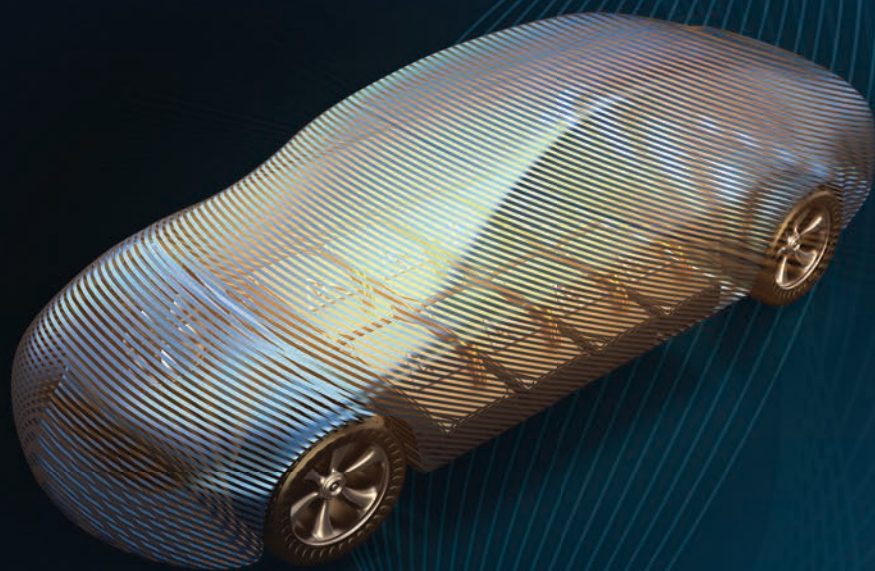


YURA CORPORATION

PRODUCT CATALOG



Technology YURA, Quality YURA

Company Overview

In the front line of future automobile, YURA Corporation leads the way.

Yura Corporation is an automotive electrical and electronic parts supplier headquartered in Korea and is mainly specialized in providing automotive wiring harness and other modules including smart junction blocks.

More than 30% of the total company workforce are devoted to R&D and fully equipped with various high-tech design tools and simulation software. From the initial stage of new automobile development, they cooperate with clients in order to produce optimal automotive electrical and electronic parts that can satisfy the clients.

With a state-of-the-art management system, the company is capable of monitoring the entire process in real time from product design to shipment of complete product. In particular, we make the utmost effort to supply defect-free products through a complete quality control system.

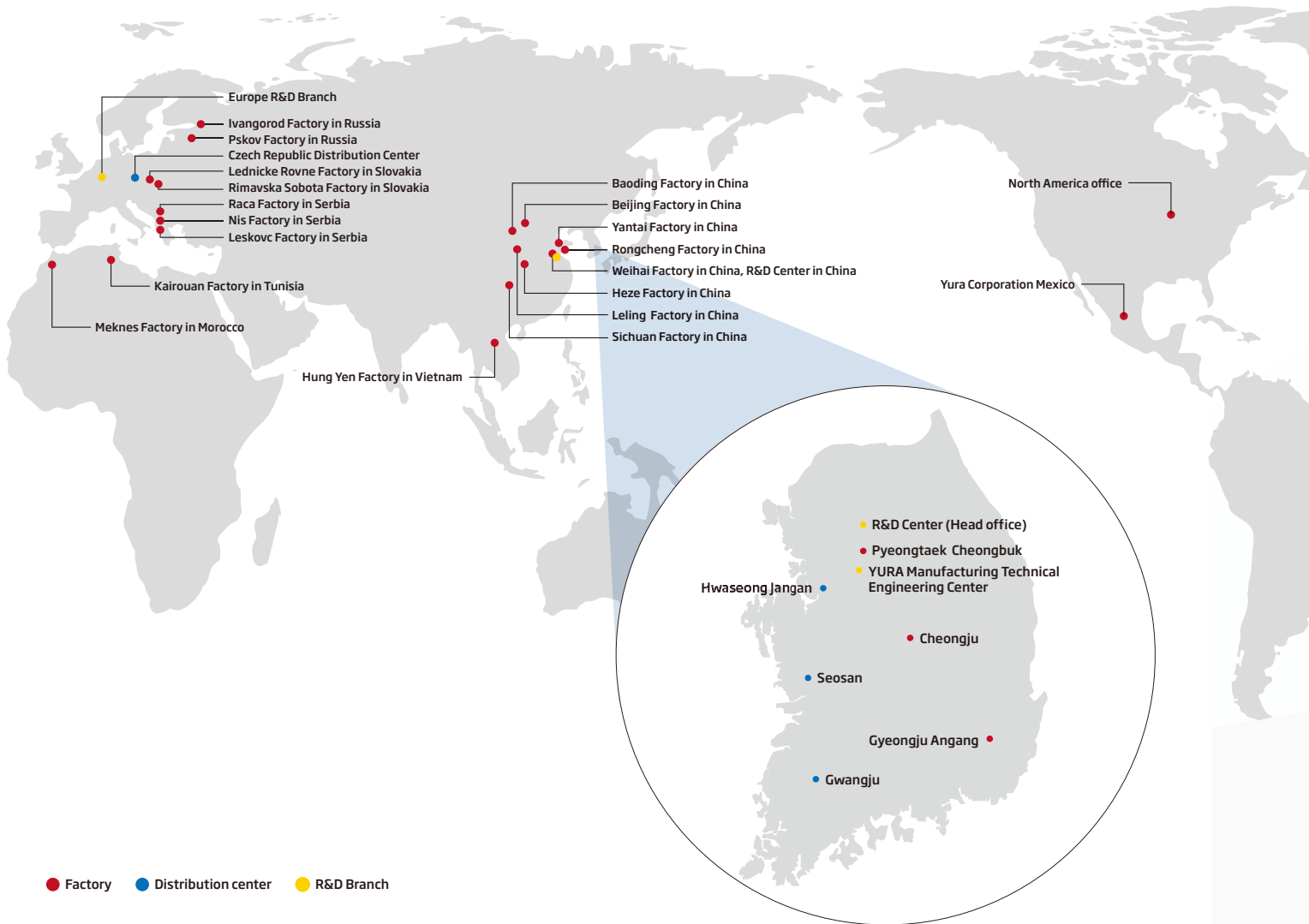
Furthermore, Yura Corporation currently operates 43 production plants in 10 countries including Korea, China, Vietnam, Slovakia, Serbia, Tunisia, Morocco, Russia and Mexico and has a JUST IN TIME delivery system.

Yura Corporation, in the trend of eco-friendly and smart cars, focuses on developing advanced communication and control modules such as ICU(Integrated Central Control Unit) and DTG(Digital Tachograph) that apply IT convergence technology. It also mass-produces high-voltage cables, connectors, quick chargers, high-voltage junction blocks for eco-friendly automobiles.

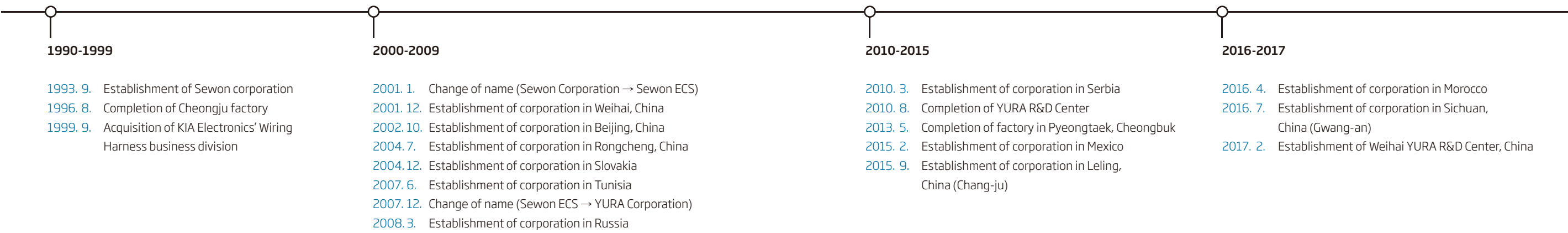
YURA Corporation now plans to have another take-off prepared for the 4th industrial revolution era. We are making our utmost effort especially in developing core technologies for eco-friendly electric cars, autonomous navigation vehicles and connected vehicles. As a leading automotive parts maker with the best competitiveness, Yura Corporation will become a reliable partner for our valued customers.

Business Site

YURA Corporation is a global company that currently runs total of 43 businesses in 10 countries besides South Korea including China, Slovakia, Czech Republic, Russia, and Mexico.

