EVBIKE – LCD Display Control –

– User Guide –

WWW.EVBIKE.CZ

Import to EU: Global World Logistic Ltd., 6 Bexley Square , Salford, Manchester, M3 6BZ, United Kingdom

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Thank you for purchasing an EVBIKE product and we hope that you will become a happy user. **Carefully read the entire manual prior to installation and first use!** If you find in the instructions information that would prevent you from using the product, please return it before installing in its undamaged original packaging. For the current warranty conditions and the possibility of returning it, please contact your dealer who can advise you on how to proceed.

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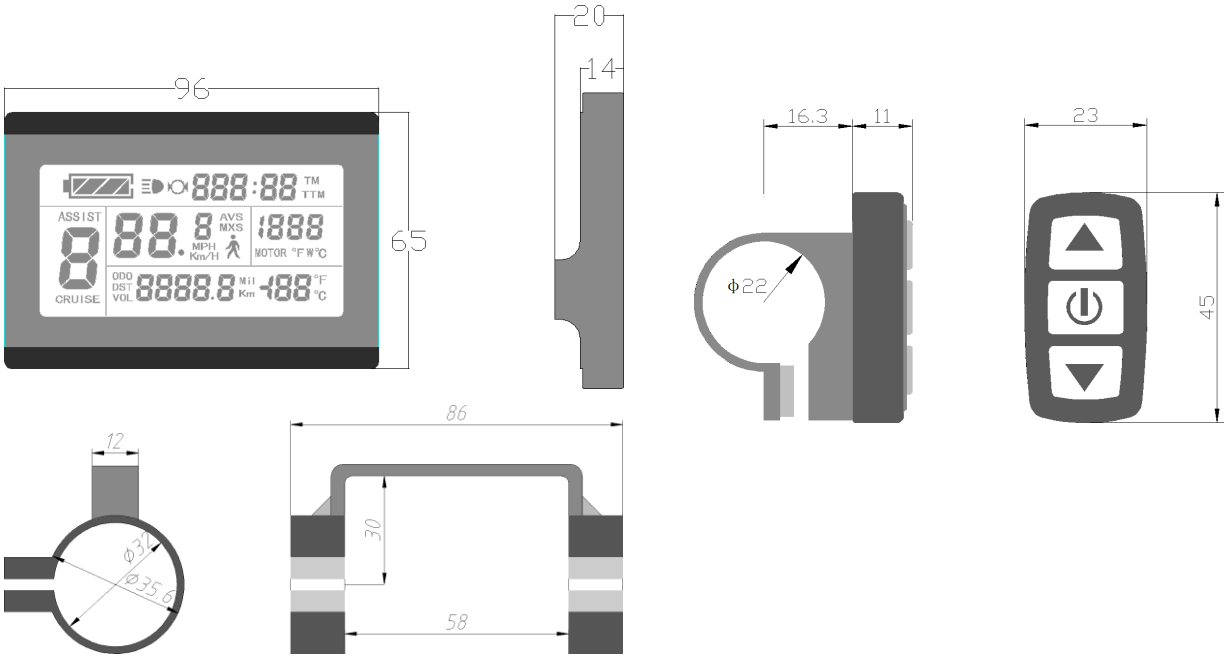
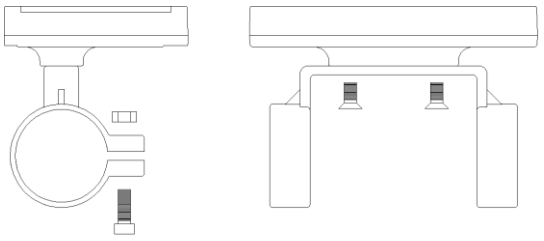
1) Description of the individual components and installation:

Dimensions are in mm. Figure 1 - LCD display, 2 - LCD display mount, 3 - button control.

