

# SECTION **BCS**

## BODY CONTROL SYSTEM

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**BCS**

# PRECAUTIONS

## PRECAUTIONS

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### Precautions for Supplemental Restraint System (SRS) “AIR BAG” and “SEAT BELT PRE-TENSIONER”

EKS00403

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the SRS and SB section of this Service Manual.

#### **WARNING:**

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SRS section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harness connectors.

### Wiring Diagrams and Trouble Diagnosis

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When you read wiring diagrams, refer to the following:

- Refer to [GI-14, "How to Read Wiring Diagrams"](#) in GI section.
- Refer to [PG-3, "POWER SUPPLY ROUTING"](#) for power distribution circuit in PG section.

When you perform trouble diagnosis, refer to the following:

- Refer to [GI-10, "How to Follow Trouble Diagnoses"](#) in GI section.
- Refer to [GI-24, "How to Perform Efficient Diagnosis for an Electrical Incident"](#) in GI section.

## SMART ENTRANCE CONTROL SYSTEM

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### Description OUTLINE

EKS004VO

The smart entrance control unit totally controls the following body electrical system operations.

- Warning chime, refer to [DI-107, "WARNING CHIME"](#) .
- Rear defogger and door mirror defogger, refer to [GW-40, "REAR WINDOW DEFOGGER"](#) .
- Power door lock, refer to [BL-13, "POWER DOOR LOCK SYSTEM"](#) .
- Power door lock - Super lock - (RHD models), refer to [BL-44, "POWER DOOR LOCK — SUPER LOCK —"](#) .
- Multi-remote control system, refer to [BL-82, "MULTI-REMOTE CONTROL SYSTEM"](#) .
- Theft warning system, refer to [BL-123, "THEFT WARNING SYSTEM"](#) .
- NATS (Nissan Anti-Theft system), refer to [BL-156, "NATS \(NISSAN ANTI-THEFT SYSTEM\)"](#) .
- Interior lamp, refer to [LT-96, "INTERIOR ROOM LAMP"](#) .

Also, smart entrance control unit has the "sleep/wake-up control" function. Smart entrance control unit puts itself (the whole smart entrance control unit) to sleep under certain conditions to prevent unnecessary power consumption. Then, when a certain input is detected, the system wakes itself up. For more detailed information, refer to [BCS-30, "SLEEP/WAKE-UP CONTROL"](#) .

### INTERIOR LAMP/SPOT LAMP/VANITY MIRROR ILLUMINATION

The lamps turn off automatically when the interior lamp, spot lamp or/and vanity mirror illumination are illuminated with the ignition key in the OFF position, if the lamp remains lit by the door switch open signal or if the lamp switch is in the ON position for more than 30 minutes.

After lamps are turned off by the smart entrance control unit, the lamps illuminate again when:

- Driver's door is locked or unlocked with remote controller, door lock/unlock switch or door key cylinder.
- Ignition switch is turned to ON.
- Door is opened or closed,
- Key is inserted into ignition key cylinder.

### REAR WINDOW DEFOGGER/DOOR MIRROR DEFOGGER

Rear window defogger is turned off in approximately 15 minutes after the rear window defogger switch is turned on.

### CAN COMMUNICATION

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

### CAN COMMUNICATION UNIT FOR LHD MODELS WITH TYRE PRESSURE MONITORING SYSTEM

Go to CAN system, when selecting your car model from the following table.

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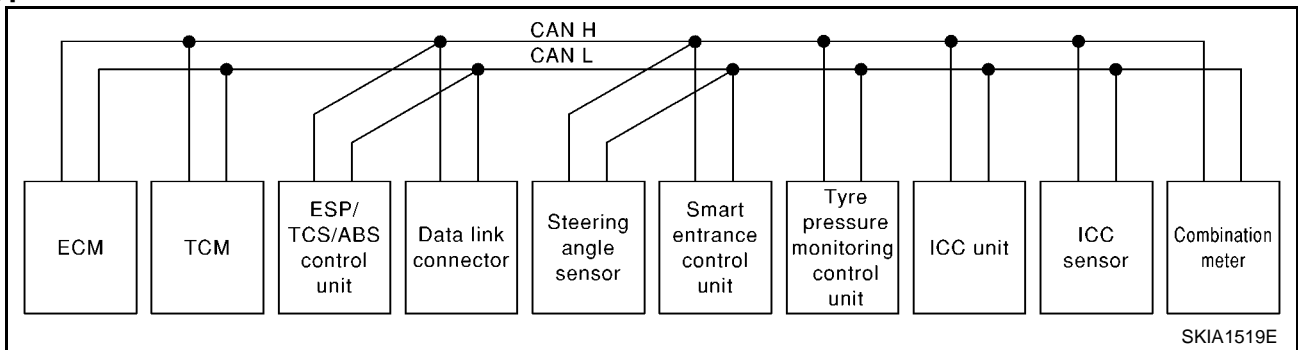
L

M

# SMART ENTRANCE CONTROL SYSTEM

Body type	Sedan/Wagon									
Axle	2WD									
Engine	QR20DE			QG18DE	QR20DE	QG16DE	QG18DE	QR20DE	YD22DD Ti	
Transmission	CVT			A/T	6M/T	5M/T		6M/T		
Brake control	ESP		ABS		ESP	ABS				
ICC system	Applica- ble	Not applicable								
CAN communication unit										
ECM	×	×	×	×	×	×	×	×	×	×
TCM	×	×	×	×						
ESP/TCS/ABS control unit	×	×			×					
ABS actuator and electric unit (control unit)			×	×		×	×	×	×	×
Data link connector	×	×	×	×	×	×	×	×	×	×
Steering angle sensor	×	×			×					
Smart entrance control unit	×	×	×	×	×	×	×	×	×	×
Tyre pressure monitoring control unit	×	×	×	×	×	×	×	×	×	×
ICC unit	×									
ICC sensor	×									
Combination meter	×	×	×	×	×	×	×	×	×	×
CAN communication type	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6				

## Type 1



## Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	ESP/ TCS/ ABS control unit	Steer- ing angle sensor	Smart entranc e control unit	Tyre pres- sure monitor- ing control unit	ICC unit	ICC sensor	Combi- nation meter
Engine speed signal	T	R	R				R		R
Accelerator pedal position signal	T	R	R				R		
Closed throttle position signal	T						R		
ICC steering switch signal	T						R		
Shift pattern signal		T					R		
Parking brake switch signal			T				R		

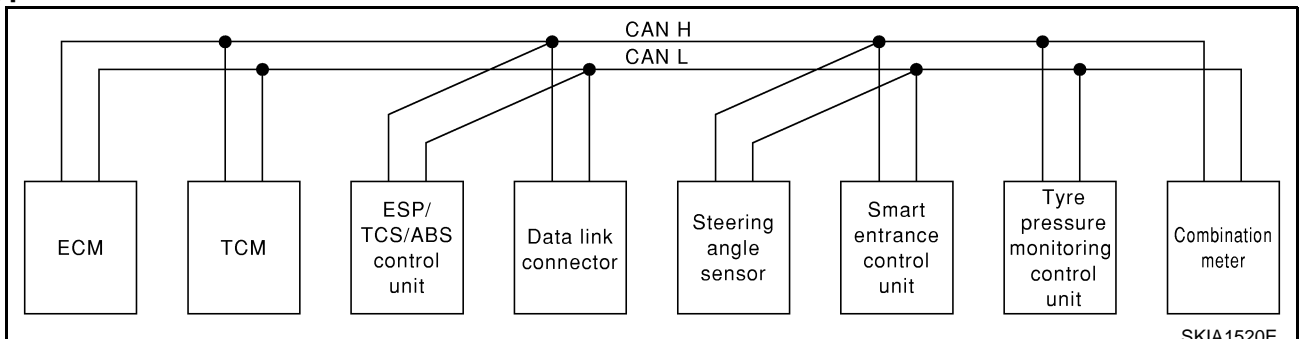
# SMART ENTRANCE CONTROL SYSTEM

Signals	ECM	TCM	ESP/ TCS / ABS control unit	Steer- ing angle sensor	Smart entranc e control unit	Tyre pres- sure monit- oring control unit	ICC unit	ICC sensor	Combi- nation meter
ICC system display signal							T		R
ICC sensor signal							R	T	
ESP operation signal	R		T				R		
TCS operation signal	R		T				R		
ABS operation signal	R	R	T				R		
Stop lamp switch signal		R	T						
Steering wheel angle sensor signal			R	T					
Wheel speed sensor signal			T				R		
Rear window defogger signal	R				T				
Heater fan switch signal	R								T
Air conditioner switch signal	R								T
Primary pulley revolution signal	R	T					R		
Secondary pulley revolution signal	R	T					R		
ICC operation signal	R						T		
Brake switch signal	R						T		
MI signal	T								R
Current gear position signal		T							R
Engine coolant temperature signal	T						R		R
Fuel consumption signal	T								R
Vehicle speed signal			T						R
	R								T
Seat belt reminder signal					R				T
Headlamp switch signal					T				R
Flashing indicator signal					T				R
Engine cooling fan speed signal	T				R				
Child lock indicator signal					T				R
Door switches state signal					T				R
Key ID signal	R				T				
	T				R				
A/C compressor signal	T				R				
Tire pressure signal						T			R

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## Type 2



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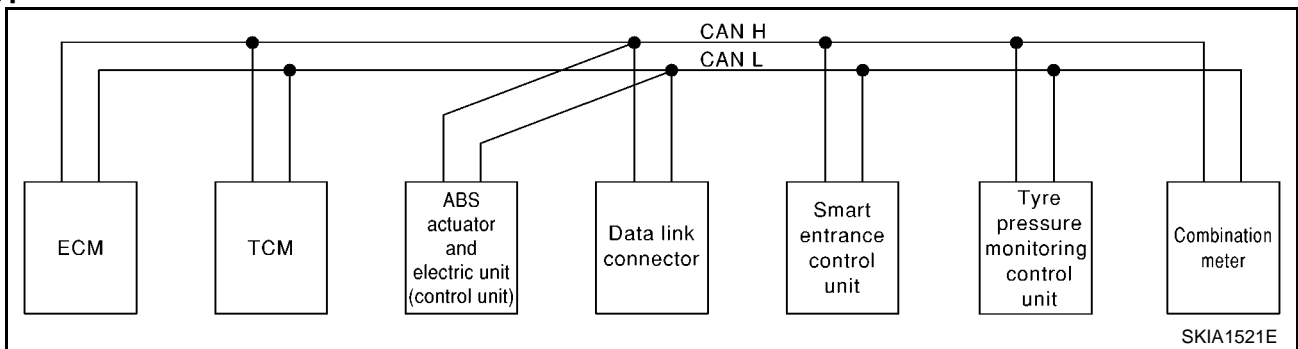
# SMART ENTRANCE CONTROL SYSTEM

## Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	ESP/TCS / ABS control unit	Steering angle sensor	Smart entrance control unit	Tyre pressure monitoring control unit	Combination meter
Engine speed signal	T	R	R				R
Accelerator pedal position signal	T	R	R				
ESP operation signal	R		T				
TCS operation signal	R		T				
ABS operation signal	R	R	T				
Stop lamp switch signal		R	T				
Steering wheel angle sensor signal			R	T			
Rear window defogger signal	R				T		
Heater fan switch signal	R						T
Air conditioner switch signal	R						T
Primary pulley revolution signal	R	T					
Secondary pulley revolution signal	R	T					
MI signal	T						R
Current gear position signal		T					R
Engine coolant temperature signal	T						R
Fuel consumption signal	T						R
Vehicle speed signal			T				R
	R						T
Seat belt reminder signal					R		T
Headlamp switch signal					T		R
Flashing indicator signal					T		R
Engine cooling fan speed signal	T				R		
Child lock indicator signal					T		R
Door switches state signal					T		R
Key ID signal	R				T		
	T				R		
A/C compressor signal	T				R		
Tire pressure signal						T	R

