

This product is an unit to operate gauges by taking out ISO-CAN information from an OBDII connector. This product does not function alone. A corresponding gauge is necessary. Please refer to the gauge's manual when installing the gauge.

※Refer to the corresponding gauges list in this manual.
※Please check the adaptable vehicles list for the ADVANCE CAN Driver on the Defi website.

Thank you very much for purchasing our product.

Before installing and using the product, please read this manual and the warranty card thoroughly. All sections are for customers and installation personnels. After installation, please keep this manual and the warranty card for future reference. In the event that this product (or the vehicle in which it is installed) is lent to or transferred to another person, please be sure this operation manual and warranty card accompany the product.

Defi will not be held responsible for accidents or damages related to installation of this product.

When installing and operating this product, be sure to read the cautionary items in the operation manual for the vehicle in which this product will be installed in addition to the manual of this product. Please obtain a full understanding of the cautionary items and use the product accordingly. Before using the product, please confirm all the components are included in the package.

<http://www.defi-shop.com/>

Safety Warning [Please read carefully.]

In this manual, the degree of hazard arising from actions such as improper operation is separated into the 3 levels "Danger," "Warning," and "Caution." In addition, instructions that must be followed for safe and proper use of this product as well as practices that must be maintained are marked with a "Confirmation" heading. Please read and become familiar with these sections.

	Danger	Indicates a hazard that could cause death or serious personal injury if the product is mishandled.
	Warning	Indicates a possibility of death or serious personal injury if the product is mishandled.
	Caution	Indicates a conceivable source of personal injury or damage to equipment if the product is improperly operated.
	Confirmation	Indicates an instruction that must be performed or practice that must be maintained.

Properties for safety warning

		Indicates attention needs to be paid. (Including warnings)
		Indicates restricted actions. (PROHIBITED actions)
		Indicates actions that need to be carried out. (MUST actions)

Before handling (for installation personnel)

Danger

- Ensure that the vehicle will remain stationary and turn off the engine before installing this product. Failure to do so could result in a fire, and could make the vehicle move during installation.
- Remove the key from the ignition and disconnect the negative (-) battery terminal prior to installation of this product. Failure to do so could result in a fire caused by an electrical short circuit.
- Take care not to install this product in a way that interferes with safety equipment such as seat belts and air bag systems or vehicle operation equipment such as engine controls, steering wheel or brake systems. Interference with normal operation of the vehicle can result in an accident or fire.
- Keep the wiring away from locations which affect steering, safety and brake systems. Interfering with normal operation of the vehicle can result in an accident or fire.
- Solder or use a solderless connector for wiring connections and make sure connections are insulated. In areas where there could be tension or sudden impacts on the wiring, safeguard the wiring with corrugated tubing or other shock absorbent material. Accidental shorts can cause fires.
- When wiring power supply wire, to avoid the risk of electrical shock or fire, be sure to confirm that there is no disconnection or breakage of wire. Poor connection can result in short-circuit, electrical shock, fire, or other hazards.
- Discontinue use of this product if a blowout of the fuse has occurred. Continued use while the condition exists could result in an accident, fire, or damage to the vehicle.
- Use the fuse of regulated capacity when the fuse of the power wire is changed. Using a fuse that exceeds regulated capacity may cause fire.
- Do not install the product at the wet places. It may result in a fire caused by an electrical short circuit.
- Discontinue use of this product if the product doesn't operate or operates improperly. Continued use while the condition exists could result in an accident or fire.

Warning

- Carefully consider the installation location and driver's operation of the product before installation.
- Do not install the product where it interrupts driving and the safety devices of vehicle such as the airbag system. Be sure not to install the unit where it could fall. Improper installation or operation could cause the product to fall and damage the vehicle or cause serious danger by impeding driving.
- Do not disassemble or modify this product. Such actions will not only void the warranty but also damage or destroy the product.
- Ensure that the wiring of this product does not have an adverse impact on the other wiring of the vehicle.
- Do not use this product if you notice any malfunctions or it doesn't operate. Continued use while in a faulty state could result in accidents, a fire, or electrical shocks.
- Please keep children and infants away from the installation area. Children may swallow small parts or be injured in other ways.
- Do not install this product in the area where safety equipment such as airbags are mounted. This may cause more injuries in the event of an accident.
- Do not install this product in vehicles which are not listed on the adaptable car list.
- Do not connect the illumination output to the vehicle or products other than Defi products. It may result in damage or malfunction of the product.
- Do not connect the speed & tachometer signal output to the vehicle or products other than Defi products. It may result in damage or malfunction of the product.

Caution

- This product is designed for use on 12V vehicles. Do not install this product on vehicles with 24V systems.
- Insulate any unused wires. If any wires or connectors loosen during installation, please make sure they are correctly reattached.
- Do not drop any of the components of this product. It may result in damage to the product.
- Do not apply excessive force on switches/terminals. It may result in damage to the product.
- Do not use wires other than the provided wires.
- Wear gloves to avoid burns when soldering and cuts when installing wires, sharp edges of parts.
- Do not attach wires on the body of the vehicle or engine parts as this may result in damage to the product.
- Do not install this product or gauges into the passenger side or center of the dashboard. It doesn't meet vehicle safety standards.
- Please set it up so that the equipment, such as the wireless machines and cellular phones that emit electric waves, does not touch this product. It may result in incorrect operation.
- Do not place wires near the engine, exhaust pipe or turbine. It may result in damage or fusion of wires.
- Wear gloves to avoid burns when soldering and cuts when installing wires, sharp edges of parts.
- Do not expose this product to moisture, dust or direct sunlight, or place product directly in front of heat vents.
- Use a dried soft cloth for cleanup. Do not use cleaners except neutral detergent. It may damage the product.
- Install wires away from ignition and also radio signal frequency interference as this could cause the gauges to malfunction.
- Do not pull the wires out of connectors forcefully. The connectors may be broken and the wires may be cut. When pulling out the wires, press the lock firmly and unclip the locks of connectors.

