SUPER AFC

SUPER AIR FLOW CONVERTER
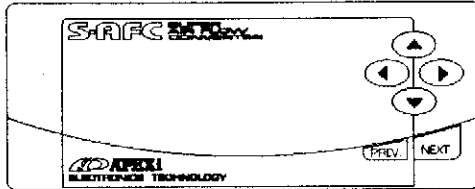
Instruction Manual

Thank you for purchasing this product.
Please carefully read this instruction manual to ensure proper use of this product.
Please store this manual inside of the vehicle for reference.
Please be sure to include this manual with the unit when selling.

A'PEX Integration Inc.

Product Name	SUPER AFC
Product Code	401-A007
Vehicle Applications	Vehicles specified in application chart
Purpose	Adjustment of Air flow/Pressure Sensor Signal

APEXi

ELECTRONICS TECHNOLOGY

■Table of Contents

●Setting Items

1
■Safety Precautions

Please be sure to read the safety precautions.
Please keep this manual in a readily accessible location for future reference.

●Signal Words and their Meaning
We have included warnings throughout the manual to protect both the user and others from harm.
These key words are called "Signal Words."
Please carefully read the cautions before reading the rest of the manual.

●Display

⚠DANGER
Failure to obey this warning will likely result in DEATH or severe injury to the user.

⚠WARNING
Failure to obey this warning may cause DEATH or severe injury to the user.

⚠CAUTION
Failure to obey this warning will likely result in light injury to the user, product damage, or damage to the surrounding area.

■Safety Precautions (cont'd)

⚠WARNING

● Never install this product on a vehicle that is not listed in this manual.
We do not guarantee product operation on non-listed vehicle applications. Failure to follow
instructions may cause unexpected accidents.

● Discontinue use of this product immediately if there is smoke or a burning odor.
Failure to do so may result in engine or vehicle fire. Please take the unit back to the place of purchase
for further assistance.

● Only use this product for the intended purposes listed within this manual.
A'PEX is not responsible for any harm or accidents caused by the improper use of this product.

● Never operate this unit while driving.
Failure to do so may result in injury or accident.

● Securely mount this unit away from any area that may affect driving.
Failure to do so may result in injury or accident.

● This unit is designed only for DC12V type vehicles with a negative ground.
Do not install on big trucks, refrigerated trucks, or diesel trucks with 24V.
This could lead to engine fire.

● Be sure to disconnect the negative terminal of the battery before proceeding
with installation.
Failure to do so may result in vehicle fire, electrical shortage, electrical system
damage, and product damage.

● Be sure to securely hold the connector when disconnecting
Failure to do so may result in electrical shortage and damage to the unit.

● Always connect the wiring EXACTLY as shown in the instruction manual.
Failure to do so may result in product failure and engine damage.

● Do not adjust the unit while driving. Obey all of the rules and regulations of the
highway while driving.
Failure to do so may result in accidents.

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⚠ CAUTION

● Installation should only be performed by an experienced installer.
Installation requires experience and skill. To the installer: Please install the product in a professional and functionally correct manner.

● Never disassemble, modify, or tamper with this unit.
Failure to do so may lead to electrical fire, vehicle fire, and engine damage.

● Do not drop or expose this unit to excessive shock.
This may damage the unit and cause damage to the engine.

● Keep this unit away from direct sunlight and water.
Failure to do so may cause product failure eventually leading to electrical fire, vehicle fire, and engine damage.

■To Begin

Thank you for purchasing the Super AFC.
In order to properly use this unit, please read this instruction manual carefully.

The Super AFC is a high precision controller that can adjust the air flow meter signal / pressure sensor signal. Also, by utilizing the VFD(Vacuum Fluorescent Display,) The unit can display air flow meter capacity %, engine RPM, and throttle position %.
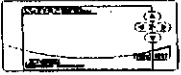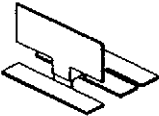
~Features~
①Air flow meter signal/ pressure sensor signal modifications at desired engine RPM levels.
②Air flow meter signal/ pressure sensor signal modifications according to throttle position.
③Function to prevent engine stall on hot wire air flow meter vehicles due to lack of blow off return.
④Monitor display of all input signals and correction factors.

⚠CAUTION

●Do not use this product on any vehicle that is not specified in our vehicle specific application guide.
●Do not use this product for any other purpose than its original intent.
●Installation of this unit MAY cause radio noise or TV interference depending upon installation position and method.
●Mild heat caused by the unit is not unusual.
●Please do not use this unit under extremely hot or cold conditions.

■Product Parts and Functions

● Parts List

1. Unit · · · · · · · · 1	2. Inst. Manual · Warr. Card
3. Signal Harness · · · 1	4. Splitting Harness · · 1
5. Male Fitting · · · · 2	6. Female Fitting · · · 2
7. Male Sleeve · · · 2	8. Female Sleeve · · · 2
9. Splitting Caps · · · 5	10. Double Sided tape · 4
11. Mounting Bracket · · 1	12. Vehicle Specific Application Guide· Operational Diagramx1

■Product Parts and Functions (cont'd)

⚠CAUTION

●Be sure to check the contents of the box BEFORE attempting installation.
  Please contact our office if there any missing or broken parts.
  (Please contact your dealer of purchase for more information)
●Please contact your dealer of purchase for more instruction manuals or misc. parts.

【LEFT】   【UP】

●Product   【RIGHT】

Display   【DOWN】

【PREV. 】   【NEXT】

To go back one menue   To go forward one menue
                        or to set the data
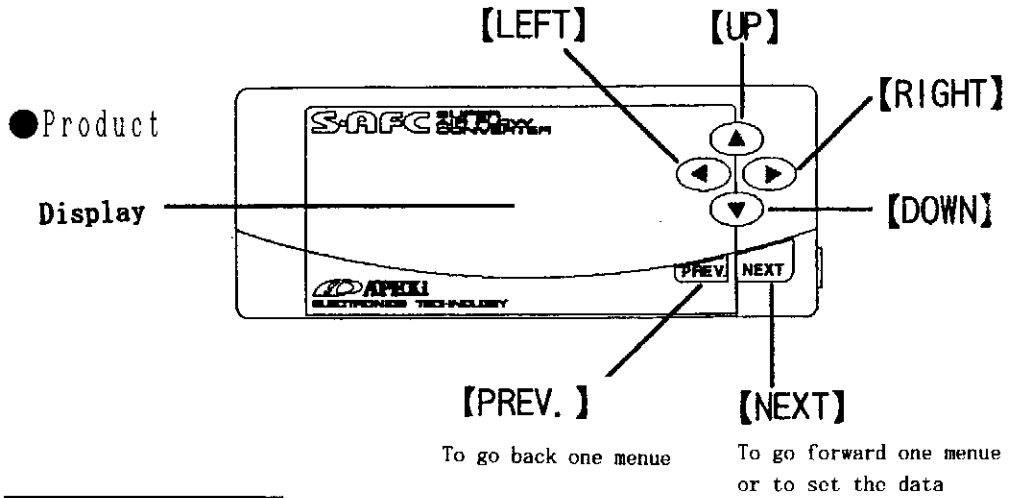
⚠CAUTION

●Be sure to double check for proper vehicle application and installation before use.
  Installation of the Super AFC on a non-listed vehicle may lead to sever engine damage.

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■Product Function Flow Chart

①Main Menue

```
monitor
setting
etc.
```

monitor + [NEXT]

etc + [NEXT]

setting + [NEXT]

②Monitor Mode
```
1channel.
2channel
3channel
4channel
Rev. - [Y]
```

③Setting Mode
```
Hi -Thrtl
Lo -Thrtl
TH- Point
Ne - Point
Dec.- Air
```

④Misc. Mode
```
Sensor Type
Car Select
Grph Scale
Sensor chk
VFD Bright
Initialize
```

1,2,3,4Channel
+ [NEXT]

Rev.-[Y]
+ [NEXT]

③-a Air Flow % Correction Setting (HI Throttle)
③-b Air Flow % Correction Setting (LO Throttle)
③-c HI/LO Throttle Setting
③-d Setting Air Flow % Correction Point
③-e Setting Deceleration Air Flow Correction

④-a Setting Sensor Type
④-b Setting Cylinder/
　　　Throttle Sensor Type
④-c Setting Graph Schedule
④-d Checking Sensor Voltage
④-e Setting Display Brightness
④-f Restore Default Setting

②-a Dislay Parameter

```
Afi    Thr
Prs    Rev
Kar    Cor
```

②-b 2-D Trace Mode

```
Air Flow
Pressure
Karman
Throttle
Correct.
```

②-c Monitor Mode Data Glossary
· Air Flow (Hot Wire/Flap) Usage%
· Intake Manifold Pressure
· Karman Type
· Throttle Position %
· Engine RPM
· Air Flow Corrction Percentage

②-d   Monitor Mode Data Glossary
· Air Flow (Hot Wire/Flap) Usage%
· Intake Manifold Pressure
· Karman Type
· Throttle Position %
· Air Flow Corrction Percentage

■main 《Main Menu Selection》

The Super AFC allows the user to adjust the air flow meter/ pressure sensor output voltage.
The Super AFC stored all tuning information in memory and will not erase the data until the INITIALIZE
function is performed. Removing the battery terminal or ignition key will not affect the data.

⚠WARNING

●Do not operate this unit while driving.
Operating this unit while driving may interfere with normal driving procedure and be the cause of accidents.

⚠CAUTIONS

●Never start the engine or turn the ignition key ON/OFF while the Super AFC is in use.
Failure to do so may cause improper operation and damage the engine.

