



Cigar lighter (power outlet) fuse in the KIA Optima are located in the Instrument panel fuse box (see fuses “POWER OUTLET” (Front Power Outlet) and “C/LIGHTER” (Cigar Lighter)).

Table of Contents

Fuse box location

Instrument panel

Engine compartment

Fuse box diagrams

2011, 2012, 2013

2014, 2015

Fuse box location

Instrument panel

The fuse box is located behind the cover to the left of the steering wheel.

Engine compartment

Inside the fuse/relay panel covers, you can find the label describing fuse/relay name and capacity. Not all fuse panel descriptions in this manual may be applicable to your vehicle.



Advertisements

Fuse box diagrams

2011, 2012, 2013

Assignment of the fuses in the Instrument panel (2011, 2012, 2013)

Name	Amp rating	Circuit Protected
MODULE 3	7.5A	Key Solenoid, Sport Mode Switch
PDM 1	25A	Smart Key Control Module
POWER OUTLET	15A	Front Power Outlet
MODULE 5	7.5A	Smart Key Control Module, Rear Seat Warmer Relay LH/RH
MODULE 2	7.5A	BCM, Panorama Sunroof, Rain Sensor
TRUNK	10A	I/P Junction Box (Trunk Relay), Fuel Filler Door & Trunk Lid Switch, Trunk Room LP
CLOCK	10A	A/V & Navigation Head Unit, Audio, Smart Key Control Module, Overhead Console Lamp, Crash Pad Mood Lamp, A/C Control Module, BCM, AMP, Power Outside Mirror Switch, Driver/Passenger Door Mood Lamp
C/LIGHTER	15A	Cigar Lighter
HTD STRG	15A	Steering Wheel Heater
A/CON	7.5A	A/C Control Module, E/R Fuse & Relay Box (Blower Relay)
WIPER	25A	Multifunction Switch, Front Wiper Motor, E/R Fuse & Relay Box (Wiper Relay, Rain SNSR Relay)
S/HEATER FRT	20A	Driver/Passenger CCS Cushion Warmer, Driver/Passenger Seat Warmer Module
MIRR HTD	10A	Driver/Passenger Power Outside Mirror
MODULE 4	7.5A	Front Seat Warmer & CCS Switch, Driver/Passenger CCS Control Module, Driver/Passenger Seat Warmer Module, Tire Pressure Monitoring Module, Audio
A/BAG IND	7.5A	Instrument Cluster (Air Bag IND.)

Name	Amp rating	Circuit Protected
START	7.5A	W/O Smart Key : Burglar Alarm Relay With Smart Key : PCM, Transaxle Range Switch
S/HEATER RR	15A	Rear Seat Warmer Relay LH/RH
P/SEAT PASS	20A	Passenger Seat Manual Switch
FOG LP RR	15A	-
MODULE 1	7.5A	Head Lamp Leveling Device Actuator LH/RH, Auto Head Lamp Leveling Device Module, Driver IMS Module, ATM Lever Indicator, BCM, A/C Control Module, Electro Chromic Mirror, Lane Keeping Assist Module, Instrument Cluster
VACCUM	20A	Vacuum Pump, Vacuum Switch
A/BAG	15A	Telltale Lamp, SRS Control Module, Passenger Weight Classification Sensor
P/WDW LH	25A	I/P Junction Box (Power Window LH Relay), Driver/Passenger Power Window Safety Module
AMP	30A	AMP
PDM 2	7.5A	Start Stop Button Switch, Smart Key Control Module, Fob Holder
MDPS	10A	EPS Control Module, Crash Pad Switch
PDM 3	7.5A	Smart Key Control Module
P/WDW RH	25A	I/P Junction Box (Power Window RH Relay)
P/SEAT DRV	30A	Driver IMS Module, Driver Seat Manual Switch, Driver Lumbar Support Switch
DR LOCK	20A	Two Turn Unlock Relay, I/P Junction Box (Door Lock Relay, Door Unlock Relay, Turn Signal Lamp Sound Relay)
SUNROOF	20A	Panorama Sunroof