Confirmation

- Be sure to follow all instructions in this manual to ensure safe installation and operation of the product.
- When the negative (-) battery terminal is disconnected, equipment such as clocks and audio components having internal memory may lose their memory data. Follow the operation manual of each component to reset data after installation of this product.
- Do not lay the gauge face down due to oil leakage. Angle "A" must be more than 90 degrees.
- After installation is complete, return this operation manual, warranty card, and the package to the customer along with the warranty.
- The gauge pointer may not be in the proper position when you purchase the product. Normal function will resume when power is connected.
- Please confirm with the maintenance book on the car that the manufacturer issued when installing and detaching genuine parts.
- If car navigation system or car television is installed in vehicle, gauges and wires of this product need to be kept as far away as possible from the wiring and installing positions of car navigation system or car television. Failure to do so may result in interference of television display.
- On no event will Nippon Seiki Co., Ltd. be liable to you for any damages or losses of genuine parts for your vehicle while installing.

About Installation and Operation(for customer and installation personnel)

Warning

- Please have this product installed by the retail store or dealer where it was purchased. Installation by the customer will void the warranty.
- Do not disassemble or modify this product. Such actions will not only void the warranty but also damage or destroy the product.
- In order to ensure safe driving, check the information on the gauge only for short periods of time. Looking at the display for long periods of time could distract adequate attention from the road and result in an accident.
- Discontinue use of this product if the gauge doesn't operate, water gets into the unit, or smoke or a strange odor comes from the unit. If such a condition occurs, contact the sales outlet or installation personnel as soon as possible. Continued use while the condition exists could result in an accident or fire.
- In the case any of the warning lamps of vehicle (check engine lamp, etc.) is lighted, stop the vehicle and turn off the engine immediately. After turning off the engine, detach this product from the OBDII connector. Continued use while in a faulty state could result in accidents or malfunction.
- Do not operate during driving.
- Fix the switch unit and other parts tightly to the vehicle to avoid that children swallow those.

Caution

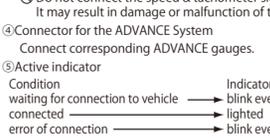
- On no event will Nippon Seiki Co., Ltd. be liable to you for any damages arising out of the use or inability to use the product, even if Nippon Seiki Co., Ltd. has been advised of the possibility of such damage.
- Do not pull the wires out of connectors forcefully. The connectors may be broken and the wires may be cut. When pulling out the wires, press the lock firmly and unclip the locks of connectors.

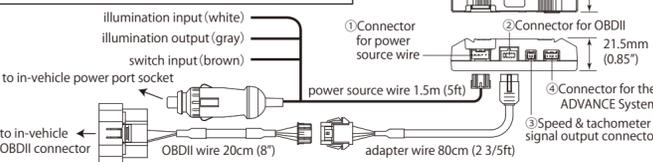
Confirmation

- This product cannot be linked to the Defi-Link System.
- Do not connect more than one gauge of the same variety. (Ex. You can NOT connect 2 turbo gauges together.)
- The information displayed on this product are for reference purposes only. Please drive according to the indication of vehicle's originally equipped instruments.
- This product uses high luminance LEDs. When several gauges are lined up, there might be color difference in the LED production tolerance, but it is not malfunction.
- In the case of idling stop vehicles, the power of the product is turned off and restarted in some cases by a drop in battery voltage when the engine is restarted while idling stop function is active. It is not malfunction.
- Please check the installed product regularly. Durability might deteriorate according to use conditions, etc.
- Detach this product from the vehicle when not in use for a long time.
- Dispose of the product according to the local recycling regulations.

Specifications, dimensions, and part names

- Power-supply voltage: 10V to 16V DC (12V vehicles only) ■Weight(CAN Driver): 75g
- Current consumption (the maximum value obtained when connecting three gauges)
AC: 1A (IGN ON), dark-current 0mA, illumination wire 0.5mA
- Temperature range (humidity is assumed to be 80% or lower) Unit: °C (°F)
-30(-22) ~ +60(140) for storage, -20(-4) ~ +60(140) for operation

- Connector for power source wire
cigar plug [to in-vehicle power port socket]
white wire : illumination input [to 12V wire while illumination is on]
gray wire : illumination output [to illumination wire of other Defi product]
brown wire : switch input [to push switch commercially available (push-on type)]

 - Connect the illumination output and switch input as necessary.
 - Do not connect the illumination output to the vehicle or products other than Defi products. It may result in damage or malfunction of the product.
- Connector for OBDII : receives OBDII data through the adapter wire.
- Speed & tachometer signal output connector
: outputs speed pulse (equiv.4 pulse)/engine speed pulse (equiv.4 cylinders) from ISO-CAN data.
Do not connect the speed & tachometer signal output to the vehicle or products other than Defi products. It may result in damage or malfunction of the product.
- Connector for the ADVANCE System
Connect corresponding ADVANCE gauges.
- Active indicator
Waiting for connection to vehicle → Indicator blink every second
connected → lighted
error of connection → blink every 4 second



