

# WORLDWIDE MOTOR CONTROLS

## Variable Frequency Drives

### HYUNDAI N700E Series High Performance Drives



#### Product Overview

The HYUNDAI N700E Series High Performance Drives offer powerful control solutions with exceptional speed control and torque response which provides superior vector performance.

The N700E's compact size and sensorless vector control technology provides perfectly optimized performance for industrial and commercial applications.

Certificates of international standards (UL/cUL, CE) for the N700E series make it perfect for global applications. Compatible with the most common loads such as: fans, blowers, compressors, pumps, mixers, agitators, feeders, centrifuges, cranes, hoists, presses, extruders, and textile spinning machines.

#### Product Specifications

- Sensorless Vector Control
- 0.01 - 400 Hz
- 150% overload for one minute, CT applications  
120% overload for one minute, VT applications
- 3000 second accel/decel
- DC braking
- Auto-tuning
- Sixteen level multi-speed
- Adjustable carrier frequencies
- PID control
- Frequency jump
- Analog gain bias
- Jog run
- Electronic thermal overload
- Auto-torque boost, trip history monitor and software lock
- Speed search function
- Intelligent input function
- RS485 - Modbus communications

#### 230 Volt, Single-Phase

HP	Rated Output Current	Model Number	List Price	Dimensions (Inches) H x W x D	Approx. Wt. (lbs.)
0.5	3	N700E-004SF	-	5.04 x 2.67 x 5.04	2.6
1	5	N700E-007SF	-	5.04 x 2.67 x 5.04	2.6
2	7	N700E-015SF	-	5.04 x 4.25 x 5.6	3.3
3	11	N700E-022SF	-	5.04 x 4.25 x 5.6	3.3

#### 230 Volt, Three-Phase

Constant Torque 150% Overload		Variable Torque 120% Overload		Model Number	List Price	Dimensions (Inches) H x W x D	Approx. Wt. (lbs.)
HP	Rated Output Current	HP	Rated Output Current				
0.5	3	—	—	N700E-004LF	-	5.04 x 2.67 x 5.04	2.6
1	5	—	—	N700E-007LF	-	5.04 x 2.67 x 5.04	2.6
2	7	—	—	N700E-015LF	-	5.04 x 2.67 x 5.04	2.6
3	11	—	—	N700E-022LF	-	5.04 x 4.25 x 5.6	3.3
5	17	—	—	N700E-037LF	-	5.04 x 5.42 x 5.78	4.4
7.5	24	10	30	N700E-055LF	-	10.82 x 8.26 x 6.61	9.3
10	32	15	44	N700E-075LF	-	10.82 x 8.26 x 6.61	9.3
15	45	20	50	N700E-110LF	-	10.82 x 8.26 x 6.61	9.3
20	64	25	73	N700E-150LF	-	15.4 x 9.85 x 7.4	16
25	76	30	85	N700E-185LF	-	15.4 x 9.85 x 7.4	16
30	90	40	90	N700E-220LF	-	15.4 x 9.85 x 7.4	20

**NOTES:**

- All WorldWide Hyundai N700E drives can be used for single-phase input / three-phase output. Call for engineering assistance to size properly.
- Always check the motor full load amps prior to selecting the inverter.



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- Intelligent input function
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#### 460 Volt, Three-Phase

Constant Torque 150% Overload		Variable Torque 120% Overload		Model Number	List Price	Dimensions (Inches) H x W x D	Approx. Wt. (lbs.)
HP	Rated Output Current	HP	Rated Output Current				
0.5	1.8	—	—	N700E-004HF	-	5.04 x 4.25 x 5.6	2.6
1	3.4	—	—	N700E-007HF	-	5.04 x 4.25 x 5.6	2.6
2	4.8	—	—	N700E-015HF	--	5.04 x 4.25 x 5.6	3.3
3	7.2	—	—	N700E-022HF	-	5.04 x 4.25 x 5.6	3.3
5	9.2	—	—	N700E-037HF	-	5.04 x 5.42 x 5.78	4.4
7.5	12	10	15	N700E-055HF	-	10.82 x 8.26 x 6.61	9.3
10	16	15	22	N700E-075HF	-	10.82 x 8.26 x 6.61	9.3
15	23	20	29	N700E-110HF	-	10.82 x 8.26 x 6.61	9.3
20	32	25	37	N700E-150HF	-	15.4 x 9.85 x 7.4	16
25	38	30	43	N700E-185HF	-	15.4 x 9.85 x 7.4	16
30	45	40	57	N700E-220HF	-	15.4 x 9.85 x 7.4	17
40	58	50	70	N700E-300HF	-	20.86 x 12.28 x 10.63	48
50	75	60	85	N700E-370HF	--	20.86 x 12.28 x 10.63	48
60	90	75	105	N700E-450HF	-	21.57 x 13.46 x 11.02	60
75	110	100	135	N700E-550HF	-	21.57 x 13.46 x 11.02	66
100	149	125	160	N700E-750HF	-	27.48 x 15.6 x 11.02	110
125	176	150	195	N700E-900HF	-	27.48 x 15.6 x 11.02	110
150	217	200	230	N700E-1100HF	-	29.13 x 18.89 x 11.81	132
200	260	250	285	N700E-1320HF	-	29.13 x 18.89 x 11.81	132
250	300	300	370	N700E-1600HF	-	36.22 x 19.92 x 15.35	242
300	415	350	450	N700E-2200HF	-	36.22 x 19.92 x 15.35	242
400	525	450	600	N700E-2800HF	-	40.15 x 31.73 x 15.55	375
500	656	550	680	N700E-3500HF	-	40.15 x 31.73 x 15.55	375

