HISbox®

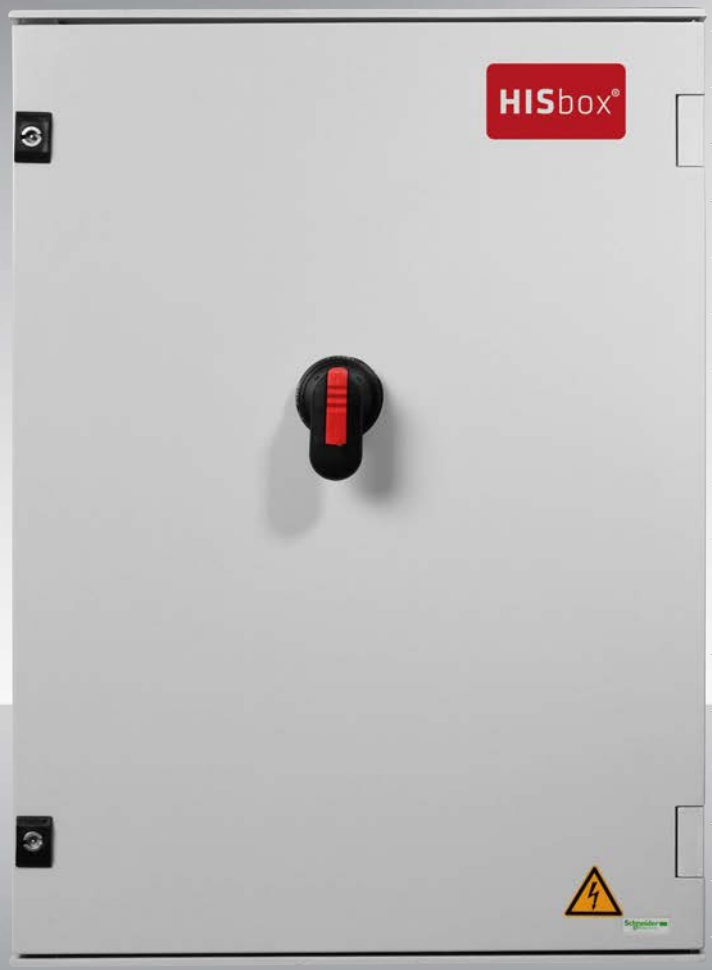
DC/AC string boxes

part of HIS CONNECT®

HISbox® AC Combiner

HAC 400V AC
HAC 800V AC
HAC 1000V AC

Overview



HIS

we connect solar energy

HIS CONNECT®
solar wiring system

ONE-STOP-SHOP SOLUTION
FOR WIRING OF PV PLANTS

Whether high quality single components, pre-assembled solar cables or individually developed string boxes: the cabling and switch system HIS CONNECT® has everything that plant operators, installers and service specialists need for cabling, switching and repairing of solar plants, including the safety you would wish for in your work.

Project-specific design

HISbox® stringboxes are always designed specifically for the project: for this purpose we clarify your need for protection, switching and measuring devices in coordination with the country-specific regulations.

HIS CONNECT® is the highest quality

We only use standard and certified components from leading manufacturers. Of course with the most modern machinery and in a professional environment. The quality is immediately obvious.

HIS CONNECT® has greater availability

This is catered for by our international sales structure as well as our expert employees who look after logistics, and customs and deal with all particular features, both local

HIS CONNECT® is perfectly matched

Not only the individual components and solutions for your whole system but also the particular climatic and insurance requirements of your plant.

HIS CONNECT® is individually adaptable

No PV plant is like another. For this reason, we tailor industrial components to your exact requirements: for the highest possible customization in accordance with the industrial standard.

HIS CONNECT® is one system

This means a modular system which you can make full use of. Solar cables, connectors, cable splitters, string boxes: here is everything you need for connecting and wiring.