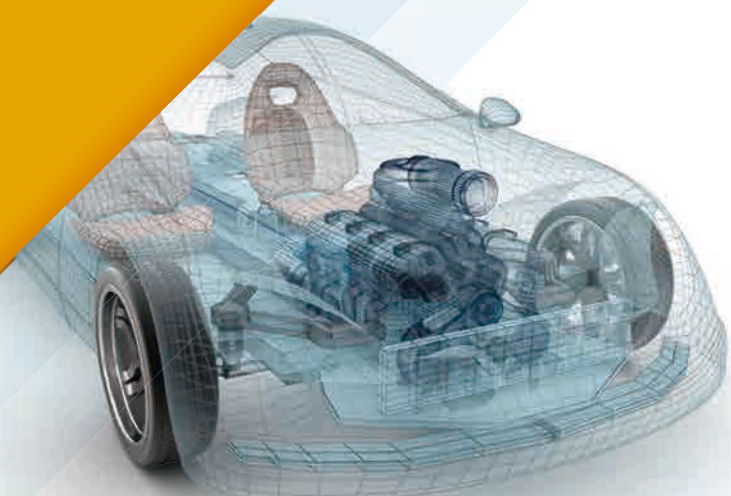


History



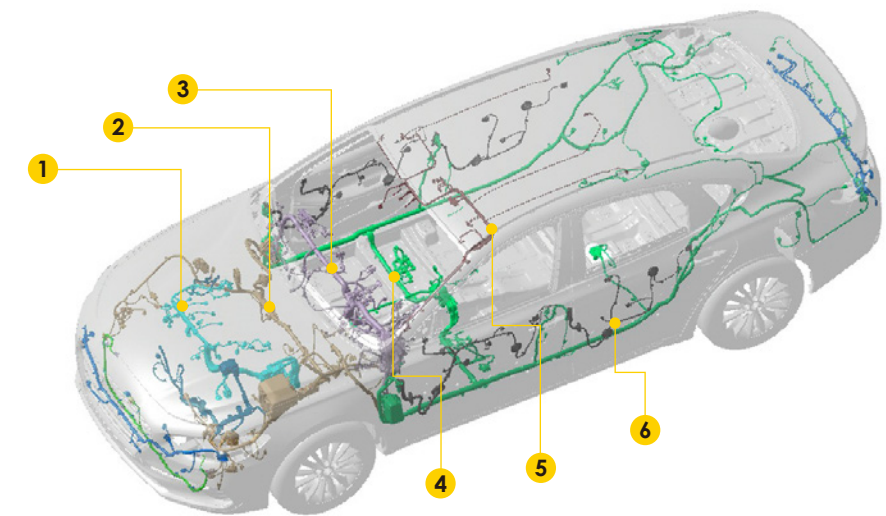
YURA

Wiring Harness



Low Voltage Wiring Harness

➡ MOUNTING POSITION



Front Wiring Harness



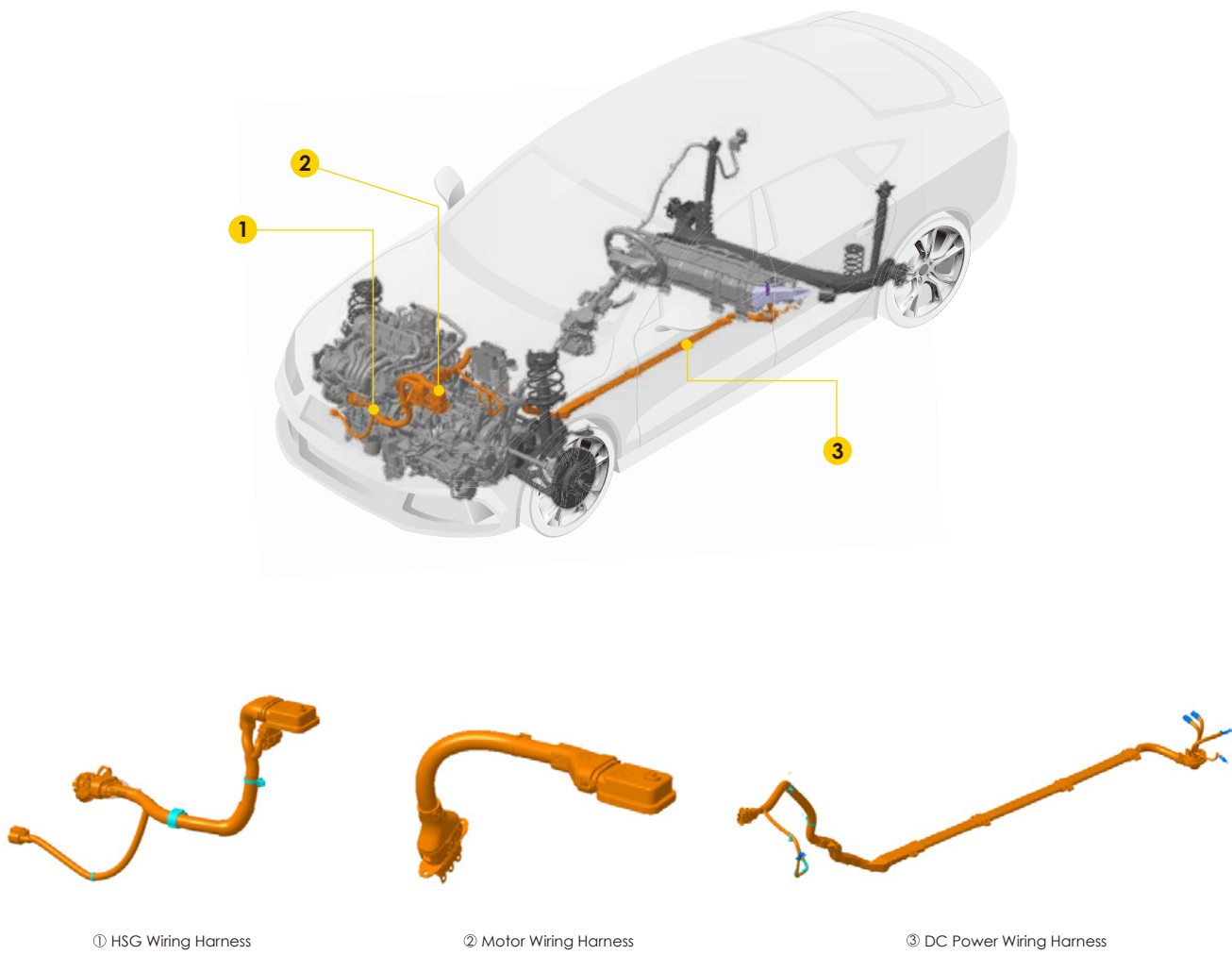
Floor Wiring Harness

➡ DESCRIPTION

① Control Wiring Harness	Control wiring harness is installed on the engine and transmission. It allocates power/signal to ECU, TCU, and other sensors needed to keep the engine going.
② Front Wiring Harness	Front wiring harness is installed inside the engine room. It allocates power/signal to lamps, sensors and other units within the engine room through an Engine Room Junction Block(ERJB).
③ Main Wiring Harness	Main wiring harness is installed inside the crushpad. It allocates power/signal to cluster, multimedia system, and other units through a junction block(eg. ICU, SJB etc..).
④ Floor Wiring Harness	Floor wiring harness is installed inside the cabin room. It allocates power/signal to safety units and convenience units.
⑤ Roof Wiring Harness	Roof wiring harness is installed on the headlining. It allocates power/signal to lamps and sunroof.
⑥ Door Wiring Harness	Door wiring harness is installed inside the door. It allocates power/signal to door lock and window systems.

High Voltage Wiring Harness

MOUNTING POSITION



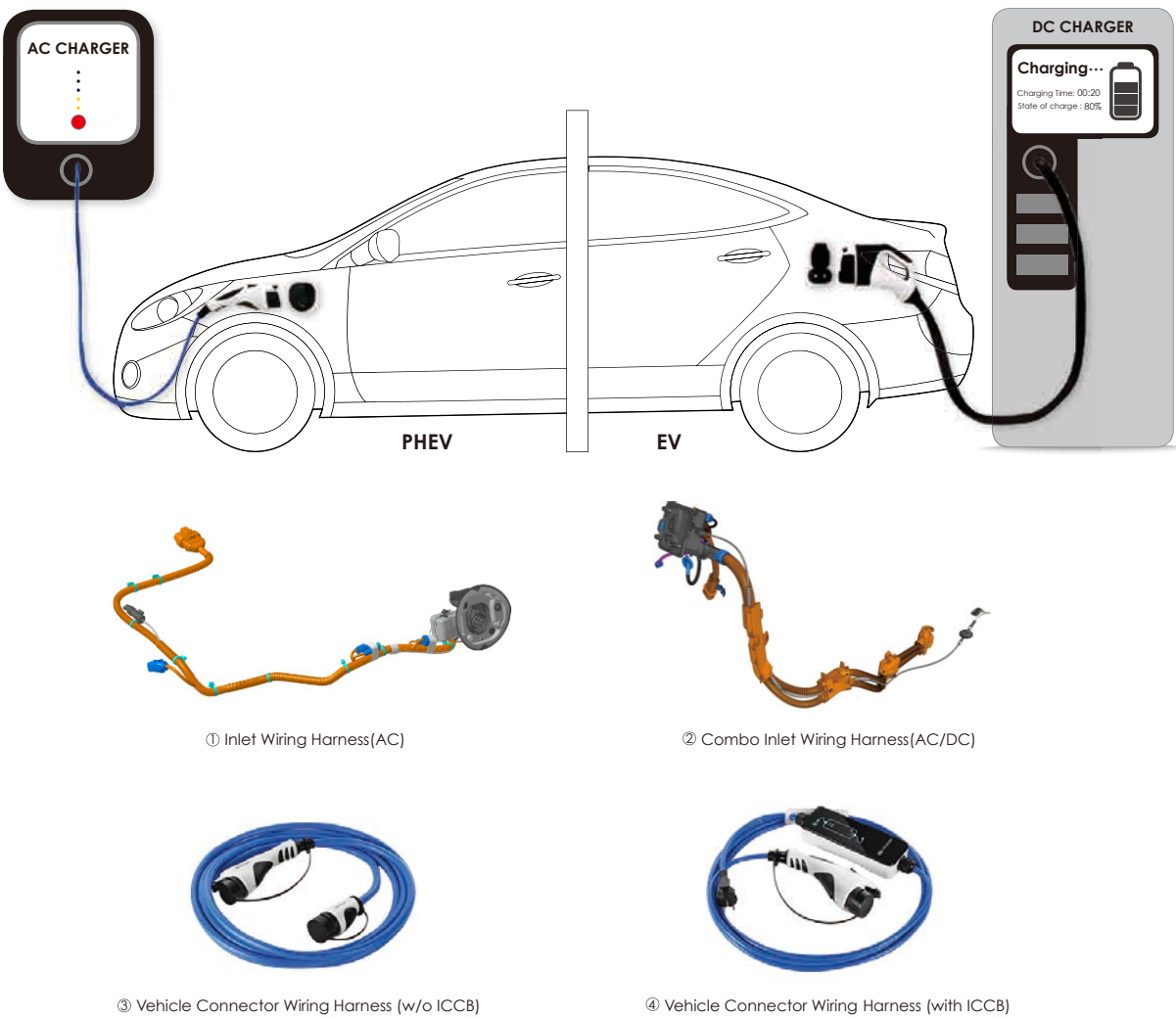
DESCRIPTION

① HSG Wiring Harness	HSG Wiring Harness transmits power to HPCU from HSG when starting the engine, and to A/C Compressor from HPCU.
② Motor Wiring Harness	Motor Wiring Harness transmits power to the motor from HPCU, and lets HPCU recharge the high voltage battery using regenerative braking system.
③ DC Power Wiring Harness	DC Power Wiring Harness transmits power to HPCU from high voltage battery, and to high voltage battery from OBC when slow charging.