①Main menu Selection
This is the Basic Super AFC Menu
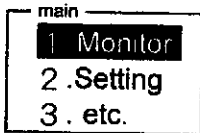
```
┌─ main ────┐
│ 1 Monitor │
│ 2.Setting │
│ 3. etc.   │
└───────────┘
```
Main Menu

1 《Selection》
【▲】 up Key／【▼】 down key
Use these keys to navigate through the menu.
The selected menu will appear on the screen.

2 《Set》
Use the 【next】 Key

The selected menu will appear on the screen

Simultaneously depressing the 【NEXT】 KEY and 【PREV.】 KEY for
0.5 sec. will toggle between **Monitor** MODE and **Setting** MODE.

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■monitor 《Monitor Mode Selection》

②Monitor Mode Selection 【monitor】

Selecting 【monitor】 will display the monitor mode selection

```
┌─ monitor ──────┐
│ ▓▓▓▓▓▓▓▓▓▓▓▓   │
│ 2 Channel      │
│ 3 Channel      │
│ 4 Channel      │
│ Rev.─ [Y]      │
└────────────────┘
```

1 《Selection》

【▲】 up Key／ 【▼】 down Key

Use these keys to select desired parameters
The selected parameters will appear on the screen

2 《Enter》

【next】 Key

Use this key to finalize the selection
The selected parameters will appear on the screen

[1 c h a n n e l] selection···displays 1 parameter of data
[2 c h a n n e l] selection···displays 2 parameters of data
[3 c h a n n e l] selection···displays 3 parameters of data
[4 c h a n n e l] selection···displays 4 parameters of data
[R e v. ─ [Y]] selection···Displays engine RPM in a 2 dimensional sideway graph

②-a Monitor Mode Selection 【monitor】 → 【1,2,3,4Channel】

After the channel selection has been made, data parameter can be selected
Data parameter choices are listed below.

●Monitor Mode Data Glossary

1. A f l ······Air Flow (Hot Wire/Flap) usage %
2. P r s ······Intake Manifold Pressure
3. K a r ······Karman Type
4. T h r ······Throttle Position %
5. R e v ······Engine RPM
6. C o r ······Air Flow Correction Percentage

■monitor 《Data Display》

●If Selecting [1channel]

```
┌ select ──────┐
│  A f l    T h r │
│  P r s    R e v │
│  ███████  C o r │
└──────────────┘
```

1 《Display Parameter Selection》
【▲】up Key／【▼】down Key
Use the above keys to select
The selected parameter will illuminate, and a selection number will
appear to the left of the desired parameter

2 《Display Parameter Entry》
【NEXT】Key
Use this key to finalize selection
This will display desired parameter

●If Selecting [2channel] ~ [4channel]

```
┌ select ──────┐
│ █A f l    T h r │
│ 2 P r s   R e v │
│  K a r    C o r │
└──────────────┘
```

1 《Channel Selection》
【▲】up Key／【▼】down Key
Use the above keys to select
The selected parameter will illuminate

2 《Channel Entry》
【▶】right Key
This key will display data parameters
The channel and data parameter will illuminate

```
┌ select ──────┐
│ ███████   T h r │
│ 2 P r s   R e v │
│  K a r    C o r │
└──────────────┘
```

3 《Data Parameter Selection》
【▲】up Key／【▼】down Key
Use these keys to select desired data parameter
The selected data parameter will illuminate

┌─────────────────────────────────┐
│ **Advice!**   │
│ Channels that have been selected previously │
│ cannot be used for data parameters.   │
└─────────────────────────────────┘

4 《Data Parameter Entry》
【NEXT】Key
Use this key to finalize selection
This will initiate display of selected parameters

■monitor 《Data Display》

The Super AFC allows the user to display the data from the data parameter entry section ②-a in numbers, graphs, and analog meters.

【NEXT】Key Number Display ⟶ Graph Display
Change

Analog Meter Display

Eng Rev.

1250
rpm
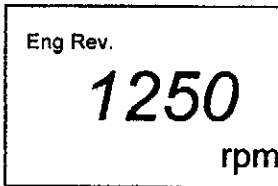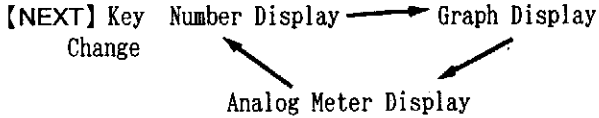
Number Display

【NEXT】Key
Change

【NEXT】Key
Change

Graph Display

Analog Meter Display

【NEXT】Key

※The Analog Meter display can only display 2 parameters at once
If selecting [3channel] [4channel], the display will only show No. 1 and 2

```
 ┌ select ──────┐
 │ ■■■■■  2 T h r │
 │ P r s  3 R e v │
 │ K a r  4 C o r │
 └──────────────┘
```

These 2 parameters
will be displayed

■monitor《Data Display》

Peak Hold values may be displayed in Number Mode and Analog Meter Mode
However, Cor does not have Peak – Hold capabilities

※If in Number Display Mode

```
Eng  Rev.

2512

2 6 2 0       rpm
```

Peak Value

```
Re
8620  2512 rpm
Thr
80.4  65.8 %
```
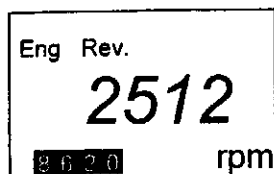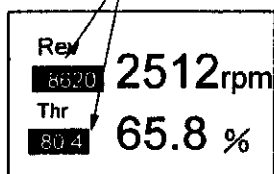
1 《Peak-Hold Selection》
※During Real-Time Display
【▲】up Key
Use the above key for Peak-Hold display
The desired information will illuminate on the display
3ch・4chwill not have real time display during peak-hold mode

2 《Peak-Hold Value Reset》
※During Peak-Hold
【▶】right Key
This will reset the Peak-Hold Value

3 《Releasing Peak-Hold Function》
【▼】down Key
This will release the Peak- Hold Function

※If in Analog Meter Display Mode

【▲】up Key

1 《Setting Peak Hold》
※During Real-Time Display Mode
【▲】up Key
This will display the Peak-Hold value

2 《Peak-Hold Value Reset》
※During Peak-Hold
【▶】right Key
This will reset the Peak-Hold Value

3 《Releasing Peak-Hold Function》
【▼】down Key
This will release the Peak- Hold Function。

During Peak-Hold

■monitor 《Data Display》

It is possible to freeze the display data during Number Display Mode and Analog Meter Display Mode

Rev
2512rpm
Thr
65.8 %

【◀】left Key

Rev
3624rpm
Thr
97.3 %
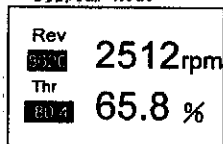
HOLD release

1 《Setting Data Hold》
※During Number Display/ Analog Meter Mode
【◀】 left Key
This key will HOLD the data displayed on the screen
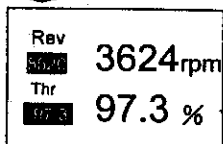
2 《Releasing Data Hold》
※During HOLD
【◀】 left Key
This will return the display to normal mode

【▼】down Key

It is possible to MEMORIZE and REPLAY the display data during Graph Mode
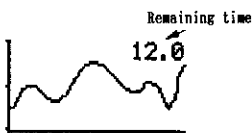
1 《Graph Display Memory》

During Memory

Remaining time

12.0

【▼】 down Key

Stop Memory

※During Real-Time Display、
【▲】up Key
This key will begin memorization of display data
Memorization times are listed below

[1channel] ・・・・60sec
[2channel] ・・・・30sec
[3channel] ・・・・30sec
[4channel] ・・・・15sec

2 《Memorization conclusion in Graph Display》
※During Graph Display Mode
【▼】 down Key
This will stop MEMORY display

■monitor《Data Display》

During Real-Time Display
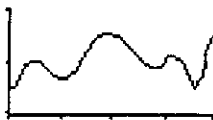
[▶] right Key

RPLY
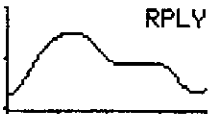
3 《Graph Display Replay》

※During Real-Time Display
【▶】 right Key
This will initiate the memorized graph towards the left of the display
If you press the key below DURING replay again,
【▶】 right Key
The replay graph will stop
Also,
【◀】 left Key
This will initiate the memorized graph towards the right of the display
If you press the key below DURING replay again,
【◀】 left Key
The replay graph will stop

4 《Ending Graph Display》

※During Graph Display Mode
【▼】 down Key
This will end the Graph Display Replay Mode

②-b 2-D Trace Mode 【monitor】 → 【Rev.- [Y] 】

With the horizontal graph value being engine RPM, select the vertical value from below.

