

DEFINITION

Photovoltaics (PV) is a method of generating electrical power by converting solar radiation into direct current electricity using semiconductors that exhibit the photovoltaic effect.

ADVANTAGES

The 122 PW of sunlight reaching the Earth's surface is plentiful – almost 10,000 times more than the 13 TW equivalent of average power consumed in 2005 by humans. This abundance leads to the suggestion that it will not be long before solar energy will become the world's primary energy source. Additionally, solar electric generation has the highest power density (global mean of 170 W/m²) among renewable energies.

Solar power is pollution-free during use. Production end-wastes and emissions are manageable using existing pollution controls. End-of-use recycling technologies are under development and policies are being produced that encourage recycling from producers. PV installations can operate for many years with little maintenance or intervention after their initial set-up, so after the initial capital cost of building any solar power plant, operating costs are extremely low compared to existing power technologies. Grid-connected solar electricity can be used locally thus reducing transmission/distribution losses (transmission losses in the US were approximately 7.2% in 1995).

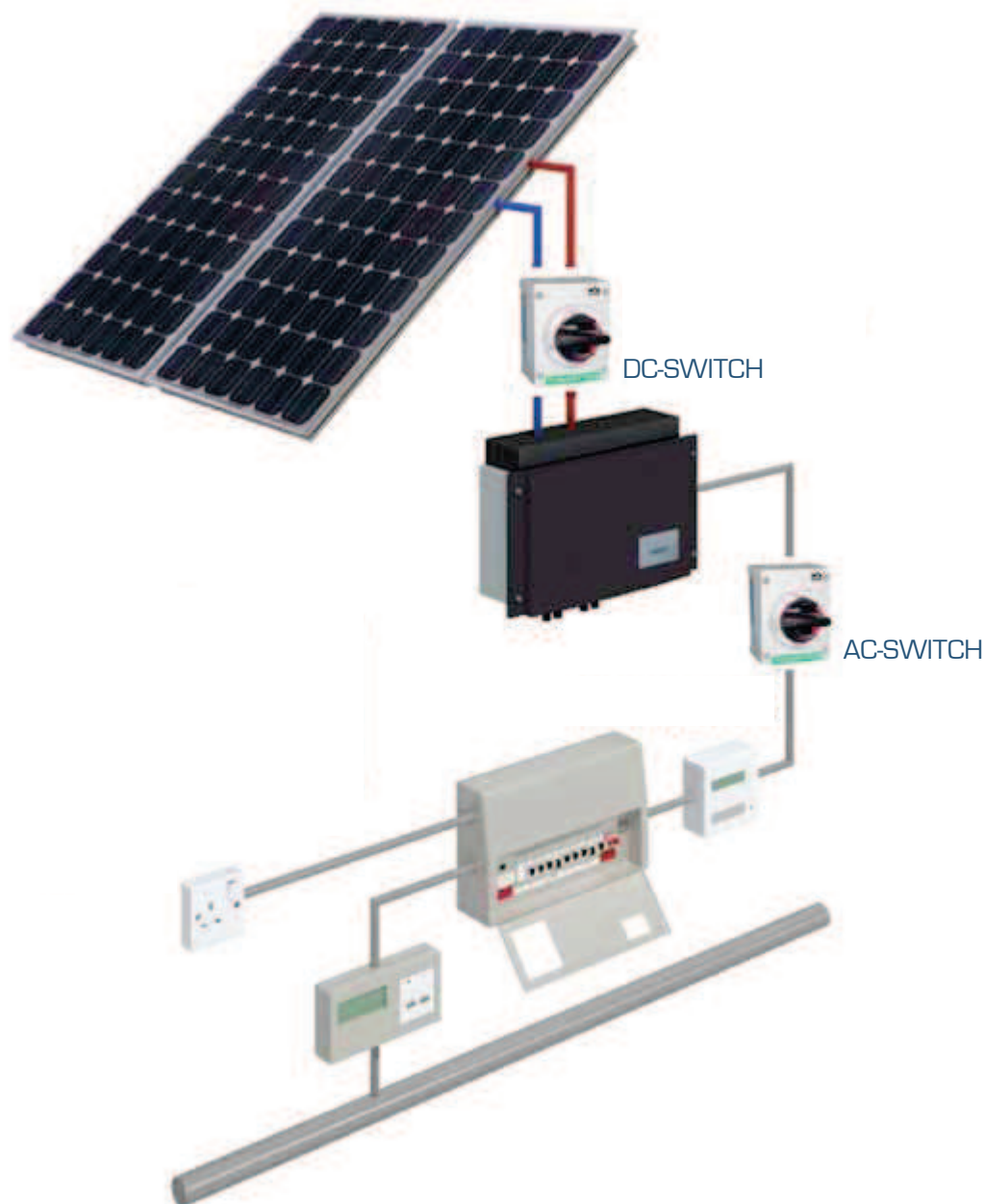
Compared to fossil and nuclear energy sources, very little research money has been invested in the development of solar cells, so there is considerable room for improvement. Nevertheless, experimental high efficiency solar cells already have efficiencies of over 40% in case of concentrating photovoltaic cells and efficiencies are rapidly rising while mass-production costs are rapidly falling.