Name	Amp rating	Circuit Protected
IG 1	20A	E/R Fuse & Relay Box (Fuse : ABS 3 10A, TCU 2 15A, ECU 4 10A)
POWER CONNECTOR (AUDIO)	15A	A/V & Navigation Head Unit, Audio
POWER CONNECTOR (ROOM LP)	10A	Driver/Passenger Smart Key Outside Handle, Driver IMS Module, Lamp Auto Cut Relay, Driver/Passenger Door Scuff Lamp, Ignition Key ILL. & Door Warning Switch, A/C Control Module, Data Link Connector, RF Receiver, BCM, Electro Chromic Mirror, Instrument Cluster, Auto Light & Photo Sensor, Tire Pressure Monitoring Module

Assignment of the fuses in the Engine compartment (2011, 2012, 2013)

Advertisements

Name	Amp rating	Circuit Protected
MULTI FUSES:		
IP B+ 2	60A	I/P Junction Box (P/SEAT DRV 30A, P/SEAT PASS 20A, AMP 30A, PDM 2 7.5A, IPS 5, IPS 6, ARISU 2)
B+ 4 (Not Used)	60A	-
IGN 2	40A	E/R Fuse & Relay Box (Start Relay), Fuse & Relay Box (PDM 3(IG 2) Relay), Ignition Switch
ABS 1	40A	ESC Module
RR HTD (G4KJ)/	40A/60A	E/R Fuse & Relay Box (RR HTD Relay) (G4KJ) C/FAN (HI)

Name	Amp rating	Circuit Protected
C/FAN HI (G4KH)		Relay (G4KH)
BLOWER	40A	E/R Fuse & Relay Box (Blower Relay)
IP B+ 1	60A	I/P Junction Box (PDM 1 25A, MODULE 3 7.5A, S/HEATER FRT 20A, S/HEATER RR 15A TRUNK 10A, P/WDW LH 25A, P/WDW RH 25A), Power Connector (AUDIO 15A))
MDPS	80A	EPS Control Module
FUSES:		
WIPER	10A	PCM
RR HTD IND	10A	A/C Control Module
AMS	10A	Battery Sensor
TCU 1	10A	PCM
STOP LP	10A	E/R Fuse & Relay Box (HAC Relay), Smart Key Control Module, Stop Lamp Switch
DEICER	10A	E/R Fuse & Relay Box (Deicer Relay)
H/LP WASHER	10A	-
LDC 1	30A	-
C/FAN	40A	E/R Fuse & Relay Box (C/Fan(HI) Relay, C/Fan(LO) Relay)
ABS 2	30A	Multipurpose Check Connector, ESC Module
LDC 2	30A	-
CVVL(Not Used)/ RR THD (G4KH)	40A	RR HTD Relay (G4KH)
IPB+3	50A	I/P Junction Box (Power Connector (ROOM LP 10A), SUNROOF 20A, DR LOCK 20A IPS 1, IPS 3, ARISU 1)

Name	Amp rating	Circuit Protected
IGN 1	40A	Fuse & Relay Box (PDM 1(ACC) Relay, PDM 2(IG 1) Relay), Ignition Switch
EMS	40A	EMS Box (HORN 15A, ECU 3 10A, ECU 1 30A, F/PUMP 20A)
ECU 4	10A	PCM
TCU 2	15A	Back-Up Lamp Switch, Vehicle Speed Sensor, Transaxle Range Switch
ABS 3	10A	E/R Fuse & Relay Box (HAC Relay), Stop Lamp Switch, ESC Module, Multipurpose Check Connector
B/UP LP	10A	A/V & Navigation Head Unit, Audio, Electro Chromic Mirror, BCM, Rear Combination Lamp(In) LH/RH
A/CON	10A	A/C Control Module