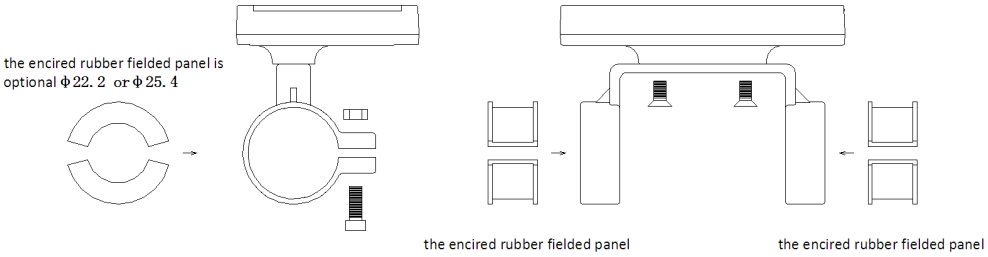


To install the handlebars with a diameter Φ 31.8mm, leave out the spacer rings:



Lateral View Meter and Dual Bracket View

To install the handlebars with a diameter Φ 22.2mm, use the supplied spacer rings:



Lateral View Meter and Dual Bracket View

Be careful to use reasonable force so as to not break the holder. A typical installation is shown below.

2) Description of the measured variables and user control display:

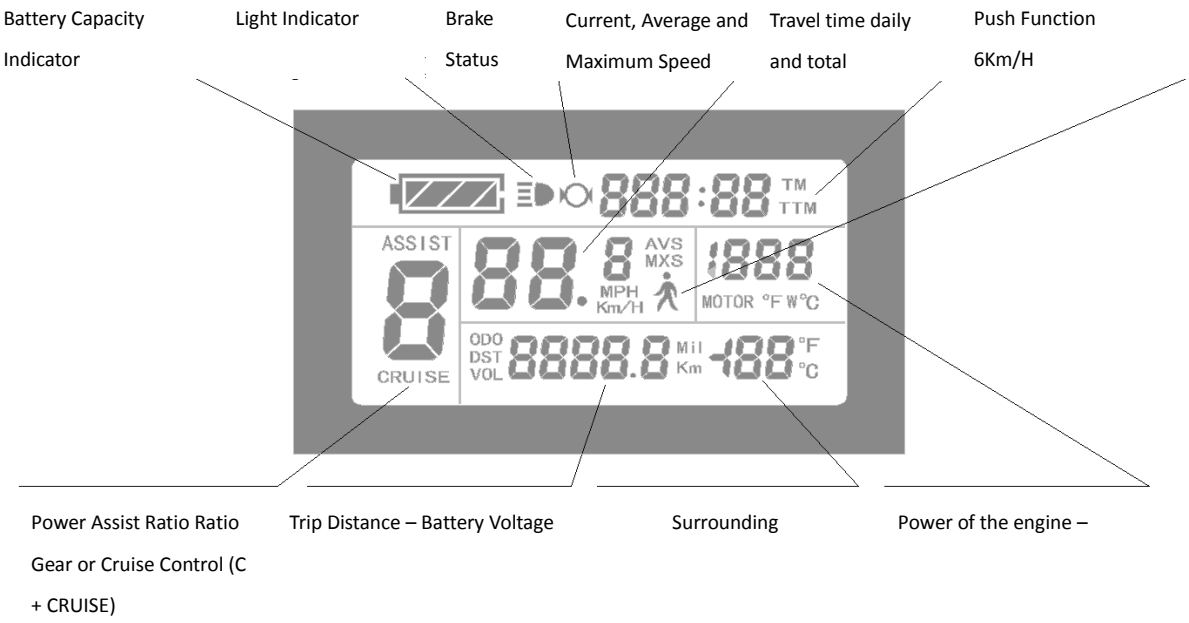
2.a LCD control panel allows the EVBIKE to measure the following quantities:

1) Travel time - since the last reset (TM) and overall (TTM)
2) Speed (km / h or MPH) - current speed, maximum speed recorded during the ride (MXS) and average speed (AVS)
3) Mileage distance - Daily kilometers (DST) and the total distance (ODO)
4) Indication of drive and function accelerator
5) Indication of drive and function PAS (**P**edal **AS**sistant)
6) Setting the degree of strength PAS (**P**edal **AS**sistant)
7) Activates function pushing the bike with speed up to 6 km / h ()
8) Activates cruise control (**C** - Cruise)
9) Indicates the approximate state of the battery, when flashing: function recovery * ()
10) Condition of the battery voltage in Volts (**VOL**)
11) Measures the of power of the engine in Watts (**W**) – current drain on the battery
12) Indicates the compression of the brake levers, when flashing function recovery * ();
13) Indicates light activation ();
14) Surrounding temperature in ℃ or ℉.
15) Deletes the distance traveled and the travel time