Components, repair parts, and optional parts

Part name	QTY.	Repair parts	Part No.
CAN Driver	1	Power source wire	PDF15601H
OBDII wire	1	Speed & tachometer signal output wire	PDF15602H
Adapter wire	1	Fuse (2A) 2pcs	PDF15603G
Power source wire	1		
Speed & tachometer signal output wire	1	Optional parts	Part No.
Double sided tape	1	AD Meter wire (0.25m, 10")	PDF07707H
Solderless connector	1	AD Meter wire (0.5m, 1 3/5")	PDF07708H
Tie wrap	3	AD Meter wire (1m, 3 1/3")	PDF07709H
Clip	1	AD Meter wire (2m, 6 3/5")	PDF07710H

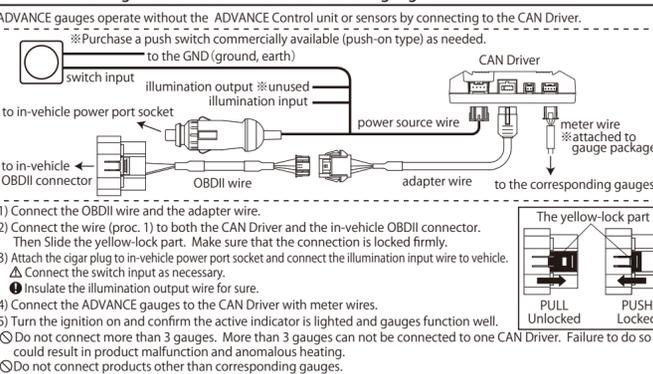
- Operation manual (this sheet) and warranty card are included other than the parts listed above. Keep them at hand.

Corresponding gauges

- ADVANCE CAN Driver corresponds to the following ADVANCE gauges:
- tachometer (9000rpm, 11000rpm), turbo/boost (120kPa, 200kPa, 29PSI), in-mani press, water temp
 - Do not connect more than 3 gauges. More than 3 gauges can not be connected to one CAN Driver. Failure to do so could result in product malfunction and anomalous heating.
 - Gauges other than listed above, ADVANCE ZD, Smart Adapter, Smart Adapter W cannot be connected to this product.
 - Not all of vehicles with OBDII connector corresponds to this product. Please check the adaptable vehicles list for the ADVANCE CAN Driver on the Defi website before you purchase.

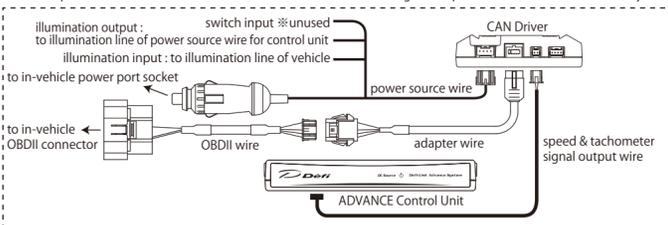
Connection diagram

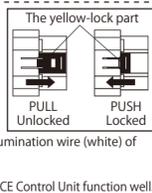
[Connection diagram 1] Connection with ADVANCE gauges



[Connection diagram 2] Using speed & tachometer signal output / illumination signal output

In case the ADVANCE Control Unit is installed, speed and tachometer signals can be obtained from OBDII by using the CAN Driver even from vehicles which those signals cannot be obtained from ECU. In addition, illumination (12V) ON/OFF signal can be output from the CAN Driver to vehicles which illumination switching of Defi products doesn't function normally.



- The yellow-lock part
- 
- Illumination control signal range which can input to the CAN Driver
frequency range: 50~300Hz
voltage range: 5~16V
minimum pulse width: 0.2msec and above
※Illumination control signals out of range of the conditions above don't function normally.

How to operate

Opening mode / Ending mode

When the accessory is turned on, gauges perform the opening mode. When the accessory is turned off, gauges perform the ending mode and then the power supplies of the CAN Driver and gauges are shut off.

Real mode

After the opening mode finishes, gauges shift to the real mode under conditions of normal connection. The real-time vehicle conditions are displayed during this mode.

Warning mode

If the gauge reaches or exceeds the value set for warning, the warning LED goes on. If an indicator for Φ80mm tachometer is installed, it lights up in red/green at 2 settings being synchronized with the warning LED. In the real mode under conditions that the ignition is ON and the engine is OFF, gauges shifts to the warning setup mode by turning on and off the vehicle illumination switch twice within 3 seconds. The warning LED in gauges blinks during in this mode.
※Gauges don't shift to the warning setup mode in case that the illumination input is not wired.

How to select a gauge to set the warning value

In the warning mode, each gauge is selected in rotation by turning on and off the vehicle illumination switch once. The rotation order is as follows:

<Turbo/boost (in-mani) →Tachometer①→Tachometer② (if Φ80 is connected) →Water temp→Repeat>

Gauge	Selected	Not selected
CR/RS	warning LED: blink illumination: bright (while vehicle illumination is ON)	warning LED: unlighted illumination: dark (while vehicle illumination is ON)
BF/A1	warning LED: blink illumination: bright	warning LED: unlighted illumination: dark

- Only connected gauges is selected in order.
- If an indicator for Φ80mm tachometer is installed, 2 warning RPMs can be set. The setting value of ② should be higher than that of ①.

How to change warning values

Warning values can be changed by either procedure:

- By controlling an accelerator pedal

The gauge pointer goes up at three different speed as follows:
accelerator opening degree (narrow): slow
accelerator opening degree (middle): fast
accelerator opening degree (wide): very fast
※If this procedure doesn't work, go to the next procedure.

