HISbox®

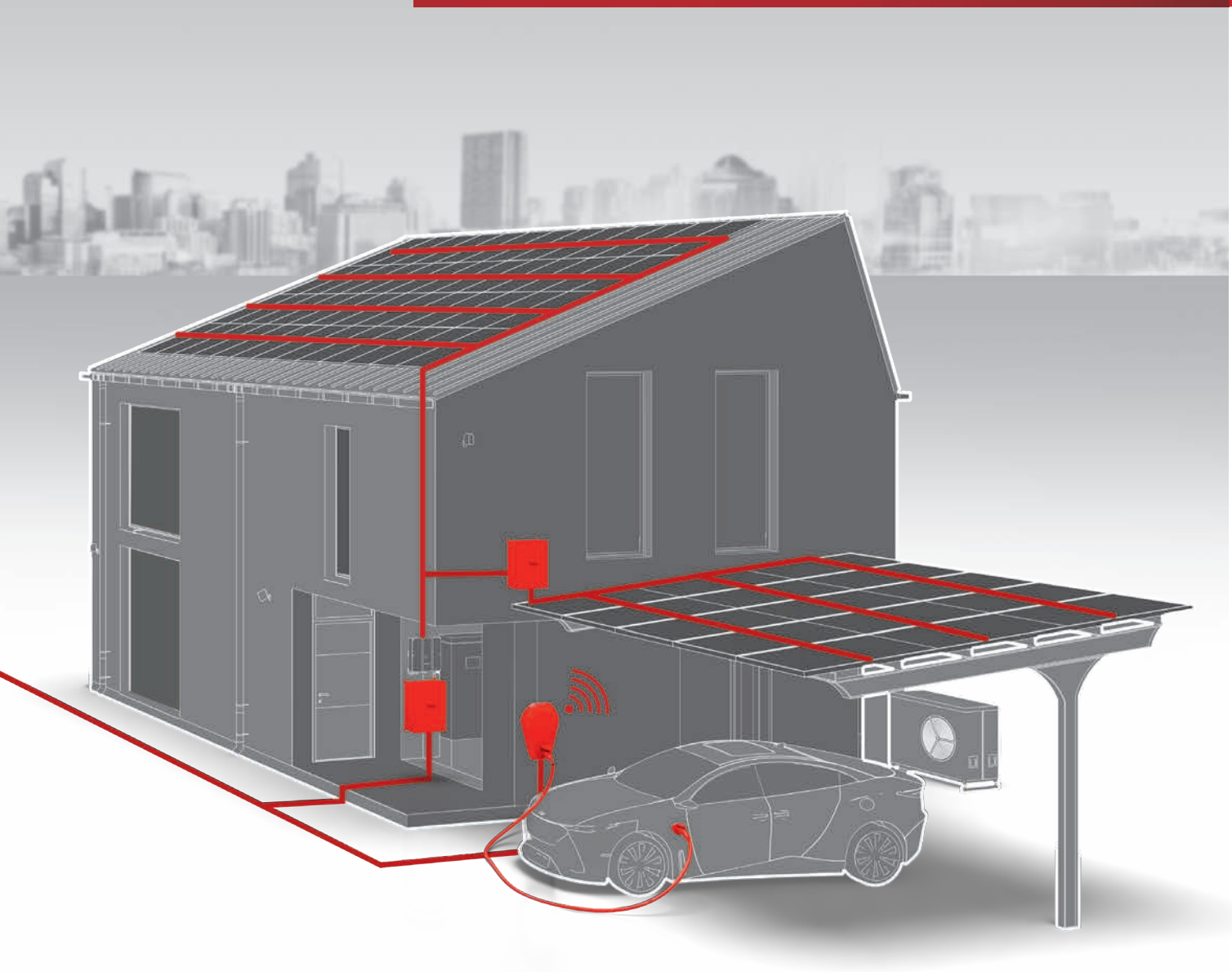
DC/AC string boxes

part of HIS CONNECT®

HISBOX®
STRING COMBINER

2023/2024

RESIDENTIAL

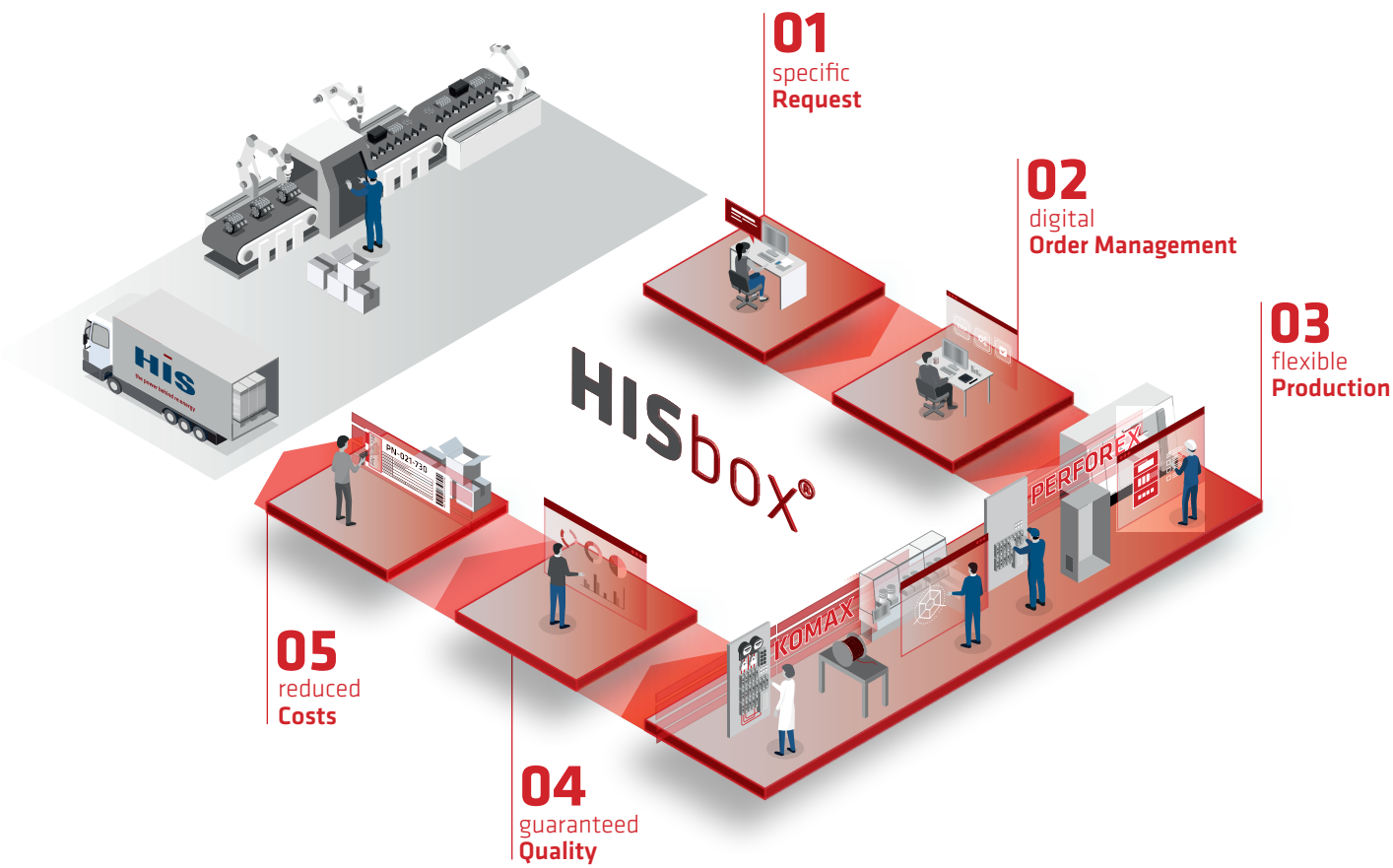


HIS

the power behind re:energy

DESIGNED WITH HIGH QUALITY COMPONENTS
TESTED FOR HIGH RETURN ON INVESTMENT.

ENGINEERING – TESTING – PRODUCTION



QUALITY & TESTING

Engineering, manufacturing and testing under one roof. Additional testing for special requirements.

EASY TO INSTALL

Well thought out. Ready to use. Including necessary accessories to make installation safe, simple and quick.

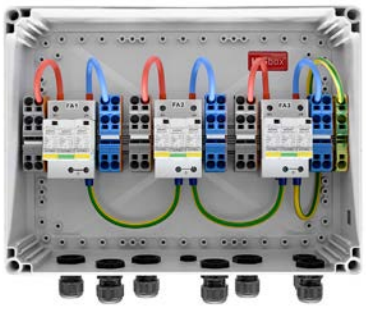
COST OPTIMIZED CONCEPTS

Smart design to save costs (CapEx) helps to avoid extensive work during installation and operations (OpEX)

PRODUCT OVERVIEW

PROTECT YOUR SOLAR INVESTMENT
WITH OVERVOLTAGE PROTECTION BOXES

Our advanced overvoltage protection boxes are essential for safeguarding your residential photovoltaic (PV) system from damaging electrical surges. These devices ensure your solar panels, inverters, and other components remain safe and efficient. By preventing surges caused by lightning, grid issues, or system fluctuations, they extend the lifespan of your solar equipment, maintain reliable power generation, and save you from costly repairs. Built to withstand harsh weather, our protection boxes are easy to install and compliant with industry safety standards. Invest in peace of mind and uninterrupted power with our state-of-the-art overvoltage protection solutions for your home.