●Display Data Glossary

1. A f l……Air Flow (Hot Wire/Flap) usage %
2. P r s……Intake Manifold Pressure
3. K a r……Karman Type
4. T h r……Throttle Position %
5. C o r……Air Flow Correction Percentage

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■monitor 《2-D Trace Mode》
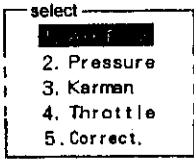
1 《Data Parameter Selection》
【▲】 up Key ╱ 【▼】 down Key
Use these keys to select
Selected parameters will illuminate

2 《Data Parameter Entry》
【NEXT】 Key
Finalize selection with this key
This will initialize the display for the selected parameter

a. Real-Time Display

②-bIt is possible to display the data from the 2-D trace mode as the vertical graph value,
while the engine RPM will be the horizontal graph value

【NEXT】 Key 1 Point Display ──────► 10 Point Display
       Change ⬉
                    Ghost Map Trace
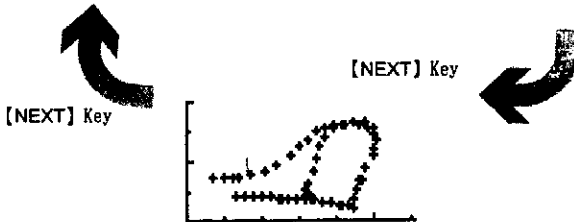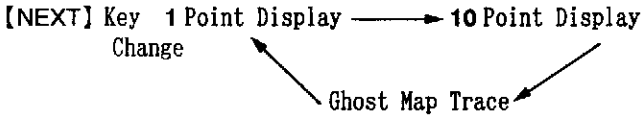
It is possible to freeze the 2-D Trace Mode. The horizontal value will be engine RPM while the vertical value will be the selected data parameter.

During HOLD
【◀】 left Key
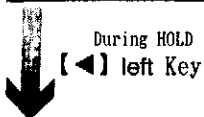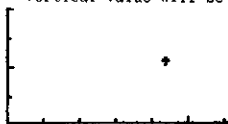
HOLD Release

1 《HOLD Setting》

※During 1 point, 10 point, ghost map tracing modes.
【◀】 left Key
Use this key to freeze the graph display

2 《HOLD Release》

※ During HOLD
【◀】 left Key
Use this key to release the HOLD function
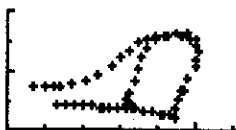
【▶】 right Key

1 《Clearing Ghost Map Trace》

※During Ghost Map Trace
【▶】 right Key
Use this key to clear the ghost map trace

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■setting 《Setting Mode》

③Setting Mode 【setting】

Choosing the 【setting】 key will initiate the SETTING MODE.

●Setting Mode Data Parameters

③−a 〔Hi−Thrtl〕 ······Air Flow % Correction Setting (During High Throttle)
③−b 〔Lo−Thrtl〕 ······Air Flow % Correction Setting (During Low Throttle)
③−c 〔TH−Point〕 ······Setting the HI/ LO Throttle position values
③−d 〔Ne−POINT〕 ······Air Flow Correction RPM Setting values
③−e 〔Dec.−Air〕 ······Deceleration Air Setting for Upper Limits???


```
┌ setting ─────┐
│ ▓▓▓▓▓▓▓▓▓▓ │
│ 2. Lo-Thtrl  │
│ 3. TH-Point  │
│ 4. Ne-Point  │
│ 5.Dec.-Air   │
└──────────────┘
```
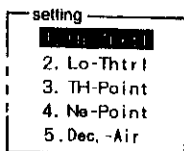
1 《Setting Parameter Selection》
【▲】 up Key／ 【▼】 down Key
Use these keys to select a desired parameter.
The selected parameter will illuminate.

2 《Setting Parameter Entry》
【NEXT】 Key
Use this key to finalize selection
The menu will proceed

```
┌ main ────────┐
│ 1 .Monitor   │
│ 2 .Setting   │
│ 3 . etc.     │
└──────────────┘
```

3 《Ending Setting Parameter》
【PREV.】 Key
Use this key to exit this Mode
If the PREV Key is depressed AFTER the Setting Parameter Entry Mode、
The screen will return to the Setting Parameter Selection Screen.
If the PREV Key is depressed DURING the Setting Parameter Selection

※ 〔PREV.〕 Use this key to go BACK one menu   Mode, The screen will return to the MAIN MENU.
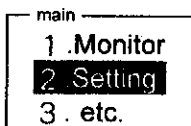
Pressing the 【NEXT】 Key and 【PREV.】 Key for over **0.5** sec.will
toggle between **Monitor** Mode and **Setting** Mode.

▪ WARNING

● Tuning should only be performed by an experienced professional.
Improper tuning WILL damage the engine.
● Do not operate this unit while driving.
Operating this unit while driving may interfere with normal driving procedure and be the cause of
accidents.

■setting 《Hi-Thrtl》 《Lo-Thrtl》

③-a Air Flow % Correction Setting (HI Throttle)
【setting】 → 【Hi-Thrtl】

③-b Air Flow % Correction Setting (LO Throttle)
【setting】 → 【Lo-Thrtl】

This unit takes the input air flow signal and converts the signal into an air volume value. This value is modified through the Air Flow % Correction Setting. The modified output air volume value is then converted back into an air flow signal and sent to the ECU (Electronic Control Unit)

For instance, if the setting value is set at +10%, then the ECU (Electronic Control Unit)will recognize a +10% increase in air volume thereby increasing the fuel amount by a theoretical +10%.

The Air Flow % Correction Setting may be modified at 8 different engine RPM levels.
Adjustments can also be made for HI throttle/ LO throttle situations.
　※HI/LO Throttle setting is explained in section ③—c.

1 《Engine RPM Selection》
【◀】 left Key／ 【▶】 right Key
Use these keys to select a desired engine RPM
The selected RPM range will illuminate
※Please refer to section ③—d to change the setting points.

【▲】 left Key／ 【▼】 right Key

(Hi)
4000
rPm
+10%
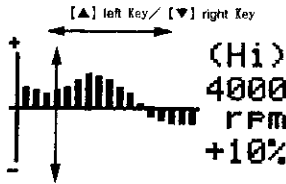
2 《Increasing/Decreasing the Setting Value》
【▲】 up Key／ 【▼】 down Key
Use the keys above to change the setting value

The Setting Range is - 50 % - +50 %
Adjustments may be made in 1 % increments

Once the 【HI-Thrtl】 is set, proceed with the 【Lo-Thrtl】 setting.

【NEXT】 Key 　│ 【Hi-Thrtl】　　【Lo-Thrtl】 │ 　Change

(Hi)
4000
rPm
+10%

【NEXT】 Key

【NEXT】 Key

(Lo)
4000
rPm
-8%
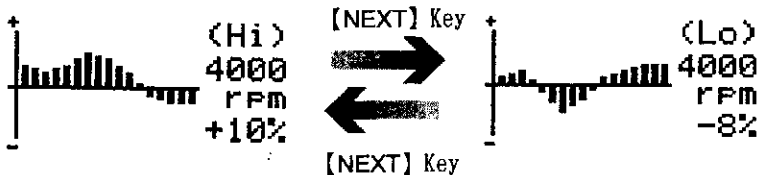
■setting 《Hi-Thrtl》 《Lo-Thrtl》

If the Engine RPM falls BETWEEN the designated setting point, a point between the 2 closest setting points will be automatically selected.

Selected Correction Point
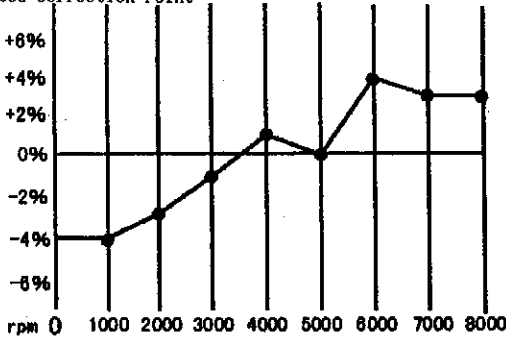
③-c HI/LO Throttle Setting

[setting] → [TH-Point]

throttle

Lo Hi
10% 50%

[[◀ left Key

[▶] right Key
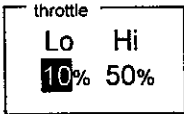
throttle

Lo Hi
10% 50%

1 《Lo · Hi Selection》
【◀】 left Key／【▼】 right Key
Use these keys to select HI/LO throttle position

2 《Throttle Position Setting》
【▲】 up Key／【▼】 down Key
Use these keys to select throttle position
※Setting range is from 0%～100% in
1% increments
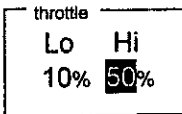
■setting 《Th-Point》

If the Throttle Position Setting is set like below, the Air Flow Correction will be as follows.

```
┌ throttle ──────────┐
│  Lo    Hi           │
│  10% 50%            │
└─────────────────────┘
```

Ex.