### Type 3



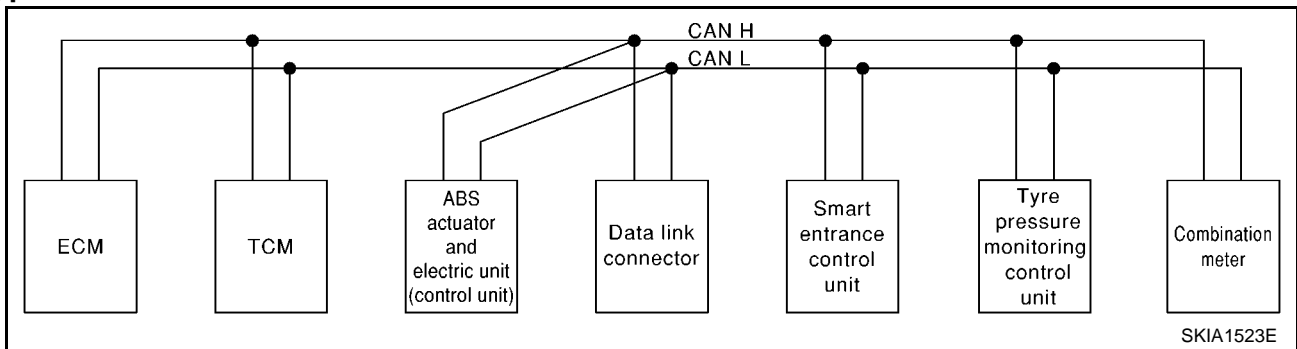
# SMART ENTRANCE CONTROL SYSTEM

## Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Smart entrance control unit	Tyre pressure monitoring control unit	Combination meter
Engine speed signal	T	R				R
Stop lamp switch signal		R	T			
Rear window defogger signal	R			T		
Heater fan switch signal	R					T
Air conditioner switch signal	R					T
Primary pulley revolution signal	R	T				
Secondary pulley revolution signal	R	T				
MI signal	T					R
Current gear position signal		T				R
Engine coolant temperature signal	T					R
Fuel consumption signal	T					R
Vehicle speed signal			T			R
	R					T
Seat belt reminder signal				R		T
Headlamp switch signal				T		R
Flashing indicator signal				T		R
Engine cooling fan speed signal	T			R		
Child lock indicator signal				T		R
Door switches state signal				T		R
Key ID signal	R			T		
	T			R		
A/C compressor signal	T			R		
Tire pressure signal					T	R

## Type 4



## Input/output signal chart

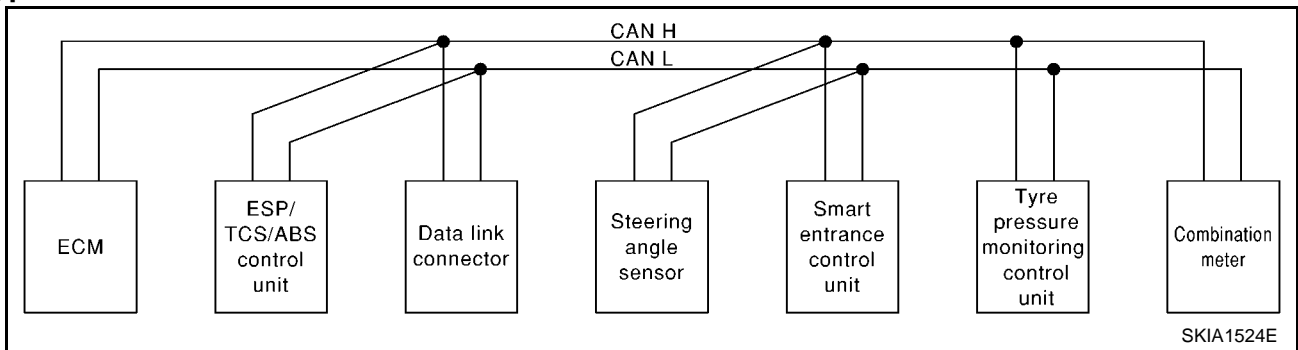
T: Transmit R: Receive

Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Smart entrance control unit	Tyre pressure monitoring control unit	Combination meter
Engine speed signal	T	R				R
Stop lamp switch signal		R	T			

# SMART ENTRANCE CONTROL SYSTEM

Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Smart entrance control unit	Tyre pressure monitoring control unit	Combination meter
Rear window defogger signal	R			T		
Heater fan switch signal	R					T
Air conditioner switch signal	R					T
MI signal	T					R
Current gear position signal		T				R
Engine coolant temperature signal	T					R
Fuel consumption signal	T					R
Vehicle speed signal			T			R
	R					T
Seat belt reminder signal				R		T
Headlamp switch signal				T		R
Flashing indicator signal				T		R
Engine cooling fan speed signal	T			R		
Child lock indicator signal				T		R
Door switches state signal				T		R
Key ID signal	R			T		
	T			R		
A/C compressor signal	T			R		
Tire pressure signal					T	R

## Type 5



## Input/output signal chart

T: Transmit R: Receive

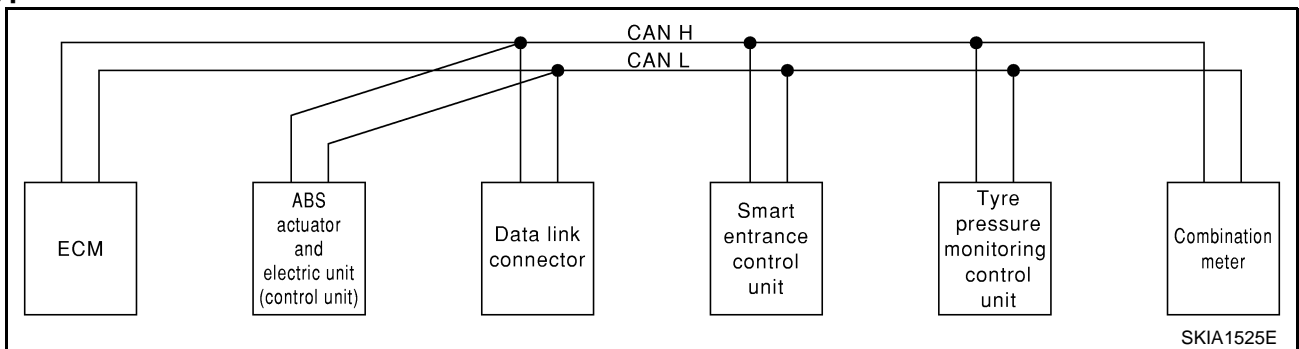
Signals	ECM	ESP/ TCS / ABS control unit	Steering angle sensor	Smart entrance control unit	Tyre pressure monitoring control unit	Combination meter
Engine speed signal	T	R				R
Accelerator pedal position signal	T	R				
ESP operation signal	R	T				
TCS operation signal	R	T				
ABS operation signal	R	T				
Steering wheel angle sensor signal		R	T			
Rear window defogger signal	R			T		



# SMART ENTRANCE CONTROL SYSTEM

Signals	ECM	ESP/ TCS / ABS control unit	Steering angle sen- sor	Smart entrance control unit	Tyre pres- sure moni- toring control unit	Combina- tion meter
Heater fan switch signal	R					T
Air conditioner switch signal	R					T
MI signal	T					R
Engine coolant temperature signal	T					R
Fuel consumption signal	T					R
Vehicle speed signal		T				R
	R					T
Seat belt reminder signal				R		T
Headlamp switch signal				T		R
Flashing indicator signal				T		R
Engine cooling fan speed signal	T			R		
Child lock indicator signal				T		R
Door switches state signal				T		R
Key ID signal	R			T		
	T			R		
A/C compressor signal	T			R		
Tire pressure signal					T	R

## Type 6



## Input/output signal chart

T: Transmit R: Receive

Signals	ECM	ABS actuator and electric unit (control unit)	Smart entrance con- trol unit	Tyre pres- sure moni- toring con- trol unit	Combination meter
Engine speed signal	T				R
Rear window defogger signal	R <sup>*1</sup>		T		
Heater fan switch signal	R <sup>*1</sup>				T
Air conditioner switch signal	R				T
MI signal	T				R
Glow lamp signal <sup>*2</sup>	T				R
Engine coolant temperature signal	T				R
Fuel consumption signal	T				R
Vehicle speed signal		T			R
	R				T

# SMART ENTRANCE CONTROL SYSTEM

Signals	ECM	ABS actuator and electric unit (control unit)	Smart entrance control unit	Tyre pressure monitoring control unit	Combination meter
Seat belt reminder signal			R		T
Headlamp switch signal			T		R
Flashing indicator signal			T		R
Engine cooling fan speed signal	T		R		
Child lock indicator signal			T		R
Door switches state signal			T		R
Key ID signal	R		T		
	T		R		
A/C compressor signal	T		R		
Tire pressure signal				T	R

\*1: Except YD22DDTi engine model

\*2: YD22DDTi engine model only

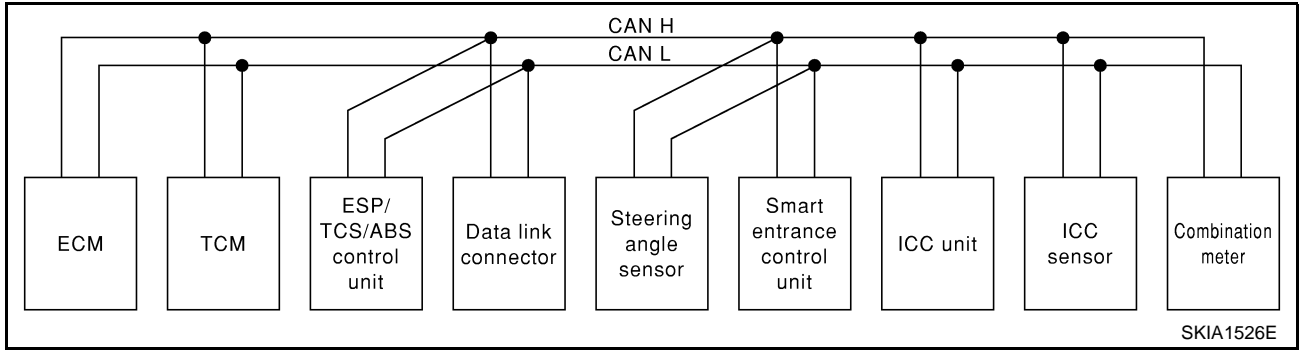
## CAN COMMUNICATION UNIT FOR LHD MODELS WITHOUT TYRE PRESSURE MONITORING SYSTEM

Go to CAN system, when selecting your car model from the following table.

Body type	Sedan/Wagon								
Axle	2WD								
Engine	QR20DE		QG18DE	QR20DE	QG16DE	QG18DE	QR20DE	YD22DD Ti	
Transmission	CVT		A/T	6M/T	5M/T		6M/T		
Brake control	ESP		ABS		ESP	ABS			
ICC system	Applicable	Not applicable							
CAN communication unit									
ECM	×	×	×	×	×	×	×	×	×
TCM	×	×	×	×					
ESP/TCS/ABS control unit	×	×			×				
ABS actuator and electric unit (control unit)			×	×		×	×	×	×
Data link connector	×	×	×	×	×	×	×	×	×
Steering angle sensor	×	×			×				
Smart entrance control unit	×	×	×	×	×	×	×	×	×
ICC unit	×								
ICC sensor	×								
Combination meter	×	×	×	×	×	×	×	×	×
Can communication type	Type 7	Type 8	Type 9	Type 10	Type 11	Type 12			

# SMART ENTRANCE CONTROL SYSTEM

## Type 7



## Input/output signal chart

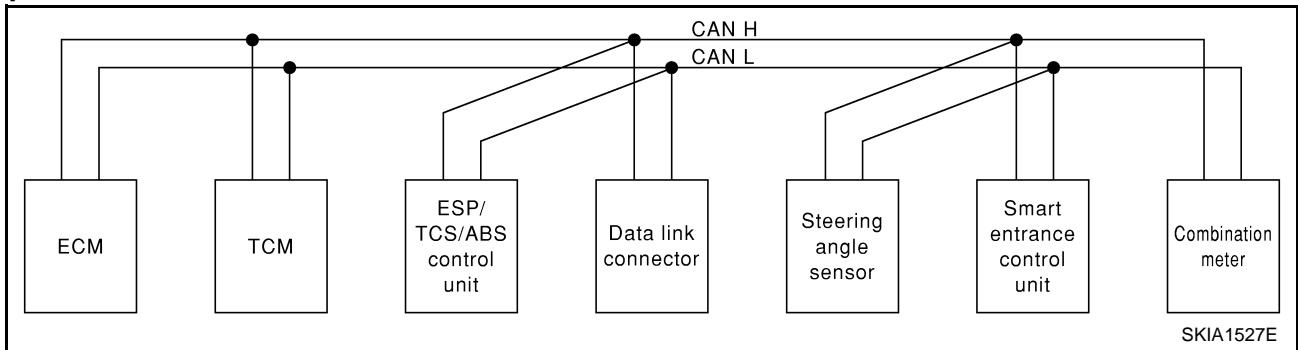
T: Transmit R: Receive

Signals	ECM	TCM	ESP/ TCS/ ABS con- trol unit	Steering angle sensor	Smart entrance control unit	ICC unit	ICC sen- sor	Combina- tion meter
Engine speed signal	T	R	R			R		R
Accelerator pedal position signal	T	R	R			R		
Closed throttle position signal	T					R		
ICC steering switch signal	T					R		
Shift pattern signal		T				R		
Parking brake switch signal			T			R		
ICC system display signal						T		R
ICC sensor signal						R	T	
ESP operation signal	R		T			R		
TCS operation signal	R		T			R		
ABS operation signal	R	R	T			R		
Stop lamp switch signal		R	T					
Steering wheel angle sensor signal			R	T				
Wheel speed sensor signal			T			R		
Rear window defogger signal	R				T			
Heater fan switch signal	R							T
Air conditioner switch signal	R							T
Primary pulley revolution signal	R	T				R		
Secondary pulley revolution signal	R	T				R		
ICC operation signal	R					T		
Brake switch signal	R					T		
MI signal	T							R
Current gear position signal		T						R
Engine coolant temperature signal	T					R		R
Fuel consumption signal	T							R