PART OF HISCONNECT SOLAR WIRING SYSTEM

HISbox®
AC COMBINER

HISbox® String boxes are synonymous with uncompromising product quality, the greatest possible cost-efficiency and longevity. We plan, develop and manufacture string boxes optimized and ready for connection from high quality industrial components of leading manufacturers to meet the exact requirements of your plant.

DESIGNED WITH HIGH QUALITY COMPONENTS.
DESIGNED TO INDIVIDUAL REQUIREMENTS.
TESTED FOR HIGH PLANT AVAILABILTY.

A large portfolio of standard string boxes. All manufactured from first class industrial components. Always perfectly tailored to your individual requirements. If necessary, specifically modified to your own concept. And always delivered ready to use.

HUGE WEALTH OF EXPERIENCE

Benefit from our many years of experience in numerous projects in the world.

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.

MAINTENANCE-FREE

Smart design to avoid extensive work during operations. Long-life components ensure the efficiency.

INTERNATIONAL SUPPORT

With a multilingual engineering and sales team, HIS is managing several country-specific standards.

REDUCE COST. RAISE PROFIT

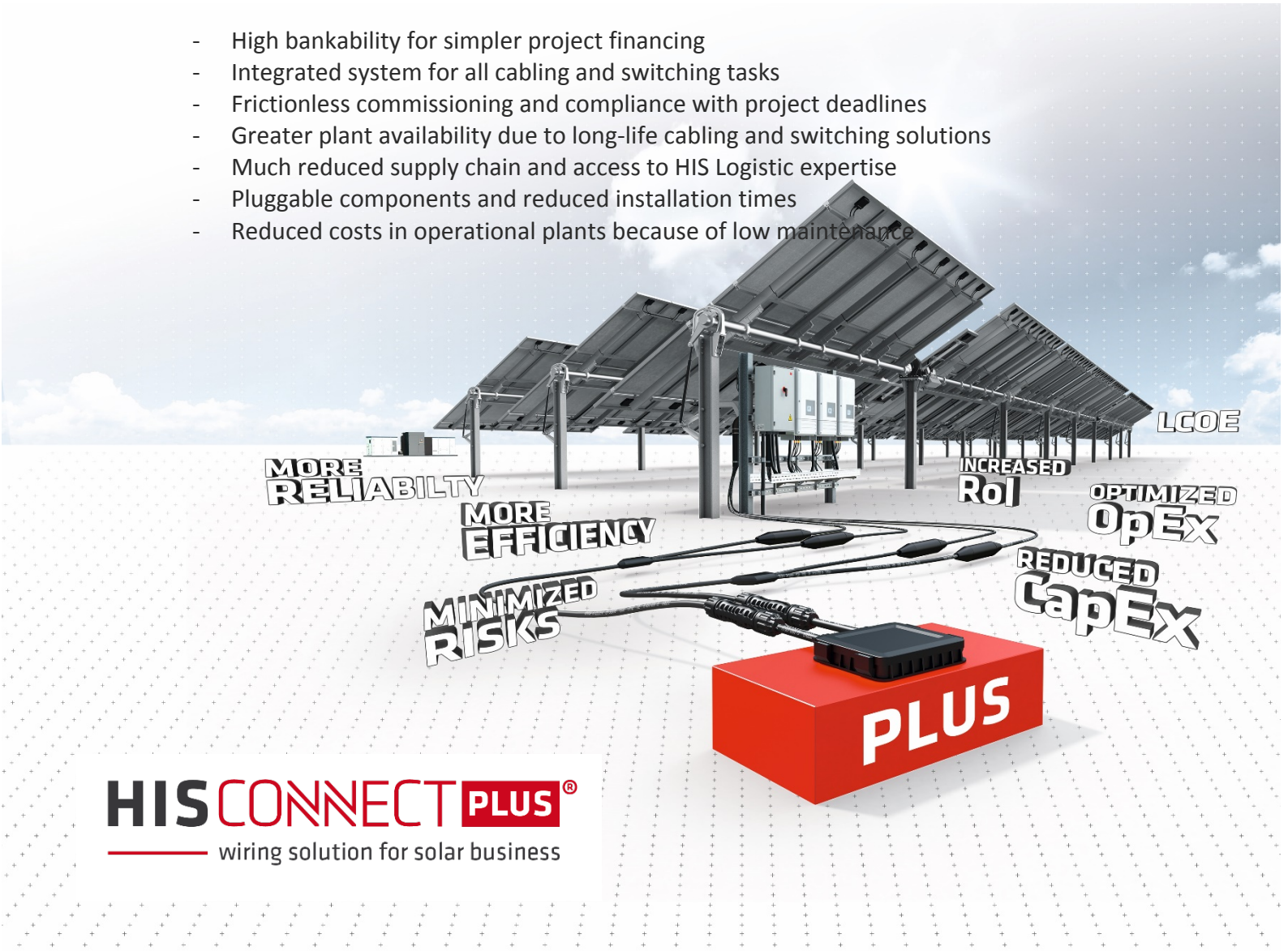
Tailored concepts by comprehensive expert knowledge. Cost effective and sustainable solution for PV projects.

