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HSDJETS®

EVO-13U-PRO Super Multi-function Airborne Pneumatic System Control Valve User's Guide

Version V 1.0



Product S/N:

Want to learn more about the product
video, pictures, and other matters of
attention Please log in: www.hsdjets.com

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Product Guarantee Condition

HSDJETS® Inc. during the production process each Super Multi-function Valve undergoes a series of test. We take the maintenance of the highest quality standards very seriously, and that is why we are able to grant a 12 month guarantee on all our Super Multi-function Valve Products, valid from the initial date of purchase. The guarantee covers proven material faults, which will be corrected by us at no charge to you. We wish to emphasise expressly that we reserve the right to replace the unit if a repair is impossible for economic reasons. Proof of the commencement and progress of this guarantee period is the purchase receipt. Repairs which our Service Department carries out for you do not extend the guarantee period. Misuse and maltreatment, such as reversed polarity, excessive voltage and the effects of damp, invalidate the guarantee. The same applies to faults due to server wear or excessive vibration. The guarantee does not cover any additional claims, such as consequent damage. We expressly deny liability for damages which are caused by the device, or arise through the use of the device.

Product Features

- * 0.96 inch OLED display, rolling menu preview your internal settings.
- * Double digital pressure value, landing gear and brake pressure value display at same time.
- * Built in landing gear system fail safe protection. When air pressure leaks, the system releases your landing gear ahead of time to ensure you can land safely.
- * Unique air pump system program control, low pressure air pump automatic start.
- * Selection of air pressure unit - PSI / BAR / Kg-cm².
- * 13 valve position control, 3 mode programming.
- * Compatible Futaba S-Bus system.

Important Notice

* Keep dry air dry and humid air seriously affect the accuracy and life of atmospheric pressure sensors.

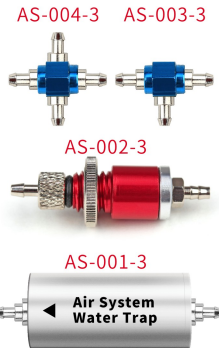
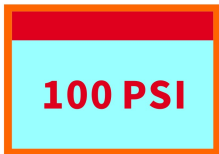
* Release all the air pressure in the tank after each flight, which increases the life of the sensor.

* Please prevent the introduction of above standard air pressure, which may cause the valve to be punctured, and the air pressure sensor is damaged.

* Suggest that the input air pressure is not more than 100 PSI. This will be sufficient for most gears / doors and brakes.

* Any air pump will generate water vapor when running. The water vapor will seriously affect the life of the pressure sensor. We recommend adding filters to the inlet of the product.

* For the convenience of users, we produce a series of pneumatic accessories. Please pay attention to HSDJETS® website. www.hsdjets.com.



Product Specification

* Working Voltage: 6.0 to 7.4 Volts for DC.

* Consumption Current: 2 A Max.

* Operating Pressure Range: 0 to 150 PSI Max.

* Air Pressure Precision: $\pm 1\%$ @150PSI.

* Size: L 66.81×W 53.88×H 28.75 mm.

* Temperature Range: -5 to +75°C.

* Weight: 140 grams.