# SMART ENTRANCE CONTROL SYSTEM

Signals	ECM	TCM	ESP/ TCS / ABS con- trol unit	Steering angle sensor	Smart entrance control unit	ICC unit	ICC sen- sor	Combina- tion meter
Vehicle speed signal			T					R
	R							T
Seat belt reminder signal					R			T
Headlamp switch signal					T			R
Flashing indicator signal					T			R
Engine cooling fan speed signal	T				R			
Child lock indicator signal					T			R
Door switches state signal					T			R
Key ID signal	R				T			
	T				R			
A/C compressor signal	T				R			

## Type 8



## Input/output signal chart

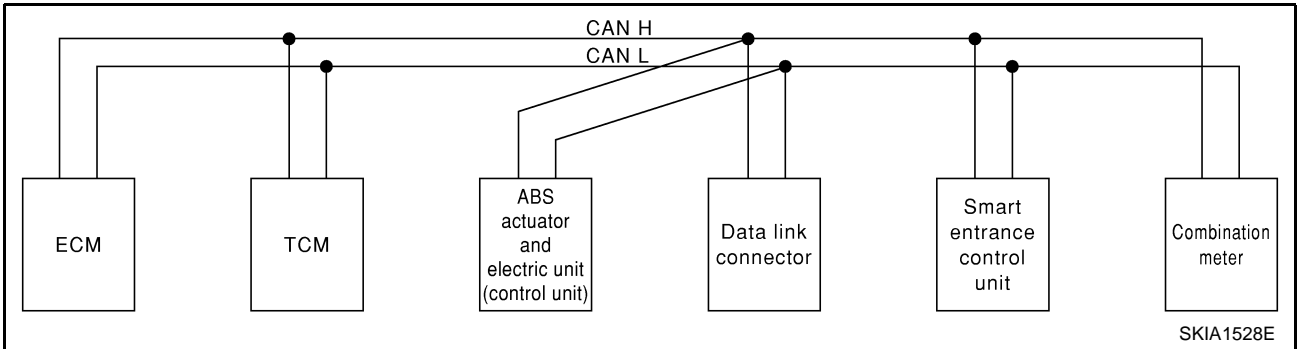
T: Transmit R: Receive

Signals	ECM	TCM	ESP/ TCS / ABS control unit	Steering angle sensor	Smart entrance control unit	Combina- tion meter
Engine speed signal	T	R	R			R
Accelerator pedal position signal	T	R	R			
ESP operation signal	R		T			
TCS operation signal	R		T			
ABS operation signal	R	R	T			
Stop lamp switch signal		R	T			
Steering wheel angle sensor signal			R	T		
Rear window defogger signal	R				T	
Heater fan switch signal	R					T
Air conditioner switch signal	R					T
Primary pulley revolution signal	R	T				
Secondary pulley revolution signal	R	T				
MI signal	T					R
Current gear position signal		T				R
Engine coolant temperature signal	T					R
Fuel consumption signal	T					R

# SMART ENTRANCE CONTROL SYSTEM

Signals	ECM	TCM	ESP/ TCS / ABS control unit	Steering angle sensor	Smart entrance control unit	Combina- tion meter
Vehicle speed signal			T			R
	R					T
Seat belt reminder signal					R	T
Headlamp switch signal					T	R
Flashing indicator signal					T	R
Engine cooling fan speed signal	T				R	
Child lock indicator signal					T	R
Door switches state signal					T	R
Key ID signal	R				T	
	T				R	
A/C compressor signal	T				R	

## Type 9



## Input/output signal chart

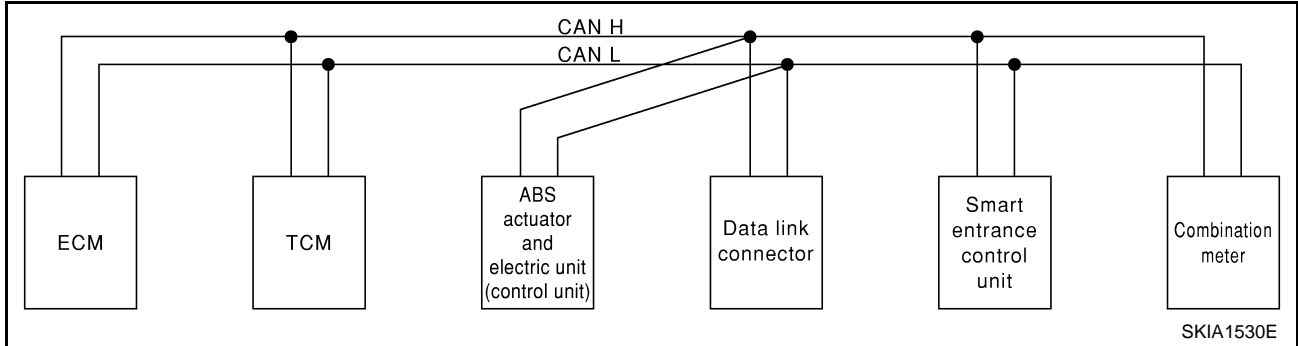
T: Transmit R: Receive

Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Smart entrance con- trol unit	Combination meter
Engine speed signal	T	R			R
Stop lamp switch signal		R	T		
Rear window defogger signal	R			T	
Heater fan switch signal	R				T
Air conditioner switch signal	R				T
Primary pulley revolution signal	R	T			
Secondary pulley revolution signal	R	T			
MI signal	T				R
Current gear position signal		T			R
Engine coolant temperature signal	T				R
Fuel consumption signal	T				R
Vehicle speed signal			T		R
	R				T
Seat belt reminder signal				R	T
Headlamp switch signal				T	R
Flashing indicator signal				T	R
Engine cooling fan speed signal	T			R	

# SMART ENTRANCE CONTROL SYSTEM

Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Smart entrance control unit	Combination meter
Child lock indicator signal				T	R
Door switches state signal				T	R
Key ID signal	R			T	
	T			R	
A/C compressor signal	T			R	

## Type 10



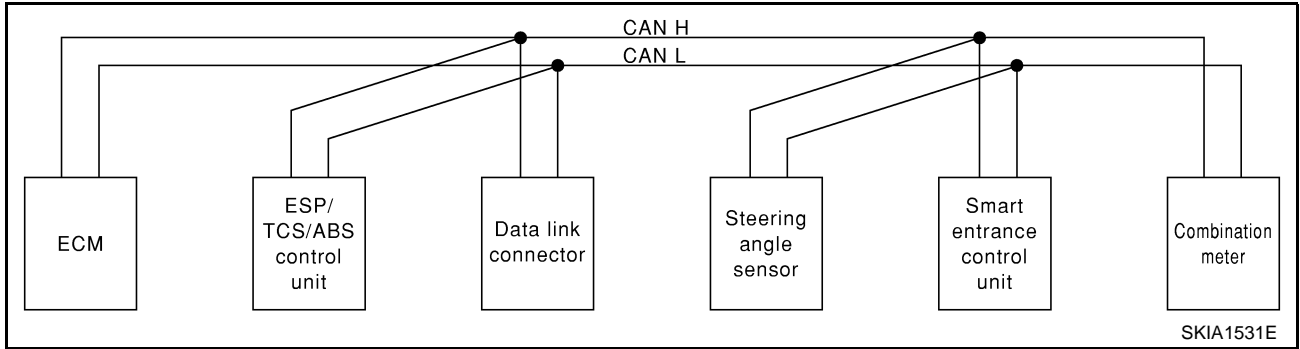
## Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Smart entrance control unit	Combination meter
Engine speed signal	T	R			R
Stop lamp switch signal		R	T		
Rear window defogger signal	R			T	
Heater fan switch signal	R				T
Air conditioner switch signal	R				T
MI signal	T				R
Current gear position signal		T			R
Engine coolant temperature signal	T				R
Fuel consumption signal	T				R
Vehicle speed signal			T		R
	R				T
Seat belt reminder signal				R	T
Headlamp switch signal				T	R
Flashing indicator signal				T	R
Engine cooling fan speed signal	T			R	
Child lock indicator signal				T	R
Door switches state signal				T	R
Key ID signal	R			T	
	T			R	
A/C compressor signal	T			R	

# SMART ENTRANCE CONTROL SYSTEM

## Type 11



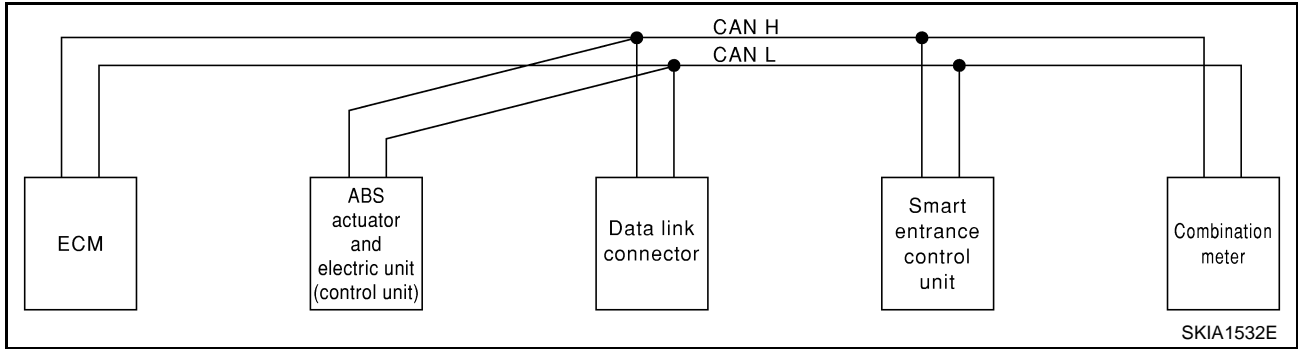
### Input/output signal chart

T: Transmit R: Receive

Signals	ECM	ESP/ TCS / ABS control unit	Steering angle sensor	Smart entrance control unit	Combination meter
Engine speed signal	T	R			R
Accelerator pedal position signal	T	R			
ESP operation signal	R	T			
TCS operation signal	R	T			
ABS operation signal	R	T			
Steering wheel angle sensor signal		R	T		
Rear window defogger signal	R			T	
Heater fan switch signal	R				T
Air conditioner switch signal	R				T
MI signal	T				R
Engine coolant temperature signal	T				R
Fuel consumption signal	T				R
Vehicle speed signal		T			R
	R				T
Seat belt reminder signal				R	T
Headlamp switch signal				T	R
Flashing indicator signal				T	R
Engine cooling fan speed signal	T			R	
Child lock indicator signal				T	R
Door switches state signal				T	R
Key ID signal	R			T	
	T			R	
A/C compressor signal	T			R	

# SMART ENTRANCE CONTROL SYSTEM

## Type 12



### Input/output signal chart

T: Transmit R: Receive

Signals	ECM	ABS actuator and electric unit (control unit)	Smart entrance control unit	Combination meter
Engine speed signal	T			R
Rear window defogger signal	R <sup>*1</sup>		T	
Heater fan switch signal	R <sup>*1</sup>			T
Air conditioner switch signal	R			T
MI signal	T			R
Glow lamp signal <sup>*2</sup>	T			R
Engine coolant temperature signal	T			R
Fuel consumption signal	T			R
Vehicle speed signal		T		R
	R			T
Seat belt reminder signal			R	T
Headlamp switch signal			T	R
Flashing indicator signal			T	R
Engine cooling fan speed signal	T		R	
Child lock indicator signal			T	R
Door switches state signal			T	R
Key ID signal	R		T	
	T		R	
A/C compressor signal	T		R	

\*1: Except YD22DDTi engine model

\*2: YD22DDTi engine model only

### CAN COMMUNICATION UNIT FOR RHD MODELS WITH TYRE PRESSURE MONITORING SYSTEM

Go to CAN system, when selecting your car model from the following table.



