

TECSUN(PV) S3Z2Z2-K 1,8/3kV AC

Heat resistant cables, rubber insulated, for inverter-trafo interconnection



Application

Halogen-free single core cables, sheathed, for junction boxes and inverters, with improved fire performance, increased heat resistance and suitable for direct burial. These cables are intended for use in photovoltaic power supply systems, at nominal voltage rate of 1,8/3kV AC, as interconnection between central inverter and transformer station.

They can be used indoor, outdoor, in explosion hazard areas, in industry and agriculture and are suitable for applications in/at equipment with protective insulation (protecting class II). To be considered as short and ground fault protection. They are also usable for unfused connections in switchgear and distribution boards up to 1000 V (DIN VDE 0100-520 and DIN VDE 0660-500) and in accumulator circuits (DIN 5510 part 5). TECSUN(PV) cables are suitable for direct burial (PRYSMIAN Internal Testing), where the corresponding guidelines for direct burial shall be considered.

Global data

Brand	TECSUN(PV)
Type designation	S3Z2Z2-K
Standard	Based on DIN EN 50618

Notes on installation

Notes on installation	TECSUN(PV) cables are suitable for direct burial in ground (PRYSMIAN Internal Testing). The installation guidelines shall be taken in consideration.
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Design features

Conductor	Tinned copper, finely stranded class 5 in accordance with IEC 60228
Insulation	Halogen-free, heat resistant, cross-linked elastomeric special compound; requirements based on DIN EN 50618 and DIN VDE 0250-606
Outer sheath	Halogen-free, heat resistant, cross-linked elastomeric special compound, requirements based on DIN EN 50618 and DIN VDE 0250-606
Outer Sheath Colour	Black

Electrical parameters

Rated voltage	1.8/3 kV
Max. permissible operating voltage AC	2.1/3.6 kV
Max. permissible operating voltage DC	2.7/5.4 kV
AC Test Voltage	6.5 kV (5 Min.)
Current Carrying Capacity description	Acc. to DIN VDE 0298-4

Chemical parameters

Reaction to fire	<ul style="list-style-type: none"> Flame propagation, single cable, acc. to DIN EN 60332-1-2; Flame propagation, bunched cables, acc. to DIN EN 60332-3-24; Smoke emission, light transmittance $\geq 70\%$, acc. to DIN EN 61034-2; Tests for corrosive acid gas emission and fluorine, acc. to DIN EN 60754-1 (pH $\geq 4,3$; conductivity $\leq 2,5 \mu\text{S}/\text{mm}$); Low Toxicity in case of fire.
Weather resistance	Weathering, ozone and UV resistance acc. to DIN EN 50618
Acid and alkaline resistance	Acc. to DIN EN 50618

Thermal parameters

Max. operating temperature of the conductor	Recommended operating temperature: 90 °C; Max. permissible operating temperature: 120 °C, for max. 20.000 hours
Max. short circuit temperature of the conductor	250 °C
Ambient temperature for fixed installation	min -40 °C ; max +90 °C
Ambient temperature in fully flexible operation	min -40 °C ; max +90 °C

Mechanical parameters

Max. tensile load	15 N/mm ² in operation, 50 N/mm ² during installation
Torsional stress	Max. $\pm 150^\circ/\text{m}$ (only during installation)
Min. bending radius	Acc. to DIN VDE 0298 part 3
Rodent resistance	Safety can be optimized by utilizing protective hoses, or protective element, such as a metallic screen braid.

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 free in air (2) A	Short Circuit Current (1s. from 90°C to 250°C) kA
1x25	black	20179993	6.3	13.2	14.4	87	380	375	0.795	176	3.58
1x35	black	20180776	7.4	14.3	15.5	93	470	525	0.565	218	5.01
1x50	black	20180777	8.9	15.6	17.1	103	640	750	0.393	276	7.15
1x70	black	20171198	10.6	17.1	19.1	115	820	1050	0.277	347	10.01
1x95	black	20180778	12.1	19.4	21.4	129	1060	1425	0.21	416	13.59
1x120	black	20179994	14.2	21.5	23.5	141	1320	1800	0.164	488	17.16
1x150	black	20180779	15.8	23.1	25.1	151	1590	2250	0.132	566	21.45
1x185	black	20180780	17.4	25.1	27.1	163	1910	2775	0.108	644	26.46
1x240	black	20170658	20.2	28	30	180	2450	3600	0.082	775	34.32
1x300	black	20182281	22.9	31	34	204	3030	4500	0.065	898	42.9

(2) Nominal current carrying capacity for single-core rubber cables installed free in air, at 90°C operating temperature at the conductor and 30°C ambient temperature.