

ONESTO[®]

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PHOTOVOLTAIC SYSTEMS

**QUALITY
HAS A NAME.**

2022-2023

ONESTO[®]



Company Profile

As an active player in electrical manufacturing industry over 15 years, **ONESTO** is committed to providing quality assured products for application in power distribution, industrial control and new energy etc.

ONESTO is a name of quality that focuses on customer's safety and satisfaction. The company is operated under ISO9001:2015 Quality Management System. All the products are manufactured in conformity with BE,EN,IEC international standards and acquired CE,CB,TUV,Semko, KEMA-KEUR certificates.

ONESTO is undertaking intelligent manufacturing. The factory set up advance automated assembly and testing production line to secure high precision parts dimension, accurate automated assembly, outstanding technical performance and efficient production capacity. Onesto introduced advance ERP system to achieve full quality tracing for each step of raw material incoming, production process and delivery.

ONESTO always pursues constant product innovation to offer customers with comprehensive selection for commercial, industrial, residential project where quality is essential. Onesto owns independent intellectual property rights for its product range including domestic and international patents.

Today, customers over 50 countries are benefited from **ONESTO** products and solution for its reliable protection of electrical systems. As a well recognized partner with renowned companies around the world, **ONESTO** is ready to create new value and competitive advantages with partners for mutual continuously development.

Factory Tour



Protection devices for Photovoltaic Systems



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KCF2-25

Fuse holder 1000V DC

KCF2-25

- No.of pole: 1P,2P,3P,4P
- Rated voltage: 1000V DC
- Rated current: 25A
- Utilization category: DC-20B or AC-20B
- Rated insulation voltage: 1100V
- Rated impulse withstand voltage: 6kV
- Comply with IEC60947

Description	cat.nos.	fuse link size	pack	carton
1 pole	856 01	10X38mm	12	240
2 pole	856 02	10X38mm	6	120
3 pole	856 03	10X38mm	4	80
4 pole	856 04	10X38mm	3	60



KCF14-85

Fuse holder 1500V DC

KCF14-85

- Rated voltage:1500V DC
- Rated current:32A
- Rated impulse withstand voltage:20kV
- Utilization category: DC-20B or AC-20B
- Wire range:2.5-16mm2
- Torque:2...2.5Nm
- Comply with IEC60269-6

Description	cat.nos.	fuse link size	pack	carton
1 pole	856 21	10X85mm	5	90



PVCF10

Fuse link 1000V DC

PVCF10

- Rated voltage: 1000V DC
- Rated current: 1-25A
- Rated breaking capacity : 25kA
- Class: gPV
- Comply with IEC60269-6

Description	cat.nos.	size	pack	carton
1A	857 01	10X38mm	10	1000
2A	857 02	10X38mm	10	1000
3A	857 03	10X38mm	10	1000
4A	857 04	10X38mm	10	1000
5A	857 05	10X38mm	10	1000
6A	857 06	10X38mm	10	1000
8A	857 07	10X38mm	10	1000
10A	857 08	10X38mm	10	1000
12A	857 09	10X38mm	10	1000
15A	857 10	10X38mm	10	1000
20A	857 11	10X38mm	10	1000
25A	857 12	10X38mm	10	1000



PVCF14-85

Fuse link 1500V DC

PVCF14-85

- Rated voltage:1500V DC
- Rated current:2-20A
- Rated breaking capacity :20KA
- Class: gPV
- Comply with IEC60269-6

Description	cat.nos.	size	pack	carton
2A	857 21	10X85mm	10	1000
3A	857 22	10X85mm	10	1000
4A	857 23	10X85mm	10	1000
5A	857 24	10X85mm	10	1000
6A	857 25	10X85mm	10	1000
8A	857 26	10X85mm	10	1000
10A	857 27	10X85mm	10	1000
12A	857 28	10X85mm	10	1000
15A	857 29	10X85mm	10	1000
20A	857 30	10X85mm	10	1000
25A	857 31	10X85mm	10	1000
32A	857 32	10X85mm	10	1000



KCD10 1P



DC 250V (1P)

Mini circuit breaker 1000V DC

KCD10

- No.of pole: 1P
- Rated voltage: 250V DC
- Comply with IEC60947-2
- Rated insulation voltage: 1000V
- Rated impulse withstand voltage: 6kV
- Rated short-circuit breaking capacity: 10kA

Description	B curve	C curve	pack	carton
1 pole 1 A 250VDC	262 01	262 21	12	120
1 pole 2 A 250VDC	262 02	262 22	12	120
1 pole 3 A 250VDC	262 03	262 23	12	120
1 pole 4 A 250VDC	262 04	262 24	12	120
1 pole 6 A 250VDC	262 05	262 25	12	120
1 pole 10 A 250VDC	262 06	262 26	12	120
1 pole 16 A 250VDC	262 07	262 27	12	120
1 pole 20 A 250VDC	262 08	262 28	12	120
1 pole 25 A 250VDC	262 09	262 29	12	120
1 pole 32 A 250VDC	262 10	262 30	12	120
1 pole 40 A 250VDC	262 11	262 31	12	120
1 pole 50 A 250VDC	262 12	262 32	12	120
1 pole 63 A 250VDC	262 13	262 33	12	120



KCD10 2P



DC 500V (2P)

Mini circuit breaker 1000V DC

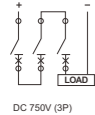
KCD10

- No.of pole: 2P
- Rated voltage: 500V DC
- Comply with IEC60947-2
- Rated insulation voltage: 1000V
- Rated impulse withstand voltage: 6kV
- Rated short-circuit breaking capacity: 10kA

Description	B curve	C curve	pack	carton
2 pole 1 A 500VDC	262 41	262 61	6	60
2 pole 2 A 500VDC	262 42	262 62	6	60
2 pole 3 A 500VDC	262 43	262 63	6	60
2 pole 4 A 500VDC	262 44	262 64	6	60
2 pole 6 A 500VDC	262 45	262 65	6	60
2 pole 10 A 500VDC	262 46	262 66	6	60
2 pole 16 A 500VDC	262 47	262 67	6	60
2 pole 20 A 500VDC	262 48	262 68	6	60
2 pole 25 A 500VDC	262 49	262 69	6	60
2 pole 32 A 500VDC	262 50	262 70	6	60
2 pole 40 A 500VDC	262 51	262 71	6	60
2 pole 50 A 500VDC	262 52	262 72	6	60
2 pole 63 A 500VDC	262 53	262 73	6	60



KCD10 3P



Mini circuit breaker 1000V DC

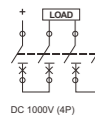
KCD10

- No. of pole: 3P
- Rated voltage: 750V DC
- Comply with IEC60947-2
- Rated insulation voltage: 1000V
- Rated impulse withstand voltage: 6kV
- Rated short-circuit breaking capacity: 10kA

Description	B curve	C curve	pack	carton
3 pole 1 A 750VDC	262 81	263 01	4	40
3 pole 2 A 750VDC	262 82	263 02	4	40
3 pole 3 A 750VDC	262 83	263 03	4	40
3 pole 4 A 750VDC	262 84	263 04	4	40
3 pole 6 A 750VDC	262 85	263 05	4	40
3 pole 10 A 750VDC	262 86	263 06	4	40
3 pole 16 A 750VDC	262 87	263 07	4	40
3 pole 20 A 750VDC	262 88	263 08	4	40
3 pole 25 A 750VDC	262 89	263 09	4	40
3 pole 32 A 750VDC	262 90	263 10	4	40
3 pole 40 A 750VDC	262 91	263 11	4	40
3 pole 50 A 750VDC	262 92	263 12	4	40
3 pole 63 A 750VDC	262 93	263 13	4	40



KCD10 4P



Mini circuit breaker 1000V DC

KCD10

- No. of pole: 4P
- Rated voltage: 1000V DC
- Comply with IEC60947-2
- Rated insulation voltage: 1000V
- Rated impulse withstand voltage: 6kV
- Rated short-circuit breaking capacity: 10kA

Description	B curve	C curve	pack	carton
4 pole 1 A 1000VDC	263 21	263 41	3	30
4 pole 2 A 1000VDC	263 22	263 42	3	30
4 pole 3 A 1000VDC	263 23	263 43	3	30
4 pole 4 A 1000VDC	263 24	263 44	3	30
4 pole 6 A 1000VDC	263 25	263 45	3	30
4 pole 10 A 1000VDC	263 26	263 46	3	30
4 pole 16 A 1000VDC	263 27	263 47	3	30
4 pole 20 A 1000VDC	263 28	263 48	3	30
4 pole 25 A 1000VDC	263 29	263 49	3	30
4 pole 32 A 1000VDC	263 30	263 50	3	30
4 pole 40 A 1000VDC	263 31	263 51	3	30
4 pole 50 A 1000VDC	263 32	263 52	3	30
4 pole 63 A 1000VDC	263 33	263 53	3	30



