

Essential for Today
Potential for Tomorrow

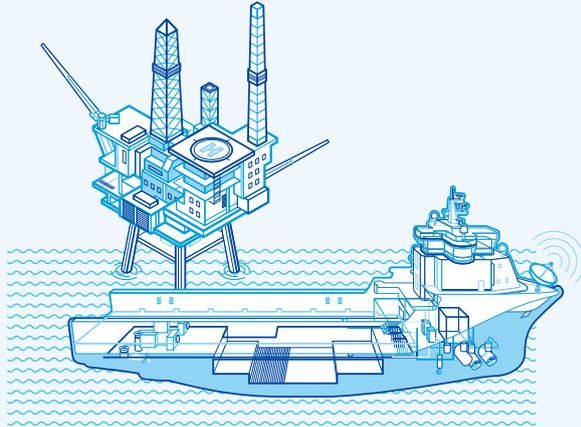
Miniature Circuit Breaker

HGD / HRC / HSD



Features

Applicable to various location



 **Marine**

• Approved marine certificate



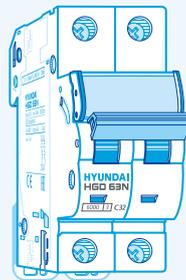
• Easy to remove, simple to install and repair with inscription window

 **Building**



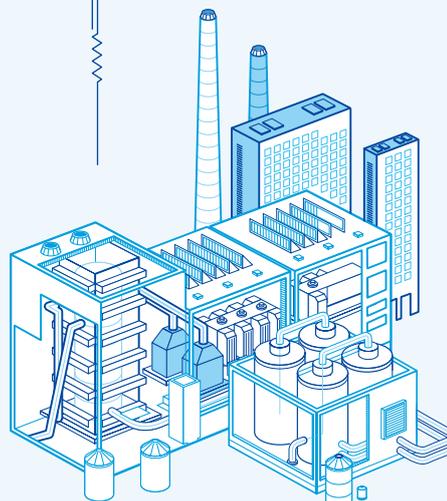
 **Residence**

Reliable short circuit capacity offering more stable and better protection to household electric appliances



 **Industry**

IEC60947-2 certified for industrial installation



Series features

HYUNDAI ELECTRIC New Miniature Series

To satisfy client requirement, HYUNDAI New Miniature Series are focused on safety, easy installation and user-friendliness with high reliability qualified by international test authorities based on IEC standards.



Inscription Window

Ensures circuit identification and hence reduces maintenance downtime



Safety Terminals

They guide the cable towards the cage terminal and avoid improper cable termination



Dual Termination

Two types of busbars can be used fork type and pin type



Large Cable Terminals

The terminals are suitable for cables up to 50mm² cross section area thus making it suitable for copper and aluminium cables

MCB

1. IEC60947-2 Certificated
2. Selectable AUX/ALT with knob
3. Available with enclosure (Option-IP40)

RCCB

1. Mid Trip
2. Advance Neutral
3. Conditional short circuit capacity 10kA

MSD

1. Longer Electrical Life
2. Low power consumption, thus cost effective energy saving



New Miniature Series

Recognized with IF Design Award 2016

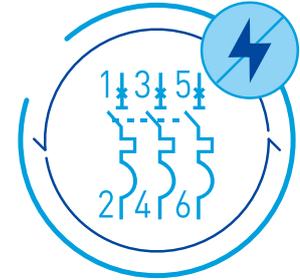
Description

Construction

Miniature Circuit Breakers have precisely formed moulded case & cover of flame retardant high strength thermoplastic material having high melting point, low water absorption, high dielectric strength and temperature withstand.

The Switching Mechanism is independent, manual and trip free, i.e., the breaker trips internally even if the operating knob is held in ON position.

The Contact Mechanism comprises of fixed & moving contacts specially designed for reliability, long life and anti-weld properties. The Arc Extinguishing Device comprises of 13 plates arc chute. The arc under the influence of the magnetic field and arc guide is moved into the arc chute where it is rapidly split and quenched. The tripping mechanism is Thermal Magnetic Type.