HSG : Hybrid Starter Generator
HPCU : Hybrid Power Control Unit
OBC : On Board Charger

Charge Wiring Harness

CHARGING METHOD



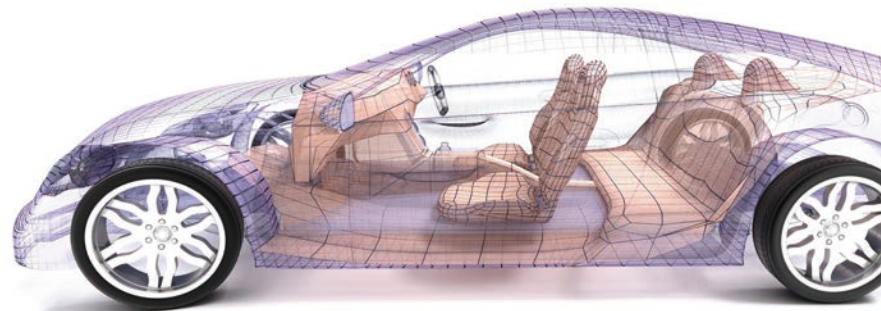
DESCRIPTION

① Inlet Wiring Harness(AC)	Inlet wiring harness transmits AC power to OBC from external power source.
② Combo Inlet Wiring Harness(AC/DC)	Combo inlet wiring Harness transmits AC/DC power to the high voltage battery and OBC.
③ Vehicle Connector Wiring Harness(w/o ICCB)	Vehicle connector wiring harness transmits power to vehicle's inlet port from AC charging station.
④ Vehicle Connector Wiring Harness(with ICCB)	Vehicle connector wiring harness transmits power to vehicle's inlet port from home's socket.

AC : Alternating Current
DC : Direct Current

YURA

Eco-friendly



YURA PRODUCT LINEUP

ITEM	PICTURE	SPECIFICATIONS		PAGE	
In-Cable Control Box		Operating Voltage	AC 90V~285V	9	
		Rated Current	12A(Max. 16A)		
		Operating Temperature	-30℃~50℃		
		IP Rating	IP55		
PLC Controller		Operating Voltage	DC 9V~16V	10	
		Operating Temperature	-40℃~85℃		
		IP Rating	IP69		
		Dimensions	130mm x 125mm x 50mm		
OBC (On Board Charger)		Operating Voltage	AC 70V~265V	11	
		Maximum Input Current	33A		
		Output Voltage	DC 240V~430V		
		Maximum Power	6.6kW		
		Efficiency	94.6%(Max.)		
		IP Rating	IP69		
		Weight	10.5kg		
		Dimensions	270mm x 270mm x 135mm		
48V-12V Bidirectional DC/DC Converter		Buck Mode	Operating Voltage	DC 36V~54V	12
			Power Capacity	2.5kW @DC 14V	
			Efficiency	95.5%(Max.)	
		Boost Mode	Operating Voltage	DC 8V~16V	
			Power Capacity	1.0kW @DC 48V	
			Efficiency	95%(Max)	
		Dimensions		173mm x 180mm x 72mm	
		Weight		2.4kg	
		Cooling system		Natural-cooling	
Smart PRA (Power Relay Assembly)		Operating Voltage	DC 250V~430V	13	
		Rated Current	80A (Max, 250A)		
		Operating Temperature	-40℃~85℃		
		Communication	LIN / CAN		
		Dimensions	254mm x 124mm x 69mm		

IP : Ingress Protection rating

YURA PRODUCT LINEUP

ITEM	PICTURE	SPECIFICATIONS		PAGE
High Voltage Electric Vehicle Junction Block (Soul)		Operating Voltage	DC240V~450V	14
		Operating Current	DC200A (max)	
		Operating Temperature	-30℃~80℃	
		IP Rating	IP69K	
		Dimensions	312mm x 284mm x 94.5mm	
High Voltage Electric Vehicle Junction Block (Ioniq)		Operating Voltage	DC240V~450V	15
		Operating Current	DC200A (max)	
		Operating Temperature	-30℃~80℃	
		IP Rating	IP67	
		Dimensions	221mm x 211mm x 89.5mm	
Fuel Cell High Voltage Junction Block		Operating Voltage	DC240V~450V	16
		Operating Current	DC300A (max)	
		Operating Temperature	-30℃~80℃	
		IP Rating	IP69K	
		Dimensions	418mm x 450mm x 150mm	
BFA (Busbar Frame Assembly)		Operating Temperature	-40℃~80℃	17
		Battery Configuration	12 CELL (4P3S)	
		Dimensions	147mm x 310mm x 105mm	
PRA (Power Relay Assembly)		Operating Voltage	DC250V~430V	18
		Operating Current	DC200A (max)	
		Operating Temperature	-40℃~85℃	
		Dimensions	415mm x 170mm x 77mm	

In-Cable Control Box

FEATURES

- ▶ Controller to perform the stable slow charge to the EV / PHEV



SPECIFICATIONS

Operating Voltage	AC 90V~285V
Rated Current	12A (MAX. 16A)
Operating Temperature	-30℃~50℃
IP Rating	IP55

DESCRIPTION

- ▶ Adjust charging current (8A, 10A, 12A)
- ▶ Charging & Failure status monitoring by LED display module
 - Plug / Vehicle connection, Charging, Error, etc.
- ▶ Temperature sensing of Power plug & ICCB
- ▶ System protection function
 - Over temperature, Over current, Leakage current
- ▶ UL & CE & KC certified

IP : Ingress Protection rating

PLC Controller

FEATURES

- ▶ PLC controller to control the DC quick charge sequence of the combo type electric vehicle
 - Control transmission & reception of information about authentication, charge voltage, current amount, charge state, etc. Required for quick charging between vehicle and power station



SPECIFICATIONS

Operating Voltage	DC 9V~16V
Operating Temperature	-40℃~85℃
IP Rating	IP69
Dimensions	130mm x 125mm x 50mm

DESCRIPTION

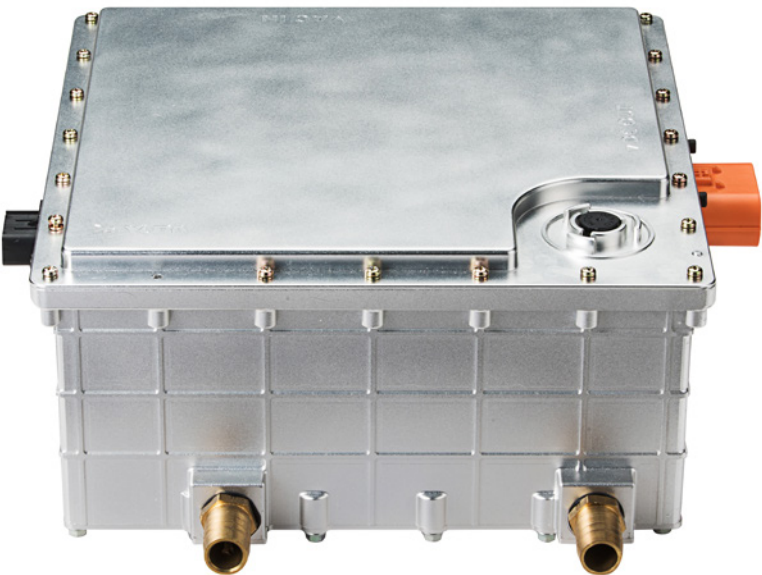
- ▶ PLC communication controller in combo-type EV for quick charging
- ▶ Control the power charge sequence and convert PLC communication for combo type electric vehicle using DC power quick charge
- ▶ Secure power charge compatibility for global infrastructure(ISO/ICE 15118, DIN 70121)

IP : Ingress Protection rating
PLC : Power Line Communication

OBC (On Board Charger)

FEATURES

- ▶ Converting the grid voltage(220VAC or 110VAC) to DC for slow charging



SPECIFICATIONS

Operating Voltage	AC 70V~265V
Maximum Input Current	33A
Output Voltage	DC 240V~430V
Maximum Power	6.6kW
Efficiency	94.6%(Max.)
IP Rating	IP69
Weight	10.5kg
Dimensions	270mm x 270mm × 135mm

DESCRIPTION

- ▶ Fully galvanic isolation between AC grid and EV battery
- ▶ High efficiency up to 94%
- ▶ System protection fuction
 - Over temperature, Over current, Over voltage

Eco-friendly

48V-12V Bidirectional DC/DC Converter

FEATURES

- ▶ High efficiency bidirectional DC/DC convertor that enables electric power conversion between the 12V and 48V
 - Multiphase power control method for improved efficiency



