

Troubleshooting

Error Item	Failure Symptom	Inspection Items	Detailed Inspections	Relevant Parts/ Components
Screen display	LCD-TFT screen does not turn on	1)Connector attachments 2)Components	1)Check the connector attachments 2)Check B+, IGN and GND wiring 3)Check the components	Connectors, wiring, fuses, dashboard
Warning light	Airbag warning lamp malfunction	1)Connector attachments 2)C-CAN 3)Components	1)Check airbag + signal (connectors) 2)Check C-CAN (ACU4) signal 3)Check the FPC attachment inside the dashboard	ACU Connectors, wiring, fuses, dashboard
Mode conversion	Integrated driving mode malfunction	1)Connector attachments 2)Switch 3)Components	1)Check the switch input (connector) 2)Check the switch signal input (disconnection or shorting) 3)Check conversion with dashboard component	Switch connector, wiring dashboard
Warning Sound	No dashboard alarm	1)Connector attachments 2)Car speakers 3)Components	1)Check the speaker output connector 2)Check the car speakers	Speaker connectors, wiring dashboard
Fuel indicator	Faulty fuel gauge indication	1)Connector attachments 2)Fuel sender 3)Components	1)Check fuel input and GND connectors (open, short or input resistance values) 2)Check fuel sender	Fuel sender connector, wiring dashboard

Description

Cluster Variant Coding

As we have more options (SCC, VDC, EPB, Cubis, MDPS, TPMS, LDWS, ECS 등) in the car, the dashboard now has more information to display depending on the chosen options.

For this reason, we need to learn which options the vehicle has when replacing the dashboard.

To address this issue, a course of learning based on the option required for the vehicle when replacing the dashboard should be carried out.

This is called Variant Coding.