●If the Throttle Position is above 5 0 % and the Hi-Thrt correction value is + 3 %

●If the Throttle Position is below 1 0 % and the Lo-Thrt correction value is − 1 %

Throttle Position is at 4 0 %

Selected Correction Point
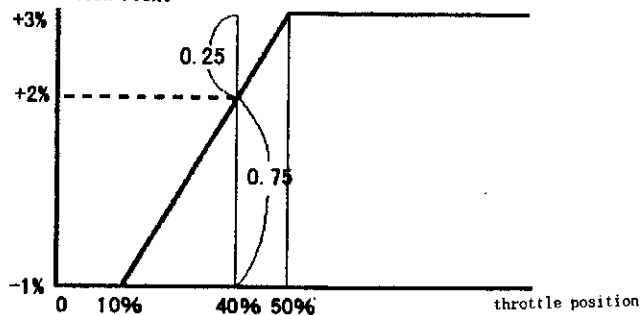
●If the Throttle Position is set at 4 0 %

$$\frac{(3\% - (-1\%)) \times (40\% - 10\%)}{50\% - 10\%} + (-1\%) = 2\%$$

Then the calculation above will display Correction Value

■setting 《Ne-Point》

③-d Setting Air Flow % Correction Point 　　【setting】→【Ne-Point】

```
┌─ Ne point ────────┐
│ Ne1 : 1 0 0 0 rpm │
│ Ne2 : 2 0 0 0 rpm │
│ Ne3 : 3 0 0 0 rpm │
│ Ne4 : 4 0 0 0 rpm │
│ Ne5 : 5 0 0 0 rpm │
│ Ne6 : 6 0 0 0 rpm │
│ Ne7 : 7 0 0 0 rpm │
│ Ne8 : 8 0 0 0 rpm │
└───────────────────┘
```

1 《*Engine RPM Selection*》

【▲】up Key／【▼】down Key

Use the keys above to select RPM Channel
The selected Channel will illuminate

2 《*Channel Entry*》

【▶】right Key

Use this key to select the appropriate RPM
The selected engine RPM will illuminate

```
┌─ Ne point ────────┐
│ Ne1 :         rpm │
│ Ne2 : 2 0 0 0 rpm │
│ Ne3 : 3 0 0 0 rpm │
│ Ne4 : 4 0 0 0 rpm │
│ Ne5 : 5 0 0 0 rpm │
│ Ne6 : 6 0 0 0 rpm │
│ Ne7 : 7 0 0 0 rpm │
│ Ne8 : 8 0 0 0 rpm │
└───────────────────┘
```

3 《*Changing Engine RPM*》

【▲】up Key／【▼】down Key

Use the keys above to select engine RPM
※Upper Limit 9 0 0 0 rpm
　Lower Limit 1 0 0 0 rpm
　Increments　5 0 0 rpm

※**Ne** : Engine RPM

Ne1 < Ne2 < Ne3 < Ne4 < Ne5 < Ne6 < Ne7 < Ne8

■etc. 《Misc.》

④Misc.　[etc.]

Selecting [etc.] on the Main Menu will access the Misc. Mode Menu.

●Misc. Menu

④-a [S e n s o r　T y p e] ······Sensor Type Setting
④-b [C a r　　S e l e c t] ······Engine Cylinder #、Throttle Type Setting
④-c [G r p h　　S c a l e] ······Graph Scale Setting
④-d [S e n s o r　　C h k] ······Input Signal Check
④-e [V F D　　B r i g h t] ······Screen Brightness
④-f [I n i t i a l i z e　] ······Restore to Default Settings

```
┌─ e t c.───────┐
│ 1.Sensor Type │
│ 2.Car  Select │
│ 3.Grph  Scale │
│ 4.Sensor  chk │
│ 5.VFD  Bright │
│ 6.Initialize  │
└───────────────┘
```
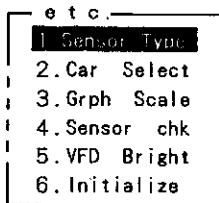
1 《 Misc. Parameter Selection》
【▲】 up Key／【▼】 down Key
Use the keys above to select
The selected menu will illuminate

2 《Misc. Parameter Entry》
【NEXT】 Key
Use this key to finalize entry selection
The selected entry will illuminate

```
┌─ main ────────┐
│ 1 .Monitor    │
│ 2 .Setting    │
│ 3 . etc.      │
└───────────────┘
```

※ [PREV.] will go back one screen

3 《Ending Misc. Parameter Setting》
【PREV.】 Key
use this key to exit this Mode
Pressing this key after Misc. Menu Entry
Will return to the Menu Selection Screen
Pressing this key after the Misc. Menu Screen
Will return to the Main Menu

■etc. 《Setting Sensor Type》

④-a Setting Sensor Type   【etc.】 → 【Sensor Type】

Procedures for Sensor Type Setting

【etc.】 → 【Sensor Type】 selecting this will access the following screen menu

※Please use the tables on Page **28** to select Sensor Type

sens. type
2.Flap
3.Pressure
4.Karman
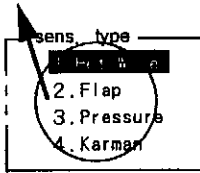
1 《Sensor Type Selection》
【▲】 up Key／【▼】 down Key

Use the keys above to select Sensor type
The selected sensor will illuminate
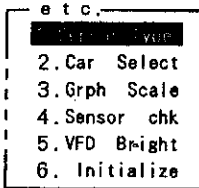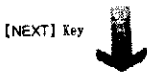
[NEXT] Key

2 《Sensor Type Entry》
【NEXT】 Key

Use this key to finalize entry

e t c.
2.Car Select
3.Grph Scale
4.Sensor chk
5.VFD Bright
6. Initialize

3 《Ending Sensor Type Selection》
【PREV.】 Key

Use this key to exit sensor type selection
If this key is pressed during the Sensor Type Selection Screen
The 【PREV.】 key will access the Main Menu

If Selecting [1. Hot-Wire]

If Selecting [3. Pressure]

※Please refer to the table on page **28 for Sensor Numbers**

sens.no
In   Out
0 1   0 1

1 《Sensor Number Selection》
【▲】 up Key／【▼】 down Key

Use the keys above to select the vehicle specific Sensor Number
The Active screen will illuminate

【▼】 down Key   【▲】 up Key

sens.no
In   Out
0 2   0 1

Sensor Number

25

■etc. 《Sensor Type Setting》

※Skyline **GT-R**(Twin Airflow)Modification

※Fairlady Z (300ZX)(**Z32**)Twin Air Flow Modification

```
┌ sens.cal ┐
  In    Out
  ■1    1
```

[▲] Press the UP key

```
┌ sens.cal ┐
  In    Out
  ■2    Add
```

[▶] Press the right key once
[▼] Press the down key once

```
┌ sens.cal ┐
  In    Out
  2     Ave
```

1 《Setting Sensor Output Calculation IN》
[▲] up Key
Use the key above to switch the In from 1 to 2.
The Out will automatically change to **Add**.

※Fairlady Z/300ZX(**Z32**)Twin Air Flow Modification
Press the [PREV.] Key during the screen to the left

2 《Setting Sensor Output Calculation OUT》
[▶] Press the right key once
[▼] Press the down key once

※SKYLKINE **GT-R**(Factory Twin Airflow)
Press the [PREV.] key during the screen to the left

※SKYLINE **GT-R** Single Air Flow Conversion

```
┌ sens.cal ┐
  In    Out
  ■1    1
```

[▼] Press the right key once
[▼] Press the down key once

```
┌ sens.cal ┐
  In    Out
  1     1/2
```

1 《Setting Sensor Output Calculation OUT》
[▶] Press the right key once
[▼] Press the down key once

Press the [PREV.] key during the screen to the left

■etc. 《Sensor Type Setting》

※Skyline **GT-R**(Twin Airflow) Modification

※Fairlady Z (300ZX)(**Z32**)Twin Air Flow Modification

```
┌ sens.cal ──┐
│ In   Out  │
│ ■1   1    │
└───────────┘
```

[▲] Press the UP key

1 《Setting Sensor Output Calculation IN》

【▲】 up Key

Use the key above to switch the In from 1 to 2.
The Out will automatically change to Add.

```
┌ sens.cal ──┐
│ In   Out  │
│ ■2   Add  │
└───────────┘
```

[▶] Press the right key once
[▼] Press the down key once

※Fairlady Z/300ZX(**Z32**)Twin Air Flow Modification
Press the [PREV.] Key during the screen to the left

2 《Setting Sensor Output Calculation OUT》

【▶】 Press the right key once
【▼】 Press the down key once

```
┌ sens.cal ──┐
│ In   Out  │
│ 2    Ave  │
└───────────┘
```

※SKYLKINE **GT-R**(Factory Twin Airflow)
Press the [PREV.] key during the screen to the left

※SKYLINE **GT-R** Single Air Flow Conversion

```
┌ sens.cal ──┐
│ In   Out  │
│ ■1   1    │
└───────────┘
```

[▼] Press the right key once
[▼] Press the down key once

1 《Setting Sensor Output Calculation OUT》

【▶】 Press the right key once
【▼】 Press the down key once

Press the [PREV.] key during the screen to the left

```
┌ sens.cal ──┐
│ In   Out  │
│ 1    1/2  │
└───────────┘
```

27

■etc. 《Setting Sensor Type》

If Selecting [2. Flap]

※Please refer to the table on page **28 for Sensor Numbers**
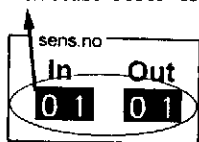
sens.no

In —— Out
0 1 **0 1**

[▲] up Key

[▼] down Key

sens.no

In   Out
0 2 **0 2**

Sensor Number

1 《Sensor Number Selection》
   [▲] up Key／ [▼] down Key
   Use the keys above to select the vehicle specific Sensor Number
   The Active screen will illuminate
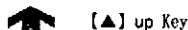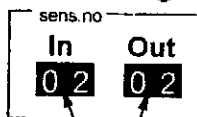
2 《Sensor Number Entry》
   Press the 【PREV.】 Key

If Selecting [4. Karman]

sens. type
  1.Hot-Wire
  2.Flap
  3.Pressure
  4. ... ...
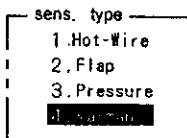
1 《Sensor Type Entry》
   [▼] down Key
   Select 4. Karman and press the
   【PREV.】 Key