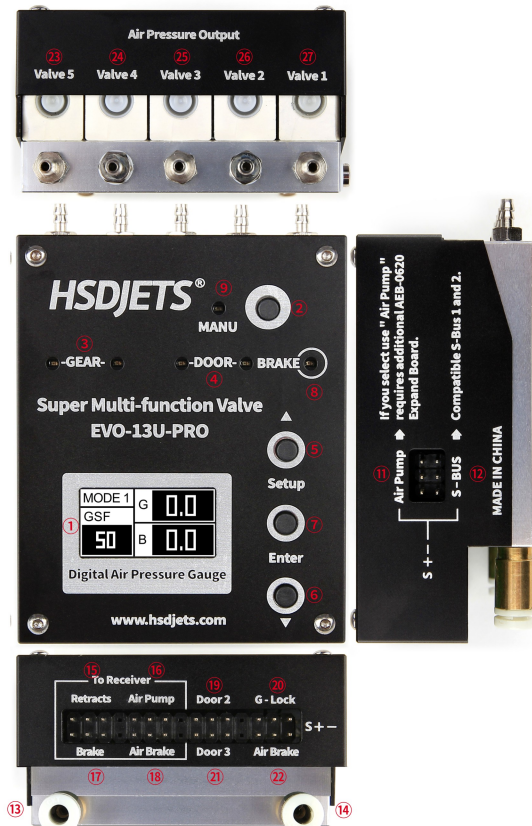


Output & Input port and Panel Description

- | | |
|--------------------------|---------------------------|
| ① OLED Display | ⑮ L/G Signal Input |
| ② MANU Test Button | ⑯ Air Pump Signal Input |
| ③ L/G Indicator | ⑰ Brake Signal Input |
| ④ Door Indicator | ⑱ Air Brake Signal Input |
| ⑤ Up Selection Button | ⑲ Door 2 Signal Output |
| ⑥ Down Selection Button | ⑳ L/G Lock Signal Output |
| ⑦ Confirm / Setup Button | ㉑ Door 3 Signal Output |
| ⑧ Brake Indicator | ㉒ Air Brake Signal Output |
| ⑨ Test Indicator | ㉓ Brake Air Output |
| ⑩ Air Pressure Expansion | ㉔ Out Door 1 Air Output |
| ⑪ Air Pump Signal Output | ㉕ In Door 1 Air Output |
| ⑫ S-BUS Signal Input | ㉖ Out L/G Air Output |
| ⑬ L/G Air Input | ㉗ In L/G Air Output |
| ⑭ Brake Air Input | |



-06-



-07-

Menu display picture description

G: L/G Air Value
B: Brake Air Value
MODE X: Sequential
GSF: Gear-Sys Fail Safe

MODE 1	G	0.0
GSF	B	0.0
50		

Runtime
Battery Voltage

Runtime	01:20:13
Battery	7.6V

Unit: Pressure Unit
Mode: Sequential
G-Lock: L/G Lock
GSF: Gear-Sys Fail Safe

Unit	KG/CM2
Mode	MODE 1
G-Lock	OFF
GSF	50 PSI

Pump: Air Pump
Pump: Close Value
Brake: Brake Model

Pump	ON
Pump THR	100 PSI
Brake	Normal

Function setting steps

Press the set button for 2 sec to enter system setting mode, and all 7 function options are set. You can move up & down arrow to select the options you need to set.

System Setting
▶ 1.Landing Gear
2. Gear-Sys Fail Safe
3. Air Pressure Unit
4. Air Pump
5. Wheel Brake
6. S-BUS Setup
7. Factory Reset

Function setting steps

1. Landing Gear / All 4 functional options are setup for landing gear & door sequential control system.

Landing Gear
▶ 1. Work Mode
2. Delay
3. Gear Lock
4. Gear Swap

1-1. Work Mode / L/G & door sequential control mode. All 3 functional settings, you can move up & down arrow select you need options.
※ Please see detailed mode instructions.

Landing Gear
▶ 1. Work Mode
2. Delay
3. Gear Lock

Set Gear Work Mode
● MODE 1
○ MODE 2
○ MODE 3

1-2. Delay / Door sequential control delay mode, all 3 functional settings. You can move arrow up & down to select the option you need.

Landing Gear
1. Work Mode
▶ 2. Delay
3. Gear Lock

Gear Work Delay
▶ 1. Mode1 Delay
2. Mode2 Delay
3. Mode3 Delay

Set Mode1 Delay
3.0(sec)

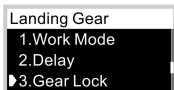
※ Factory value : 3 sec

Function setting steps

1-3. Gear Lock / The lock control mode of the landing gear. You can move arrow up & down to select turn on or off.

