

1023757	DATA SHEET	
Valid from: 04.03.2022	H1Z2Z2-K, optimized version	

Application

In general, the photovoltaic cable type H1Z2Z2-K acc. to type standard EN 50618 is resistant to abrasion, notch, weather, and UV radiation.

The halogen-free, double-insulated, and cross-linked solar cables are permitted to be freely suspended, and are suited to permanent outdoor use to connect grounded and ungrounded photovoltaic systems. They are used to interconnect between solar modules, and to feed DC/AC inverter subject to adequate wiring method. HD 60364-7-712 on low-voltage electrical installations – part 7-712: requirements for special installations or locations – photovoltaic (PV) systems – is a common installation standard.

According to Annex A of EN 50618, general information of EN 50565-1 on electric cables – guide to use for cables with a rated voltage not exceeding 450/750 V (U₀/U) – part 1: general guidance – applies.

Robust to mechanical stress – medium, mechanical strain AG2 acc. to HD 60364-5-51.

Also, installation inside ducts, conduits, channels, raceways, plaster as well as devices, appliances, etc. is permissible.

Appropriate for use inside and on double-insulated appliances and systems (protection class II).

For short-circuit protected, or earth fault proof wiring, acc. to HD 60364-5-52.

EN 50618 determines that the expectable lifespan amounts to 25 years, under normal use conditions defined in EN 50618.

Direct Burial: The cable passes the Crushing-Resistance and Impact-Resistance Test acc. to UL 854, chapter 23 & 24.

Constant Flexing (e.g., inside power track/chain) and robot torsion don't belong to this cable's range of intended use types.


Design

Design	single conductor double-insulated acc. to EN 50618
Certification	H1Z2Z2-K acc. to EN 50618
Conductor	fine-wired, tinned, single copper strands acc. to IEC 60228 resp. EN 60228, conductor class 5
Core insulation	cross-linked polyolefin, halogen-free
Outer sheath	cross-linked polyolefin, halogen-free standard single colours: black (BK), red (RD), or blue (BU) further single colours on request

Electrical properties

IEC nominal voltage U ₀ /U	AC 1,000/1,000 V DC 1,500/1,500 V
Max. DC system voltage	1,800 V (acc. to EN 50618)
Test voltage (EN 50395)	AC 6,500 V DC 15,000 V
Current-carrying capacity	acc. to EN 50618

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General requirements	These cables are conform to the EU Directive 2014/35/EU (Low Voltage Directive)
Environmental information	These cables meet the substance-specific requirements of the EU Directives 2011/65/EU and (EU) 2015/863 (RoHS)

Mechanical and thermal properties

Minimum bend radius	up to outer diameter $\varnothing \leq 12$ mm:	4x \varnothing
Temperature	conductor, max. acc. to EN 50618	+90 °C
	conductor, max. (max. 20,000 h at max 90 °C ambient):	+120 °C
	conductor, max., short-circuit/earth fault (period ≤ 5 s):	+250 °C
	ambient, min., stationary use:	-40 °C
	ambient, min., flexible or during installation:	-25 °C
	ambient, max. storage temperature:	+40 °C
Damp heat test (+90 °C/+85 %)	EN 60068-2-78	
Cold bend test (-40 °C)	EN 60811-504, EN 50618, table 2	
Cold elongation test (-40 °C)	EN 60811-505, EN 50618, table 2	
Cold impact test (-40 °C)	EN 60811-506, EN 50618, Annex C	
Impact condition	AG2 acc. to EN 50618 and HD 60364-5-51	
Vibration condition	AH3 acc. to EN 50618 and HD 60364-5-51	
UL 854 Impact-Resistance Test	impact-resistance test acc. to UL 854, Section 23	
UL 854 Crushing-Res. Test	crushing-resistance test acc. to UL 854, Chapter 24	
Weathering/UV resistance	EN 50618, Annex E	
Ozone resistance	EN 50396, EN 50618	
Freedom from halogens	EN 50525-1, Annex B IEC 60754-1 resp. EN 60754-1 IEC 60754-2 resp. EN 60754-2	
Low smoke density	IEC 61034-2 resp. EN 61034-2	
Flammability	IEC 60332-1-2 resp. EN 60332-1-2 Dca classified acc. to Construction Product Regulation (EU) no. 305/2011 (CPR)	
Acid and alkali resistance	EN 60811-404 (n-oxalic acid and n-sodium hydroxide) AF2 acc. to EN 50618 and HD 60364-5-51	
Presence of water	tested acc. to EN 50525-2-21, Annex E AD 8 rated acc. to HD 60364-5-51/ VDE 0100-510	
Note	Trade product, no Lapp product	

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