Thermal Operation

The thermal operation provides protection from moderate overloads.

Under overload condition, a thermo-metallic element (bimetallic strip) deflects until it operates a latching mechanism allowing the main contacts to open.

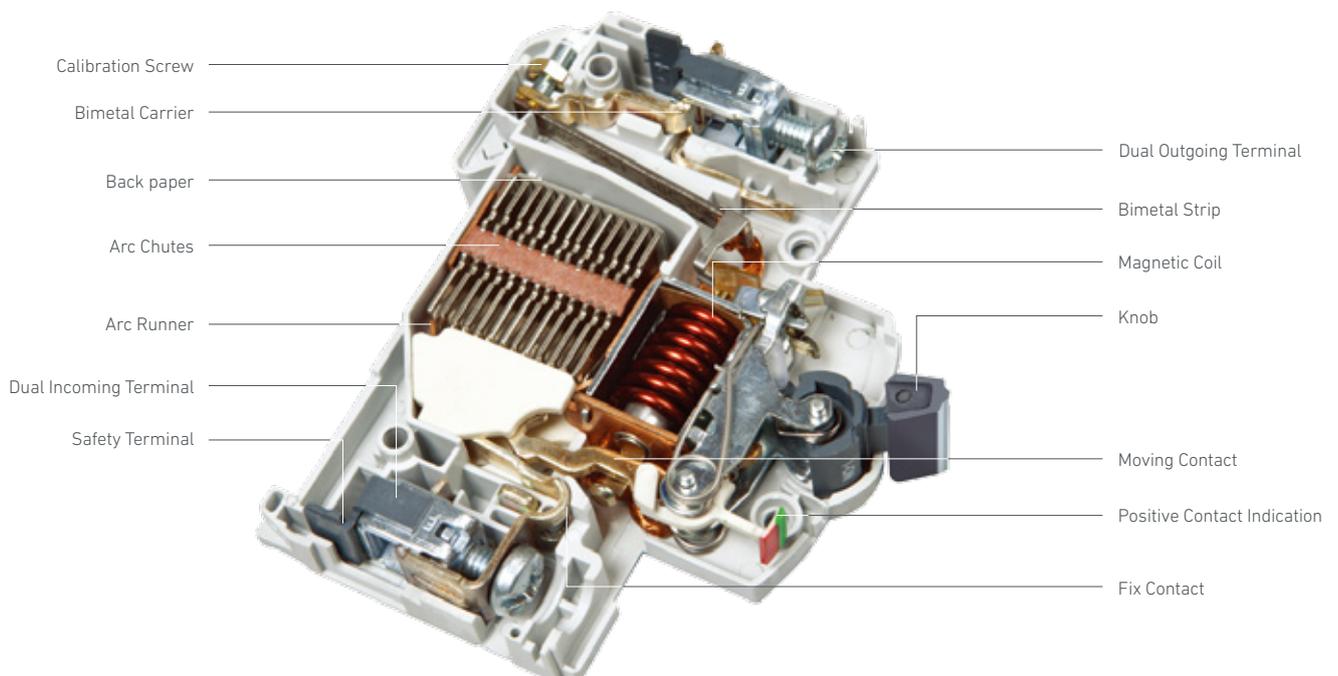


Magnetic Operation

In magnetic operation, large overloads or short circuit current actuates

a solenoid causing a plunger to strike the latching mechanism rapidly opening the main contacts.