SPECIFICATIONS

Buck Mode	Operating Voltage	DC 36V~54V
	Power Capacity	2.5kW @ DC14V
	Efficiency	96.5%(Max.)
Boost Mode	Operating Voltage	DC 8V~16V
	Power Capacity	1.0kW @ DC 48V
	Efficiency	95%(Max.)
Dimensions		173mm x 180mm x 72mm
Weight		2.4kg
Cooling system		Natural-cooling

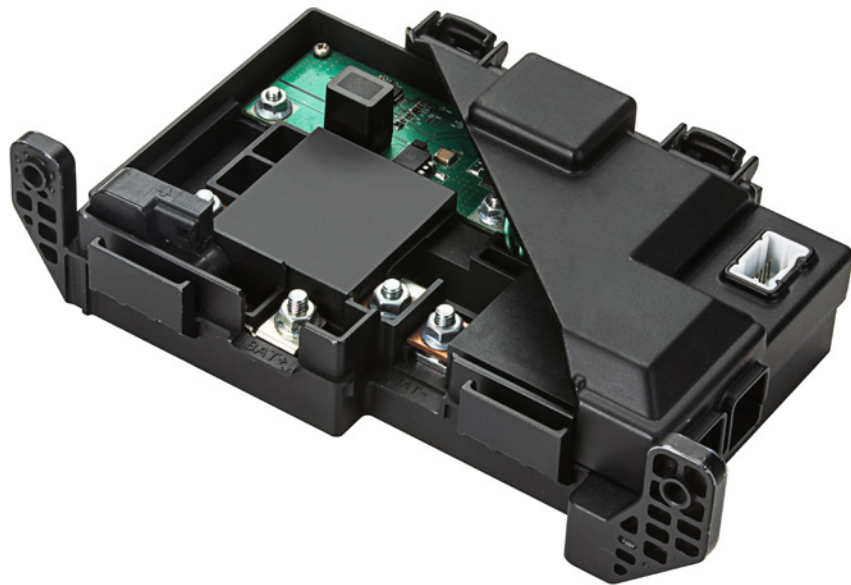
DESCRIPTION

- ▶ Bidirectional synchronous 12V to 48V
- ▶ 2.5kW in buck mode/1kW in boost mode power
- ▶ Voltage and current regulation
- ▶ System protection fuction
 - Over temperature, Over current, Over voltage, Polarity protection on 12V

Smart PRA (Power Relay Assembly)

FEATURES

- ▶ Controller that supplies & block the high voltage power of xEV
- ▶ Replace gas-charged relays with general relays and semiconductor devices
- ▶ Spark removal technology from general relays on/off



SPECIFICATIONS

Operating Voltage	DC 250V~430V
Rated Current	80A (Max, 250A)
Operating Temperature	-40℃~85℃
Communication	LIN / CAN
Dimensions	254mm × 124mm × 69mm

DESCRIPTION

- ▶ Lightweight, compact size, low cost than general PRA
- ▶ Improve system stability though fail-safety
 - Internal components failure detection
 - Failure status reporting
 - Maintain safety status in case of failure

High Voltage Electric Vehicle Junction Block(Soul)

FEATURES

- ▶ High voltage power distribution
- ▶ Overcurrent protection
- ▶ Fast charging



SPECIFICATIONS

Operating Voltage	DC 240V~450V
Operating Current	DC 200A (max)
Operating Temperature	-30℃~80℃
IP Rating	IP69K
Dimensions	312mm x 284mm x 94.5mm

DESCRIPTION

- ▶ High-voltage junction block for electric vehicles (EV)
- ▶ Allows both fast and slow charging
- ▶ Provides overcurrent protection (high voltage fuse)
- ▶ Satisfies high voltage safety design criteria
- ▶ Utilizes Al case for EMI shielding
- ▶ Interlocks high voltage connectors

High Voltage Electric Vehicle Junction Block(Ioniq)

FEATURES

- ▶ High voltage power distribution
- ▶ Overcurrent protection
- ▶ PE module package size minimization



SPECIFICATIONS

Operating Voltage	DC 240V~450V
Operating Current	DC 200A (max)
Operating Temperature	-30℃~80℃
IP Rating	IP67
Dimensions	221mm x 211mm x 89.5mm

DESCRIPTION

- ▶ High-voltage junction block for electric vehicles (EV)
- ▶ Minimizes the package size by being mounted vertically onto the PE module
- ▶ Provides overcurrent protection (high voltage fuse)
- ▶ Satisfies high voltage safety design criteria satisfied
- ▶ Utilizes Al case for EMI shielding
- ▶ Reduces weight through application of clad metal bus bar and press-type top cover

Fuel Cell High Voltage Junction Block

FEATURES

- ▶ High voltage power distribution
- ▶ Current sensor within fuel cell stack module
- ▶ Reverse voltage protection
- ▶ Overcurrent protection
- ▶ Water cooling



SPECIFICATIONS

Operating Voltage	DC 240V~450V
Operating Current	DC 300A (max)
Operating Temperature	-30℃~80℃
IP Rating	IP69K
Dimensions	418mm x 450mm x 150mm

DESCRIPTION

- ▶ High-voltage junction block for hydrogen FCEV
- ▶ Achieves 20% size reduction (Junction Block and BPCU combined)
- ▶ Satisfies high voltage safety design criteria
- ▶ Utilizes Al case for EMI shielding
- ▶ Utilizes water cooling for heat absorption
- ▶ Satisfies IP69K rating

BFA (Busbar Frame Assembly)

FEATURES

- ▶ Module connecting battery cells
- ▶ Voltage and temperature sensor



SPECIFICATIONS

Operating Temperature	-40℃~80℃
Battery Configuration	12 CELL (4P3S)
Location	Inside the battery module
Dimensions	147mm x 310mm x 105mm

DESCRIPTION

- ▶ Reduces size and weight by modularizing the battery cell
- ▶ Provides power input / output through the busbar
- ▶ Detects and measures voltage and temperature of the battery cell
- ▶ Assists the insulation performance of the battery cell
- ▶ Minimizes the number of components by applying crimping terminals integrated to the FPC
- ▶ Fixes FPC with heat stacking and laser welding

Eco-friendly

PRA (Power Relay Assembly)

FEATURES

- ▶ High voltage power supply
- ▶ Inrush current prevention at start-ups



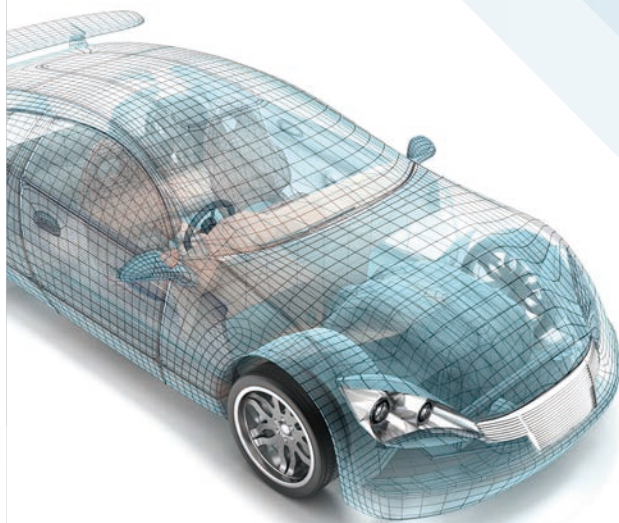
SPECIFICATIONS

Operating Voltage	DC 250V~430V
Operating Current	DC 200A (max)
Operating Temperature	-40℃~85℃
Dimensions	415mm x 170mm x 77mm







DESCRIPTION

- ▶ Supplies power for high voltage battery systems
- ▶ Utilizes pre-charge circuit to prevent inrush current
- ▶ Protects the circuit by shutting off the power supply in case of overvoltage
- ▶ Detects and measures current input / output of the battery

YURA
Electric
Electronics







YURA PRODUCT LINEUP

ITEM	PICTURE	SPECIFICATIONS		PAGE
Smart Junction Block		Operating Voltage	DC 8V~16V	24
		Operating Temperature	-35℃~75℃	
		Dimensions	190mm x 270mm x 70mm	
Gateway Integrated Smart Junction Block		Operating Voltage	DC 8V~16V	25
		Operating Temperature	-35℃~75℃	
		Dimensions	210mm x 280mm x 70mm	
Gateway Integrated Central Control Unit		Operating Voltage	DC 8V~16V	26
		Operating Temperature	-35℃~75℃	
		Dimensions	190mm x 250mm x 70mm	
Body Integrated Controller (BCM+SMK+TPMS)		Operating Voltage	DC 8V~16V	27
		Operating Temperature	-35℃~75℃	
		Wireless Communication	LF 125KHz, RF 433MHz	
		Dimensions	220mm x 175mm x 40mm	
Smartphone Wireless Charger for Vehicle		Operating Voltage	DC 8V~14V	28
		Output Voltage	5V	
		Operating Temperature	-40℃~85℃	
		Operating Frequency	115~175KHz	
		Dimensions	75mm x 135mm x 25mm	
Ethernet Gateway		Ethernet Port	Outside diagnosis, Display unit, Camera, Cluster	29
		High speed CAN	Chassis, Power-Train, Infotainment	
		Low speed CAN	Multi media, Body	
		Dimensions	100mm x 120mm x 26mm	