OC4C -1000



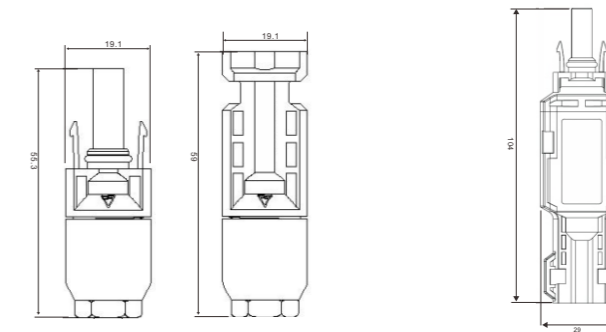
PV-ONCTF4C

Connector 1000V DC

- Made of anti-aging and UV-resistant material
- Low heat and power loss
- High robustness, high grade reliable connection
- Convenient installation, strong commonality.
- Suitable for usage under bad outdoor condition
- Comply with IEC62852:2014, EN62852:2015

Type	OC4C-1000	PV-ONCTF4C
Description	Connector 1000V DC	Fuse Connector
Rated voltage	1000V DC (IEC)	1000V DC (IEC)
Rated current	max.35A	max.20A
Conductor cross section	4.0 mm ² or 6.0 mm ²	max.6.0 mm ²
Impulse withstand voltage	12kV	8kV (50Hz, 1 min)
Ambient temperature range	-40°C to 85°C	-40°C to 85°C
Insulation material	PC	PC
Contact material	Tin plated red copper	Tin plated copper alloy
Contact resistance	<0.4mΩ	0.5mΩ
Protection degree	IP68	IP68
Flame class	V-0/5VA	UL94-V0
Safety class	Class II	Class Ⅱ
Locking system	Snap-in	-
Electrical connections	Rivet	-

Dimensions(mm)

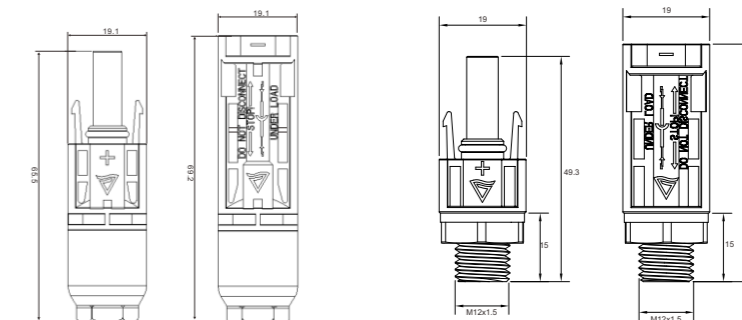


Connector 1500V DC

- Made of anti-aging and UV-resistant material
- Low heat and power loss
- High robustness, high grade reliable connection
- Convenient installation, strong commonality.
- Suitable for usage under bad outdoor condition
- Comply with IEC62852:2014, EN62852:2015

Type	OC4C-1500	OC4C-1500P
Description	Connector 1500V DC	Connector 1500V DC
Rated voltage	1500V DC (IEC)	1500V DC (IEC)
Rated current	max.40A	max.40A
Conductor cross section	4.0 mm ² or 6.0 mm ²	2.5 mm ² or 6.0 mm ²
Impulse withstand voltage	16kV	16kV
Ambient temperature range	-40°C to 85°C	-40°C to 85°C
Insulation material	PC	PC
Contact material	Tin plated red copper	Tin plated red copper
Contact resistance	<0.4mΩ	<0.4mΩ
Protection degree	IP67	IP67
Flame class	V-0/5VA	V-0/5VA
Safety class	Class II	Class A
Locking system	Snap-in	Snap-in
Electrical connections	Rivet	Rivet

Dimensions(mm)





PV-ONCT4B



PV-ONCT4T



PV-ONCT4C



PV-ONBC2



PV-ONBC3



PV-ONBC4

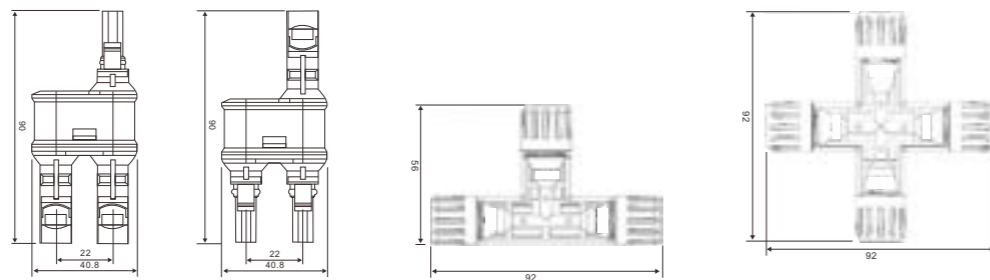
Branch Connector 1500V DC

- Made of anti-aging and UV-resistant material
- Low heat and power loss
- High robustness, high grade reliable connection

- Convenient installation, strong commonality.
- Suitable for usage under bad outdoor condition

Type	PV-ONCT4B	PV-ONCT4T	PV-ONCT4C
Description	Branch connector	Tee connector	Cross connector
PIN diameter	4mm	4mm	4mm
Rated voltage	1000V DC (IEC)	1000V , 1500V DC (IEC)	1000V , 1500V DC (IEC)
Rated current	max.30A	max.49A	max.49A
Conductor cross section	max.6.0 mm ²	max.6.0 mm ²	max.6.0 mm ²
Impulse withstand voltage	6kV((50Hz,1 min)	8kV((50Hz,1 min)	8kV((50Hz,1 min)
Ambient temperature range	-40°C to 90°C(IEC)	-40°C to 90°C(IEC)	-40°C to 90°C(IEC)
Insulation material	PC/PA	PC/PA	PC/PA
Contact material	Tin plated copper alloy	Tin plated copper alloy	Tin plated copper alloy
Contact resistance	1mΩ	1mΩ	1mΩ
Protection degree	IP67	IP68	IP68
Flame class	UL94-V0	UL94-V0	UL94-V0
Safety class	Class II	Class II	Class II
Locking system	Snap-in	Snap-in	Snap-in

Dimensions(mm)

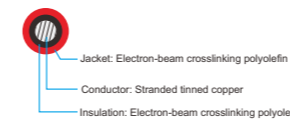
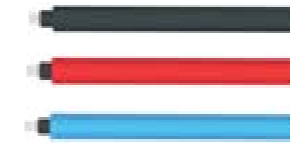


Branch cable 1500V DC

- Made of anti-aging and UV-resistant material
- Low heat and power loss
- High robustness, high grade reliable connection

- Convenient installation, strong commonality.
- Suitable for usage under bad outdoor condition

Type	PV-ONBC2	PV-ONBC3	PV-ONBC4	PV-ONBC6
Description	2 branch cable	3 branch cable	4 branch cable	6 branch cable
Connector	1 male to 2 female or 1 female to 2 male	1 male to 3 female or 1 female to 3 male	1 male to 4 female or 1 female to 4 male	1 male to 6 female or 1 female to 6 male
Main cable length	60cm	60cm	60cm	60cm
Branch cable length	10cm	10cm	10cm	10cm
PIN diameter	4mm	4mm	4mm	4mm
Rated voltage	1500V DC (IEC)	1500V DC (IEC)	1500V DC (IEC)	1500V DC (IEC)
Rated current	30A	30A	30A	30A
Impulse withstand voltage	6kV((50Hz,1 min)	6kV((50Hz,1 min)	6kV((50Hz,1 min)	6kV((50Hz,1 min)
Ambient temperature range	-40°C to 90°C(IEC)	-40°C to 90°C(IEC)	-40°C to 90°C	-40°C to 90°C
Insulation material	PPE/PA	PPE/PA	PPE/PA	PPE/PA
Contact material	Tin plated copper alloy	Tin plated copper alloy	Tin plated copper alloy	Tin plated copper alloy
Contact resistance	0.5mΩ	0.5mΩ	0.5mΩ	0.5mΩ
Protection degree	IP67	IP67	IP67	IP67
Flame class	UL94-V0	UL94-V0	UL94-V0	UL94-V0
Safety class	Class II	Class II	Class II	Class II

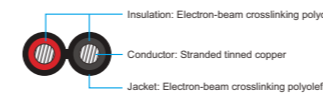


PV Cable single

- Double insulation, all weather adaptability.
- Resistance to UV, water, ozone, oil, fluids and oxygen.
- Halogen-free, inflaming retarding, low toxic material.

- Good abrasion resistance, excellent softness and stripping performance.
- High current carrying capacity.

Type	(mm ²)	1X1.5	1X2.5	1X4.0	1X6.0	1X10	1X16	1X25	1X35
Conductor construction	n/mm	30/0.25	49/0.25	56/0.285	84/0.30	84/0.40	128/0.40	192/0.40	276/0.40
Conductor outer diameter	mm	1.58	2.02	2.35	3.20	4.60	5.60	6.95	8.30
Cable outer diameter	mm	4.90	5.45	6.10	7.20	9.00	10.20	12.00	13.8
Conductor resistance (20°C)	Ω/km	13.7	8.21	5.09	3.39	1.95	1.24	0.795	0.565
Current carrying capacity(60°C)	A	30	41	55	70	98	132	176	218
Rated voltage		DC 1.8 kV		AC 0.6/1.0kV					
Ambient temperature range		-40°C to +90°C							
Max. conductor temperature		+120 °C							
Reference short circuit temp.		200°C, 5s							
Service life		>25 years							
Colours		Black , Red , Blue							
Impulse withstand voltage		DC 15 kV AC 6.5kV , 5min							
Min bending radius		≥4x Φ(D<8mm) , ≥6x Φ(D≥8mm)							



PV Cable twin

- Double insulation, all weather adaptability.
- Resistance to UV, water, ozone, oil, fluids and oxygen.
- Halogen-free, inflaming retarding, low toxic material.