Engine compartment fuse panel (EMS BOX) (2011, 2012, 2013)

Name	Amp rating	Circuit Protected
HORN	15A	EMS Box (Horn Relay), E/R Fuse & Relay Box (B/Horn Relay)
F/PUMP	20A	EMS Box (F/Pump Relay)
ECU 3	15A	PCM
SNSR 1	15A	Oxygen Sensor (Up/Down), E/R Fuse & Relay Box (C/FAN (HI/LO) Relay)
INJECTOR	10A	EMS Box (F/Pump Relay)
SNSR 3	10A	Camshaft Position Sensor #1, #2, Immobilizer Module

Name	Amp rating	Circuit Protected
SNSR 2	10A	RCV Control Solenoid Valve(G4KH), Variable Intake Solenoid Valve(G4KJ), Canister Close Valve Oil Control Valve #1, #2, Purge Control Solenoid Valve, Crankshaft Position Sensor
IGN COIL	20A	Condenser, Ignition Coil #1, #2, #3, #4
ECU 1	30A	EMS Box (Engine Control Relay)

2014, 2015

Advertisements

Instrument panel

Assignment of the fuses in the Instrument panel (2014, 2015)

Description	Amp Rating	Protected Component
MULTIMEDIA	15A	ISG LDC AUDIO,AUDIO_UVO, AUDIO(PA30A,B), NAVI1.5, NAVI_3.0, NAVI_4.0, TMU
PDM 1	25A	Smart Key Control Module (With Smart Key)
SPARE	10A	-
PDM2	10A	SMK UNIT, BUTTON START SW
P/SEAT(PASS)	20A	Passenger Seat Manual Switch
AMP	30A	AMP
P/SEAT(DRV)	30A	Driver IMS Module, Driver Seat Manual Switch, Driver Lumbar Support Switch (2WAY)
MEMORY 2	7.5A	PIC_RF_RECEIVER

Description	Amp Rating	Protected Component
TRUNK	10A	Trunk Lid Relay, Trunk Room Lamp
MODULE 7	10A	SPORT_MODE_SW, RR POWER WINDOW SW
DR LOCK	20A	Door Lock/Unlock Relay, Dead Lock Relay (RHD), Turn Signal Lamp Sound Relay
S/HEATER(RR)	20A	Rear Seat Warmer Relay LH/RH
P/WDW(RH)	25A	Driver Safety Power Window Module (RHD), Passenger Safety Power Window Module (LHD), Rear Safety Power Window Module RH, Power Window RH Relay
P/WDW(LH)	25A	Driver Safety Power Window Module (LHD), Passenger Safety Power Window Module (RHD), Rear Safety Power, Window Module LH, Power Window LH Relay
MODULE 2	10A	BCM, Panorama Sunroof, Rain Sensor
BRAKE SWITCH	10A	Smart Key Control Module, Start Stop Button Switch, FOB Holder, Stop Lamp Switch
MEMORY 1	10A	SEAT EXTN (IMS), DR_TRIM_EXTN (FOLD'G), CLUSTER, A/CON, ECM, AUTO FOLDING RLY, TPMS, POWER OUTLET, A_L_PHOTO_SNSR, MUT
SUNROOF	20A	Panorama Sunroof
S/HEATER(FRT) SEAT VERNT(FRT)	20A	SEAT_EXTN (HEATA/ENT)
SPARE	10A	-
A/BAG IND	10A	Instrument Cluster
MODULE 3	10A	Sport Mode Switch, Key Solenoid (W/O Smart Key)

