



Overview

The EKDBS series of solar DC combiner boxes are designed with a high-strength plastic shell, ensuring a robust and durable product. The boxes have an IP65 protection level, providing optimal protection against harsh environmental conditions. These combiner boxes are suitable for both household and industrial photovoltaic power generation systems that operate at 500V, 600V and 1000V.

The boxes can be equipped with a range of components such as DC circuit breakers, isolator switches, DC surge protectors, DC fuses, photovoltaic connectors, or waterproof joints.

The EKDBS series offers lightning protection, short circuit protection, and ground protection, ensuring the safety of the system. The EKDBS series supports one or multiple outputs and can be easily installed on walls. All components, apart from the core components, can be customized according to user requirements.

Model Preparation Meaning

EK	DBS	PV	2/1	IFS	1000
↓	↓	↓	↓	↓	↓
①	②	③	④	⑤	⑥
Code name	Meaning		Code name	Meaning	
①	ETEK		④	String in/String out: 1/1, 2/1, 2/2, 3/1, 4/1, 4/2, 6/2	
②	DBT: Metal box		⑤	I: Isolator; B: Breaker; F: Fuse; S: SPD	
③	PV: General photovoltaic sites		⑥	600: 600V; 1000: 1000V	

Photo				
Model	EKDBS-PV1/1-600	EKDBS-PV2/1-600	EKDBS-PV2/2-600	EKDBS-PV3/1-600
Number of input strings	1	2	2	3
Number of output strings	1	1	2	1
Max. DC voltage	600V	600V	600V	600V
Max. input current	32A	15A	32A	10A
Max. output current	32A	32A	32A	30A
Surge Protection				
Experimental Level	Type 2			
Max. operation voltage (Ucpv)	600V			
Max. discharge current (Imax)	40kA			
Voltage protection level	2.6kV			
Poles	2			
Design features	Plug-in module			
Standard	IEC/EN 61643-31			
DC Fuse				
Rated operation voltage(Ue)	1000V	1000V	1000V	1000V
Rated current (Ie)(Changeable)	32A	15A	32A	10A
Fuse size	10×38mm, 30kA	10×38mm, 30kA	10×38mm, 30kA	10×38mm, 30kA
Standard	IEC 60947-3 & IEC 60269-6			
DC Protection Switch				
DC Isolator				
Rated insulation voltage (Ui)	1500V			
Rated operating voltage (Ue)	600V			
Rated current (Ie)	32A			
Poles	4P			
Standard	IEC/EN 60947-3			
Enclosure				
Material type	PC			
Degree of Protection	IP65			
Impact protection level	IK08			
Enclosure size	218×200×103.5mm (9 ways)	296×230×121.5mm (13 ways)	380×230×121.5mm (18 ways)	296×230×121.5mm (13 ways)
Input or output connector	Waterproof gland (default), MC4 connector (optional)			
Environment				
Operating Temperature	-25°C to +55°C			
Cooling way	Natural cooling			
Humidity	0~95%			
Altitude	2000m			
Installation	Wall Mounting			

Solar DC Combiner Box

Photo				
Model	EKDBS-PV1/1-1000	EKDBS-PV2/1-1000	EKDBS-PV3/1-1000	EKDBS-PV4/1-1000
Number of input strings	1	2	3	4
Number of output strings	1	1	1	1
Max. DC voltage	1000V	1000V	1000V	1000V
Max. input current	32A	15A	10A	15A
Max. output current	32A	30A	30A	60A
Surge Protection				
Experimental Level	Type 2			
Max. operation voltage (Ucpv)	1000V			
Max. discharge current (Imax)	40kA			
Voltage protection level	4kV			
Poles	2			
Design features	Plug-in module			
Standard	IEC/EN 61643-31			
DC Fuse				
Rated operation voltage(Ue)	1000V	1000V	1000V	1000V
Rated current (Ie)(Changeable)	32A	15A	10A	15A
Fuse size	10×38mm, 30kA	10×38mm, 30kA	10×38mm, 30kA	10×38mm, 30kA
Standard	IEC 60947-3 & IEC 60269-6			
DC Protection Switch	DC Isolator			DC MCB
Rated insulation voltage (Ui)	1500V			1000V
Rated operating voltage (Ue)	1000V			1000V
Rated current (Ie)	32A			63A
Poles	4P			4P
Standard	IEC/EN 60947-3			IEC/EN 60947-2
Enclosure				
Material type	PC			
Degree of Protection	IP65			
Impact protection level	IK08			
Enclosure size	218×200×103.5mm (9 ways)	296×230×121.5mm (13 ways)	380×230×121.5mm (18 ways)	380×230×121.5mm (18 ways)
Input or output connector	Waterproof gland (default), MC4 connector (optional)			
Environment				
Operating Temperature	-25°C to +55°C			
Cooling way	Natural cooling			
Humidity	0~95%			
Altitude	2000m			
Installation	Wall Mounting			