HISbox®
POWER PLANT

COST EFFECTIVE AND SUSTAINABLE
COMPLETE SOLUTION FOR PV PROJECTS

At the development of a HIS CONNECT PLUS® solution, the requirements of all those involved in the project are taken into account. This results in individual benefits for all concerned.

- High bankability for simpler project financing
- Integrated system for all cabling and switching tasks
- Frictionless commissioning and compliance with project deadlines
- Greater plant availability due to long-life cabling and switching solutions
- Much reduced supply chain and access to HIS Logistic expertise
- Pluggable components and reduced installation times
- Reduced costs in operational plants because of low maintenance

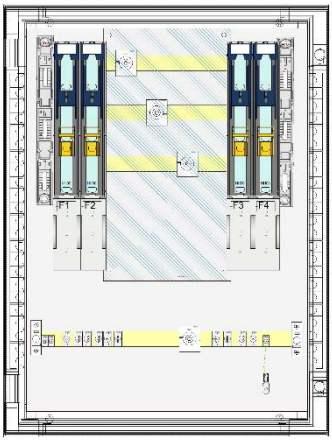


HIS CONNECT PLUS®
wiring solution for solar business

HISbox®
AC COMBINER 400V / 800V AC

String inverters are increasingly used in PV power plants. With our AC Combiners, you can collect the output of your inverters, including the necessary switching and protection facilities. As well as variety of standard solutions, our Development and Construction team also offer customer specific solutions.

HISbox® AC COMBINER
NH00 400V AC



Overview:

- 3-Pole inverter protection, max. 125A
- System: 100mm copper busbar
- Outgoing cables: direct connection on the busbar, without protect
- Without protection device for low-voltage switchgear assembly
- Without Surge protection device

Technical Data	HAC-02-0301-10-A001	HAC-03-0301-10-A001	HAC-04-0301-10-A001	HAC-05-0301-10-A001	HAC-06-0301-10-A001	HAC-07-0301-10-A001
Grid topolgy	TNC/ TNC-S					
Rated voltage (U_N)	230 / 400 V AC					
Rated insulation voltage (U_i)	690V AC					
Rated current per input (I_{nc})	up to 125A	up to 125A	up to 100A	up to 100A	up to 80	up to 63
Rated current output(I_{nA})	250 A	400 A	400 A	500 A	500 A	500 A
Rated frequency (f_n):	50 Hz					
Short-circuit strength (I_{cp}):	max. 10 kA					
RDF-Factor:	1					
Amount of input (inverter)	2	3	4	5	6	7
Amount of output cables	1 per phase (optionally 2)					
Protection Class	II, insulated (acc. IEC 61140)					
Conformity	IEC 61439-1; -2					

