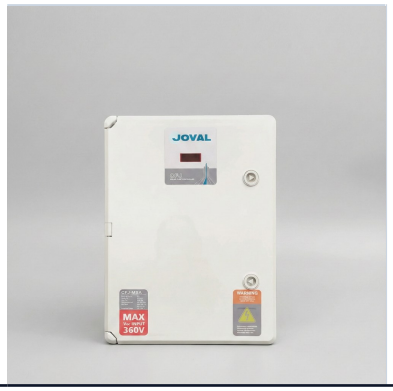
JOVAL
Tel: +351 253 490 740 | Email: joval@joval.pt
Last updated: 19 June 2026

TECHNICAL DATASHEET

CFJ Hybrid Solar Pumping Controller

Hybrid variable frequency drive for solar pumping with MPPT function and automatic switching.



The CFJ variable frequency drive is an advanced hybrid controller designed for solar pumping systems. Thanks to its MPPT technology, it optimizes the performance of photovoltaic panels in real-time. It allows for flexible power supply, automatically switching between solar energy and the electric grid or diesel generator, ensuring continuous water supply even during periods of low irradiance.

APPLICATIONS

- MPPT Function: Maximum yield in all environmental conditions.
- Pressure Control: Variable speed to maintain constant pressure.
- Hybrid Mode: Automatic management between solar and grid/generator.
- Integrated protections: Dry run, overvoltage, and phase loss.

TECHNICAL DATA

TECHNICAL SPECIFICATIONS

Maximum input voltage (Voc)	800 VCC (Motor 400V) | 360 VCC (Motor 230V)
Minimum input voltage (VMPP)	400 VCC | 180 VCC
Recommended DC voltage (VMPP)	550 - 620 VCC | 280 - 330 VCC
Nominal AC input voltage	Three-phase 380 - 480 VAC; 50/60 Hz | Three-phase 200 - 240 VAC; 50/60 Hz
Nominal AC output voltage	Three-phase 400 VAC | Three-phase 230 VAC
Output frequency	0 - 400 Hz
Efficiency (VFD)	97 - 98 %
Ambient Temp.	-10 a 50 ºC
Ventilation	Natural / Via internal fan
Recommended input power	1.2 times pump capacity (minimum)
Warranty	3 months
EMC Filter / Motor output	Built-in / Optional (from 50m)