

SOLARDIREKT - PRODUCT OVERVIEW



Solardirekt – Part of a strong group

SOLARDIREKT is part of the Brinkmann Group based in Germany. Under the leadership of company owner and managing director Manfred Brinkmann, the group has successfully established itself in international markets over the past 25 years.



SOLARDIREKT - The sunny side of mounting systems

Our strength lies in our longstanding experience

Our services

- In-house product development e.g. K1, VarioTwin, VarioTwin Large, ...
- Custom-fitted modular systems for installations on roofs and open areas
- Individual supply agreements and service
- Technical support
- Attractive conditions and special offers for our retail partners

Our philosophy

We supply high quality at competitive prices.



Our products:

Flat roof systems



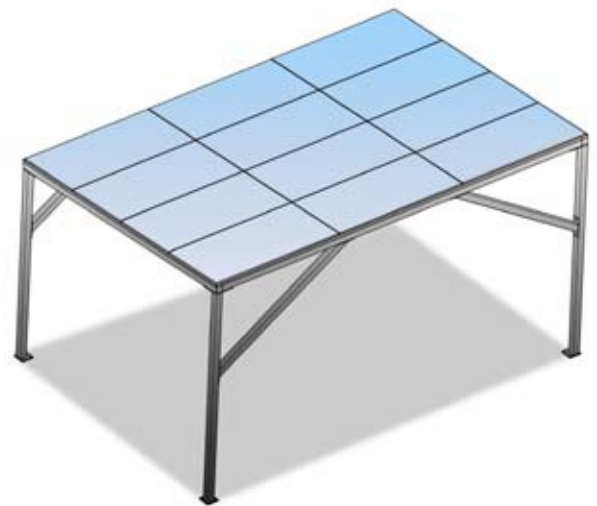
AirHeater



Pitched roof systems



Solar car port systems



Accessories



Free-standing systems
from 2nd quarter 2012



1. Flat roof systems

INFOBOX

Flat roof mounting systems are mainly used on roofs with a slope between 0 and 5 degrees. Depending on the type of roof they are attached either directly using screws or adhesive, or indirectly through the use of additional ballast.

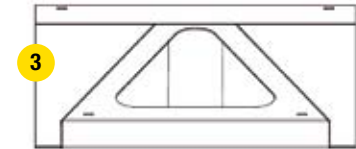
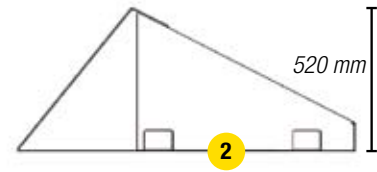
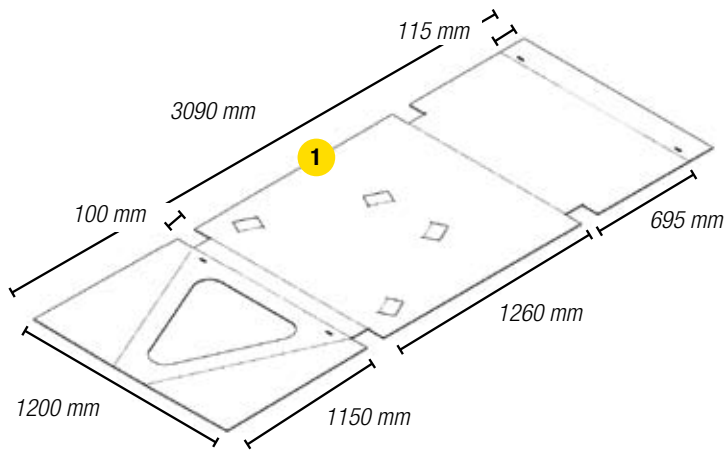


The innovative K1 panel mount: Delivered flat, easily assembled

K1 is the name given to Solardirekt's innovative flat roof mounting system for which a patent is pending. K1 can be installed without penetration of the roof membrane. The cost of transportation, storage and fitting are greatly reduced in comparison to conventional mounting systems with no reduction in panel effectiveness. Up to

150 K1 panel mounts can be fitted on a single palette. K1 is made of a special plastic material and represents a revolution in the market for flat roof systems.

Find out more at:
www.solardirekt.com



1 Delivered flat

2 Side view

3 Assembled, front south facing



SDK Panel mount K1

- Installation without roof penetration
- Minimal additional ballast required
- Low transport and storage costs
- Quick installation
- For single or multiple panels
- 10-year guarantee on UV-resistance

The profile rails can be fitted horizontally or vertically so that virtually all currently available panel dimensions can be successfully mounted.

Information on ballast requirements for all four wind zones in Germany can be found on our website.

Delivery contents:

- 1 x K1 panel mount
- 6 x plastic clips
- 8 x plastic washers for M10
- 4 x hex head bolts M10 x 25 (DIN 933)
- 4 x security nuts M10 (DIN 985)

Additional accessories:

- Mounting profiles (pages 21 – 24)
- Screw set (pages 29 – 33)
- Building protection (pages 35 – 36)

Angle	Article Number	Angle	Article Number
25 degrees - standard	012-102	20 degrees	012-302
15 degrees	012-202	30 degrees	012-402



The r(e)volution in mounting systems: SDT VarioTwin Large

The SDT VarioTwin – Large is a proprietary flat roof mounting system developed by Solardirekt. It impresses thanks to its flexibility and stability. As a result of ongoing development work, the solution to virtually all the challenges related to the installation of PV panels on flat roofs is now ready for serial production. In place of the rigid base construction usually found in conventional mounting systems for flat roofs, we have equipped the SDT VarioTwin Large with a series of special features.