※There is no sensor number entry

Sensor Type Glossary

Ex.　　**PR－3**

　　Sensor Type　Sensor Number

HW-HotWire
FL－Flap
PR-Pressure
KR－Karman

TOYOTA

Vehicle Name	Model Type	Engine	Year	Note	Sensor Type
CELSIOR	UCF10	1UZ-FE	'92.9～'94.9		KR
	UCF11		89.11～'92.8		
CROWN	JZS14#	2JZ-GE	'91.10～'95.7		PR-3
CROWN MAJESTA	UZS141	1UZ-FE	'91.10～'95.7		KR
ARISTO	JZS161	2JZ-GTE	'97.8～*		HW-13
	JZS160	2JZ-GE			
	JZS147	2JZ-GTE	'91.10～'97.7		PR-1
		2JZ-GE			PR-3
	UZS143	1UZ-FE	'92.10～'97.7		KR
SOARER	JZZ30	1JZ-GTE	'96.8～*		HW-12
			'91.5～'96.7		PR-1
	JZZ31	2JZ-GE	'94.1～'96.7		PR-3
	UZZ31	1UZ-FE	'91.5～'93.12		KR
	MZ20	7M-GTE	'88.1～'91.4		KR
			'86.1～'87.12		
	GZ20	1G-GTE	'88.1～'91.4		FL-1
			'86.1～'87.12		
		1G-GE	'89.1～'91.4		PR-3
			'86.1～'88.12		
SUPRA	JZA80	2JZ-GTE	'97.8～*		HW-13
			'93.5～'97.7		PR-1
		2JZ-GE			PR-3
	JZA70	1JZ-GTE	'90.8～'93.4		PR-1
	MA70	7M-GTE	'88.9～'90.7		KR
			'86.2～'88.8		
			'88.8	Turbo A	PR-1
	GA70	1G-GTE	'88.9～'93.4		FL-1
			'86.2～'88.8		
		1G-GE	'88.9～'93.4		PR-3
			'86.2～'88.8		
MARK Ⅱ CRESTA CHASER	JZX100	1JZ-GTE	'96.9～*		HW-12
	JZX90		'94.9～'96.8		PR-1
			'92.10～'94.8		
		1JZ-GE	'92.10～'96.8		PR-3
	JZX91	2JZ-GE	'94.9～'96.8		PR-3
			'92.10～'94.8		
	JZX81	1JZ-GTE	'90.8～'92.9		PR-1
		1JZ-GE			PR-3
	GX81	1G-GTE	'88.8～'92.9		FL-1
		1G-GE	'88.8～'92.9		PR-3
MR2	SW20Ⅲ～Ⅴ	3S-GTE	'93.10～*		PR-2
	SW20Ⅲ、Ⅳ	3S-GE	'93.10～'97.11		PR-3
	SW20Ⅰ、Ⅱ	3S-GTE	'89.10～'93.9		FL-2
		3S-GE			PR-3
	AW11	4A-GZE	'86.8～'89.9		FL-3
		4A-GE	'84.6～'89.9		PR-3

● 　Be sure to double check for proper vehicle application and installation.

　　Installation of the Super-AFC on a non-listed vehicle may lead to sever engine damage.

Sensor Type Glossary

Ex. PR—3

Sensor Type Sensor Number

HW-HotWire
FL—Flap
PR-Pressure
KR—Karman

TOYOTA

Vehicle Name	Model Type	Engine	Year	Note	Sensor Type
CELICA	ST205	3S-GTE	'94.2~*		PR-2
	ST202 ST203	3S-GE	'93.10~'97.11		PR-3
		3S-FE	'96.6~*	M/T	
				A/T	
			'95.8~'96.5	M/T	
				A/T	
			'93.10~'95.7		
	ST185	3S-GTE	'91.9~'93.9		FL-2
			'89.10~'91.8		
	ST182	3S-GE	'89.10~'93.9		PR-3
	ST165	3S-GTE	'85.8~'89.9		FL-2
	ST162	3S-GE			
CURREN	ST206 ST207	3S-GE	'94.1~'98.7		PR-3
		3S-FE	'96.6~'98.7	M/T	
				A/T	
			'95.10~'96.5	M/T	
				W·A/T·TRC	
				W/O·A/T·TRC	
			'94.1~'95.9	W·TRC	
				W/O·TRC	
CARINA ED CORONA EXIV	ST202 ST203	3S-GE	'93.10~'98.4		PR-3
		3S-FE	'96.6~'98.4	M/T	
				A/T	
			'95.8~'96.5	M/T	
				W·A/T·TRC	
				W/O·A/T·TRC	
			'93.10~'95.7	W·TRC	
				W/O·TRC	
CALDINA	ST215W	3S-GTE	'97.8~*		PR-2
	ST215G ST210G	3S-FE			
	ST195G	3S-GE	'95.2~'97.7		
	ST195G ST191G	3S-FE	'96.1~'97.7	M/T	PR-3
				2WD·A/T	
				4WD·A/T	
			'94.2~'95.12	W·FF·TRC	
				W/O·FF·TRC	
				4WD·M/T	
				4WD·A/T	
			'92.11~'94.1	FF·A/T	
				4WD·M/T	
				4WD·A/T	
	ST190G	4S-FE	'92.11~'97.7	M/T	
				A/T	
COROLLA SPRINTER	AE111	4A-GE 4A-FE 5A-FE	'95.5~*		PR-3
	AE101	4A-GE	'91.6~'95.4	M/T	FL-4
				A/T	
		4A-FE		M/T	PR-3
				A/T	
	AE92	4A-GE	'89.5~'91.5		PR-3
			'87.5~'89.4		

● Be sure to double check for proper vehicle application and installation.

Installation of the Super-AFC on a non-listed vehicle may lead to sever engine damage.

Sensor Type Glossary
Ex.　　PR-3
　　Sensor Type　Sensor Number

HW-HotWire
FL－Flap
PR-Pressure
KR－Karman

TOYOTA

Vehicle Name	Model Type	Engine	Year	Note	Sensor Type
COROLLA LEVIN SPRINTER TRUENO	AE111	4A-GE	'95.5～*		PR-3
		4A-FE			
		5A-FE			
	AE101	4A-GZE	'91.6～'95.4		PR-1
		4A-GE		M/T	FL-4
				A/T	
		4A-FE		M/T	PR-3
				A/T	
	AE92	4A-GZE	'89.5～'91.5		PR-1
			'87.5～'89.4		FL-3
		4A-GE	'89.5～'91.5		PR-3
			'87.5～'89.4		
	AE86	4A-GE	'83.5～'87.4		PR-3
COROLLA CERES SPRINTER MARINO	AE101	4A-GE	'92.5～'95.4	M/T	FL-4
				A/T	
		4A-FE		M/T	PR-3
				A/T	
COROLLA FX	AE101	4A-GE	'92.5～'95.4	M/T	FL-4
				A/T	
		4A-FE		M/T	PR-3
				A/T	
	AE92	4A-GE	'89.5～'92.4		PR-3
			'87.5～'89.4		
STARLET	EP91	4E-FTE	'95.12～*		PR-1
		4E-FE			PR-3
	EP82	4E-FTE	'89.12～'95.11	M/T	PR-1
			'92.1～'95.11	A/T	
			'89.12～'91.12		
		4E-FE	89.12～'95.11		PR-3
	EP71	2E-TE	'86.1～'89.12		PR-1
		2E-E			PR-3
RAV4	SXA1#G	3S-FE	'97.9～*	M/T	PR-3
				A/T	
	SXA11W	3S-GE	'96.8～*		
	SXA10W				
	SXA11G	3S-FE	'95.4～'97.8	M/T	
				A/T	
	SXA10G		'94.5～'97.8	M/T	
				A/T	

● Be sure to double check for proper vehicle application and installation.

Installation of the Super-AFC on a non-listed vehicle may lead to sever engine damage.

Sensor Type Glossary

Ex.　　　　PR—3

　　　Sensor Type　Sensor Number

HW-HotWire
FL—Flap
PR-Pressure
KR—Karman

NISSAN

Vehicle Name	Model Type	Engine	Year	Note	Sensor Type
PRESIDENT	G50	VH45DE	'90.10～*		HW-1
INFINITY Q45	G50	VH45DE	'89.11～'97.9		HW-1
CIMA III	FGY33	VH41DE	'96.6～*		HW-1
	FHY33	VQ30DET			HW-4
CIMA II	FGY32	VH41DE	'91.8～'96.5		HW-1
	FPY32	VG30DET	'93.9～'96.5		HW-4
CIMA I	FPY31	VG30DET	'89.8～'91.7		HW-4
		VG30DE			
		VG30DET	'88.1～'89.7		
		VG30DE			
FAIRLADY Z	Z32	VG30DETT	'89.7～*		HW-2
		VG30DE			
LEOPARD	Y33	VQ30DET	'96.3～*		HW-4
		VQ30DE			
	UF31	VG30DET	'88.8～'92.5		
		VG30DE			
	GF31	VG20DET			
LEOPARD J FERRY	JGBY32	VH41DE	'92.6～'96.2		HW-1
	JPY32	VG30DE	'92.6～'96.2		HW-4
CEDRIC GLORIA	Y33	VQ30DET	'95.6～*		HW-4
		VQ30DE			
	Y32	VG30DET	'91.6～'95.5		
		VG30DE			
	Y31	VG20DET	'89.6～'91.5		
		VQ20E			
CEFIRO	A32	VQ30DE	'97.1～*		HW-4
		VQ25DE			
		VQ20DE		M/T	
				A/T	
		VQ30DE	'94.8～'96.12		
		VQ25DE			
		VQ20DE			
	A31	RB20DET	'88.9～'94.7		
		RB25DE	'92.5～'94.7		
		RB20DE	'88.9～'94.7		
CEFIRO WAGON	W#A32	VQ30DE	'97.1～*		HW-4
		VQ25DE			
		VQ20DE			
LAUREL	C35	RB25DET	'97.6～*		HW-4
		RB25DE			
		RB20DE			
	C34	RB25DET	'94.1～'97.5		
		RB25DE	'93.1～'97.5		
		RB20DE			
	C33	RB20DET	'89.1～'92.12		
		RB20DE			
SKYLINE	R34	RB25DET	'98.5～*		HW-4
		RB26DETT	'95.1～*		HW-3
	R33	RB25DET	'96.1～'98.4		HW-4
		RB25DE			
		RB25DET	'93.8～'95.12		
		RB25DE			

● Be sure to double check for proper vehicle application and installation.
　Installation of the Super-AFC on a non-listed vehicle may lead to sever engine damage.