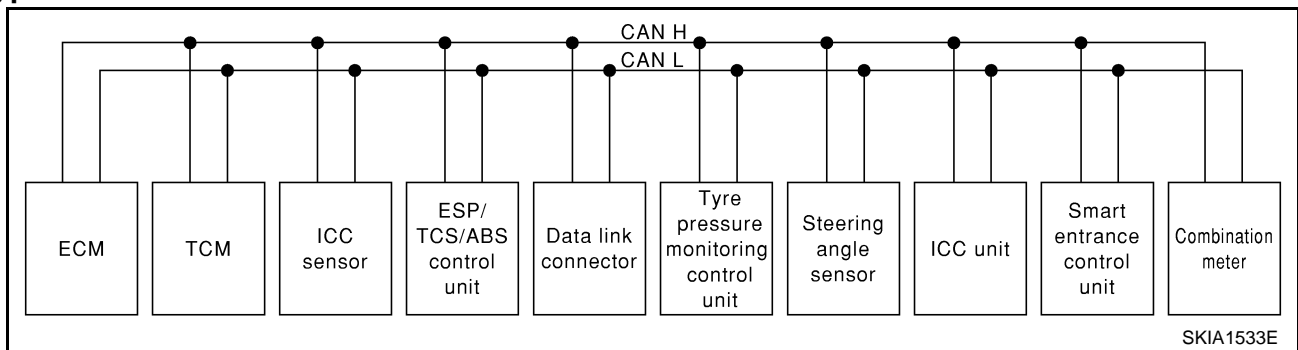
# SMART ENTRANCE CONTROL SYSTEM

Body type	Sedan/Wagon									
Axle	2WD									
Engine	QR20DE			QG18DE	QR20DE	QG16DE	QG18DE	QR20DE	YD22DD Ti	
Transmission	CVT			A/T	6M/T	5M/T		6M/T		
Brake control	ESP		ABS		ESP	ABS				
ICC system	Applica- ble	Not applicable								
CAN communication unit										
ECM	×	×	×	×	×	×	×	×	×	×
TCM	×	×	×	×						
ICC sensor	×									
ESP/TCS/ABS control unit	×	×			×					
ABS actuator and electric unit (control unit)			×	×		×	×	×	×	×
Data link connector	×	×	×	×	×	×	×	×	×	×
Tyre pressure monitoring control unit	×	×	×	×	×	×	×	×	×	×
Steering angle sensor	×	×			×					
ICC unit	×									
Smart entrance control unit	×	×	×	×	×	×	×	×	×	×
Combination meter	×	×	×	×	×	×	×	×	×	×
CAN communication type	Type 13	Type 14	Type 15	Type 16	Type 17	Type 18				

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BCS

## Type 13



# SMART ENTRANCE CONTROL SYSTEM

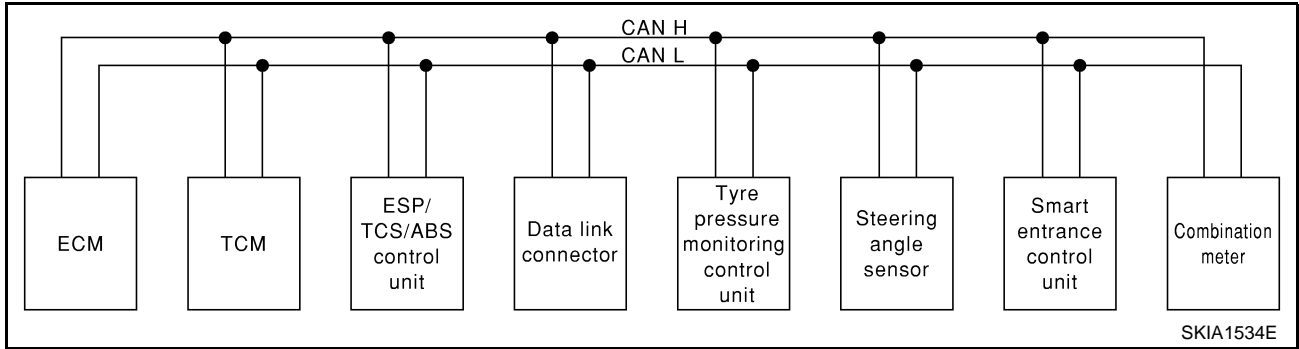
## Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	ICC sensor	ESP/TCS / ABS control unit	Tyre pressure monitoring control unit	Steering angle sensor	ICC unit	Smart entrance control unit	Combination meter
Engine speed signal	T	R		R			R		R
Accelerator pedal position signal	T	R		R			R		
Closed throttle position signal	T						R		
ICC steering switch signal	T						R		
Shift pattern signal		T					R		
Parking brake switch signal				T			R		
ICC system display signal							T		
ICC sensor signal			T				R		
ESP operation signal	R			T			R		
TCS operation signal	R			T			R		
ABS operation signal	R	R		T			R		
Stop lamp switch signal		R		T					
Steering wheel angle sensor signal				R		T			
Wheel speed sensor signal				T			R		
Rear window defogger signal	R							T	
Heater fan switch signal	R								T
Air conditioner switch signal	R								T
Primary pulley revolution signal	R	T					R		
Secondary pulley revolution signal	R	T					R		
ICC operation signal	R						T		
Brake switch signal	R						T		
MI signal	T								R
Current gear position signal		T							R
Engine coolant temperature signal	T						R		R
Fuel consumption signal	T								R
Vehicle speed signal				T					R
	R								T
Seat belt reminder signal								R	T
Headlamp switch signal								T	R
Flashing indicator signal								T	R
Engine cooling fan speed signal	T							R	
Child lock indicator signal								T	R
Door switches state signal								T	R
Key ID signal	R							T	
	T							R	
A/C compressor signal	T							R	
Tire pressure signal					T				R

# SMART ENTRANCE CONTROL SYSTEM

## Type 14



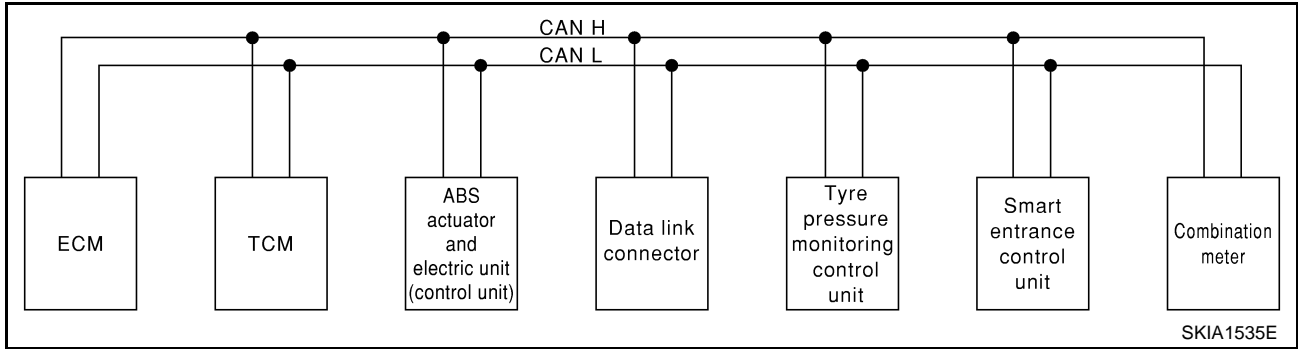
### Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	ESP/ TCS / ABS con- trol unit	Tyre pressure monitor- ing con- trol unit	Steering angle sensor	Smart entrance control unit	Combi- nation meter
Engine speed signal	T	R	R				R
Accelerator pedal position signal	T	R	R				
ESP operation signal	R		T				
TCS operation signal	R		T				
ABS operation signal	R	R	T				
Stop lamp switch signal		R	T				
Steering wheel angle sensor signal			R		T		
Rear window defogger signal	R					T	
Heater fan switch signal	R						T
Air conditioner switch signal	R						T
Primary pulley revolution signal	R	T					
Secondary pulley revolution signal	R	T					
MI signal	T						R
Current gear position signal		T					R
Engine coolant temperature	T						R
Fuel consumption signal	T						R
Vehicle speed signal	R		T				R
Seat belt reminder signal						R	T
Headlamp switch signal						T	R
Flashing indicator signal						T	R
Engine cooling fan speed signal	T					R	
Child lock indicator signal						T	R
Door switches state signal						T	R
Key ID signal	R					T	
	T					R	
A/C compressor signal	T					R	
Tire pressure signal				T			R

# SMART ENTRANCE CONTROL SYSTEM

## Type 15



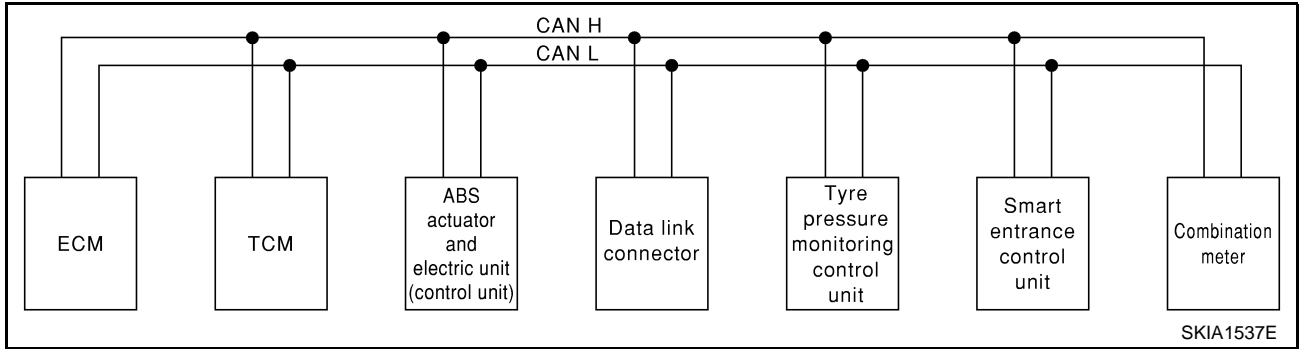
### Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Tyre pressure monitoring control unit	Smart entrance control unit	Combination meter
Engine speed signal	T	R				R
Stop lamp switch signal		R	T			
Rear window defogger signal	R				T	
Heater fan switch signal	R					T
Air conditioner switch signal	R					T
Primary pulley revolution signal	R	T				
Secondary pulley revolution signal	R	T				
MI signal	T					R
Current gear position signal		T				R
Engine coolant temperature signal	T					R
Fuel consumption signal	T					R
Vehicle speed signal			T			R
	R					T
Seat belt reminder signal					R	T
Headlamp switch signal					T	R
Flashing indicator signal					T	R
Engine cooling fan speed signal	T				R	
Child lock indicator signal					T	R
Door switches state signal					T	R
Key ID signal	R				T	
	T				R	
A/C compressor signal	T				R	
Tire pressure signal				T		R

# SMART ENTRANCE CONTROL SYSTEM

## Type 16



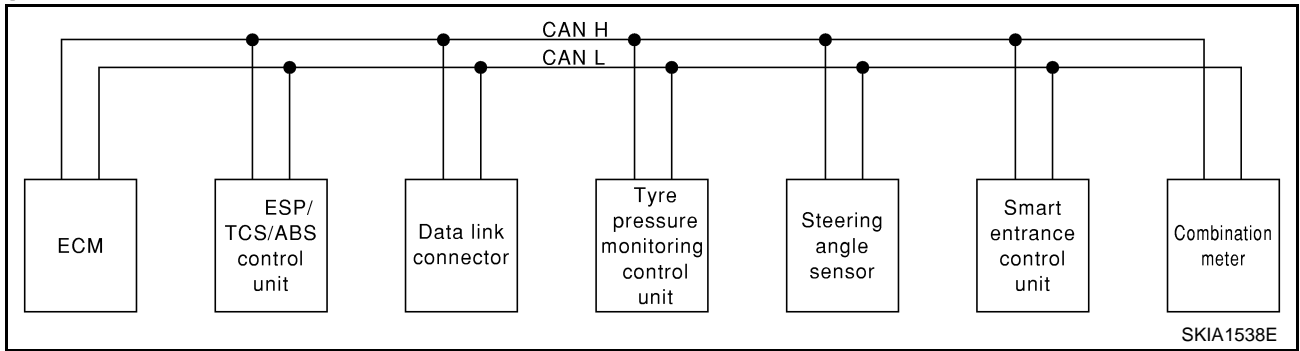
### Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Tyre pressure monitoring control unit	Smart entrance control unit	Combination meter
Engine speed signal	T	R				R
Stop lamp switch signal		R	T			
Rear window defogger signal	R				T	
Heater fan switch signal	R					T
Air conditioner switch signal	R					T
MI signal	T					R
Current gear position signal		T				R
Engine coolant temperature signal	T					R
Fuel consumption signal	T					R
Vehicle speed signal			T			R
	R					T
Seat belt reminder signal					R	T
Headlamp switch signal					T	R
Flashing indicator signal					T	R
Engine cooling fan speed signal	T				R	
Child lock indicator signal					T	R
Door switches state signal					T	R
Key ID signal	R				T	
	T				R	
A/C compressor signal	T				R	
Tire pressure signal				T		R