- Good abrasion resistance, excellent softness and stripping performance.
- High current carrying capacity.

Type	(mm ²)	2X2.5	2X4.0	2X6.0	2X10
Conductor construction	n/mm	47/0.25	52/0.30	78/0.30	84/0.40
Conductor outer diameter	mm	1.98	2.35	3.06	3.92
Cable outer diameter	mm	4.2X86	4.6X9.4	5.3X10.8	8.3X16.9
Conductor resistance (20°C)	Ω/km	8.21	5.09	3.39	1.95
Current carrying capacity(60°C)	A	41	55	70	98
Rated voltage		DC 1.8 kV		AC 0.6/1.0kV	
Ambient temperature range		-40°C to +90°C			
Max. conductor temperature		+120 °C			
Reference short circuit temp.		200°C, 5s			
Service life		>25 years			
Colours		Black , Red			
Impulse withstand voltage		DC 15 kV AC 6.5kV , 5min			
Min bending radius		≥4x Φ(D<8mm) , ≥6x Φ(D≥8mm)			

AC Surge Protective Device

BY7 series

- No. of pole: 1P, 2P, 2+1, 3P, 3+1, 4P
- Rated voltage: 275V, 385V, 440V AC
- Type of network systems: TN-S, TN-C-S, IT, TT
- Maximum discharge surge current: 20kA, 40kA

- Plug-in replacement module with indicator
- Available with signaling auxiliary
- DIN rail 35mm installation
- Comply with IEC61643-11, EN50539-11



BY7-20/2-275



BY7-40/1+1-275



BY7-20/4-385



BY7-20/3+1-385

Type	BY7-	20/1+1-275	20/1+1-385	20/1+1-440	40/1+1-275	40/1+1-385	40/1+1-440	
Type of network systems		TT						
Maximum continuous voltage	Uc	V	275	385	440	275	385	440
Maximum discharge surge current	I _{max}	kA	20	20	20	40	40	40
Nominal discharge current(8/20us)	I _n	kA	10	10	10	20	20	20
Voltage protection level	Up	kV	1.0	1.5	1.8	1.2	1.8	2.2
Protection rating		IP20						
Fuse or circuit breaker	Gg	A	10	10	10	10	10	10
Connection		Screw terminal : 4 to 25mm ² , by busbar						
Temperature range		-40°C+80°C						
Disconnection indicator		RED INDICATOR						
Mounting		symmetrical rail(EN50022/DIN46277-3) 35mm						
Housing material		PA6 UL94-V0						

Type	BY7-	20/2-275	20/2-385	20/2-440	40/2-275	40/2-385	40/2-440	
Type of network systems		TN-S, TN-C-S, IT						
Maximum continuous voltage	Uc	V	275	385	440	275	385	440
Maximum discharge surge current	I _{max}	kA	20	20	20	40	40	40
Nominal discharge current(8/20us)	I _n	kA	10	10	10	20	20	20
Voltage protection level	Up	kV	1.0	1.5	1.8	1.2	1.8	2.2
Protection rating		IP20						
Fuse or circuit breaker	Gg	A	10	10	10	10	10	10
Connection		Screw terminal : 4 to 25mm ² , by busbar						
Temperature range		-40°C+80°C						
Disconnection indicator		RED INDICATOR						
Mounting		symmetrical rail(EN50022/DIN46277-3) 35mm						
Housing material		PA6 UL94-V0						

Type	BY7-	20/4-275	20/4-385	20/4-440	40/4-275	40/4-385	40/4-440	
Type of network systems		TN-S, TN-C-S, IT						
Maximum continuous voltage	Uc	V	275	385	440	275	385	440
Maximum discharge surge current	I _{max}	kA	20	20	20	40	40	40
Nominal discharge current(8/20us)	I _n	kA	10	10	10	20	20	20
Voltage protection level	Up	kV	1.0	1.5	1.8	1.2	1.8	2.2
Protection rating		IP20						
Fuse or circuit breaker	Gg	A	10	10	10	10	10	10
Connection		Screw terminal : 4 to 25mm ² , by busbar						
Temperature range		-40°C+80°C						
Disconnection indicator		RED INDICATOR						
Mounting		symmetrical rail(EN50022/DIN46277-3) 35mm						
Housing material		PA6 UL94-V0						

Type	BY7-	20/3+1-275	20/3+1-385	20/3+1-440	40/3+1-275	40/3+1-385	40/3+1-440	
Type of network systems		TT						
Maximum continuous voltage	Uc	V	275	385	440	275	385	440
Maximum discharge surge current	I _{max}	kA	20	20	20	40	40	40
Nominal discharge current(8/20us)	I _n	kA	10	10	10	20	20	20
Voltage protection level	Up	kV	1.0	1.5	1.8	1.2	1.8	2.2
Protection rating		IP20						
Fuse or circuit breaker	Gg	A	10	10	10	10	10	10
Connection		Screw terminal : 4 to 25mm ² , by busbar						
Temperature range		-40°C+80°C						
Disconnection indicator		RED INDICATOR						
Mounting		symmetrical rail(EN50022/DIN46277-3) 35mm						
Housing material		PA6 UL94-V0						

DC Surge Protective Device

BY7 series

- No. of pole: 2P, 3P
- Rated voltage: 500V, 600V, 800V, 1000V, 1200V, 1500V DC
- Type of network systems: PV
- Maximum discharge surge current: 20kA, 40kA, 60kA, 80kA

- Plug-in replacement module with indicator
- Available with signaling auxiliary
- DIN rail 35mm installation
- Comply with IEC61643-31, EN50539-11



BY7-40/2-500



BY7-40/3-600



BY7-40/3-1000



BY7-40/3-1500

Type	BY7-	40/2-500	40/2-600	40/2-800	40/2-1000	40/2-1200	40/2-1500	
Type of network systems		PV						
Maximum continuous voltage	Uc	VDC	500	600	800	1000	1200	1500
Maximum discharge surge current	I _{max}	kA	40	40	40	40	40	40
Nominal discharge current(8/20us)	I _n	kA	20	20	20	20	20	20
Voltage protection level	Up	kV	3.51	3.74	4.16	4.28	4.28	4.8
Protection rating		IP20						
Connection		Screw terminal : 4 to 25mm ² , by busbar						
Temperature range		-40°C+80°C						
Disconnection indicator		°C RED INDICATOR						
Remote signalling of disconnection		option						
Mounting		symmetrical rail(EN50022/DIN46277-3) 35mm						
Housing material		PA6 UL94-V0						

Type	BY7-	40/3-500	40/3-600	40/3-800	40/3-1000	40/3-1200	40/3-1500	
Type of network systems		PV						
Maximum continuous voltage	Uc	VDC	500	600	800	1000	1200	1500
Maximum discharge surge current	I _{max}	kA	40	40	40	40	40	40
Nominal discharge current(8/20us)	I _n	kA	20	20	20	20	20	20
Voltage protection level	Up	kV	3.51	3.74	4.16	4.28	4.2	4.8
Protection rating		IP20						
Connection		Screw terminal : 4 to 25mm ² , by busbar						
Temperature range		-40°C+80°C						
Disconnection indicator		°C RED INDICATOR						
Remote signalling of disconnection		option						
Mounting		symmetrical rail(EN50022/DIN46277-3) 35mm						
Housing material		PA6 UL94-V0						

Type	BY7-	60/2-500	60/2-600	60/2-800	60/2-1000	60/3-500	60/3-600	60/3-800	60/3-1000	
Type of network systems		PV								
Maximum continuous voltage	Uc	VDC	500	600	800	1000	500	600	800	1000
Maximum discharge surge current	I _{max}	kA	60	60	60	60	60	60	60	60
Nominal discharge current(8/20us)	I _n	kA	30	30	30	30	30	30	30	30
Voltage protection level	Up	kV	2.0	2.5	3.0	3.2	2.0	2.5	3.0	3.2
Protection rating		IP20								
Connection		Screw terminal : 4 to 25mm ² , by busbar								
Temperature range		-40°C+80°C								
Disconnection indicator		°C RED INDICATOR								
Remote signalling of disconnection		option								
Mounting		symmetrical rail(EN50022/DIN46277-3) 35mm								
Housing material		PA6 UL94-V0								

Type	BY7-	80/2-500	80/2-600	80/2-800	80/2-1000	80/3-500	80/3-600	80/3-800	80/3-1000	
Type of network systems		PV								
Maximum continuous voltage	Uc	VDC	500	600	800	1000	500	600	800	1000
Maximum discharge surge current	I _{max}	kA	80	80	80	80	80	80	80	80
Nominal discharge current(8/20us)	I _n	kA	40	40	40	40	40	40	40	40
Voltage protection level	Up	kV	2.5	3.0	3.2	3.5	2.5	3.0	3.2	3.5
Protection rating		IP20								
Connection		Screw terminal : 4 to 25mm ² , by busbar								
Temperature range		-40°C+80°C								
Disconnection indicator		°C RED INDICATOR								
Remote signalling of disconnection		option								
Mounting		symmetrical rail(EN50022/DIN46277-3) 35mm								
Housing material		PA6 UL94-V0								



