



EVSD-5U-PRO Smart Multi-function Valve

User's Guide



MADE IN TAIWAN

Features

- 35mm x 20mm LCD Display Screen
- Dual Air Pressure Value Display
- Build inside Gear System Fail Safe
- Prevents an accidental gear-up when the transmitter is turned
- Compatible For 2.4 Ghz Radio System
- The intuition and simple programming operation
- Three Pressure Unit Selection - PSI / Kg-cm2 / BAR
- Pulse Brake function that can be adjusted

Specification

- Operating voltage : 4.8 to 6.0 Volts for DC
- Consume current : 650 mA - Max.
- Operating pressure range : 0~170psi / 0~11.7bar / 0~11.9kg/cm2
- Air Pressure accuracy : $\pm 2\%$ for 170psi
- Temperature range : -10 to +75 °C
- Dimensions : L 69.40 x W 53x H 30 mm
- Weight : 140 g. (no incl. plate)

Accessory Contents

- EVSD-5U-PRO / Smart Multi-function Valve x 1
- MTA-5U-PRO / Glass fibre Assembly Mounting x 1
- EV-TC / Barbed Tubing Connect x 7
- AS-001 / Air Fill Valve Set x 2
- AS-018 / Airline Restrictors x 7
- AS-003 / T-Fitting For Air 3mm x 2
- AS-003B / X-Fitting For Air 3mm x 4
- SC-M3 / 3.0 x 0.5 x M3 Screw x 4
- EVSD-W / Extension Line x 1
- User Guide x 1



Guarantee conditions

During the production process each Multi-function Valve undergoes a series of tests. 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 Multi-function Valve, 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 severe wear or excessive vibration. The guarantee does not cover any additional claims, such as consequent damage.

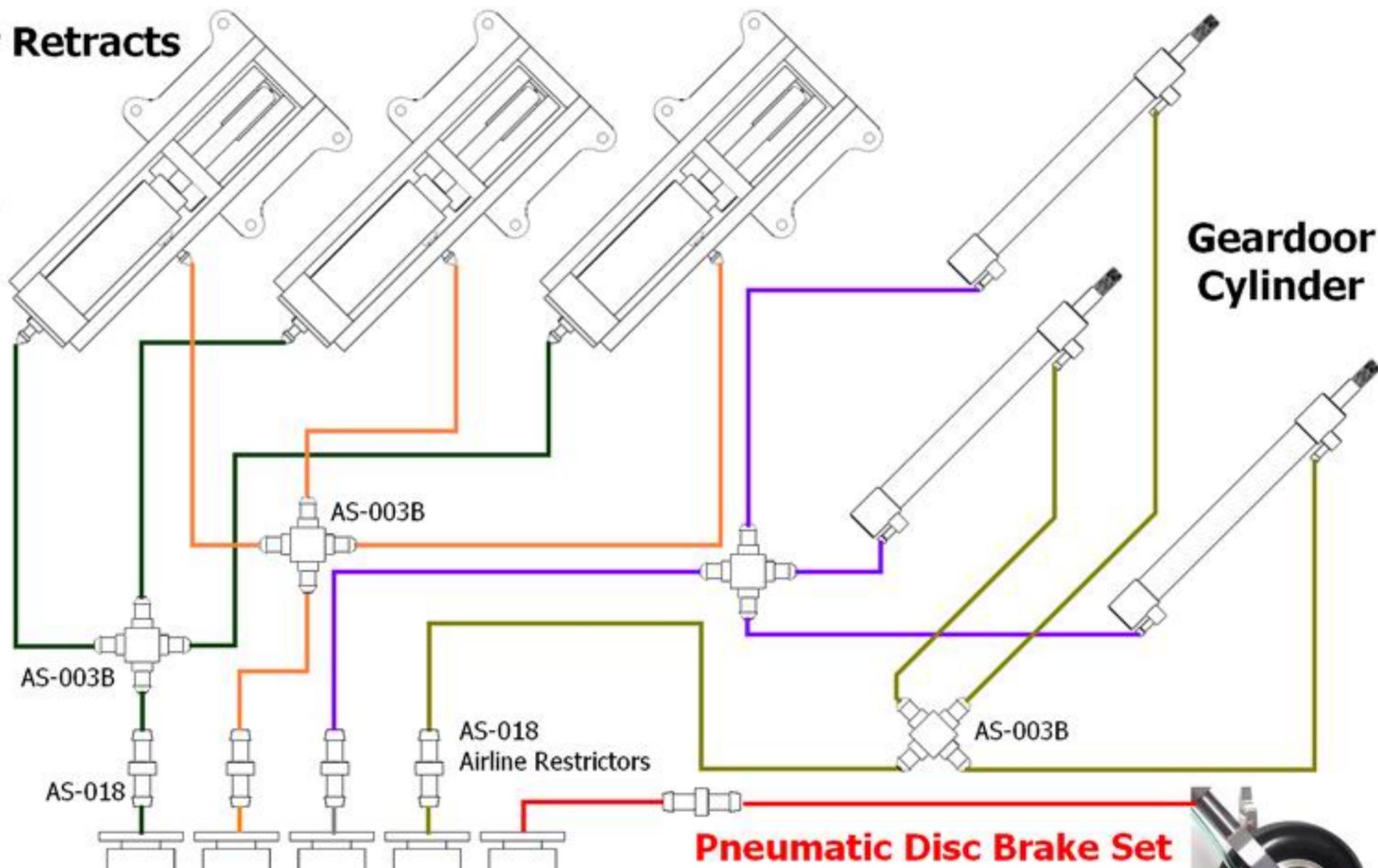
We expressly deny liability for damages which are caused by the device, or arise through the use of the device.

