OPDEplus M

BDF DIGITAL

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

	OPDEplus M			
Available Size	**15 A**		**22 A**	
	Pn [kW]*	In [A]#	Pn [kW]*	In [A]#
Heavy overload: 200% x 3 sec. + 155% x 30 sec.	7,5	15	11	22
Light overload: 120% x 30 sec.	9	17,8	13,2	26
Standard overload: 150% x 30 sec.	8,3	15,8	12,1	23,2
Strong overload: 200% x 30 sec.	7,1	12,8	10,5	18,8

* Nominal power Pn @ 400Vac
# Nominal Current In

DIMENSIONS	
H - mm	303
L - mm	116
P/D - mm	253
Kg	5,2

TECHNICAL DATA SHEET | OPDE Plus M

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)

OPDEplus M

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