Advantages at a glance:

- No roof penetration
- Variable length thanks to the VarioTwin stacking system
- Rows can be connected without rails
- Quick and easy installation
- Little additional ballast required
- Material: HDPE (high density polyethylene)
- Electrically non-conductive
- UV resistant thanks to the addition of non-oxidised carbon
- Solar panel is cooled continuously and effectively by the flow of air through the side openings
- 10-year guarantee
- Tested in a wind tunnel

The mounting rails can be installed vertically or horizontally. This allows virtually all standard size solar panels to be fitted. Information regarding the ballast needed for wind zones in Germany can be found on our website.

Reference pictures



SDT VarioTwin Large 15°

- Angle: 15°
- Material: HDPE
- Thickness: 3,7 mm
- Weight: 6,06 KG
- Length: 1.700 mm
- Height: 261 mm
- Width: 1.045 mm

SDT VarioTwin Large 27°

- Angle: 27°
- Material: HDPE
- Thickness: 3,7 mm
- Weight: 5,46 KG
- Length: 1.600 mm
- Height: 480 mm
- Width: 610 mm

Artikel Number

013-112

Artikel Number

013-105

SDM Solar panel mount SV*

- Solar panel mount made from galvanised steel
- Installation without roof penetration
- For standard panels measuring 1580 x 808 mm
- Base footprint: 1500 x 675 mm

Angle	Artikelnummer
10 degrees	011-101
15 degrees	011-102
20 degrees	011-103
27 degrees	011-104

SDM Solar panel mount AL*

- Solar panel mount made from galvanised steel
- Installation without roof penetration
- Anodised aluminium E6 / EV1 / 15 – 20 μ
- For standard panels measuring 1580 x 808 mm
- Base footprint: 1500 x 675 mm

Angle	Article Number
10 degrees	011-201
15 degrees	011-202
20 degrees	011-203
27 degrees	011-204

SDM Solar panel mount ES*

- Solar panel mount made from stainless steel
- Installation without roof penetration
- For standard panels measuring 1580 x 808 mm
- Base footprint: 1500 x 675 mm

Angle	Article Number
10 degrees	011-301
15 degrees	011-302
20 degrees	011-303
27 degrees	011-304

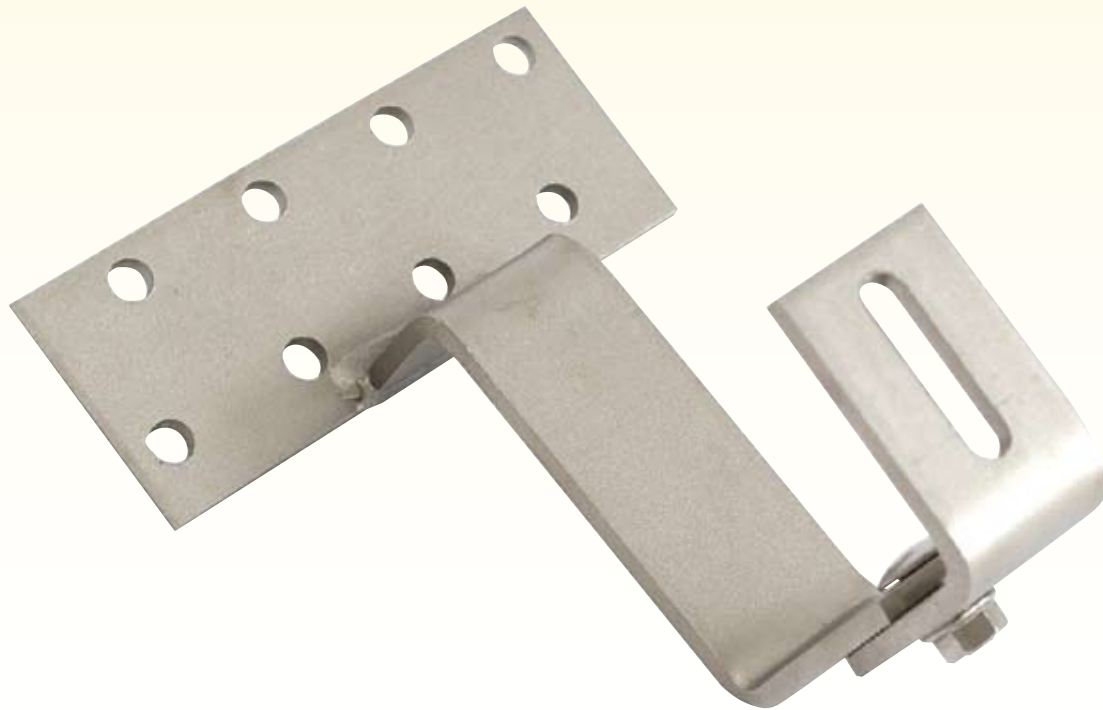
* We reserve the right to make changes to technical specifications / Other dimensions upon request / The use of our SDM profile rails means that the solar panel mounts can be linked, making it possible to fit solar panels measuring > 1580 x 808 mm. This also reduces the need for additional ballast. Information regarding the ballast requirements for all four wind zones in Germany can be found on our website.

SDM flat roof support I*



- Flat roof angled bracket made from aluminium
- Suitable for horizontal and vertical panel position
- Max. panel width/length: 1000 or 1700 mm
- Available as 10, 15, 20, 25 or 30 degree angle support
- Anchored using M10 screws

Angle	Article Number
10 degrees / 1700 mm	018-101
10 degrees / 1000 mm	018-102
15 degrees / 1700 mm	018-201
15 degrees / 1000 mm	018-202
20 degrees / 1700 mm	018-301
20 degrees / 1000 mm	018-302
25 degrees / 1700 mm	018-401
25 degrees / 1000 mm	018-402
30 degrees / 1700 mm	018-501
30 degrees / 1000 mm	018-502



2. Roof fixings

INFOBOX

Roof fixtures are connecting elements between the roof and the various components required for the installation of the photovoltaic system.