HIS ARTICLE CODE

HDC-AA-BB-CCC-DDX-YYYY

Product Category

Main components

00 Combiner
01 SPD Type 2
02 SPD Type 1+2
03 SPD Type 2; Load Break Switch
04 SPD Type 1+2; Load Break Switch
05 SPD Type 2; Load Break Switch, undervoltage release
06 SPD Typ 1+2; Load Break Switch undervoltage release
07 Load Break Switch
08 Load Break Switch undervoltage release
30 DC MCB
31 DC MCB; SPD Type 2
32 DC MCB; SPD Type 1+2
33 DC MCB shunt release
34 DC MCB shunt release; SPD Type 2
35 DC MCB shunt release; SPD Type 1+2

Input Strings per MPPT

01
02
03
04
05
06

Purchase number

E01
E02
E03
E04
E05
E06
E07
E08
E09
E10
E11
E12

Amount of MPPT

01
02
03
04
05
06
07
08
09
10
11
12

Output Strings per MPPT

01
02
03
04
05
06

Connection Type

FFM	Fuse/Fuse - Multi Sealing Glands
FFG	Fuse/Fuse - Single Sealing Glands
FFC	Fuse/Fuse - PV Connectors
FFL	Fuse/Fuse - PV Flying Leads
FTM	Fuse/Terminal - Multi Sealing Glands
FTG	Fuse/Terminal - Single Sealing Glands
FTC	Fuse/Terminal - PV Connectors
FTL	Fuse/Terminal - PV Flying Leads
TTM	Terminal/Terminal - Multi Sealing Glands
TTG	Terminal/Terminal - Single Sealing Glands
TTC	Terminal/Terminal - PV Connectors
TTL	Terminal/Terminal - PV Flying Leads

