Servos

ElMod FusionX, ElMod 4WD

Hardware

The central units ElMod FusionX (from Rev.C) and ElMod 4WD are equipped with one servo connector. It is designed for small servos (so-called micro servos, 9g class). The current consumption under load should not exceed 300mA (0.3A).

To all ElMod FusionX versions and ElMod 4WD the expansion board ElMod FX Expander can be connected. This expansion board provides connections for three servos with a maximum current consumption of 2A (all servos together) in addition to light functions.

The servo connector on the central unit and one servo connector on the ElMod FX Expander are controlled together. So a total of three different servo functions can be used.

Combination	Total servos	Total servo functions
FusionX Rev.B	0	0
Fusion Rev.B + FX Expander	3 (max. 2A common)	3
FusionX Rev.C	1 (max. 0,3 A)	1
Fusion Rev.C + FX Expander	1 (max. 0,3A) + 3 (max. 2A common)	3
4WD	1 (max. 0,3 A)	1
4WD + FX Expander	1 (max. 0,3A) + 3 (max. 2A common)	3

Configuration

Each servo can be assigned one of the following functions in the ElMod App:

- Main gun recoil
- Steering over a steering axle
- Main gun traversion
- Main gun elevation
- Main gun elevation modern (after the shot, the gun moves to the reloading position)
- Hatch function
- Radar/wiper function

One and the same function can also be assigned to several servos at the same time. This function may be setup for each servo separately (for example, for controlling three steering axles of a truck with different wheel angle). For each servo, the servo movement can be reversed (servo reverse) and a limitation of the maximum deflection to left and right can be set separately (useful if the used mechanics have a smaller range of motion than the servo provides).

Two additional parameters can be used to further customise each function:

function	effect	param 1 (0-100%)	param 2 (0-100%)
barrel recoil	barrel recoil after firing the main gun	retraction speed	extraction speed
steering	steering axle	speed dependent steering lock angle (0% - off, 100% - no steering on max. speed)	-
elevation	vertical movement of the main gun. The larger the stick deflection the faster the movement	max. speed	
elevation, modern	as above. After each shot the barrel moves to the reload position	max. speed	duration of reloading in 0.1 secs
traversion	horizontal movement of the main gun. The larger the stick deflection the faster the movement	max.speed	
turret rotation	turret rotation with an external ESC	-	
hatch function	simulation of an open/close function. On: servo moves to the end position. Off: servo moves to the origin position	opening speed	closing speed
radar/wiper function	wipe function. On: servo moves between both end positions, Off: servo moves back and remains in the starting position	speed of the "to" movement	speed of the "fro" movement

The first six functions are operated via the vehicle's standard controls. I.e. steering using the right stick, horizontal and vertical movement of the gun using the left stick. The last two functions (hatch function and radar/wiper function) are operated by the freely assignable functions "Servo1", "Servo2" and "Servo3". These may be assigned in the ElMod App to the control elements of the radio system that you desire.

The servo port on the central unit corresponds to "Servo 1" in the ElMod App.

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