KATKO WITH PHOTOVOLTAICS

We here at KATKO are committed to develop our products to be the best possible solution for PV systems to speed up the usage of renewable energies in electricity production throughout the world. We strongly believe that renewable energy is the key component for building a cleaner, better environment for the future generations to live.

We are constantly developing and testing new products for photovoltaic systems, to grow our PV/DC product range. Please feel free to contact KATKO for any enquiries on this matter, and we'll help you to find the best solution to fit your needs.

Load Break Switch		KU 316N DC	KU 325N DC	KU 340N DC	KU 416N DC	KU 425N DC	KU 440N DC	KU 480N DC
EAN-code	6419410...	...212158	...212165	...212172	...212189	...212196	...212202	...212318
Safety Switch		KEM 316U DC (Y/R)	KEM 325U DC (Y/R)	KEM 340U DC (Y/R)	KEM 416U DC (Y/R)	KEM 425U DC (Y/R)	KEM 440U DC (Y/R)	KEM 480U DC (Y/R)
EAN-code	6419410...	...327982	...328002	...328026	...327807	...327821	...327845	...328149
EAN-code (Y/R)	6419410...	...327999	...328019	...328033	...327883	...327906	...327920	...328156
Number of poles in series		3	3	3	4	4	4	4
Rated insulation voltage	Ui (V)	800	800	800	800	800	800	800
	Uimp (kv)	8	8	8	8	8	8	8
Rated thermal current	Ithe (A)	25	40	40	25	40	40	40
Rated operational current	Ie (A)							
	DC-21B	16A 320V	25A 320V	40A 320V	12A 500V	16A 500V	20A 500V	32A 500V
	DC-22B			16A 440V	10A 600V	12A 600V	16A 600V	
Rated short circuit making capacity	Icm (kA)	2.5	2.5	2.5	2.5	2.5	2.5	3.3
Rated short time withstand current	Icw (kA)	1.7	1.7	1.7	1.7	1.7	1.7	2.3
Mechanical endurance		50000	50000	50000	50000	50000	50000	50000
Enclosure		U2	U2	U2	U2	U2	U2	U3
Terminals/ * Bolt size	Cu (mm ²)	1.5-16	1.5-16	1.5-16	1.5-16	1.5-16	1.5-16	2.5-35
Terminal torque	(Nm)	1.8	1.8	1.8	1.8	1.8	1.8	2.5

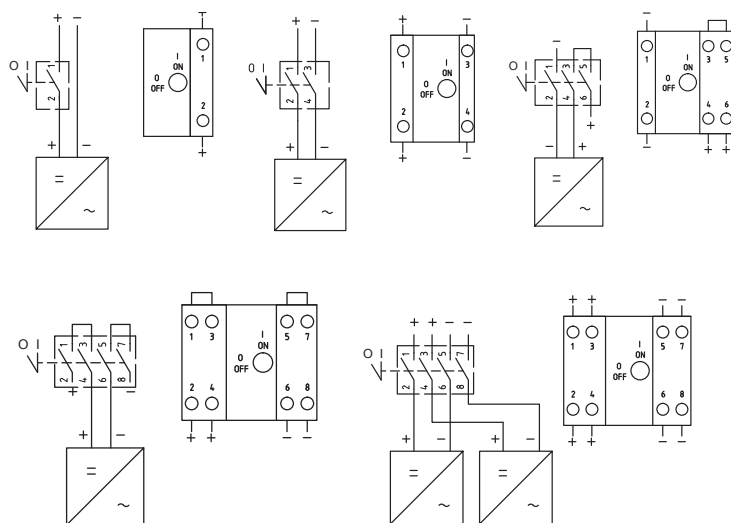
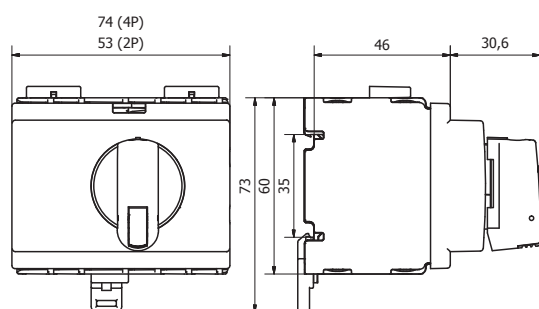