Photo			
Model	EKDBS-PV2/2-1000	EKDBS-PV4/2-1000	EKDBS-PV6/2-1000
Number of input strings	2	4	6
Number of output strings	2	2	2
Max. DC voltage	1000V	1000V	1000V
Max. input current	32A	15A	20A
Max. output current	32A	30A	60A
Surge Protection			
Experimental Level	Type 2		
Max. operation voltage (Ucpv)	1000V		
Max. discharge current (Imax)	40kA		
Voltage protection level	4kV		
Poles	2		
Design features	Plug-in module		
Standard	IEC/EN 61643-31		
DC Fuse			
Rated operation voltage(Ue)	1000V	1000V	1000V
Rated current (Ie)(Changeable)	32A	15A	20A
Fuse size	10×38mm, 30kA	10×38mm, 30kA	10×38mm, 30kA
Standard	IEC 60947-3 & IEC 60269-6		
DC Protection Switch	DC Isolator		DC MCB
Rated insulation voltage (Ui)	1500V		1000V
Rated operating voltage (Ue)	1000V		1000V
Rated current (Ie)	32A		63A
Poles	4P		4P
Standard	IEC/EN 60947-3		IEC/EN 60947-2
Enclosure			
Material type	PC		
Degree of Protection	IP65		
Impact protection level	IK08		
Enclosure size	380×230×121.5mm (18 ways)	296.5×390.5×131.5mm (26 ways)	296.5×390.5×131.5mm (26 ways)
Input or output connector	Waterproof gland (default), MC4 connector (optional)		
Environment			
Operating Temperature	-25°C to +55°C		
Cooling way	Natural cooling		
Humidity	0~95%		
Altitude	2000m		
Installation	Wall Mounting		



Overview

The EKDBT series photovoltaic DC combiner box is a metal casing with an IP65 protection level. It supports the merging of the DC inputs of up to 24 photovoltaic cell module strings into one or more outputs. It is suitable for residential, commercial, and Industrial photovoltaic power generation systems operating under 1000V, 1500V DC voltage.

This series of products integrates short-circuit and over-voltage protection devices such as DC circuit breakers, fuses, isolator switches, surge protectors, etc., which simplifies the input wiring of DC distribution cabinets and inverters, ensuring the safety of the photovoltaic power generation system, reliable operation.

Here we only list some of the combiner box configuration types on the market. If there are special needs, they can be customized according to the user's needs.

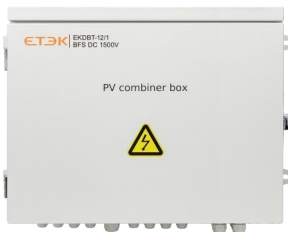
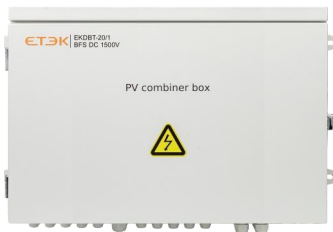
Model Preparation Meaning

EK	DBT	PV	4/1	IFS	1000
↓	↓	↓	↓	↓	↓
①	②	③	④	⑤	⑥
Code name	Meaning		Code name	Meaning	
①	ETEK		④	String in/String out: 8/1, 12/1, 16/1, 20/1, 24/1	
②	DBT: Metal box		⑤	B: Breaker; F: Fuse; S: SPD	
③	PV: General photovoltaic sites		⑥	1000: 1000V; 1500: 1500V	