Depending on the type of roof covering, for example roof tiles, profiled sheeting or fibrous cement boards, there are numerous fixing elements available including roof tile hooks, profiled sheeting retainers, tube seam clamps or hangar bolts.

SDM Stainless steel hook, plain*



- Stainless steel roof hook
- For use with 32 mm battens, symmetrical arrangement
- Fixing plate 150 x 60 x 4 mm
- Ride height 45 mm, installation height 135 mm
- Bracket material 1.4016

Article Number

021-101

SDM Stainless steel hook, single adjustment*



- Stainless steel roof hook, pre-assembled
- For use with 32 mm battens, height adjustable
- Symmetrical arrangement
- Fixing plate 150 x 60 x 4 mm
- Ride height 45 mm, installation height 117 - 147 mm
- Bracket material 1.4016
- Incl. M10 round head bolt and flange nut

Article Number

021-102

SDM Stainless steel hook, double adjustment*



- Stainless steel roof hook, pre-assembled
- For use with 32 mm battens, side and height adjustable
- Three possible positions for central bar
- Fixing plate 150 x 60 x 4 mm
- Ride height 45 mm, installation height 117 - 147 mm
- Bracket material 1.4016
- Incl. M10 round head bolt and flanged nut

Article Number

021-103

SDM Beaver tail roof hook*



- Stainless steel roof hook
- Non-adjustable
- Fixing plate 60 x 30 x 5 mm
- Ride height 40 mm, installation height 125 mm
- Bracket material 1.4016

Article Number

021-201

* Please order roofing bolts separately / Other dimensions on request

SDM Klickfix, single adjustment*



- Aluminium roof hook
- For use with 32 mm battens, side adjustable
- Ride height 45 mm, installation height 135 mm
- Hook with M10 screw slot
- Individually galvanised

Article Number

021-301

SDM Klickfix, double adjustment*

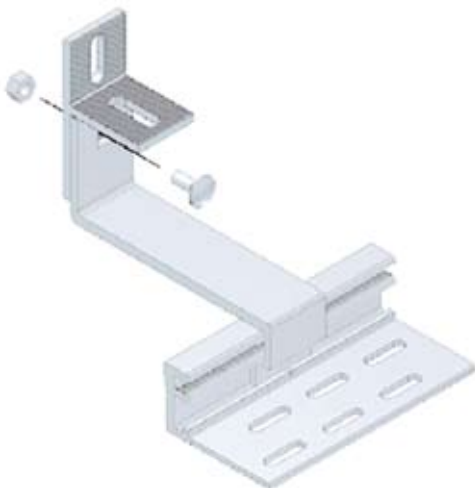


- Aluminium roof hook
- For use with 32 mm battens, side and height adjustable
- Back plate 150 x 80 x 4 mm
- Ride height 45 mm, installation height 135 mm
- Hook with M10 screw slot
- Individually galvanised

Article Number

021-302

SDM Klickfix, double adjustment with T-angle*



- Aluminium roof hook
- For use with 32 mm battens, side and height adjustable
- With T-angle for flexible profile installation
- Fixing plate 150 x 80 x 4 mm
- Ride height 45 mm, installation height 135 - 178 mm
- Angled plate with M10 screw slot
- Individually galvanised

Article Number

021-303

SDM Klickfix - Fixing plate



- SDM - Klickfix aluminium base plate
- For use with 32 mm battens, ride height 45 mm
- Suitable for use with various SD - Klickfix hooks
- Fixing plate dimensions 150 x 80 x 4 mm
- Individually galvanised

Article Number

021-304

SDM Klickfix – Fixing plate, raised



- SDM - Klickfix aluminium fixing plate
- For use with 40 mm battens, ride height 54 mm
- Suitable for use with SD Klickfix hooks
- Fixing plate dimensions 150 x 80 x 4 mm
- Individually galvanised

Article Number

021-305

SDM Klickfix – Hook



- Aluminium hook
- Suitable for use with SDM Klickfix fixing plates
- Installation height 135 mm
- Individually galvanised

Article Number

021-306

SDM Klickfix – L-shaped hook



- L-shaped aluminium hook
- For use with SDM Klickfix – fixing plate and angle / T-angle
- Installation height 135 – 178 mm
- Individually galvanised

Article Number

021-307

SDM Klickfix – L-Plate



- Aluminium L-plate
- Suitable for use with SDM Klickfix hooks
- With M10 screw slot
- With L-shaped hook for installation heights of 135 – 178 mm
- Individually galvanised

Article Number

021-308

SDM Klickfix – T-angle



- Aluminium T-angle
- Suitable for use with SDM Klickfix hooks
- With M10 screw slot
- With L-shaped hook for installation heights of 135 – 178 mm
- Galvanised aluminium

Article Number

021-310

SDM Trapezoidal Sheeting Clamp



- Stainless steel trapezoidal sheeting clamp
- Adjusts to fit all raised seam dimensions
- With M10 screw slot
- Installation height 65 mm
- Bracket material stainless steel A2 – 1.4016
- Incl. M8 round head bolt and flange nut

The clamp is fixed to the profiled sheeting using four 6.3 x 25 mm self-tapping screws with sealing washer (Art. No. 055-301). Please order these separately.