#### NOTES:

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### HYUNDAI N700E Series High Performance Drives Specifications



Specification		Description	
Control Method		Sensorless vector PWM method	
Output Frequency Range		0.01~400 Hz	
Frequency Accuracy		Digital: Max frequency $\pm 0.01\%$ ; Analogue: Max frequency $\pm 0.1\%$	
Frequency Resolution		Digital setting: 0.01 Hz (<100 Hz), 0.1Hz (>100 Hz) Analogue: Max frequency / 500 (when DC 5V input), Max frequency / 1,000 (DC 0~10V, 4~20mA)	
V/f Characteristic		Base frequency: 0~400 Hz free set Torque pattern selection available (constant torque / reduced torque)	
Overload Capacity		150%, 1 minute (heavy duty), 120%, 1 minute (normal duty)	
Acceleration/Deceleration Time		0.1~3,000 sec (linear / curve selection available) 2 <sup>nd</sup> Acceleration / Deceleration setting available	
DC Braking		Performs between min. frequency and established braking frequency Level and time setting available	
Input	Frequency Setting	Standard Operator	Set by volume up / down key 1 W, 1~2 k $\Omega$ variable resistor
		External Signal	DC 0~10 V (input impedance 10 k $\Omega$ ), 4~20 mA (input impedance 250 $\Omega$ )
	Forward Reverse Start / Stop	Standard Operator	Run key / Stop key (change forward / reverse by function command)
		External Signal	Forward run / stop, reverse run / stop set by terminal assignment (1a, 1b selection available)
Intelligent Input Terminal		FW (Forward), RV (Reverse), CF1~4 (Multi-speed), RS (Reset), AT (Analog input current / voltage Transfer), USP (Unattended Start Protection), EXT (External Trip), FRS (Free Run Stop), JG (Jogging Command), SFT (Software Lock Command), 2CH (2 <sup>nd</sup> Acceleration / Deceleration), SET (2 <sup>nd</sup> Motor Constants Setting)	
Output	Intelligent Output Terminal		RUN (Run Signal), FA1 (Frequency Arrival Signal [at the set frequency]), FA2 (Frequency Arrival Signal [at or above the set frequency]), OL (Overload Advanced Notice Signal), OD (Output Deviation of PID Signal), AL (Alarm Signal)
	Frequency Monitor		Analog meter (DC0~10V full scale, Max 1 mA) Analog output frequency signal and analog output current signal Analog output voltage signal selection available
	Alarm Output Contact		OFF when inverter alarm (b contact output) / Auto switch ON and OFF / Intelligent output terminal use available
Main Functions		Auto-tuning, AVR Function, V/F Setting, Curve Accel. / Decel. Selection, Frequency Upper / Lower Limit, 6 Level Multi-speed, Start Frequency Set, Carrier Frequency Setting (0.5~15 kHz), PID Control, Frequency Jump, Analog Gain Bias Control, Jogging Run, Electronic Thermal Level Control, Retry, Auto Torque Boost, Trip History Monitor, Software Lock, S-shape Accel. / Decel., Frequency Conversion Display, USP, 2 <sup>nd</sup> Control	
Protective Functions		Over-current Protection, Overload (electronic thermal), Over-voltage, Communication Error, Under-voltage, Output Short, USP Error, EEPROM Error, External Trip, Ground Fault, Temperature Trip	
Environmental Conditions	Ambient Temperature		-10~50°C (over 40°C: set carrier frequency below 2.0 kHz)
	Storage Temperature		-20~60°C (while transporting: short time)
	Ambient Humidity		Below 90% RH (non-condensing)
	Vibration		5.9 m/s <sup>2</sup> (0.6 G). 10~55 Hz (JIS C0911 test methodology)
	Location		Less than 1,000 m above sea level, Indoor (no corrosive gas, no flammable gas, no oil-drop, no dust)
Options		Remote operator, Remote operator cable, Regenerative braking resistor	

