



Automation
Divisione S.B.C.

HPD N

(HPD2N, HPD5N, HPD8N, HPD16N,
HPD20N, HPD24N)

**addendum
to the instruction
manual**

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New HPD version "N"

Since March 1998 is available the new improved version of HPD drive (now with the addition of two new sizes) which offers new performances and an high grade of compatibility with the previous release: the name for this new drive is

HPD x N

where "x" identifies the rated current of the drive (2, 5, 8, 16, 20 or 24 Amps).

The purpose of this addendum is to explain the performance variations vs. the previous release.

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New silk-screen

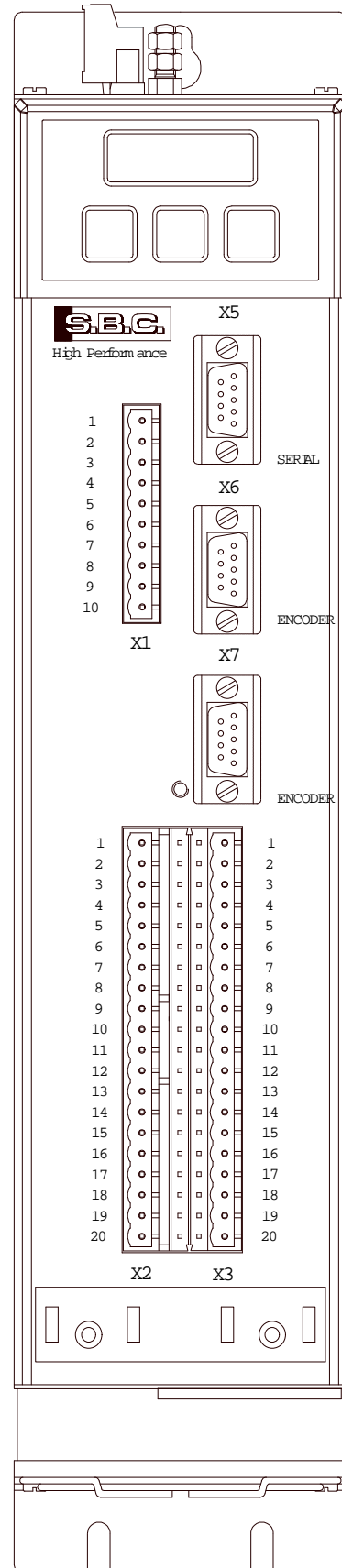
It is easy to recognize the new **HPD N** drive because the silk-screen of the front panel is changed (see the figure on the right side).

Even the identification label has been modified as shown on figure below:

Parker Hannifin S.p.A. Divisione S.B.C. Via Gounod 1 – 20092 Cinisello B. (Milano) – Italy	
HPDxN	S/N 9803XXXX
POWER INPUT 3XAC90...480V XXA 50...60 Hz READINSTALLATION INSTRUCTION MANUAL BEFORE INSTALLING	POWER OUTPUT 3XAC90...480 XXA 0...500 Hz USE COPPER WIRE RATED 60/75°C

Another yellow warning label is placed on the right side of the HPD “N” drive:

 WARNING
DEVICE IS LIVE UP TO 60s AFTER REMOVING FROM MAIN VOLTAGE GROUND PE MUST ALWAYS BE CONNECTED
 ATTENTION
L' APPAREIL EST SOUS TENSION PENDANT 60s APRES LA COUPURE DE LA TENSION RESEAU. TERRE PE DOIT ETRE TOUJOURS CONNECTE
SUITABLE FOR USE ON A CIRCUIT CAPABLE OF DELIVERING NOT MORE THAN 5000 rms SYMMETRICAL AMPERES, 480 V MAXIMUM



Mains voltage

Now, the maximum voltage value is 480Vac (instead of former 460Vac). Ensure that the maximum voltage across terminals L1, L2, L3 does not exceed more than 10% the 480Vac, even in the worst case (see EN60204-1 standard, section 4.3.1). An excessive voltage may damage the drive. The following table describes the new ratings:

<i>Description</i>	<i>Unit</i>	<i>Value</i>					
Mains voltage	V~	90...480					
Models		HPD2	HPD5	HPD8	HPD16	HPD20	HPD24
Rated current	A	2	5	8	16	20	25
Peak current (4 seconds)	A	4	10	16	32	65	50
Input current	FLA	1.6	4.2	6.2	12	15	19
Rated motor torque (@400 V~)	KW	1	2.5	4.1	8.3	10	12.5
Control-stage power dissipation	W	18					
Power-stage dissipation	W	25	60	89	158	200	246
Environmental temperature	°C	45					
Braking resistor		internal / external					
Internal braking resistor power dissipation	W	120				240	
Feedback		resolver (speed 1)					
Power-stage switching frequency	KHz	8					
Max. output frequency	Hz	450					
Protection Grade		IP 20					
Digital Inputs 24V =	NO	8					
Digital Outputs 24V = / 100mA / PNP	NO	6					
Digital Output “Voltage-Free”	NO	1					
Encoder Simulation RS-422	steps/rev	128..16384					
Frequency/sign Input or ext. Encoder	KHz	800 / 200					
Analogue reference	V	±10 diff 15 bits					
Aux. Analogue Input	V	±10 diff 10 bits					
Aux. Analogue Output	V	±10 - 8 bits					
Tacho Output	V	±10 V					
Serial link		RS-422 / RS-485					
Encoder Simulation Backup	V	24 =					
Encoder Simulation Backup	A	max. 2					

Of course, extending the range of the mains voltage requires the modifications of the brake and overvoltage thresholds:

brake high threshold	805V
brake low threshold	780V
overvoltage threshold	870V

The modification of the above thresholds makes potentially dangerous to wire together the DC BUSES of HPD "N" drives with HPD drives.