Sensor Type Glossary

Ex.　　　PR-3

　　Sensor Type　Sensor Number

HW-HotWire
FL-Flap
PR-Pressure
KR-Karman

NISSAN

Vehicle Name	Model Type	Engine	Year	Note	Sensor Type
SKYLINE	R32	RB26DETT	'89.8~'94.12		HW-3
		RB25DE	'91.8~'93.7		HW-4
		RB20DET	'89.5~'93.7		
		RB20DE			
	R31	RB20ET	'87.8~'89.5		
		RB20E			
STAGEA	W#C34	RB25DET	'96.8~*		HW-4
		RB25DE			
STAGEA Autech Ver. 260RS	WGNC34	RB26DETT	'97.10~*		HW-3
BLUE BIRD	U14	SR20VE	'97.9~*		HW-14
		SR20DE	'96.1~*		HW-6
		SR18DE			
	U13	SR20DET	'91.9~'95.12		HW-6
		SR20DE			
		SR18DE			
	U12	SR20DET	'89.10~'91.8		HW-6
		SR20DE			
		CA18DET	'87.9~'89.9		HW-7
		CA18DE			
SILVIA	S14	SR20DET	'96.6~*		HW-5
			'93.10~'96.5		
		SR20DE	'93.10~*		HW-6
	PS13	SR20DET	'91.1~'93.9		HW-6
		SR20DE			
	S13	CA18DET	'88.5~'91.1		HW-7
		CA18DE			
180SX	RPS13	SR20DET	'96.8~*		HW-6
		SR20DE			
		SR20DET	'91.1~'96.7		
	RS13	CA18DET	'89.3~'90.12		HW-7
PULSAR	N15	SR18DE	'95.1~*		HW-6
		SR16VE	'97.9~*		HW-14
	N14	SR20DET	'90.8~'94.12		HW-5
		SR18DE			HW-6
PRIMERA	P11	SR20VE	'97.9~*		HW-14
		SR20DE	'95.9~*		HW-6
		SR18DE			
	P10	SR20DE	'90.2~'95.8		HW-6
		SR18DE	'92.9~'95.8		
PRIMERA WAGON	W#P11	SR20VE	'97.9~*		HW-14
		SR20DE	'97.9~*		HW-6
		SR18DE			
AVENEIR	W11	SR20DET	'98.8~*		HW-5
		SR20DE			HW-6
	W10	SR20DET	'95.8~'98.7		HW-5
		SR20DE	'90.5~'98.7		HW-6
		SR18DE	'93.1~'98.7		

● Be sure to double check for proper vehicle application and installation.

Installation of the Super-AFC on a non-listed vehicle may lead to sever engine damage.

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Sensor Type Glossary

Ex.　　　PR—3

　　Sensor Type　Sensor Number

HW-HotWire
FL—Flap
PR-Pressure
KR—Karman

NISSAN

Vehicle Name	Model Type	Engine	Year	Note	Sensor Type
SUNNY	B14	SR18DE	'94.1~'98.9		HW-6
	B13		'90.1~'93.12		
NX COUPE	B13	SR18DE	'90.1~'93.12		HW-6
MARCH	K11	CG13DE	'92.1~*		HW-9
		CG10DE			
CUBE	Z10	CG13DE	'98.2~*		HW-9
TERRANO	YD21	VG30E	'89.10~'95.8		HW-6

MITSUBISHI

Vehicle Name	Model Type	Engine	Year	Note	Sensor Type
DIAMANTE	F36A	6G72	'95.1~*	MIVEC	PR-5
				DOHC	KR
	F17A		'90.5~'94.12	DOHC	
GTO	Z16A	6G72	'90.10~*		KR
FTO	DE3A	6A12	'94.10~*	MIVEC	PR-5
			'96.2~*		KR
			'94.10~'96.1		KR
	DE2A	4G93			
LEGNUM	EC5W	6A13	'96.8~*	DOHC	KR
GALANT	EC5A	6A13	'96.8~*		KR
	E84A	6A12	'92.5~'96.7	DOHC	
	E39A	4G63	'87.10~'92.4	DOHC	
ECLIPSE	D32A	4G63	'95.6~*		KR
	D27A		'89.11~'95.6		
LANCER	CK4A	4G92	'95.10~*	MIVEC	PR-5
	CM5A	4G93			KR
	CD5A		'91.10~'95.9		
	CP9A		'98.1~*		
	CN9A	4G63	'96.8~'97.12		
	CE9A		'93.10~'96.7		
	CD9A		'92.10~'93.9		
LIBERO	CD5W	4G93	'92.5~*		KR
MIRAGE	CM5A	4G93	'95.10~*		KR
	CJ4A	4G92		MIVEC	PR-5
	CA4A		'91.10~'95.9	MIVEC	
PAJERO	V25W	6G74	'93.7~*		KR
	V23W	6G72	'91.1~*		
RVR	N74W	4G64	'97.10~*		KR
	N73W	4G63		M/T	
				A/T	
	N71W	4G93			
	N61W				
	N23W	4G63	'92.10~'97.9		

● Be sure to double check for proper vehicle application and installation.

　Installation of the Super-AFC on a non-listed vehicle may lead to sever engine damage.

Sensor Type Glossary

Ex.　　PR－3

Sensor Type　Sensor Number

HW-HotWire
FL－Flap
PR-Pressure
KR－Karman

HONDA

Vehicle Name	Model Type	Engine	Year	Note	Sensor Type
NSX	NA2	C32B	'97.2～*		
	NA1	C30A	'95.3～*		
			'90.9～'95.2		
LEGEND	KA9	C35A	'96.2～*		
	KA8	C32A	'90.12～'96.1		
	KA7		'90.10～'96.1		
INSPIRE	UA5	J32A	'98.10～*		
	UA4	J25A			
	UA2	G25A	'95.2～'98.9		
	UA1	G20A			
	CC2	G25A	'92.1～'95.1		
	CB5	G20A	'89.10～'91.12		
PRELUDE	BB6	H22A	'96.12～*		
	BB8				
	BB1		'91.9～'96.11	W·TRC	
	BB4			WO·TRC	
ACCORD	CF3	F18B	'97.9～*		
	CF4	F20B			
	CD5	F22B	'93.9～'97.8		
	CD6	H22A			
ACCORD WAGON	CF6	F20B	'97.10～*		
	CE1	F22B	'94.3～'97.9		
	CB9	F22A	'91.3～'94.2		
INTEGRA (Including '98 Spec.)	DC2	B18C	'95.9～*	M/T	PR-6
				A/T	
	DB8		'93.5～'95.8	M/T	
				A/T	
	DA6	B16A	'89.4～'93.5		
CIVIC	EK9	B16B	'98.9～*		
	EK4	B16A			
	EK3	D15B			
	EK9	B16B	'97.6～'98.8		
	EK4	B16A	'95.9～'98.8		
	EK3	D15B			
	EG6	B16A	'91.9～'95.8		
	EG4	D15B			
	EF9	B16A	'89.9～'91.8		
CR-X	EG2	B16A	'92.3～'95.10		
	EG1	D15B			
	EF8	B16A	'89.9～'92.2		
CR-V	RD1	B20B	'95.10～*		
ODYSSEY	RA3	F23A	'97.10～*		
	RA4				
	RA5	J30A			
	RA1	F22B	'94.10～'97.9		
	RA2				
S-MX	RH1	B20B	'96.11～*		
STEP WGN	RF1	B20B	'96.5～*		
	RF2				
LIFE	JA4	E07A	'97.4～*		
CAPA	GA4	P15A	'98.4～*		

● Be sure to double check for proper vehicle application and installation.

　Installation of the Super-AFC on a non-listed vehicle may lead to sever engine damage.