HISBOX® 1000V DC RESIDENTIAL

Our Basic Series overvoltage protection boxes offer essential protection for residential photovoltaic (PV) systems. Designed with simplicity and cost-effectiveness in mind, these boxes feature cable glands for PV inputs and outputs, ensuring reliable surge protection at an affordable price. Ideal for straightforward installations, the Basic Series provides robust defense against electrical surges caused by lightning, grid issues, and system fluctuations. By choosing the Basic Series, PV installers can provide their clients with essential safety and longevity for their solar investments while keeping costs down. These boxes are easy to install and maintain, making them perfect for projects requiring basic yet dependable protection.

HISBOX® 1000V DC RESIDENTIAL

Electrical Characteristics	
Rated Voltage (Un)	1000 V DC
Rated Insulation Voltage (Ui)	1000 V DC
Max. Rated Current per String (InC)	30 A
Max. rated current (InA)	60 A
Protection Devices	
Overvoltage Protection	Type 2 or Type 1+2 (remote signalling upon request)
Fuse Links	10x38mm gPV Fuses (optional)
Load Break Switch	1000 V DC, per MPPT (optional) (auxiliary status contact upon request)
Accessory	230V AC, undervoltage release function for Fireman switch applications (optional)
Inputs	
MPPTs	1 to 12
Strings per MPPT	1 to 6
Output	
Strings per MPPT	1 to 6
Grounding	Functional earth connection terminal
Cable Connections	
DC Input	Cable feedthrough cable glands; modular connection system: optionally with PV-connectors
DC Output	Cable feedthrough cable glands; modular connection system: optionally with PV-connectors
PE - Grounding	Cable feedthrough cable gland
Enclosure	
Material	GRP (Glassfibre reinforced polyester) or Polycarbonate
Enclosure Lid	Opaque (RAL7035) or transparent
Ingress Protection	IP54 (up to IP65)
Protection Class	II (Total Insulation)
Mounting	Direct wall mounting or wall mounting brackets
Anti-condensation	Venting (pressure compensation) valve included
Impact Resistance	IK08
UV Resistance	Yes
Operation and Enviromental Conditions	
Ambient Temperature	-20 °C up to max. +55°C (derating factor applies)
Installation	Indoor and Outdoor, shaded (protected from rain and direct sunlight, installation manual applies)
Altitude Above Sea Level (MLS)	Standard 2000m above, max. 4000m (derating factor applies)
Relative Humidity	Indoor: max. 50% at +40°C, max. 90% at +20°C (not condensating) Outdoor application: temporarily up to 95% at +25°C (not condensating)
Approvals	
Standard	EN 61439-2, IEC 61439-2

HDC-02-01-TTG-011-E01

Electrical Characteristics	
Rated Voltage (Un)	1000 V DC
Max. Rated Current per String (InC)	30 A
Max. Rated Current (InA)	30 A
Protection Devices	
Overvoltage Protection	Type 1+2
MPPTs	1
Inputs	
Strings per MPPT	2
Output	
Strings per MPPT	2
Grounding	Functional earth connection terminal
Cable Connections	
DC Input	Single sealing cable glands, M16 (Ø 4.5 - 10 mm)
DC Output	Single sealing cable glands, M16 (Ø 4.5 - 10 mm)
PE - Grounding	Single sealing cable gland, M20 (Ø 6 - 13 mm)
Enclosure	
Material	Reinforced polycarbonate with mounting brackets and ventilation valve
Dimensions	180 mm (H) x 254 mm (W) x 111 mm (D)

HDC-02-01-TTG-012-E01

Electrical Characteristics	
Rated Voltage (Un)	1000 V DC
Max. Rated Current per String (InC)	30 A
Max. Rated Current (InA)	30 A
Protection Devices	
Overvoltage Protection	Type 1+2
MPPTs	2
Inputs	
Strings per MPPT	2
Output	
Strings per MPPT	2
Grounding	Functional earth connection terminal
Cable Connections	
DC Input	Single sealing cable glands, M16 (Ø 4.5 - 10 mm)
DC Output	Single sealing cable glands, M16 (Ø 4.5 - 10 mm)
PE - Grounding	Single sealing cable gland, M20 (Ø 6 - 13 mm)
Enclosure	
Material	Reinforced polycarbonate with mounting brackets and ventilation valve
Dimensions	180 mm (H) x 254 mm (W) x 111 mm (D)

HDC-02-02-TTG-013-E01

Electrical Characteristics	
Rated Voltage (Un)	1000 V DC
Max. Rated Current per String (InC)	15 A
Max. Rated Current (InA)	30 A
Protection Devices	
Overvoltage Protection	Type 1+2
MPPTs	3
Inputs	
Strings per MPPT	2
Output	
Strings per MPPT	1
Grounding	Functional earth connection terminal
Cable Connections	
DC Input	Multiple sealing cable glands, (Ø 5 - 7 mm)
DC Output	Multiple sealing cable glands, (Ø 5 - 7 mm)
PE - Grounding	Single sealing cable gland, M20 (Ø 6 - 13 mm)
Enclosure	
Material	Reinforced polycarbonate with mounting brackets and ventilation valve
Dimensions	300 mm (H) x 400 mm (W) x 132 mm (D)