Article Number

025-101

SDM Standing Seam Clamp



- Aluminium standing seam clamp
- Adjusts to fit all raised seam dimensions
- With M10 screw slot
- Installation height 45 mm
- Individually galvanised
- Incl. M8 round head bolt and flange nut

Article Number

025-201

SDM Hanger Bolt



- Stainless steel – 1.4016 hanger bolt
- For use with various roof constructions
- For use with M10 or M12 bolts
- Flange nuts, EPDM cone sealing washer and bridge plate not included

Type	Article Number
M10 x 200	026-101
M10 x 250	026-103
M12 x 300	026-105

SDM Adapter plate



- Stainless steel – 1.4016 adapter plate
- For use with M10 or M12 hanger bolts
- Dimensions: 82 x 40 x 5 mm

Type	Article Number
M10	026-201
M12	026-202

SDM Hanger Bolt – Set I



- Stainless steel – 1.4016 hanger bolt
- For use with various roof constructions
- Incl. flange nuts and EPDM cone sealing washer
- Adapter plate not included

Delivery contents:

- Hanger bolt
- 3 lock nuts M10 or M12
- EPDM cone sealing washer

Type	Article Number
M10 x 200	026-102
M10 x 250	026-104
M12 x 300	026-106

SDM Hanger Bolt – Set II



- Stainless steel – 1.4016 hanger bolt
- For use with various roof constructions
- With EPDM cone sealing washer and adapter plate

Delivery contents:

- Hanger bolt
- 3 lock nuts M10 or M12
- EPDM cone sealing washer
- Adapter plate for M10 or M12

Type	Article Number
M10 x 200	026-301
M10 x 250	026-302
M12 x 300	026-303

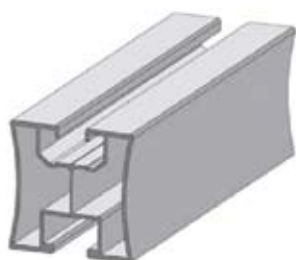


3. Mounting rails / Accessories

INFOBOX

Mounting rails provide a platform for fixing PV modules. With standard profiles the modules are primarily secured via a lower channel for hex head bolts and T-bolts and an upper channel for slot nuts. The load capacity depends on the size of the cross-section.

SDM Rail 40/40

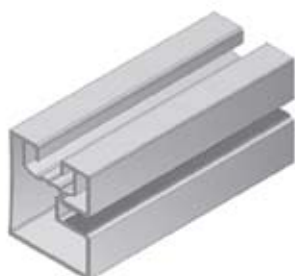


- Aluminium rail
- Quick assembly with roof hooks
- For M8 slot nuts and M10 hex head bolts
- Cross-section: 40 x 40 x 1.5 mm
- Length: 6100 mm

Article Number

031-101

SDM Cross-rail 40/40



- Aluminium rail
- Quick assembly in criss-cross layout
- For M8 slot nuts
- With side channel for M8 round head bolts
- Cross-section: 40 x 40 x 1.5 mm
- Length: 6100 mm

Article Number

031-102

SDM Rail 80/40



- Aluminium rail
- Quick assembly with roof hooks
- For M8 slot nuts and M10 hex head bolts
- Cross-section: 80 x 40 x 1.5 mm
- Length: 6100 mm

Article Number

031-201

SDM Cross-rail 80/40

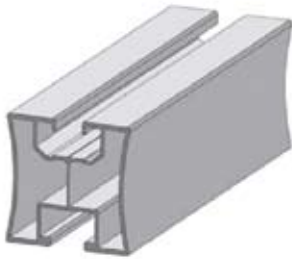


- Aluminium rail
- Quick assembly in criss-cross layout
- For M8 slot nuts
- With side channel for M8 round head bolts
- Cross-section: 80 x 40 x 1.5 mm
- Length: 6100 mm

Article Number

031-202

SDM Rail 40/40 – 900 mm

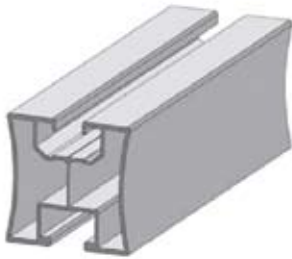


- Aluminium rail
- Quick assembly with roof hooks
- For M8 slot nuts and M10 hex head bolts
- Cross-section: 40 x 40 x 1.5 mm
- Length: 900 mm

Article Number

031-103

SDM Rail 40/40 – 1,100 mm



- Aluminium rail
- Quick assembly with roof hooks
- For M8 slot nuts and M10 hex head bolts
- Cross-section: 40 x 40 x 1.5 mm
- Length: 1100 mm

Article Number

031-104

SDM rail connector



- Aluminium rail connector
- Suitable for use with SDM profiles
- Exterior dimensions: 100 x 42.5 x 42.5
- Individually galvanised

Article Number

036-101

SDM Rail Connector – Set



- Aluminium rail connector
- Suitable for use with SDM profiles
- Exterior dimensions: 100 x 42.5 x 42.5
- Individually galvanised
- Incl. M10 screws and flange nuts

Article Number

036-102

SDM L-bracket for cross rail mounting



- Aluminium serrated L-bracket
- Suitable for connecting SDM rails in cross rail connections
- Exterior dimensions: 57 x 38 x 40
- Individually galvanised

Article Number

036-201

SDM Rail Connector for cross rail mounting – Set



- Aluminium connecting bracket
- Suitable for cross rail mounting with SDM rails
- Exterior dimensions: 57 x 38 x 40
- Incl. screws, washers and nuts

Article Number

036-202



4. Panel clamps

INFOBOX

Many different types of panel clamps are available for solar panels with and without frames. In the photovoltaic industry these are referred to as mid-clamps and end clamps. The dimensions depend on the frame thickness of the panel. They are usually secured with bolts.

SDM End Clamp



- Aluminium end clamp
- For framed modules
- 10 mm module overlap
- Suitable for M8 x 20 bolts
- Material thickness: 3 mm
- Individually galvanised

Frame Height	Article Number
30 mm	041-105
32 mm	041-106
34 mm	041-107
35 mm	041-108
36 mm	041-109
38 mm	041-110
40 mm	041-111
42 mm	041-112
46 mm	041-113
50 mm	041-114

SDM Middle Clamp I



- Aluminium middle clamp
- For various module frame thicknesses
- 10 mm module overlap
- Dimensions: 50 x 33 x 19 mm
- Material thickness: 3 mm
- Individually galvanised

The length of bolt required depends on the height of the PV module frame – 20 mm.