ODD-32D4
Din Rail Mounting



ODD-32P4
Panel Mounting



ODD-25D-E4
With E type IP66 waterproof box



ODD-32D-EA4
With EA type IP66 waterproof box

DC Switch Disconnector

ODD series

- No. of pole: 2P, 2+2P, 4P
- Rated voltage: 300V, 500V, 600V, 800V, 1000V, 1200VDC
- Rated current: 16A, 25A, 32A
- Rated insulation voltage: 1000V
- Rated impulse withstand voltage: 8kV
- Utilization category: DC-21B / DC-PV1 / DC-PV2
- Comply with IEC60947-3

Din Rail /Panel Mounting for DC-PV2

No. of pole	300V	600V	800V	1000V	1200V	Din Rail type	Panel type
2	16A	16A	9A	5A	4A	ODD-16D2	ODD-16P2
2+2	25A	25A	/	/	/	ODD-16D22	ODD-16P22
4	16A	16A	16A	16A	13.5A	ODD-16D4	ODD-16P4
2	25A	25A	11A	6A	5A	ODD-25D2	ODD-25P2
2+2	32A	25A	/	/	/	ODD-25D22	ODD-25P22
4	25A	25A	25A	25A	21A	ODD-25D4	ODD-25P4
2	32A	32A	13A	9A	6A	ODD-32D2	ODD-32P2
2+2	45A	40A	/	/	/	ODD-32D22	ODD-32P22
4	32A	32A	32A	32A	27A	ODD-32D4	ODD-32P4

Din Rail /Panel Mounting for DC-PV1 / DC-21B

No. of pole	500V	600V	800V	1000V	1200V	Din Rail type	Panel type
2	16A	16A	16A	9A	4A	ODD-16D2	ODD-16P2
2+2	29A	29A	16A	9A	4A	ODD-16D22	ODD-16P22
4	16A	16A	16A	16A	13.5A	ODD-16D4	ODD-16P4
2	25A	25A	20A	12A	5A	ODD-25D2	ODD-25P2
2+2	45A	45A	20A	12A	5A	ODD-25D22	ODD-25P22
4	25A	25A	25A	25A	21A	ODD-25D4	ODD-25P4
2	32A	32A	23A	13A	6A	ODD-32D2	ODD-32P2
2+2	50A	50A	23A	13A	6A	ODD-32D22	ODD-32P22
4	32A	32A	32A	32A	27A	ODD-32D4	ODD-32P4

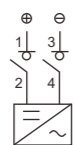
With E/EA type IP66 waterproof box for DC-PV2

No. of pole	300V	600V	800V	1000V	1200V	E type box	EA type box
2	16A	16A	9A	5A	4A	ODD-16E2	ODD-16EA2
2+2	25A	25A	/	/	/	ODD-16E22	ODD-16EA22
4	16A	16A	16A	16A	13.5A	ODD-16E4	ODD-16EA4
2	25A	25A	11A	6A	5A	ODD-25E2	ODD-25EA2
2+2	32A	25A	/	/	/	ODD-25E22	ODD-25EA22
4	25A	25A	25A	25A	21A	ODD-25E4	ODD-25EA4
2	32A	32A	13A	9A	6A	ODD-32E2	ODD-32EA2
2+2	45A	40A	/	/	/	ODD-32E22	ODD-32EA22
4	32A	32A	32A	32A	27A	ODD-32E4	ODD-32EA4

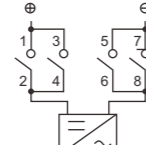
With E/EA type IP66 waterproof box for DC-PV1 / DC-21B

No. of pole	500V	600V	800V	1000V	1200V	E type box	EA type box
2	16A	16A	16A	9A	4A	ODD-16E2	ODD-16EA2
2+2	29A	29A	16A	9A	4A	ODD-16E22	ODD-16EA22
4	16A	16A	16A	16A	13.5A	ODD-16E4	ODD-16EA4
2	25A	25A	20A	12A	5A	ODD-25E2	ODD-25EA2
2+2	45A	45A	20A	12A	5A	ODD-25E22	ODD-25EA22
4	25A	25A	25A	25A	21A	ODD-25E4	ODD-25EA4
2	32A	32A	23A	13A	6A	ODD-32E2	ODD-32EA2
2+2	50A	50A	23A	13A	6A	ODD-32E22	ODD-32EA22
4	32A	32A	32A	32A	27A	ODD-32E4	ODD-32EA4

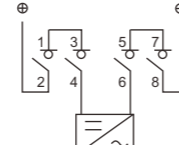
Electrical Scheme



2 Pole in series



2 Pole in series, 2 Pole parallel



4 Pole in series



ODA-32



ODA-63



ODA-32E



ODA-63E

AC Switch Disconnector

ODA series

- No. of pole: 3P, 3P+N, 4P
- Rated voltage: 440V, 500V, 690V AC
- Rated current: 16A, 20A, 25A, 32A, 40A, 63A
- Rated insulation voltage: 750V
- Rated impulse withstand voltage: 8kV
- Comply with IEC60947-3

Din Rail Mounting

Type	ODA-16	ODA-20	ODA-25	ODA-32	ODA-40	ODA-63
Rated operational voltage Ue						
IEC/EN/VDE	V			690		
Main switch: Isolating voltages upto	V			750		
Resistance to surge pulse voltage Uimp	KV			8		
AC-22A IEC/EN/VDE						
	440V	16	20	25	32	40
	500V	16	20	25	32	40
	690V	16	20	25	32	40
AC-23A IEC/EN/VDE						
	440V	16	20	25	32	40
	500V	10	16	20	25	32
	690V	10	16	20	25	32

Short Circuit Capacity :

Max.Fuse size(RK5)A	A	25	25	30	35	-	70
Max.Fuse size(Class-J)	A	-	-	-	-	45	-
Rated fused short circuit current	kA	5	5	5	10	10	10
Wire cu only		60-75°C					
Protection Class		E Type IP65					
Rated short time withstand current	Icw	640A(1s)	640A(1s)	640A(1s)	640A(1s)	1260A(1s)	1260A(1s)
Rated short circuit making capacity	Icm	> 12Ie					
Terminal crps section							
Single/Multiple strand wire	Min-mm ²	1.5	1.5	1.5	1.5	4	4
	Max-mm ²	6	6	6	10	16	16
Fine strand wire with	Min-mm ²	0.5	0.5	0.5	0.75	2.5	2.5
Sleeve	Max-mm ²	6	6	6	6	10	10
American Gauge Wire (STR)	AWG	10	10	10	10	8	8
Recommended Tightening Torque	Nm	1.8	1.8	1.8	1.8	2.0	2.0
Break all lines		For use on a flat surface type 1 only					

With IP66 waterproof box

Type	ODA-16E	ODA-20E	ODA-25E	ODA-32E	ODA-40E	ODA-63E
Rated operational voltage Ue						
IEC/EN/VDE	V			690		
Main switch: Isolating voltages upto	V			750		
Resistance to surge pulse voltage Uimp	KV			8		
AC-22A IEC/EN/VDE						
	440V	16	20	25	32	40
	500V	16	20	25	32	40
	690V	16	20	25	32	40
AC-23A IEC/EN/VDE						
	440V	16	20	25	32	40
	500V	10	16	20	25	32
	690V	10	16	20	25	32

Short Circuit Capacity :

Max.Fuse size(RK5)A	A	25	25	30	35	-	70
Max.Fuse size(Class-J)	A	-	-	-	-	45	-
Rated fused short circuit current	kA	5	5	5	10	10	10
Wire cu only		60-75°C					
Protection Class		E Type IP65					
Rated short time withstand current	Icw	640A(1s)	640A(1s)	640A(1s)	640A(1s)	1260A(1s)	1260A(1s)
Rated short circuit making capacity	Icm	> 12Ie					
Terminal crps section							
Single/Multiple strand wire	Min-mm ²	1.5	1.5	1.5	1.5	4	4
	Max-mm ²	6	6	6	10	16	16
Fine strand wire with	Min-mm ²	0.5	0.5	0.5	0.75	2.5	2.5
Sleeve	Max-mm ²	6	6	6	6	10	10
American Gauge Wire (STR)	AWG	10	10	10	10	8	8
Recommended Tightening Torque	Nm	1.8	1.8	1.8	1.8	2.0	2.0
Break all lines		For use on a flat surface type 1 only					



KDD125



KDD250

Switch Disconnecter 1000V DC

KDD series

- Patent design for easy operation
- Big electric clearance ensures safety isolation
- Ball contact with self cleaning function for long service life
- Low temperature rising for ideal installation in string box
- Multiple contacts and breaking points provide high short-circuit performance

- Rated operational voltage: DC 1000V
- Rated operational current: 125A-1600A
- Rated insulation voltage: DC 1000V
- Rated impulse withstand voltage: 12kV
- Utilization category: DC-21B
- Complying standard: IEC60947-3