**NOTES:**

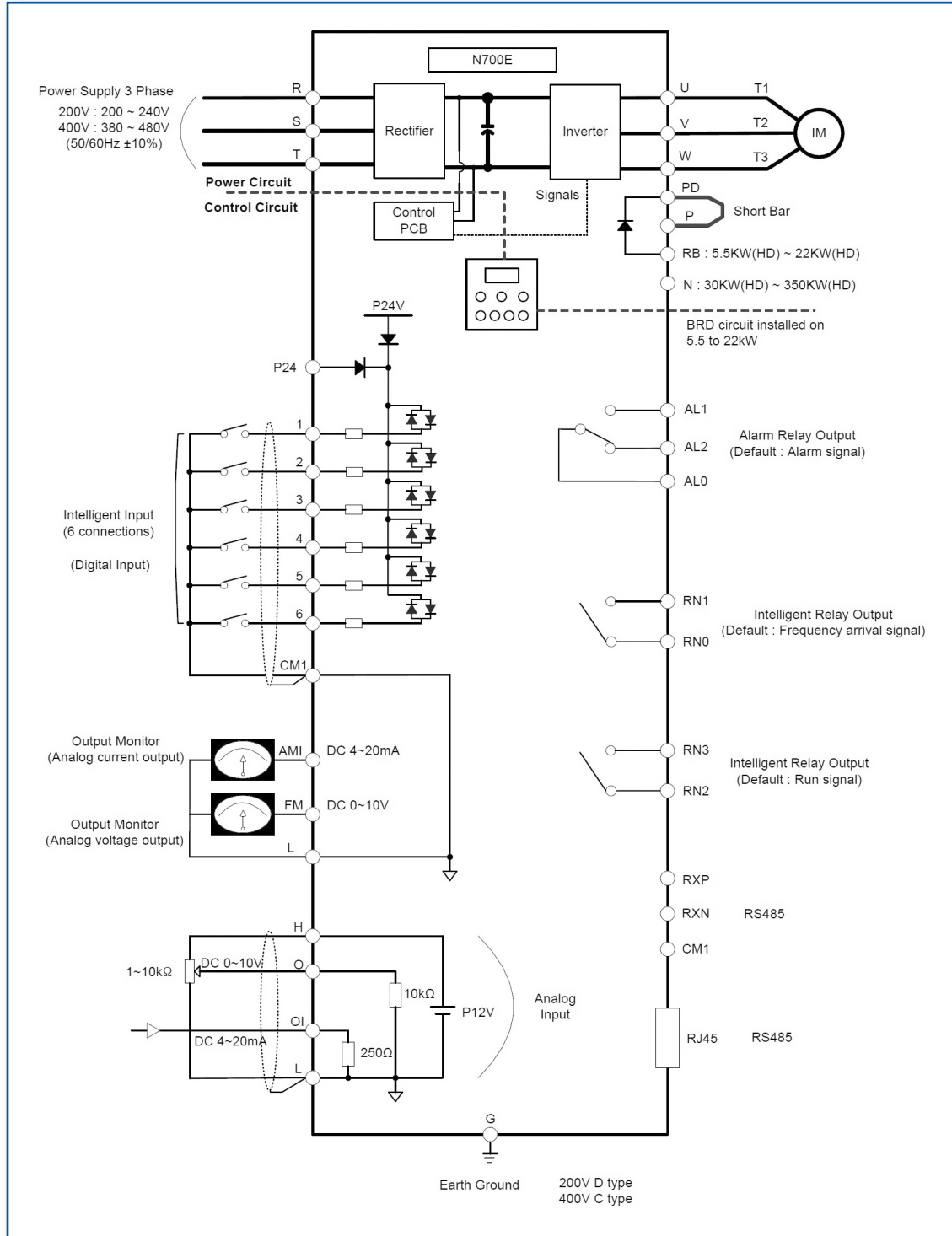
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### HYUNDAI N700E Series High Performance Drives Terminal Connections Diagram