Internal View



HGD

Miniature Circuit Breaker

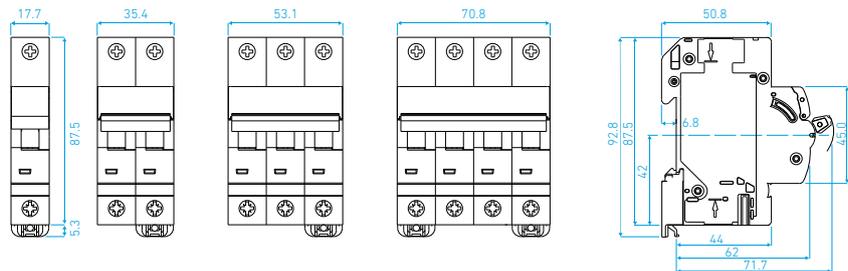


General Characteristics

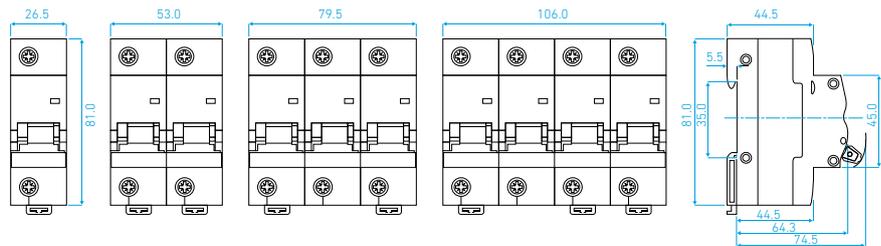
HYUNDAI ELECTRIC introduces the new HGD series of MCBs rating from 0.5A to 125A. The range offers a variety of feature benefits such as Uniform Breaking Capacity of 10kA across entire range in accordance with IEC/EN60898-1, IEC/EN60947-2, it also incorporates features like Inscription Window, Safety Terminal, Large Cable terminals, Bi stable Clip, Positive Contact Indication and Field fittable AUX,ALT,SHT,UVT,OVT.

Dimensions (mm)

- 63AF (HGD63N/H)



- 125AF (HGD125)



Technical Specification

| Model | 63AF, 6 kA HGD63N | 63AF, 10 kA HGD63H | 125AF, 10 kA HGD125 |
|---|--|--|--|
| Reference Standard | IEC/EN60898-1 | IEC/EN60898-1 ; IEC/EN60947-2 | IEC/EN60947-2 |
| No. of Poles | 1P, 1P+N, 2P, 3P, 3P+N, 4P | 1P, 1P+N, 2P, 3P, 3P+N, 4P | 1P, 2P, 3P, 4P |
| Rated Current (In) | 0.5, 1, 2, 3, 4, 5, 6, 10, 16, 20, 25, 32, 40, 50, 63 A | 0.5, 1, 2, 3, 4, 5, 6, 10, 16, 20, 25, 32, 40, 50, 63 A | 80A, 100A, 125 A |
| Rated Voltage (Ue) | 240/415 Vac | 240/415 Vac | 240/415 Vac |
| Rated Frequency (F) | 50/60 Hz | 50/60 Hz | 50/60 Hz |
| Rated Short Circuit Breaking Capacity | 6 kA (Ics = 100% Icn) | 10 kA (Ics = 75% Icn) | 10 kA (Rated Service Short Circuit Breaking Capacity ICS : 75% of Icu) |
| Magnetic Release Setting | (3-5)In - B Curve (5-10)In - C Curve (10-20)In - D Curve | (3-5)In - B Curve (5-10)In - C Curve (10-20)In - D Curve | (3-5)In - B Curve (5-10)In - C Curve (10-20)In - D Curve |
| Rated Insulation Voltage (Ui) | 500 V | 500 V | 690 V |
| Rated Impulse Voltage (Uimp) | 4 kV | 4 kV | 4 kV |
| Dielectric Strength | 2.5 kV | 2.5 kV | 2.5 kV |
| Electrical / Mechanical Endurance (no. of operations) minimum | 10,000/20,000 | 10,000/20,000 | 10,000/20,000 |
| Operating Temperature | -5° C to + 55° C | -5° C to + 55° C | -5° C to + 55° C |
| Humidity | 95% RH | 95% RH | 95% RH |
| Energy Limit Class | 3 | 3 | 3 |
| Terminal Capacity (max) | 35 mm ² | 35 mm ² | 50 mm ² |
| Tightening Torque | 2 N·m | 2 N·m | 2.5 N·m |
| Vibration | 3 g | 3 g | 3 g |
| Shock Resistance | 40 mm free fall | 40 mm free fall | 40 mm free fall |
| Protection Class | IP 20 | IP 20 | IP 20 |
| Positive Contact Indication | Red-ON, Green-OFF | Red-ON, Green-OFF | Red-ON, Green-OFF |
| Net Weight / Pole in kg | 0.125 kg | 0.125 kg | 0.150 kg |
| Dimensions (H x D x W) / Pole in mm | 87.5 x 71.7 x 17.7 mm | 87.5 x 71.7 x 17.7 mm | 81 x 74.5 x 26.5 mm |
| Mounting | Clip on DIN Rail (35 mm x 7.5 mm) | Clip on DIN Rail (35 mm x 7.5 mm) | Clip on DIN Rail (35 mm x 7.5 mm) |
| Installation Position | Vertical / Horizontal | Vertical / Horizontal | Vertical / Horizontal |
| Case & Cover | Moulded, flame-retardant thermoplastic material | Moulded, flame-retardant thermoplastic material | Moulded, flame-retardant thermoplastic material |
| Busbar Connections Top / Bottom Side | Pin / Fork Type | Pin / Fork Type | Pin Type |
| AUX / ALT / SHT / UVT / OVT | Yes | Yes | No |