YURA PRODUCT LINEUP

ITEM	PICTURE	SPECIFICATIONS		PAGE
DC/DC Converter		Operating Voltage	DC 7V~16V (200W/400W)	30
		Output Current (Max)	16A (200W), 33A (400W)	
		Dark Current	1mA ↓	
		Operating Temperature	-40℃~85℃	
		Dimensions	130mm x 105mm x 30(35)mm	
DC/AC Inverter		Operating Voltage	DC 12V~15V	31
		Output Voltage	AC 200V	
		Rated Power	200W	
		Operating Temperature	-40℃~85℃	
		Dimensions	125mm x 100mm x 34mm	
Control & Communication Module		Operating Voltage	DC 16V~32V	32
		Operating Temperature	-30℃~80℃	
		Communication	CAN(4ch), LIN(2ch)	
		Wireless Communication	RF 433MHz	
		Dimensions	220mm x 175mm x 40mm	
Smart Key System		Operating Voltage	DC 16V~32V	33
		Controller	LF, RF link logic	
		Operating Temperature	-30℃~80℃	
		Wireless Communication	LF 125KHz, RF 433MHz	
		Dimensions	108mm x 133mm x 50mm	
Digital Tachograph		Operating Voltage	DC 9V~32V	34
		Operating Temperature	-30℃~80℃	
		Dimensions	190mm x 151mm x 61mm	
Wi-Fi Digital Tachograph		Operating Voltage	DC 9V~32V	35
		Operating Temperature	-30℃~80℃	
		Wi-Fi	802.11 b/g/n	
		Dimensions	190mm x 151mm x 61mm	

YURA PRODUCT LINEUP

ITEM	PICTURE	SPECIFICATIONS		PAGE
Video Recording Digital Tachograph		Screen Resolution	Front / Rear HD	36
		Operating Voltage	DC 9V~32V	
		Operating Temperature	-30℃~80℃	
		Camera	Front / Rear	
		Dimensions	190mm x 151mm x 61mm	
Engine Room Junction Block		Operating Voltage	DC 14V	37
		Operating Temperature	-35℃~90℃	
		IP Rating	IP69K	
		Dimensions	211mm x 205mm x 166mm	
PCB Block		Operating Voltage	DC 14V	38
		Operating Temperature	-35℃~90℃	
		Dimensions	90mm x 78mm x 61mm	
Instrument Panel Junction Block		Operating Voltage	DC 14V	39
		Operating Temperature	-35℃~60℃	
		Dimensions	170mm x 110mm x 38mm	

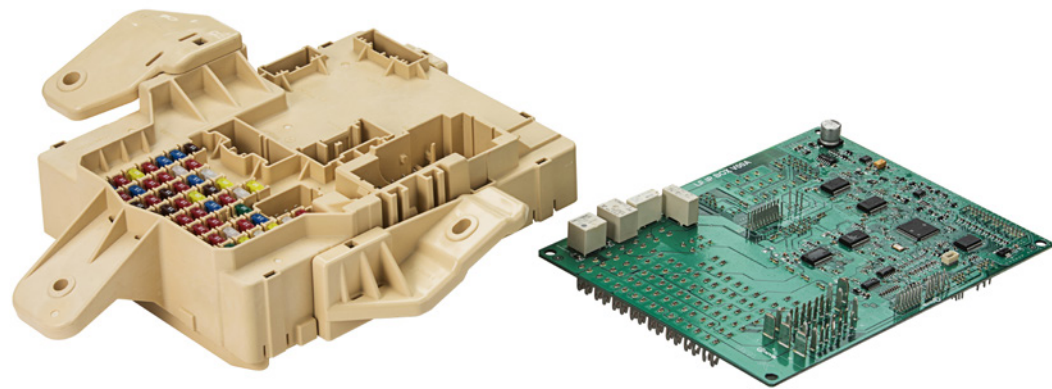
YURA PRODUCT LINEUP

ITEM	PICTURE	SPECIFICATIONS		PAGE
Front-wheel Drive 6-speed Harness Module		Insulation Resistance	100MΩ ↑	40
		Operating Temperature	-40℃~155℃	
		Operating Condition	ATF Deposition	
		Dimensions	146.1mm x 294.8mm x 174.5 mm	
Rear-wheel Drive 8-speed E-module		Insulation Resistance	100MΩ ↑	41
		Operating Temperature	-40℃~155℃	
		Operating Condition	ATF Deposition	
		Dimensions	334.1mm x 252.5mm x 111mm	
Carbon Core PCB		Operating Voltage	DC 14V	42
		Operating Temperature	-30℃~115℃	
		Dimensions	170mm x 73mm x 1mm	
FFC Harness		Fire Resistance	95℃	43
		Trace Dimensions	0.076mm x 1.575mm	
		Conn. Dimensions	34.2mm x 24.6mm x 26.2mm	
		Conn. Weight	10.66g	

Smart Junction Block

FEATURES

- ▶ Power distribution & lamp control inside the vehicle
- ▶ Constant voltage control to prevent premature loss of lamp, perform fault diagnosis role of product
- ▶ CAN communication (switch information transfer etc.)



SPECIFICATIONS

Operating Voltage	DC 8V~16V
Operating Temperature	-35℃~75℃
Dimensions	190mm x 270mm x 70mm

DESCRIPTION

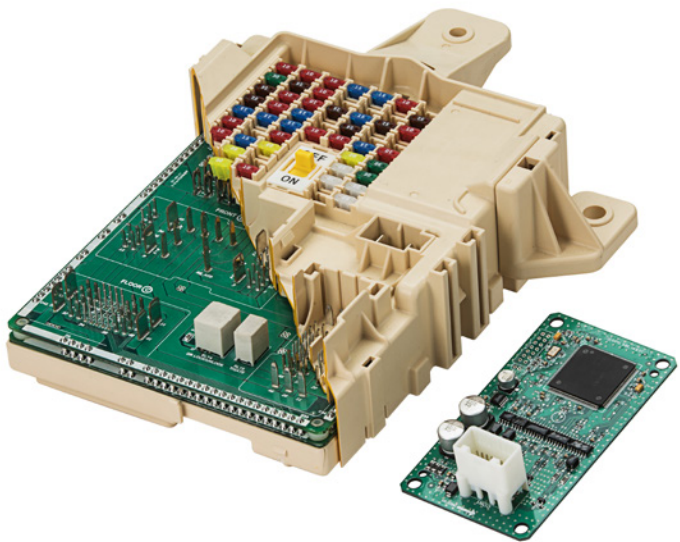
- ▶ Power supply to various electronic modules via fuse
- ▶ Wiring protection from overcurrent short

IPS : Intelligent Power Switch

Gateway Integrated Smart Junction Block

FEATURES

- ▶ Add gateway (network integrated management) function in the smart junction block



SPECIFICATIONS

Operating Voltage	DC 8V~16V
Operating Temperature	-35℃~75℃
Dimensions	210mm x 280mm x 70mm

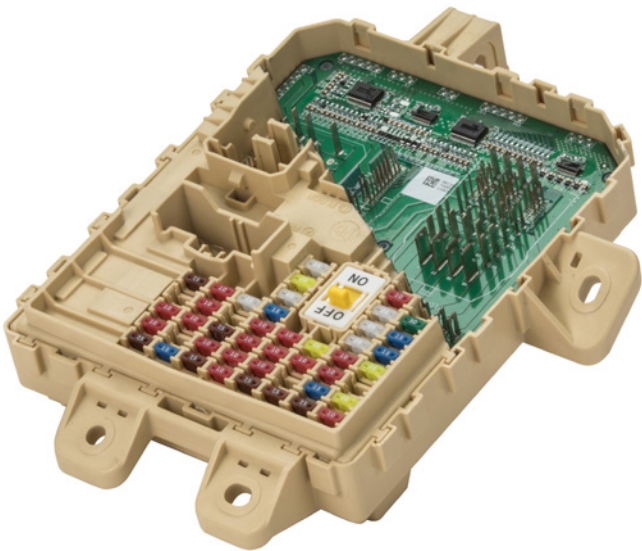
DESCRIPTION

- ▶ Gateway function
 - Network management between vehicle modules
 - Strengthen vehicle network security

Gateway Integrated Central Control Unit

FEATURES

- ▶ Add convenience function in the gateway integrated smart junction block



SPECIFICATIONS

Operating Voltage	DC 8V~16V
Operating Temperature	-35℃~75℃
Dimensions	190mm x 250mm x 70mm

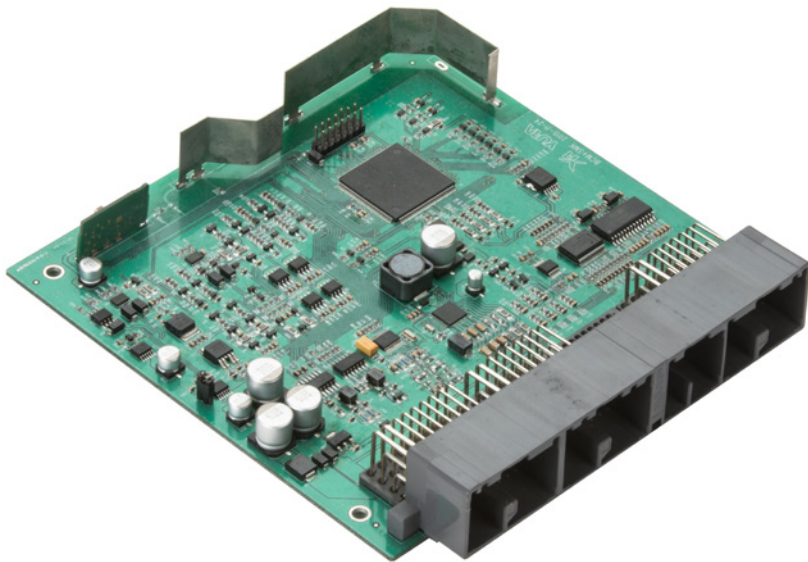
DESCRIPTION

- ▶ Convenience function
 - Controls the power supply to the heated steering
 - Controls the power supply to the interior lamp, etc.

