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Handbook only for product code

- cod.E0057A      MAC16 power supply of servos management of 16 channels

## Electronic power unit:

# MAC<sup>16</sup>

## Usage handbook



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Dear client,

We express our thanks for your purchase of the power supply for management radio system series **MAC**.

**MAC16** is a unit of management radio system with dual 16-channels with double voltage to handle up to 16 channels of the receiver, double servo outputs for each channel and mixed installations with servos at working voltages 4.8 and 7.4 V.

You could manage easily and safely servos installation at different power.

MAC 16 accepts in fact, for input the power of two independent power sources of equal or different voltage depending on the needs of use.

It feeds directly servos output (double servo output for each channel) with short-circuit protections through two separate power frames which match to the power voltage 1 and to the power voltage 2.

It feeds the receiver by connecting the extension UNI, separately from servos, to the stabilized voltage of 5V 500mA with a voltage created by the redundancy of the two power sources 1 and 2.

Feeding the MAC16 with a power source to 4.8 V to 7.4 V you could easily install on board of the same model servos at 4.8 V and 7.4 V and above all make the maximum use of their performances more safely.

We recommend to use MAC16 with Double Voltage power supply (cod. E0059B) to handle the double battery and the supply of different voltages for output. In case you wish to use a single power source the same for both power frames we recommend to use the Double Energy (code E0058A).

Notes: MAC16 is provided with 12 extensions for connection to the receiver up to 12 channels. The remaining UNI extensions may be provided separately (code E0021)

MAC16 unit shows the external connections as in Figure 1

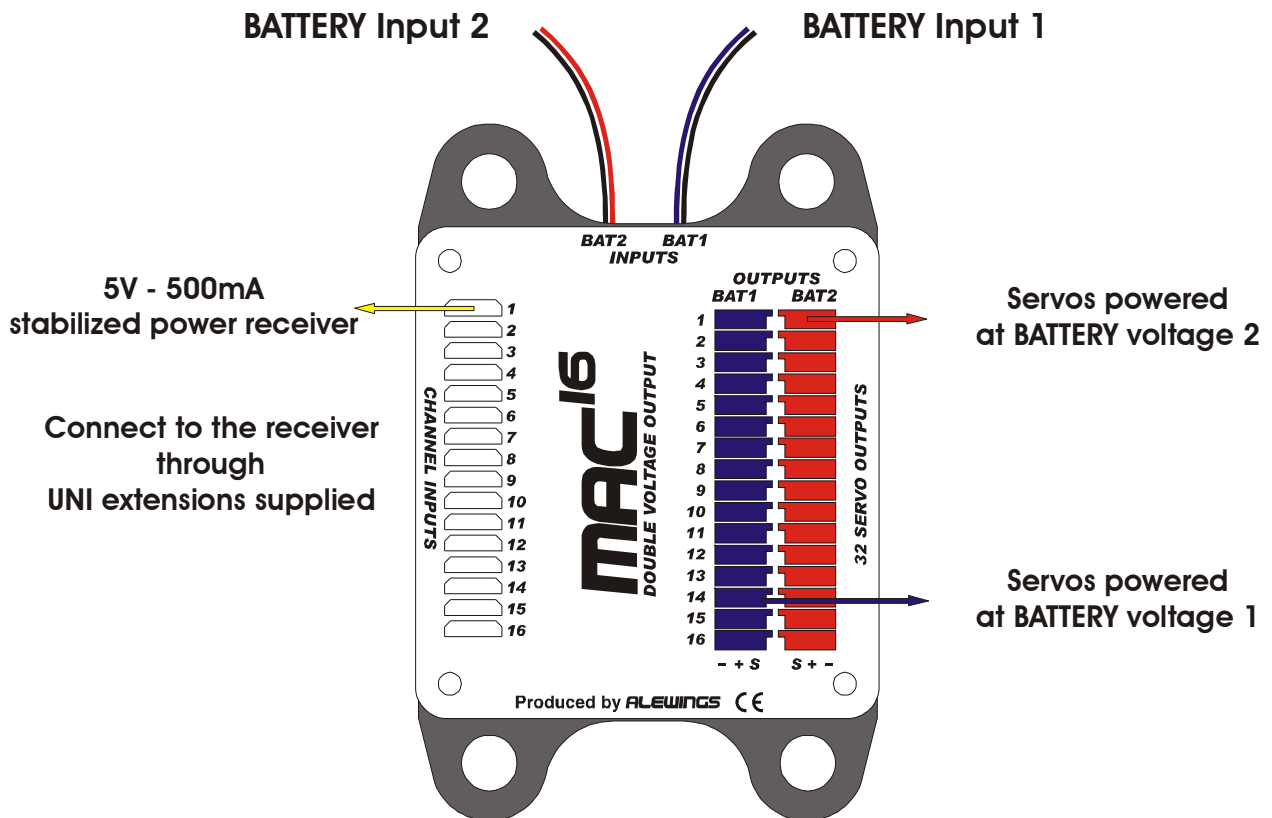


Figura 1

MAC16 is composed by:

- 16 channel input to connect to the receiver through 300mm UNI extension (we supply 12 extensions in the packaging).
- 32 servo outputs protected against short circuits (double servo output for each channel).
- Double battery input to feed servos.
- Servos output on double frame of power to handle servos at different voltage of use.
- 5V 500mA voltage stabilizer for the separate power of receiver.
- Filtering system of servo signal and single protections against short circuits for each servo output.

## INSTALLATION:

As for all electronic devices you need to pay close attention during the installation process. The way you fix MAC6 unit will be determining in order to ensure its proper functioning.

Be careful: a wrong installation could later harm the right functioning of the unit.