HISBOX® 1000V DC RESIDENTIAL OVERVIEW

Inverter Manufacturer / Inverter Type	Order no.	Amount MPPT	Amount Ingoing MPPT	Amount Outgoing MPPT	Fuses	SPD	DC Switch
SMA Sunny Boy 1.52.5	HDC-02-02-TTG-011-E01	1	2	1	-	Typ 1+2	-
SMA Sunny Boy 3.0 / 3.6 / 4.0 / 5.0	HDC-02-02-TTG-012-E01	2	2	1	-	Typ 1+2	-
	HDC-02-02-TTG-022-E01	2	2	2	-		-
	HDC-02-02-TTG-012-E01	2	2	1	✓		-
	HDC-02-02-TTG-022-E01	2	2	2	✓		-
SMA STP Tripower 5000-12000TL	HDC-02-02-TTG-012-E01	2	2	1	-	Typ 1+2	-
	HDC-02-02-TTG-022-E01	2	2	2	-		-
	HDC-02-02-FFG-012-E01	2	2	1	✓		-
	HDC-02-02-FFG-022-E01	2	2	2	✓		-
SMA STP Tripower 15000-25000TL	HDC-02-03-FFG-012-E01	2	3	1	✓	Typ 1+2	-
	HDC-02-03-FFG-032-E01	2	3	3	✓		✓
SMA Sunny Tripower 60	HDC-02-01-TTG-011-E01	1	1	1	-	Typ 1+2	-
	HDC-04-12-FFM-011-E01	1	12	1	✓		✓
SMA Sunny Tripower Core 1	HDC-02-02-TTM-016-E01	6	2	1	-	Typ 1+2	-
	HDC-02-02-TTM-026-E01	6	2	2	-		-
	HDC-02-02-FFM-016-E01	6	2	1	✓		-
	HDC-02-02-FFM-026-E01	6	2	2	✓		-

Inverter Manufacturer / Inverter Type	Order no.	Amount MPPT	Amount Ingoing MPPT	Amount Outgoing MPPT	Fuses	SPD	DC Switch
Solaredge SE5k / SE10K	HDC-02-02-TTG-011-E01	1	2	1	-	Typ 1+2	-
	HDC-02-02-FFG-011-E01	1	2	1	✓		-
Solaredge SE25K / SE27.6K	HDC-02-02-TTG-021-E01	1	2	2	-	Typ 1+2	-
	HDC-02-02-FFG-021-E01	1	2	2	✓		-
	HDC-02-03-FFG-031-E01	1	3	3	✓		-
	HDC-04-03-FFG-031-E01	1	3	3	✓		✓

Inverter Manufacturer / Inverter Type	Order no.	Amount MPPT	Amount Ingoing MPPT	Amount Outgoing MPPT	Fuses	SPD	DC Switch
Huawei SUN2000-8KTL	HDC-02-02-TTG-012-E01	2	2	1	-	Typ 1+2	-
	HDC-02-02-TTG-022-E01	2	2	2	-		-
	HDC-02-02-FFG-012-E01	2	2	1	✓		-
	HDC-02-02-FFG-022-E01	2	2	2	✓		-
Huawei SUN2000-17KTL / 20	HDC-02-02-TTM-013-E01	3	2	1	-	Typ 1+2	-
	HDC-02-02-TTM-023-E01	3	2	2	-		-
	HDC-02-02-FFM-013-E01	3	2	1	✓		-
	HDC-02-02-FFM-023-E01	3	2	2	✓		-
Huawei SUN2000-33KTL / 36KTL	HDC-02-02-TTM-014-E01	4	2	1	-	Typ 1+2	-
	HDC-02-02-TTM-024-E01	4	2	2	-		-
	HDC-02-02-FFM-014-E01	4	2	1	✓		-
	HDC-02-02-FFM-024-E01	4	2	2	✓		-
Huawei SUN2000-60KTL-HV-D1-001	HDC-02-02-TTM-014-E01	4	2	1	-	Typ 1+2	-
	HDC-02-02-TTM-024-E01	4	2	2	-		-
	HDC-02-02-FFM-014-E01	4	2	1	✓		-
	HDC-02-02-FFM-024-E01	4	2	2	✓		-
Huawei SUN2000-60KTK-M0	HDC-02-02-TTM-016-E01	6	2	1	-	Typ 1+2	-
	HDC-02-02-TTM-026-E01	6	2	2	-		-
	HDC-02-02-FFM-016-E01	6	2	1	✓		-
	HDC-02-02-FFM-026-E01	6	2	2	✓		-

		MPPT	Ingoing MPPT	Outgoing MPPT			
Sungrow SG10KTL-M / SG12KTL-M	HDC-02-02-TTG-011-E01	1	2	1	-	Typ 1+2	-
Sungrow SG36KTL-M	HDC-02-03-FFM-013-E01	3	3	1	✓	Typ 1+2	-
	HDC-02-03-FFM-033-E01	3	3	3	✓		-
Sungrow SG60KTL	HDC-04-16-FFM-011-E01	1	16	1	✓	Typ 1+2	✓