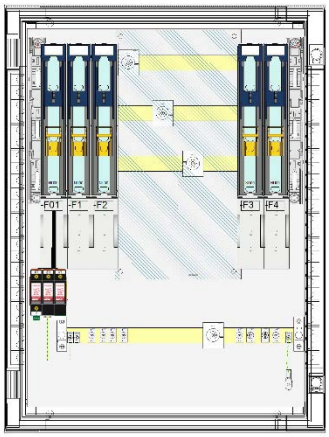
Connection	
Input cable connection	Cable lug M8; 16-70mm² (12-14Nm)
Input cable gland	M40 (Ø 16mm to 28 mm)
Output cable connection	Cable lug M10 (10-20Nm); Optionally M12 (35-40Nm)
Output cable gland	M63 (Ø 34mm to 48mm); Optionally cable insertion grommet M75 (Ø 39mm to 60mm)

Protection devices	
NH fuse line switch disconnector (Size):	NH00
Fuse-links type NH00	63A up to 160A gG, 400V
Protection of switch gear combination	-
Overvoltage protection	-

Enclosure						
Dimension height x width x depth	845x635x300	845x635x300	845x635x300	845x635x300	1065x852x350	1065x852x350
Material	Glass-fibre reinforced Polyester (GRP); UV- and ozone stabile					
Description	Incl. anti-pressure ventile; mounting brackets in stainless steel					
Protection Class / Impact resistance	Up to IP65 (IEC 60529) / IK 10 (IEC62262)					

Operation and environmental conditions	
Ambient temperature	-20 °C to max. +55°C (derating applies)
Altitude above sea level (MLS)	Standard 2000m above, max. 4000m (DERATING 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)

HISbox® AC COMBINER
NH00 400V AC



Overview:

- 3-Pole inverter protection, max. 125A
- System: 100mm copper busbar
- Outgoing cables: Direct connection on busbar, without protection
- Without protection device for low-voltage switchgear assembly
- With SPD Type 1+2

Technical Data	HAC-02-0301-13-A001	HAC-03-0301-13-A001	HAC-04-0301-13-A001	HAC-05-0301-13-A001	HAC-06-0301-13-A001	HAC-07-0301-13-A001
Grid topolgy	TNC/ TNC-S					
Rated voltage (U_N)	230 / 400 V AC					
Rated insulation voltage (U_i)	690V AC					
Rated current per input (I_{nc})	up to 125A	up to 125A	up to 100A	up to 100A	up to 80	up to 63
Rated current output(I_{nA})	250 A	400 A	400 A	500 A	500 A	500 A
Rated frequency (f_n):	50 Hz					
Short-circuit strength (I_{cp}):	max. 10 kA					
RDF-Factor:	1					
Amount of input (inverter)	2	3	4	5	6	7
Amount of output cables	1 per phase (optionally 2)					
Protection Class	II, insulated (acc. IEC 61140)					
Conformity	IEC 61439-1; -2					

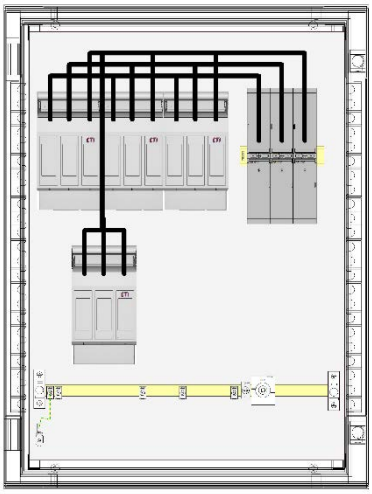
Connection	
Input cable connection	Cable lug M8; 16-70mm² (12-14Nm)
Input cable gland	M40 (Ø 16mm to 28 mm)
Output cable connection	Cable lug M10 (10-20Nm); Optionally M12 (35-40Nm)
Output cable gland	M63 (Ø 34mm to 48mm); Optionally cable insertion grommet M75 (Ø 39mm to 60mm)

Protection devices	
NH fuse line switch disconnector (Size):	NH00
Fuse-links type NH00	63A up to 160A gG, 400V
Protection of switch gear combination	-
Overvoltage protection	12,5 kA

