

# HYUNDAI ELECTRIC DC MCCB (HGP)



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- 1,500Vdc up to 800AF
- 1,000Vdc up to 800AF

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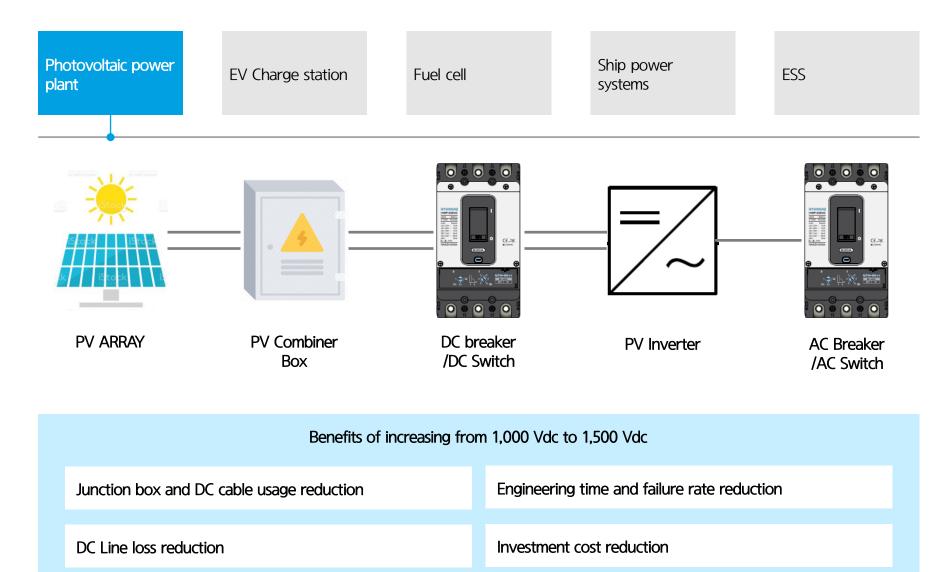
- Electrical accessories
- Mechanical accessories

Certificate

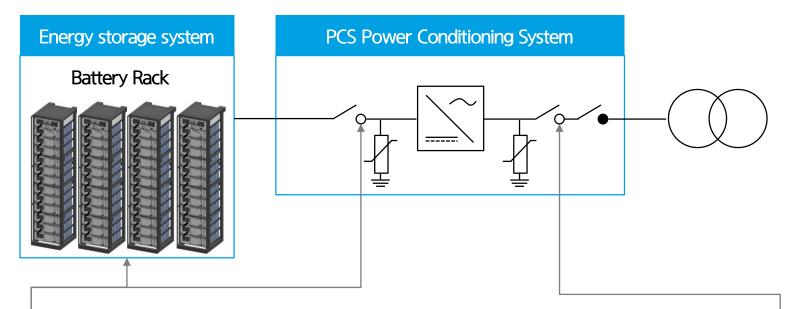


# Application

### Examples of photovoltaic application



### Application Examples of ESS application





#### Battery side / DC main disconnector

- DC Breaker / switch disconnector with Fuse
- Voltage : Up to 1,500 Vdc
- Duty: load break and short-circuit fault level/withstand rating

#### AC Side

- Voltage : Up to 690 Vac
- Protection device : MCCB/ACB/Fusible switches
- Duty: load break



# Main Feature

Features



Maximize insulation performance	<ul> <li>Insulation voltage Ui : 1,000V</li> <li>k Impulse withstand : 8kV</li> </ul>
High breaking capacity	100kA at 1,000Vdc
Adjustable type of rated current of all frames	
IEC Standards and certifications	<ul> <li>IEC 60947-2 CB certification</li> <li>IEC 60947-2 Annex. P CB certification</li> <li>(HGP100/160/250)</li> </ul>

### Main Feature Product Range - 1,000/1,500Vdc up to 800AF







			HG	P <b>160</b>			HG	P250			HG	P <b>400</b>			HG	P600			HG	P800		
Frame		AF				160				250				400				630				800
Poles		Nr				3,4				3,4				3,4				3,4				3,4
Rated service	<b>Ue</b> / 3P in series	Vdc				750				750				750				750				750
Voltage	4P in series	Vdc		1,00	00/1,	500		1,0	00/1	,500		1,0	00/1,	500		1,0	00/1,	500			1,	000
Rated impulse withstand voltage	Uimp	kV				8				8				8				8				8
Rated insulation voltage	Ui	V			1,	,000			1	,000			1,	,000			1,	000			1,	,000
Rated ultimate short circuit breaking capacity	lcu	kA	F 10	S 55	H 85	X 100	F 10	S 55	H 85	X 100	F 10	S 55	H 85	X 100	F 10	S 55	H 85	X 100	F 10	S 55	H 85	X 100
Utilization category(IEC 60947-2)						А				А				А				А				А
Trip unit	T adjustable			0.7 ~	0.4	x In		0.7 ~	0.4	x In		0.7 ~	0.4	x In		0.7 ~	<sup>,</sup> 0.4	x In		0.7 ~	<sup>,</sup> 0.4	x In
	M adjustable			5 ~	~ 10	x In		5 ~	~ 10	x In		5 ~	~ 10	x In		5 -	~ 10	x In		5 ·	~ 10	x In