Inverter Manufacturer / Inverter Type	Order no.	Amount MPPT	Amount Ingoing MPPT	Amount Outgoing MPPT	Fuses	SPD	DC Switch
Fronius Symo 3.0-3-M / 3.7.3-M / 4.5-3-M	HDC-02-02-TTG-022-E01	2	2	2	-	Typ 1+2	-
Fronius Symo 3.0-3-S / 3.7.3-S / 4.5-3-S	HDC-02-03-FFG-031-E01	1	3	3	✓	Typ 1+2	-
Fronius Symo 10.0-3-M / 10.0-3-M-OS / 12.5-3-M	HDC-02-03-FFG-032-E01	2	3	3	✓	Typ 1+2	-
Fronius Eco 25.0-3-S / 27.0-3-S	HDC-02-06-FFM-061-E01	1	6	6	✓	Typ 1+2	-

HISBOX® 1000V DC RESIDENTIAL PLUG-AND-PLAY

For enhanced convenience and efficiency, our Flying Leads Series over-voltage protection boxes are the perfect solution. Featuring plug-and-play prewired connectors, these boxes simplify the installation process, significantly reducing site work and associated labor costs. The Flying Leads Series offers the same high level of surge protection as our Basic Series but with added ease of use and quicker setup. This makes them ideal for more complex or larger PV systems where efficiency and minimal downtime are crucial. By using the Flying Leads Series, PV installers can deliver advanced protection with streamlined installation, ultimately reducing overall project time and enhancing client satisfaction with a reliable, high-quality solution.

HISBOX® 1000V DC RESIDENTIAL PLUG-AND-PLAY

Easy Plug Combiner from HIS Renewables allow you a quick and easy installation on the construction site. Thanks to the pre-assembled HIKRA® solar cable and matching PV-connectors to the inverter, you have an industrially manufactured plug-and-play solution with the lowest possible contact resistances.

Inverter Manufacturer / Inverter Type	Order no.	Amount MPPT	Amount Ingoing MPPT	Amount Outgoing MPPT
Huawei SUN2000-17KTL / 20	HDC-02-02-TTL1-013-E01	3	2	1
Huawei SUN2000-33KTL / 36KTL	HDC-02-02-TTL1-014-E01	4	2	1
Huawei SUN2000-60KTL-HV-D1-001	HDC-02-02-TTL1-016-E01	6	2	1
Huawei SUN2000-100KTL-M1	HDC-02-02-TTL1-110-E01	10	2	1

Your advantages:

— More quality: simple and safe installation due to completely ready-to-connect combiner boxes
— Cost reduction: Through industrial production including fully automated cable production
— Sure your yield through long-lasting protective devices
— Flexible splitter concept to meet your requirements
— Work in compliance with standards and always use the right connector and cross-connections thanks to HIS flexibility

HUAWEI

HISBOX® 1000V DC RESIDENTIAL PLUG-AND-PLAY

Electrical Characteristics	
Rated Voltage (Un)	1000 V DC
Rated Insulation Voltage (Ui)	1000 V DC
Max. Rated Current per String (InC)	30 A
Max. rated current (InA)	60 A
Protection Devices	
Overvoltage Protection	Type 2 or Type 1+2 (remote signalling upon request)
Fuse Links	10x38 mm gPV Fuses (optional)
Load Break Switch	1000 V DC, per MPPT (optional) (auxiliary status contact upon request)
Accessory	230 V AC, undervoltage release function for Fireman switch applications (optional)
Inputs	
MPPTs	1 to 12
Strings per MPPT	1 to 6
Output	
Strings per MPPT	1 to 6
Grounding	Functional earth connection terminal
Cable Connections	
DC Input	Cable feedthrough cable glands; modular connection system: optionally with PV-connectors or MC4 Flying leads (15 cm)
DC Output	Cable feedthrough cable glands; modular connection system: optionally with PV-connectors or MC4 Flying leads (120 cm)
PE - Grounding	Cable feedthrough cable gland
Enclosure	
Material	GRP (Glassfibre reinforced polyester) or Polycarbonate
Enclosure Lid	Opaque (RAL7035) or transparent
Ingress Protection	IP54 (up to IP65)
Protection Class	II (Total Insulation)
Mounting	Direct wall mounting or wall mounting brackets
Anti-condensation	Venting (pressure compensation) valve included
Impact Resistance	IK08
UV Resistance	Yes
Operation and Enviromental Conditions	
Ambient Temperature	-20 °C up to max. +55 °C (derating factor applies)
Installation	Indoor and Outdoor, shaded (protected from rain and direct sunlight, installation manual applies)
Altitude Above Sea Level (MLS)	Standard 2000 m above, max. 4000 m (derating factor applies)
Relative Humidity	Indoor: max. 50 % at +40 °C, max. 90 % at +20 °C (not condensating) Outdoor application: temporarily up to 95 % at +25° C (not condensating)
Approvals	
Standard	EN 61439-2, IEC 61439-2

HU BACKUP BOXES 1-PHASE/3-PHASE

The Backup Box is an advanced switching solution that is designed to help PV installers optimize their PV systems performance with its backup power function. Including the advanced power management system and automatic backup load shedding feature, the Backup Boxes ensures that your PV system operates safely and efficiently, even during power outages or other unforeseen events.