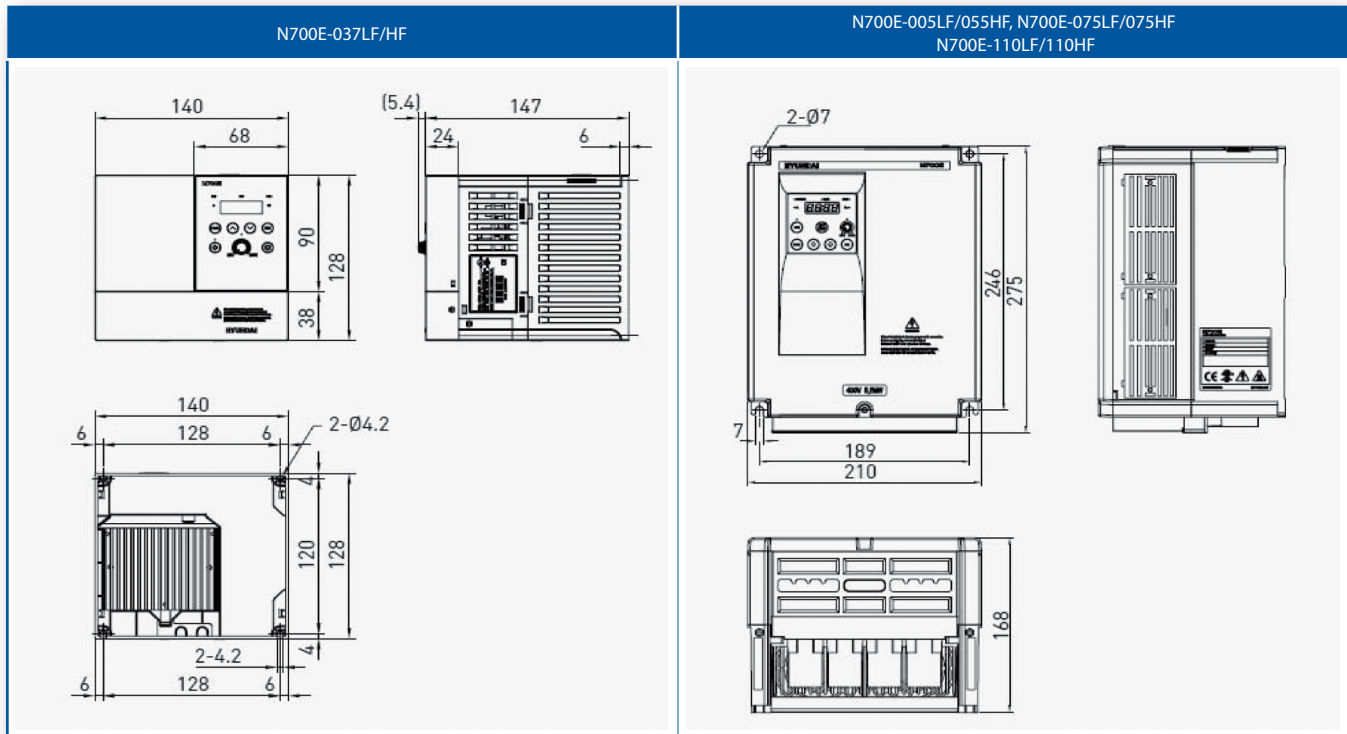
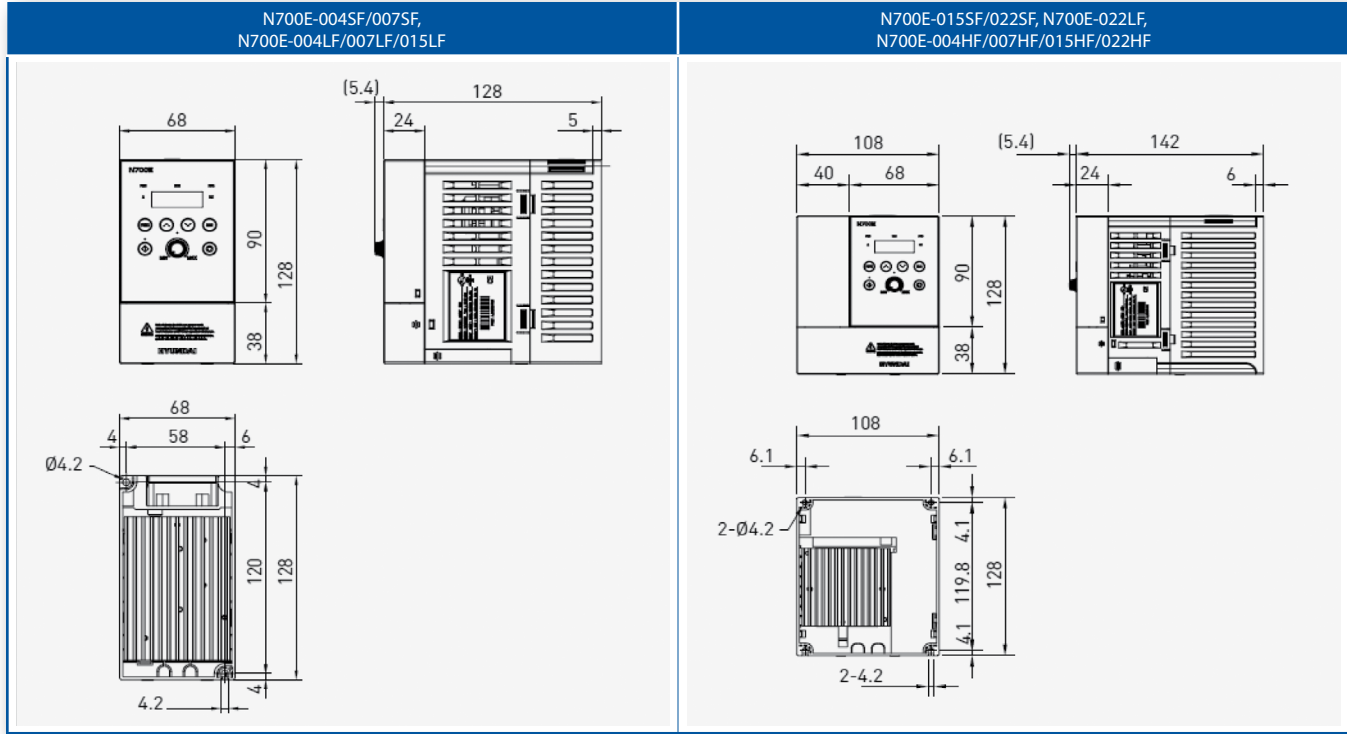