# SMART ENTRANCE CONTROL SYSTEM

## Type 17



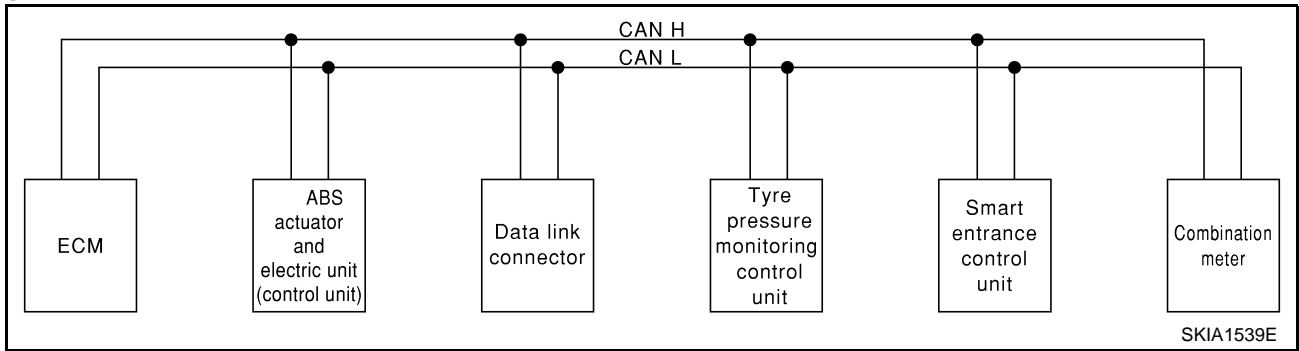
### Input/output signal chart

T: Transmit R: Receive

Signals	ECM	ESP/TCS / ABS control unit	Tyre pressure monitoring control unit	Steering angle sensor	Smart entrance control unit	Combination meter
Engine speed signal	T	R				R
Accelerator pedal position signal	T	R				
ESP operation signal	R	T				
TCS operation signal	R	T				
ABS operation signal	R	T				
Steering wheel angle sensor signal		R		T		
Rear window defogger signal	R				T	
Heater fan switch signal	R					T
Air conditioner switch signal	R					T
MI signal	T					R
Engine coolant temperature signal	T					R
Fuel consumption signal	T					R
Vehicle speed signal		T				R
	R					T
Seat belt reminder signal					R	T
Headlamp switch signal					T	R
Flashing indicator signal					T	R
Engine cooling fan speed signal	T				R	
Child lock indicator signal					T	R
Door switches state signal					T	R
Key ID signal	R				T	
	T				R	
A/C compressor signal	T				R	
Tire pressure signal			T			R

# SMART ENTRANCE CONTROL SYSTEM

## Type 18



### Input/output signal chart

T: Transmit R: Receive

Signals	ECM	ABS actuator and electric unit (control unit)	Tyre pressure monitoring control unit	Smart entrance control unit	Combination meter
Engine speed signal	T				R
Rear window defogger signal	R <sup>*1</sup>			T	
Heater fan switch signal	R <sup>*1</sup>				T
Air conditioner switch signal	R				T
MI signal	T				R
Glow lamp signal <sup>*2</sup>	T				R
Engine coolant temperature signal	T				R
Fuel consumption signal	T				R
Vehicle speed signal		T			R
	R				T
Seat belt reminder signal				R	T
Headlamp switch signal				T	R
Flashing indicator signal				T	R
Engine cooling fan speed signal	T			R	
Child lock indicator signal				T	R
Door switches state signal				T	R
Key ID signal	R			T	
	T			R	
A/C compressor signal	T			R	
Tire pressure signal			T		R

\*1: Except YD22DDTi engine model

\*2: YD22DDTi engine model only

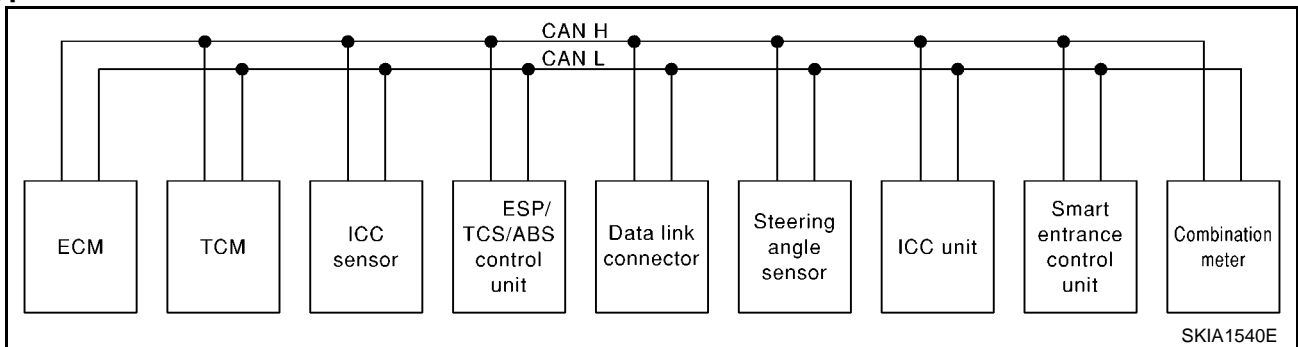
### CAN COMMUNICATION UNIT FOR RHD MODELS WITHOUT TYRE PRESSURE MONITORING SYSTEM

Go to CAN system, when selecting your car model from the following table.

# SMART ENTRANCE CONTROL SYSTEM

Body type	Sedan/Wagon									
Axle	2WD									
Engine	QR20DE			QG18DE	QR20DE	QG16DE	QG18DE	QR20DE	YD22DD Ti	
Transmission	CVT			A/T	6M/T	5M/T		6M/T		
Brake control	ESP		ABS		ESP	ABS				
ICC system	Applica- ble	Not applicable								
CAN communication unit										
ECM	×	×	×	×	×	×	×	×	×	×
TCM	×	×	×	×						
ICC sensor	×									
ESP/TCS/ABS control unit	×	×			×					
ABS actuator and electric unit (control unit)			×	×		×	×	×	×	×
Data link connector	×	×	×	×	×	×	×	×	×	×
Steering angle sensor	×	×			×					
ICC unit	×									
Smart entrance control unit	×	×	×	×	×	×	×	×	×	×
Combination meter	×	×	×	×	×	×	×	×	×	×
Can communication type	Type 19	Type 20	Type 21	Type 22	type 23	Type 24				

## Type 19





# SMART ENTRANCE CONTROL SYSTEM

## Input/output signal chart

T: Transmit R: Receive

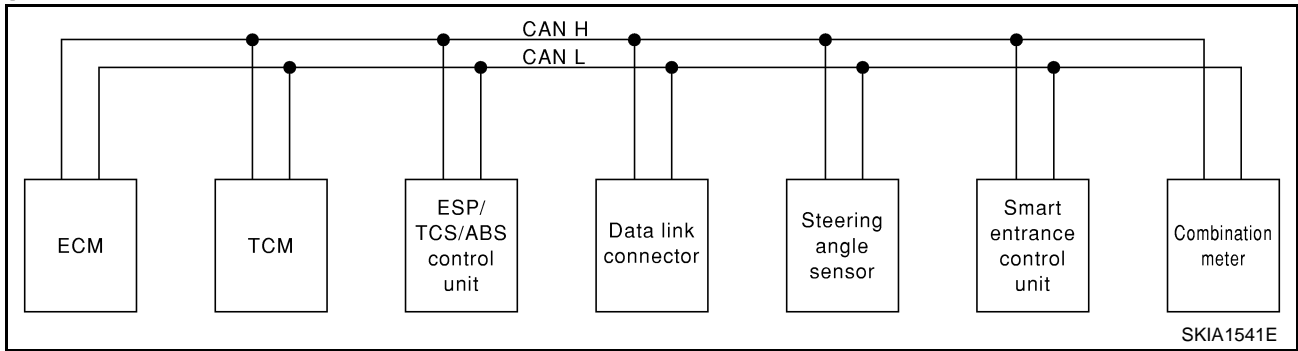
Signals	ECM	TCM	ICC sensor	ESP/ TCS / ABS control unit	Steering angle sensor	ICC unit	Smart entrance control unit	Combi- nation meter
Engine speed signal	T	R		R		R		R
Accelerator pedal position signal	T	R		R		R		
Closed throttle position signal	T					R		
ICC steering switch signal	T					R		
Shift pattern signal		T				R		
Parking brake switch signal				T		R		
ICC system display signal						T		R
ICC sensor signal			T			R		
ESP operation signal	R			T		R		
TCS operation signal	R			T		R		
ABS operation signal	R	R		T		R		
Stop lamp switch signal		R		T				
Steering wheel angle sensor signal				R	T			
Wheel speed sensor signal				T		R		
Rear window defogger signal	R						T	
Heater fan switch signal	R							T
Air conditioner switch signal	R							T
Primary pulley revolution signal	R	T				R		
Secondary pulley revolution signal	R	T				R		
ICC operation signal	R					T		
Brake switch signal	R					T		
MI signal	T							R
Current gear position signal		T						R
Engine coolant temperature signal	T					R		R
Fuel consumption signal	T							R
Vehicle speed signal				T				R
	R							T
Seat belt reminder signal							R	T
Headlamp switch signal							T	R
Flashing indicator signal							T	R
Engine cooling fan speed signal	T						R	
Child lock indicator signal							T	R
Door switches state signal							T	R
Key ID signal	R						T	
	T						R	
A/C compressor signal	T						R	

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BCS

# SMART ENTRANCE CONTROL SYSTEM

## Type 20



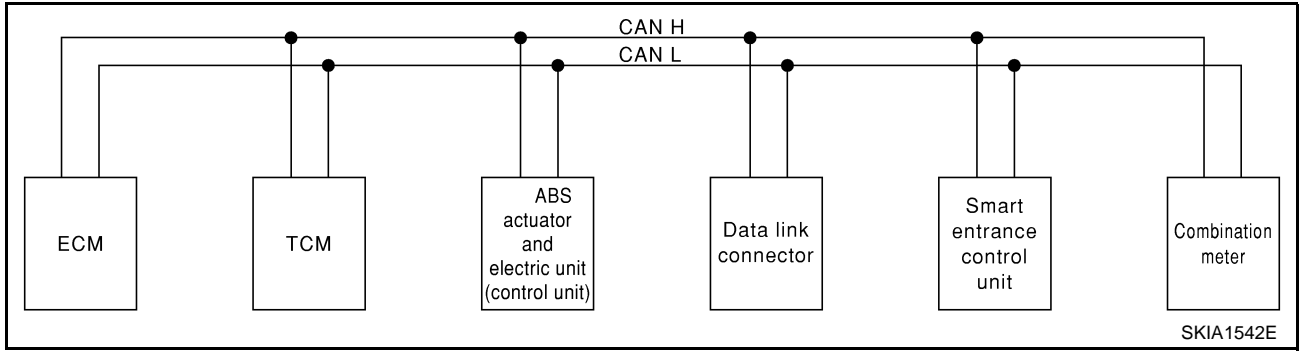
### Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	ESP/TCS / ABS control unit	Steering angle sensor	Smart entrance control unit	Combination meter
Engine speed signal	T	R	R			R
Accelerator pedal position signal	T	R	R			
ESP operation signal	R		T			
TCS operation signal	R		T			
ABS operation signal	R	R	T			
Stop lamp switch signal		R	T			
Steering wheel angle sensor signal			R	T		
Rear window defogger signal	R				T	
Heater fan switch signal	R					T
Air conditioner switch signal	R					T
Primary pulley revolution signal	R	T				
Secondary pulley revolution signal	R	T				
MI signal	T					R
Current gear position signal		T				R
Engine coolant temperature signal	T					R
Fuel consumption signal	T					R
Vehicle speed signal			T			R
	R					T
Seat belt reminder signal					R	T
Headlamp switch signal					T	R
Flashing indicator signal					T	R
Engine cooling fan speed signal	T				R	
Child lock indicator signal					T	R
Door switches state signal					T	R
Key ID signal	R				T	
	T				R	
A/C compressor signal	T				R	