Electrical Characteristics	
Rated Voltage (Un)	230 V AC / 400 V AC
Rated Insulation Voltage (Ui)	400 V AC
Grid Configuration	TN-S, TN-C-S, TT*
Max. Rated Current (InA)	50 A
Cable Connections	
Input	Cable feedthrough cable glands; modular connection system: optionally with industrial sockets
Output	Cable feedthrough cable glands; modular connection system: optionally with industrial sockets
PE - Grounding	Cable feedthrough cable gland
Enclosure	
Material	GRP, Polystyrene, ABS, Polycarbonate
Enclosure Lid	Transparent
Ingress Protection	IP54 (up to IP65)
Protection Class	II (Total Insulation)
Mounting	Direct wall mounting or wall mounting brackets
Anti-condensation	Venting (pressure compensation) valve (optional)
Impact Resistance	IK08
Operation and Enviromental Conditions	
Ambient Temperature	-20 °C up to max. +55°C (derating factor applies)
Installation	Indoor and Outdoor, shaded (protected from rain and direct sunlight, installation manual applies)
Altitude Above Sea Level (MLS)	Standard 2000m above, max. 4000m (derating factor applies)
Relative Humidity	Indoor: max. 50% at +40°C, max. 90% at +20°C (not condensating) Outdoor application: temporarily up to 95% at +25°C (not condensating)
Approvals	
Standard	EN 61439-2, IEC 61439-2

Order No.	
HU1-N-20-40-E01(X)	Single Phase, 20A, Grid Tied Switching Box
HU1-N-50-63-E01(X)	Single Phase, 50A, Grid Tied Switching Box
HU3-N-50-63-E01(X)	Three Phase, 3 Poles, 50A, Grid Tied Switching Box
HU4-N-50-63-E01(X)	Three Phase, 4 Poles, 50A, Grid Tied Switching Box

*(X) F: Fronius, S: SMA, H: Huawei, K: Kaco, G: Goodwe, SG: Sungrow

Please contact us for customized solutions!

TECHNICAL SPECIFICATIONS

HU4-N-50-63-E01F

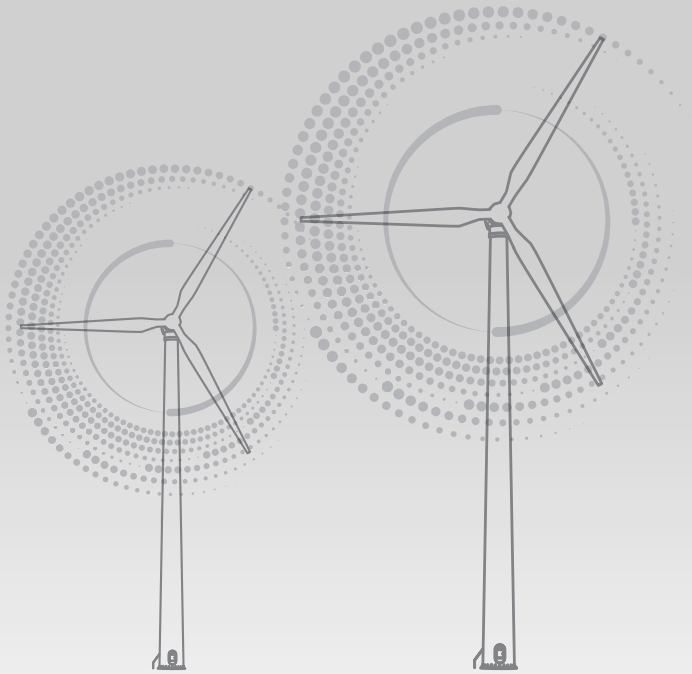
Electrical Characteristics	
Rated Voltage (Un)	230/400 V AC
Mains Disconnection	All-pole
Max. Rated Current (InA)	50 A
Additional Functions	
Smart Meter	Fronius Smart Meter 63A-3 (Optional)
Cable Connections	
Input	Single sealing cable glands
Output	Single sealing cable glands
PE - Grounding	Single sealing cable gland
Enclosure	
Material	Polystyrene
Ingress Protection	IP65
Dimensions	622 mm (H) x 448 mm (W) x 161 mm (D)

HU4-N-50-63-E01K

Electrical Characteristics	
Rated Voltage (Un)	230/400 V AC
Mains Disconnection	All-pole
Max. Rated Current (InA)	35 A
Additional Functions	
Emergency Grid Switch	Yes
Cable Connections	
Input	Single sealing cable glands
Output	Single sealing cable glands
PE - Grounding	Single sealing cable gland
Enclosure	
Material	Polystyrene
Ingress Protection	IP65
Dimensions	622 mm (H) x 448 mm (W) x 161 mm (D)

HU4-N-50-63-E01K-L

Electrical Characteristics	
Rated Voltage (Un)	230/400 V AC
Mains Disconnection	All-pole
Max. Rated Current (InA)	35 A
Additional Functions	
Emergency Grid Switch	Yes
Energy Management System	Integrated Loxone Miniserver for EMS and Smart Home Applications
Cable Connections	
Input	Single sealing cable glands
Output	Single sealing cable glands
PE - Grounding	Single sealing cable gland
Enclosure	
Material	Polystyrene
Ingress Protection	IP65
Dimensions	622 mm (H) x 448 mm (W) x 161 mm (D)