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Components

General



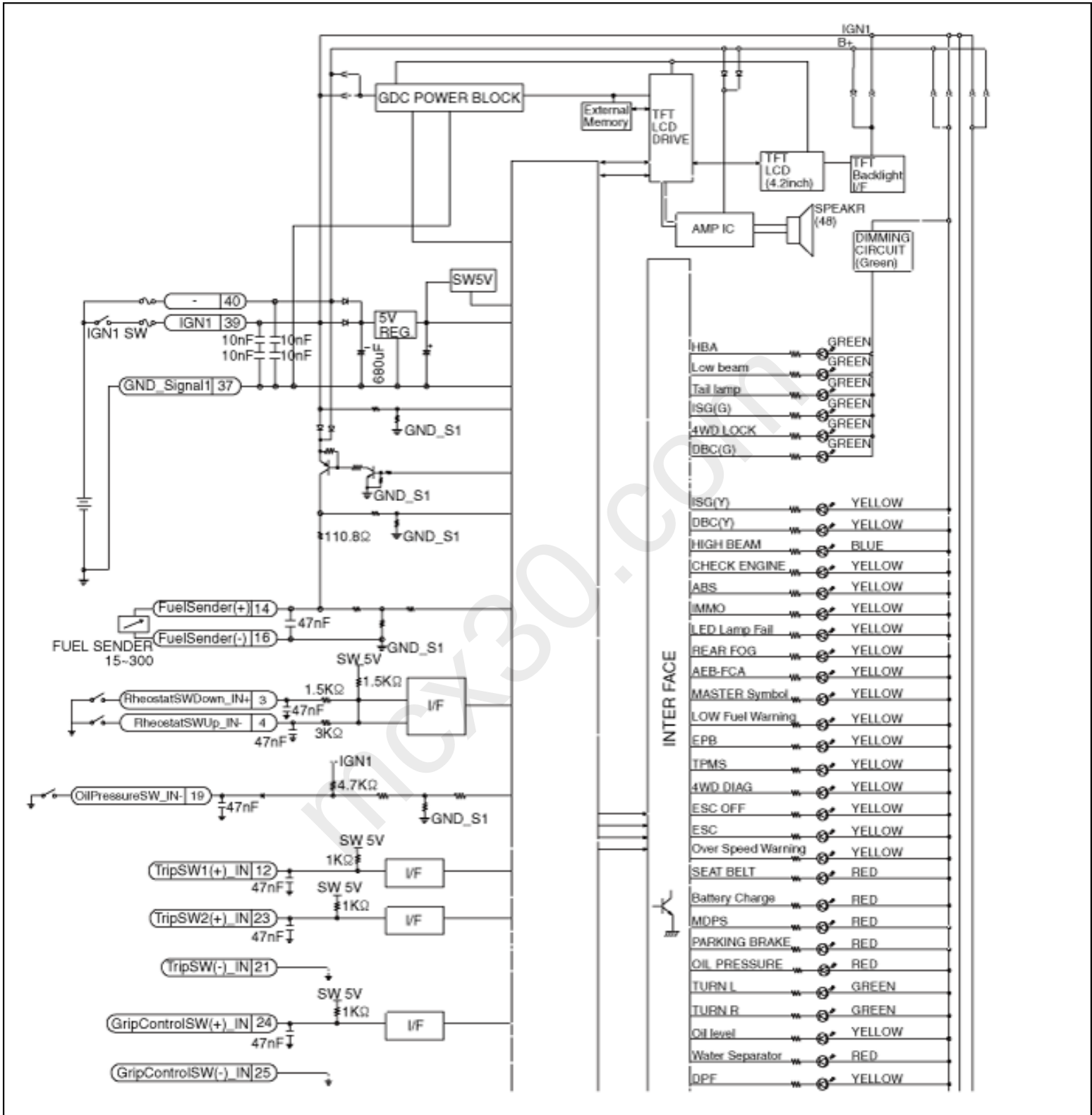
Super Vision

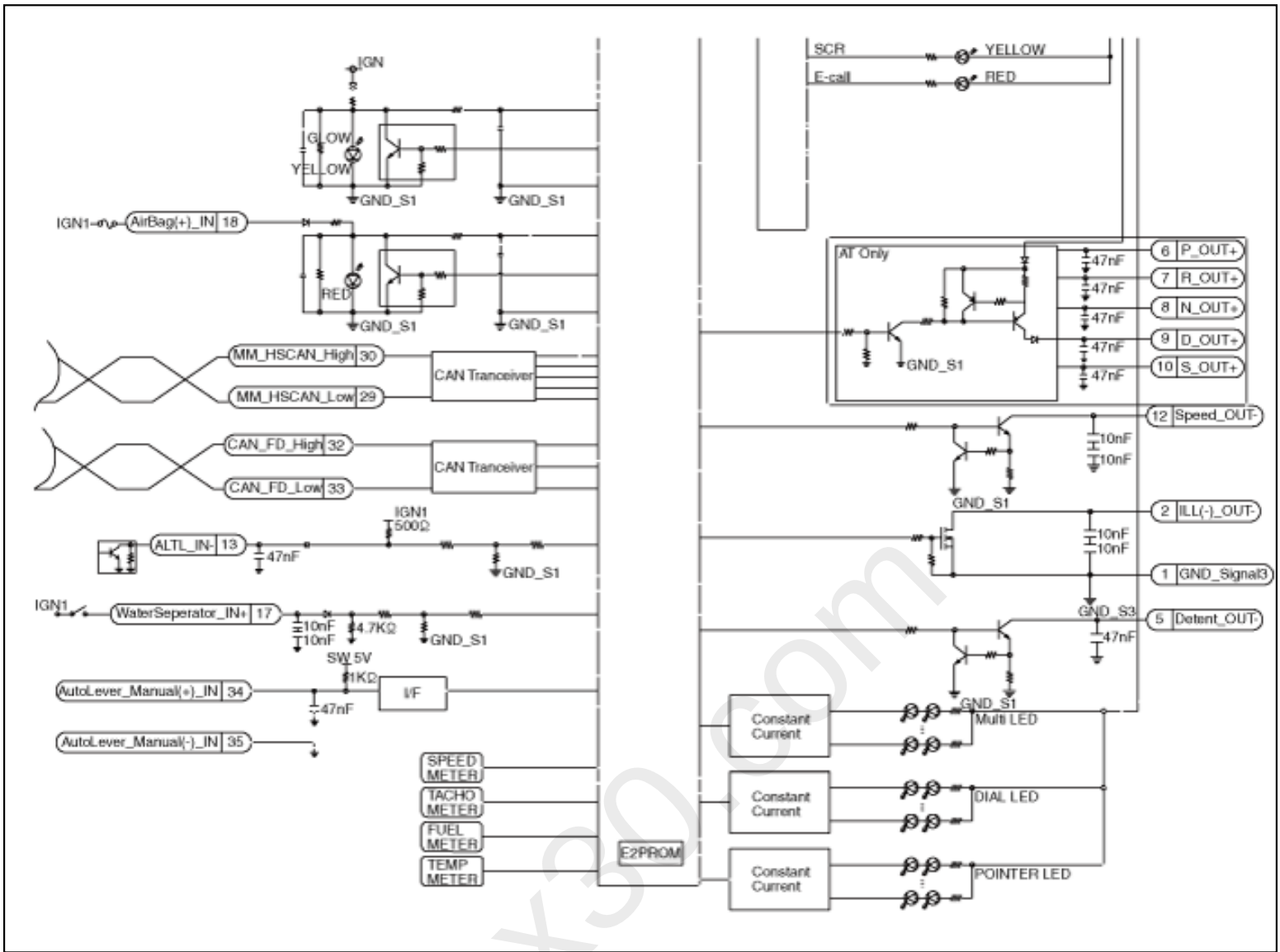


Connector Pin Information

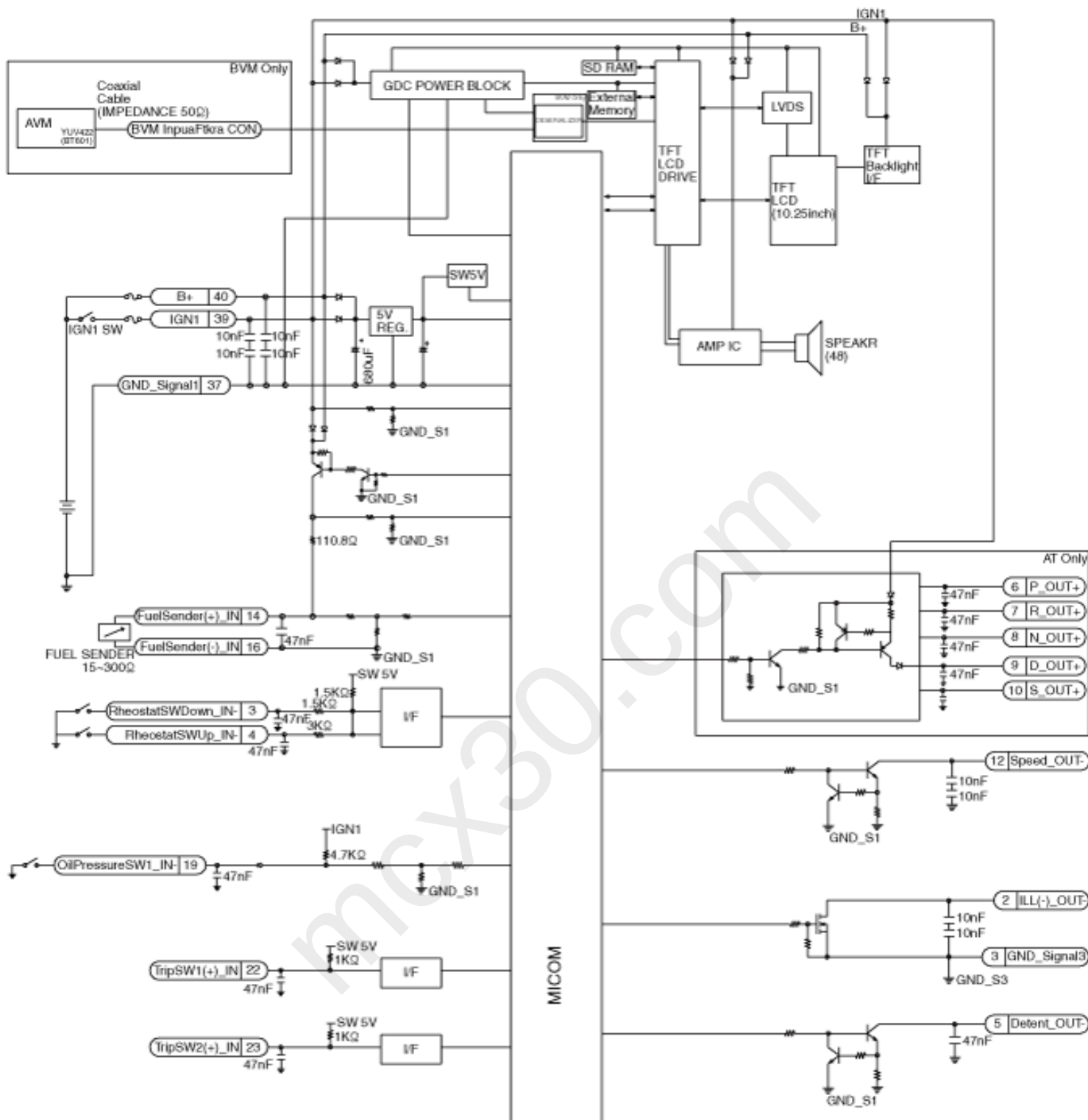


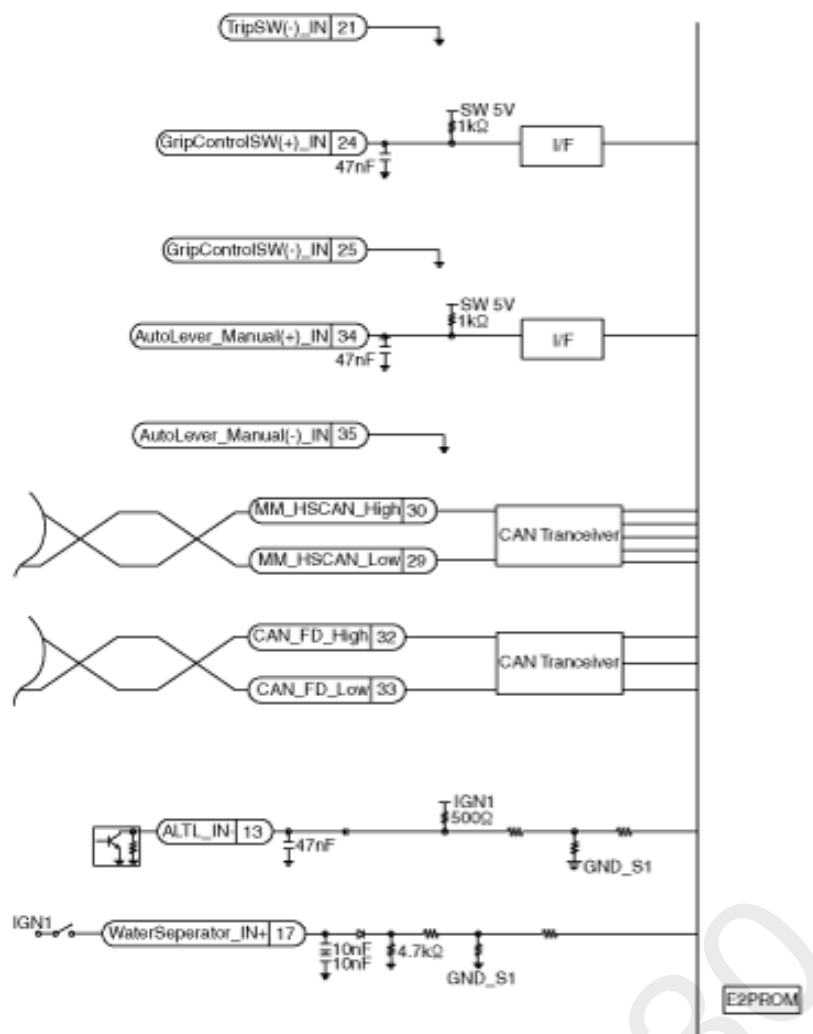
No.	Connector A	No.	Connector
1	Ground 3	21	Trip switch (-)_input
2	Illumination (-)_output	22	Trip switch 1 (+)_input
3	Rheostat switch (Down)_Input	23	Trip switch 2 (+)_input
4	Rheostat switch (Up)_Input	24	Grip control switch(+)_input
5	Dentent	25	Grip control switch(-)_input
6	P	26	-
7	R	27	-
8	N	28	-
9	D	29	M-CAN (Low)
10	S	30	M-CAN (High)
11	-	31	-
12	Vehicle speed_Output	32	CAN FD (High)
13	AltL_Input	33	CAN FD (Low)
14	Fuel sender (+)_Input	34	Auto lever (+)_Input
15	-	35	Auto lever (-)_Input
16	Fuel sender (-)_Input	36	-
17	Water separate_Input	37	Ground 1
18	Airbag (+)_Input	38	-
19	Oilpressure switch_Input	39	IGN 1
20	-	40	Battery (+)