Enclosure						
Dimension Height x width x depth	845x635x300	845x635x300	845x635x300	845x635x300	1065x852x350	1065x852x350
Material	Glass-fiber reinforced Polyester (GRP); UV- and ozone stabile					
Description	Incl. anti-pressure ventile; mounting brackets in stainless steel					
Protection Class / Impact resistance	Up to IP65 (IEC 60529) / IK 10 (IEC62262)					

Operation and environmental conditions	
Ambient temperature	-20 °C to max. +55°C (derating applies)
Altitude above sea level (MLS)	Standard 2000m above, max. 4000m (DERATING 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)

HISbox® AC COMBINER
NH00 400-600V/800V AC



Overview:

- 3-Pole inverter protection, max. 100A (400-600V)/ 63A (800V)
- Outgoing cables: Direct connection on Bolt terminal
- Without protection device for low-voltage switchgear assembly
- Without Surge Protection Device

Technical Data	HAC-02-0611-10-A001	HAC-03-0611-10-A001	HAC-04-0611-10-A001
Grid		TNC / IT (3Ph+PE)	
Rated voltage (U_N)		460 / (800 V AC)	
Rated insulation voltage (U_i)		1000V AC	
Rated current per input (I_{nc})		48 A	
Rated current output(I_{nA})	100 A	160 A	250 A
Rated frequency (f_n):		50 Hz	
Short-circuit strength (I_{cp}):		max. 10 kA	
RDF-Factor:		1	
Amount of input (inverter)	2	3	4
Amount of output cables		1 per phase (optionally 2)	
Protection Class (acc. IEC 61140)		II, insulated	
Conformity		IEC 61439-1; -2	

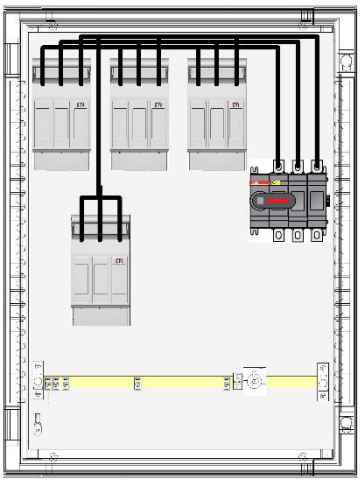
Connection	
Input cable connection	Cable lug M8; 16-70mm² (12-14Nm)
Input cable gland	M40 (Ø 16mm to 28 mm)
Output cable connection	Cable lug M10 (10-20Nm); Optionally M12 (35-40Nm)
Output cable gland	M63 (Ø 34mm to 48mm); Optionally cable insertion grommet M75 (Ø 39mm to 60mm)

Protection devices	
NH fuse switch disconnector (Size):	NH00
Fuse-links	NH00 63A gG, 800V
Protection of switch gear combination	-
Overvoltage protection	-

Enclosure	
Dimension Height x width x depth	845x635x300 mm
Material	Glass-fiber reinforced Polyester (GRP); UV- and ozone stabile
Description	Incl. anti-pressure ventile; mounting brackets in stainless steel
Protection Class / Impact resistance	Up to IP65 (IEC 60529) / IK 10 (IEC62262)

Operation and environmental conditions	
Ambient temperature	-20 °C to max. +55°C (derating applies)
Altitude above sea level (MLS)	Standard 2000m above, max. 4000m (DERATING 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)

HISbox® AC COMBINER
NH00 400-600V/800V AC



Overview:

- 3-Pole inverter protection, max. 100A (400-600V)/ 63A (800V)
- Outgoing cables: Direct connection on Switch disconnector
- Switch disconnector for low-voltage switchgear assembly
- Without Surge Protection Device

Technical Data	HAC-02-0661-10-A001	HAC-03-0661-10-A001	HAC-04-0661-10-A001
Grid	TNC / IT (3Ph+PE)		
Rated voltage (U_N)	460 / (800 V AC)		
Rated insulation voltage (U_i)	1000V AC		
Rated current per input (I_{nc})	48 A		
Rated current output(I_{nA})	100 A	160 A	250 A
Rated frequency (f_n):	50 Hz		
Short-circuit strength (I_{cp}):	max. 10 kA		
RDF-Factor:	1		
Amount of input (inverter)	2	3	4
Amount of output cables	1 per phase (optionally 2)		
Protection Class (acc. IEC 61140)	II, insulated		
Conformity	IEC 61439-1; -2		