The gauge pointer goes up at two different speed as follows:
push shortly: slow
push long: fast
※When the warning value reaches maximum scale, the pointer goes back to zero and goes up again.

After 5 seconds pass from the time when accelerator pedal is released or the switch is turned off, the pointed value is set as the warning value, and then gauges shift to the real mode.

※When accelerator and throttle values are constant for more than 5 seconds, gauges shift to the real mode. The warning value is not set in this case.

[Warning factory default settings / setting range]

Gauge	Unit	Default setting	Minimum	Maximum	Lighting condition
Turbo/boost	kPa(PSI)	100(14.5)	-100(-14.5)	200(29)	set value and above
In-mani pressure	kPa	10	-100	200	set value and above
Tachometer①	RPM	7000	300	11000	set value and above
Tachometer②(for Φ80mm)	RPM	8000	300	11000	set value and above
Water temperature	°C(°F)	105(221)	0(32)	150(302)	set value and above

Zero point adjustment mode for turbo / in-mani press

The pointer of turbo(boost) / in-mani press should indicate 0kPa (OPSI) when the ignition is on. But in rare cases, the pointer doesn't indicate exactly 0kPa. If this happens, it is possible to offset and adjust the pointer position.

In the opening mode under conditions that the ignition is ON and the engine is OFF, gauges shifts to the zero point adjustment mode by turning on and off the vehicle illumination switch twice within 3 seconds. The warning LED in gauges blinks during this mode.
※Gauges don't shift to this mode in case that the illumination input is not wired.

[How to adjust the zero point]

The pointer moves slowly a few degrees of angle around 0kPa position. The pointed value at the time the illumination switch is turned off is recorded by turning on and off the vehicle illumination switch once. Then the gauges shift to the real mode.

Peak mode

※A push switch commercially available (push-on type) is necessary to be connected to the illumination input wire to use this mode.

The peak values recorded while driving and idling are displayed. Gauges shift to this mode by pushing the switch in the real mode. The warning LED in gauges is lighted during in this mode.

[How to exit the peak mode]

By pushing the switch shortly in the peak mode, gauges shift to the real mode.

[Peak reset mode]

The peak values recorded while driving and idling can be reset by pushing the switch long in the peak mode. After one second passes from reset, gauges shift to the real mode.

Illumination color change of CR/RS gauges

The illumination color of CR/RS gauges can be changed between 2 colors.
※The illumination color of BF and A1 gauges cannot be changed.

[How to change the illumination color]

Select a CR/RS gauge to change the illumination color in the warning mode. When the warning value reaches maximum scale, the color changes and the pointer goes back to zero and goes up again.

Serial error mode

When noncompliant gauges are connected, gauges shift to the serial error mode. In this mode, the warning LED and the peak LED blink at the same time and gauges doesn't work.
※Refer to the corresponding gauges in this manual.

Warning display with Φ80mm tachometer

[Scene A]When the RPM is lower than the warning setting①

The warning LED is off. The indicator is off.

[Scene B]When the RPM is higher than the warning setting①

The warning LED is on. The indicator is on in green.

[Scene C]When the RPM is higher than the warning setting②

The warning LED blinks. The indicator is on in red.

Scene	①Default:7000rpm		②Default:8000rpm	
	Lower	Engine speed	Higher	Higher
Warning LED	Off	On	Blink	Blink
Indicator (sold separately)	Off	On (green)	On (red)	On (red)

Troubleshooting

Condition	Possible cause	Corrective action
Does not operate. Power is not supplied.	The fuse of the cigar plug is blown out.	Replace the fuse.
The CAN Driver's indicator is blinking.	The vehicle / gauges are not corresponding to CAN Driver.	Check the adaptable vehicles list and corresponding gauges list.
The illumination of CR/RS gauges is not lighted. The illumination of BF/A1 gauges is not darkened.	The illumination wiring is wrong.	Check the wiring of illumination input.
Gauges don't shift to the warning setup mode or the zero point adjustment mode.	The illumination wiring is wrong.	Check the wiring of illumination input.
The warning value cannot be changed by controlling an accelerator pedal.	The vehicle is not corresponding to CAN Driver.	Set up with a commercial switch.
Serial error is on.	The gauges are not corresponding to CAN Driver.	Check the corresponding gauges list.
The speed / engine speed signals are not output correctly.	Speed / engine speed signals are not output from the vehicle.	Check the adaptable vehicles list.
The speed / engine speed displays are not the same as the genuine gauges.	The speed / engine speed data acquired from vehicle is output to gauges without any conversion.	

- Please refer to the manuals of gauges and the ADVANCE Control Unit used with this product as well.

Maintenance, Check/Warranty & Servicing

Warranty card · Terms and conditions

This product is delivered with this operation manual and a warranty card. Please read terms and conditions thoroughly and keep the warranty card in a safe place. Failure to show this warranty will void the warranty.

Warranty period

Limited one year warranty. The warranty period starts on the date of purchase. Please confirm the warranty has the information about the retail store where you purchased the product. Please refer to Limited Warranty for details.

Except in the case of defects, we shall not be liable for any trouble including violation, accident or improper wiring resulting from using this product.

The warranty does not cover any unauthorized repair performed or caused to be performed by the end user. Such action can destroy or damage this product.

