

SOLAR DIRECT DRIVE 1.5kW-425V



PV powered solutions for agricultural / productive use

SDD1.5kW-425V with MPPT, GSM modem option, IP54(65) protection, passive cooling and with efficient 3-phase motors as solution kit

The main image shows a red control box with a digital display and buttons labeled 'START', 'STOP', and 'MENU'. It features warning symbols for 'HOT' and 'HIGH VOLTAGE' and the 'empeni' logo. A plus sign is placed between the control box and a grey 3-phase motor. To the right, a vertical scale indicates the number of solar panels required for different power outputs:

1,5kW	10pcs (60cells)
1,1kW	7pcs (60cells)
0,75kW	5pcs (60cells)
0,55kW	4pcs (60cells)
0,37kW	3pcs (60cells)

A circular logo at the bottom left of the main image reads 'renewables Made in Germany'.

Suitable off-grid applications:



Oil press



Cereals grinder



Ventilation



Grain mills, peeler



Air compressors

EMPO-NI off-grid solutions
Erkrather Strasse 401

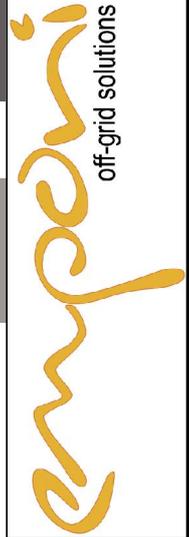
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Development & Production
Customized Solutions

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Operating applications for agricultural / productive use only from the power of the sun, e.g. off-grid is not a new requirement. Today's off-the-shelf solutions for a power range of up to 1,5kW are typically realized through static 50Hz inverters and the original single phase motor of the application itself. These single phase motors inherently provide only low efficiency and unfortunately cannot be speed and power controlled efficiently. However power control through an efficiently optimized motor speed is an essential feature to utilize only a minimum quantity of PV solar panels and to react on changing or lower sunlight and to keep the off-grid application running at adjusted speed as much as possible.

The EMPO-NI solution kits for agricultural and productive use comprise the proven robust passively cooled EMPO-NI SDD1.5kW-425V and motors in standard industrial housing sizes for standfoot or flange mounting for an easy replacement of the originally used single phase motor.

The EMPO-NI solution kits minimize the amount of required PV-panels. The table indicates most frequently used motor sizes and options - other solutions on request.

Features of the agricultural / productive use kits with Solar Direct Drive 1.5kW-425V

- ◆ Easy selection by motor power and flange / standfoot motor. Highly efficient PV-panel saving kit solutions.
- ◆ Protection against too low speed operation: Automatic low speed stop and delayed restart function.
- ◆ Passive cooling for up to 45°C (50°C) temperature without any rotating fan.
- ◆ Optional GSM remote control and monitoring function through simple text (SMS) messaging.
- ◆ Fully encapsulated IP54 (IP65) case, safety isolated electrical control and power interfaces.

Power range	0,37kW...1,5kW (3-phase: 65V, 85V, 110V, 230V, 50Hz / 60Hz)
Voltage range	75V ...425V (input), 80V...400V (MPPT range)

Selection table: B2B solutions Solar Direct Drive kits

Number of PV-panels*	Motor Power [KW]	Solar Direct Drive SDD1.5kW-425V	Rated speed at 50Hz	Motor Size	Coupling
3	0,37kW		4p 1450rpm 2p 2850rpm	71	stand food/ flange
4	0,55kW		4p 1460rpm 2p 2870rpm	80	stand food/ flange
5	0,375kW		4p 1450rpm 2p 2860rpm	80	stand food/ flange
7	1,1kW		6p 950rpm 4p 1450rpm 2p 2880rpm	90 (2p and 4p)	stand food/ flange
10	1,5kW		6p 950rpm 4p 1450rpm 2p 2890rpm	90	stand food/ flange

* minimum number of PV Panels (> 240Wp/PV-panel). Maximum sum of Voc < 425V. Copyright EMPO-NI 2020