Description	lcw	lcm	torque	endurance	external handle	direct handle	type
3 pole 125A	4kA	14kA	7.5Nm	10000	150~355mm	155x140x174mm	KDD125
3 pole 160A	4kA	14kA	7.5Nm	10000	150~355mm	155x140x174mm	KDD160
3 pole 200A	4kA	14kA	7.5Nm	10000	150~355mm	155x140x174mm	KDD200
3 pole 250A	15kA	22kA	16Nm	3000	160~455mm	252x196x207mm	KDD250
3 pole 400A	15kA	22kA	16Nm	3000	160~455mm	252x196x207mm	KDD400
3 pole 630A	15kA	22kA	16Nm	3000	160~455mm	252x216x207mm	KDD630
3 pole 800A	34kA	40kA	30Nm	1500	232~637mm	345x286x283mm	KDD800
3 pole 1000A	34kA	40kA	30Nm	1500	232~637mm	345x286x283mm	KDD1000
3 pole 1250A	40kA	45kA	38Nm	1000	270~657mm	453.5x370mm	KDD1250
3 pole 1600A	40kA	45kA	38Nm	1000	270~657mm	453.5x380mm	KDD1600

Accessories



Frame size	125A	160A	200A	250A	400A	630A	800A	1000A	1250A	1600A
Direct operation handle	KDD-DH-200			KDD-DH-630			KDD-DH-1000		-	
Auxiliary contact (NO+NC)	KDD-AC-630 (Red)						KDD-AC-1600 (Black)			
Terminal cover(Top & Bottom)	KDD-TC-200			KDD-TC-630			KDD-TC-1000			
External operation handle(Padlockable)	KDD-EH-200			KDD-EH-630			KDD-EH-1600			
Extension shaft(Selectable length)(mm)	8x8x215		10x10x250,10x10x260				12x12x185,12x12x285			
	8x8x300		10x10x300,10x10x350				12x12x300,12x12x350			
	8x8x350		10x10x400,10x10x450				12x12x370,12x12x450			

Electrical scheme



KCMD-125 2P



KCMD-125 3P



KCMD-250 4P



KCMD3-320 2P



KCMD3-320 3P

Moulded Case Circuit Breaker 1000V DC

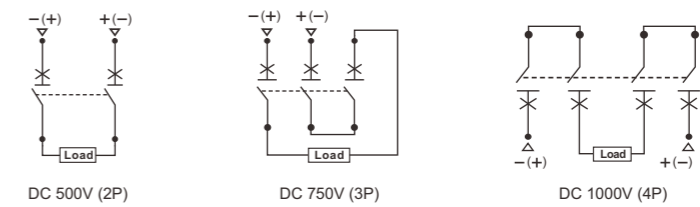
KCMD series

- Number of poles : 2P ,3P ,4P
- Rated operational voltage : DC 500V - 1000V
- Rated operational current : 16A ~ 800A
- Rated insulation voltage : DC 1000V
- Rated impulse withstand voltage : 8KV

- Type of release : Thermomagnetic
- Installation altitude : ≤2000m
- Utilization category : A
- Protection degree : IP20
- Complying standard : IEC 60947-2

Type	KCMD-125	KCMD-250	KCMD-400	KCMD-630	KCMD-800
Rated operational current	In 16A,20A,25A, 32A,40A,50A, 63A,80A,100A, 125A	100A,125A, 140A,160A, 180A,200A, 225A,250A	225A,250A, 315A,350A, 400A	400A, 500A, 630A	630A, 700A, 800A
Number of poles	2P,3P,4P	2P,3P,4P	3P,4P	3P,4P	3P,4P
Rated operational voltage	Ue	2P : DC 500V	3P : DC 750V	4P : DC 1000V	
Rated impulse withstand voltage	Uimp	8kV			
Rated ultimate short-circuit breaking capacity	Icu	6kA	6kA	6kA	6kA
Rated service short-circuit breaking capacity	Ics	6kA	6kA	6kA	6kA
Flashover distance(mm)	≤50	≤50	≤100	≤100	≤150
Accessories available on request	Shunt release , Alarm contact , Auxiliary contact				
Dimension(mm)	W x L x H	2P 65x150x86	74.5x170x95	-	-
		3P 92x150x86	107x170x95	150x257x107	182x270x114
		4P 122x150x86	142x170x95	198x257x107	240x270x114
				280x280x117	280x280x117

Electrical scheme



Moulded Case Circuit Breaker 1500V DC

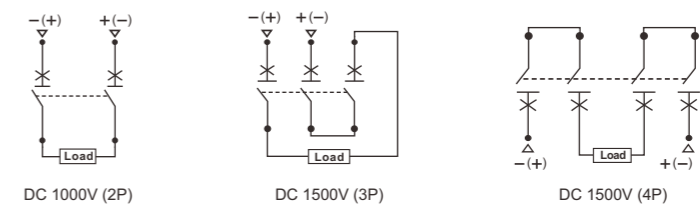
KCMD3 series

- Number of poles : 2P ,3P ,4P
- Rated operational voltage : DC 1000V - 1500V
- Rated operational current : 125A-400A
- Rated insulation voltage : DC 1500V
- Rated impulse withstand voltage : 12 KV

- Type of release : Thermomagnetic
- Installation altitude : ≤2000m
- Utilization category : A
- Protection degree : IP20
- Complying standard : IEC 60947-2

Type	KCMD3-250	KCMD3-320	KCMD3-400
Rated operational current	In 125A,140A,160A, 180A,200A,225A,250A	280A,315A,320A,	315A,350A,400A
Number of poles	2P,3P	2P,3P	4P
Rated operational voltage	Ue	2P:1000V DC	3P:1500V DC
Rated impulse withstand voltage	Uimp	12kV	
Rated ultimate short-circuit breaking capacity	Icu	10kA	10kA
Rated service short-circuit breaking capacity	Ics	10kA	10kA
Flashover distance(mm)	≤50		
Accessories available on request	Shunt release , Alarm contact , Auxiliary contact		
Dimension(mm)	W x L x H	180x76x126(2p)	180x107x126(3p)
			258x200x107(4p)

Electrical scheme





WDB4



WDB6



WDB9



WDB13



WDB26



WDB39

IP65 Distribution board

WDB series

- Plug-in din rail for quick mounting.
- Reversible door opening from left or right.
- Plug-in PE/N terminal bar for easy wiring.
- Adjustable din rail for perfect fitting of components.
- PE/N terminal bar can be fitted on top or bottom of the board.
- Made of fire resistant polycarbonate with UV protection.

- Protection degree (IEC60529): IP65
- Impact resistance (IEC62262): Ik08
- Rated insulation voltage :400V AC
- Body color:RAL 7035
- Ambient temperature: -25°C to +70°C
- Electrical insulation Class II
- Comply with IEC/EN 62208

Description	cat.nos.	size mm(HxWxD)	type
4 way 1 din rail	095 21	146x213x110	WDB4
6 way 1 din rail	095 22	179x213x112	WDB6
9way 1 din rail	095 23	233x213x112	WDB9
13 way 1 din rail	095 24	305x285x145	WDB13
26way 2 din rail	095 25	305x444x145	WDB26
39 way 3 din rail	095 26	305x603x145	WDB39
52 way 4 din rail	095 27	305x762x145	WDB52

Cable entry

Type	WDB4	WDB6	WDB9	WDB13	WDB26	WDB39	WDB52
Top		4XM20, 1XM20/M25	4XM16,4XM20, 1XM16/M20/M32	4M16,4XM20, 2XM16/M20/M25, 1XM20/M25/M32	4XM16,4XM20, 2XM16/M20/M25, 1XM20/M25/M32	4XM16,4XM20, 2XM16/M20/M25, 1XM20/M25/M32	4XM16,4XM20, 2XM16/M20/M25, 1XM20/M25/M32
Bottom	3XM20	4XM20, 1XM20/M25	4XM16,4XM20, 1XM16/M20/M32	4XM16,4XM20, 2XM16/M20/M25, 1XM20/M25/M32	4XM16,4XM20, 2XM16/M20/M25, 1XM20/M25/M32	4XM16,4XM20, 2XM16/M20/M25, 1XM20/M25/M32	4XM16,4XM20, 2XM16/M20/M25, 1XM20/M25/M32
Each side	2XM16/M20	2XM16/M20	2XM16/M20	2XM16/M20	3XM16/M20	4XM16/M20	5XM16/M20

Features



Multiple size knock-out cable entry on four sides.



Quarter turn screw for quick release of cover.



Durable metal lock with key for option



Detachable blank strip for covering unused position.



Seal hole between base and cover provides more security.



Fixing bracket for external wall mounting.