Inspection

If you think there is a defect, please consult with the shop where you bought the product. We don't accept the order of fixing because Defi products require installation and wiring to the vehicle. In case you cannot go to the shop you purchased because of move-out or closure of shop, please ask the nearest Defi Distributor listed in the Defi website.

For a repair/inspection service, take the warranty card and customer contact information with you.

Please conduct periodic inspections by Defi through a shop which sells Defi products or Defi's official distributor every five years. Inspection is available at an additional cost. In the case you purchase used products or used vehicles with products of Defi, please have an inspection by Defi as well before using them.

Label

The label stuck on the product is for tracing purposes. Do not peel it off.

Discarding the products

Please dispose products in accordance with disposal laws, state laws and local government requirements. A recycle label on the package indicates that the package is recyclable.

ADVANCE CAN Driver manual

Issue First edition: March, 2016

Manufacturer Nippon Seiki Co., Ltd.

Contact Information Defi, Nippon Seiki Co., Ltd.

[Address] 190-1 Fujihashi 1-chome, Nagaoka-shi, Niigata 940-2141 JAPAN

This product is a set of a gauge and the ADVANCE CAN Driver to operate gauges by taking out ISO-CAN information from an OBDII connector. Please refer to the manual for the ADVANCE CAN Driver in addition to this manual.

※Please check the adaptable vehicles list for the ADVANCE CAN Driver on the Defi website.

Thank you very much for purchasing our product.

Before installing and using the product, please read this manual and the warranty card thoroughly. All sections are for customers and installation personnels. After installation, please keep this manual and the warranty card for future reference. In the event that this product (or the vehicle in which it is installed) is lent to or transferred to another person, please be sure this operation manual and warranty card accompany the product.

Defi will not be held responsible for accidents or damages related to installation of this product.

When installing and operating this product, be sure to read the cautionary items in the operation manual for the vehicle in which this product will be installed in addition to the manual of this product. Please obtain a full understanding of the cautionary items and use the product accordingly. Before using the product, please confirm all the components are included in the package.

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In this manual, the degree of hazard arising from actions such as improper operation is separated into the 3 levels "Danger," "Warning," and "Caution." In addition, instructions that must be followed for safe and proper use of this product as well as practices that must be maintained are marked with a "Confirmation" heading. Please read and become familiar with these sections.

Danger	Indicates a hazard that could cause death or serious personal injury if the product is mishandled.
Warning	Indicates a possibility of death or serious personal injury if the product is mishandled.
Caution	Indicates a conceivable source of personal injury or damage to equipment if the product is improperly operated.
Confirmation	Indicates an instruction that must be performed or practice that must be maintained.

Properties for safety warning

Prohibited	Indicates attention needs to be paid. (Including warnings)
Must	Indicates restricted actions. (PROHIBITED actions)
Must	Indicates actions that need to be carried out. (MUST actions)

Before handling (for installation personnel)

- Danger**
 - Ensure that the vehicle will remain stationary and turn off the engine before installing this product. Failure to do so could result in a fire, and could make the vehicle move during installation.
 - Remove the key from the ignition and disconnect the negative (-) battery terminal prior to installation of this product. Failure to do so could result in a fire caused by an electrical short circuit.
 - Take care not to install this product in a way that interferes with safety equipment such as seat belts and air bag systems or vehicle operation equipment such as engine controls, steering wheel or brake systems. Interference with normal operation of the vehicle can result in an accident or fire.
 - Keep the wiring away from locations which affect steering, safety and brake systems. Interfering with normal operation of the vehicle can result in an accident or fire.
 - Solder or use a solderless connector for wiring connections and make sure connections are insulated. In areas where there could be tension or sudden impacts on the wiring, safeguard the wiring with corrugated tubing or other shock absorbent material. Accidental shorts can cause fires.
 - When wiring power supply wire, to avoid the risk of electrical shock or fire, be sure to confirm that there is no disconnection or breakage of wire. Poor connection can result in short-circuit, electrical shock, fire, or other hazards.
 - Discontinue use of this product if a blowout of the fuse has occurred. Continued use while the condition exists could result in an accident, fire, or damage to the vehicle.
 - Use the fuse of regulated capacity when the fuse of the power wire is changed. Using a fuse that exceeds regulated capacity may cause fire.
 - Do not install the product at the wet places. It may result in a fire caused by an electrical short circuit.
 - Discontinue use of this product if the product doesn't operate or operates improperly. Continued use while the condition exists could result in an accident or fire.

- Warning**
 - Carefully consider the installation location and driver's operation of the product before installation.
 - Do not install the product where it interrupts driving and the safety devices of vehicle such as the airbag system. Be sure not to install the unit where it could fall. Improper installation or operation could cause the product to fall and damage the vehicle or cause serious danger by impeding driving.
 - Do not disassemble or modify this product. Such actions will not only void the warranty but also damage or destroy the product.
 - Ensure that the wiring of this product does not have an adverse impact on the other wiring of the vehicle.
 - Do not use this product if you notice any malfunctions or it doesn't operate. Continued use while in a faulty state could result in accidents, a fire, or electrical shocks.
 - Please keep children and infants away from the installation area. Children may swallow small parts or be injured in other ways.
 - Do not install this product in the area where safety equipment such as airbags are mounted. This may cause more injuries in the event of an accident.
 - Do not install this product in vehicles which are not listed on the adaptable car list.
 - Do not connect the illumination output to the vehicle or products other than Defi products. It may result in damage or malfunction of the product.
 - Do not connect the speed & tachometer signal output to the vehicle or products other than Defi products. It may result in damage or malfunction of the product.