Important notice

- (1) The air that please keep introduction is dry, the moist air will influence the accuracy and life-span of the atmospheric pressure detecting sensor seriously.
 - (2) After each flight, please release all air in the pressure tank , this makes sensor service life increase.
 - (3) When EVSD-5U-PRO operates, will produce temperature, that is coming from the normal phenomenon that the coil generates heat.
 - (4) Please prevent introduction from being higher than the standard air pressure, this may cause the valve to be punctured , and damage .
- * Recommend input air pressure not over 120 psi, this will be enough for most undercarriages and brakes to use .



Air Retracts



Geardoor Cylinder

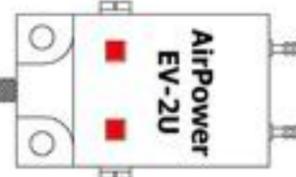
Pneumatic Disc Brake Set

EVSD-5U-PRO Smart Multi-function Valve Set up Hardware

If you select "Mode-3" requires additional valve or servo

Mode-3 / D2 and D3

Servo



AirPower EV-2U
Dual Action
Retract / Gear Door Valve

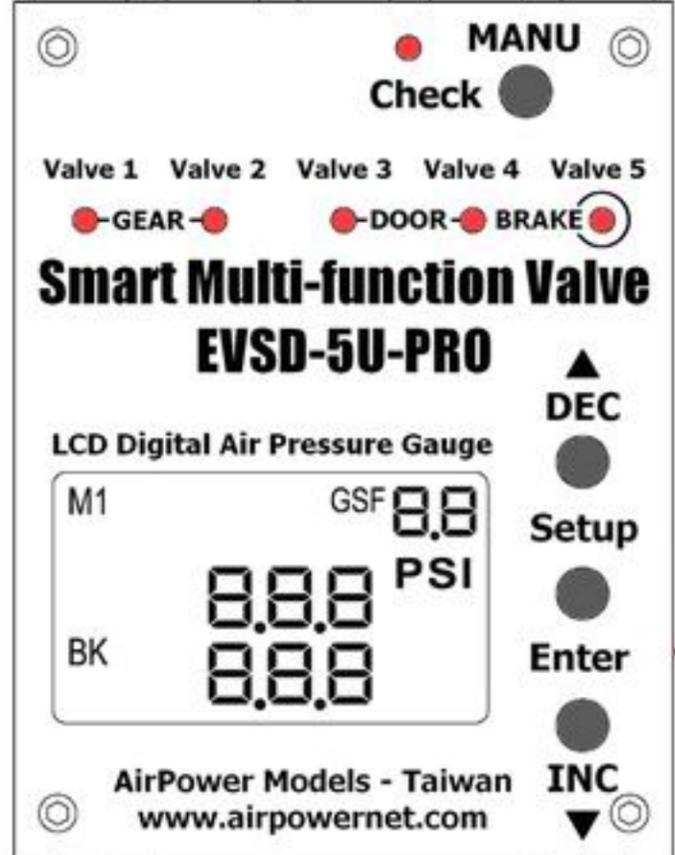
Air Import

AS-001

AS-003

AS-006 / 006B
250cc or 600cc Air Tank

AS-006 / 006B
250cc or 600cc Air Tank



Smart Multi-function Valve EVSD-5U-PRO

LCD Digital Air Pressure Gauge

M1 GSF 8.8
8.8.8 PSI
BK 8.8.8

AirPower Models - Taiwan
www.airpowernet.com

B

A

Gear and Door Air Pressure
100~120 PSI

Brake Air Pressure
80~120 PSI

Air Import

AS-001

AS-003

LCD Display Screen

M1 G0 SET MANU GSF 8.8
 M2 D1 V1 V2 V3 V4 V5
 M3 D2 A 8.8.8 PSI
 M4 D3 B 8.8.8 Kg/cm²
 BK ON
 RV OFF B 8.8.8 BAR
 SEC

A 8.8.8
 B 8.8.8

- A = Brake Air Pressure Value