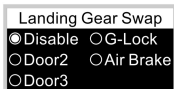
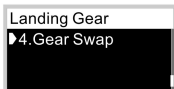
※ Factory value : OFF

Note: If landing gear has a locking device, please turn on the G-Lock function & lock delay for 2 seconds. If the device is not locked, close it. User can programming.



1-4. Gear Swap / The output conversion mode of the air pressure channel of L/G. You can move the arrow up & down to select output you need to convert set.

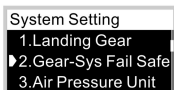
※ Factory value : OFF



2-0. Gear-Sys Fail Safe / Press the confirmation button to enter the pressure value setting and select the pressure value you need. adjusted value is each 5 PSI.

※ Factory value : 50 PSI

Note: if 0 PSI is set, the GSF function will be closed. The new low pressure protection function will prevent abdominal landing, and a digital sensor will monitor the air pressure. In case of air leakage, the system will release your landing gear ahead of time before all air is lost.



Function setting steps

3-0. Air Pressure Unit / 3 kinds of air pressure unit mode conversion. Press the confirmation button to enter the unit settings and select the pressure unit you need.

※ Factory value : PSI

Note: unit conversion

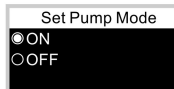
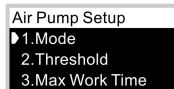
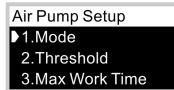
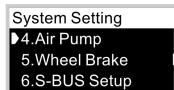
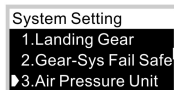
1 PSI=0.06895 BAR

1 PSI=0.07031 kg/cm²

4-0. Air Pump / Airborne air pump control system. All 3 functional options are set. You can move up & down to select you need set. AEB-0620 air pump control board is required.

4-1. Mode / Air Pump The working mode of airborne air pump. Press the confirmation button to enter the mode setting, ON - automatically inflate / OFF - Remote control.

※ Factory value : ON



Function setting steps

4-2. Threshold / Full pressure off value setting of airborne air pump. Press the confirmation button to enter the numerical setting and select you need pressure value.※ Factory value: 100 PSI

Air Pump Setup
1.Mode
▶2.Threshold
3.Max Work Time
Set Pump Threshold
THR: 100 PSI

4-3. Work Time / The shutoff time of air pump is set. Press the confirmation button to enter the time setting settings, select number of sec you need.

※ Factory value : 20 sec

Note: pressure detection device and GSF linkage. If the GSF reaches the protective value, the air pump is automatically inflated. Up to 120 PSI closed, programmable adjustment.

Air Pump Setup
1.Mode
2.Threshold
▶3.Max Work Time
Set Pump Threshold
20 (sec)

5-0. Wheel Brake / Press the confirm button entry mode to set the model you need. Normal :Normal Brake
Pulse : Brake

※ Factory value : Normal

System Setting
4.Air Pump
▶5.Wheel Brake
6.S-BUS Setup
Set Brake Mode
●Normal
○Pulse

Function setting steps

The brake function starts at 10% and ends the 90% stroke. From 0 to 10%, the valve is closed and the valve is fully opened from 90 to 100%. The air consumption of this model is fast. The user can change the mode.



6-0. S-BUS Setup / S-Bus system channel setting. All 4 functional options are set. You can move the arrow up and down and select the channel you need to setup.

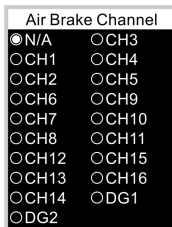
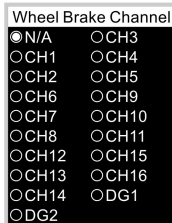
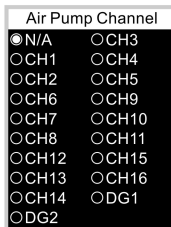
System Setting
4.Air Pump
5.Wheel Brake
▶6.S-BUS Setup
S-BUS Setup
▶1.Landing Gear Ch
2.Air Brake Ch
3.Wheel Brake Ch
4.Air Pump Ch

6-1. Channel Setup / S-Bus system channel setting. All 4 functional options are set. You can move the arrow up and down and select the channel you need to setup.

