

2PFG1169/08.07 PV1-F Solar Cable

APPLICATION

Flexible cables suitable for PV solar DC current systems. The max allowable DC voltage 1.8 kV (Conductor to conductor, system without earth). Used at security level II location. These cables are allowed to be connected in a multi-structural manner. The cable is designed for operation at temperature up to 90°C.

TECHNICAL INDICATORS

Nominal voltage: U0/U 0.6/1KV(AC) 1800DC(non-load)
 Test voltage: AC6.5KV/5min(20°C±0.5)
 or DC15KV/5min (20°C±0.5) without breakdown
 Ambient temperature: -40°C~+90°C
 Conductor maximum temperature: 120°C
 Maximum short circuit temperature: ≤250°C/5S
 Expected service life: 25 years
 Bending radius: ≥4D

STRUCTURE

Conductor: Tinned copper flexible conductor of Class 5 in 2Pfg1169
 Insulation: LSZH electron-beam cross-linked Polyolefin (125°C)
 Sheath: LSZH electron-beam cross-linked Polyolefin (125°C)
 Color: red or black

CHARACTERISTICS COMPLIANCE

Fire-resistance: EN 60332-1-2
 Acid and alkali solution: EN 60811-2-1
 Halogen determination: EN 50267/EN 60684
 Weather resistance/UV resistance: HD 605/A1
 Compliance certification: ROHS TUV
 Executive standard: 2 Pfg 1169/08.2007

Structural dimensions and parameters

Model	Specification (mm ²)	Insulation Nominal Thickness (mm)	Sheath Nominal Thickness (mm)	Approximate outer diameter (mm)	Maximum DC resistance of conductor at 20°C (Ω/km)	Minimum insulation resistance at 90°C (mΩ/km)
PV1-F	2.5	≥0.5	≥0.5	4.2	8.21	0.69
PV1-F	4.0	≥0.5	≥0.5	5.9	5.09	0.58
PV1-F	4.0	≥0.5	≥0.5	4.65	5.09	0.58
PV1-F	4.0	≥0.5	≥0.5	5.5	5.09	0.58
PV1-F	6.0	≥0.5	≥0.5	6.2	3.39	0.50
PV1-F	6.0	≥0.5	≥0.5	5.35	3.39	0.50
PV1-F	10	≥0.5	≥0.5	7.3	1.95	0.42
PV1-F	16	≥0.5	≥0.5	8.5	1.24	0.34
PV1-F	2×2.5	≥0.5	≥0.5	5.2×10.9	8.21	0.69
PV1-F	2×4.0	≥0.5	≥0.5	5.9×12.2	5.09	0.58
PV1-F	2×4.0	≥0.5	≥0.5	5.5×11.4	5.09	0.58
PV1-F	2×4.0	≥0.5	≥0.5	4.85×10	5.09	0.58
PV1-F	2×6.0	≥0.5	≥0.5	6.2×12.9	3.39	0.50
PV1-F	2×6.0	≥0.5	≥0.5	5.35×11.2	3.39	0.50
PV1-F	2×10	≥0.5	≥0.5	7.3×15.1	1.95	0.42

Reference table for quick selection of carrying capacity

Cross-sectional area	Recommended value of ampacity (A)	Download traffic conversion factor for different ambient temperatures	
		Ambient temperature °C	Conversion factor
Copper conductor	Laying in the air		
2.5	41	10	1.15
4	55	20	1.08
6	70	30	1.0
10	98	40	0.91
16	132	50	0.82
2×2.5	33	60	0.71
2×4	44	70	0.58
2×6	57	80	0.41
2×10	79		
2×16	107		

Note: Ambient temperature is 30°C; conductor maximum temperature is 90°C

PRODUCT CHARACTERISTICS

- UV and ozone resistant, hydrolysis resistant
- High temperature resistance, service life of more than 25 years
- Good flexibility, easy installation and laying
- Halogen-free and low-smoke material, in line with environmental protection requirements
- Compatible with all common connectors