- B = Gear and Door Air Pressure Value

8.8.8 SEC

- Delay Time Display (Adj. 0 to 20 Sec Range)
- Factory value : 3.0 Sec

GSF 8.8 • Gear System Fail Safe Display
 • Adjustment Value : 00 to 99

PSI
 Kg/cm²
 BAR

- Three Pressure Unit Selection

M1 • Operation Mode Selection (M1 / M2 / M3 / M4)
 M2 • M1 = Mode-1
 M3 Gear doors open up, Undercarriage out, Gear doors stay open.
 M4 Undercarriage in, Gear doors close.

- M2 = Mode-2

Gear doors open up, Undercarriage out, doors close.

Gear doors open up, Undercarriage in, doors close.

- M3 = Mode-3

Gear doors open up, Undercarriage out, 2 doors close, 1 door stays open.

2 doors open up, Undercarriage in, 3 doors close. (requires additional valve)

- M4 = Mode-4 Customize

User can program Time sequencing of each of the five valves independently offering unlimited options.

BK ON • BK = Brake Mode (V5)
 OFF • ON = Anti-Lock (Pulse Modulated Brake)
 • OFF = Standard (Full Brake)

ON • RV = Reverse Valve Adjustment
 RV OFF • ON = Valve Normal
 • OFF = Valve Reverse

G0 • G0 = Gear (V1 / V2)
 D1 • D1 = Door (V3 / V4)
 D2 • D2 = Door / Dual Valve
 (Requires additional valve)
 D3 • D3 = Door / Dual Valve
 (Requires additional valve)

V1 V2 V3 V4 V5 • V1 / V2 / V3 / V4 / V5 = Valve No.1 to No.5
 • No.1 and No.2 Valve for Gear
 • No.3 and No.4 Valve for Door 1
 • No.5 Valve for Brake

SET • SET = Enter Function Setup

MANU • MANU = Function Test / Check
 • No RC Controller required, valve can be operated through the programmed sequence by simply pressing the button on valve face.

