PRYSMIAN

TECSUN DUO (PV)
TECSUN DUO (PV) S

Twin Cables for Photovoltaics

A brand of the
Prysmian Group

Linking the future

As the worldwide leader in the cable industry, Prysmian Group believes in the effective, efficient and sustainable supply of energy and information as primary driver in the development of communities.

With this in mind, we provide major global organisations in many industries with best-in-class cable solutions, based on state-of-the-art technology.
Throught two renowned commercial brands - Prysmian and Draka - based in almost 100 countries, we're constantly close to our customers, enabling them to further develop the world's energy and telecoms infrastructures, and achieve sustainable, profitable growth.

In our energy business, we design, produce, distribute and install cables and systems for the transmission and distribution of power at low, medium, high and extra-high voltage.

In telecoms, the Group is a leading manufacturer of all types of copper and fibre cables, system and accessories - covering voice, video and transmission.

Drawing on over 130 years' experience and continuously investing in R&D, we apply excellence, understanding and integrity to everythings we do, meeting and exceeding the precise needs of our customers across all continents, at the same shaping the evolution of our industry.

What links sustainable ideas to real-world results?

Cable solutions to enable the production and supply of renewable energy

To meet an ever-growing need for power, the world is increasingly turning to renewable and sustainably sourced wind and solar energy. In response to this demand, Prysmian cables are helping businesses in the renewable industry around the globe convert these new opportunities into reality.

Our technologies - which cover cables used in wind turbine and tower operations, submarine inter-array, platform connection and export cables to link the various turbines and underground power transmission and distribution cable system for wind power applications - are at work across the renewables sector, supporting the operations of turbine manufacturers, contractors and developers, grid operators, system integrators and panel makers.

Always aware of our responsibility to the planet, we're constantly driving innovation in our industry, aiming to help renewable industry partners deliver projects with benefits for the future of both our world and their businesses.

Technical Data - TECSUN DUO (PV) - TECSUN DUO (PV) S

	Trademark	TECSUN DUO (PV) PV1-F TECSUN DUO (PV) S
	Type designation	PV1-F
	Approvals	In accordance with TÜV 2 PfG 1169/08.2007 general requirements for PV-Wire TÜV Certificate No. R 60013989 and VDE -Reg. 7985 for TECSUN DUO (PV) PV1-F
	Application	PRYSMIAN PV-Wires TECSUN DUO (PV) PV1-F and TECSUN DUO (PV) S are intented for use in Photovoltaic Power Supply Systems: Indoor and/or outdoor, in explosion hazard areas, in industrial and agriculture fields. They are suitable for applications in/at equipment with protective insulation (Protecting Class II) and may be installed as well as fixed or freely suspended or free movable. Installation in cable trays, conduits, on and in walls is available. Meets or exceeds the requirements of IEC 61215, 61646, IEC 60364-7-712:2002 and DIN VDE 0100 part 520. Rating from -40° C up to +90° C Max. Conductor Temperature +120° C
Electrical Parameters	Rated Voltage AC Uo/U	TECSUN DUO (PV)* Power Cable 600/1000 V TECSUN DUO (PV) S Signal Cable 300/500 V
	Maximum permissible operating voltage in AC systems	TECSUN DUO (PV)* Power Cable 700/1200 V
	Maximum Permissible operating voltage in DC systems	TECSUN DUO (PV)* Power Cable 900/1800 V
	Test voltage	TECSUN DUO (PV)* Power Cable 6500 V AC / 15000 V DC / 5 min. TECSUN DUO (PV) S Signal Cable 1500 V
	Ampacity	TECSUN DUO (PV)* Power Cable meets requirements for PV-Wire per TÜV 2 PfG 1169/08.2007
	Tests	TECSUN DUO (PV)* Power Cable meets HD 22.2 Conductor Resistance, Test Voltages AC and DC, Electric Strength, Surface Resistance, Spark Test of Insulation, Insulation Resistance at 20° C and 90° C in Water and at 120° C in Air (Internal Testing). EN 50305 Part 6 - DC-stability (10 days, 85° C, Salt Water, 900 V DC)
Thermal Parameters	Maximum Permissible Ambient Temperature	Up to +90° C (+194° F) for fixed and flexible installation
	Minimum Permissible Ambient Temperature	Down to -40° C (-40° F) for fixed and flexible installation
	Maximum Permissible Operating Temperature of the Conductor	+120° C (+248° F) per IEC 60216 permanent temperature for 20.000 h (= 2.3 years) at max. 90° C permanent temperature (= 30 years)

