



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

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

EKDBT-PV



Solar DC Combiner Box



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

	EKDBT-PV8/1-1000	EKDBT-PV12/1-1000	EKDBT-PV16/1-1000	EKDBT-PV20/1-1000	EKDBS-PV24/1-1000
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°C to +55°C				
Cooling way	Natural cooling				
Humidity	0~95%				
Altitude	2000m				
Installation	Wall Mounting				

EKDBT-PV

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	750×560×200mm	750×560×200mm	860×560×200mm	860×560×200mm
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			