Operation Mode Setting

◆ (M1 and M2) Mode-1 / Mode-2 Setting Step

- ↓ Press "Setup • Enter" button
- ├ Screen display "SET" and "M1" blinking pattern
- ├ Press INC or DEC button select Mode (M1→M2)
- ├ Press "Setup • Enter" button
- ├ Next gear and door select item (G0 / D1)
- ├ Screen display "G0" blinking pattern
- ├ Press INC or DEC button select item (G0→D1)
- ├ Press "Setup • Enter" button
- ├ Next Reverse Valve select item (RV)
- ├ Screen display "RV" and "OFF" blinking pattern
- ├ Press INC or DEC button select item (ON→OFF)
- ├ Press "Setup • Enter" button
- ├ Next delay time setting item (Factory value : 3.0 Second)
- ├ Screen display "03.0" and "SEC" blinking pattern
- ├ Press INC or DEC button select time value (00.5→20.0)
- └ Press "Setup • Enter" button completion setting



03.0 SEC

★ **Notes : Setting more gear and door item please repeat the step above again.**

Completion setting screen display →



◆ (M4) Mode-4 Customize Setting Step

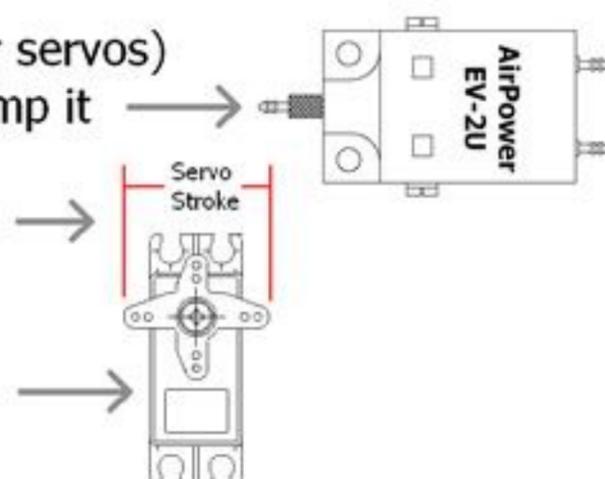
- ↓ Press "Setup • Enter" button
- ├ Screen display "SET" and "M1" blinking pattern
- ├ Press INC button select (M4) Mode-4 Customize Mode
- ├ Press "Setup • Enter" button
- ├ Next valve select item (V1 / V2 / V3 / V4 / V5)
- ├ Screen display "V1" blinking pattern
- ├ Press "Setup • Enter" button
- ├ Next Reverse Valve select item (RV)
- ├ Screen display "RV" and "OFF" blinking pattern
- ├ Press INC or DEC button select item (ON→OFF)
- ├ Press "Setup • Enter" button
- ├ Next delay time setting item (Factory value : 3.0 Second)
- ├ Screen display "03.0" and "SEC" blinking pattern
- ├ Press INC or DEC button select time value (00.5→20.0)
- └ Press "Setup • Enter" button completion setting



★ **Notes : User can program Time sequencing of each of the five valves independently offering unlimited options.**