16) Error messages

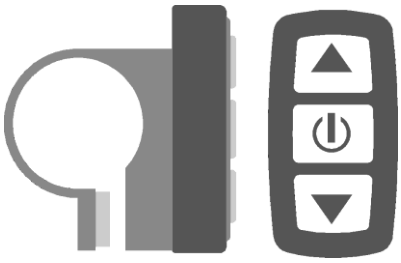
*Recovery function is disabled by default and its use is only possible when using an approved battery and correctly dimensioned mounting on the motor axis.

Description of LCD display symbols:



2.b Description of the control buttons:

On the control panel you will find three buttons  arrow up (UP),  switch ON/OFF (SW) a  arrow down (DOWN).



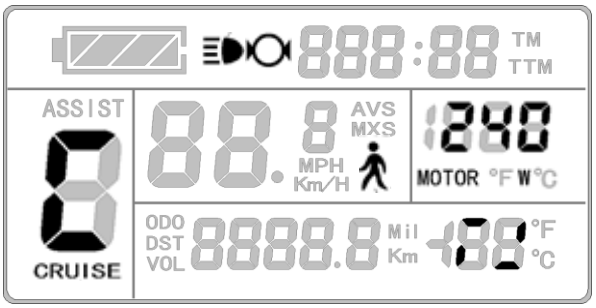
To turn ON/OFF hold (SW)  button. The system is protected against unnecessary battery discharge. In case of inactivity, i.e. the system does not indicate any riding activity for longer than 5 minutes, the system will automatically switch off and the battery does not consume any energy. To protect against deep battery

discharge always follow the instruction manual for the battery.

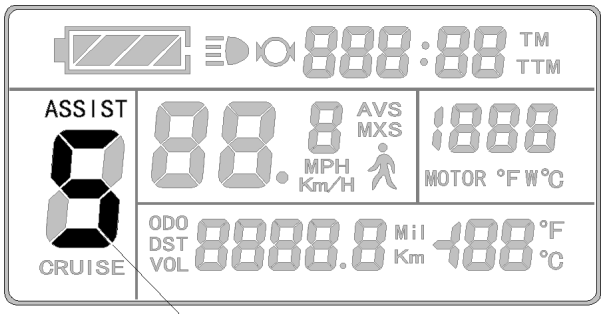
Quickly pressing the(SW)  button switches between the screens and displays the individual measured variables. If during the ride you switch from the home screen to screen No.2. average speed (AVS) or to screen No.3. achieved maximum speed (MXS), after 5 seconds the display again returns to the home screen with the value of the current speed. On the home screen there it will remain either the amount of the daily distance (DST) or information about the battery voltage (VOL.).

2.c The display allows you to view and control the following functions of the system:

- **Assistant for pushing the bike** – () – while the bike is stationary, press and hold the  (DOWN) button, the bike will accelerate to a maximum speed of 6 km / h. This feature is intended to guide the wheel, such as on a very steep hill.
- **Cruise control** – C (CRUISE) – while riding above 12 km / h, press and hold the  (DOWN) button. The symbol (CRUISE) and C will light up instead of displaying the degree of assistance. This will fix a steady speed and maintain it. The function can be immediately deactivated by pressing any button or brake lever.
- **Braking and recovery** - () – the symbol of the brake caliper is displayed after pressing the brake lever. If the recovery function is activated this function will activate after pressing the brake lever. Recharging the battery is shown by a flashing symbol  and gradually recharging battery  . Recovery activation is accessible only by an authorized partner of EVBIKE and before its setting you must verify that the used battery and its protective system supports this kind of charge.
- **Indication accelerator function** – this function symbol indicates the rotating parts around the perimeter of two digital digits 88 on-site display of the surrounding temperature.
- **Power consumption in Watts (W)** – current drain on the battery. Power consumption is approximate. For exact measurements you must use a certified gauge. This figure provides the rider with information on which he can adapt his riding style and achieve a longer ride.
- **LCD display backlight –** to activate, press the button  **(UP)** and hold. The display lights up and this is indicated by the symbol (), hold the button again to deactivate the backlight.

