OPDE*plus* L

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 **"OPDExplorer"** configuration tool

	OPDE*plus* L	
Available Size	**32 A**	
	Pn [kW]*	**In [A]#**
Heavy overload: 200% x 3 sec. + 155% x 30 sec.	15	32
Light overload: 120% x 30 sec.	18	38
Standard overload: 150% x 30 sec.	16,5	33,7
Strong overload: 200% x 30 sec.	14,3	27,3
Dimensions:	H= 322 x L = 137 x P/D = 253 mm; Kg = 5,7	

* Nominal power Pn @ 400Vac
\# Nominal Current In

DIMENSIONS	
H - mm	322
L - mm	137
P/D - mm	253
Kg	5,7

TECHNICAL DATA SHEET | OPDE*plus L*	
Supply voltage	• AC input : 3 x (200V-10% ÷ 480 V + 10%) • DC input : Vdc (280V-10% ÷ 680 V + 10%) • +24Vdc auxiliary supply voltage
PC programming and device interfacing	Modbus RTU RS485, Modbus TCP/IP
Fieldbuses	CANbus, PROFINET/EtherCAT, Profibus
Digital/analog I/O	• n° 4 configurable opto-isolated digital outputs (n° 2 with relay contact , max = 1A e n° 2 opto-isolated, max 60 mA) • n° 8 configurable opto-isolated digital inputs • S.T.O. function SIL3/PLe • n° 3 configurable analog inputs ± 10V o 4 ÷ 20 mA • n° 2 configurable analog outputs ± 10V • n° 1 frequency input (4 channels or frequency and direction)
Feedback supported	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)

BDF DIGITAL S.p.A.
info@bdfdigital.it
www.bdfdigital.com

VICENZA - HEAD OFFICE
DRIVE DIVISION
Via dell'Oreficeria, 41 - 36100
Vicenza (VI) - Italy
Tel +39 0444 343555

FIRENZE
CN DIVISION
Via di Pratignone 15/5 - 50019
Sesto Fiorentino (FI) - Italy
Tel +39 055 881441

MILANO
CN APPLICATION
Viale Fulvio Testi 128 - 20092
Cinisello Balsamo (MI) - Italy
Tel +840 000 567-1

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Permanent Magnet Synchronous motors (PMSM)	Closed-loop control using one of the two possible feedbacks managed by the OPDEplus	**Synchronous Reluctance Motors (Synk & AsynRM)**	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
		PWM	~ Max 18 [KHz]*
Asynchronous motors (IM)	FOC with feedback (vector with feedback)	**Control loop bandwidth**	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

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