Landing Gear Channel
●N/A ○CH3
○CH1 ○CH4
○CH2 ○CH5
○CH6 ○CH9
○CH7 ○CH10
○CH8 ○CH11
○CH12 ○CH15
○CH13 ○CH16
○CH14 ○DG1
○DG2

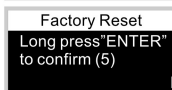
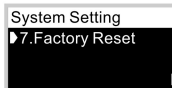
Function setting steps

6-1. Channel Setup / S-Bus system channel setting. All 4 functional options are set. You can move the arrow up and down and select the channel you need to setup.



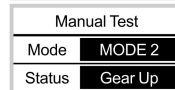
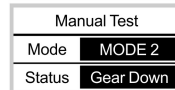
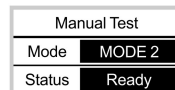
7-0. Factory Reset / Press the confirmation button to enter the factory value setting option and press the set button for 5 sec to enter the system reset mode. Press the MANU button to leave.

Note: Please use this function with caution, and your settings will be completely removed.



MANU Test

8-0. Manual Test / The way of Manual test. Press the MANU button for 2 sec to enter the system test, then press the MANU button to start the test.



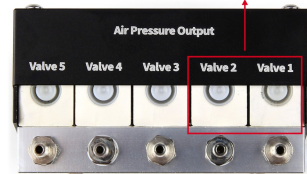
※ Gear Swap Special function description:

This is a special function of HSD, which may encounter large flow and pneumatic output problems in practice. HSD has completed a reliable solution for the user. At present, the product has 5 valves with first and second valve positions as the landing gear output interface. The user can change the output position of the two valve positions by programming, and a double valve to your landing gear system, the original built-in valve function will change the valve with you. The function is the same. Please look at the picture on the right.

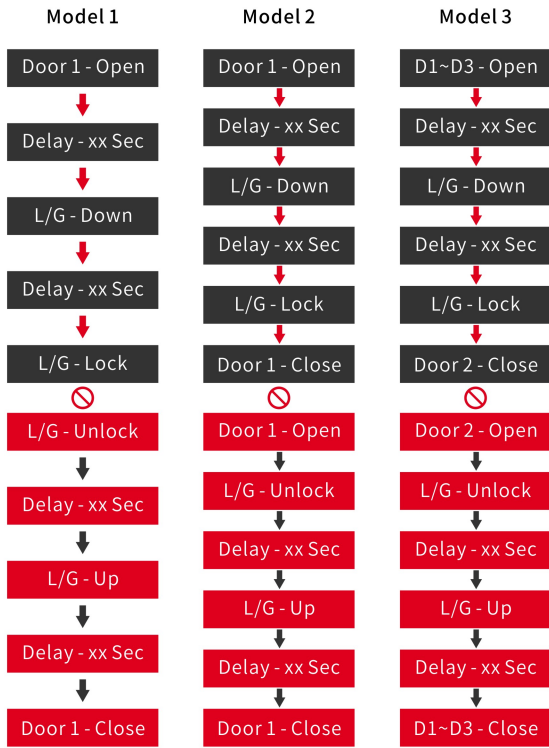


Function and output position can be interchangeable. ⑰ ⑱ ⑲ ⑳ ㉑ ㉒

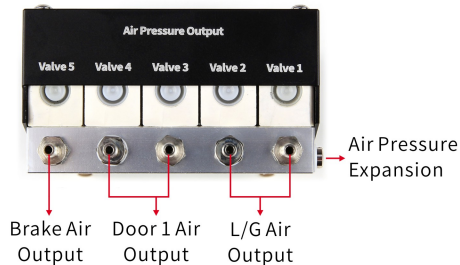
The user may need a double valve.



Sequential action description



Air valve output position diagram



Installation Diagram