Example:

Frame height = 50 mm $\hat{=}$ M8 x 30

Article Number

042-101

SDM Middle Clamp II



- Aluminium mid-clamp
- For various module frame thicknesses
- 10 mm module overlap
- Dimensions: 65 x 20 x 20 mm
- Material thickness: 3 mm
- Individually galvanised

The length of bolt required depends on the height of the PV module frame – 20 mm.

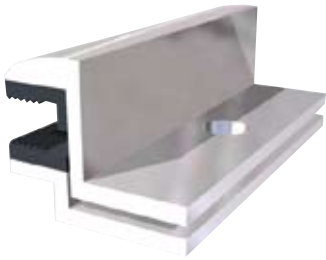
Example:

Frame height = 50 mm $\hat{=}$ M8 x 50

Article Number

042-102

SDM Laminate End Clamp

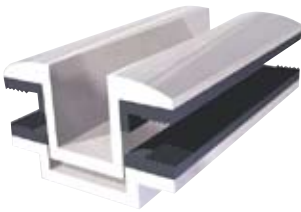


- Aluminium end clamp
- Suitable for thin sheet PV modules
- With EPDM rubber buffer strip
- Dimensions: 70 x 37 x 21.25 mm
- Module overlap: 70 x 15 x min. 6.8 mm
- Suitable for use with M8 x 16 bolts
- First Solar certified
- Individually galvanised

Article Number

046-101

SDM Laminate mid-clamp



- Aluminium mid-clamp
- Suitable for thin sheet PV modules
- With EPDM rubber buffer strip
- Dimensions: 70 x 54 x 21.25 mm
- Module overlap: 70 x 15 x min. 6.8 mm
- Suitable for use with M8 x 16 bolts
- First Solar certified
- Individually galvanised

Article Number

046-102



5. Screws / Bolts / Nuts

INFOBOX

The screws, bolts and nuts used in our systems are DIN and standard parts and are used to connect individual elements such as roof hooks, hanger bolts, mounting rails or solar panel clamps. The most commonly used fixings for PV installations are hex head bolts, T bolts and hexagonal socket bolts, flange nuts and slot nuts.

M8 Allen screws – DIN 912



- A2 stainless steel Allen screw M8
- With locking teeth
- (not M8 x 10, M8 x 12, M8 x 14)
- Suitable for fixing PV module clamps
- Conforms to DIN 912
- Number in pack: 100

Type	Article Number	Type	Article Number
M8 x 10	051-101	M8 x 30	051-107
M8 x 12	051-102	M8 x 35	051-108
M8 x 14	051-103	M8 x 40	051-109
M8 x 16	051-104	M8 x 45	051-110
M8 x 20	051-105	M8 x 50	051-111
M8 x 25	051-106	M8 x 55	051-112

M8 Hex head screws – DIN 933



- A2 stainless steel M8 hex head screw
- Conforms to DIN 933
- Number in pack: 100

Type	Article Number	Type	Article Number
M8 x 10	051-201	M8 x 30	052-207
M8 x 12	051-202	M8 x 35	052-208
M8 x 14	051-203	M8 x 40	052-209
M8 x 16	051-204	M8 x 45	052-210
M8 x 20	051-205	M8 x 50	052-211
M8 x 25	051-206		

M10 hex head screws – DIN 933



- A2 stainless steel M10 hex head screw
- Suitable for securing roof hooks, hanger bolts and SDM rails
- Conforms to DIN 933
- Number in pack: 100

Type	Article Number	Type	Article Number
M10 x 16	051-301	M10 x 35	052-305
M10 x 20	051-302	M10 x 40	052-306
M10 x 25	051-303	M10 x 45	052-307
M10 x 30	052-304	M10 x 50	052-308

M12 hex head screws – DIN 933



- A2 stainless steel M12 hex head screw
- Conforms to DIN 933
- Number in pack: 100

Type	Article Number	Type	Article Number
M12 x 20	051-401	M12 x 40	052-405
M12 x 25	051-402	M12 x 45	052-406
M12 x 30	052-403	M12 x 50	052-407
M12 x 35	052-404		

M10 Mushroom head screws – DIN 603



- A2 stainless steel M10 mushroom head screw
- With square neck
- Conforms to DIN 603
- Number in pack: 100

Type	Article Number	Type	Article Number
M10 x 20	051-501	M10 x 40	052-505
M10 x 25	051-502	M10 x 45	052-506
M10 x 30	052-503	M10 x 50	052-507
M10 x 35	052-504	M10 x 55	052-508

Flat head screws – Torx



- A2 stainless steel flat head screw
- Suitable for securing roof hooks
- Head size: TX M8 – Torx
- Number in pack: 100

Type	Article Number
8 x 80	055-101
8 x 100	055-102

Self-tapping screws M8



- A2 stainless steel hex head self-tapping screws incl. sealing washer
- For securing profiled sheeting clamps
- Head size: M8 – dimensions: 6.3 x 25 mm
- Number in pack: 100

Article Number
055-301

Flange nuts – DIN 6923



- A2 stainless steel flange nut
- Conforms to DIN 933
- Number in pack: 100 Stk.