- Caution**
 - This product is designed for use on 12V vehicles. Do not install this product on vehicles with 24V systems.
 - Insulate any unused wires. If any wires or connectors loosen during installation, please make sure they are correctly reattached.
 - Do not drop any of the components of this product. It may result in damage to the product.
 - Do not apply excessive force on switches/terminals. It may result in damage to the product.
 - Do not use wires other than the provided wires.
 - Wear gloves to avoid burns when soldering and cuts when installing wires, sharp edges of parts.
 - Do not attach wires on the body of the vehicle or engine parts as this may result in damage to the product.
 - Do not install this product or gauges into the passenger side or center of the dashboard. It doesn't meet vehicle safety standards.
 - Please set it up so that the equipment, such as the wireless machines and cellular phones that emit electric waves, does not touch this product. It may result in incorrect operation.
 - Do not place wires near the engine, exhaust pipe or turbine. It may result in damage or fusion of wires.
 - Wear gloves to avoid burns when soldering and cuts when installing wires, sharp edges of parts.
 - Do not expose this product to moisture, dust or direct sunlight, or place product directly in front of heat vents.
 - Use a dried soft cloth for cleanup. Do not use cleaners except neutral detergent. It may damage the product.
 - Install wires away from ignition and also radio signal frequency interference as this could cause the gauges to malfunction.
 - Do not pull the wires out of connectors forcefully. The connectors may be broken and the wires may be cut. When pulling out the wires, press the lock firmly and unclip the locks of connectors.

Confirmation

- Be sure to follow all instructions in this manual to ensure safe installation and operation of the product.
- When the negative (-) battery terminal is disconnected, equipment such as clocks and audio components having internal memory may lose their memory data. Follow the operation manual of each component to reset data after installation of this product.
- Do not lay the gauge face down due to oil leakage. Angle "A" must be more than 90 degrees.
- After installation is complete, return this operation manual, warranty card, and the package to the customer along with the warranty.
- The gauge pointer may not be in the proper position when you purchase the product. Normal function will resume when power is connected.
- Please confirm with the maintenance book on the car that the manufacturer issued when installing and detaching genuine parts.
- If car navigation system or car television is installed in vehicle, gauges and wires of this product need to be kept as far away as possible from the wiring and installing positions of car navigation system or car television. Failure to do so may result in interference of television display.
- On no event will Nippon Seiki Co., Ltd. be liable to you for any damages or losses of genuine parts for your vehicle while installing.

About Installation and Operation(for customer and installation personnel)

- Warning**
 - Please have this product installed by the retail store or dealer where it was purchased. Installation by the customer will void the warranty.
 - Do not disassemble or modify this product. Such actions will not only void the warranty but also damage or destroy the product.
 - In order to ensure safe driving, check the information on the gauge only for short periods of time. Looking at the display for long periods of time could distract adequate attention from the road and result in an accident.
 - Discontinue use of this product if the gauge doesn't operate, water gets into the unit, or smoke or a strange odor comes from the unit. If such a condition occurs, contact the sales outlet or installation personnel as soon as possible. Continued use while the condition exists could result in an accident or fire.
 - In the case any of the warning lamps of vehicle (check engine lamp, etc.) is lighted, stop the vehicle and turn off the engine immediately. After turning off the engine, detach this product from the OBDII connector. Continued use while in a faulty state could result in accidents or malfunction.
 - Do not operate during driving.
 - Fix the switch unit and other parts tightly to the vehicle to avoid that children swallow those.

Caution

- On no event will Nippon Seiki Co., Ltd. be liable to you for any damages arising out of the use or inability to use the product, even if Nippon Seiki Co., Ltd. has been advised of the possibility of such damage.
- Do not pull the wires out of connectors forcefully. The connectors may be broken and the wires may be cut. When pulling out the wires, press the lock firmly and unclip the locks of connectors.

Confirmation

- This product cannot be linked to the Defi-Link System.
- Do not connect more than one gauge of the same variety. (Ex. You can NOT connect 2 turbo gauges together.)
- The information displayed on this product are for reference purposes only. Please drive according to the indication of vehicle's originally equipped instruments.
- This product uses high luminance LEDs. When several gauges are lined up, there might be color difference in the LED production tolerance, but it is not malfunction.
- In the case of idling stop vehicles, the power of the product is turned off and restarted in some cases by a drop in battery voltage when the engine is restarted while idling stop function is active. It is not malfunction.
- Please check the installed product regularly. Durability might deteriorate according to use conditions, etc.
- Detach this product from the vehicle when not in use for a long time.
- Dispose of the product according to the local recycling regulations.

Lineup

Product number	Components	Display range	Illumination Color
DF15701	CAN Driver + ADVANCE BF Tachometer (Φ60)	0 ~ 9000rpm	White
DF15702	CAN Driver + ADVANCE BF Tachometer (Φ80)	0 ~ 11000rpm	White
DF15801	CAN Driver + ADVANCE A1 Tachometer (Φ80)	0 ~ 11000rpm	White

Specifications

- Temperature range (humidity is assumed to be 80% or lower) Unit: °C (°F)
-30 (-22) ~ +60(140) for storage, -20(-4) ~ +60(140) for operation
- Illumination color
Warning LED: red pointer: red pointer: white
PEAK LED: blue illumination: white illumination: white