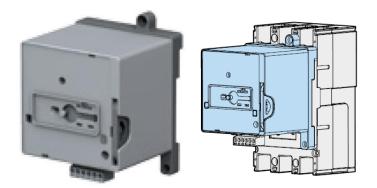
# Accessories

Electrical Accessories

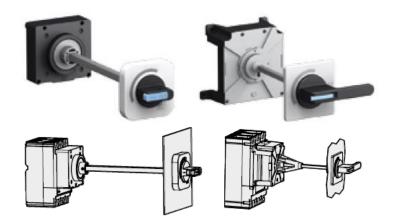
Auxiliary Contact	<ul> <li>Indicates the ON/OFF status of the circuit breaker contact</li> <li>Status is OFF during TRIP</li> <li>Comprised of C contact</li> </ul>	
Trip Alarm Switch (ALT)	<ul> <li>Only activated when the circuit breaker has tripped due to an overload, short circuit or operation of shut trip switch</li> <li>Returns to original state when breaker has been reset</li> <li>Comprised of C contact</li> </ul>	
SHT /UVT	<ul> <li>Shunt trip device (SHT) is a device that remotely trips the circuit breaker by applying voltage to both terminals of the coil</li> <li>In case the circuit voltage drops to less than 35 % of the rated voltage(Un), UVT automatically initiates a trip in the circuit breaker to prevent damage to the load</li> </ul>	

### Accessories Mechanical Accessories

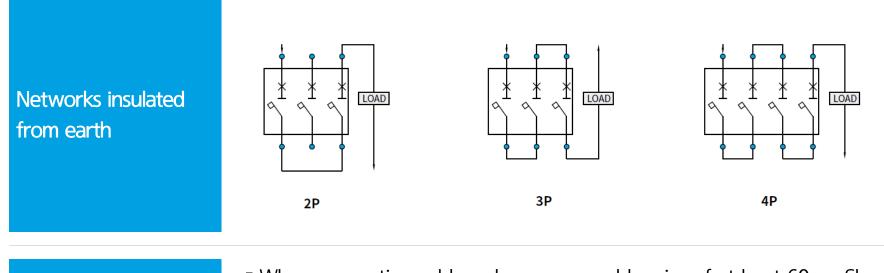
Motor Operator  This device is used for turning the circuit breaker ON/OFF in remote position



Extended Rotary Handle  It is suitable if the distance between the circuit breaker and the panel door is long. The handle is installed to the door of the panel and there is no trip-button function



### Accessories Connection diagrams valid



Connection

- When connecting cables, please use a cable wire of at least 60cm. Short cable length may cause excessive heating of the product.
- Failure to comply with the conditions above may result in damage to the product and system
- After connecting the busbar or cable, insert a barrier between the phases that are not commoned

# Certificates

IEC standards

# IEC 60947-2 and Annex. P CB certification by DEKRA Annex P : DC circuit-breakers for use in photovoltaic (PV) applications