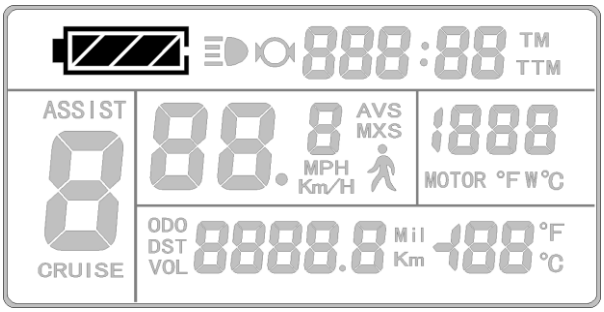


- **Adjusting the level of assistance** – to set higher level of assistance, press the symbol  **(UP),** to set a lower level of assistance press  **(DOWN)**. The assistance levels can be set in increments of 5 degrees. Stage 0 means assistance is completely off and it can be ridden only by the accelerator. Stage 1 means a low grade of help, Stage 5 indicates the highest level of assistance while riding. When assistance is active, its function is indicated by the flashing symbol ASSIST.



Assistance level setting

- **Setting indicative measurement of the battery -** The battery indicator displays an approximate value of the voltage, not the capacity of the battery! The measurement is performed based on battery voltage. In addition, while driving under the influence of a load the voltage changes and it may show a fully empty battery. This is a normal phenomenon that manifests itself depending on the type of battery. For the current status of battery voltage it is recommended to stop and find out the real situation. The battery status can also be watched according to voltage values. For batteries with a nominal voltage of 36V, the voltage 41V and more is equal to a 100% charged battery, when the battery is 33V or less it indicates a used battery. A 48V battery with 54V or more Volts is 100% and 40V and less means that the battery is low. The battery amount indicator in default setting will not function correctly for a 48V battery. In the service center EVBIKE it is possible to calibrate the indicator to measure the correct values for 48V.

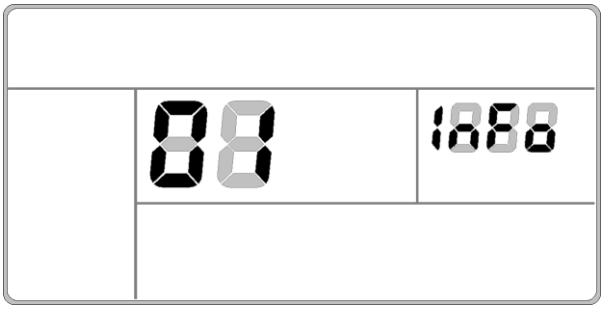


**When there is a completely empty battery, the empty battery indicator will flash.*

- **Deleting the distance traveled and the travel time -** To erase the data on distance milestones (DST) and travel time (TM), wait at least 20 seconds after activation of the LCD display. Then simultaneously press the symbols **(UP)** and **(DOWN)**, after a few seconds, the data on time and distance will blink. To confirm the deletion of data, briefly press the ON/OFF button **(SW)**, this will delete the data. If you do not want to delete the data, leave the display flashing and after 5 seconds it will return to its original state without erasing anything. The data of the total distance (ODO) and total travel time (TTM) can not be deleted.

2.d Error diagnostics and table of error messages:

The LCD display can inform the user in case of error. The fault is declared by a message displayed "info" and the corresponding error code. When such an error is shown, please remember the error number and contact the Service Center for further action.



Some error messages and their descriptions can be found in the following table:

Error code	Error description	Recommended solution
01__info	Accelerator error	May occur if the accelerator is running at startup. Also, if it is damaged and remains hanging in a different position. If the error occurs regularly, you will need to replace it.
03__info	Motor defect (Hall probe)	Control unit does not detect all probes. First, check the connection of the motor and control unit. The pins inside the connector must be undamaged, the mating connector must be fully inserted into the overall counterpart. If

		this error occurs regularly, it will be necessary to stop using the bike and get to a repair service.
06__info	Control unit error (a short in the motor or battery)	Immediately stop the system by turning off the main switch of the battery. Remove the battery from the bracket. After that, check the correctness of the connectors. Also check if the wiring was not mechanically damaged. All contacts must be clean and dry. If this error occurs regularly, it will be necessary to stop using the bike and get to a repair service.