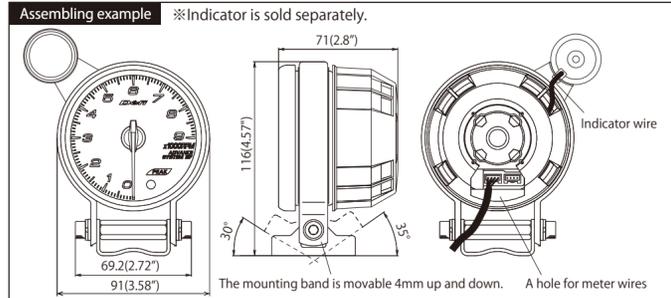
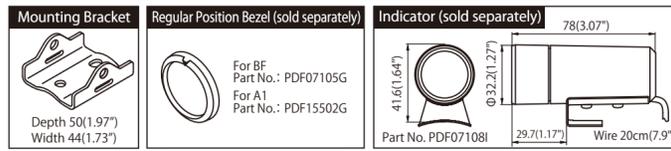
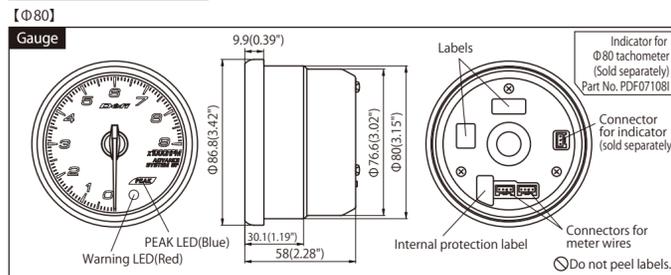
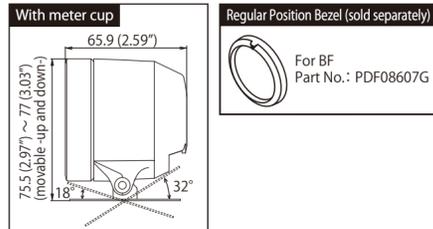
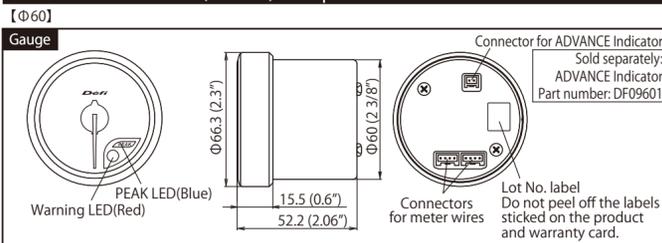
Components and repair parts

Part name	QTY	DF15701	DF15702	DF15801
CAN Driver	1	○	○	○
Power source wire 1m (cigar plug 1.5m)	1	○	○	○
Meter wire 2m	1	○	○	○
OBDII wire 20cm	1	○	○	○
Adapter wire 80cm	1	○	○	○
Double sided tape (1)	1	○	○	○
Solderless connector	1	○	○	○
Tie wrap	3	○	○	○
Clip	1	○	○	○
Φ60 gauge	1	○	○	○
Meter cup	1	○	○	○
Mounting bracket	1	○	○	○
M4 bolt, nut, and washer	1	○	○	○
Buffer for Φ60 gauge	1	○	○	○
Double sided tape (2)	1	○	○	○
Φ80 gauge	1	○	○	○
Back case	1	○	○	○
Buffer for Φ80 gauge	1	○	○	○
Mounting band	1	○	○	○
Mounting rubber	1	○	○	○
Mounting bracket	1	○	○	○
M6 bolt, spring lock washer, and washer	2	○	○	○
Spacer	1	○	○	○
Tapping screw	2	○	○	○
Double sided tape (2)	1	○	○	○

Operation manual (this sheet) and warranty card are included other than the parts listed above. Keep them at hand.

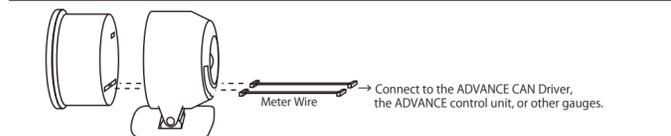
Repair parts	Part No.
Power source wire	PDF15601H
Speed & tachometer signal output wire	PDF15602H
Fuse (2A) 2pcs for cigar plug	PDF15603G
AD Meter wire 2m	PDF07710H
AD Meter cup (for Φ60 gauge)	PDF08606G
AD Buffer (for Φ60 gauge)	PDF07808G
AD installation parts for meter and ZD (for Φ60 gauge)	PDF07809G
Back case set (for Φ80 gauge)	PDF07101G
Mounting band set (for Φ80 gauge)	PDF07103G
Mounting bracket set (for Φ80 gauge)	PDF07104G

Dimensions in mm (inches) and part names



Installation (for customer and installation personnel)

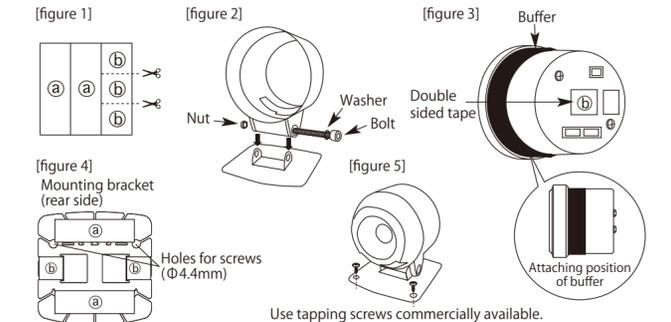
- Please refer to the ADVANCE CAN Driver's manual when installing gauges.
- Confirm all the components are included in the package.