Body Integrated Controller

FEATURES

- ▶ Integrated BCM & SMK & TPMS functions
 - ※ BCM : Body Control Module / SMK : Smart Key Module / TPMS : Tire Pressure Monitoring System



SPECIFICATIONS

Operating Voltage	DC 8V~16V
Operating Temperature	-35℃~75℃
Wireless Communication	LF 125KHz, RF 433MHz
Dimensions	220mm x 175mm x 40mm

DESCRIPTION

- ▶ LF & RF wireless communication
- ▶ Keyless entry system with smart key
 - Module, SSB, Key FOB, LF Antenna

RF : Radio Frequency
LF : Low Frequency
SSB : Start Stop Button

Smartphone Wireless Charger for Vehicle

FEATURES

- ▶ Charge smartphone wirelessly inside the vehicle using the wireless power charge pad
 - Magnetic induction method
- ▶ Comply magnetic induction international wireless charging standard
 - WPC Qi v1.1
 - A6 Standard(3 coil type)



SPECIFICATIONS

Operating Voltage	DC 8V~14V
Output Voltage	5V
Operating Temperature	-40℃~85℃
Operating Frequency	115~175KHz
Dimensions	75mm × 135mm x 25mm

DESCRIPTION

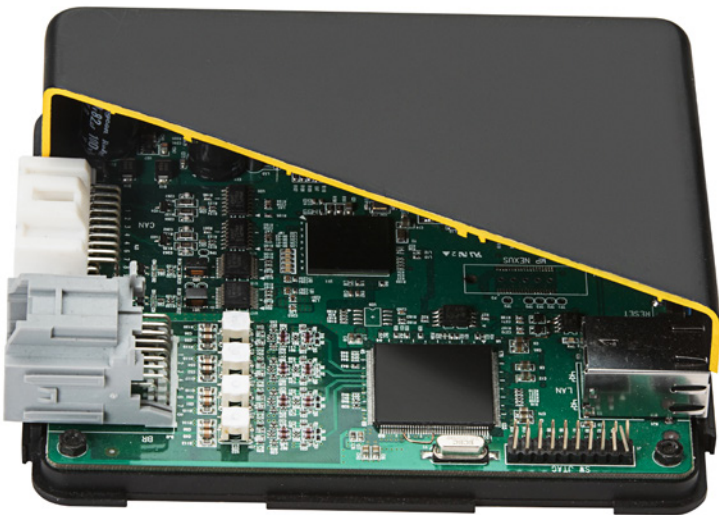
- ▶ Reduce the number of components and increase the product stability using the one chip solution
- ▶ Variety of charge method with 3 coil mode selection
- ▶ Safety Features
 - FOD : Switch off the pad when foreign objects detected
 - Current monitoring : Self detection & switch on/off

WPC : Wireless Power Consortium
FOD : Foreign Objects Detected

Ethernet Gateway

FEATURES

- ▶ Gateway with vehicle Ethernet communication
 - 100Mbps : 100base-T1
 - 1Gbps : 1000base-T1
- ▶ CAN/CAN-FD to Ethernet, Ethernet to CAN/CAN-FD data routing function



SPECIFICATIONS

Ethernet Port	Outside diagnosis, Display unit, Camera, Cluster
High speed CAN	Chassis, Power-Train, Infotainment
Low speed CAN	Multi media, Body
Dimensions	100mm x 120mm x 26mm

DESCRIPTION

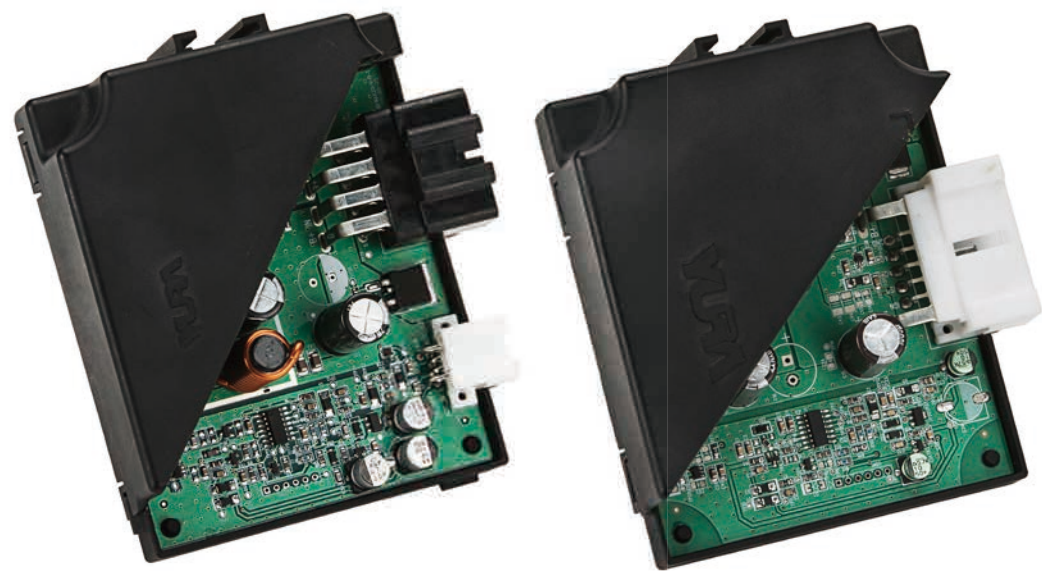
- ▶ High-speed data transfer up to 1Gbps
- ▶ Support service based protocol (DoIP)
- ▶ Transmission of large sized media data (Video, Audio)
- ▶ Support 1ch standard Ethernet port for message mirroring of diagnosis

DoIP : Diagnostics over Internet Protocol

DC/DC Converter

FEATURES

- ▶ Prevent voltage drop for the audio and amplifier by maintaining constant voltage when engine restarts in vehicle applied with ISG system



SPECIFICATIONS

Operating Voltage	DC 7V~16V (200W/400W)
Output Current (MAX)	16A (200W), 33A (400W)
Dark Current	1mA ↓
Operating Temperature	-40℃~85℃
Dimensions	130mm x 105mm x 30(35)mm

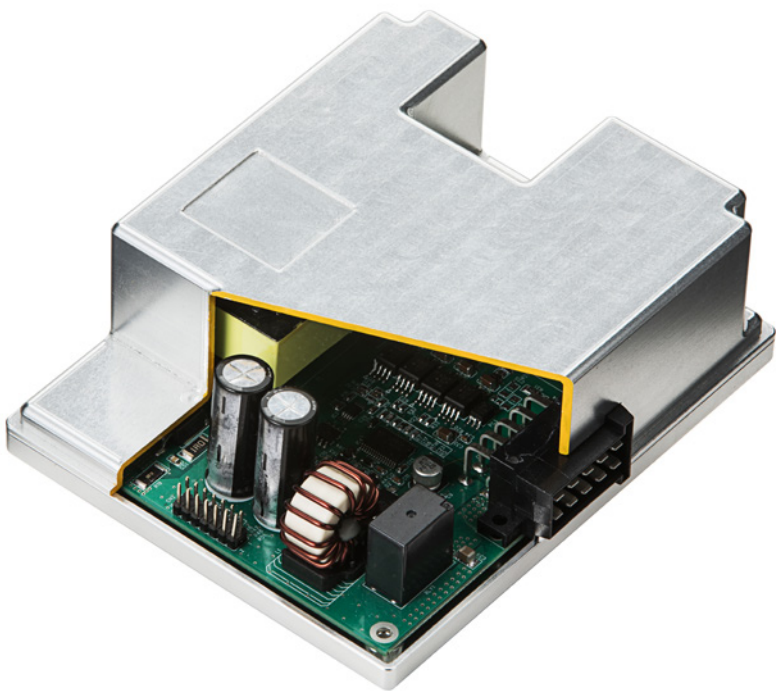
DESCRIPTION

- ▶ Applied low loss switching semiconductor devices
- Circuit optimization design decrease weight : Apply PBT

DC/AC Inverter

FEATURES

- ▶ Converting DC 12V to AC 115V/220V for the use of home appliances inside vehicle



SPECIFICATIONS

Input Voltage	DC 12V~15V
Output Voltage	AC 220V
Rated Power	200W
Operating Temperature	-40℃~85℃
Dimensions	125mm x 100mm x 34mm

DESCRIPTION

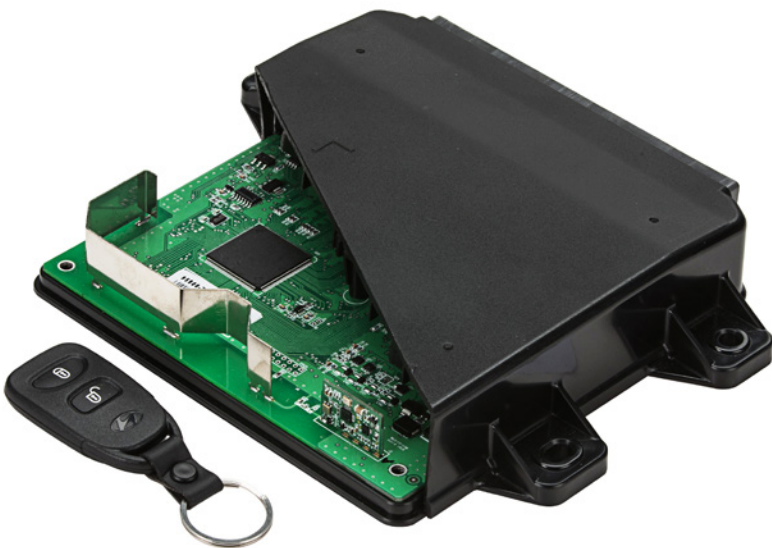
- ▶ Stable use of home appliances (Laptop, Air fan etc.) using pure sine wave output
- ▶ System protection function
- Over temperature, Over current, Over voltage, Short circuit

