



## HIGH PERFORMANCE AC DRIVE

### TECHNICAL DESCRIPTION

#### UNIQUENESS AND TECHNOLOGICAL EXCELLENCE

The **OPDEplus series** distinguishes itself in the market through the uniqueness and technological innovation of its solutions.

- Ensures **optimal performance and simplicity of use**
- Complies with internationally recognized standards such as: **CE** (Europe), **UL** (USA/Canada).
- **Easy installation and commissioning**
- Ideal for **three-phase asynchronous motors (IM)**, **Permanent Magnet Synchronous Motors (PMSM)** and **Synchronous Reluctance Motors (SynRM)**
- **Microprocessor architecture on unified software** with an integrated **IEC 61131-3 programmable PLC**
- All OPDEplus series drives can be programmed from a PC using the **“OPDEplorer”** configuration tool



**Heavy overload:** 200% x 3 sec. + 155% x 30 sec.

**Light overload:** 120% x 30 sec.

**Standard overload:** 150% x 30 sec.

**Strong overload:** 200% x 30 sec.

**Dimensions:**

OPDEplus BF2							
Available Size		175 A		220 A		250 A	
Pn [kW]*	In [A]#	Pn [kW]*	In [A]#	Pn [kW]*	In [A]#	Pn [kW]*	In [A]#
90	165	110	210	132	238		
101	195,4	124	248,6	149	281,8		
90	173,9	110	221,3	132	250,9		
73	140,9	90	179,3	107	203,3		
H= 978 x L = 309 x P/D = 315 mm; Kg = 50							

DIMENSIONI	
H - mm	978
L - mm	309
P / D - mm	315
Kg	50

\* Nominal power Pn @ 400Vac

# Nominal Current In

### TECHNICAL DATA SHEET | OPDEplus BF2

<b>Supply voltage</b>	<ul style="list-style-type: none"> <li>• AC input : 3 x (200V-10% ÷ 480 V + 10%)</li> <li>• DC input : Vdc (280V-10% ÷ 680 V + 10%)</li> <li>• +24Vdc auxiliary supply voltage</li> </ul>
<b>PC programming and device interfacing</b>	Modbus RTU RS485, Modbus TCP/IP
<b>Fieldbuses</b>	CANbus, PROFINET/EtherCAT, Profibus
<b>Digital/analog I/O</b>	<ul style="list-style-type: none"> <li>• n° 4 configurable opto-isolated digital outputs (n° 2 with relay contact , max = 1A e n° 2 opto-isolated, max 60 mA)</li> <li>• n° 8 configurable opto-isolated digital inputs</li> <li>• S.T.O. function SIL3/PLe</li> <li>• n° 3 configurable analog inputs ± 10V o 4 ÷ 20 mA</li> <li>• n° 2 configurable analog outputs ± 10V</li> <li>• n° 1 frequency input (4 channels or frequency and direction)</li> </ul>
<b>Feedback supported</b>	Resolver, Hiperface (ST/MT), Hiperface DSL (HDSL), SinCos Incremental, SinCos Absolute, EnDat 01/02/21/22 (linear & rotary ST/MT), Biss B/C (linear & rotary ST/MT), Tamagawa (ST/MT), TTL/HTL & TTL+Hall (single ended e diff. mode)

<b>Permanent Magnet Synchronous motors (PMSM)</b>	Closed-loop control using one of the two possible feedbacks managed by the OPDEplus	<b>Synchronous Reluctance Motors (Synk &amp; AsynRM)</b>	Closed-loop control using one of the two possible feedbacks managed by the OPDEplus
	Integrated control for anisotropic motors (PMSM-IPM such as MTPA and d-axis phasing@standstill		Optimized, sensorless closed-loop control with flow curves
	Sensorless (wide range) optimized for low speeds and high torques, and high-speed spindles		Motor control over a wide flux weakening range
		<b>PWM</b>	~ Max 18 [KHz]*
<b>Asynchronous motors (IM)</b>	FOC with feedback (vector with feedback)	<b>Control loop bandwidth</b>	Current loop: 1400~2000 [Hz] Max
	Scalar V/F control, V/F control (FOC), and Optimized V/F control with torque compensation		Speed loop: Max 200 [Hz]
	Sensorless (wide range) optimized for low speeds and high torques, and high-speed spindles		
		* For switching frequencies above 18 kHz, please contact the technical office of BDF Digital Spa	

## MAIN CONTROL FEATURES

- Advanced PLC in standard IEC 61131-3 programming environment with a speed equal to the PWM period of the drive
- Integrated "standstill" auto-calibration (AT) for the identification of parameters of the equivalent mathematical model of each electric machine
- Two available memory banks
- On-the-fly recovery for IM/PMSM/SynRM
- Tropicalized electronic boards
- Extended life cycle capacitors
- Removable cooling fans with activation/deactivation control
- DC bus sharing
- Integrated dynamic braking module and external resistor
- Book format that saves space inside control panels