3) Setting the basic parameters of the system:

To access the settings, turn off the LCD screen by pressing  **(SW).** Then turn the LCD on again by pressing (SW) and immediately hold both buttons with symbols  **(UP)** and  **(DOWN).** After about 15 seconds a flashing symbol with speed settings will appear. Individual values can be set by using the buttons  and **(UP)**  **(DOWN).** Switch between the values by pressing the switch  **(SW).** To exit and save the settings, hold  **(SW).**

- **Setting the speed limit -** the setting affects engine shutdown in the event of reaching the set speed. This setting does not affect the maximum speed. The maximum speed that it reaches depends on the battery voltage, the diameter of the wheel with the engine, the weight of the rider and the nature of the terrain. The LCD panel is factory set to fully meet the legislative requirements for the operation of electric bikes on the road. The speed is therefore limited to 25 km / h. This is the default setting. Please do not change when you ride on roads.

- **Wheel diameter** - to correctly measure the distance and speed, it is necessary to set the wheel diameter in which the motor is installed. You can set these wheel diameters: 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 700c and 28 inches. For the speed measurement the unit EVBIKE uses signals from the hall probes of the engine.

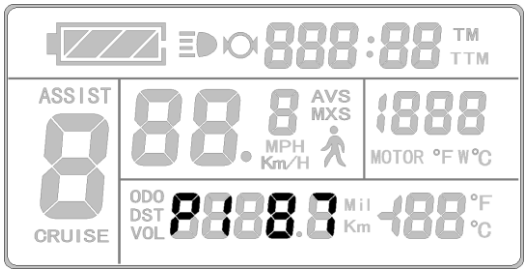
- **Unit settings -** On the last screen you can set your preferred unit of measure for speed, distance and temperature.

System	Metric	Imperial
Speed	km/h	MPH
Distance	km	Mil
Temperature	℃	℉

Three screens with setting of speed limit, the diameter of the wheel, and units.

4) Advanced settings of system parameters:

Enter the settings menu in the same manner as when you set the normal parameters of the LCD display. After setting the speed limit, wheel diameter, and units and use the symbols **(UP)** and **(DOWN)** to bring the display into a state where no symbol settings are flashing on the screen. In case you skipped an opportunity when no symbol in the display does not blink, never mind, just re-use the arrows to return into a state where no symbol is flashing. Now press and hold the symbols **(UP)** and **(DOWN).** You get access to the hidden parameters of the system with the designation P and the number of set values. After setting these values again go into a state where no symbol on the LCD is blinking, and again, press and hold the buttons **(UP)** and **(DOWN).** You now have the option to set the parameters of the next hidden menu labeled C and a number of set values. Save all set values by pressing **(SW)** and return to the initial mode of travel. If you would like again to reprogram one of the values, turn the entire system off and then proceed as described above. If you made a mistake in setting or accidentally changed something you did not want and do not remember the default value, leave the LCD display idle for 1 minute. The LCD display will automatically return to the default riding screen without saving changes. In the event that you saved the wrong settings, select the parameter C10 and set the value of "y" to reset to factory settings.



Sample screen with setting the parameter P and its values

Explanation of individual parameters and their values are shown in the following tables:

code	Parameter description	Value range	explanation of value for setting	warning
GPS	Maximum speed limit	10-72	European standard limits the speed of electric bikes on the road at 25 km / h (default)	Please do not change this value if you use the bike for a ride on the road.
GPS	Wheel diameter	6,8,10,12,14,16,	The default setting is 26“ or 28“, depending on	Please set the proper value to allow for an