La centralina è dotata di un supporto inferiore il quale presenta, ai quattro vertici, i punti destinati al fissaggio; tali fori sono isolati dal corpo tramite 4 supporti in gomma nei quali verranno inserite le quattro viti per il fissaggio.

The unit has 4 holes to fix through the screws 4 rubber anti vibrating supports.

The support will have necessarily its 4 fixing points on the same surface, avoiding wrong positions to assure the right flatness.

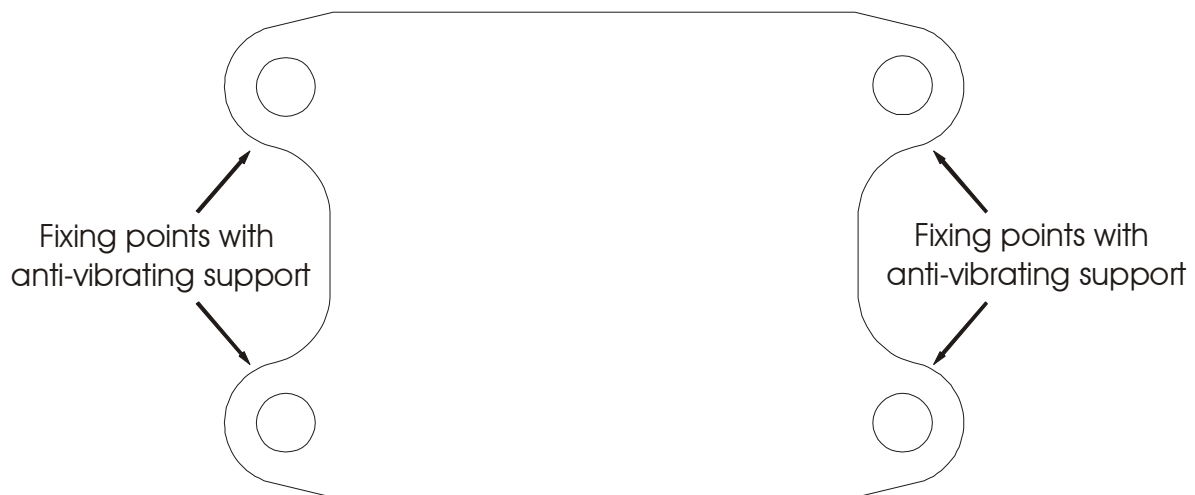


Figure 2

During the tightening of the four screws, be careful not to twist or spoil the plate.

Be careful not to tighten further in an exaggerated way the four screws, avoiding to crush completely their rubber mounts.

The MAC unit can be installed even in the inverted position or at 90° always according with that mentioned above.

We recommend to realise an anti-vibrating support with a vertical support columns of supports in rubber to insulate the electronic circuit from any vibration sent by propulsive system.

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## CONNECTIONS:

- CONNECTION UNIT – POWER SOURCE 1 and 2

Connect the two power accumulators of technology and desired voltage to the inputs identified as BAT 1 and BAT 2.

The red cable indicates the positive pole and the black one the negative pole.

Be careful: the unit accepts in input NiCd – NiMh Io.Li – Li.Poli from 6V u to 7,V nominals battery

ATTENTION: not reverse the polarity, this action causes the damage of the device.

- CONNECTION UNIT – RECEIVER:

Using 12 UNI extensions supplied and being careful at the polarity of connectors, connect MAC16 unit to the receiver.

Connect the receiver channels you want to use, to the input channels of the unit identified as "CHANNEL INPUTS 1...16".

Be careful: it is not required to follow the channel numbers of the receiver on the unit; for example the channel 1 of the unit can be connected to any channel of the receiver.

- CONNECTION UNIT- SERVOS:

Depending on the channels used, connect the servos to the outputs of the unit as shown in "Figure 1.

HANDLING MIXED POWER at 4,8V – 7,4V:

In case you use different power sources such as a battery 5 cells Nixx 6V nominals and a battery Li.Poli 2S 7.4V nominal. be very careful in connecting servos in their power frame as shown in "Figure 1.

Be careful also for the polarity of any servo plugs you will use. The serigraphy with letter "S" indicates the cable position for servo signal which could be white, yellow or orange.



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**TECHNICAL PECULIARITIES:**

Inputs channel of receiver:	16 with separated power and active filters
Servo outputs:	32 total outputs (16 channels of double output).
Outputs protection:	against short circuit for each output
MAC16 power with battery:	on demand 5 cells NiCd NiMh
MAC16 power with Double Voltage:	2S LiIon - LiPoli
Receiver power:	created internally at 5V 500mA
Size:	90x65x20 mm
Weight MAC16 with battery cables:	55gr
Weight MAC16 with 12 UNI extensions:	105gr
Functioning temperature:	from -10 up to +60°C



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## **USERS NOTICES:**

### Warnings:

Not put near a source of heat above +60°C, mixture of gasoline, alcohol or solvents, don't place the device in humid areas, not cause short circuits, not damage or remove the thermo constricting protection.

### AEE Waste disposal:

According to art.13 of the Legislative Decree of July 25<sup>th</sup> 2005, n.151, "Implementation of Directives 2002/95/EC, 2002/96/EC and 2003/108/EC, concerning the reduction of hazardous substances for electrical and electronic equipment and disposal of waste".

The symbol of the crossed rubbish bin shown on the equipment or on its packaging, indicates that the product at the end of its useful life must be collected separately from other waste.

At the end of its use, the user will have to bring the equipment to its suitable separate collection of electronic and electro-technical rubbish or bring it back to the dealer at the moment of the purchase of a new similar device.

The proper collection of the desued recycling equipment, the treatment and the environmentally compatible disposal contributes in preventing possible adverse effects on the environment and human health and it furthers the reuse and/or the recycling of materials.

Improper disposal of products involves the application of administrative sanctions provided by law.