Type	Article Number
M8	052-101
M10	052-102
M12	052-103

Lock nuts – DIN 985



- A2 stainless steel lock nut
- With plastic locking ring
- Conforms to DIN 933
- Number in pack: 100

Type	Article Number
M8	052-201
M10	052-202
M12	052-203

Square nuts – DIN 557



- A2 stainless steel square nut
- Conforms to DIN 557
- Number in pack: 100

Type	Article Number
M8	052-301
M10	052-302
M12	052-303

Threaded plate M8



- A2 stainless steel threaded plate
- Dimensions: 18 x 16 x 4 mm
- Number in pack: 100

Article Number
052-401

Slot nuts



- Aluminium slot nuts
- For use with all SDM rails
- Individually galvanised
- For M8 screws
- Conforms to DIN 933
- Number in pack: 100

Article Number

053-101

Rhombic nuts M8 – DIN 508



- Stainless steel rhombic nut
- Suitable for use with various SDM rails
- For M8 screws
- Number in pack: 100

Article Number

053-201

Hammer nuts M8 – GN 505



- Stainless steel hammer nut
- Suitable for use with various SDM rails
- For M8 screws
- Number in pack: 100

Article Number

053-301

Washers – DIN 125



- A2 stainless steel or polyamide washers
- Conforms to DIN 125
- Number in pack: 100

Type

M8 - Ø 13 mm (with locking teeth)
M8 - Ø 15 mm
M8 - Ø 20 mm
M10 - Ø 20 mm
M10 - Ø 30 mm
M10 - Ø 30 mm – PA (polyamide)
M12 - Ø 30 mm

Article Number

054-101
054-102
054-103
054-201
054-202
054-203
054-301



6. Building protection

INFOBOX

Building protection components are mainly required for flat roof PV systems that are not connected directly to the roof. They provide protection from mechanical effects on the one hand and serve to prevent the transfer of plasticisers on the other. Through the combination of individual products it is also possible to improve static friction coefficients, which in turn reduces the need for additional ballast.

Anti-slip mat



- Increases friction coefficient
- Does not contain chemical softeners
- Thickness: 1 mm
- Roll width: 500 mm
- Unit quantity: 20 m roll

Article Number

061-101

Separation fleece



- Separation fleece made from artificial fibres
- Prevents transfer of plasticisers
- Thickness: 2 mm
- Roll width: 650 mm
- Unit quantity: 100 m roll

Article Number

062-201

Building protection mat



- Building protection mat made from granulated rubber
- To protect the roof membrane on flat roofs
- UV resistant
- Thickness: 6 mm

Type

1300 x 1300 mm
1250 x 800 mm

Article Number

061-301
061-302

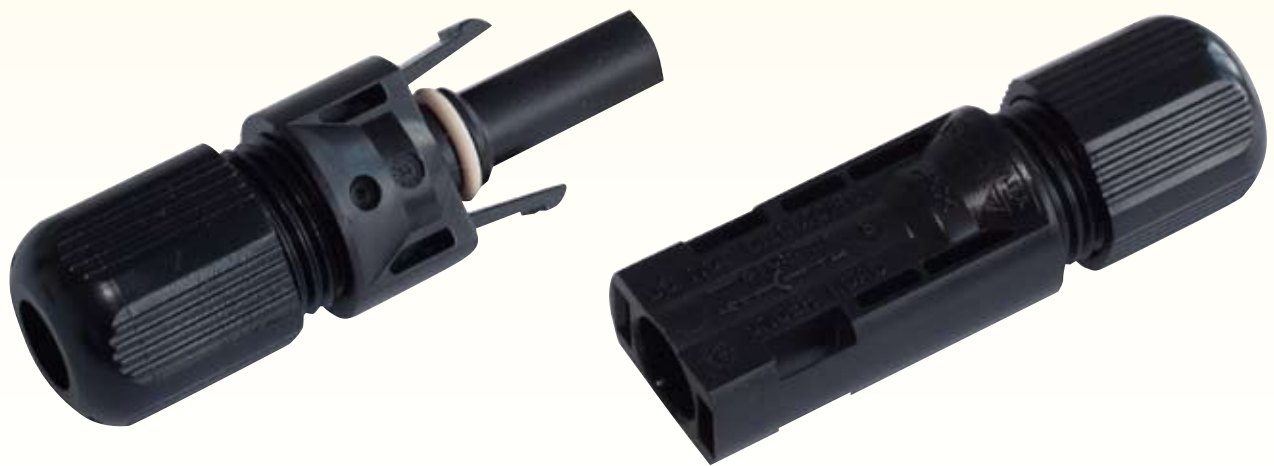
Protection fleece



- Protection fleece made from polyester, polypropylene
- Protects the roof membrane on flat roofs
- Can be used on all roofs as a protective layer for plastic and bitumen roof sealants
- Thickness: 4 mm
- Width: 2000 mm
- Unit quantity: 30 m roll

Article Number

061-401



7. Solar cables / Accessories

INFOBOX

Solar cables conduct alternating current between the PV modules and the power inverter.

The cross-section depends on the installed capacity and the distance between the electrical components. Commonly used connectors are MC3, MC4 or Solarlok connectors and bushings.

SDM Solar cables*

- Maximum rated current 30 A
- Maximum voltage: 1000 V
- Cable cross-section 4 / 6 / 10 mm²
- DIN VDE 0295 class 5
- UV resistant
- Minimum order: 1 roll

Type	Article Number
4 mm ² - black	071-101
4 mm ² - red	071-102
4 mm ² - blue	071-103
6 mm ² - black	071-201
6 mm ² - red	071-202
6 mm ² - blue	071-203
10 mm ² - black	071-301

SDM Cable clip*

- Plastic cable clip
- Suitable for use with SDM 40/40, K1 and VarioTwin
- With hammer, M8 slot
- UV resistant

Article Number
072-101

SDM Cable tie*

- Plastic cable tie
- UV resistant
- Number in pack: 100

Article Number
072-102

* Product similar to picture

Multicontact MC3 Connector / Bushing



- MC 3 connector / bushing
- Maximum rated current 30 A
- Maximum voltage: 1000 V
- Cable cross-section 2.5 – 6.0 mm²
- Protection class II, IP67 classified, UV resistant
- Incl. contact pin