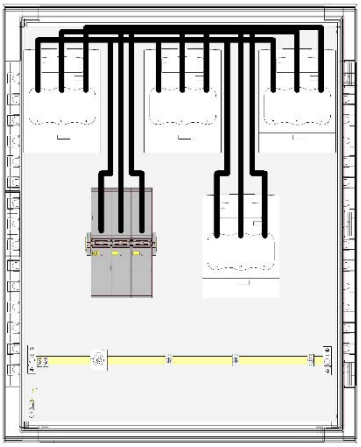
Connection	
Input cable connection	Cable lug M8; 16-70mm² (12-14Nm)
Input cable gland	M40 (Ø 16mm to 28 mm)
Output cable connection	Cable lug M10 (10-20Nm); Optionally M12 (35-40Nm)
Output cable gland	M63 (Ø 34mm to 48mm); Optionally cable insertion grommet M75 (Ø 39mm to 60mm)

Protection devices	
NH fuse switch disconnector (Size):	NH00
Fuse-links	NH00 63A gG, 800V
Protection of switch gear combination	Switch disconnector
Overvoltage protection	-

Enclosure	
Dimension height x width x depth	845x635x300 mm
Material	Glass-fiber reinforced Polyester (GRP); UV- and ozone stabile
Description	Incl. anti-pressure ventile; mounting brackets in stainless steel
Protection Class / Impact resistance	Up to IP65 (IEC 60529) / IK 10 (IEC62262)

Operation and environmental conditions	
Ambient temperature	-20 °C to max. +55°C (derating applies)
Altitude above sea level (MLS)	Standard 2000m above, max. 4000m (DERATING 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)

HISbox® AC COMBINER
NH01 400V-600V/800V AC



Overview:

- 3-Pole inverter protection, max. 200A (400-600V)/ 125A (800V)
- Outgoing cables: Direct connection on Bolt terminal
- Without protection device for low-voltage switchgear assembly
  Without Surge Protection Device

Technical Data	HAC-02-0711-10-A001	HAC-03-0711-10-A001	HAC-04-0711-10-A001
Grid		TNC / IT (3Ph+PE)	
Rated voltage (U_N)		460 / (800 V AC)	
Rated insulation voltage (U_i)		1000V AC	
Rated current per input (I_{nc})		80 A	
Rated current output(I_{nA})	160 A	250 A	320 A
Rated frequency (f_n):		50 Hz	
Short-circuit strength (I_{cp}):		max. 10 kA	
RDF-Factor:		1	
Amount of input (inverter)	2	3	4
Amount of output cables		1 per phase (optionally 2)	
Protection Class (acc. IEC 61140)		II, insulated	
Conformity		IEC 61439-1; -2	

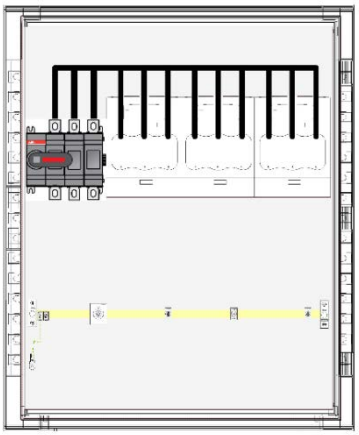
Connection	
Input cable connection	Cable lug M10, 25 to 70mm² (12-14Nm)
Input cable gland	M40 (Ø 16mm to 28 mm)
Output cable connection	Cable lug M10 (10-20Nm); Optionally M12 (35-40Nm)
Output cable gland	M63 (Ø 34mm to 48mm); Optionally cable insertion grommet M75 (Ø 39mm to 60mm)