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SYSTEM FOR MUTUAL RECOGNIT EE) OB SCHEME	ION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT		NL.59974		
TEST CERTIFICATE		C SYSTEM FOR MUTUAL RECOGNITION OF TEST ( ECEE) CB SCHEME	CERTIFICATES FOR ELECTRICAL EQUIPMENT		DEKRA
4	Moulded-Case Circuit-Breaker				
ed address of the applicant	Hyunda Electric & Energy Systems Co., Ltd. 75, Yulgokna, Jongtoo gu, Seoul Karea, Republic of	tillional factory		ANNEX TO CB TEST CERTIFICATE	NL- 59974 page 1 of 3
nd address of the manufacturer	Hyundai Elachic & Energy Systems Co., Ltd. 75, Yulipik-ra, Jorgno gu, Secul Korna, Republic af	undai Electric & Energy Systems Co., Ltd. 3. Sapyoung-ro. Nent-gu. Uban rea. Republic of	HYUNDAY HEAVY INDUSTRES (CHINA) ELECTRICS CO., LTD. Xinba Scientific and Technologic Zone, Yangzhong, Jangsu China	Ratings: Number of poles Rated operational voltage (Ue)	: 3P (use as 3P and 2P) and 4P : 1000 Vdc for 4P, 750 Vdc for 3P, 500 Vdc for 3P (use two poles)
d address of the factory	E Additional information on page 2	Pau, Pepublic of	CHI	Rated insulation voltage (Ui) Rated impulse withstand voltage	: 1000 V : 8 kV
n man fan ans leiting plane spot ar page 2	Hyunda Dischrie & Everge Systems Co. Ltd. 700, Bangeojinsunhwan-doro, Dong-gu, Ulsan Koma, Regulatio d			(Uimp) Conventional thermal current (Ith) Current rating for four-pole circuit-	Equal to In Equal to In
and principal characteristics	Circ 1000 Vice the xP, 2500 Vice the XP, 2000 Vice the XP and XP, 2000 A           VI: 1000 V. Vice the XP, 2000 A           In: 1000 V. Vice the XP, 2000 A           In: 1000 V. Vice the XP, 2000 A           Text AND A           In: 1000 V. Vice the XP, 2000 Vice the XP, 2000 A           Text AND Vice TAX A           In: 400 A           In: 400 A           In: 400 A           In: 400 Vice TAX A           In: 400 Vice TAX Vice TAX Vice TAXA           In: 400 A           In: 400 Vice TAXA           In: 400 A           In: 400 A           In: 400 A           In: 400 Vice TAXA           In: 400 A           In: 400 A			breakers Rates devices short-circuit breaking capacity (ics) Suitable for isolation Selectly by category Bellowing (breaker) Reference temperature Method of mounting EUC environment	: 100% lou : Suitable: : A : Up / Dours: 50 mm, : Left / Right 25 mm, : Front / Sack: 0 mm : 40 °C : Fload : A Nm : A Nm
ark (Farry)	HYUNDAL			Tightening torque for terminals LineToad terminal	: Immaterial
er's Testing Facility (CTF) Stage used				Connection Inverse time delay release Time setting of the inverse time delay release	<ul> <li>Prepared copper conductor (cable with lug)</li> <li>ir. 0,7 ln, 0,8 in, 0,9 in, 1 in or fixed</li> <li>Fixed, trip time at 2 ir: 60 s ≤ t ≤ 600 s</li> </ul>
Type Ref.	HGP 100 F, HGP 100 S, HGP 100 H, HGP 100 X, HGP 100 F, HGP 100 S, HGP 160 H, HGP 160 X, HGP 250 F, HGP 250 S, HGP 250 H, HGP 250 X				: Ii: 10 in, fixed for 40 – 80 A Ii: 5 in, 6 in, 7 in, 8 in, 9 in, 10 in or fixed for 100 - 250 A
nal information (if necessary may also be d on page 2)	Additional information on page 2			Product rating - HGP 250 F	
e of the product was tested and found conformity with	EC 60547-22016			Rated operational voltage (Ue) Rated service short-circuit breaking capacity (Ics)	: 1000 Vdc for 4P, 750 Vdc for 3P, 500 Vdc for 3P (use two poles : 100% lcu
n in the Test Report Ref. No. which at of this Certificate	33158637.50			Rated ultimate short-circuit breaking capacity (lcu) Rated current (ln)	<ul> <li>10 kA at 500 Vdc / 750 Vdc / 1000 Vdc</li> <li>40 A, 50 A, 63 A, 80 A, 100 A, 125 A, 150 A, 160 A, 175 A, 200 A, 225 A, 250 A</li> </ul>
				Product rating - HGP 250 S Rated operational votage (Ue)	: 1000 Vdc for 4P, 750 Vdc for 3P, 500 Vdc for 3P (use two poles)
Test Certificate is issued by the National Ce				capacity (ics) Rated ultimate short-circuit	: 100% lcu : 40 kA at 500 Vdc / 750 Vdc /1000 Vdc
Certification B.V. 1951, NL-8825 MJ Amhem, Netherlands	DEKRA	a CB Test Cariffords is second by the National Cariffordian Body		breaking capacity (lou) Rated current (ln)	: 40 A, 50 A, 63 A, 80 A, 100 A, 125 A, 150 A, 180 A, 175 A, 200 A, 225 A, 250 A
	Constant of Chinang	NRA Castilication B.V. sander 1051, NL-8825 MJ Arrhem, Netherlands			
9702	Signature > 5. Strokerda		~		