◆ (M3) Mode-3 Setting Step

- ↓ Press "Setup • Enter" button
- ├ Screen display "SET" and "M1" blinking pattern
- ├ Press INC button x 2 select Mode (M3)
- ├ Press "Setup • Enter" button
- ├ Next gear and door select item (G0 / D1 / D2 / D3)
- ├ Screen display "G0" blinking pattern
- ├ Press INC or DEC button select item (G0→D1→D2→D3)
- ├ Press "Setup • Enter" button
- ├ Next Reverse Valve select item (RV)
- ├ Screen display "RV" and "OFF" blinking pattern
- ├ Press INC or DEC button select item (ON→OFF)
- ├ Press "Setup • Enter" button
- ├ Next delay time setting item (Factory value : 3.0 Second)
- ├ Screen display "03.0" and "SEC" blinking pattern
- ├ Press INC or DEC button select time value (00.5→20.0)
- ├ If you select D2 and D3 (Increase 2 setting stroke item for servos)
- ├ If you use is valve please press "Setup • Enter" button Jump it
- ├ Screen display "1.10" and "A" blinking pattern
- ├ Press INC or DEC button adjustment servo stroke (A1.10)
- ├ Press "Setup • Enter" button
- ├ Screen display "1.90" and "B" blinking pattern
- ├ Press INC or DEC button adjustment servo stroke (B1.90)
- ├ Press "Setup • Enter" button completion setting



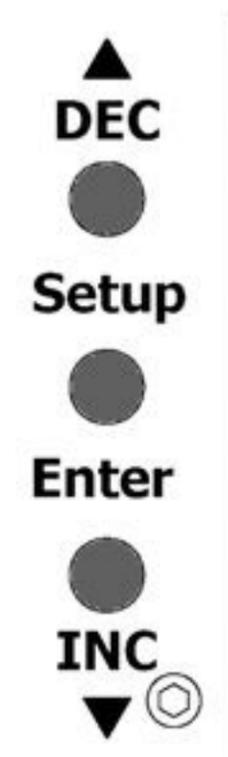
★ Notes :

1. (M3) Mode-3 requires additional valve or servos.
2. Normal servos to understand more easily its operation.
3. By use of AirPower Dual Action Valve it is recommended, to check the function of the circuit by using
4. Setting more gear and door items please repeat the step above again.
5. All mode function completion setting please press "MANU" button check.

System Reset Setting

◆ System Reset Setting Step

- ↓ Press and hold the INC and DEC button stay
- ├ Press and hold the "Setup • Enter" button for 3 second
- ├ Screen display "SET" and "PSI" blinking pattern
- ├ Press "Setup • Enter" button x 3 times
- ├ Completion setting next normal



Brake Function Setting

◆ (BK) Anti-Lock (Pulse Modulated) Mode Setting Step

↓ Press and hold the "Setup • Enter" button for 3 second

└ Screen display "SET" and "PSI" blinking pattern

└ Press "Setup • Enter" button x 2

└ Screen display "BK" and "OFF" blinking pattern →

└ Press INC button select ON mode (ON=Pulse Modulated Brake)

└ Press "Setup • Enter" button

└ Next adjustment brake travel range item

└ Screen display "1.10" and "A" blinking pattern

└ Transmitter power on

└ Please turn transmitter stick to low position →

(You can select minimum position for brake)

└ Press "Setup • Enter" button

└ Screen display "1.90" and "B" blinking pattern

└ Please turn transmitter stick to high position →

(You can select maximum position for brake)

└ Press "Setup • Enter" button

└ Next adjustment brake tightness item

└ Screen display "010" and "A" blinking pattern

└ Press INC or DEC button adjustment start tightness value

(Factory value : 10%)

└ Press "Setup • Enter" button

└ Screen display "090" and "B" blinking pattern

└ Press INC or DEC button adjustment end tightness value

(Factory value : 90%)

└ Press "Setup • Enter" button completion setting



High ↑
or
Low ↓

★ **Notes : Use this mode will consuming air fast.**

◆ (BK) Standard (Full Brake) Mode Setting Step (Factory Mode)

↓ Press and hold the "Setup • Enter" button for 3 second

└ Screen display "SET" and "PSI" blinking pattern

└ Press "Setup • Enter" button x 2

└ Screen display "BK" and "OFF" blinking pattern

└ Press button select OFF mode (OFF= Standard-Full Brake)