HRC

Residual Current Circuit Breaker

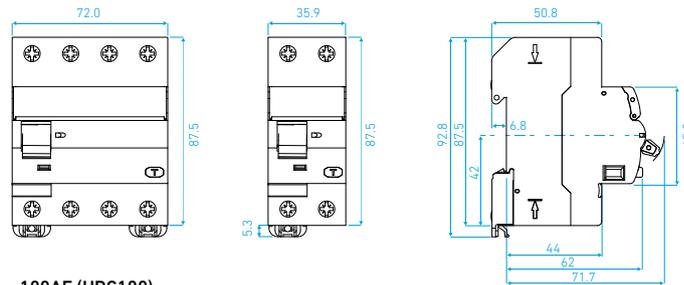


General Characteristics

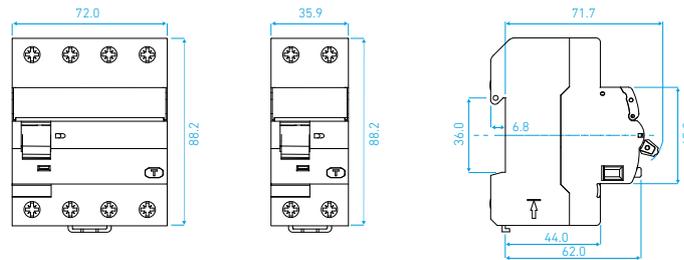
HYUNDAI ELECTRIC introduces the new HRC series of RCCBs rating from 16A to 100A. The range offers a variety of feature benefits such as Conditional Short Circuit Breaking Capacity of 10kA across entire range in accordance with IEC/EN61008-1, it also incorporates features like Mid Trip - Different Knob position to indicate whether the device is switched OFF manually, Inscription Window, Safety Terminal, Dual Termination, Positive Contact Indication, Field fittable Auxiliary Contacts, Test Button for Regular Inspection.