Description	Amp Rating	Protected Component
MODULE 4	10A	Driver/Passenger CCS Control Module (With CCS), Driver/Passenger Seat Warmer Module (W/O CCS), Front Seat Warmer & CCS Switch, Oil Pump Inverter, ISG Low DC-DC Converter, Tire Pressure Monitoring Module
A/BAG	15A	A/BAG UNIT IG1 , WCS_PASS IG1
INTERIOR LAMP	10A	Driver/Passenger Smart Key Outside Handle (With Smart Key), Driver/Passenger Door Lamp, A/C Control Module, Ignition Key ILL. & Door Warning Switch (W/O Smart Key), RF Receiver (With Smart Key), Driver IMS Module, BCM, Data Link Connector, Driver/Passenger Door Scuff Lamp, Power Outside Mirror Switch, Auto Light & Photo Sensor (W/O B/Alarm), Lamp Auto Cut Relay, Instrument Cluster
CLUSTER	10A	CLUSTER (IGN1)
MDPS	7.5A	Crash Pad Switch, EPS Control Module (With MDPS), Steering Angle Sensor (W/O MDPS), ATM Lever Indicator, EPB Switch, EPB Control Module
PDM 3	7.5A	Smart Key Control Module (With Smart Key)
EPB	10A	EPB
SPARE	20A	-
IG 1	25A	E/R BOX IG1
SPARE	10A	-
POWER OUTLET	20A	Front Power Outlet
MODULE 1	10A	Auto Head Lamp Leveling Device Module (Auto HLLD), Head Lamp Leveling Device Switch (Manual HLLD), Head Lamp Leveling Device Actuator LH/RH, BCM, Front Smart Parking Assist Sensor Module, Instrument Cluster, Electro

Description	Amp Rating	Protected Component
		Chromic Mirror, A/C Control Module, Driver IMS Module, Rear Parking Assist Buzzer, Lane Keeping Assist Module
START	7.5A	B/ALARM RLY
HTD STRG	15A	Steering Wheel Heater
MODULE 5	7.5A	Smart Key Control Module (With Smart Key), Rear Seat, Warmer Relay LH/RH, E/R Fuse & Relay Box (RLY.2), Diesel Box (Fuel Filter Relay)
A/CON	7.5A	A/C Control Module, E/R Fuse & Relay Box (RLY 14)
SPARE	15A	-
WIPER	25A	E/R BOX WIPER RLY
C/LIGHTER	20A	Cigarette Lighter
MODULE 6	7.5A	PANORAMA SUNROOF (IG2), IONIZER, DSL_BOX, RR_SEAT_WARMER
HTD MIRR	10A	Driver/Passenger Power Outside Mirror

Fuse box diagram for Theta 2.4 GDI (Engine compartment)

Advertisements

Assignment of the fuses in the Engine compartment Theta 2.4 GDI (2014, 2015)

Description	Amp Rating	Protected Component
RR HTD	40A	E/R BOX RR HTD RLY COIL
HORN	15A	HORN (LH. RH)
F/PUMP	20A	FUEL PUMP MTR
ECU 3	15A	PCU (GDI) BATT. DIRECT
SENSOR 1	15A	DN 02 SENSOR (GDI), UP 02 SENSOR (GDI)
INJECTOR	10A	E/R BOX F/PUMP RLY COIL
SENSOR 3	10A	CMP1, 2 (GDI, TGDI), SMATRA IMMOBILIZER

Description	Amp Rating	Protected Component
SENSOR 2	10A	CKP (GDI), VIS (GDI), OCV1, 2 (GDI), PCSV (GDI), CCV (GDI)
IGN COIL	20A	ENGINE IG COIL
ECU 1	30A	ECU RLY
SPARE	10A	-
SPARE	15A	-
SPARE	20A	-
WIPER	10A	BCM, RAIN SNSR, WIPER MTR
AMS	10A	BATTERY SENSOR
TCU 1	20A	TCU
STOP LAMP	15A	RLY.10 (HAC Relay), STOP LAMP RELAY
DEICER	20A	RLY.7 (Deicer Relay)
IG1	40A	IGN SW
B+ 1	50A	B+
B+ 2	60A	B+
BLOWER	40A	RLY.14 (Blower Relay)
IG 2	40A	IGN SW, IG2 RLY
ESC 1	40A	ESC UNIT MOTOR B+, DIAGNOSIS ABS A/B VALVE B+
ESC 2	40A	ESC UNIT SOLENOID B+
RR HTD	40A	RLY.1 (RR HTD Relay)
B+ 3	60A	B+
MDPS	80A	EPS Control Module