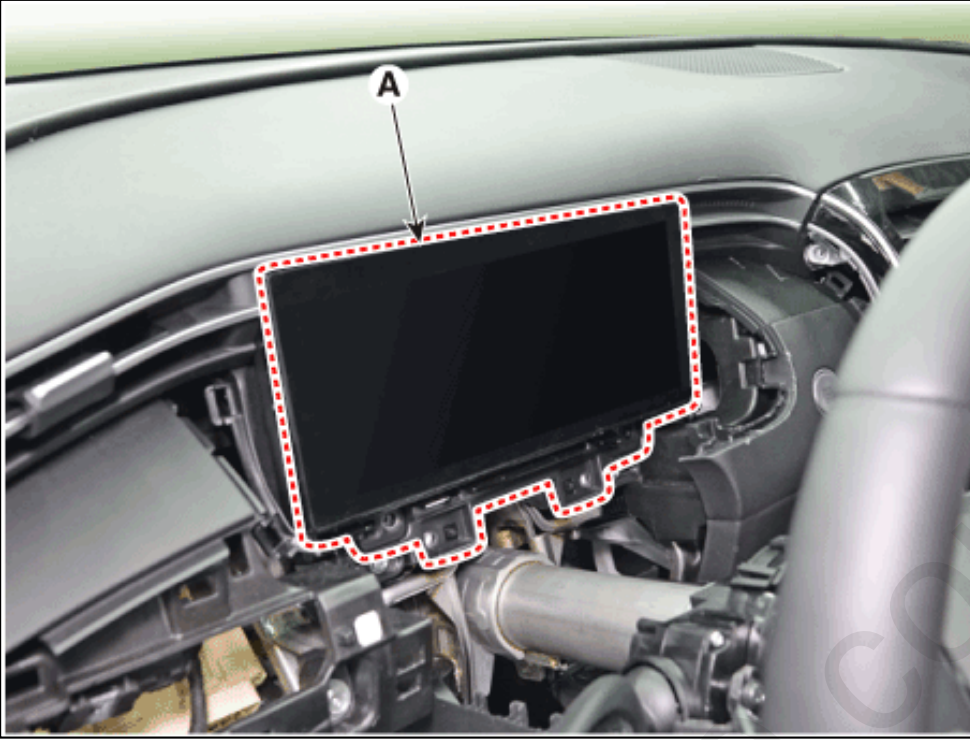
Super Vision





Removal

1. Disconnect the negative (-) battery terminal.
2. Remove the cluster fascia panel.
(Refer to Body - "Cluster Fascia Panel")
3. Remove the cluster (A) after loosening mounting screws.



4. Disconnect cluster connectors and then remove the cluster (A).



Installation

1. Install the cluster assembly.
2. Install the cluster fascia panel.

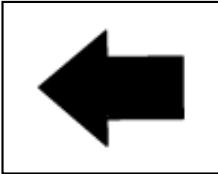
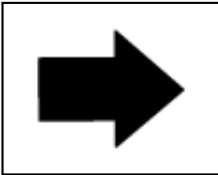
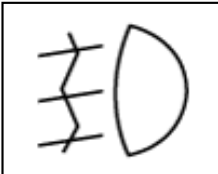
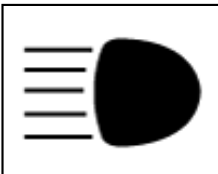
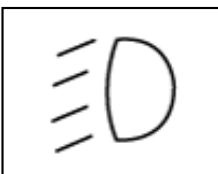
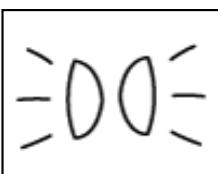
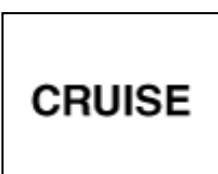
3. Connect the negative (-) battery terminal.

