FLX Inverter Series
When experience meets innovation

Three phase transformerless inverter series from 5-17 kW.

2 Billion
hours
of real life experience has resulted in the FLX.

The FLX series gives you hassle-free installation and superb yield. This true 2nd generation multiple MPP inverter combines innovative and functional features with the best in tried-and-tested technology. The result is unparalleled flexibility in PV layout designs, high yield and ease of use.

Easy installation
Developed together with installers the simplified installation concept and the innovative front cover ensure good ergonomics and provide full access while ensuring protection. At 39 kg the FLX is easy to lift and install.

High Yield
The FLX is designed for maximizing yield. The inverter has an efficiency of 98 % and precise and fast MPP tracking of 99.9 %. Endless layout possibilities are possible due to the impressively wide MPP voltage range (250-800 V) and 3 independent MPP trackers. Yield increasing features guarantee high performance for any size of installation; small residential or large MW plant. These include Adaptive Consumption Compensation (ACC) and Dynamic Power Distribution (DPD) that ensure maximum power generation under grid management conditions and Advanced PV sweep, which reduces losses from partial shading to a minimum.

Easy commissioning and use
Get full control, monitoring and adjustment possibilities with the integrated web interface and make commissioning an easy task by replicating settings across the entire inverter network. Top it all with real-time remote monitoring through the integrated ConnectSmart™ [1].

High Yield
- High efficiency MPPTs, yield increasing features and efficient inverter
- 3 MPPTs and PV sweep to reduce effects of shading
- Wide voltage ranges for full design flexibility
- Designed for reliability with coated PCBs and IP65

Easy Commissioning and Use
- Data replication and installation wizard for easy commissioning
- Built in international grid codes and display languages
- All monitoring at hand with integrated web interface and ConnectSmart™

Easy Installation
- Installation compartment for easy access and protection
- Easy installation procedure with focus on ergonomics
- Light weight and full placement freedom
- Options program for full flexibility

[1] Internet connection required

www.danfoss.com/solar

FLX Factsheet

For additional technical data and functional descriptions please refer to the design guide on www.danfoss.com/solar

Parameter	FLX Series								
AC									
Rated apparent power [1]	5 kVA	6 kVA	7 kVA	8 kVA	9 kVA	10 kVA	12.5 kVA	15 kVA	17 kVA
Rated active power [2]	5 kW	6 kW	7 kW	8 kW	9 kW	10 kW	12.5 kW	15 kW	17 kW
Reactive power range [1]	0-3.0 kVAr	0-3.6 kVAr	0-4.2 kVAr	0-4.8 kVAr	0-5.4 kVAr	0-6.0 kVAr	0-7.5 kVAr	0-9.0 kVAr	0-10.2 kVAr
Rated grid voltage (voltage range)	3P+N+PE – 230/400 V (+/- 20 %)								
Rated current AC	3×7.2 A	3×8.7 A	3×10.1 A	3×11.6 A	3×13.0 A	3×14.5 A	3×18.1 A	3×21.7 A	3×24.7 A
Max. current AC	3×7.5 A	3×9.0 A	3×10.6 A	3×12.1 A	3×13.6 A	3×15.1 A	3×18.8 A	3×22.6 A	3×25.6 A
AC current distortion (THD %)	–	–	–	–	–	–	<2%	<2%	<2%
Power factor – default	>0.99 at rated power								
Power factor – regulated	0.8 over-excited, 0.8 under-excited								
Standby consumption	2.7 W								
Rated grid frequency (frequency range)	50 Hz (+/- 5 Hz)								
DC									
Max. PV input power per MPPT	5.2 kW	6.2 kW	7.2 kW	8 kW					
Rated PV input power, total	5.2 kW	6.2 kW	7.2 kW	8.3 kW	9.3kW	10.4 kW	12.9 kW	15.5 kW	17.6 kW
Rated voltage DC	715 V								
MPP voltage range: Active tracking [3] / rated power [4]	220/250-800 V	220/260-800 V	220/300-800 V	220/345-800 V	220/390-800 V	220/430-800 V	220/360-800 V	220/430-800 V	220/485-800 V
Max. voltage DC	1000 V								
Start up voltage	250 V								
Turn off voltage	220 V								
Max. MPPT current DC	12.0 A per input								
Max. short circuit current DC	13.5 A per input								
MPP trackers/DC inputs	2 / 2 (Sunclix)						3 / 3 (Sunclix)		
Efficiency									
Max. Efficiency	–	97.8 %	–	97.9 %	–	98.0 %	98.0 %	98.0 %	98.0 %
EU efficiency at rated voltage DC	–	96.5 %	–	97.0 %	–	97.0 %	97.3 %	97.4 %	97.4 %
MPPT efficiency, static	99.9 %								
Enclosure									
Dimensions (H, W, D)/ incl. packaging	667×500×233 mm / 774×570×356 mm								
Weight	38 kg						39 kg		
Enclosure rating	IP 65								
Acoustic noise level [5]	–						55 db(A)		
Operational temperature range	-25 to +60 °C (Possible power derating above +45 °C)								
Relative humidity	95 % (non-condensing)								
Ancillary Services									
Active power	Fixed limit, set point curves, remotely controlled								
Reactive power	Constant, set point curves, remotely controlled								
Interfaces	Ethernet, RS 485								
Options	GSM Modem, sensor interface, PLA [6]								
Cooling concept	Fan								
Safety									
Approvals and certificates	See www.danfoss.com/solar -> downloads								
Electrical Safety	IEC 62109-1/IEC 62109-2 (Class I, grounded – communication part Class II, PELV)								
Functional Safety	Islanding detection/ loss of mains – tree-phase monitoring, active frequency shift and RoCoF, Voltage and frequency surveillance, DC content of AC current surveillance, Insulation resistance surveillance, RCMU – Type B								

1) At rated grid voltage.
2) At rated grid voltage, cosphi = 1.
3) To utilize the full range, asymmetrical layouts must be considered including start up voltage for at least one string. Achieving Nominal power will depend on configuration.
4) At symmetric input configuration.
5) SPL (Sound Pressure Level) at 1 m under normal operation conditions measured at 25°C.
6) For connecting e.g. radio ripple control receiver.

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