Dimensions (mm)

· 63AF (HRC63)



· 100AF (HRC100)

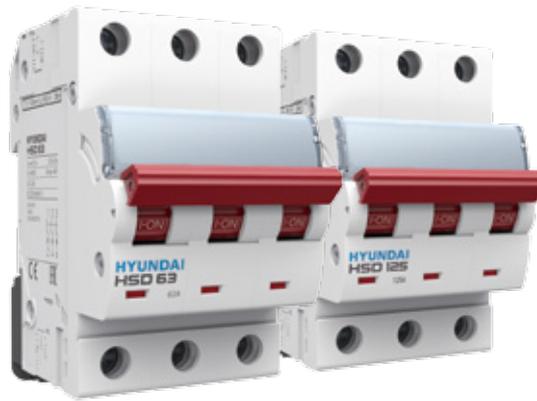


Technical Specification

| Model | 63AF, HRC63 | 100AF, HRC100 |
|---|---|---|
| Reference Standard | IEC/EN61008-1 | IEC/EN61008-1 |
| No. of Poles | 2P, 4P | 2P, 4P |
| Rated Current (In) | 16, 25, 32, 40, 63 A | 80, 100 A |
| Rated Voltage (Ue) | 240/415 Vac | 240/415 Vac |
| Rated Frequency (F) | 50/60 Hz | 50/60 Hz |
| Rated Short Circuit Breaking Capacity (Inc) | 10 kA | 10 kA |
| Rated Residual Operating Current (I _{Δn}) | 30, 100, 300, 500 | 30, 100, 300, 500 |
| Rated Making Breaking Capacity (Im) | 500 A or 10In whichever is greater | 10In |
| Operating Characteristics in presence of Residual Current with d.c components | 'A' Type & 'AC' Type | 'A' Type & 'AC' Type |
| Trip Time | 1I _{Δn} < 300ms, 5I _{Δn} < 40ms | 1I _{Δn} < 300ms, 5I _{Δn} < 40ms |
| Rated Insulation Voltage (Ui) | 500 V | 500 V |
| Rated Impulse Voltage (Uimp) | 4 kV | 4 kV |
| Dielectric Strength | 2.5 kV | 2.5 kV |
| Electrical / Mechanical Endurance (no. of operations) minimum | 10,000/20,000 | 10,000/20,000 |
| Operating Temperature | -25° C to + 55° C | -25° C to + 55° C |
| Humidity | 95% RH | 95% RH |
| Terminal Capacity (max) | 35 mm ² | 50 mm ² |
| Tightening Torque | 2 N·m | 2.5 N·m |
| Vibration | 3 g | 3 g |
| Shock Resistance | 40 mm free fall | 40 mm free fall |
| Protection Class | IP 20 | IP 20 |
| Positive Contact Indication | Red-ON, Green-OFF | Red-ON, Green-OFF |
| Net Weight in kg | 0.215 kg (for 2P) ; 0.335 kg (for 4P) | 0.230 kg (for 2P) ; 0.404 kg (for 4P) |
| Dimensions (H x D x W) / Pole in mm | 87.5 x 71.7 x 35.9 mm (for 2P) ; 87.5 x 71.7 x 72.0 mm (for 4P) | 88.2 x 71.7 x 35.9 mm (for 2P) ; 88.2 x 71.7 x 72.0 mm (for 4P) |
| Mounting | Clip on DIN Rail (35 mm x 7.5 mm) | Clip on DIN Rail (35 mm x 7.5 mm) |
| Installation Position | Vertical / Horizontal | Vertical / Horizontal |
| Case & Cover | Moulded, flame retardant thermoplastic material | Moulded, flame retardant thermoplastic material |
| Busbar Connections | Pin / Fork Type | Pin / Fork Type |
| Auxiliary Contacts | Yes | No |

