22 Nm/A	1.41 Nm/A
Resistance phase-phase	244 mΩ	250 mΩ
Winding inductance phase-phase	1.4 mH	0.82 mH
Degree of protection	IP54	

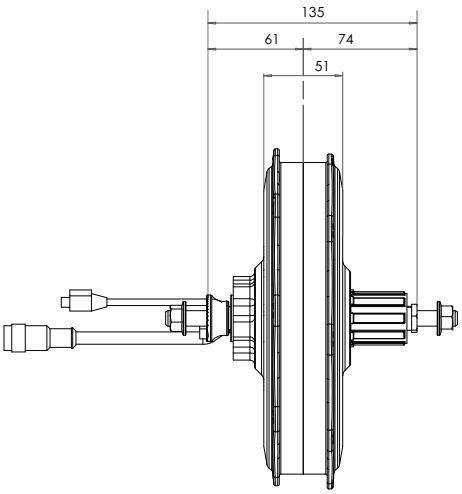
Sensors		
Motor feedback	Hall sensors	Hall sensors
Temperature sensor	KTY84-130	KTY84-130
	Varying performances or driving speed possible on request.	

DIMENSIONS

PRA 180-25

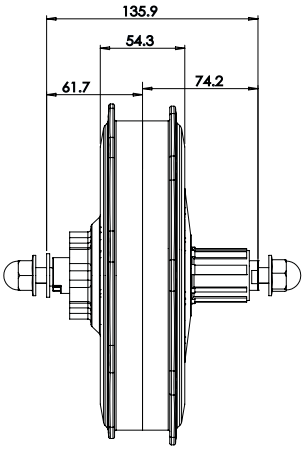


Front wheel PRA 180-25

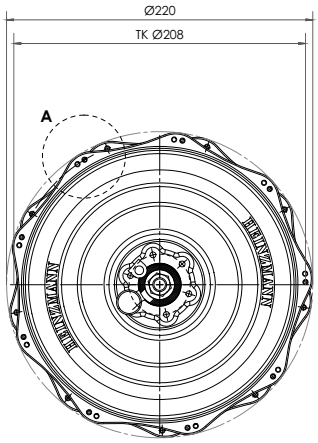


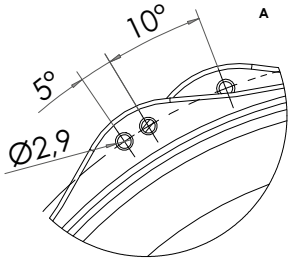
Rear wheel PRA 180-25

PRA 180-30



Rear wheel PRA 180-30





APPLICATIONS

- E-Bikes
- Rehab vehicles
- Pedelecs
- Special vehicles

SYSTEM COMPONENTS DIRECTPOWER

Control

Drive control in the luggage carrier or on the downtube
Pre-programmed for various merchantable torque sensors
Various parameters can be adapted by the customer to set an individual driving style (support levels, assisted pull-away and many more)
Optimal monitoring of the electrical system
Integrated safety routines
Software can be updated via interface
Optionally prepared for regenerative braking and equipped with brake levers with switches
Assisted pull-away can be parameterized via a control element on the display or via handle bar

Battery pack

Integrated in the luggage carrier
Safe, tested and proven lithium ion technology
Carrier battery: 36 V/11 Ah
Passive cell balancing increases the service life of the battery pack
Technically, mechanically and visually sophisticated
Magnetic plug connections for quick mounting of the battery
Watertight and robust
Shock and vibration resistant

Luggage carrier

Universal e-bike carrier
Aluminium tube 10 mm, weight 1000 g
Outstanding weight/stability ratio and lateral rigidity
Corrosion-resistant
Various adaptation options through the builtin Quick Snap System
With LineTec lighting
Max. load limit 30 kg

SYSTEM COMPONENTS DIRECTPOWER

Torque sensor

The system is preset and tested for a range of torque sensors.
Additional adaptations can be made for the torque sensor of your choice.

Cadence sensor

- Mounting at bottom bracket
- Mounting on both sides possible, enhanced resolution 48 pulses or common resolution 12 pulses per rotation
- Cable length on request

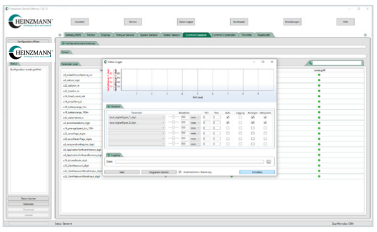
Twist grip

- To be combined with display and control unit
- For handlebars with a diameter of 22.2 mm

Display

- Separate control unit on the handlebar operable with the thumb for safe traveling
- Clear display of key operating data
- Quick setting of support levels
- Simple activation of assisted pull-away
- Bicycle anti-theft protection through userspecific PIN
- Easy to read, even in bright conditions

Service Software



- Clear user interface
- Quick troubleshooting in the event of faults
- Built-in wizard for convenient quick configuration
- Parameters can be set easily by the dealer
- All major system parameters can be configured in the field
- Protection system against plant data manipulation
- Control firmware can be updated in the field
- Automatic Internet

HEINZMANN GROUP

HEINZMANN is a globally active family business founded in 1897 with its headquarters in Schönau (Germany), in the Black Forest.

Today, in the field of engine management HEINZMANN is one of the leading suppliers of components and systems for industrial combustion engines, generators and turbines. As a specialist and development partner, HEINZMANN is committed to developing exactly the right solution for increasing efficiency and reducing emissions.

In the Electric Drives division, HEINZMANN also demonstrates innovative strength and development expertise in engine technologies of the future. The company has established itself as a reliable partner and system provider for electric drive systems.

Our collaborative interaction with more than 40 globally active subsidiaries and sales companies characterizes the spirit within the HEINZMANN group of companies and makes us a reliable partner.

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