# SMART ENTRANCE CONTROL SYSTEM

## Type 21



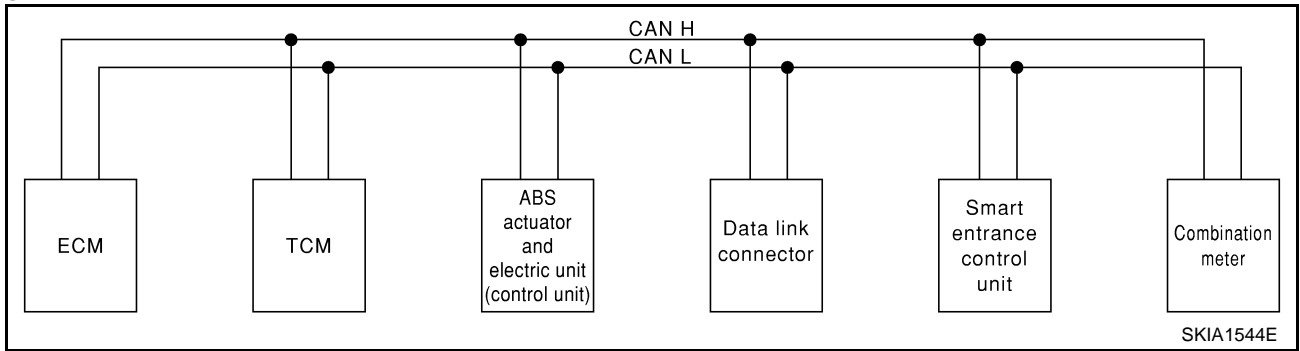
### Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Smart entrance control unit	Combination meter
Engine speed signal	T	R			R
Stop lamp switch signal		R	T		
Rear window defogger signal	R			T	
Heater fan switch signal	R				T
Air conditioner switch signal	R				T
Primary pulley revolution signal	R	T			
Secondary pulley revolution signal	R	T			
MI signal	T				R
Current gear position signal		T			R
Engine coolant temperature signal	T				R
Fuel consumption signal	T				R
Vehicle speed signal			T		R
	R				T
Seat belt reminder signal				R	T
Headlamp switch signal				T	R
Flashing indicator signal				T	R
Engine cooling fan speed signal	T			R	
Child lock indicator signal				T	R
Door switches state signal				T	R
Key ID signal	R			T	
	T			R	
A/C compressor signal	T			R	

# SMART ENTRANCE CONTROL SYSTEM

## Type 22



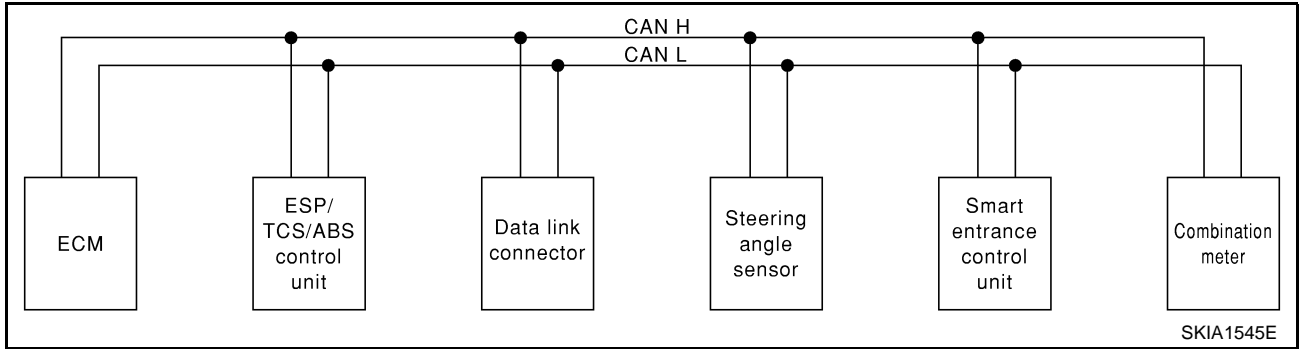
## Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	ABS actuator and electric unit (control unit)	Smart entrance control unit	Combination meter
Engine speed signal	T	R			R
Stop lamp switch signal		R	T		
Rear window defogger signal	R			T	
Heater fan switch signal	R				T
Air conditioner switch signal	R				T
MI signal	T				R
Current gear position signal		T			R
Engine coolant temperature signal	T				R
Fuel consumption signal	T				R
Vehicle speed signal			T		R
	R				T
Seat belt reminder signal				R	T
Headlamp switch signal				T	R
Flashing indicator signal				T	R
Engine cooling fan speed signal	T			R	
Child lock indicator signal				T	R
Door switches state signal				T	R
Key ID signal	R			T	
	T			R	
A/C compressor signal	T			R	

# SMART ENTRANCE CONTROL SYSTEM

## Type 23



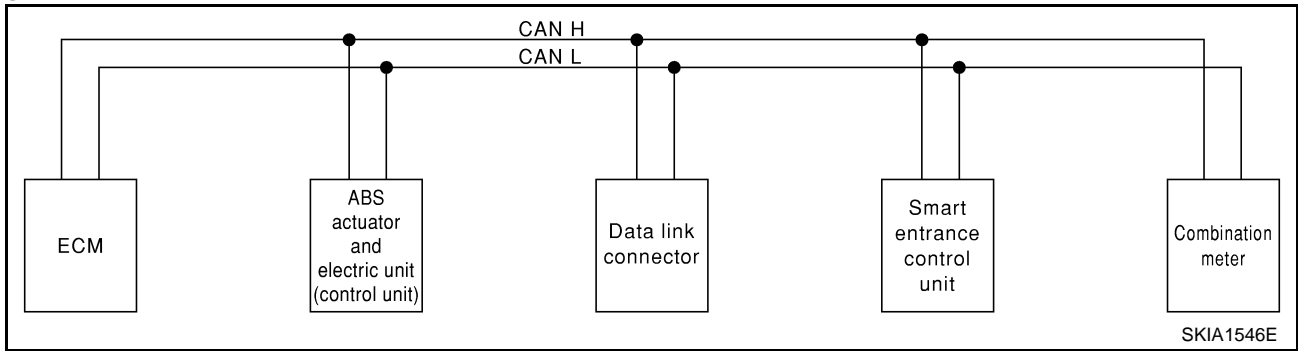
### Input/output signal chart

T: Transmit R: Receive

Signals	ECM	ESP/ TCS / ABS control unit	Steering angle sensor	Smart entrance control unit	Combina- tion meter
Engine speed signal	T	R			R
Accelerator pedal position signal	T	R			
ESP operation signal	R	T			
TCS operation signal	R	T			
ABS operation signal	R	T			
Steering wheel angle sensor signal		R	T		
Rear window defogger signal	R			T	
Heater fan switch signal	R				T
Air conditioner switch signal	R				T
MI signal	T				R
Engine coolant temperature signal	T				R
Fuel consumption signal	T				R
Vehicle speed signal		T			R
	R				T
Seat belt reminder signal				R	T
Headlamp switch signal				T	R
Flashing indicator signal				T	R
Engine cooling fan speed signal	T			R	
Child lock indicator signal				T	R
Door switches state signal				T	R
Key ID signal	R			T	
	T			R	
A/C compressor signal	T			R	

# SMART ENTRANCE CONTROL SYSTEM

## Type 24



## Input/output signal chart

T: Transmit R: Receive

Signals	ECM	ABS actuator and electric unit (control unit)	Smart entrance control unit	Combination meter
Engine speed signal	T			R
Rear window defogger signal	R <sup>*1</sup>		T	
Heater fan switch signal	R <sup>*1</sup>			T
Air conditioner switch signal	R			T
MI signal	T			R
Glow lamp signal <sup>*2</sup>	T			R
Engine coolant temperature signal	T			R
Fuel consumption signal	T			R
Vehicle speed signal		T		R
	R			T
Seat belt reminder signal			R	T
Headlamp switch signal			T	R
Flashing indicator signal			T	R
Engine cooling fan speed signal	T		R	
Child lock indicator signal			T	R
Door switches state signal			T	R
Key ID signal	R		T	
	T		R	
A/C compressor signal	T		R	

\*1: Except YD22DDTi engine model

\*2: YD22DDTi engine model only

## SLEEP/WAKE-UP CONTROL

### Sleep Control

“Sleep” control prevents unnecessary power consumption. After the following conditions are met, the smart entrance control unit suspends the operation. The whole smart entrance control unit is set in the “sleep” mode.

- Ignition switch “OFF”
- All electrical loads (in the smart entrance control unit) “OFF”
- Timer “OFF”
- Each switch do not input

# SMART ENTRANCE CONTROL SYSTEM

## Wake-up Control

When the smart entrance control unit detects a “wake-up” signal, it wakes up the whole system and starts operating again. When any one of the following switches are turned ON, the “sleep” mode is canceled:

- Ignition switch
- Hazard switch
- Headlamp switch
- Hood switch
- Trunk room lamp switch (sedan models)
- Back door switch (wagon models)
- Each door switch
- Trunk or back door release switch
- External trunk release switch
- External back door release switch

## INPUT/OUTPUT

System	Input	Output
Power door lock	Door lock/unlock switch Key switch (Insert) Door switches Trunk or back door release switch External trunk or back door release switch	Door lock actuators Trunk or back door release actuator
Multi-remote control	Key switch (Insert) Ignition switch (ON) Door switches Key fob signal Door lock/unlock switch	Hazard warning lamp Door lock actuator
Warning chime	Key switch (Insert) Ignition switch (ON) Lighting switch (1st) Seat belt switch Front door switch LH	Warning chime (located in smart entrance control unit)
Rear window defogger and door mirror defogger	Ignition switch (ON) Rear window defogger switch	Rear window defogger relay
Theft warning	Ignition switch (ON) Door switches Hood switch Trunk room lamp switch (Sedan) Back door switch (Wagon) Door lock/unlock switches Smash sensor	Vehicle security horn relay Siren control unit Security indicator (located in combination meter) Hazard warning lamp
Interior room lamp	Door switches Remote controller signal (lock/unlock) Door lock/unlock switches (lock/unlock) Trunk room lamp switch (Sedan) Back door switch (Wagon) Ignition switch (ON) Key switch (Insert)	Interior lamp Key hole illumination Step lamp Spot lamp Vanity mirror

## CONSULT-II DIAGNOSTIC ITEMS APPLICATION

EKS004VP

Item (CONSULT-II screen terms)	Diagnosed system	DATA MONITOR	WORK SUPPORT
DOOR LOCKING	Power door lock	X	X
DEFOG	Rear window defogger	X	
KEY REMINDER	Warning chime	X	
LIGHT ON REMINDER	Warning chime	X	

# SMART ENTRANCE CONTROL SYSTEM

Item (CONSULT-II screen terms)	Diagnosed system	DATA MONITOR	WORK SUPPORT
ROOM LAMP	Interior room lamps	X	
THEFT WARNING	Theft warning system	X	X
RETAINED PWR	Retained power control	X	X
KEYLESS ENTRY	Multi-remote control system	X	X
H/L WASH	Headlamp washer	X	
TRUNK RELEASE	Trunk release	X	X
DIRECTION INDICATORS	Direction indicator sound	X	X
SEC-E C/U	SEC self-diagnosis	X	

X: Applicable

For diagnostic item in each control system, refer to the relevant pages for each system.

The description of DATA MONITOR and WORK SUPORT, refer to [BCS-32, "DATA MONITOR MODE"](#) or [BCS-33, "WORK SUPPORT MODE"](#).