Protection devices	
NH fuse switch disconnector (Size):	NH01
Fuse-links	NH01 100A gG, 800V
Protection of switch gear combination	-
Overvoltage protection	-

Enclosure			
Dimension Height x width x depth	845x635x300	1065x852x350	1065x852x350
Material	Glass-fiber reinforced Polyester (GRP); UV- and ozone stabile		
Description	Incl. anti-pressure ventile; mounting brackets in stainless steel		
Protection Class / Impact resistance	Up to IP65 (IEC 60529) / IK 10 (IEC62262)		

Operation and environmental conditions	
Ambient temperature	-20 °C to max. +55°C (derating applies)
Altitude above sea level (MLS)	Standard 2000m above, max. 4000m (DERATING 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)

HISbox® AC COMBINER
NH01 400V-600V/800V AC



Overview:

- 3-Pole inverter protection, max. 200A (400-600V)/ 125A (800V)
- Outgoing cables: Direct connection on Switch disconnector
- Switch disconnector for low-voltage switchgear assembly
- Without Surge Protection Device

Technical Data	HAC-02-0761-10-A001	HAC-03-0761-10-A001	HAC-04-0761-10-A001
Grid		TNC / IT (3Ph+PE)	
Rated voltage (U_N)		460 / (800 V AC)	
Rated insulation voltage (U_i)		1000V AC	
Rated current per input (I_{nc})		80 A	
Rated current output(I_{nA})	160 A	250 A	320 A
Rated frequency (f_n):		50 Hz	
Short-circuit strength (I_{cp}):		max. 10 kA	
RDF-Factor:		1	
Amount of input (inverter)	2	3	4
Amount of output cables		1 per phase (optionally 2)	
Protection Class (acc. IEC 61140)		II, insulated	
Conformity		IEC 61439-1; -2	

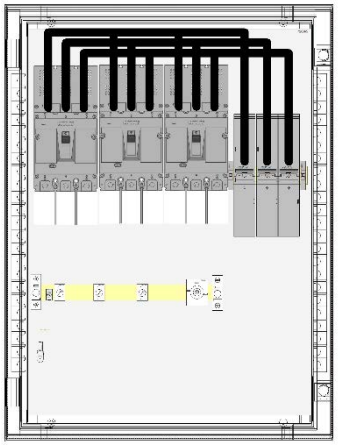
Connection	
Input cable connection	Cable lug M80, 25 to 70mm² (12-14Nm)
Input cable gland	M40 (Ø 16mm to 28 mm)
Output cable connection	Cable lug M10 (10-20Nm); Optionally M12 (35-40Nm)
Output cable gland	M63 (Ø 34mm to 48mm); Optionally cable insertion grommet M75 (Ø 39mm to 60mm)

Protection devices	
NH fuse switch disconnector (Size):	NH01
Fuse-links	NH01 100A gG, 800V
Protection of switch gear combination	Switch disconnector
Overvoltage protection	-

Enclosure			
Dimension Height x width x depth	845x635x300	1065x852x350	1065x852x350
Material	Glass-fibre reinforced Polyester (GRP); UV- and ozone stabile		
Description	Incl. anti-pressure ventile; mounting brackets in stainless steel		
Protection Class / Impact resistance	Up to IP65 (IEC 60529) / IK 10 (IEC62262)		

Operation and environmental conditions	
Ambient temperature	-20 °C to max. +55°C (derating applies)
Altitude above sea level (MLS)	Standard 2000m above, max. 4000m (DERATING 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)

HISbox® AC COMBINER
MCCB 1000V AC



Overview:

- 3-Pole inverter protection MCCB: 1000V AC, max. 160A
- Outgoing cables: Direct connection on Bolt terminals
- Without protection device for low-voltage switchgear assembly
- Without Surge Protection Device