	settings	18,20,22,24,26,700c,28	the wheel diameter.	accurate measurement of speed.
GPS	Setting units	Metric/ imperial	Set metric for measurements in km and °C.	Set metric units in EU region.
P1	Characteristics of motor	1-255	The set value is a product of motor gear ratio and number of rotor magnets, rounded to integer (without any tenths).	Never change. When using with motors EVBIKE leave in default setting.
P2	Motor pulse signals	0-6	This concerns a number of signals issued by the Hall probes inside the motor per one wheel revolution.	Never change. When using with motors EVBIKE leave in default setting. When used with motor with freewheel the measurement of speed may not function correctly.
P3	Setting of PAS mode	0-1	0 – in "speed control" mode it functions as a classical Hall revolution sensor. 1 – in "imitation torque control" mode the control unit will simulate a drive with a torsional sensor.	This function switches off, switching on the function of simulation of pedaling torsional sensor. Switch on the function based on the rider preferences.
P4	Setting the accelerator mode	0-1	0 – in "zero startup" mode the accelerator will be functional immediately. 1 – in "non-zero startup" mode the accelerator will be functional after moving off.	This setting enables using the accelerator upon moving off the bike. CAUTION: Setting this function influences the setting of parameter C4.
P5	Calibration of measuring the battery capacity	0-40	0 – switches the function off. The values of 1 – 40 – enable to correct the indicator additionally. We recommend keeping the default value of 15 if you use 36V battery.	If you set the parameter to 15, you get the value for 36V battery. If you set 30, you get the value for 48V battery. Any detail setting depends on the preferences of each driver. The most accurate measurement is always on the basis of the accumulator voltage without any load (when the bike stands still).
C1	PAS sensor settings	0-7	For detailed settings see table 2.	This setting enables changing the direction of rotation of PAS sensor or its replacement for another type with a lower or higher number of magnets.
C2	Motor phase settings	0-7	Default setting of 0 is compatible with most motors on the market. Please do not change this value.	This parameter changes the motor phases, thus enabling its function and correct direction of rotation. Please do not change this value.
C3	PAS sensitivity settings	0-8	0 – gradual reactions when changing the level of PAS. 8 – quick reactions when changing the level of PAS	This setting depends on the preferences of each driver. Gradual reactions are suitable for a calmer ride. For those who want to ride more aggressively we recommend to set this value as high as possible.
C4	Setting the	0-5	For detailed settings see table 3.	This value depends on setting of parameter

	accelerator mode			P4. It enables to set the accelerator to a mode according to requirements of legislation of a specific country.
C5	Limitation of maximum current from the battery and motor power	0-10	For detailed settings see table 4.	This function enables lowering the peak current running through the control unit. This function is suitable for systems with a weak battery or for a slower/more economic ride.
C6	Backlight settings	1-5	For detailed settings see table 5.	LCD backlight settings. Keep in mind that too sharp light may be actually blinding during the ride. We recommend leaving the standard grade – No 3.
C7	Cruise control (CRUISE)	0-1	0 – switched off 1 – switched on	Cruise control function enables keeping the ride speed. Controlling this function is described in a separate chapter of the user guide.
C8	Monitoring motor temperature	0-1	0 – switched off 1 – switched on Currently this function is not supported by the EVBIKE set.	Function only for motors with integrated temperature sensor. Currently, EVBIKE system does not support this function. Keep the setting 0 – switched off.
C9	Secured by password after LCD start	0-1	0 – switched off 1 – switched on + three-character code in the range of 000 - 999	This function makes the ride impossible without entering a three-digit code. You will be asked to enter the code after starting the LCD.
C10	Resetting to factory settings	n-y	n – keeps the original settings y – clears all user settings	Use this function only in case that you need to clear all user settings. Especially in case of wrongly set parameters.
C11	Copying parameters of LCD	0-2	0 – compatible mode 1 – non-compatible mode 2 – cloning mode	This function helps to set LCD display to a mode for cloning the set parameters. It is designed for batch setting of LCD displays to your preferred functions. Keep the default setting.
C12	Limiting the minimum battery voltage	0-7	For detailed settings see table 6.	Allows for decreasing or increasing the value of voltage for disconnecting the battery when there is a drop of battery voltage. This function does not replace a battery protection that must be always present.
C13	Recovery – a mode for recycling the braking energy	0-5	For detailed settings see table 7.	WARNING: Activation of this function may have a major impact on the battery, components and bike frame structure. A strong brake energy may damage the

				battery and its protective electronics. This function also significantly strains the flaps of motor attachment and torque may result in their breakage. We recommend keeping this function switched off. Or keep only a light stage of recovery No 1.
C14	Adjusting strength of PAS	1-3	1 – lower motor assistance with PAS 2 – default motor assistance with PAS 3 – stronger motor assistance with PAS	Setting the intensity of motor assistance when pedaling (PAS). The settings depends on the rider preferences, we recommend setting 2 – default.