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Sensor Type Glossary

Ex.　　　PR—3

　　Sensor Type　Sensor Number

HW-HotWire
FL—Flap
PR-Pressure
KR—Karman

MAZDA

Vehicle Name	Model Type	Engine	Year	Note	Sensor Type
EUNOS COSMO	JC3S	20B-REW	'94.3~'95.8		FL-6
	JC3SE		'90.3~'94.3		
	JCES	13B-REW	'94.3~'95.8		
	JCESE		'90.3~'94.3		
RX-7	FD3S	13B-REW	'95.12~*		PR-4
			'91.12~'95.11		
	FC3S	13B	'88.9~'91.11		FL-6
			'85.19~'88.8		FL-5
ROADSTAR	NA8C	BP-ZE	'95.8~'97.12		HW-11
			'93.8~'95.7		
	NA6CE	B6-ZE	'89.9~'93.7	M/T	FL-8
				A/T	
FAMILIA	BG8Z	BP-ZET	'89.8~'94.3		FL-7
AZ-WAGON	MD21S	K6A T/C	'98.10~*		PR-8
	MD11S	F6A T/C			

SUBARU

Vehicle Name	Model Type	Engine	Year	Note	Sensor Type
LEGACY	BH5	EJ208	'98.6~*		HW-1
		EJ206			
	BD5 BG5	EJ20R	'96.6~'98.5		HW-1
		EJ20H			HW-4
		EJ20D			
		EJ20H			
		EJ20D			
		EJ20H	'93.10~'96.5		
		EJ20D			
	BD9 BG9	EJ25D	'96.6~'98.5		
			'94.10~'96.9		
	BC5	EJ20G	'89.2~'93.9		HW-10
	BF5				
IMPREZA	GC8 GF8	EJ207	'98.9~*		HW-1
		EJ205			
	GC8	EJ20K	'96.9~'98.8		
	GF8				
	GC8	EJ20G	'92.11~'96.8		HW-10
	GF8		'96.9~'98.8		HW-4
			'93.10~'96.8		HW-10
FORESTER	SF5	EJ205	'98.9~*		HW-1
		EJ20G	'97.2~'98.8		HW-4

ISUZU

Vehicle Name	Model Type	Engine	Year	Note	Sensor Type
BIG HORN	UBS25	6VD1	'91.12~*		PR-7

● Be sure to double check for proper vehicle application and installation.

Installation of the Super-AFC on a non-listed vehicle may lead to sever engine damage.

Sensor Type Glossary

Ex. PR-3

Sensor Type Sensor Number

HW-HotWire
FL-Flap
PR-Pressure
KR-Karman

SUZUKI

Vehicle Name	Model Type	Engine	Year	Note	Sensor Type
ALTO WORKS	HA22S	K6A T/C	'98.10~*		
	HA12S	F6A T/C			
	HA21S HB21S	K6A T/C	'94.11~'97.4		
	HA11S HB11S	F6A T/C		M/T A/T	
CAPUCHINO	EA21R	K6A	'95.5~'98.6		
	EA11R	F6A	'91.11~'95.10		
WAGON-R	MC21S	K6A T/C	'98.10~*		PR-8
	MC11S	F6A T/C			
	CT51S CV51S	K6A T/C	'97.4~'98.9		
	CT21S CV21S	F6A T/C	'95.11~'98.9	M/T A/T	
			'93.9~'95.10	M/T A/T	
WAGON-R WIDE	MA61S MB61S	K10A T/C	'97.2~*		
KEI	HN21S	K6A T/C	'98.10~*		
	HN11S	F6A T/C			
GIMNY	JB23W	K6A T/C	'98.10~*		

DAIHATSU

Vehicle Name	Model Type	Engine	Year	Note	Sensor Type
MIRA TR-XX	L502S	JB-JL	'94.9~'98.9		PR-8
	L512S				
MOVE	L602S	JB-JL	'95.8~'98.9		

● Be sure to double check for proper vehicle application and installation.

Installation of the Super-AFC on a non-listed vehicle may lead to sever engine damage.

■etc. 《Setting Cylinder/Throttle Sensor Type》

④-b Setting Cylinder/Throttle Sensor Type

[etc.] → [Car Select]

car sel.
Cyl Thr
6

【►】 right Key

【◄】 left Key

car sel.
Cyl Thr
6
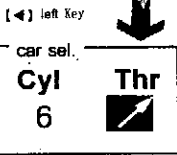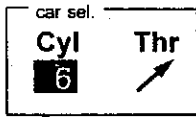
1 《Setting Cylinder Type》

【▲】 up Key／ 【▼】 down Key

Use this key to select cylinder type
Setting range is from 1～16 cylinders
※Please select the # of rotors×2 for rotary vehicles
※Please select 4 for Toyota V-8 engines

2 《Switching Between Cyl・Thr》

【◄】 left Key／ 【►】 right Key

Use the keys above to switch between cylinder setting and throttle
sensor type
The active menu will illuminate

car sel.
Cyl Thr
6

【▼】 down Key

【▲】 up Key

car sel.
Cyl Thr
6
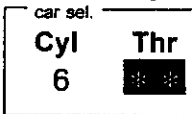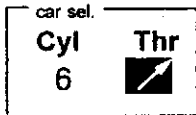
3 《Throttle Sensor Type Setting》

Use the 【▲】 up Key／ 【▼】 down Key to select

⁒‧‧‧During Closed Throttle 0V～1V
During Open Throttle 3V～5V

⁒‧‧‧During Closed Throttle 3V～5V
During Open Throttle 0V～1V

＊＊ ‧‧‧When there is NO throttle signal

※Be sure to set the throttle sensor type AFTER performing the
④-d 《Sensor Voltage Check》for Open and Closed Throttle voltage.

■etc. 《Setting Graph Scale》

④-c Setting Graph Scale [etc.] → [Grph Scale]

This will set the Monitor Mode Graph display、Analog Meter display、2-D trace Mode

```
┌─ grph scl ──────────┐
│ Pr    760mmHg       │
│ Ne:   6000rpm       │
│ Cr:   ± 3 %         │
└─────────────────────┘
```

1 《Setting Parameter Selection》

【▲】 up Key／【▼】 down Key

Use the keys above to select desired parameter
The selected parameter will illuminate

```
┌─ grph scl ──────────┐
│ Pr:   760mmHg       │
│ Ne:   6000rpm       │
│ Cr:   ± 3 %         │
└─────────────────────┘
```

2 《Setting Parameter Entry》

※After Setting Parameter Entry

【▶】 right Key

Use this key to finalize selection
The selected parameter will illuminate
Also,

【▲】 up key／【▼】 down Key

Use the keys above to change selection

Setting Range

Pr : Intake Pressure	-760mmHg〜0mmHg
	-760mmHg〜+1.0kg/cm²
	-760mmHg〜+2.0kg/cm²
Ne : Engine RPM	0rpm〜6000rpm
	0rpm〜7000rpm
	0rpm〜8000rpm
	0rpm〜9000rpm
	0rpm〜10000rpm
Cr : Air Flow % Correction	±3% : ±6% : ±9% : ±15%
	±30%

```
┌─ e t c. ────────────┐
│ 1.Sensor Type       │
│ 2.Car Select        │
│ 3.Grph Scl          │
│ 4.Sensor chk        │
│ 5.VFD Bright        │
│ 6.Initialize        │
└─────────────────────┘
```

3 《Ending Setting》

【PREV.】 Key

Use this key to finalize, save settings and return to the
previous mode

■etc. 《Checking Sensor Voltage》

④-d Checking Sensor Voltage [etc.] → [Sensor chk]

This mode checks the sensor voltage of the air flow sensor, pressure sensor, and throttle sensor. This also allows a double-checking parameter to ensure proper wiring connection. This mode is also necessary to perform the throttle sensor type setting in section ④-b
Please refer to section ④-b for more information

```
┌─ sens.check ──┐
│ In-1:   1.234V │
│ In-2:   1.254V │
│ Thrt:   4.075V │
└───────────────┘
```

In-1 :Air Flow Sensor Voltage 1
       Pressure Sensor Voltage
In-2 :Air Flow Sensor Voltage 2
       (For Twin Air Flow)
Thrt :Throttle Sensor Voltage

④-e Setting Display Brightness   [etc.] → [VFD Bright]

Allows adjustment of the VFD(Vacuum Fluorescent Display)

```
┌─ VFD bright ──┐
│ Day Dim Nig   │
│ 90  [50]  10  │
└───────────────┘
```

1 《Setting Parameter Selection》

[◄] left Key / [►] right Key
Use the keys above to select
The selected number will illuminate

```
┌─ VFD bright ──┐
│ Day Dim Nig   │
│ 90  [49]  10  │
└───────────────┘
```

2 《Changing the Setting Parameter》

[▲] up key / [▼] down Key
Use the keys above to change the setting value
Day : If Bright
Dim : If Dim
Nig : If Dark

```
┌─ e t c. ──────┐
│ 1.Sensor Type │
│ 2.Car Select  │
│ 3.Grph Scale  │
│ 4.Sensor chk  │
│ [5.VFD Bright]│
│ 6.Initialize  │
└───────────────┘
```

3 《Ending Setting》

[PREV.] Key
Use this key to finalize, save settings and return to the previous mode

■etc. 《Restore Default Settings》

④-e Restore Default Settings 【etc.】 → 【Initialize】

This will restore ALL data to factory specification settings

```
┌─ initialize ──────┐
│   Init.All?        │
│  [ Yes / No ]      │
└────────────────────┘
```

```
┌─ initialize ──────┐
│   Init.All?        │
│  [ Yes / No ]      │
└────────────────────┘
```
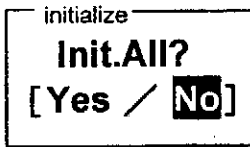
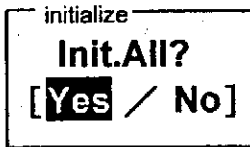1 《Default Setting Selection》

【◀】 left Key
Select [Yes]

2 《Initializing Default Settings》

【NEXT】 Key
This will initiate the process

Turn the Ignition Key OFF→ON
To complete initialization

41
■Installation

●SUPER AFC Installation

1 Disconnect the negative (−) terminal of the battery

> **advice!**
> Some desired information as car audio settings, car navigation settings, and other battery back up data may be lost during this process. Please make a note of all pertinent data before proceeding.

⚠CAUTION

●Be sure to disconnect the negative terminal of the battery before proceeding with installation
  Failure to do so may result in electrical shorts, electrical fires, and other vehicle damage.
●Any damage to the vehicle or related parts caused by faulty installation is not the responsibility of A'PEX Co. LTD or A'PEX Integration Inc. Always have an experienced installer perform installation work.