Power-on time

The HPD "N" has 2.5 seconds circa of power-on time. Previously, it was nearly 10 seconds.

Backup

Now the backup function does not need the external relay. Set the parameter `b99.8 = 1` (the automatic reset of the undervoltage alarm when the mains voltage is restored).

Furthermore is not required to write in the pico-PLC the programme described in the example 11 - "Examples and applications" chapter.

Use an external 24Vdc 2A regulated power supply with protected output.

Expansion board arrangement.

If you decide to use the EC-4 or EC-5 expansion boards, the drive must be ordered with the correct identification suffix (E0).

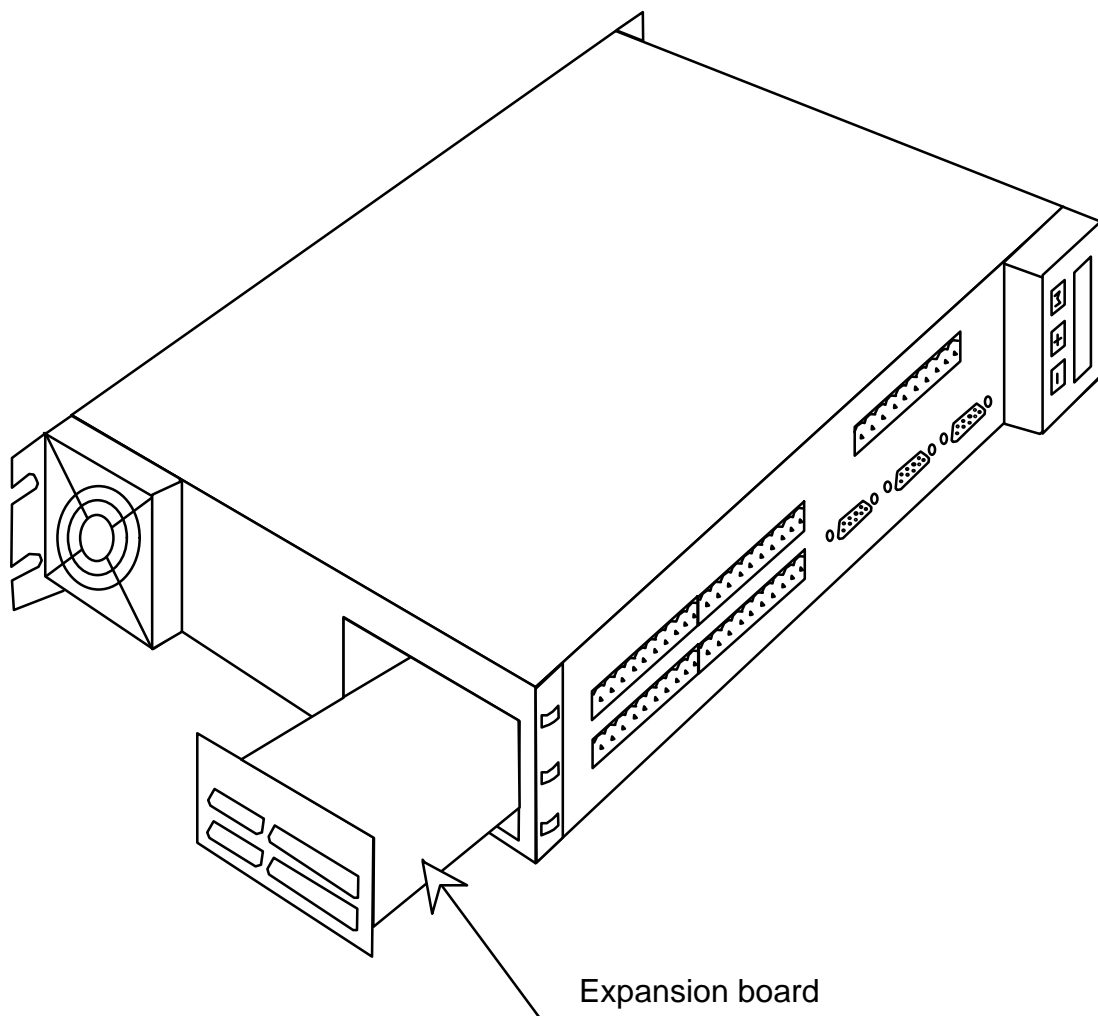
So, the correct abbreviation is:

HPDxNEO

(where "x" is always the rated current of the drive).

How to insert the expansion board (see the figure below):

- remove the lower panel;
- insert the expansion board;
- fix the front panel of the expansion board to the enclosure of the drive.



Peerlessness with previous versions.

If you wire together the DC BUSES, the drive must be of the same family (HPD with HPD, HPD N with HPD N - not HPD with HPD N ! - Pay attention when ordering a spare part !).

Except the above situation, the **HPD N** can replace a HPD drive.

When using the backup feature, DO NOT change the HPD N with the HPD: the circuitry is different and the HPD requires the external relay.