Connector		Bushing	
Type	Article Number	Type	Article Number
MC3 – 2.5 to 4.0 mm ²	073-101	MC3 – 2.5 to 4.0 mm ²	073-102
MC3 – 6.0 mm ²	073-103	MC3 – 6.0 mm ²	073-104

Multicontact MC4 Connector / Bushing



- MC 4 connector / bushing
- Maximum rated current 30 A
- Maximum voltage: 1000 V
- Cable cross-section 2.5 – 6.0 mm²
- Protection class II, IP67 classified, UV resistant
- Incl. contact pin

Connector		Bushing	
Type	Article Number	Type	Article Number
MC4 – 4.0 to 6.0 mm ²	073-201	MC4 – 4.0 to 6.0 mm ²	073-202

Tyco SOLARLOK connector / bushing



- Tyco SOLARLOK connector / bushing
- Maximum rated current 30 A
- Maximum voltage: 1000 V
- Cable cross-section 4.0 mm²
- Protection class II, IP67 classified, UV resistant
- Incl. contact pin

Connector		Bushing	
Type	Article Number	Type	Article Number
4.0 mm ² - positive	074-101	4.0 mm ² - positive	074-102
4.0 mm ² - negative	074-103	4.0 mm ² - negative	074-104

AirHeater DSB...for a pleasant interior climate and cosy warmth

Good for the environment and your bank balance

The original AirHeater – supplementary “eco-friendly” heating and ventilation, 100% solar-powered and carbon neutral

Advantages at a glance:

- **Supplementary eco-friendly heating and ventilation**
- **Energy independent: 100% solar-powered and 100% carbon neutral**
- **Lowers air humidity and the risk of mould**
- **Maintenance free, patented technology**
- **Regulates heat injection and air circulation**
- **Simple wall installation**

More information at:
www.solardirekt.com

NEW!



**AirHeater DSB – Order now:
+49 5971-804050**

Pleasant interior climate and free heating

Modern houses are so well insulated that humidity cannot escape and air quality suffers. Despite this they are still expensive to heat.

The AirHeater only needs sunlight to feed warm air into your home and ensure a pleasant interior climate with low humidity.

The AirHeater features a brand new ionizing filter that scrubs the air and is therefore particularly suited for people with allergies. The AirHeater requires no external power source. Its integrated solar cells supply sufficient power for its operation.



Wired-in thermostat

The DSB AirHeater is supplied with a wired-in thermostat as standard and regulates the supply of warm air and fresh air circulation as required.

Model	DSB1	DSB2
Dimensions (in mm)	1,245 x 610 x 68	1,425 x 850 x 68
Weight (in kg)	10	13
Heat output	up to 40 m ²	up to 70 m ²
Airflow (m ³ /h)	115	
Material	UV-resistant polycarbonate (PC)	
Delivery contents	AirHeater, thermostat, flexible air hose (50cm, Ø135mm), 8 stainless steel screws 4,5 x 40 mm	

The DSB Series uses a patented technology that circulates the air flowing through the module three times. The prolonged airflow means that the air molecules can be heated to an unusually high temperature before being blown into the building.

The DSB Series begins to inject warm air into the building as soon as the solar cell provides sufficient power to operate the ventilator fan.

As soon as the AirHeater has reached its optimal working temperature it is the ideal eco-friendly choice for supplying supplementary heating and ventilation in:

- Summerhouses and guest cottages
- Ski chalets and hunting lodges
- Workshops, garages and basements

Warranty

3 years warranty on craftsmanship. 10 years warranty on used materials. 5 years warranty for craftsmanship on used solar cells. 25 years warranty for min. 80% efficiency at year 25 on used solar cells.

AirHeater DS...for a pleasant interior climate and cosy warmth

Good for the environment and your bank balance

The original AirHeater – supplementary “eco-friendly” heating and ventilation, 100% solar-powered and carbon neutral

Advantages at a glance:

- Supplementary eco-friendly heating and ventilation
- Energy independent: 100% solar-powered and 100% carbon neutral
- Operational efficiency of up to 89% with an output of 1,041 watts
- Lowers air humidity and the risk of mould
- Maintenance free, patented technology
- Automatically regulates heat injection and air circulation
- Simple to mount on wall or roof

More information at:
www.solardirekt.com

Pleasant interior climate and free heating

Modern houses are so well insulated that humidity cannot escape and air quality suffers. Despite this they are still expensive to heat.

The AirHeater only needs sunlight to feed warm air into your home and ensure a pleasant interior climate with low humidity.

The AirHeater features a brand new ionizing filter that scrubs the air and is therefore particularly suited for people with allergies. The AirHeater requires no external power source. Its integrated solar cells supply sufficient power for its operation.

NEW!



AirHeater DS – Order now:
+49 5971-804050



Wireless thermostat

The DS AirHeater is supplied with a wireless thermostat as standard and automatically regulates the supply of warm air and fresh air circulation.

Model	DS1	DS2
Dimensions (in mm)	750 x 750 x 80	1,500 x 750 x 80
Weight (in kg)	11	21
Heat output	up to 40 m ²	up to 70 m ²
Airflow (m ³ /h)	78	
Material	UV-resistant polycarbonate (PC)	
Front	Polycarbonate	
Frame	Galvanised aluminium, black	

The AirHeater uses a patented technology that circulates the air flowing through the module three times. The prolonged air-flow means that the air molecules can be heated to an unusually high temperature before being blown into the building. The DS Series begins to inject warm air into the building as soon as the solar cell provides sufficient power to operate the ventilator fan.

As soon as the AirHeater has reached its optimal working temperature it is the ideal eco-friendly choice for supplying supplementary heating and ventilation in:

- Summerhouses and guest cottages
- Ski chalets and hunting lodges
- Workshops, garages and basements

The DS Series is supplied with a wireless thermostat. The system can be configured using just four control buttons and is then maintenance free.