2 Locate the appropriate vehicle specific ECU wiring diagram from the provided tables

3 While referring to the vehicle specific wiring diagram tables, securely connect the SUPER AFC to the appropriate Power , Ground, Engine RPM, and Throttle Signal wires using the provided splitting taps.

   Red Wire-POWER
   Green Wire- Engine RPM
   Gray Wire- Throttle Signal Wire
   Black Wire- Ground
   Brown Wire- Ground
   ※Please also refer to **P43 · P44**

⚠CAUTION

●Be sure to ground the BLACK AND BROWN wires of the S U P E R A F C harness.
  Failure to do so will result in improper operation and vehicle damage.

■Installation (cont'd)

⚠CAUTION

●Be sure not to short any wire when looking for the proper connection
  This could lead to electrical fire and damage to the vehicle.
●Be sure to securely fasten the splitting taps and avoid all loose connections
  Loose electrical wires can cause product failure and vehicle damage

4 *Locate the appropriate air flow /pressure sensor signal wire from the vehicle specific wiring diagram table and connect the fittings to the wire*

Male Fitting—ECU side
Female Fitting—Air Flow Sensor/Pressure Sensor side

RB26DETT motors have 2 wires. Please cut BOTH wires.

5 *Connect the SUPER AFC harness to the fittings above*
  Hot-Wire
  Flap   *Female Fitting – White Wire*
  Pressure Sensor   *Male Fitting—Yellow Wire*

  Karman   *Female Fitting—Orange Wire*
              Male Fitting—Pink Wire

6 *Securely cover ALL connections with electrical tape*

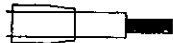7 *Reconnect the negative terminal of the battery.*

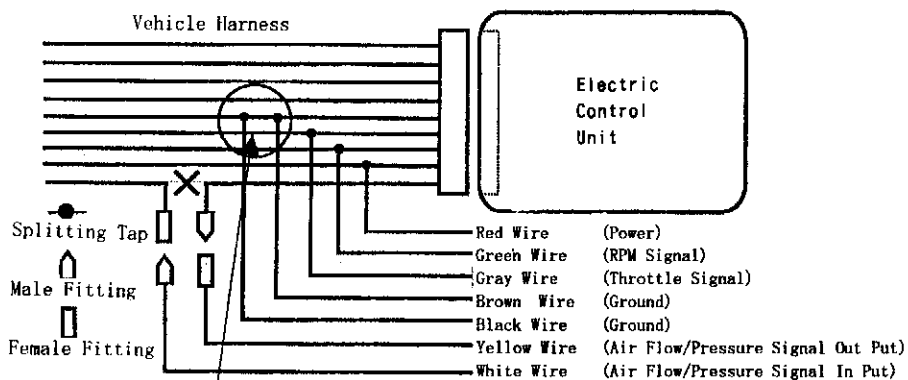①Strip 5mm of the cover   ②Cover the sleeve   ③Connect the fitting
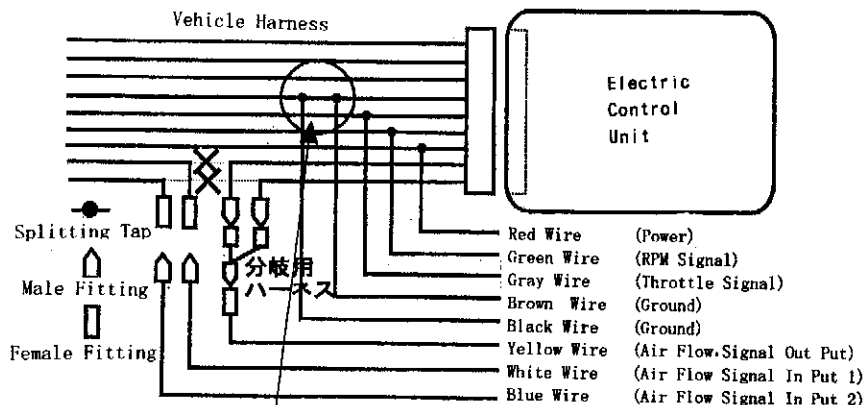
Be sure to have a secure connection

Wiring Diagram

※For vehicles with Hot-wire, Flap, or Pressure Sensor

Vehicle Harness

Electric
Control
Unit

Splitting Tap

Male Fitting

Female Fitting

Red Wire (Power)
Green Wire (RPM Signal)
Gray Wire (Throttle Signal)
Brown Wire (Ground)
Black Wire (Ground)
Yellow Wire (Air Flow/Pressure Signal Out Put)
White Wire (Air Flow/Pressure Signal In Put)

⚠CAUTION

●Be sure to connect the brown wire CLOSER to the ECU than the black wire
Failure to do so MAY HIGHLY result in improper product operation and engine damage.

※For vehicles equipped with R B 2 6 D E T T

Vehicle Harness

Electric
Control
Unit

Splitting Tap

Male Fitting

Female Fitting

分岐用
ハーネス

Red Wire (Power)
Green Wire (RPM Signal)
Gray Wire (Throttle Signal)
Brown Wire (Ground)
Black Wire (Ground)
Yellow Wire (Air Flow.Signal Out Put)
White Wire (Air Flow Signal In Put 1)
Blue Wire (Air Flow Signal In Put 2)

⚠CAUTION

●Be sure to connect the brown wire CLOSER to the ECU than the black wire
Failure to do so MAY HIGHLY result in improper product operation and engine damage.

※ Karman Type Vehicles

Vehicle Harness

Electric
Control
Unit

Splitting Tap

Male Fitting

Female Fitting

Red Wire	(Power)
Green Wire	(RPM Signal)
Gray Wire	(Throttle Signal)
Brown Wire	(Ground)
Black Wire	(Ground)
Pink Wire	(Air Flow Signal Out Put)
Orange Wire	(Air Flow Signal In Put)

⚠CAUTION

●Be sure to connect the brown wire CLOSER to the ECU than the black wire
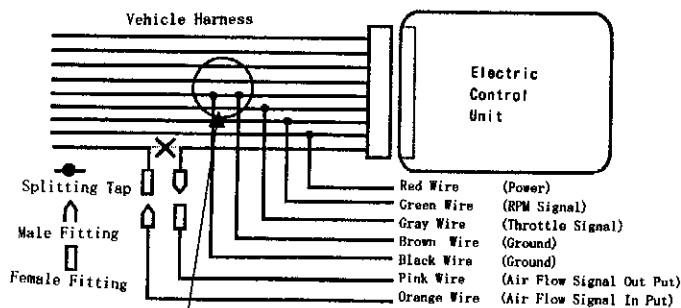Failure to do so MAY HIGHLY result in improper product operation and engine damage.

⚠WARNING

●Be sure to install the SUPER AFC so that it does not interfere with driving
Failure to do so may impair driving procedure and cause accidents
●Do not install the SUPER AFC near high temperatures or direct water
This may lead to unit malfunction which may cause electrical shorts, electrical fire, and engine damage
●Be sure to avoid any moving parts when routing the SUPER AFC harness
The harness may be cut and cause electrical shorts, electrical fires
SUPER AFC may malfunction causing severe engine damage.

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● Checkpoints after Installation

Please check the following points after installation

· Has the **SUPER AFC** harness been properly connected?

· Is there any excess strain on the harness?

· Has the **SUPER AFC** been securely mounted?

· Has the negative (−) terminal of the battery been properly reconnected?

● With the Ignition Key **ON** · · ·

Please check the following points with the Ignition Key ON

· Does the **SUPER AFC** display properly illuminate?

If any of these conditions exist, discontinue use immediately and please kindly repack the unit and take it to the dealer of purchase if there seems to be a product malfunction.

· Are there any unusual sounds or smell coming from the **SUPER AFC?**

If any of these conditions exist, discontinue use immediately and please kindly repack the unit and take it to the dealer of purchase if there seems to be a product malfunction.

· Was the initialization of the **SUPER AFC** performed?

After installation, the proper sensor type, cylinder number, and throttle sensor type must be input for proper operation. Please confirm proper settings before operation.

In Case of Malfunction

⚠CAUTION

●Never perform repairs or modifications to the unit.
 Improper modifications may result in electrical shorts and electrical fires. This could lead to sever engine damage.

⚠WARNING

●If any unusual odors or sounds come from the unit, discontinue use immediately and return the unit to the dealer of purchase.
Continued use may result in electrical shorts, and electrical fires.

●A'PEX Co.Ltd. reserves the right to update the price, contents, functions of this product without prior notification
●This instruction manual is subject to change without prior notification
●This unit has been designed for Japanese specification vehicles
 Unauthorized overseas use is prohibited. (Certain United States models exempt)

This product is designed for domestic use only.
It must not be used in any country outside of Japan and the United States.

Product Specifications
●Operational Voltage   DC8V~DC16V
●Operating temperature -20℃~+60℃

About the Warranty
This product does not have any warranty expressed or implied outside of Japan.
United States (A'PEX Integration Inc.)
 Malfunctioning units should be returned to the dealer of purchase with authorized proof of purchase. Warranty terms will be determined at the sole discretion of the trained APEX engineer after inspection. Inspection time may vary according to product and complexity of claim. APEX reserves the right to refuse warranty service for any unit showing signs of tampering or installation error.

Manual Information

No.	Press Date	Product Code	Version
1	1999年04月05日	7107-0060-00	No.1

Sales Office
APEX Company LTD.-APEX Integration Inc (USA)

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