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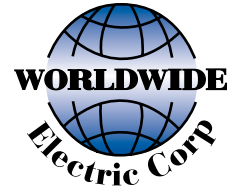
#### Drive Outline Drawings



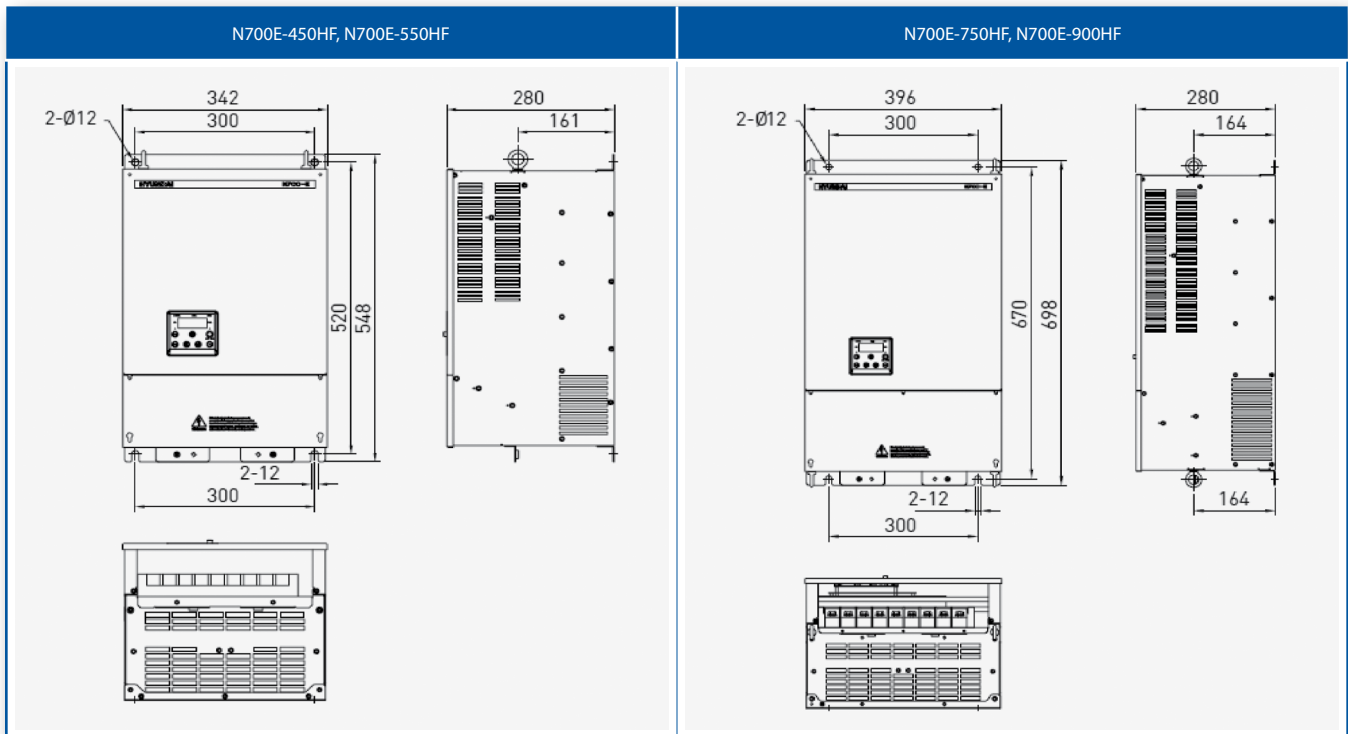