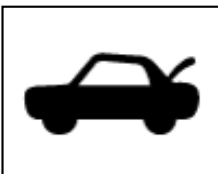
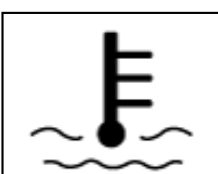


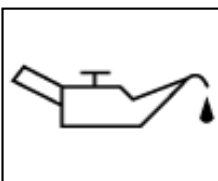
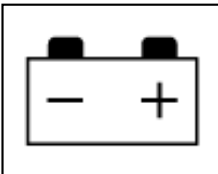
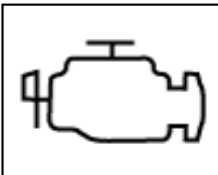
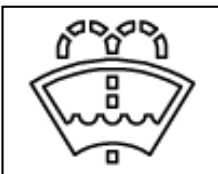
•Perform variant coding after exchanging the instrument cluster.

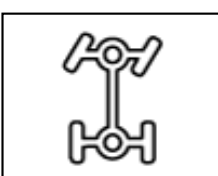
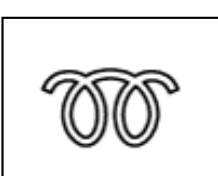
Inspection

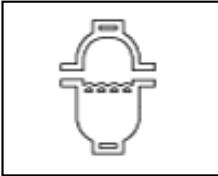
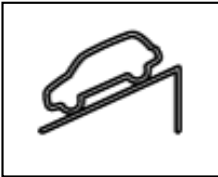
1. Check point (Warning indicator)

No	Ref Symbol	Color	Name	Signal Input	Signal Control (Unit / Sensor)	Check Point
1		Green	Turn Left	C-CAN	BCM	1)CAN line failure
2		Green	Turn Right	C-CAN		
3		Green	Front Fog	C-CAN	BCM	1)CAN line failure
4		Blue	High Beam	C-CAN	BCM	1)CAN line failure
5		Green	Low Beam	C-CAN	BCM	1)CAN Line failure
6		Green	Tail Lamp	C-CAN	BCM	1)CAN Line failure
7		Green	Cruise	C-CAN	EMS	1)CAN line failure

8		Green	SET	C-CAN	EMS	1)CAN line failure
9		Red	Seat Belt	C-CAN	BCM	1)CAN line failure
10		Red	Air Bag	C-CAN	ACU	1)CAN line failure
11		Yellow	Trunk Open	C-CAN	BCM	1)CAN line failure
12		Red	Door Open	C-CAN	BCM	1)CAN line failure
13		Red	High Temperature	C-CAN	EMS	1)CAN line failure
14		Yellow	Immobilizer	C-CAN	SMK	1)CAN line failure
15		Yellow	ABS	C-CAN	ESC	1)CAN line failure
16		Yellow	EPB	C-CAN	EPB	1)CAN line failure

17		Yellow	ESC	C-CAN	ESC	1)CAN line failure
18		Yellow	ESC OFF	C-CAN	ESC	1)CAN line failure
19		Yellow	TPMS (Tread & Fail)	C-CAN	TPMS	1)CAN line failure
20		Yellow	Fuel Low	Hardwire	Fuel Sender	1)Fuel sender failure 2)Wiring failure
21		Red	Parking Brake	C-CAN	BCM TCS EPB	1)CAN line failure
22		Yellow	Oil Pressure	Hardwire	Oil Pressure Sensor	1)Wiring failure
23		Red	Battery Charge	Hardwire	Battery Sensor	1)Wiring failure
24		Yellow	Check Engine	C-CAN	EMS	1)CAN line failure
25		Yellow	Low Washer	Hardwire	Water Level Sensor	1)Wiring failure

26		Green	AUTOHOLD (Green)	C-CAN	ESC	1)CAN line failure
		Yellow	AUTOHOLD (Yellow)	C-CAN	ESC	1)CAN line failure
		White	AUTOHOLD (White)	C-CAN	ESC	1)CAN line failure
27		Green White Yellow	LDWS	C-CAN	LDWS	1)CAN line failure
28		Green	Active ECO	Hardwire	ECO ON/OFF Switch	1)Switch failure 2)Wiring failure
29		Yellow	4WD Diagnosis	C-CAN	4WD Unit	1)4WD unit failure 2)CAN line failure
30		Yellow	4WD LOCK	C-CAN	4WD ECU	1)4WD ECU failure 2)CAN line failure
31		Yellow	Glow	C-CAN	Glow Plug	1)Glow plug failure 2)CAN line failure