## DATA MONITOR MODE

Item (CONSULT-II screen terms)	Diagnosed system
IGNITION SW	Indicates [ON/OFF] condition of ignition switch.
KEY IN DETECT	Indicates [ON/OFF] condition of electronic key switch.
DOOR SW DR RR	Indicates [ON/OFF] condition of rear door switch (driver side).
DOOR SW AS RR	Indicates [ON/OFF] condition of rear door switch (passenger side).
AS DOOR SW	Indicates [ON/OFF] condition of front door switch (passenger side).
DR DOOR SW	Indicates [ON/OFF] condition of front door switch (driver side).
WASH SW	Indicates [ON/OFF] condition of washer switch.
CDL LOCK SW	Indicates [ON/OFF] condition of door lock/unlock switch (lock signal).
CDL UNLOCK SW	Indicates [ON/OFF] condition of door lock/unlock switch (unlock signal).
TRUNK OPEN SW	Indicates [ON/OFF] condition of
HOOD OPEN SW	Indicates [ON/OFF] condition of hood switch.
INT TRUNK REL.	Indicates [ON/OFF] condition of trunk release switch.
EXT TRUNK REL	Indicates [ON/OFF] condition of external trunk release switch.
HAZARD SW	Indicates [ON/OFF] condition of hazard switch.
RH TURN SW	Indicates [ON/OFF] condition of turn signal switch.
LH TURN SW	Indicates [ON/OFF] condition of turn signal switch.
REAR DEF SW	Indicates [ON/OFF] condition of multifunction switch (defogger switch).
RKE LOCK	Indicates [ON/OFF] condition of lock signal from remote controller.
RKE UNLOCK	Indicates [ON/OFF] condition of unlock signal from remote controller.
RKE SEL UNLOCK	Indicates [ON/OFF] condition of select unlock signal from remote controller.
RKE TRUNK REL	Indicates [ON/OFF] condition of trunk open signal from remote controller.
BATTERY CHECK	Indicates [ON/OFF] condition of remote controller battery.
TAIL LAMP ON	Indicates [ON/OFF] condition of lighting switch.
CAN COMM	Indicates the communication condition of CAN communication line.
CAN CIRC 1	
CAN CIRC 2	
CAN CIRC 3	



# SMART ENTRANCE CONTROL SYSTEM

## WORK SUPPORT MODE

Mode	Description	Test item
DOOR LOCKING	AUTO RE-LOCK	This mode can set auto re-lock function.
	SELECTIVE UNLOCK	This mode can set select unlock function.
TRUNK RELEASE	TRUNK OPEN DELAY	This mode can set trunk open switch operation time.
WORK SUPPORT for ROOM	KEYLESS REGISTRATION	This mode can register remote controller ID.
	KEYLESS CHECK	This mode can check whether water remote controller ID code is registered or not.
	KEYLESS DI FLASH	This mode can set remote controller function.
THEFT WARNING	THEFT WARNING	This mode can set theft warning function.
	LASTEST ALARM TRIGGER	This mode can display lastest alarm trigger condition.
	PRE-ARM FAST FLASH	This mode can change alarm operation.
	SIREN FITTED	This mode can display siren condition.
	PREVIOUS ALARM TRIGGER	This mode can display previous alarm trigger condition.
DIRECTION INDICATORS	OLDEST ALARM TRIGGER	This mode can display previous alarm trigger condition.
	AUDIBLE TRAILER WARNING	This mode can set audible trailer warning function.

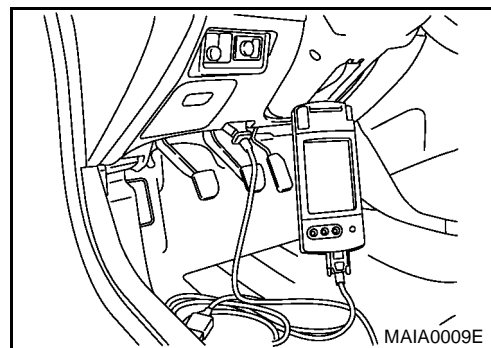
## SELF-DIAG RESULTS MODE

Diagnosis item	Description	Repair order
LH CHILD LOCK CANNOT SET	LH child lock system is malfunctioning.	Check child lock system. Refer to <a href="#">BL-80, "Child Lock Switch Check"</a> .
LH CHILD LOCK CANNOT RELEASE	LH child lock system is malfunctioning.	Check child lock system. Refer to <a href="#">BL-80, "Child Lock Switch Check"</a> .
RH CHILD LOCK CANNOT SET	RH child lock system is malfunctioning.	Check child lock system. Refer to <a href="#">BL-80, "Child Lock Switch Check"</a> .
RH CHILD LOCK CANNOT RELEASE	RH child lock system is malfunctioning.	Check child lock system. Refer to <a href="#">BL-80, "Child Lock Switch Check"</a> .
RH FLASHER (S) BULB BROKEN	RH turn signal lamp system is malfunctioning.	Check turn signal lamp system. Refer to <a href="#">LT-42, "TURN SIGNAL AND HAZARD WARNING LAMPS"</a> .
LH FLASHER (S) BULB BROKEN	LH turn signal lamp system is malfunctioning.	Check turn signal lamp system. Refer to <a href="#">LT-42, "TURN SIGNAL AND HAZARD WARNING LAMPS"</a> .
RH FLASHER CIRCUIT OVER CURRENT	RH turn signal lamp circuit is open or shorted.	Check turn signal lamp system. Refer to <a href="#">LT-42, "TURN SIGNAL AND HAZARD WARNING LAMPS"</a> .
LH FLASHER CIRCUIT OVER CURRENT	LH turn signal lamp circuit is open or shorted.	Check turn signal lamp system. Refer to <a href="#">LT-42, "TURN SIGNAL AND HAZARD WARNING LAMPS"</a> .
CAN COMM CIRCUIT*	CAN communication line is open or shorted.	Check CAN communication line. Refer to <a href="#">BCS-40, "CAN Communication Line Check"</a> .

\*: If this malfunction is displayed, first perform the trouble diagnosis.

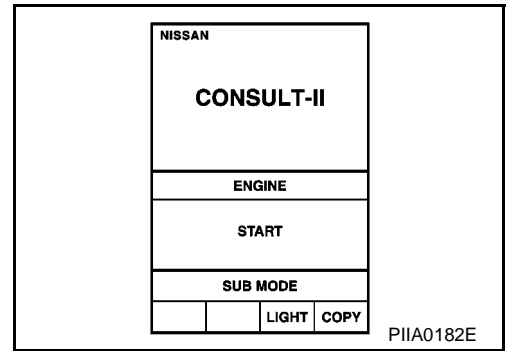
## CONSULT-II INSPECTION PROCEDURE

1. Turn ignition switch "OFF".
2. Connect "CONSULT-II" to the data link connector.

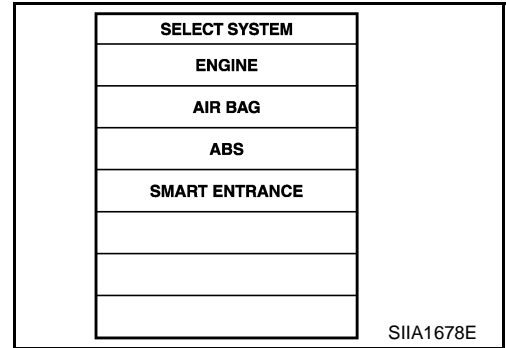


# SMART ENTRANCE CONTROL SYSTEM

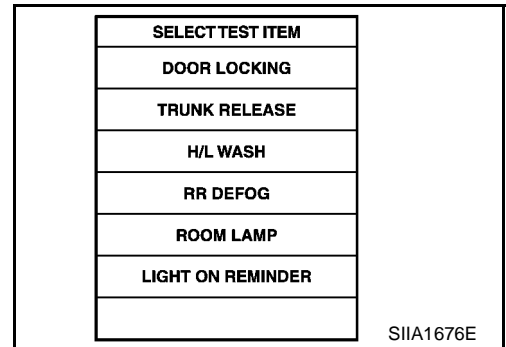
3. Turn ignition switch "ON".
4. Touch "START".



5. Touch "SMART ENTRANCE".



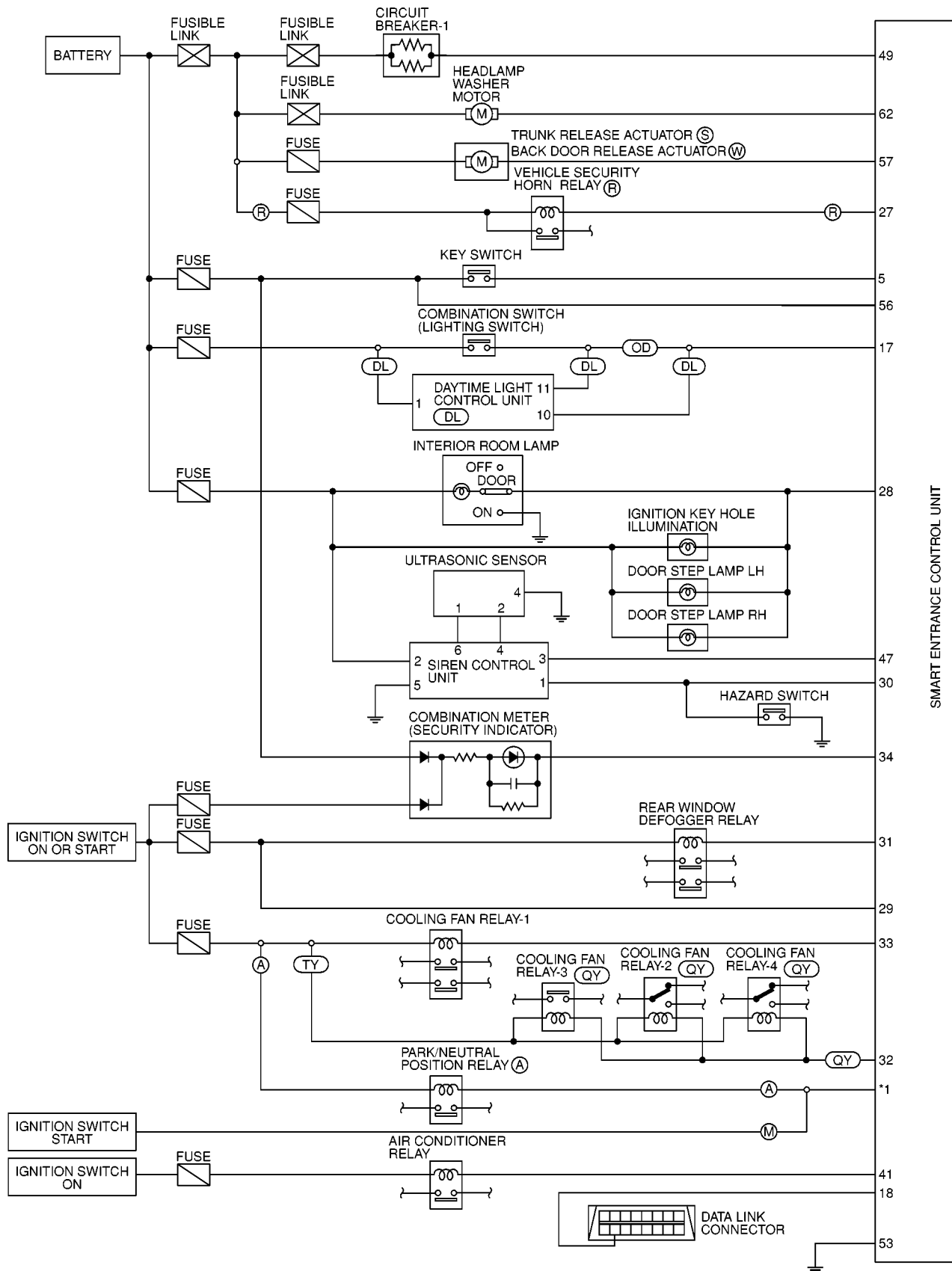
6. Perform each diagnostic item according, refer to [BCS-31, "DIAGNOSTIC ITEMS APPLICATION"](#) or [BCS-33, "SELF-DIAG RESULTS MODE"](#).