KU 480N DC	KU 816 DC	KU 825 DC	KU 840 DC	KU 863 DC	KU 880 DC	VKE 420 DC	VKE 432 DC	VKE 440 DC	VKE 380 DC	VKE 6250 DC
...212318	...212219	...212226	...212233	...212240	...212257	...212264	...212271	...212288	...212295	...212301
KEM 480U DC (Y/R)	KEM 816U DC (Y/R)	KEM 825U DC (Y/R)	KEM 840U DC (Y/R)	KEM 863U DC (Y/R)	KEM 880U DC (Y/R)	VKEM 420U DC (Y/R)	VKEM 432U DC (Y/R)	VKEM 440U DC (Y/R)	VKEM 380 DC (Y/R)	KEM 6250 DC (Y/R)
...328149	...327814	...327838	...327852	...327944	...327951	...328040	...328064	...328088	...328101	...328125
...328156	...327890	...327913	...327937	...327968	...327975	...328057	...328071	...328095	...328118	...328132
4	8	8	8	8	8	4	4	4	3	6
800	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
8	8	8	8	8	8	8	8	8	8	12
40	25	40	40	40	40	20	32	40	80	250
32A 500V										
	16A 800V	20A 800V	25A 800V	25A 1000V	32A 1000V			40A 600V	80A 600V	200A 1000V
						20A 800V	32A 800V			
3.3	2.5	2.5	2.5	3.3	3.3	3.3	3.3	3.3	6	7
2.3	1.7	1.7	1.7	2.3	2.3	2.3	2.3	2.3	4	5
50000	50000	50000	50000	50000	50000	20000	20000	20000	20000	16000
U3	U3	U3	U3	U3	U3	U4	U4	U4	MF11	MF04
2.5-35	1.5-16	1.5-16	1.5-16	2.5-32	2.5-32	2.5-32	2.5-32	2.5-32	2.5-70	M10
2.5	1.8	1.8	1.8	2.5	2.5	2.5	2.5	2.5	6	30-44

PHOTOVOLTAIC DC SWITCH DISCONNECTOR



- Up to 32 A 1200 V DC, DC21B
- Compact size DC load break switch (KD)
- 1, 2, 3 and 4 pole versions
- Compatible with K/KD 2P and K/KD 4P front plates, LK10 handle and L=100/200/300 AD11 shafts
- Wide operating temperature range
- Padlockable LK10
- LK10 with door interlock with defeat mechanism