IP55 Metal enclosure



IP65 Stainless steel enclosure

IP55 Metal enclosure

- Made of electrolysis zinc coated sheet steel.
- Foamed lip around all sides.
- Concealed hinges allowing 120° door opening.
- Standard door lock with wing-shaped handle.
- Earthing studs fitted on door and body.
- Provide with external wall mounting bracket.
- Cable flange opening with gasket on the bottom of box.
- Powdering with RAL7035
- Comply with IEC/EN 60529

IP55 Metal enclosure

cat.nos.	Dimensions(mm)	No of locks	Thickness(mm)	
			Body	MP
080 01	H250xW200xD150	1	1.2	2.0
080 02	H250xW250xD150	1	1.2	2.0
080 03	H300xW200xD150	1	1.2	2.0
080 04	H300xW250xD150	1	1.2	2.0
080 05	H300xW300xD150	1	1.2	2.0
080 06	H400xW300xD150	1	1.2	2.0
080 07	H500xW300xD150	1	1.5	2.0
080 08	H500xW400xD150	1	1.5	2.0
080 09	H600xW400xD150	1	1.5	2.0
080 10	H600xW500xD150	1	1.5	2.0
080 11	H300xW250xD200	2	1.2	2.0
080 12	H300xW300xD200	2	1.2	2.0
080 13	H400xW300xD200	2	1.2	2.0
080 14	H400xW400xD200	2	1.2	2.0
080 15	H500xW300xD200	2	1.5	2.0
080 16	H500xW400xD200	2	1.5	2.0
080 17	H500xW500xD200	2	1.5	2.0
080 18	H600xW400xD200	2	1.5	2.0
080 19	H600xW500xD200	2	1.5	2.0
080 20	H600xW600xD200	2	1.5	2.0
080 21	H700xW500xD200	2	1.5	2.0
080 22	H800xW600xD200	2	1.5	2.0
080 23	H800xW800xD200	2	1.5	2.0
080 24	H500xW400xD250	2	1.5	2.0
080 25	H500xW500xD250	2	1.5	2.0
080 26	H600xW400xD250	2	1.5	2.0
080 27	H600xW500xD250	2	1.5	2.0
080 28	H600xW600xD250	2	1.5	2.0
080 29	H700xW500xD250	2	1.5	2.0
080 30	H800xW600xD250	2	1.5	2.0
080 31	H800xW800xD250	2	1.5	2.0
080 32	H1000xW600xD250	2	1.5	2.0
080 33	H1000xW800xD250	2	1.5	2.0
080 34	H600xW400xD300	2	1.5	2.0
080 35	H600xW600xD300	2	1.5	2.0
080 36	H800xW600xD300	2	1.5	2.0
080 37	H800xW800xD300	2	1.5	2.0
080 38	H1000xW600xD300	2	1.5	2.0
080 39	H1000xW800xD300	2	1.5	2.0
080 40	H1200xW800xD300	2	1.5	2.0
080 41	H1200xW1000xD300	2	1.5	2.0

IP65 Stainless steel enclosure

- Made of single piece stainless steel SUS304
- Polished surface
- Door opening angle over 120°
- Foamed polyurethane gasket around all four sides
- Suitable for use in airport, food industry.
- Comply with IEC/EN 60529

IP65 Stainless steel enclosure

cat.nos.	Dimensions(mm)	No of locks	Thickness(mm)	
			Body	MP
082 01	H250xW200xD150	1	1.2	2.0
082 02	H250xW250xD150	1	1.2	2.0
082 03	H300xW200xD150	1	1.2	2.0
082 04	H300xW250xD150	1	1.2	2.0
082 05	H300xW300xD150	1	1.2	2.0
082 06	H400xW300xD150	1	1.2	2.0
082 07	H500xW300xD150	2	1.5	2.0
082 08	H500xW400xD150	2	1.5	2.0
082 09	H600xW400xD150	2	1.5	2.0
082 10	H600xW500xD150	2	1.5	2.0
082 11	H300xW250xD200	2	1.2	2.0
082 12	H300xW300xD200	2	1.2	2.0
082 13	H400xW300xD200	2	1.2	2.0
082 14	H400xW400xD200	2	1.2	2.0
082 15	H500xW300xD200	2	1.5	2.0
082 16	H500xW400xD200	2	1.5	2.0
082 17	H500xW500xD200	2	1.5	2.0
082 18	H600xW400xD200	2	1.5	2.0
082 19	H600xW500xD200	2	1.5	2.0
082 20	H600xW600xD200	2	1.5	2.0
082 21	H700xW500xD200	2	1.5	2.0
082 22	H800xW600xD200	2	1.5	2.0
082 23	H800xW800xD200	2	1.5	2.0
082 24	H500xW400xD250	2	1.5	2.0
082 25	H500xW500xD250	2	1.5	2.0
082 26	H600xW400xD250	2	1.5	2.0
082 27	H600xW500xD250	2	1.5	2.0



WDB4S1-1000

PV string surge protection box one in one out

WDB4S1-1000

Consists of

- Enclosure 4 modules Ip65
- Surge arrester DC1000V/40kA/3P

For purpose of

- Overvoltage protection

Description	no. of input	no. of output	MPPT	max. voltage	max. current
One in one out 30A 1000V DC Pre-wired PV string box	1	1	1	1000V DC	30A

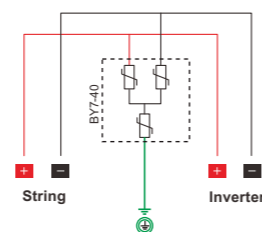
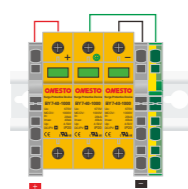
Assembled components

Surge arrester		BY7- 40/3 -1000	
Classification	Ucpv	Type 2	1000V DC
Maximum operation voltage	I _{max}	40kA	
Maximum discharge current(80/20µs)	I _n	20kA	
Norminal discharge current(80/20µs)	I _{scpv}	500A	
Short-circuit current rating	U _p	4.5kV	
Voltage protection level		UI1449 , IEC50539	
Standard compliance		UL , TUV	
Certificate			

Enclosure		WDB4	
No.of module	Material	4	PC / ABS
Protection degree(IEC60529)	Impact resistance(IEC62262)	IP65	IK08
Color	Dimension(mm)	RAL7035	143 X 213 X 110
Standard compliance	Certificate	IEC 62208	CE

Connection terminal		IEC rating	
Rated voltage	Rated current	1000V	40A
Connection	Wire range	Solid wire 0.5-10mm ²	Stranded wire 0.5-6mm ²
Rated impulse withstand voltage	Standard compliance	8kV	IEC 60947-7-1
Certificate		CE	

Electrical Scheme



WDB6D2-1000

PV string isolation box two in one out

WDB6D2-1000

Consists of

- Enclosure 9 modules IP65
- Fuse disconnecter w/fuse DC1000V/10A

For purpose of

- Overcurrent protection

Description	no. of input	no. of output	MPPT	max. voltage	max. current
Two in one out 25A 1000V DC Pre-wired PV string box	2	1	1	1000V DC	25A

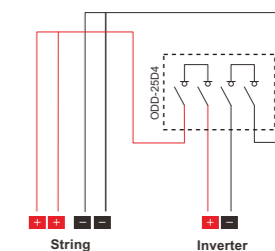
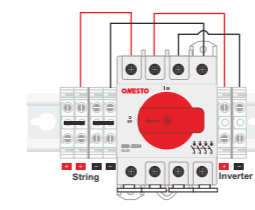
Assembled components

Switch disconnecter		ODD-25D4	
No.of pole	Rated insulation voltage	4	1000V DC
Rated current	Rated impulse withstand voltage	I _e 25A	U _{imp} 8kV
Category	Standard compliance	DC21B	IEC 60947-3
Certificate		TUV , SAA	

Connection terminal		IEC rating		UL rating	
Rated voltage	Rated current	1000V	41A	600V	40A
Connection	Wire range	Solid wire 0.2-10mm ²	Stranded wire 0.2-6mm ²	24-8AWG	24-10AWG
Rated impulse withstand voltage	Standard compliance	8kV	IEC 60947-7-1	-	UL1059
Certificate		CE		UL	

Enclosure		WDB9	
No.of module	Material	6	PC / ABS
Protection degree(IEC60529)	Impact resistance(IEC62262)	IP65	IK08
Color	Dimension(mm)	RAL7035	179 X 213 X 112
Standard compliance	Certificate	IEC 62208	CE

Electrical Scheme





WDB9F4-1000

PV string fuse box four in one out

WDB9F4-1000

Consists of

- Enclosure 9 modules IP65
- Fuse disconnecter w/fuse DC1000V/10A

For purpose of

- Overcurrent protection

Description	no. of input	no. of output	MPPT	max. voltage	max. current
Four in one out 40A 1000V DC Pre-wired PV string box	4	1	1	1000V DC	40A

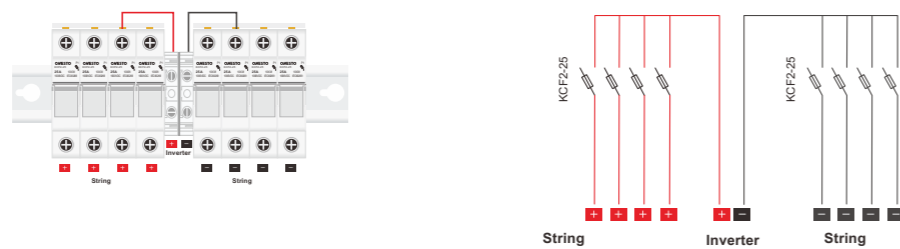
Assembled components

Fuse disconnecter		KCF2-25 / PVCF10
Rated voltage of fuse	U _e	1000V DC
Rated current of fuse	I _e	10A
Fuse size		10X38mm
Rated breaking capacity		25kA
Class of operation		gPV
Standard compliance		IEC 60947, IEC 60269
Certificate		TUV