Technical Data

Thermal Parameters (continued)	Short-circuit temperature Resistance to cold	+250° C (+482° F) for 5s Cold Bend Test at -40° C temperature per DIN EN 60811-1-4 Impact Test at -40° C temperature similar to DIN EN 50305
	Damp-Heat Test	1000h at 90° C and 85% humidity per EN 60068-2-78
Mechanical Parameters	Tensile Rating	15 N/mm² in operation, 50 N/mm² during installation per DIN VDE 0298 Section 3 § 7.1 and Section 300 § 5.4.1
	Minimum bending Radius	Min. 4 x D (D=Overall Cable Diameter)
	Abrasion	Meets DIN EN 53516: against abrasive paper Sheath against sheath (Internal Testing) Sheath against metal (Internal Testing) Sheath against plastics (Internal Testing)
	Shrinkage Test	Meets EN 60811-1-3 <2% per TÜV 2 PfG 1169/08.2007
	Pressure Test at High Temperature	Meets EN 60811-3-1
	Dynamic Penetration Test	Meets requirements for PV-Wire per TÜV 2 PfG 1169/08.2007
	Shore-Hardness A	85 per DIN EN 53505
	Gnawer resistance	Safety can be optimized by utilizing protective hoses and cables with spinning or braid metallic coatings.
Chemical Parameters	Mineral Oil Resistance	24h, 100° C per DIN VDE 0473-811-2-1, DIN EN 60811-2-1 (Internal Testing)
	Acid and Alkaline Resistance	Meets EN 60811-2-1 7 days, 23° C (N-Oxalic Acid, N-Sodium Hydroxide)
	Ammonia Resistance	30 days in Saturated Ammonia Atmosphere (Internal Testing)
	Weather resistance	Ozone Resistance per DIN EN 50396 Test Type B, HD 22.2 Test Type B UV-Resistance per UL 1581 (XenoTest), ISO 4892-2 (Method A) and HD506/A1-2.4.20 Absorption of Water (Gravimetric) per DIN VDE 0473-811-1-3, DIN EN 60811-1-3 (Internal Testing)
	Behaviour in Case of Fire	Flame propagation: Single Cable Flame Test per DIN VDE 0482 Part 332-1-2, DIN EN 60332-1-2 Multiple Cable Flame Test per DIN VDE 0482 Part 266-2-5, DIN EN 50305-9 (Internal Testing) Low Smoke Emission per DIN VDE 0482 Part 268-2, DIN EN 50268-2 (Light Transmittance > 70%) Halogen-free per IEC 60754-1 No Corrosivity per DIN EN 50267-2-2 Low Toxicity per DIN EN 50305, ITC-index < 3
	Enviromentally Friendly	TECSUN DUO PV-Wire complies with RoHS directives 2002/95/EG, 2005/69/EG and 2006/112/EG of the European Union.

TECSUN DUO (PV) - TECSUN DUO (PV) S

Design features

Type designation	TECSUN DUO (PV) PV1-F TECSUN DUO (PV) S
Conductor	Electrolytic tinned Copper, Class 5 in accordance with IEC 60228
Insulation	HEPR 120° C complying with IEC 60502-1
Core identification TECSUN DUO (PV) PV1-F TECSUN DUO (PV) S	 Positive Pole Red, Negative Pole Black Power Core: Natural White Signal Core: Natural White and Black
Jacket	Cross-linked EVA rubber complying with DIN VDE 0282 part 1, HD 22.1
Jacket Colour	Black
Jacket Printing TECSUN DUO (PV) PV1-F TECSUN DUO (PV) S	Typical PRYSMIAN TECSUN (PV) PV1-F 4 0.6/1 KV (VDE- REG./TÜV) PRYSMIAN TECSUN (PV) DUO - S-PV1-F 1x4 + St-PV05-F 2x0.5



Selection and ordering data

Nominal cross-section	Order No.	Conductor diameter	Overall diameter of single cable Min.value	Overall diameter of single cable Max.value	Approx. net weight twin cable	Minimum bending radius	Maximum permissible tensile load	Current carrying capacity at 60° C ambient temperature (free in air)	Permissible short circuit current (1s)
		[mm]	[mm]	[mm]	[kg/km]	[mm]	[N]	[A]	[kA]
TECSUN DUO (PV)									
2x4	-	2.4	5.2 each	5.6 each	116	16.8	60	44	0.50
2x6	-	2.9	5.7 each	6.1 each	152	18.3	90	56	0.76
2x10	-	4.0	6.8 each	7.2 each	240	21.6	150	78	1.26
TECSUN DUO (PV) S									
1x4 + 2x0.5	-	Power: 2.4 Signal: 0.9	4.8	5.2 each	90	15.6	60	44	0.50

Linking sustainable ideas to real world results

Australia & New Zealand
Phone: + 61 398 043 598
E-mail: mark.dabbs@prysmiangroup.com

China
Phone: +86 512 6578 8210
E-mail: henry.feng@prysmiangroup.com
E-mail: harry.zhang@prysmiangroup.com

Danubian Region
Phone: +42 056 650 1509
E-mail: ludek.karasek@prysmiangroup.com

Denmark
Phone: +45 60 39 27 26
E-mail: jesper.steenstrup@prysmiangroup.com

France
Phone: +33 047 246 7302
E-mail: jeanpierre.bignaud@prysmiangroup.com

Germany
Phone: +49 303 675 4589
E-mail: dean.iwanow@prysmiangroup.com

Italy
Phone: +39 026 449 5328
E-mail: flavio.delfini@prysmiangroup.com

South America
Phone: +55 114 998 4170
E-mail: fernando.coelho@prysmiangroup.com

Spain
Phone: +34 685 484 426
E-mail: victor.romera@prysmiangroup.com

Turkey
Phone: +90 212 393 7710
E-mail: ilhan.ozturk@prysmiangroup.com

UK
Phone: +44 191 371 8609
E-mail: ewan.marshall@prysmiangroup.com

USA
Phone: +1 713-209-1070
E-mail: peter.dunn@prysmiangroup.com

Prysmian Group
Viale Sarca 222, 20126 Milan, Italy
Email: marketing.energy@prysmiangroup.com

www.prysmiangroup.com

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