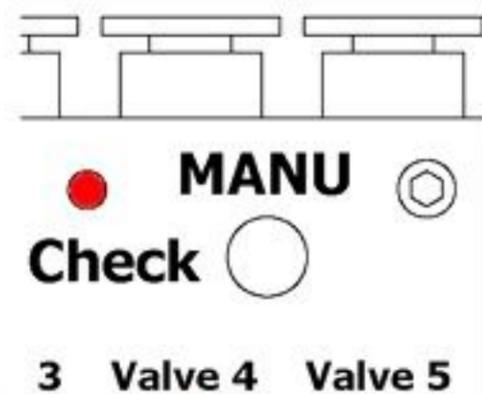
└ Press "Setup • Enter" button completion setting

★ **Notes :** In the brake function, the minimum brake point can be adjusted to the 10% point of the travel of the transmitters function. Maximum brake point can be adjusted to the 90% point of the travel of the transmitters function. This might be nearly full brake. This takes care, that the pulse modulated brake function starts working at 10% and ends by 90% of the travel of the transmitter function. From 0 – 10% the valve is closed, from 90 – 100% travel the valve is fully open, which prevents air loss on full brake.

MANU - Function Test / Check Mode

◆ (Manu) Function Test / Check Mode Runing Step

- ↓ Press "MANU" button
- └ Screen display "MANU" blinking pattern and LED light steady on
- └ Runing you completion setting mode (M1~M4)



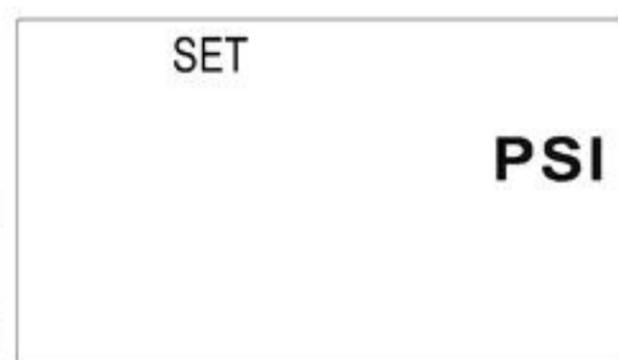
★ Notes :

1. If you start this MANU mode transmitter order will Fail. You must power off and power on again return to normal.
2. We recommend use this MANU mode Test / Check you function Setting.

Air Pressure Unit Conversion Setting

◆ Air Pressure Unit Conversion Setting Step

- ↓ Press and hold the "Setup • Enter" button for 3 second
- └ Next air pressure unit select item
- └ Screen display "SET" and "PSI" blinking pattern →
- └ Press INC or DEC button select item (PSI→Kg-cm2→BAR)
- └ Press "Setup • Enter" button x 3 times (Brake in off mode)
- └ Completion air pressure unit setting
- └ If brake is on mode please first remove brake connecting
- └ Press "Setup • Enter" button x 7 times (Brake in on mode)
- └ Completion air pressure unit setting



Gear System Fail Safe Setting

◆ Gear System Fail Safe Setting Step

- ↓ Press and hold the "Setup • Enter" button for 3 second
- └ Press "Setup • Enter" button x 1 times
- └ Next gear system fail safe adjustment item
- └ Screen display "00" and "GSF" blinking pattern
- └ Press INC or DEC button adjustment safe value (Factory value : 50 PSI)
- └ Press "Setup • Enter" button x 2 times (Brake in off mode)
- └ Completion safe value setting
- └ If brake is on mode please first remove brake connecting
- └ Press "Setup • Enter" button x 6 times (Brake in on mode)
- └ Completion safe value setting



★ Notes :

1. The new gear fail safe function will help prevent a belly landing due to an air leak on all airplane models with an air retract system. This function has a digital sensor that monitors air pressure. In the event of an air leak, the Fail safe system will put the gear down at preset pressure before the system loses all the air. Another nice feature of this function is it prevents an accidental gear-up when the transmitter is turned on and the gear switch is in the up position.
2. Adjustment Value : 00 to 99.



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