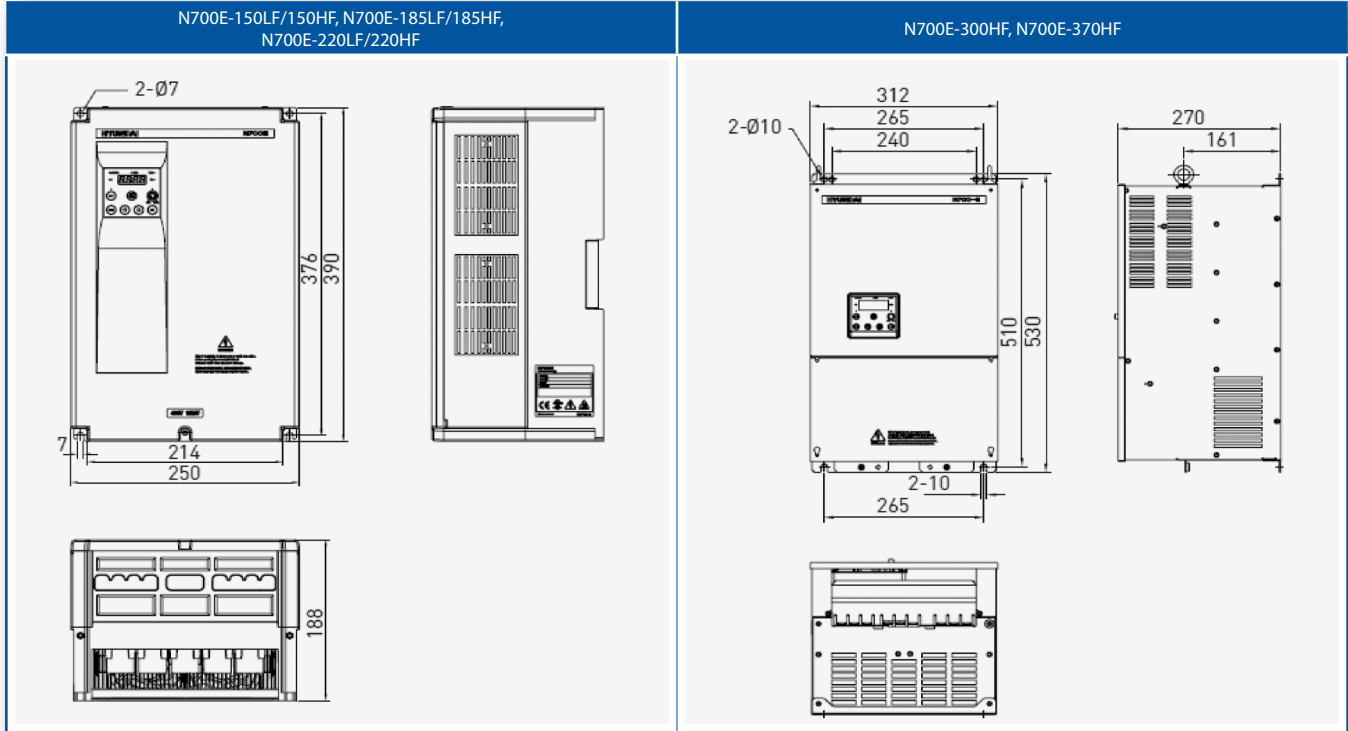
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VARIABLE  
FREQUENCY DRIVES

