

PRYSUN H1Z2Z2-K 1/1kV AC (1,5/1,5kV DC) PV cables, TÜV Rheinland certified as per EN 50618:2014



Application

PRYSMIAN Solar cables PRYSUN PV1Z2Z2-K acc. to EN 50618, are intended for use in Photovoltaic Power Supply Systems at nominal voltage rate of 1,5/1,5kV DC.

They are suitable for applications indoor and/or outdoor, in industrial and agriculture areas, in/at equipment with protective insulation (Protecting Class II). They may be installed fixed, freely suspended or free movable, in cable trays, conduits, on and in walls.

Global data

Brand	PRYSUN
Type designation	H1Z2Z2-K
Standard	EN 50618
Certifications / Approvals	TÜV Rheinland -Certificate nr. R60144436

Design features

Conductor	Electrolytic tinned copper, finely stranded class 5 in accordance with IEC 60228
Insulation	Cross-linked Polyolefine 120°C
Outer sheath	Cross-linked Polyolefine 120°C. Insulation and sheath are solidly bonded (Two-layer-insulation)
Outer sheath colour	Artikelbeschreibung

Electrical parameters

Rated voltage	AC: 1,0/1,0 kV DC: 1,5/1,5 kV
Max. permissible operating voltage AC	1,2/1,2 kV
Max. permissible operating voltage DC	1,8/1,8 kV
Test voltage	AC: 6,5 kV / DC: 15 kV (5 Min.)
Current Carrying Capacity description	According to EN 50618, Table A-3
Electrical Tests	Acc. to EN 50618, Table 2: • Conductor Resistance; • Voltage Test on completed cable (AC and DC); • Spark Test on insulation; Insulation Resistance (at 20°C and 90°C in water); • Insulation Long-Term Resistance to DC (10 days, in 85°C water, 1,8 kV DC); • Surface Resistance of Sheath.

Chemical parameters

Performance against fire	Acc. to EN 50618, Table 2: • Single Cable Flame Test per EN 60332-1-2; • Low Smoke Emission per EN 61034-2 (Light Transmittance > 70%); • Halogen-free per EN 50525-1, Annex B.
Weather resistance	Acc. to EN 50618, Annex E and Table 2: • UV Resistance on sheath: tensile strength and elongation at break after 720h (360 Cycles) of exposure to UV lights acc. to EN 50289-4-17, Method A; • Ozone resistance: per Test Type B (DIN EN 50396).
Acid and alkaline resistance	Acc. to EN 50618, Annex B: • 7 days, 23°C (N-Oxalic Acid, N-Sodium Hydroxide) acc. to EN 60811-404.
Environmentally Friendly	PV cables comply with the RoHS directive 2011/65/EU of the European Union.

Thermal parameters

Max. operating temperature of the conductor	Max. 90°C at conductor, 20.000 hours of operation at conductor temperature of 120°C (and 90°C ambient temperature) are permitted.
Max. operating temperature of the conductor	90 °C
Max. short circuit temperature of the conductor	250 °C (5 s.)
Ambient temperature (for fixed and flexible installation)	Installation and handling: -25°C up to 60°C In operation: -40°C up to +90°C
Resistance to cold	Acc. to EN 50618, Table 2: • Cold Bending Test at -40°C acc. to DIN EN 60811-504; • Cold Impact Test at -40°C acc. to DIN EN 60811-506 and EN 50618 Annex C.
Damp-Heat Test	Acc. to EN 50618, Table 2: • 1.000h at 90°C and 85% humidity (test acc. to EN 60068-2-78).

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Mechanical parameters

Max. tensile load

Bending radii min.

Shrinkage Test

Dynamic Penetration Test

Durability of Print

15 N/mm² in operation, 50 N/mm² during installation

Acc. to EN 50565-1

Acc. to EN 50618, Table 2:

- Maximum Shrinkage <2% (test acc. to EN 60811-503).

Acc. to EN 50618, Annex D:

- Meets requirements of EN 50618.

Acc. to EN 50618:

- Test acc. to EN 50396.

Number of cores x cross section	Colour	Part number	Conductor diameter max. mm	Outer diameter min. mm	Outer diameter max. mm	Bending radius fixed min. mm	Weight (approx.) kg/km	Permissible tensile force max. N	Conductor resistance at 20°C max. Ω/km	Current carrying capacity for single cable free in air (60°C ambient temp.) A	Short Circuit Current (1s. from 90°C to 250°C) kA	Current carrying capacity for single cable on a surface (60°C ambient temp.) A
1x4	black	20294019	2.4	5.3	5.9	18	61	60	5.09	55	0.57	52
1x4	red	20352680	2.4	5.3	5.9	18	61	60	5.09	55	0.57	52
1x6	black	20294412	2.9	5.9	6.5	20	80	90	3.39	70	0.86	67
1x6	red	20352927	2.9	5.9	6.5	20	80	90	3.39	70	0.86	67
1x10	black	20294415	4	7	7.6	23	125	150	1.95	98	1.43	93
1x10	red	20352934	4	7	7.6	23	125	150	1.95	98	1.43	93
1x16	black		5.6	9	9.8	30	200	240	1.24	132	2.29	125

Standard delivery length is 500mt. Other lengths are available on request.

PRYSMIAN internal electrical test:

- Dielectric Strength;
- Insulation Resistance at 120°C in air.

PRYSMIAN internal chemical test:

- Multiple Cable Flame Test per EN 50305-9;
- Low Toxicity per EN 50305 (ITC < 3).
- Water Absorption (gravimetric) per DIN EN 60811-402.
- 30 days in Saturated Ammonia Atmosphere.

PRYSMIAN internal test, on sheath:

- 24h, 100°C (meets VDE 0473-811-404, EN 60811-404).

PRYSMIAN internal mechanical test:

Abrasion resistance:

- Acc. to DIN ISO 4649 against abrasive paper;
- Sheath against sheath;
- Sheath against metal;
- Sheath against plastics.

Pressure test at high temperature:

- <50% acc. to EN 60811-508.

Shore-hardness

- Type A: 85 acc. to DIN EN ISO 868

rodent protection: Safety can be optimized by utilizing protective hoses, or protective element, such as a metallic screen braid.