HSD

Miniature Switch Disconnecter

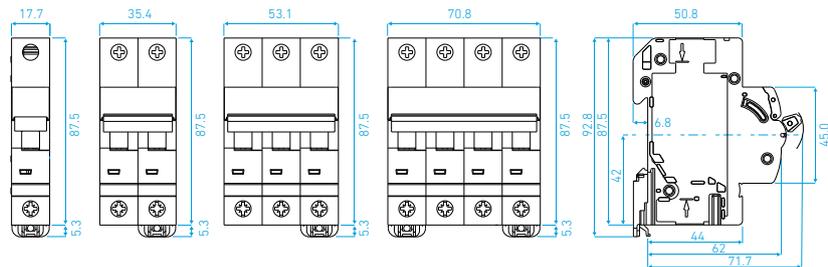


General Characteristics

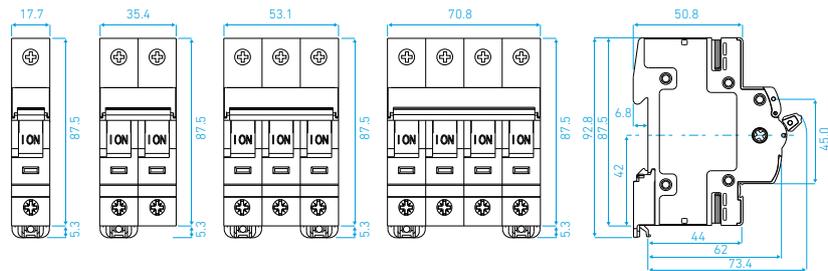
HYUNDAI ELECTRIC introduces the new HSD series of MSDs rating from 16A to 125A. They are switch disconnectors with independent manual operation, capable of making, carrying and breaking currents under normal circuit conditions, which may includes operating under overload condition and also carry currents under specified abnormal circuit conditions such as those of short circuit for a specified time.

Dimensions (mm)

· 63AF (HSD63)



· 125AF (HSD125)



Technical Specification

| Model | 63AF, HSD63 | 125AF, HSD125 |
|---|---|---|
| Reference Standard | IEC/EN60947-3 | IEC/EN60947-3 |
| No. of Poles | 1P, 2P, 3P, 4P | 1P, 2P, 3P, 4P |
| Utilization Category | AC22A | AC22A |
| Rated Current (In) | 16, 25, 32, 40, 63 A | 80, 100, 125 A |
| Rated Voltage (Ue) | 240/415 Vac | 240/415 Vac |
| Rated Frequency (F) | 50/60 Hz | 50/60 Hz |
| Rated Insulation Voltage (Ui) | 500 V | 500 V |
| Rated Impulse Voltage (Uimp) | 4 kV | 4 kV |
| Dielectric Strength | 2.5 kV | 2.5 kV |
| Electrical / Mechanical Endurance (no. of operations) minimum | 10,000/20,000 | 10,000/20,000 |
| Operating Temperature | -5° C to + 55° C | -5° C to + 55° C |
| Humidity | 95% RH | 95% RH |
| Terminal Capacity (max) | 35 mm ² | 50 mm ² |
| Tightening Torque | 2 N·m | 2.5 N·m |
| Vibration | 3 g | 3 g |
| Shock Resistance | 40 mm free fall | 40 mm free fall |
| Protection Class | IP 20 | IP 20 |
| Positive Contact Indication | Red-ON, Green-OFF | Red-ON, Green-OFF |
| Net Weight / Pole in kg | 0.090 kg | 0.079 kg |
| Dimensions (H x D x W) / Pole in mm | 87.5 x 71.7 x 17.7 mm | 87.5 x 73.4 x 17.7 mm |
| Mounting | Clip on DIN Rail (35 mm x 7.5 mm) | Clip on DIN Rail (35 mm x 7.5 mm) |
| Installation Position | Vertical / Horizontal | Vertical / Horizontal |
| Case & Cover | Moulded, flame retardant thermoplastic material | Moulded, flame retardant thermoplastic material |
| Busbar Connections | Pin / Fork Type | Pin / Fork Type |