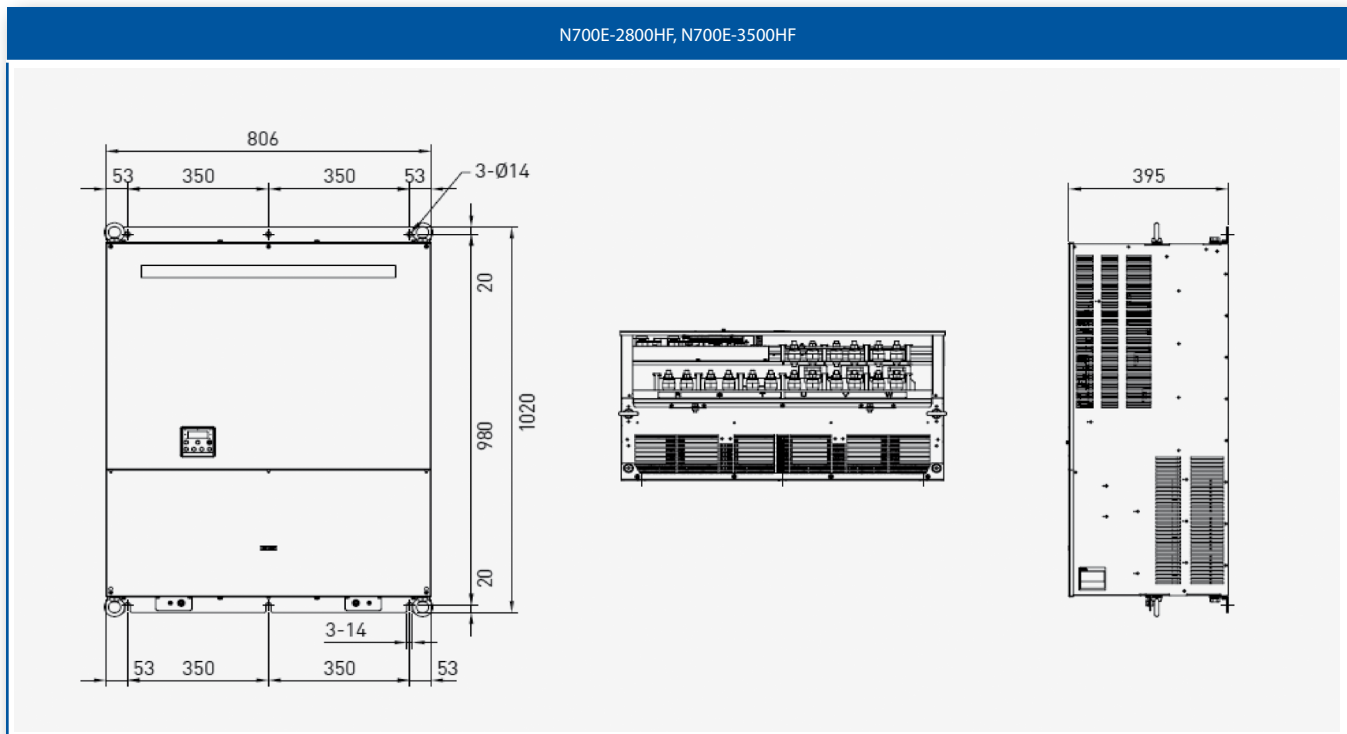
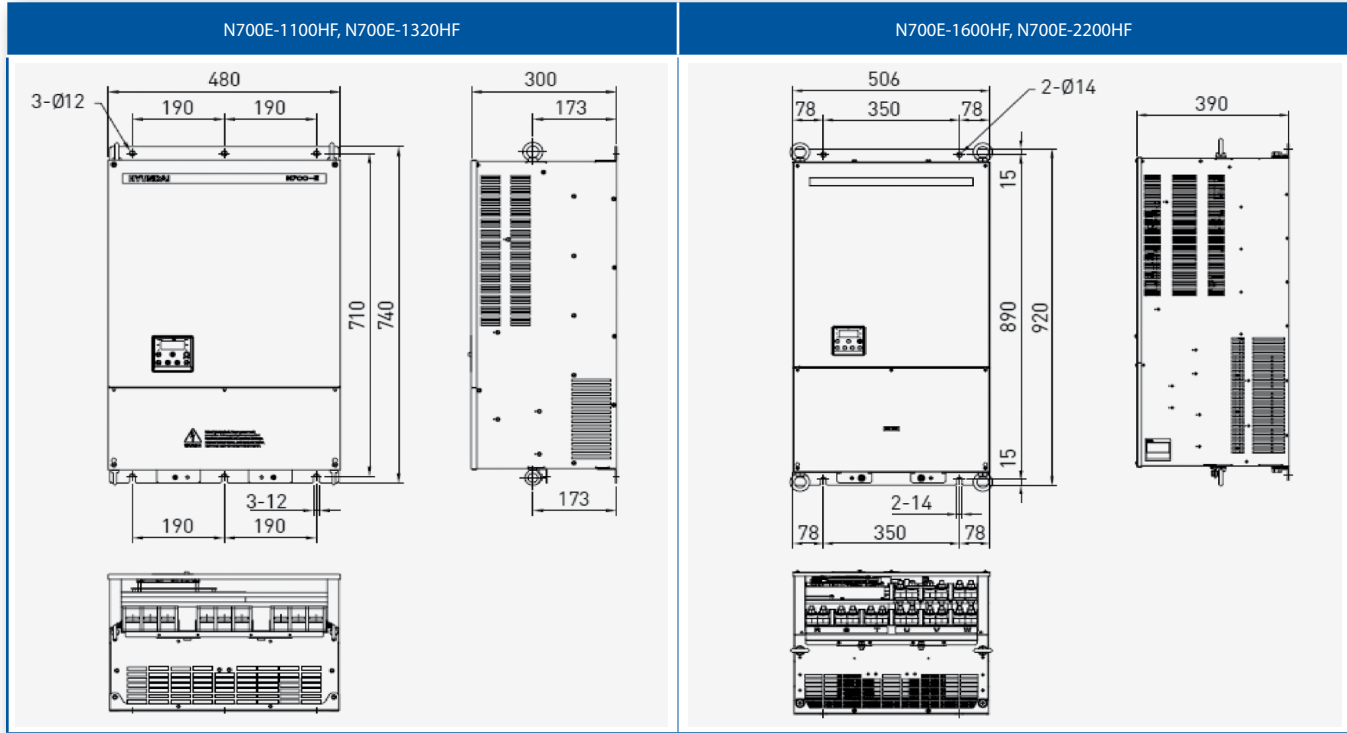


