

H1Z2Z2-K

EN 50618

Flexible Solar cables 1500V DC

Photovoltaic power cables, halogen free, flame retardant



Properties :

- A lifetime 'Component' lasts up-to 30 years even under tough conditions
- Used in extreme weather conditions [UV Resistance
- Halogen-free low smoke emission and low toxicity during fire
- Flame & Fire retardant
- Easy installation with color identification
- Suitable to common connector types
- One common factor for most of the photovoltaic power systems is outdoor use characterized by high temperature/high UV radiation

Construction :

- Tinned copper-conductor, to DIN VDE 0295 cl.5, fine-wire, IEC 60228 cl.5
- Core insulation : cross-linked Polyolefin, flame retardant, halogen free,
- Outer sheath : cross-linked Polyolefin, flame retardant, halogen free , UV resistant
- Sheath colour : as request with meter marking

Chemical Features :

- Weather and UV resistant
- Resistant to mineral oils
- Resistant to acids & alkaline

Thermal Features :

- Ambient Temperature: -40° C to +90° C
- Maximum Temperature at Conductor: 120° C (20000h)
- Short Circuit Temperature: 250° C @ conductor (max. 5sec)
- Thermal Endurance Test: According to EN 60216-2 [temperature index +120° C]
- High Temperature Pressure: Test according to EN 60811-3-1
- Damp- Heat Test: According to EN 60068-2-78. 1000 hrs. at 90° C with 85% humidity

Electrical Features :

- Rated Voltage, U_0 1500 V DC / EN50618
- Maximum Permitted DC Voltage: 1.8 kV [conductor/ conductor, non earthed system, circuit not under load]
- Maximum Permitted AC Voltage: 0.7/1.2 kV [U_0 / U]
- Insulation Resistance: 1000 M Ω /KM
- Voltage Withstand: 6500 Vas per EN50395 for 5 min
- Ampacity: According to requirements for cables for PV systems

Mechanical features:

- Resistant to Impact. tear and abrasion
- Minimum bending radius is 4 times the diameter
- Safe pulling force -50 N/sqmm
- Mineral Oil Resistance will be according to EN 60811-2-1
- Ozone Resistance will be according to EN 50396 part 8.1.3
- Weathering-UV Resistance: according to HD 605/A1 or DIN 53367
- Ammonia resistant is done for 30 days in saturated ammonia atmosphere [internal testing]
- Very good resistance to oil and chemicals
- Acid & Alkaline Resistance will be according to EN 60811-2-1 [Oxal acid and sodium hydroxide]

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Cable Size Table

Code NR	Dimensions – conductor cross-section	Construction of individual conductor	External diameter	Sheath colour	Cable weight	Bending Radius Fixed
	mm ²	nominal n x mm	nom mm		approx. kg/km	mm
61115	1 x 1.5	31 x 0.23	4.4	Black	38	15
61125	1x2,5	51 x 0,23	5.6	Black	42	17
61140	1 x 4	56 x 0.28	5.3	Black ,Blue, Red	53	18
61160	1 x 6	78 x 0.29	6.7	Black ,Blue, Red	92	20
611100	1 x 10	70 x 0.395	7.7	Black ,Blue, Red	123	23
611160	1 x 16	116 x 0.395	9.0	Black	153	30
611250	1 x 25	186 x 0.395	10.4	Black	240	34
611350	1 x 35	265 x 0.395	12.3	Black	336	50
611500	1 x 50	383 x 0.395	14.7	Black	480	58
611700	1 x 70	528 x 0.395	15.3	Black	710	66
611950	1 x 95	710 x 0.395	17.0	Black	910	75
6111200	1 x 120	928 x 0.395	19.1	Black	1110	82
6111500	1 x 150	722 x 0.5	22.7	Black	1410	91
6111850	1 x 185	879 x 0.5	25.5	Black	1750	101
6112400	1 x 240	1163 x 0.5	28.3	Black	2310	114

Packing:

- Wooden packing according to the IPPC ISPM standard
- All pallets and plywood reels ace to IPPC Standard ISPM 15

Max. Current rating for Flexible Solar cables

at 120 °C / 248 °F – Ambient temperature 30 °C / 86 °F

Construction	Exposed	On surfaces without contact	On surfaces with contact	In conduit, casing, duct
mm ²	Current [A]			
2.5	51	48	34	27
4	68	65	45	36
6	88	84	59	47
10	121	115	80	64
16	160	152	106	85
25	211	200	140	112
35	261	248	174	139
50	320	304	213	170

Conversion factors for different ambient temperatures (base 30 °C)

Temperature °C	Current rating at 120 °C Factor
20	× 1.05
30	× 1.00
40	× 0.94
50	× 0.88
60	× 0.82
70	× 0.75
80	× 0.67
90	× 0.58

Continuous duty with current loads as per above table.
This results in a conductor temperature of 120 °C (calculation according IEC 60287).