# SMART ENTRANCE CONTROL SYSTEM

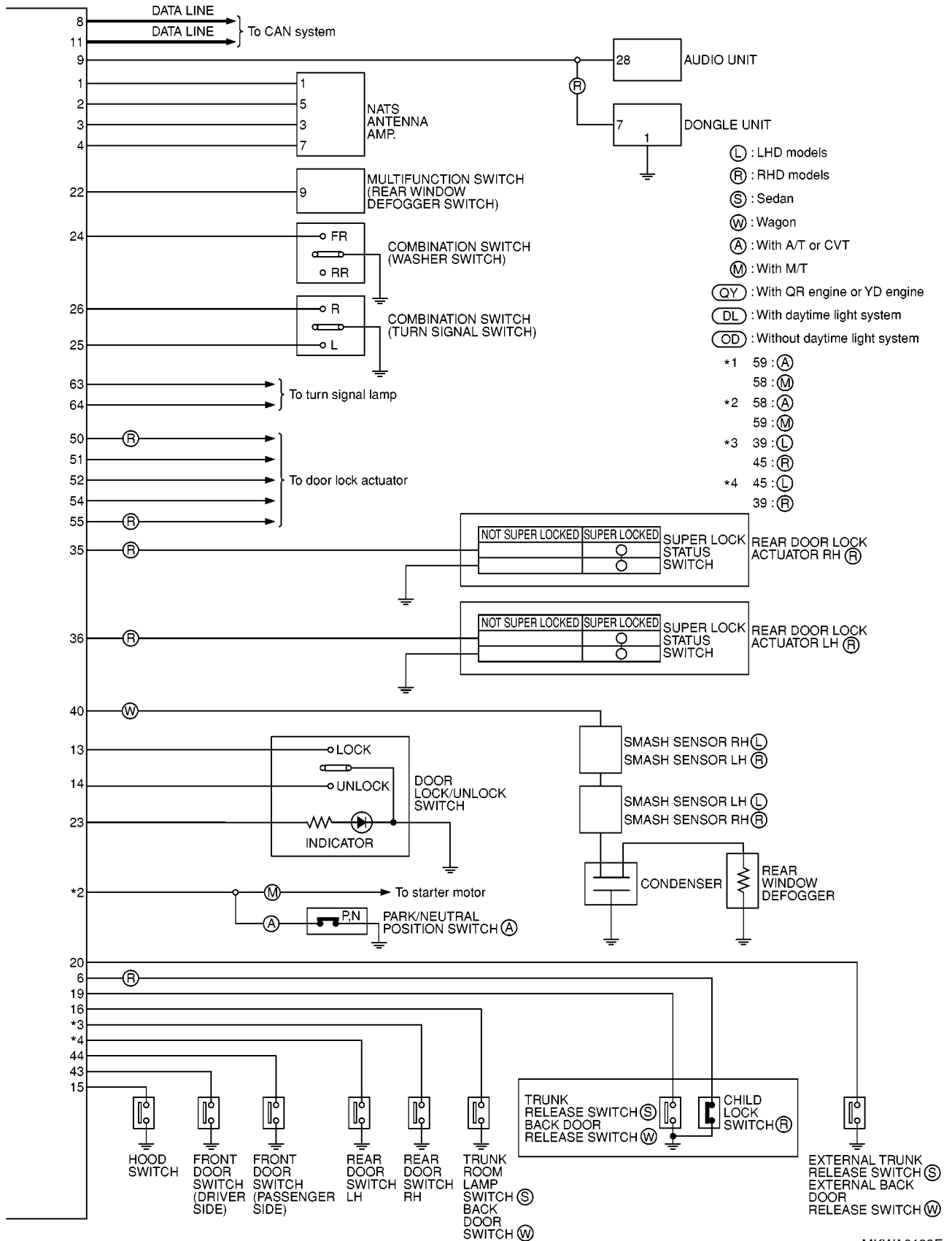
## Schematic

EKS004VQ



MKWA0137E

# SMART ENTRANCE CONTROL SYSTEM

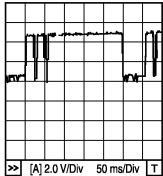


MKWA0138E

# SMART ENTRANCE CONTROL SYSTEM

## Smart Entrance Control Unit Inspection Table

EKS004VR

Terminal No.	Wire color	Connections	Operated condition	Voltage (Approximate values)
1	G	NATS antenna amp. (Power supply)	—	Approx. 5V
2	G/OR	NATS antenna amp. (Ground)	—	—
3	G/W	NATS antenna amp. (Signal line)	Moment when key was inserted.	The needle of analog tester swings immediately after inserting key.
4	G/Y	NATS antenna amp. (Signal line)	Moment when key was inserted	The needle of analog tester swings immediately after inserting key.
5	B/Y	Key switch	Ignition key Removed → Inserted	0V → 12V
8	L	CAN communication line	—	—
9	Y	Audio unit	Ignition key removed or inserted	 MKIB0191E
11	R	CAN communication line	—	—
13	G/Y	Door lock/unlock switches	Neutral → Locks	12V → 0V
14	BR/Y	Door lock/unlock switches	Neutral → Unlocks	12V → 0V
15	LG	Hood switch	Hood switch: ON (Open) → OFF (Closed)	0V → 12V
16	G	Trunk opener switch	Trunk opener switch: OFF → ON (Only when pressed)	12V → 0V
17	R/G	Tail lamp switch	Lighting switch: OFF → 1st or 2nd	0V → 12V
18	LG	CONSULT-II SCI interface	—	—
19	BR/W	Internal trunk release switch	Internal trunk release switch: Press → Release (Only when pressed)	12V → 0V
20	BR	External trunk release switch	External trunk release switch: OFF (Closed) → ON (Only when pressed)	12V → 0V
22	G/B	Multifunction switch (Rear window defogger switch)	[Ignition switch "ON"] Multifunction switch: Press → Release (Only when pressed)	7V → 0V
23	R	Lock/unlock switch indicator	Lock/unlock switch: Lock → Unlock	12V → 0V
24	BR	Washer switch (Headlamp washer switch)	[Head lamp switch 1st or 2nd position] Washer switch OFF → ON	12V → 0V
25	G/B	Combination switch (Turn signal switch)	Turn signal switch: Neutral → Left turn position	12V → 0V
26	G/Y	Combination switch (Turn signal switch)	Turn signal switch: Neutral → Right turn position	12V → 0V
27	Y/B	Vehicle security horn relay (RHD models)	When theft warning system: Armed → Disarmed	0V → 12V
28	R/Y	Interior room lamp	When interior lamp is operated using remote controller (Lamp switch in "DOOR" position)	12V → 0V

## SMART ENTRANCE CONTROL SYSTEM

Terminal No.	Wire color	Connections	Operated condition	Voltage (Approximate values)
29	Y/G	Ignition key switch	Ignition key is in "ON" position	12V
30	G/R	Hazard switch	Hazard switch: OFF → ON	12V → 0V
31	G/W	Rear window defogger relay	[Ignition switch "ON"] Rear window defogger switch: OFF → ON	12V → 0V
32	LG/B	Cooling fan relay	[Ignition switch "ON"] Cooling fan: Operating → Not operating	0V → 12V
33	LG/R	Cooling fan relay	[Ignition switch "ON"] Cooling fan: Operating → Not operating	0V → 12V
34	L/Y	Security indicator	Ignition switch ON → OFF	12V → 0V
35	Y/B	Rear door lock actuator (Child lock status switch) Driver side	[Ignition switch "ON"] Child lock switch: Unlock → Lock	0V → 12V
36	R/W	Rear door lock actuator (Child lock status switch) Passenger side	[Ignition switch "ON"] Child lock switch: Unlock → Lock	0V → 12V
39	BR/W	Rear door switch (Passenger side)	Rear door LH or RH: Open → Closed	0V → 12V
40	L/W	Smash sensor	Key switch "OFF", all door locked	5V
41	L	Air conditioner relay	[Engine is running] Air conditioner switch: ON → OFF	12V → 0V
43	R/W	Front door switch (Driver side)	Front door (Driver side): Open → Closed	12V → 0V
44	L/OR	Front door switch (Passenger side)	Front door (Passenger side): Open → Closed	0V → 12V
45	R/Y	Rear door switch (Driver side)	Rear door LH or RH: Open → Closed	0V → 12V
47	L/R	Alarm signal line	Key switch "OFF", all door locked	The needle of analog tester swings immediately after inserting key.
49	W/L	Power source	—	12V
50	G	Power door super lock actuator (Rear)	Remote controller door lock switch: Free → Press	0V → 12V
51	L/R	Driver door lock actuator	Door lock & unlock switch: Free → Lock	0V → 12V
52	Y	Door lock actuators	Door lock & unlock switch: Free → Unlock	0V → 12V
53	B	Ground	—	0V
54	G/Y	Door lock actuators	Door lock & unlock switch: Free → Unlock	0V → 12V
55	W/B	Power door super lock actuator (Front)	Remote controller door lock switch: Free → Unlock	0V → 12V
56	R/B	Power source	—	12V
57	G/B	Trunk lid opener actuator	Trunk lid opener switch: OFF → ON(Open)	12V → 0V
58	B/W	Starter motor (With A/T or CVT)	Ignition switch: OFF → START position	0V → 12V
59	B/Y	Starter motor (With M/T)	Ignition switch: OFF → START position	0V → 12V

# SMART ENTRANCE CONTROL SYSTEM

Terminal No.	Wire color	Connections	Operated condition	Voltage (Approximate values)
62	L/R	Headlamp washer motor	[Headlamp switch 1st or 2nd position] Washer switch: OFF → ON	12V → 0V
63	G/Y	RH turn signal lamp	[When door lock or unlock is operated using remote controller] Turn signal lamp: OFF → ON → OFF	0V → 12V → 0V
64	G/B	LH turn signal lamp	[When door lock or unlock is operated using remote controller] Turn signal lamp: OFF → ON → OFF	0V → 12V → 0V

## Trouble Diagnoses PRELIMINARY CHECK

EKS004Z2

### 1. CHECK "SELF-DIAG RESULTS" MODE WITH CONSULT-II

Check smart entrance system trouble diagnosis (SELF-DIAG RESULTS) in "SEC-E CE" mode with CONSULT-II. Refer to [BCS-33, "SELF-DIAG RESULTS MODE"](#).

Can "SELF-DIAG RESULTS" mode be displayed?

- YES >> GO TO 2.
- NO >> GO TO 3.

### 2. CHECK DISPLAY ITEM

Check display item in "SELF-DIAG RESULTS" mode.

Is any malfunction indicated in "SELF-DIAG RESULTS" mode?

- YES >> GO TO [BCS-33, "SELF-DIAG RESULTS MODE"](#).
- NO >> Inspection end.

### 3. CHECK POWER SUPPLY AND GROUND CIRCUIT

Refer to [BCS-39, "Power Supply and Ground Circuit Check"](#).

OK or NG?

- OK >> Replace smart entrance control unit.
- NG >> Repair or replace harness.

## Power Supply and Ground Circuit Check

EKS004Z3

### 1. CHECK FUSES

Check that any of the fuse in smart entrance control unit is blown.

Unit	Power source	Fuse No.
Smart entrance control unit	Battery	12
	Ignition switch ON or START	10

OK or NG?

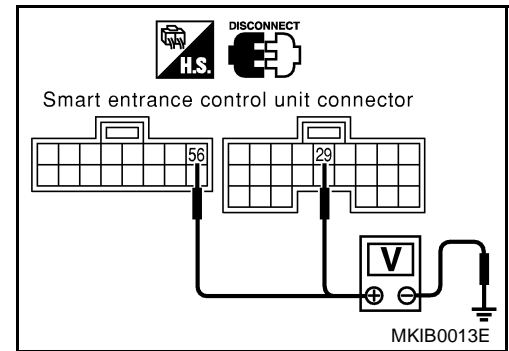
- OK >> GO TO 2.
- NG >> Replace malfunctioning fuse.

# SMART ENTRANCE CONTROL SYSTEM

## 2. POWER SUPPLY CIRCUIT CHECK

1. Disconnect smart entrance control unit connector.
2. Check the following.

Terminals		Ignition switch position			
(+)		(-)	OFF	ACC	ON
Connector	Terminal (Wire color)				
M42	29 (Y/G)	Ground	0V	0V	Battery voltage
M43	56 (R/B)	Ground	Battery voltage	Battery voltage	Battery voltage



OK or NG?

OK >> GO TO 3.

NG >> Check harness for open or short between smart entrance control unit and fuse.

## 3. GROUND CIRCUIT CHECK

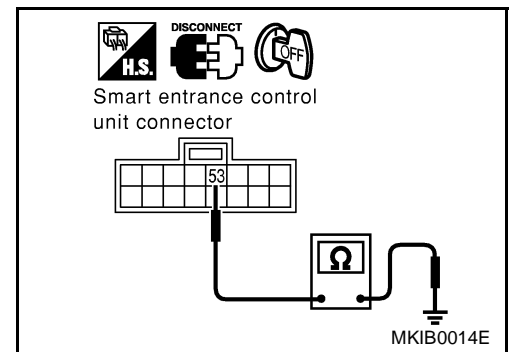
Check continuity between smart entrance control unit harness connector M43 terminal 53 (B) and ground.

**Continuity should exist.**

OK or NG?

OK >> INSPECTION END.

NG >> Check ground harness.



## CAN Communication Line Check

### 1. CHECK CAN COMMUNICATION CIRCUIT

1. Turn ignition switch "ON".
2. Select "SELF-DIAG RESULTS" in "SEC-E CE" mode with CONSULT-II.
3. The "CAN COMM CIRCUIT" is detected.

Yes or No?

Yes >> Print out CONSULT-II screen, go to 2.

No >> INSPECTION END

EKS004Z4



# SMART ENTRANCE CONTROL SYSTEM

## 2. CHECK CAN COMMUNICATION SIGNALS

1. Turn ignition switch "ON".
2. Select "CAN DIAG SUPPORT MNTR" in "SEC-E CE" mode with CONSULT-II.
3. Print out the CONSULT-II screen.

OK data		NG data	
DATA MONITOR		DATA MONITOR	
MONITOR		MONITOR	
CAN COMM	OK	CAN COMM	OK
CAN CIRC 1	OK	CAN CIRC 1	UNKWN
CAN CIRC 2	OK	CAN CIRC 2	UNKWN
CAN CIRC 3	OK	CAN CIRC 3	UNKWN

SEC898C

>> GO TO [LAN-8, "CAN COMMUNICATION"](#) .

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M

BCS

# SMART ENTRANCE CONTROL SYSTEM

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