

PNS 520E Escalator Controller

3 Phase 380 - 460V.....5.5 - 37kw

Based on the development of PNS520E series High Performance vector AC Drive dedicates to the escalator industry products.



Features

Built-in synchronous switching function

That can achieve a smooth switch between industrial frequency and variable frequency.

Excellent bypass variable frequency technology

▶▶ When escalators is switching from variable frequency to industrial frequency, the excellent phase locking technology makes small current impact and no jitter in the escalator.

▶▶ Escalators from industrial frequency to variable frequency with ultra smooth speed tracking technology can realize the switching without impact.

Three kinds of energy-saving operations modes

- ▶▶ Nobody taking the escalator, it will run at slow speed.
- ▶▶ Nobody taking the escalator, it will run at slow speed first, and then stop running.
- ▶▶ Nobody taking the escalator, it will stop running.

Perfect escalator protection

- ▶▶ There are multiple escalator protections for fault.
- ▶▶ There are more protection functions if configured PNS4000-PES-E1.

Four escalator running modes

▶▶ Bypass variable frequency run

Somebody taking the escalator, when PNS520E controls the escalators to accelerate to industrial frequency, and the escalator will switch from variable frequency drive to industrial frequency drive.

Nobody taking the escalator, it is switched from industrial frequency drive to variable frequency drive and run at low speed, which can save energy and reduce mechanical wear.

▶▶ Industrial frequency Y-Δ run

The escalator uses the reduced-voltage of Y-Δ mode to start so as to reduce the starting impact, after that, the escalator will be driven to run by industrial frequency mode.

When the variable frequency output is abnormal, the escalator system may run at the industrial frequency of Y-Δ mode.

▶▶ Fully variable frequency run

Whether or not taking the escalator, the escalator is always at variable frequency running state.

Nobody taking, the escalator runs at low speed for energy-saving ; somebody taking the escalator runs at high speed of variable frequency.

▶▶ Inspection run

Divided into variable frequency inspection and industrial frequency Y-Δ inspection. Respectively detect the escalator system input/output signals and running state in the variable frequency state and the industrial frequency state.

Accessories

Expansion Option

- ▶▶ PNS4000-PES-E1

Encoder interface board

- ▶▶ PNS-PG1-OC

Accessories of panel

- ▶▶ PNS-KMB
- ▶▶ PNS-CAB-1M
- ▶▶ PNS-CAB-2M
- ▶▶ PNS-CAB-3M
- ▶▶ PNS-CAB-6M

Reactors

- ▶▶ AC input reactor
- ▶▶ AC output reactor
- ▶▶ DC reactor



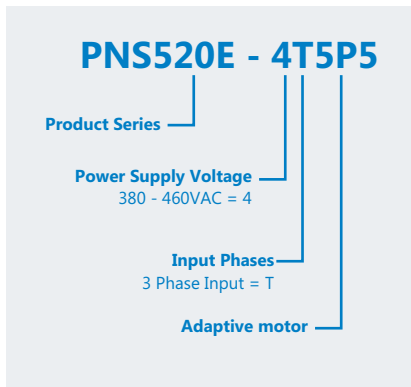
PNS 520E

Technical Specifications

PNS 520E Escalator Controller			Power Selection			External Wiring ⁽¹⁾			Braking Resistor	
Size	Model	Motor Power kw	Rated Capacity kVA	Rated Input Current A	Rated Output Current A	MCCB A	Contactora A	Power / Motor Cable mm ²	Resistance Value Ω	Power kW
F2	PNS520E-4T5P5	5.5	8.5	15	13	32	25	4	80 - 100	0.5 - 1.5
F3	PNS520E-4T7P5	7.5	11	19	17	40	32	4	60 - 80	0.7 - 2.0
F3	PNS520E-4T011	11	16	28	25	63	40	6	40 - 50	1.0 - 3.0
F4	PNS520E-4T015	15	21	35	32	63	40	6	30 - 40	1.5 - 4.0
F4	PNS520E-4T018	18.5	24	39	37	100	63	10	25 - 30	2.0 - 5.0
F5	PNS520E-4T022	22	30	47	45	100	63	16	20 - 25	2.5 - 6.0
F5	PNS520E-4T030	30	39	62	60	125	100	25	15 - 20	3.0 - 8.0
F6	PNS520E-4T037	37	49	77	75	160	100	25	15 - 20	3.5 - 10.0

(1) The signal cables of external wiring are 0.5mm².

Product Model



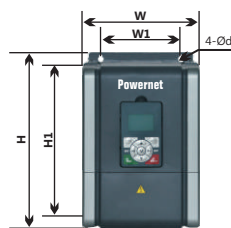
Technical Data

Electrical	
Input Voltage	3 Phase 380 - 460V Fluctuating within ±10%, Imbalance rate <3%
Input Frequency	50/60Hz ±5%
Output Voltage	0- Input Voltage
Output Frequency	0- 100.00Hz

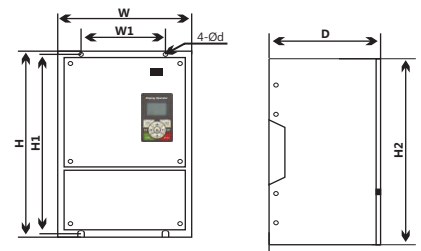
Input / Output	
Analog Power Supply	+10V, maximum current 100mA -10V, maximum current 5mA
Digital Power Supply	+24V, maximum current 200mA
Digital Inputs	DI 1 - DI 6, X1 - X11
Digital Outputs	DO 1 - DO 2
Relay Outputs	Contact Ratings : 250VAC / 3A or 30VDC /1A

Performance	
Control Mode	V/f, SVC
Maximum Current	150% rated output current 2 minutes, 180% rated output current 10 seconds
Operation Command	Panel, Terminals
Speed Setting	Digital
Speed Resolution	Digital setting : 0.01Hz
SVC	Speed control range : 1:100 Torque control response: <200ms Start Torque : 180% rated - Torque/0.5Hz

Size	Dimension (mm)			Mounting Size (mm)				GW KG
	W	H	D	W1	H1	H2	d	
F2	165	266	190	115	253	245	5	4.4
F3	200	299	210	146	286	280	5	5.8
F4	235	353	222	167	337	330	7	8.2
F5	290	469	240	235	445	430	8	20.4
F6	380	598	290	260	576	550	10	48



F2 / F3 / F4



F5 / F6

PNS 4000-PES-E1 - Escalator Programmable Safety Board

- ▶ Specifically design for escalators or moving walkways.
- ▶ Provide a number of security functions of monitoring protection.
- ▶ Use dual DSP control.
- ▶ Synchronously judge signals of the relevant escalators, if found fault, both DSP will simultaneously operate the safety relay and output fault signal.