32		Red	EPS	C-CAN	EPS Unit	1)EPS unit failure 2)CAN line failure
33		Red	Water Separator	C-CAN	Fuel filter water separator sensor	1)Water separator sensor failure 2)CAN line failure
34		Green Yellow	DBC	C-CAN	TCU	1)TCU failure 2)CAN line failure

2. Check point (Gauge)

No	Name	Signal Input	Signal Control (Unit/Sensor)	Check Point
1	Speedometer	C-CAN	TCU, ABS	1)CAN Line failure
2	Tachometer	C-CAN	EMS	1)CAN Line failure
3	Cooling water temperature	C-CAN	EMS	1)CAN Line failure
4	Fuel	Hardwire	Fuel sender	1)Fuel sender failure 2)Wiring failure

Diagnosis with Diagnostic Tool

1. In the body electrical system, failure can be quickly diagnosed by using the vehicle diagnostic system.

The diagnostic system provides the following information.

(1) Fault Code Searching : Checking failure and code number (DTC)

(2) Data Analysis : Checking the system input/output data state

(3) Actuation test : Checking the system operation condition

(4) S/W Management : Controlling other features including system option setting and zero point adjustment

2. If diagnose the vehicle by diagnostic tool, select "DTC Analysis" and "Vehicle".

GDS Update

TSB

MORE ►



Fault Code Searching



ECU Upgrade



DTC Analysis



Data Analysis



**Actuation
Test**



**Flight
Record**



S/W Management



Multi Data Analysis



**Recorded
Data**



**Digital Before
Service**



Measurement

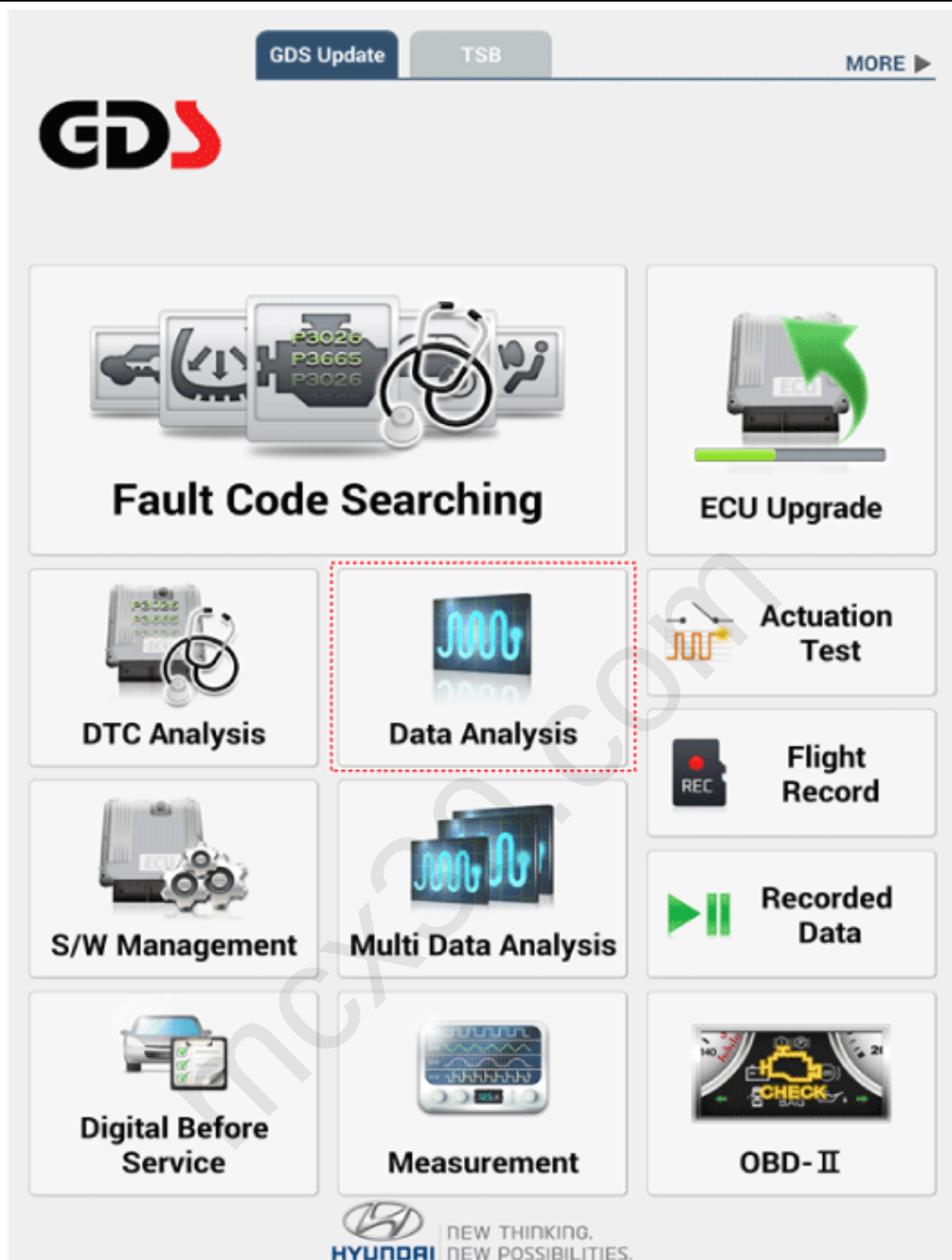


OBD- II



NEW THINKING.
NEW POSSIBILITIES.

3. If check current status, select the "Data Analysis" and "Car model".



4. Select the 'CLU' to search the current state of the input/output data.

Vehicle Selection

 × 🔍

AUTO
VIN



SANTAFE(SM)		
SANTAMO(M2)		D 2 2 TCI-R

System Selection

 ENGINE	 A / T	 ABS/ESP	 FCA	 AIRBAG	 AIRCON
 4WD	 EPS	 RVM	 SVMS	 PA	 BCW
 FR_CMR	 AFLS	 AHL5	 AVN	 CLU	 DDM
 HUD	 IBU-BCM	 IBU-IMMO	 IBU-SMK	 IBU-TPMS	 PSM

• System

Cluster Module

OK

Data Analysis			
Stop Graph Selective Display Actuation Test			
Sensor Name(6)	Value	Unit	Link Up
FUEL INPUT	5.0	L	
Battery Voltage on CLU	10.3	V	
Odometer	103	km	
IGN1	ON	-	