The air vent inside the room is covered by a wooden board measuring 30 cm x 30 cm. This stops the air from being blown directly into the room and allows it to flow along the wall in all directions instead.

Warranty

3 years warranty on craftsmanship. 10 years warranty on used materials. 5 years warranty for craftsmanship on used solar cells. 25 years warranty for min. 80% efficiency at year 25 on used solar cells.

AirHeater DG...for a pleasant interior climate and cosy warmth

Good for the environment and your bank balance

The original AirHeater – supplementary “eco-friendly” heating and ventilation, 100% solar-powered and carbon neutral

Advantages at a glance:

- **Supplementary eco-friendly heating and ventilation**
- **Energy independent: 100% solar-powered and 100% carbon neutral**
- **Operational efficiency of up to 89% with an output of 1,041 watts**
- **Lowers air humidity and the risk of mould**
- **Maintenance free, patented technology**
- **Automatically regulates heat injection and air circulation**
- **Simple to mount on wall or roof**

More information at:
www.solardirekt.com

Pleasant interior climate and free heating

Modern houses are so well insulated that humidity cannot escape and air quality suffers. Despite this they are still expensive to heat.

The AirHeater only needs sunlight to feed warm air into your home and ensure a pleasant interior climate with low humidity.

The AirHeater features a brand new ionizing filter that scrubs the air and is therefore particularly suited for people with allergies. The AirHeater requires no external power source. Its integrated solar cells supply sufficient power for its operation.

NEW!

AirHeater DG – Order now:
+49 5971-804050



Wireless thermostat

The DG AirHeater is supplied with a wireless thermostat as standard and automatically regulates the supply of warm air and fresh air circulation.

Model	DG1	DG2
Dimensions (in mm)	750 x 750 x 80	1,500 x 750 x 80
Weight (in kg)	21	33
Heat output	up to 40 m ²	up to 70 m ²
Airflow (m ³ /h)	78	
Material	UV-resistant polycarbonate (PC)	
Front	Glass	
Frame	Galvanised aluminium, black	

The AirHeater uses a patented technology that circulates the air flowing through the module three times. The prolonged air-flow means that the air molecules can be heated to an unusually high temperature before being blown into the building. The DG Series begins to inject warm air into the building as soon as the solar cell provides sufficient power to operate the ventilator fan.

As soon as the AirHeater has reached its optimal working temperature it is the ideal eco-friendly choice for supplying supplementary heating and ventilation in:

- Summerhouses and guest cottages
- Ski chalets and hunting lodges
- Workshops, garages and basements

The DG Series is supplied with a wireless thermostat. The system can be configured using just four control buttons and is then maintenance free.

The air vent inside the room is covered by a wooden board measuring 30 cm x 30 cm. This stops the air from being blown directly into the room and allows it to flow along the wall in all directions instead.

Warranty

3 years warranty on craftsmanship. 10 years warranty on used materials. 5 years warranty for craftsmanship on used solar cells. 25 years warranty for min. 80% efficiency at year 25 on used solar cells.

General

All of the information contained in this product catalogue relates exclusively to products distributed by SOLARDIREKT ENERGY GmbH Co. KG – alterations and errors excepted.

Our mounting systems have been designed exclusively for use with photovoltaic modules. SOLARDIREKT ENERGY GmbH Co. KG is not liable for any damage caused by their use in any other way than that described here.

All information relating to our mounting systems is based on their use in Germany. Our roof hooks have been tested for stability and are rated accordingly. The values stated are calculated on the basis of a roof slope of 30° and permissible force of 21.5 kN/cm². In the case of height-adjustable roof hooks, an average value has been calculated. Where local conditions are uncertain SOLARDIREKT ENERGY GmbH Co. KG recommends checking the building stability. We accept no liability for questions regarding stability.

All illustrations, diagrams, weight and measurement information are approximations except where explicitly stated otherwise. Furthermore, all illustrations and diagrams are copyright protected and may not be used or passed on to third parties without the express permission of SOLARDIREKT ENERGY GmbH Co. KG.

Flat roof systems

Wind loads on buildings up to 300 m in height are classified according to DIN 1055. Wind load is calculated on the basis of wind pressure and wind force. The forces and pressures being brought to bear are classified using a formula that takes into account wind speed, wind zone, speed pressure, terrain and building height. Our flat roof mounting systems are suitable for flat roofs and mono-pitch roofs with a slope of up to 5°.

To calculate the structural stability margins for our panel mounts, their aerodynamic properties and behaviour was tested in a wind tunnel. The required static calculations according to DIN 1045-1, 1052 – 1055, 1055 – 100, 18800 – 18808 were carried out by a specialist engineering company. The wind tunnel results and the stability calculations provide us with the necessary information to determine the required amount of ballast for our mounting systems. Suitable ballast materials: gravel, paving stones or concrete posts.

Delivery

Delivery conditions

Unless otherwise agreed in writing, the recipient is responsible for the unloading of the goods from the delivery vehicle. Please prepare your warehouse or building site for receipt. If the goods cannot be delivered due to inadequate preparation or the absence of the recipient, we reserve the right to charge for the incurred delivery costs. It may be advisable to provide the name and telephone number of a contact person.

Delivery times / Period of validity

Unless otherwise agreed in writing, the following delivery times / period of validity will apply:

- **Dispatch by parcel service**
 - National: approx. 2 – 3 working days
 - International: approx. 5 – 7 working days
- **Dispatch by freight forwarder**
 - National: approx. 7 – 10 working days
 - International: by arrangement

If you require your goods more quickly please let us now in writing at the time of placing the order. In the case of a delayed period of validity we reserve the right to invoice for the incurred costs retrospectively.

Of course you can also arrange your own transportation for goods ordered or collect them directly from our warehouse. To ensure there are no delays we would ask you to notify us in advance.

Contact

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