Description	Amp Rating	Protected Component
SPARE	25A	-
C/FAN	50A	E/R BOX C/FAN 1 RLY SWITCH
INVERTER	50A	O_P_INVERTER
EPB 2	30A	EPB UNIT BATT2
EPB 1	30A	EPB UNIT BATT1
ECU 2	40A	EMS BOX (B+)
ECU 4	10A	ENGINE ECU
TCU 2	15A	SPEED SNSR, POSITION SW. O_P_INVERTER
ESC 3	10A	ESC UNIT IGN1
B/UP LAMP	10A	ELECTRO CHROMIC MIRROR, BCM, REAR COMBINATION LAMP (IN) LH/RH
A/CON	10A	A/C CONTROL MODULE (Auto A/C)

Advertisements

Fuse box diagram for Theta 2.0 T-GDI (Engine compartment)

Assignment of the fuses in the Engine compartment (Theta 2.0 T-GDI) (2014, 2015)

Description	Amp Rating	Protected Component
RR HTD	-	E/R BOX RR HTD RLY COIL
HORN	15A	HORN (LH. RH)
F/PUMP	20A	FUEL PUMP MTR
ECU 3	15A	PCU (TGDI) BATT. DIRECT
SENSOR 1	15A	DN O2 SENSOR (TGDI), UP O2 SENSOR (TGDI), COOLING FAN RLY COIL (TGDI)
INJECTOR	10A	E/R BOX F/PUMP RLY COIL
SENSOR 3	10A	CMP1, 2 (TGDI), SMATRA IMMOBILIZER
SENSOR 2	10A	CKP (TGDI), VIS (GDI), OCV1, 2 (TGDI), PCSV (TGDI), RCV (TGDI)

Description	Amp Rating	Protected Component
IGN COIL	20A	ENGINE IG COIL
ECU 1	30A	ECU RLY
SPARE	10A	-
SPARE	15A	-
SPARE	20A	-
WIPER	10A	BCM, RAIN SNSR, WIPER MTR
VACUUM PUMP	20A	BRAKE VACUUM PUMP IG1
AMS	10A	BATTERY SENSOR
TCU 1	20A	TCU
STOP LAMP	15A	RLY.10 (HAC Relay), STOP LAMP RELAY
DEICER	20A	RLY.7 (Deicer Relay)
IG1	40A	IGN SW
B+ 1	50A	B+
B+ 2	60A	B+
C/ FAN 2	60A	C/FAN RLY
IG 2	40A	IGN SW, IG2 RLY
ESC 1	40A	ESC UNIT MOTOR B+ , DIAGNOSIS ABS A/B VALVE B+
ESC 2	40A	ESC UNIT SOLENOID B+
RR HTD	40A	RLY.1 (RR HTD Relay)
B+ 3	60A	B+

Description	Amp Rating	Protected Component
MDPS	80A	EPS CONTROL MODULE
SPARE	25A	-
C/FAN 1	50A	COOLING FAN RLY TGDI
BLOWER	40A	E/R BOX BLOWER RLY SWITCH
EPB 2	30A	EPB UNIT BATT2
EPB 1	30A	EPB UNIT BATT1
ECU 2	40A	EMS BOX (B+)
ECU 4	10A	ENGINE ECU
TCU 2	15A	SPEED SNSR, POSITION SW. O_P_INVERTER
ESC 3	10A	ESC UNIT IGN1
B/UP LAMP	10A	ELECTRO CHROMIC MIRROR, BCM, REAR COMBINATION LAMP (IN) LH/RH
A/CON	10A	A/C CONTROL MODULE (Auto A/C)

Battery terminal cover (Main fuse)