KOREA

| | |
|--|--|
| Headquarter (Financial) | Hyundai Bldg, 75, Yulgok-ro, Jongno-gu, Seoul, Korea Tel: +82-2-746-7646 / Fax: +82-2-746-7441 |
| Sales & Marketing (Seongnam) | 5th Floor 55, Bundang-ro, Bundang-gu, Seongnam-si, Gyeonggi-do, Korea Tel: +82-31-8006-6786 / Fax: +82-31-8006-6898 |
| Main Factory (Ulsan) | 700, Bangeojinsunhwan-doro, Dong-gu, Ulsan, Korea Tel: +82-52-202-8114 / Fax: +82-52-202-8010 |
| Seonam Factory (Ulsan) | 223, Sapyong-ro, Nam-gu, Ulsan, Korea Tel: +82-52-202-8114 |
| R&D Center (Yongin) | 17-10, Mabuk-ro 240beon-gil, Mabuk-ro, Giheung-gu, Yongin-si, Korea Tel: +82-31-289-5114 / Fax: +82-31-289-5040 |

OVERSEAS

Branch Offices

| | |
|---------------------------------|--|
| U.S.A (Atlanta) | 6100 Atlantic Boulevard, 2nd FL., Norcross, GA30071, U.S.A Tel: +1-678-823-7839 / Fax: +1-678-823-7553 |
| Japan (Osaka) | 5th Floor Nagahori Plaza Bldg. 2-4-8 Minami Senba, Chuo-ku, Osaka 542-0081, Japan Tel: +81-6-6261-5766~7 / Fax: +81-6-6261-5818 |
| Saudi Arabia (Riyadh) | Office number 404, 4th floor, Akaria-3 building, Olaya street, P.O Box 8072, Riyadh, 11482, Kingdom of Saudi Arabia Tel: +966-11-464-4696, 9366 / Fax: +966-11-462-2352 |
| Russia (Moscow) | World Trade Center, Ent.3, #703, Krasnopresnenskaya Nab.12, Moscow, 123610, Russia Tel: +7-495-258-1381 |
| U.A.E (Dubai) | Unit 205, Emaar Square Building No.4 Sheikh Zayed Road, Dubai 252458, U.A.E Tel: +971-4-425-7995 / Fax: +971-4-425-7996 |
| Germany (Frankfurt) | Mendelssohn strabe 55-59 Frankfurt 60325, Germany Tel: +49-69-4699-4988 |
| Thailand (Bangkok) | 19th Floor, Unit 1908, Sathorn Square Office Tower, 98 North Sathorn Road, Silom, Bangrak, Bangkok 10500, Thailand Tel: +66-02-115-7920 / Fax: +66-2-115-7898 |

Subsidiaries

| | |
|-----------------------------|--|
| U.S.A (Alabama) | Inc., 215 Folmar Parkway, Montgomery, AL 36105, U.S.A. Tel: +1-334-481-2000 / Fax: +1-334-481-2098 |
| Bulgaria (Sofia) | 41, Rojen Blvd., 1271 Sofia, Bulgaria Tel: +359-2-803-3200, 3210, 3220 / Fax: +359-2-803-3203, 3242 |
| China (Yangzhong) | No.9, Xiandai Road, Xinba Scientific and Technologic Zone, Yangzhong, Jiangsu, P.R.C. Zip:212212, China Tel: +86-511-8842-0666, 0500 / Fax: +86-511-8842-0668, 0231 |
| India (Anantapur) | 5-289-4, Near Aimuktheeshwara Temple, Penukonda Mandal, Penukonda, Anantapur Dist, Andhrapradesh-515110, India Tel: +91-93982-5137 |

R&D Centers

| | |
|--------------------------------|---|
| Hungary (Budapest) | Hyundai Technologies Center Hungary Ltd., 1146, Budapest, Hermina ut 22, Hungary Tel: +36-1-273-3733 / Fax: +36-1-220-6708 |
| China (Shanghai) | Room 10102, Building 10, No.498, Guoshoujing Road, Pudong, Shanghai, China Tel: +86-21-5013-3393 #108 / Fax: +86-21-5013-3393 #105 |
| Switzerland (Zurich) | Hardturmstrasse 135, CH-8005, Zurich, Switzerland Tel: +41-44-527-0-56 |