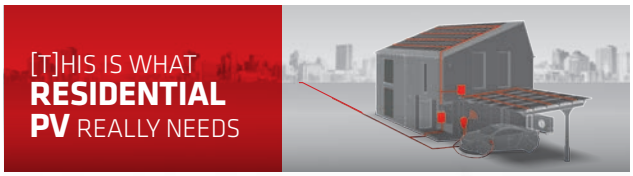


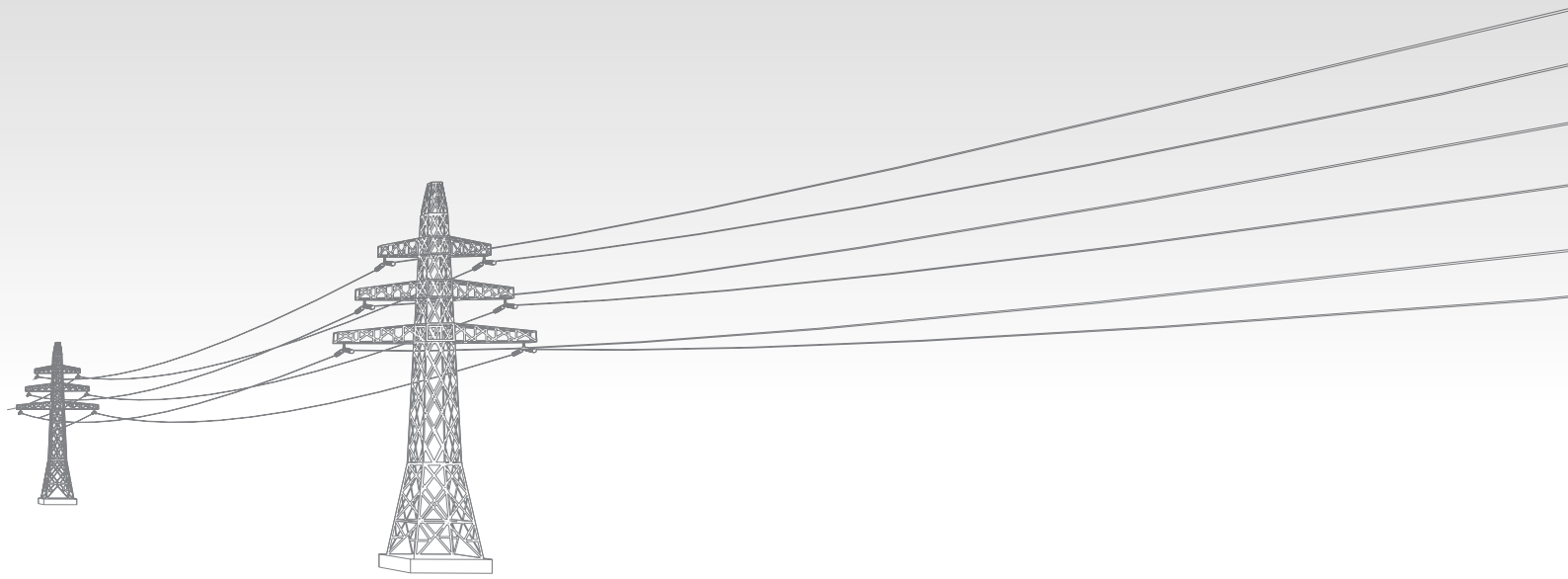
HIS–THE DRIVING FORCE
IN THE IMPLEMENTATION OF YOUR RE:PROJECTS

HIS Renewables is one of the leading European providers of system solutions for the integration of renewable energy. Whether integrated photovoltaics, storage solutions, self-consumption optimization or EV charging technology: All HIS solutions have been developed at the company's location in Germany for more than 25 years and are manufactured on state-of-the-art machines and systems.

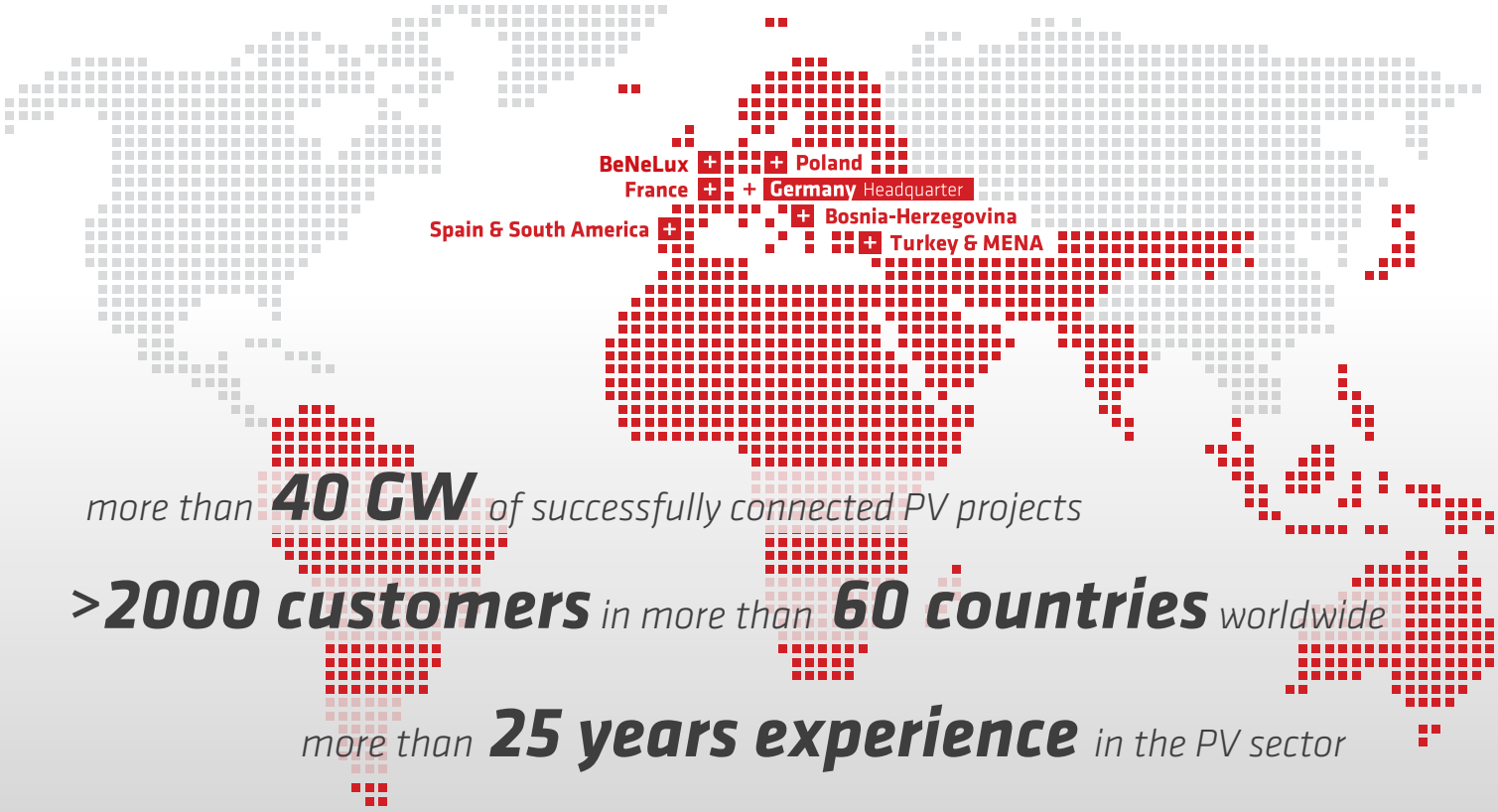
The result: Holistic, innovative and reliable solutions based on the plug-and-playapproach, which ensure fast project implementation and a reduced risk of errors, and which enable HIS customers to carry out their tasks in the implementation of the energy transition quickly, safely and affordably in the long term.