ISG : Idle Stop & Go

Control & Communication Module

FEATURES

- ▶ CAN gateway module for commercial vehicle that control of the wired / wireless function and ECU diagnosis and update



SPECIFICATIONS

Operating Voltage	DC 16V~32V
Operating Temperature	-30℃~80℃
Communication	CAN(4ch), LIN(2ch)
Wireless Communication	RF 433MHz
Dimensions	220mm x 175mm x 40mm

DESCRIPTION

- ▶ CAN network & ECU diagnosis control
- ▶ Remote keyless entry(Door lock / unlock remote control)
- ▶ Vehicle function control(Sensor & I/O)

RF : Radio Frequency
ECU : Electronic Control Unit

Smart Key System

FEATURES

- ▶ System that enables engine start and door control with smart key for commercial vehicle
 - Control of the vehicle power and start function



SPECIFICATIONS

Operating Voltage	DC 16V~32V
Controller	LF, RF link logic
Operating Temperature	-30℃~80℃
Wireless Communication	LF 125KHz, RF 433MHz
Dimensions	108mm x 133mm x 50mm

DESCRIPTION

- ▶ Power and door remote control
- ▶ Bidirectional wireless communication(LF & RF wireless communication)
- ▶ Emergency start(Immobilizer)

RF : Radio Frequency
LF : Low Frequency

Digital Tachograph

FEATURES

- ▶ System for recording information relating to vehicle driving
 - Store vehicle driving information such as vehicle speed, RPM, brake usage records, location information, and operation times, in seconds



SPECIFICATIONS

Operating Voltage	DC 9V~32V
Operating Temperature	-30℃~80℃
Dimensions	190mm x 151mm x 61mm

DESCRIPTION

- ▶ Storage device for vehicle driving information
 - Store over 6 months of driving information including Speed/Distance/Time/Location etc.
- ▶ Store detailed driving information analysis data
- ▶ Compatible with industrial standard size (1 DIN over, ISO 7736)
- ▶ Firmware update using USB or connected to the computer

Wi-Fi Digital Tachograph

FEATURES

- ▶ System that can transfer vehicle driving information via Wi-Fi communication.
 - Available in places with Wi-Fi zone such as garages etc.



SPECIFICATIONS

Operating Voltage	DC 9V~32V
Operating Temperature	-30℃~80℃
Wi-Fi	802.11 b/g/n
Dimensions	190mm x 151mm x 61mm

DESCRIPTION

- ▶ Digital tachograph that transfers driving data via Wi-Fi(Max. 2 days)
- ▶ Download driving data via USB, and transfer via Wi-Fi communication

Video Recording Digital Tachograph

FEATURES

- ▶ Video record device integrated digital tachograph
- ▶ Store driving & event video



SPECIFICATIONS

Screen Resolution	Front / Rear HD
Operating Voltage	9V~32V
Operating Temperature	-30℃~80℃
Camera	Front / Rear
Dimensions	190mm x 151mm x 61mm

DESCRIPTION

- ▶ Store video record with the vehicle driving information
 - Speed/Distance/Time/Location/G-sensor etc.
- ▶ Includes viewer function for real time video, option to choose between front/rear screen
- ▶ Apply PoC transmission type
 - Transfer power & video data simultaneously

Engine Room Junction Block

FEATURES

- ▶ 12V power distribution unit
- ▶ Metal core or heavy oz PCB
- ▶ Water inflow prevention (IP69K)



SPECIFICATIONS

Operating Voltage	DC 14V
Operating Temperature	-35℃~90℃
Weight	2kg (max)
Dimensions	211mm x 205mm x 166mm

DESCRIPTION

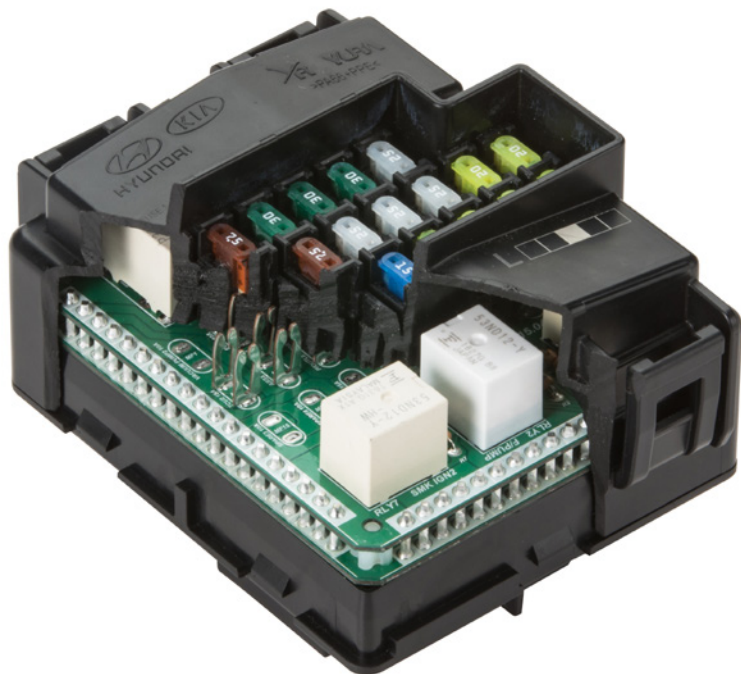
- ▶ Combines various joints and electronic components(fuses, relays, diodes and etc.) of wire harnesses
- ▶ Utilizes a PCB block to reduce size and weight in case of a product that have many circuits

PoC : Power over Coax

PCB Block

FEATURES

- ▶ 12V power distribution unit
- ▶ Metal core or heavy oz PCB



SPECIFICATIONS

Operating Voltage	DC 14V
Operating Temperature	-35℃~90℃
Dimensions	90mm x 78mm x 61mm

DESCRIPTION

- ▶ Combines wires and electronic components (fuse and relays) to form a power distribution unit, leading to better assemblability, quality and after-sales service
- ▶ Utilizes metal core PCB to generate less heat

Instrument Panel Junction Block

FEATURES

- ▶ Main power distribution block
- ▶ Weight & man-hour reduction
- ▶ Easy relay controls and circuit changes



SPECIFICATIONS

Operating Voltage	DC 14V
Operating Temperature	-35℃~60℃
Dimensions	170mm x 110mm x 38mm

DESCRIPTION

- ▶ Combines wires and electronic components (fuse and relays) to form a power distribution unit, leading to better assemblability, quality and after-sales service
- ▶ Provides easy control of the relays by using the power I/O
- ▶ Makes changing the PCB circuit design easy

Front-wheel Drive 6-speed Harness Module

FEATURES

- ▶ FPC (Flexible Printed Circuit)
- ▶ Eco-friendly (Pb-free) solder



SPECIFICATIONS

Insulation Resistance	100MΩ ↑
Operating Temperature	-40℃~155℃
Operating Condition	Immersion in ATF
Dimensions	146.1mm x 294.8mm x 174.5mm

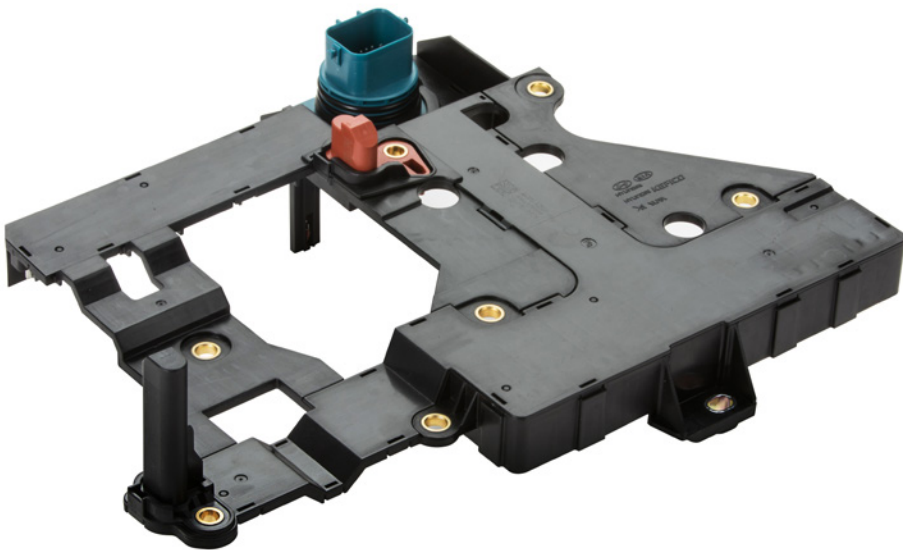
DESCRIPTION

- ▶ Replaces the conventional wires with FPC for an automatic transmission harness to transfer currents and signals
- ▶ Miniaturizes automatic transmission units to reduce weight
- ▶ Optimizes the path design through the use of flat wires

Rear-wheel Drive 8-speed E-module

FEATURES

- ▶ FPC (Flexible Printed Circuit)
- ▶ Eco-friendly (Pb-free) solder



SPECIFICATIONS

Insulation Resistance	100MΩ ↑
Operating Temperature	-40℃~155℃
Operating Condition	Immersion in ATF
Dimensions	252.5mm x 334.1mm x 111mm