Solar DC Combiner Box

Photo					
Model	EKDBT-PV8/1-1000	EKDBT-PV12/1-1000	EKDBT-PV16/1-1000	EKDBT-PV20/1-1000	EKDBS-PV24/1-1000
Number of input strings	8	12	16	20	24
Number of output strings	1	1	1	1	1
Max. DC voltage	1000V	1000V	1000V	1000V	1000V
Max. input current	30A	20A	15A	12A	10A
Max. output current	250A	250A	250A	250A	250A
Surge Protection					
Experimental Level	Type 2 (optional: Type1+2)				
Max. operation voltage (Ucpv)	1000V				
Max. discharge current (Imax)	40kA				
Voltage protection level	4kV				
Poles	2				
Design features	Plug-in module				
Standard	IEC/EN 61643-31				
DC Fuse					
Rated operation voltage(Ue)	1000V	1000V	1000V	1000V	1000V
Rated current (Ie)(Changeable)	30A	20A	15A	12A	10A
Fuse size	10×38mm, 30kA	10×38mm, 30kA	10×38mm, 30kA	10×38mm, 30kA	10×38mm, 30kA
Standard	IEC 60947-3 & IEC 60269-6				
DC Protection Switch		DC MCCB			
Rated insulation voltage (Ui)	1500V				
Rated operating voltage (Ue)	1000V				
Rated current (Ie)	250A				
Poles	2P				
Rated short-circuit breaking capacity (Ics/Icu)	15kA/15kA @1000VDC				
Standard	IEC/EN 60947-2				
Others					
Anti reflection diode	Optional				
String monitoring module	Optional (50~1500V, 0~20A, RS485/ModBus-RTU)				
Enclosure					
Enclosure type	Metal (Other shell materials can be customized)				
Degree of Protection	IP65				
Impact protection level	IK10				
Enclosure size	750×560×180mm	750×560×180mm	750×560×180mm	860×560×180mm	860×560×180mm
Input or output connector	Waterproof gland (default), MC4 connector (optional)				
Environment					
Operating Temperature	-25℃ to +55℃				
Cooling way	Natural cooling				
Humidity	0~95%				
Altitude	2000m				
Installation	Wall Mounting				

Solar DC Combiner Box

Photo				
Model	EKDBT-PV12/1-1500	EKDBT-PV16/1-1500	EKDBT-PV20/1-1500	EKDBS-PV24/1-1500
Number of input strings	12	16	20	24
Number of output strings	1	1	1	1
Max. DC voltage	1500V	1500V	1500V	1500V
Max. input current	32A	25A	20A	10A
Max. output current	400A	400A	400A	250A
Surge Protection				
Experimental Level	Type 2 (optional: Type1+2)			
Max. operation voltage (Ucpv)	1000V			
Max. discharge current (Imax)	40kA			
Voltage protection level	4kV			
Poles	2P (optional: 3P)			
Design features	Plug-in module			
Standard	IEC/EN 61643-31			
DC Fuse				
Rated operation voltage(Ue)	1500V	1500V	1500V	1500V
Rated current (Ie)(Changeable)	32A	25A	20A	15A
Fuse size	10×85mm, 50kA	10×85mm, 50kA	10×85mm, 50kA	10×85mm, 50kA
Standard	IEC 60947-3 & IEC 60269-6			
DC Protection Switch		DC MCCB		
Rated insulation voltage (Ui)	1500V			
Rated operating voltage (Ue)	1500V			
Rated current (Ie)	400A			
Poles	2P (optional: 3P)			
Rated short-circuit breaking capacity (Ics/Icu)	5kA/5kA @1500VDC			
Standard	IEC/EN 60947-2			
Others				
Anti reflection diode	Optional			
String monitoring module	Optional (50~1500V, 0~20A, RS485/ModBus-RTU)			
Enclosure				
Enclosure type	Metal (Other shell materials can be customized)			
Degree of Protection	IP65			
Impact protection level	IK10			
Enclosure size	750×560×180mm	750×560×180mm	860×560×180mm	860×560×180mm
Input or output connector	Waterproof gland (default), MC4 connector (optional)			
Environment				
Operating Temperature	-25℃ to +55℃			
Cooling way	Natural cooling			
Humidity	0~95%			
Altitude	2000m			
Installation	Wall Mounting			