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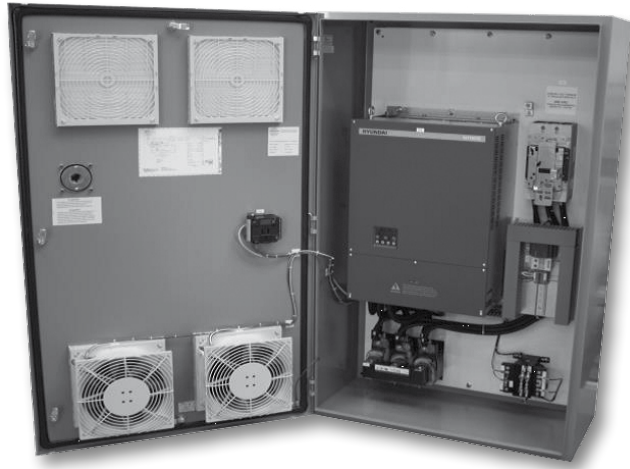
### Drive Outline Drawings



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### HYUNDAI Standard Duty Drive Package



### Product Overview

- 3 - 500 HP
- Full panel surge suppression
- Main CB with padlockable disconnect
- 3% line reactor
- CT and VT ratings
- Three-phase
- NEMA 12 enclosure with filters and fan cooling
- Door mounted WorldWide SID1 with:
  - Start / Stop buttons
  - Help button
  - Speed control buttons
  - Hand, Auto Buttons
  - Plain Text Programming
- Heavy duty mounting ears
- Heavy duty lifting strap

Voltage	Constant Torque		Variable Torque		Model Number	List Price
	HP	Current	HP	Current		
480	3	1.5	7.2		WWESDA-DRV12-003-4	-
480	5	9.2	---	---	WWESDA-DRV12-005-4	-
480	7.5	12	10	15	WWESDA-DRV12-007-4	-
480	10	16	15	22	WWESDA-DRV12-010-4	-
480	15	23	20	29	WWESDA-DRV12-015-4	-
480	20	32	25	37	WWESDA-DRV12-020-4	-
480	25	38	30	43	WWESDA-DRV12-025-4	-
480	30	45	40	57	WWESDA-DRV12-030-4	-
480	40	58	50	70	WWESDA-DRV12-040-4	-
480	50	75	60	85	WWESDA-DRV12-050-4	-
480	60	90	75	105	WWESDA-DRV12-060-4	-
480	75	110	100	135	WWESDA-DRV12-075-4	-
480	100	149	125	160	WWESDA-DRV12-100-4	-
480	125	176	150	195	WWESDA-DRV12-125-4	-
480	150	217	200	230	WWESDA-DRV12-150-4	-
480	200	260	250	285	WWESDA-DRV12-200-4	-
480	250	300	300	370	WWESDA-DRV12-250-4	-
480	300	415	350	450	WWESDA-DRV12-300-4	-
480	400	525	450	600	WWESDA-DRV12-400-4	-
480	500	656	550	680	WWESDA-DRV12-500-4	-

**NOTES:**

- Single-phase input available
- 230 Volt available