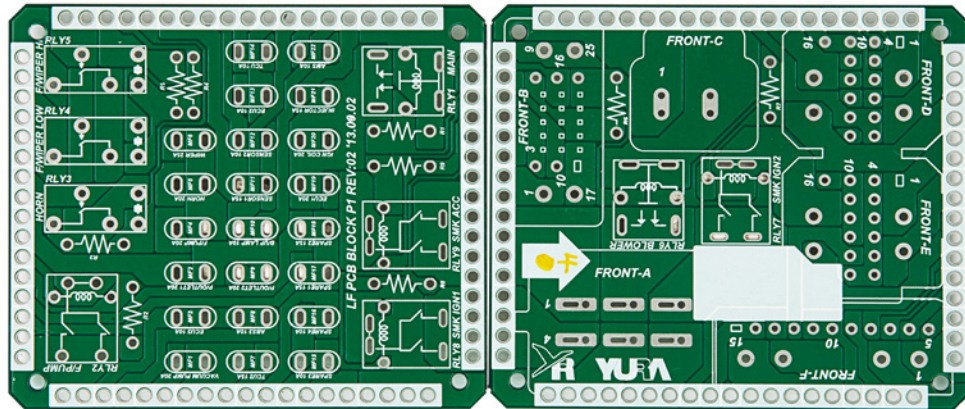
DESCRIPTION

- ▶ Replaces the conventional wires with FPC for an automatic transmission harness to transfer currents and signals
- ▶ Miniaturizes automatic transmission units to reduce weight
- ▶ Optimizes the path design through the use of flat wires

Carbon Core PCB

➡ FEATURES

- ▶ Carbon core replacing copper metal core
- ▶ Copper plating applied to carbon sheet for improved conductivity



➡ SPECIFICATIONS

Operating Voltage	DC 14V
Operating Temperature	-30℃~115℃
Dimensions	170mm x 73mm x 1mm

➡ DESCRIPTION

- Offers less weight & cost compared to copper metal core
- Provides better heat dissipation performance of PCB
- Provides reliability with low thermal shrinkage and expansion

FFC Harness

➡ FEATURES

- ▶ FFC(Flexible Flat Cable)
- ▶ Water-proof Connector
- ▶ Direct Contact Type



➡ SPECIFICATIONS

Fire Resistance(FFC)	95℃
Trace Dimensions	0.076mm x 1.575mm
Conn. Dimensions	34.2mm x 24.6mm x 26.2mm
Conn. Weight	10.66g

➡ DESCRIPTION

- ▶ Provides 2 contact points for terminals by using 2 strips of conductive traces
 - Allows automated molding process
- ▶ Allows combination of the inner housing and the retainer with processed holes and trimmed sides
 - Allows automated molding process
- ▶ Prevents oxidation and corrosion at contact points with tin-plating

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YURA CORPORATION

YURA R&D Center

Cheongju Factory

Pyeongtaek Cheongbuk Factory

YURA manufacturing Technical Engineering Center

Gyeongju Factory

Hwaseong Distribution Center

Gwangju Distribution Center

Weihai Factory in China

Rongcheng Factory in China

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Lednicke Rovne Factory in Slovakia

Rimavska Sobota Factory in Slovakia

Raca Factory in Serbia

Nis Factory in Serbia

Leskovac Factory in Serbia

Kairouan Factory in Tunisia

Czech Republic Distribution Center

Ivangorod Factory in Russia

Pskov Factory in Russia

Yura Corporation Mexico

Yura Corporation Morocco

Yura Corporation North America Office

308, Pangyo-ro, Bundang-gu, Seongnam-si, Gyeonggi-do, Korea / Tel: +82-70-7878-1000, Fax: +82-31-780-6801

387, Jeongjungyeonje-ro, Osong-eup, Cheongwon-gun, Chungcheongbuk-do, Korea
Tel: +82-70-7878-2400, Fax: +82-43-238-8599

157-23, Cheongwon-ro, Cheongbuk-myeon, Pyeongtaek-si, Gyeonggi-do, Korea
Tel: +82-70-7878-3901, Fax: +82-31-682-4118

129-7, Habuk 4-gil, Jinwi-myeon, Pyeongtaek-si, Gyeonggi-do, Korea / Tel: +82-70-7878-2222, Fax: +82-31-668-4117

55, Sinpyeonggongdan-gil, Geoncheon-eup, Gyeongju-si, Gyeongsangbuk-do, Korea
Tel: +82-70-7878-3300, Fax: +82-54-751-8915

1071, Poseungjangan-ro, Jangan-myeon, Hwaseong-si, Gyeonggi-do, Korea
Tel: +82-70-7878-2700, Fax: +82-31-358-2552

93, Hanamsandan 9beon-ro, Gwangsan-gu, Gwangju, Korea / Tel: +82-70-7878-3400, Fax: +82-62-953-4680

NO.2 Huiyou Road, Wenquantang Wenquan Town Huancui Area Weihai City, Shandong Province, China
Tel: +86-631-537-5000, Fax: +86-631-537-2322

NO.8, HeYang east road, The economic development zone, RongCheng City, Shandong, China
Tel: +86-631-758-6025, Fax: +86-631-758-8453

Qinshuigongyeyuan Muping Area Yantai City, Shandong Province, China
Tel: +86-535-465-7140, Fax: +86-535-465-7438

South Changjiang Road, West Nanjing Road, Economic Development Zone, Heze City Shangdong Province, China
Tel: +86-622-8700-8704, Fax: +86-622-8700-8705

B No. 13 Keji Road Miyun Economic Development Beijing, China / Tel: +86-10-6907-6801, Fax: +86-10-6907-6882

Chaoyang Road(west section), Industrial Park of Dingxing County, Baoding, Hebei, China
Tel: +86-0312-587-0561, Fax: +86-0312-587-0565

No.166, Tingjin xi Road, Leling City, Shandong Prov., China / Tel: +86-0534-821-5782, Fax: +86-0534-821-5779

No. 2-53 South Industrial Park,Economic Development Zone, Linshui, Sichuan, China
Tel: +86-0826-338-1688, Fax: +86-0826-338-1681

Moc Ty, Trung Trac Commune, Van Lam District, Hung Yen Province, Vietnam
Tel: +84-321-3997-554, Fax: +84-321-3997-559

Puchovska cesta 413,020 61 lednicke rovne, Slovakia / Tel: +421-42-430-7010, Fax: +421-42-430-7050.

Dobsinskeho 4016, 979 01 Rimavska Sobota, Slovakia / Tel: +421-47-581-2354, Fax: +421-47-581-2356

Kralja Petra I 9, 34210 Raca, Serbia / Tel: +381-34-617-00-16, Fax: +381-34-617-00-18

Industrijska zona bb, Donje Medurovo, 18254 Nis, Serbia / Tel: +381-18-4150-300, Fax: +381-18-4150-301

Industrijska II, 16210 Leskovac, Serbia / Tel: +381-18-4150-300, Fax: +381-18-4150-301

AFI industrial zone, road of tunis 3100 Kairouan, Tunisia / Tel: +216-7727-0207, Fax: +216-7727-0217

Studentska 1554/1, Havirov, Czech / Tel: +420-59-649-2242

188490, Russia, Leningrad region, Ivangorod, ul. Gagarina dom. 54/A / Tel: +82-70-7010-9120, Fax: +7-81375-57-931

180021, Russia, Pskovskaya oblast, Pskov City , Industrialnaya ul. 9/1 / Tel: +82-70-7010-9120, Fax: +7-81375-57-931

Blvd. San Pedro #150, Parque Industrial Ferropuertos Laguna, Torreon, Coahuila C.P.27400 / Tel: +82-70-8766-1745

50000, Quartier Industriel Marjane II – MEKNES / Tel: +212-5-35-51-98-01

300 Galleria Officentre Suite #104, Southfield, MI 48034, USA / Tel: +1-947-282-6443, Fax: +1-947-282-8154

YURA

YURA R&D Center

Hwaseong Jangan Wire Factory

Hwaseong Paltan Connector Factory

Pyeongtaek Cheongbuk Automotive Electronics Factory

Beijing Seungwoo in China

Weihai Shinwon in China

Shinwon D.O.O in Serbia

Yura Cable Mexico

YURA Vietnam

308, Pangyo-ro, Bundang-gu, Seongnam-si, Gyeonggi-do, Korea / Tel: +82-70-7878-1725, Fax: +82-31-780-6851

1071, Poseungjangan-ro, Jangan-myeon, Hwaseong-si, Gyeonggi-do, Korea
Tel: +82-70-7878-2873, Fax: +82-31-351-3714

854, Sicheong-ro, Paltan-myeon, Hwaseong-si, Gyeonggi-do, Korea / Tel: +82-70-7878-3092, Fax: +82-31-354-2368

157-23, Cheongwon-ro, Cheongbuk-myeon, Pyeongtaek-si, Gyeonggi-do, Korea
Tel: +82-70-7878-3957, Fax: +82-31-682-4118

No. 3, Yunteng Road Miyun Economic Development, Beijing, China / Tel: +86-10-6907-5150, Fax: +86-10-6907-5750

No. 106-1 Guotai Road, economic and Technological Development Zone, Weihai, Shandong
Tel: +86-631-367-0082, Fax: +86-631-367-0080

Radna Zona, Donje Medjurovo BB, 18254 Nis, Serbia / Tel: +381-18-415-0-445, Fax: +381-18-415-0-451

Yura Cable Mexico S. de R.L. de C.V. Blvd. San Pedro #150 1-A Parque Industrial Ferropuerto Torreon Coahuila, Mexico
Tel: +52-3140-827, Fax: +52-3140-828

Yura Vina co.,Ltd. Lot Cn15, Cn16, Eastzone of Phu Thai industrial park, Kim Thanh District, Haiduong province, Vietnam
Tel: +84-86-845-0395