

## DEVICE BASE

### General technical features

- a) Power supply voltage from 6.5 to 12 V (allows the use of 6-cell NiMh batteries, 2S or 3S LiPo, LiFePO4 2S or 3S).
- b) LiPo or LiFe 2S-3S direct connection ready.
- c) Full digital control.
- d) Drum turns: 5 max.
- e) Advanced hardware monitoring functions, current consumption, stall current and motor temperature with automatic retry and safety stop after three failed attempts<sup>1</sup>.
- f) Protection against reverse battery polarity.
- g) Advanced control voltages of battery operation, battery undervoltage shutdown with automatic safety stop<sup>1</sup>.
- h) Integrated Power Switch as standard.
- i) Direct connection of the battery to the QuickWinch® electronics to avoid a voltage drop or overheating of connectors.
- j) Automatic transmitter recognition, input signal quality control for maximum reliability, reduced dead band 4µs.
- k) Rc transmitter frequency recognition from 0.9 to 2.1 ms, well within the range of the analog transmitters and 2.4 MHz transmitters.
- l) Logic Microcontroller RISC 8-bit 48MHz.
- m) Power motor control with dedicated power microcontroller VIPower M0™ technology that ensures high efficiency of the system with low power current consumption.
- n) Motor piloting with P.W.M. 10KHz controlled by the P.I.D. algorithm for maximum torque at low rpm.
- o) Motor position control algorithm with P.I.D. function and electronic integrated motor brake.
- p) Receiver power supply U.B.E.C. DC-DC switching converter on board with high efficiency (~85%) with operating frequency of 300KHz, radio control supply voltage of 5 V or 6.5 - 5 A (selectable in the Advanced version, fixed 5V or 6.6V selectable to purchase in the Base version).

<sup>1</sup> The stop safety system ensures the minimum operating voltage for the receiver and the rudder servo, for a time that varies according to the type of receiver, servo rudder mounted and operations performed by the rudder servo.

- q) U.S.B. port for connection to P.C. for free firmware update as standard via the dedicated page on the website [www.aa-parts.com](http://www.aa-parts.com)<sup>2</sup>.
- r) Adjustable parameters with P.C. link through the U.S.B. port and software fast and intuitive (Advanced version).
- s) High quality feedback potentiometer (1 million mechanical cycles guaranteed) and high precision.
- t) High-tech polymer CarbonHF™ gears, carbon fiber reinforced, on ball bearings - 9 sealed stainless steel bearings - 2RS.
- u) Large diameter drum bearing (Ø15mm) for maximum hold under load and maximum precision.
- v) High tech CarbonHS™ body reinforced in carbon fibre.
- w) Standard D.S.D.™ drum<sup>3</sup> Ø 32 mm as standard. Standard drum and Self Tensioning Drum in a part.

### Usable batteries

The system has been designed to use the following batteries:

Battery kind	V	Performance
NiCd-NiMh - 5 cells	6,0	+
NiCd-NiMh - 6 cells	7,2	++
LiPo - 2 cells - 2S	7,4	+++
LiPo - 3 cells - 3S	11,1	++++
LiFePO4 - 2 cells - 2S	6,6V	++
LiFePO4 - 3 cells - 3S	9,9V	++++

LIPo - Life 2S-3S

direct connection ready

### Detailed technical engineering specifications

Specification	<i>pk</i>	<i>6X</i>	<i>pk</i>	unit
No load speed	4	5,5	3,2	n/sec
	0,76	0,54	0,93	sec/300mm
Stall torque	15,6	12,5	30,5	kg-cm
Precision	0,20	0,20	0,20	degree
Accuracy	±0,50	±0,50	±0,50	mm
Standard drum Ø	32 DSD™	32 DSD™	32 DSD™	mm
Dimensions (LxDxH)	51x46x78	51x46x78	53x46x85	mm
Weight	130	130	160	g
Idle current	0,85	0,85	2,20	A
Stand by current	0,02	0,02	0,02	A
No load current	0,25	0,25	0,56	A
Stall current	7,40	7,40	17,21	A
Maximum supply voltage	12	12	12	V
Minimum supply voltage	6,00	6,00	6,00	V
Maximum thickness mounting	1,50	1,50	1,50	mm

<sup>2</sup> The firmware update must be done by the owner of the winch using the software provided free of charge and included in USB flash drive supplied

<sup>3</sup> DSD™: Double System Drum™

### NOTE

n/sec: revolutions per second  
sec/300mm: seconds to wrap 300 mm sheet

DSD™: Double System Drum™  
LxPxH: Length x Depth x Height