Connection terminal		IEC rating	UL rating
Rated voltage		1000V	600V
Rated current		41A	40A
Connection	Solid wire	0.2-10mm ²	24-8AWG
wire range	Stranded wire	0.2-6mm ²	24-10AWG
Rated impulse withstand voltage		8kV	-
Standard compliance		IEC 60947-7-1	UL1059
Certificate		CE	UL

Enclosure		WDB9
No. of module		9
Material		PC / ABS
Protection degree(IEC60529)		IP65
Impact resistance(IEC62262)		IK08
Color		RAL7035
Dimension(mm)		233 X 213 X 112
Standard compliance		IEC 62208
Certificate		CE

Electrical Scheme



WDB9FS2-1000

PV string fuse box with surge protection two in one out

WDB9FS2-1000

Consists of

- Enclosure 9 modules IP65
- Fuse disconnecter w/fuse DC1000V/10A
- Surge arrester DC1000V/40kA/3P

For purpose of

- Overcurrent protection
- Overvoltage protection

Description	no. of input	no. of output	MPPT	max. voltage	max. current
Two in one out 25A 1000V DC Pre-wired PV string box	2	1	1	1000V DC	25A

Assembled components

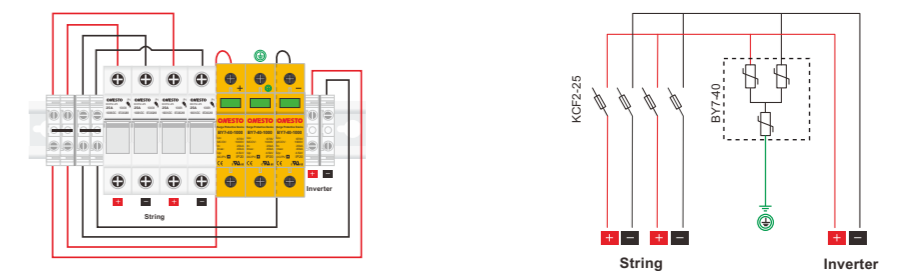
Fuse disconnecter		KCF2-25 / PVCF10
Rated voltage of fuse	U _e	1000V DC
Rated current of fuse	I _e	10A
Fuse size		10X38mm
Rated breaking capacity		25kA
Class of operation		gPV
Standard compliance		IEC 60947, IEC 60269
Certificate		TUV

Connection terminal		IEC rating	UL rating
Rated voltage		1000V	600V
Rated current		41A	40A
Connection	Solid wire	0.2-10mm ²	24-8AWG
wire range	Stranded wire	0.2-6mm ²	24-10AWG
Rated impulse withstand voltage		8kV	-
Standard compliance		IEC 60947-7-1	UL1059
Certificate		CE	UL

Surge arrester		BY7- 40/3 -1000
Classification		Type 2
Maximum operation voltage	U _{cpv}	1000V DC
Maximum discharge current(80/20μs)	I _{max}	40kA
Norminal discharge current(80/20μs)	I _n	20kA
Short-circuit current rating	I _{scpv}	500A
Voltage protection level	U _p	4.5kV
Standard compliance		UI1449 , IEC50539
Certificate		UL , TUV

Enclosure		WDB9
No. of module		9
Material		PC / ABS
Protection degree(IEC60529)		IP65
Impact resistance(IEC62262)		IK08
Color		RAL7035
Dimension(mm)		233 X 213 X 112
Standard compliance		IEC 62208
Certificate		CE

Electrical Scheme





WDB9DF2-1000

PV string isolation box with fuse protection two in one out

WDB9DF2-1000

Consists of

- Enclosure 9 modules IP65
- Switch disconnecter DC1000V/25A/4P
- Fuse disconnecter w/fuse DC1000V/10A

For purpose of

- String isolation
- Overcurrent protection

Description	no. of input	no. of output	MPPT	max. voltage	max. current
Two in one out 25A 1000V DC Pre-wired PV string box	2	1	1	1000V DC	25A

Assembled components

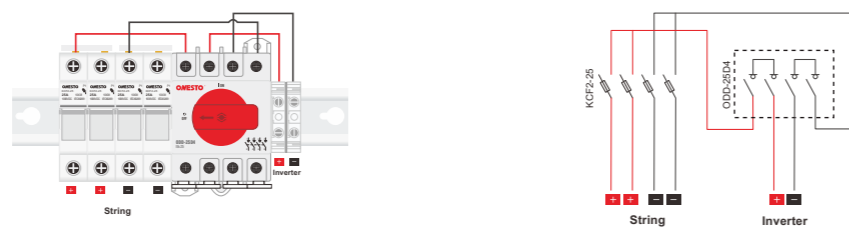
Switch disconnecter		ODD-25D4	
No. of pole		4	
Rated insulation voltage	Ui	1000V DC	
Rated current	Ie	25A	
Rated impulse withstand voltage	Uimp	8kV	
Category		DC21B	
Standard compliance		IEC 60947-3	
Certificate		TUV , SAA	

Fuse disconnecter		KCF2-25 / PVCF10	
Rated voltage of fuse	Ue	1000V DC	
Rated current of fuse	Ie	10A	
Fuse size		10X38mm	
Rated breaking capacity		25kA	
Class of operation		gPV	
Standard compliance		IEC 60947, IEC 60269	
Certificate		TUV	

Connection terminal		IEC rating	UL rating
Rated voltage		1000V	600V
Rated current		41A	40A
Connection	Solid wire	0.2-10mm ²	24-8AWG
wire range	Stranded wire	0.2-6mm ²	24-10AWG
Rated impulse withstand voltage		8kV	-
Standard compliance		IEC 60947-7-1	UL1059
Certificate		CE	UL

Enclosure		WDB9	
No. of module		9	
Material		PC / ABS	
Protection degree(IEC60529)		IP65	
Impact resistance(IEC62262)		IK08	
Color		RAL7035	
Dimension(mm)		233 X 213 X 112	
Standard compliance		IEC 62208	
Certificate		CE	

Electrical Scheme



WDB9DS2-1000

PV string isolation box with surge protection two in one out

WDB9DS2-1000

Consists of

- Enclosure 9 modules IP65
- Switch disconnecter DC1000V/25A/4P
- Surge arrester DC1000V/40kA/3P

For purpose of

- String isolation
- Overvoltage protection

Description	no. of input	no. of output	MPPT	max. voltage	max. current
Two in one out 25A 1000V DC Pre-wired PV string box	2	1	1	1000V DC	25A

Assembled components

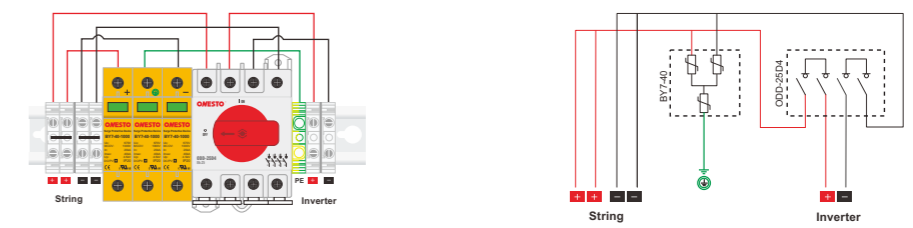
Switch disconnecter		ODD-25D4	
No. of pole		4	
Rated insulation voltage	Ui	1000V DC	
Rated current	Ie	25A	
Rated impulse withstand voltage	Uimp	8kV	
Category		DC21B	
Standard compliance		IEC 60947-3	
Certificate		TUV , SAA	

Surge arrester		BY7- 40/3 -1000	
Classification		Type 2	
Maximum operation voltage	Ucpv	1000V DC	
Maximum discharge current(80/20µs)	I _{max}	40kA	
Norminal discharge current(80/20µs)	I _n	20kA	
Short-circuit current rating	I _{scpv}	500A	
Voltage protection level	Up	4.5kV	
Standard compliance		UI1449 , IEC50539	
Certificate		UL , TUV	

Connection terminal		IEC rating	UL rating
Rated voltage		1000V	600V
Rated current		41A	40A
Connection	Solid wire	0.2-10mm ²	24-8AWG
wire range	Stranded wire	0.2-6mm ²	24-10AWG
Rated impulse withstand voltage		8kV	-
Standard compliance		IEC 60947-7-1	UL1059
Certificate		CE	UL

Enclosure		WDB9	
No. of module		9	
Material		PC / ABS	
Protection degree(IEC60529)		IP65	
Impact resistance(IEC62262)		IK08	
Color		RAL7035	
Dimension(mm)		233 X 213 X 112	
Standard compliance		IEC 62208	
Certificate		CE	

Electrical Scheme





WDB9DFS1-1000

PV string isolation box with fuse and surge protection one in one out

WDB9DFS1-1000

Consists of

- Enclosure 9 modules Ip65
- Switch disconnecter DC1000V/16A/4P
- Fuse disconnecter w/fuse DC1000V/10A
- Surge arrester DC1000V/40kA/3P

For purpose of

- String isolation
- Overcurrent protection
- Overvoltage protection

Description	no. of input	no. of output	MPPT	max. voltage	max. current
One in one out 16A 1000V DC Pre-wired PV string box	1	1	1	1000V DC	16A