Technical Data	HAC-02-1311-10-A001	HAC-03-1311-10-A001	HAC-04-1311-10-A001
Grid		TNC / IT (3Ph+PE)	
Rated voltage (U_N)		460 / (800 V AC)	
Rated insulation voltage (U_i)		1000V AC	
Rated current per input (I_{nc})		80 A	
Rated current output(I_{nA})	160 A	250 A	320 A
Rated frequency (f_n):		50 Hz	
Short-circuit strength (I_{cp}):		max. 10 kA	
RDF-Factor:		1	
Amount of input (inverter)	2	3	4
Amount of output cables		1 per phase (optionally 2)	
Protection Class (acc. IEC 61140)		II, insulated	
Conformity		IEC 61439-1; -2	

Connection	
Input cable connection	Cable lug M10, 25 to 70mm² (12-14Nm)
Input cable gland	M40 (Ø 16mm to 28 mm)
Output cable connection	Cable lug M10 (10-20Nm); Optionally M12 (35-40Nm)
Output cable gland	M63 (Ø 34mm to 48mm); Optionally cable insertion grommet M75 (Ø 39mm to 60mm)

Protection devices	
MCCB Moulded Case Circuit Breaker	3 Pole 125A, up to 1000V AC
Type	NDM3A-250M /3P
Protection of switch gear combination	-
Overvoltage protection	-

Enclosure			
Dimension Height x width x depth	845x635x300	845x635x300	1065x852x350
Material	Glass-fibre reinforced Polyester (GRP); UV- and ozone stabile		
Description	Incl. anti-pressure ventile; mounting brackets in stainless steel		
Protection Class / Impact resistance	Up to IP65 (IEC 60529) / IK 10 (IEC62262)		

Operation and environmental conditions	
Ambient temperature	-20 °C to max. +55°C (derating applies)
Altitude above sea level (MLS)	Standard 2000m above, max. 4000m (DERATING 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)

HISbox®
ACCESSORIES

PN	Fuse-link 500V AC
728762	NH-Fuse size 000, 25 A 500 V gG
728763	NH-Fuse size 000, 32 A 500 V gG
740190	NH-Fuse size 000, 35 A 500 V gG
732560	NH-Fuse size 00, 50 A 500 V gG
726569	NH-Fuse size 00, 63 A 500 V gG
732046	NH-Fuse size 00, 80 A 500 V gG
733547	NH-Fuse size 00, 100 A 500 V gG
726654	NH-Fuse size 00, 125 A 500 V gG
727762	NH-Fuse size 00, 160 A 500 V gG
726531	NH-Fuse size 01, 125 A 500 V gG
725225	NH-Fuse size 01, 160 A 500 V gG
724436	NH-Fuse size 01, 200 A 500 V gG
724813	NH-Fuse size 01, 250 A 500 V gG
	Fuse-link 690V AC
744483	NH-Fuse size 00, 80 A 690 V gG
744484	NH-Fuse size 00, 100 A 690 V gG
744485	NH-Fuse size 00, 125 A 690 V gG
744486	NH-Fuse size 01, 160 A 690 V gG
744487	NH-Fuse size 01, 200 A 690 V gG
744488	NH-Fuse size 01, 250 A 690 V gG
	Fuse-link 800V AC
742642	NH-Fuse size 00, 63 A 800 V gG
742589	NH-Fuse size 01, 80 A 800 V gG
743883	NH-Fuse size 01, 100 A 800 V gG
743884	NH-Fuse size 01, 125 A 800 V gG
743318	NH-Fuse size 01, 160 A 800 V gG

HISCONNECT®
solar wiring system

Headquarters Germany

HIS Renewables GmbH
Siemensstraße 4
64760 Oberzent

T +49 60689314400
E info@his-solar.de

France

HIS Renewables
15 Avenue Emile Zola
74100 Annemasse

T +33 623293246
E guillaume.picat@his-solar.de

Spain

HIS Renewables
Avenida de Brasil 17
Madrid 28020

T +34 634285033
E carlos.fornes@his-solar.de

Turkey

HIS Solar Sistemleri A.S.
Alsancak Mah. 1479 Sk.15/17
35220 Konak Izmir

T +90 2324220931
E info@his-solar.com.tr