Table 2 – PAS sensor settings - parameter C1 – set the proper value according to the number of magnets on the bat. Select a setting preference from the table below.

Rotation direction and number of magnets	C1 value	sensitivity	Direction and number of magnets	C1 value	sensitivity
Forward with 5 signals	00	standard	Backward with 6 signals	05	standard
	01	low		06	low
	02	lowest		07	lowest
Forward with 8 signals	00	high	Backward with 10 signals	05	higher
	01	standard		06	standard
	02	low		07	low
Forward with 10 signals	00	highest	Backward with 12 signals	05	highest
	01	high		06	high
	02	standard		07	standard

Table 3 – Setting the accelerator mode – parameter C4

Value	With setting P4 to "zero startup"	With setting P4 to "Non-zero startup"
0	linear increase of energy from 0 km/h with limitation according to the set stage of PAS	linear increase of energy upon moving off with the help of PAS and with limitation according to the set stage of PAS
1	linear increase of energy from 0 km/h with limitation up to the speed of 6 km/h	linear increase of energy upon moving off with the help of PAS with limitation up to the speed of 6 km/h
2	linear increase of energy from 0 km/h with a fixed limitation up to the speed of 25 km/h	linear increase of energy upon moving off with a fixed limitation up to the speed of < 25 km/h
3	linear increase of energy from 0 km/h, without any limit	accelerator laid off
4	linear increase of energy from 0 km/h with limitation according to the set stage of PAS	increase of energy upon moving off with the help of PAS and with limitation according to the stage of PAS, plus the rider must pedal using PAS
5	the same function as on position 4	the same function as on position 4

Table 4 - Limitation of maximum current from the battery and motor power – parameter C5. For example: If I set parameter C5 to value 3, the control unit lowers the power to 50% of the original one. So if the unit transfers maximally 20 A, after the reduction it is only 10 A.

Value C5	Maximum current (A)
00	-
01	-
02	-
03	The value of max. current ÷ 2.00
04	The value of max. current ÷ 1.50
05	The value of max. current ÷ 1.33
06	The value of max. current ÷ 1.25
07	The value of max. current ÷ 1.20
08	The value of max. current ÷ 1.15
09	The value of max. current ÷ 1.10
10	Without any restriction of the maximum current

Table 5 – seting the level of LCD backlight – parameter C6:

Value C6	Backlight intensity
1	darkest
2	dark
3	standard
4	light
5	lightest

Table 6 - Limiting the minimum battery voltage – parameter C12:

Value C12	Minimal voltage (V)	
	36V	48V
0	default value -2V	default value -2V
1	default value -1.5V	default value -1.5V
2	default value -1V	default value -1V
3	default value -0.5V	default value -0.5V
4	default value **30V**	default value **40V**
5	default value +0.5V	default value +0.5V
6	default value +1V	default value +1V
7	default value +1.5V	default value +1.5V

Table 7 - Recovery – a mode for recycling the braking energy – parameter C13:

Value C13	Braking force	Recovery effectiveness
0	without the braking force	without the recovery
1	braking force – class 1	The best ratio of recovery and braking energy
2	braking force – class 2	The default force of recovery and braking energy
3	braking force – class 3	Higher braking force with a lower ratio of energy recovery
4	braking force – class 4	High braking force with a low energy recovery
5	braking force – class 5	High braking force with a very poor energy recovery

- Guide, version 1.0 – revision of 6/1/2015 -

The importer reserves the right for any changes of functions and is not responsible for any errors or deviations of functions. The importer cannot be hold accountable for any damages resulting from information in the manual. For updated information or if in doubt please always contact the importer or a nearby dealer.

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