Assembled components

Switch disconnecter		ODD-16D4	
No. of pole		4	
Rated insulation voltage	U _i	1000V DC	
Rated current	I _e	16A	
Rated impulse withstand voltage	U _{imp}	8kV	
Category		DC21B	
Standard compliance		IEC 60947-3	
Certificate		TUV , SAA	

Fuse disconnecter		KCF2-25 / PVCF10	
Rated voltage of fuse	U _e	1000V DC	
Rated current of fuse	I _e	10A	
Fuse size		10X38mm	
Rated breaking capacity		25kA	
Class of operation		gPV	
Standard compliance		IEC 60947, IEC 60269	
Certificate		TUV	

Surge arrester		BY7- 40/3 -1000	
Classification		Type 2	
Maximum operation voltage	U _{cpv}	1000V DC	
Maximum discharge current(80/20µs)	I _{max}	40kA	
Norminal discharge current(80/20µs)	I _n	20kA	
Short-circuit current rating	I _{scpv}	500A	
Voltage protection level	U _p	4.5kV	
Standard compliance		UI1449 , IEC50539	
Certificate		UL , TUV	

Enclosure		WDB9	
No. of module		9	
Material		PC / ABS	
Protection degree(IEC60529)		IP65	
Impact resistance(IEC62262)		IK08	
Color		RAL7035	
Dimension(mm)		233 X 213 X 112	
Standard compliance		IEC 62208	
Certificate		CE	

Electrical Scheme



WDB26DFS2-1000

PV string isolation box with fuse and surge protection two in one out

WDB26DFS2-1000

Consists of

- Enclosure 13 modules Ip65
- Switch disconnecter DC1000V/25A/4P
- Fuse disconnecter w/fuse DC1000V/10A
- Surge arrester DC1000V/40kA/3P

For purpose of

- String isolation
- Overcurrent protection
- Overvoltage protection

Description	no. of input	no. of output	MPPT	max. voltage	max. current
Two in one out 25A 1000V DC Pre-wired PV string box	2	1	1	1000V DC	25A

Assembled components

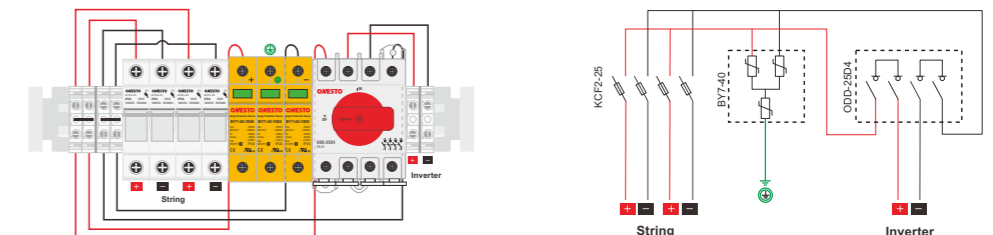
Switch disconnecter		ODD-25D4	
No. of pole		4	
Rated insulation voltage	U _i	1000V DC	
Rated current	I _e	25A	
Rated impulse withstand voltage	U _{imp}	8kV	
Category		DC21B	
Standard compliance		IEC 60947-3	
Certificate		TUV , SAA	

Fuse disconnecter		KCF2-25 / PVCF10	
Rated voltage of fuse	U _e	1000V DC	
Rated current of fuse	I _e	10A	
Fuse size		10X38mm	
Rated breaking capacity		25kA	
Class of operation		gPV	
Standard compliance		IEC 60947, IEC 60269	
Certificate		TUV	

Surge arrester		BY7- 40/3 -1000	
Classification		Type 2	
Maximum operation voltage	U _{cpv}	1000V DC	
Maximum discharge current(80/20µs)	I _{max}	40kA	
Norminal discharge current(80/20µs)	I _n	20kA	
Short-circuit current rating	I _{scpv}	500A	
Voltage protection level	U _p	4.5kV	
Standard compliance		UI1449 , IEC50539	
Certificate		UL , TUV	

Enclosure		WDB13	
No. of module		13	
Material		IP65	
Protection degree(IEC60529)		IK08	
Impact resistance(IEC62262)		RAL7035	
Color		305 X 285 X 145	
Dimension(mm)		IEC 62208	
Standard compliance		CE	
Certificate			

Electrical Scheme





WDB13DFS3-1000

PV string isolation box with fuse and surge protection three in one out

WDB13DFS3-1000

Consists of

- Enclosure 13 modules IP65
- Switch disconnecter DC1000V/32A/4P
- Fuse disconnecter w/fuse DC1000V/10A
- Surge arrester DC1000V/40kA/3P

For purpose of

- String isolation
- Overcurrent protection
- Overvoltage protection

Description	no. of input	no. of output	MPPT	max. voltage	max. current
Three in one out 32A 1000V DC Pre-wired PV string box	3	1	1	1000V DC	32A

Assembled components

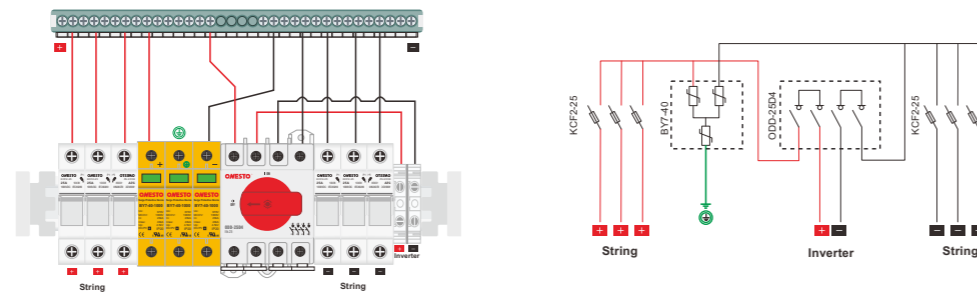
Switch disconnecter		ODD-32D4	
No. of pole		4	
Rated insulation voltage	U _i	1000V DC	
Rated current	I _e	32A	
Rated impulse withstand voltage	U _{imp}	8kV	
Category		DC21B	
Standard compliance		IEC 60947-3	
Certificate		TUV , SAA	

Fuse disconnecter		KCF2-25 / PVCF10	
Rated voltage of fuse	U _e	1000V DC	
Rated current of fuse	I _e	10A	
Fuse size		10X38mm	
Rated breaking capacity		25kA	
Class of operation		gPV	
Standard compliance		IEC 60947, IEC 60269	
Certificate		TUV	

Surge arrester		BY7- 40/3 -1000	
Classification		Type 2	
Maximum operation voltage	U _{cpv}	1000V DC	
Maximum discharge current(80/20μs)	I _{max}	40kA	
Nominal discharge current(80/20μs)	I _n	20kA	
Short-circuit current rating	I _{scpv}	500A	
Voltage protection level	U _p	4.5kV	
Standard compliance		UI1449 , IEC50539	
Certificate		UL , TUV	

Enclosure		WDB13	
No. of module		26	
Material		PC / ABS	
Protection degree(IEC60529)		IP65	
Impact resistance(IEC62262)		IK08	
Color		RAL7035	
Dimension(mm)		305 X 285 X 145	
Standard compliance		IEC 62208	
Certificate		CE	

Electrical Scheme



WDB26DFS2-1000

PV string isolation box with fuse and surge protection two in two out

WDB26DFS2-1000

Consists of

- Enclosure 26 modules IP65
- Switch disconnecter DC1000V/25A/4P
- Fuse disconnecter w/fuse DC1000V/10A
- Surge arrester DC1000V/40kA/3P

For purpose of

- String isolation
- Overcurrent protection
- Overvoltage protection

Description	no. of input	no. of output	MPPT	max. voltage	max. current
Two in two out 25A 1000V DC Pre-wired PV string box	2	2	2	1000V DC	25A

Assembled components

Switch disconnecter		ODD-25D4	
No. of pole		4	
Rated insulation voltage	U _i	1000V DC	
Rated current	I _e	25A	
Rated impulse withstand voltage	U _{imp}	8kV	
Category		DC21B	
Standard compliance		IEC 60947-3	
Certificate		TUV , SAA	

Fuse disconnecter		KCF2-25 / PVCF10	
Rated voltage of fuse	U _e	1000V DC	
Rated current of fuse	I _e	10A	
Fuse size		10X38mm	
Rated breaking capacity		25kA	
Class of operation		gPV	
Standard compliance		IEC 60947, IEC 60269	
Certificate		TUV	

Surge arrester		BY7- 40/3 -1000	
Classification		Type 2	
Maximum operation voltage	U _{cpv}	1000V DC	
Maximum discharge current(80/20μs)	I _{max}	40kA	
Nominal discharge current(80/20μs)	I _n	20kA	
Short-circuit current rating	I _{scpv}	500A	
Voltage protection level	U _p	4.5kV	
Standard compliance		UI1449 , IEC50539	
Certificate		UL , TUV	

Enclosure		WDB26	
No. of module		26	
Material		PC / ABS	
Protection degree(IEC60529)		IP65	
Impact resistance(IEC62262)		IK08	
Color		RAL7035	
Dimension(mm)		305 X 435 X 145	
Standard compliance		IEC 62208	
Certificate		CE	

Electrical Scheme