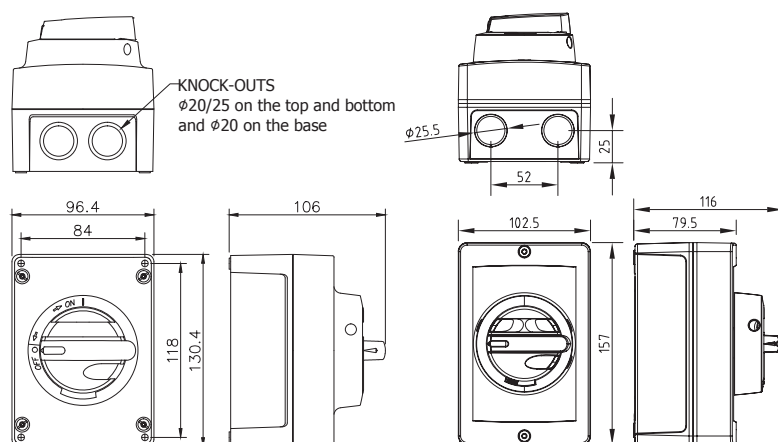
Load Break Switch		KD 116	KD 125	KD 132	KD 216	KD 225	KD 232
Safety Switch, POLYCARBONATE (U2)		KDM 116	KDM 125	KDM 132	KDM 216	KDM 225	KDM 232
Safety Switch, ALUMINIUM (A2)		KDA 116	KDA 125	KDA 132	KDA 216	KDA 225	KDA 232
Number of poles in series		1	1	1	2	2	2
Rated insulation voltage	Ui (V)	1200	1200	1200	1200	1200	1200
Impulse withstand voltage	Uimp(kV)	8	8	8	8	8	8
Rated thermal current, open air	Ith (A)	16	25	32	16	25	32
Rated thermal current, enclosed ambient +40°C	Ithe (A)	16	25	32	16	25	32
Rated thermal current, enclosed ambient +60°C	Ithe (A)	16	25	32	16	25	32
Nominal values with cable size (mm ²)		2,5	4	6	2,5	4	6
Rated operational current DC-21B	Ue (VDC)	Ie(A)					
	300V	10	12	16	16	25	32
	400V	10	12	16	16	25	32
	500V	10	12	16	16	20	25
	600V	8	10	12	16	20	25
	700V	4	6	8	16	20	25
	800V	2	4	6	16	20	25
	900V	2	3	5	12	16	20
	1000V	2	3	4	10	12	16
	1200V	1	1,5	2	10	12	16
Rated short circuit making capacity	Icm (A)	560	560	560	560	560	560
Rated short time withstand current	Icw (A)	400	400	400	400	400	400
Mechanical endurance		20000	20000	20000	20000	20000	20000
Terminals / *Bolt size	Cu (mm ²)	1,5-16	1,5-16	1,5-16	1,5-16	1,5-16	1,5-16
Terminal torque	(Nm)	1,8	1,8	1,8	1,8	1,8	1,8

ENCLOSED DC ISOLATOR SWITCH DISCONNECTOR



Also available with yellow handle

- Up to 32 A 1200 V DC, DC21B
- Available in Polycarbonate and Aluminium enclosures
- IP 66; Enclosure types U2 (KDM) and A2 (KDA)
- Self-extinguishing material
- Wide operating temperature range
- Padlockable
- Door interlock with defeat mechanism
- Excellent insulating properties
- Good UV resistance
- Good resistance against many chemicals



Load Break Switch		KD 316	KD 325	KD 332	KD 416	KD 425	KD 432
Safety Switch, POLYCARBONATE (U2)		KDM 316	KDM 325	KDM 332	KDM 416	KDM 425	KDM 432
Safety Switch, ALUMINIUM (A2)		KDA 316	KDA 325	KDA 332	KDA 416	KDA 425	KDA 432
Number of poles in series		3	3	3	4	4	4
Rated insulation voltage	Ui (V)	1200	1200	1200	1200	1200	1200
Impulse withstand voltage	Uimp(kV)	8	8	8	8	8	8
Rated thermal current, open air	Ith (A)	16	25	32	16	25	32
Rated thermal current, enclosed ambient +40°C	Ithe (A)	16	25	32	16	25	32
Rated thermal current, enclosed ambient +60°C	Ithe (A)	16	25	32	16	25	32
Nominal values with cable size (mm ²)		2,5	4	6	2,5	4	6
Rated operational current DC-21B	Ue (VDC)						
	300V	16	25	32	16	25	32
	400V	16	25	32	16	25	32
	500V	16	25	32	16	25	32
	600V	16	25	32	16	25	32
	700V	16	25	32	16	25	32
	800V	16	25	32	16	25	32
	900V	16	25	32	16	25	32
	1000V	16	25	32	16	25	32
	1200V	12	16	20	16	25	32
Rated short circuit making capacity	Icm (A)	560	560	560	560	560	560
Rated short time withstand current	Icw (A)	400	400	400	400	400	400
Mechanical endurance		20000	20000	20000	20000	20000	20000
Terminals / *Bolt size	Cu (mm ²)	1,5-16	1,5-16	1,5-16	1,5-16	1,5-16	1,5-16
Terminal torque	(Nm)	1,8	1,8	1,8	1,8	1,8	1,8