How to attach Mounting bracket set for Φ60 gauge

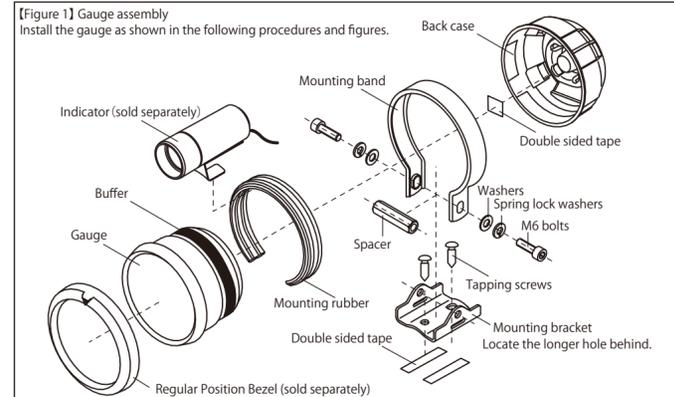
- Cut the double sided tape (large) as shown in figure 1.
- Insert convex part of the mounting bracket over the legs of the meter cup. Attach the mounting bracket to the meter cup with the bolt, nut, and washer included in the kit as shown in figure 2.
- Attach one piece of double sided tape and the buffer on the gauge as shown in figure 3.
- Pass the meter wires through the hole of the meter cup and connect them to the gauge.
- Place the gauge in the meter cup making sure that the wires are not sandwiched.
- Attach double sided tape on the back of the mounting bracket as shown in figure 4. Bend the mounting bracket to conform to the structure of the location where you intend to attach it.
- Fix the mounting bracket with commercial tapping screws as shown in figure 5.

- Confirmation**
 - Use appropriate dashboard cleaning liquids (commercially available) to clean the area where the double sided tape will be attached.
 - Do not lay the gauge face down due to oil leakage. Angle "A" must be more than 90 degrees.
 - Use commercial tapping screws with double sided tapes to fix gauges on dashboard.

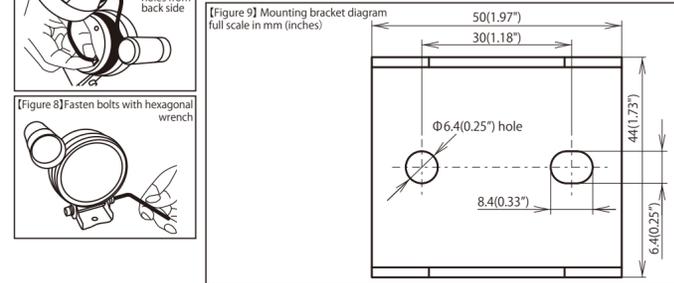


How to assemble

Indicator for Φ80 tachometer is not included in this product. It is sold separately.



- Attach the buffer around the gauge. [Figure 1]
※Do not touch on the front face of the gauge so as not to put fingerprints.
- Fit the mounting rubber inside of the mounting band. [Figure 2]
- Fix the mounting band to the mounting bracket temporarily with the spacer, bolts, washers, and spring lock washers. Tighten bolts loosely by hands. Do not use a hexagonal wrench (Allen key) at this stage. [Figure 3]
- Fit the indicator into the mounting band. And then fit the gauge into the mounting band. Locate the indicator roughly at this stage. The indicator can be positioned in the range which it does not touch the mounting bracket and bolts. [Figure 4] [Figure 5]
※Do not take hands off from the gauge so as the gauge does not fall down.
- Identify the position of the mounting bracket with the gauge fitted into the mounting band. Mark the shape of the mounting bracket and the position of the screw holes. Refer to the diagram of the mounting bracket below to position the screw holes. [Figure 9]
※To check that there is enough space for installation, identify the gauge position with the gauge and indicator fitted into the mounting band.
※When setting the gauge angle, take care not to scratch by hitting the gauge to the mounting bracket.
- Disassemble the mounting band from the mounting bracket, and disassemble the gauge and indicator from the mounting band.
- Attach double sided tapes on the bottom of the mounting bracket. [Figure 1] [Figure 6]
- Fix the mounting bracket on the gauge installing position by using the tapping screws.
- Fit the indicator and gauge into the mounting band again. Take notice that the angle of the indicator cannot be changed while the bolts are fastened.
- When setting the gauge angle, take care not to scratch by hitting the gauge to the mounting bracket.
- Pass the indicator wire through the hole of the back case from the outside. Connect the indicator wire to the connector on the gauge. [Figure 7]
- Put the back case on the gauge. Position the hole for the meter wire to the gauge connector for it. The indicator wire can be stored in the back space in the back case. [Part names/Assembling example]
- Connect the meter wire to the connector on the back side of the gauge. [Part names/Assembling example]
- Fit the mounting band with the gauge in the mounting bracket by using a spacer, bolts, washer, and spring lock washer.
※Depending on the installing space, it may difficult to fit the gauge. Do not pull wires forcefully and take notice not to hit the vehicle by parts.
- Fasten the bolts with a hexagonal wrench (Allen key) firmly. [Figure 8]



Troubleshooting

Condition	Possible cause	Corrective action
The needle pointer is not around right under 0 before starting installation with power off.	The needle pointer moved in transit.	It is the unique feature of stepping motor that the needle pointer may move when a slight impact is made to the gauge with electricity off. Check if the needle pointer goes back to around 0 when the ignition is turned from on to off. If it does not, please contact the store or our customer service center.