BRANCHEN





HEADQUARTER & OFFICES

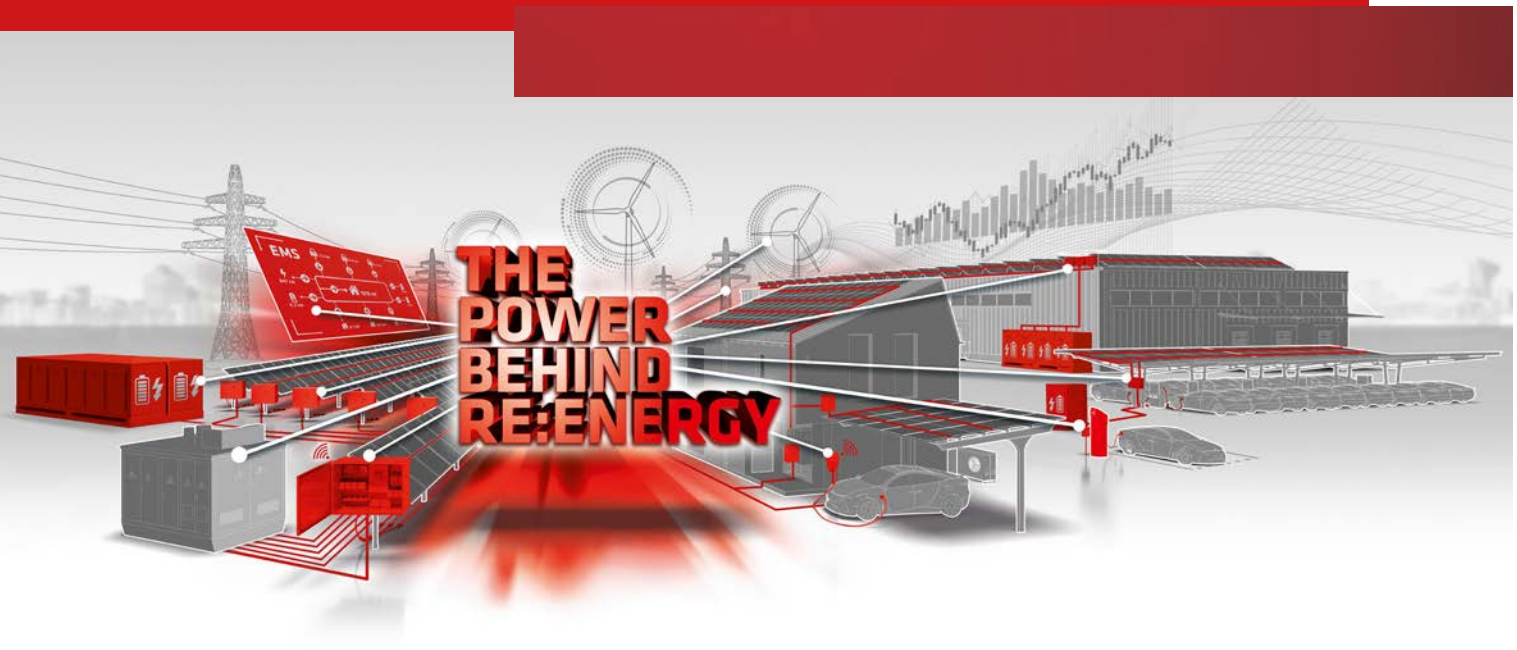


more than **40 GW** *of successfully connected PV projects*

>2000 customers *in more than* **60 countries** *worldwide*

more than **25 years experience** *in the PV sector*

EUROPEAN TURNKEY ENERGY STORAGE AND EV CHARGING SOLUTIONS



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