Battery Charge Status	ON	-	
Washer Low	OFF	-	

CLU Variant Coding

As we have more options (ESC, TPMS, SCC, etc.) in the car, the dashboard now have more information to display depending on the chosen options.

For this reason, we need to learn which options the current vehicle when we replace the dashboard.

To address this issue, a course of learning based on the option required for the vehicle when replacing the dashboard should be carried out.

This is called Variant Coding.

1. Connect the cable of diagnostic tool to the data link connector in driver side crash pad lower panel.

2. Select the 'S/W Management' and 'Car model'.

GDS Update

TSB

MORE ▶





Fault Code Searching



ECU Upgrade



DTC Analysis



Data Analysis



Actuation Test



Flight Record



S/W Management



Multi Data Analysis



Recorded Data



Digital Before Service



Measurement



OBD- II



NEW THINKING.
NEW POSSIBILITIES.

3. Select the 'Cluster Module' and 'CLU Variant Coding'.

S/W Management

Systems

Components

Unfold All

Air Conditioner

4WD Control

Motor Driven Power Steering

Rear View Monitor

Surround View Monitor

Parking Assist

Blind-Spot Collision Warning

Front View Camera

Adaptive Front Lighting System

Auto Headlamp Leveling System

Audio Video Navigation

Cluster Module

System Identification

CLU Variant Coding

Service Reminder Setting

CLU Variant Coding (Manual)

!

Do not touch any system buttons while performing this function.

S/W Management

■ CLU Variant Coding

● [CLU Variant Coding]

This function is intended to set for the specification of cluster in the vehicle which is applied to the vehicle system. (Option :ECS, MDPS, SCC and so on)

●[Condition]

1. Ignition key on
2. Engine Status : Stop

Press **[OK]** button to continue.

Code information is not searched or there is no response from the server.

If you want to retry, click [OK],

or if you want to enter the code by manual, click [Manual].

If you want to finish, click [Cancel].

OK

Manual

Cancel



Do not touch any system buttons while performing this function.