



DX300 Series Multi-axis Drive

Intelligent Control
Sustainable Drive



Factory Automation overseas sales division

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Distributor

B260625E.DX300-BO

Model Definition

Rectifier Unit

DX300 - 043 - 5.5K □ - xyz

① ② ③ ④ ⑤

①Rectifier Unit	②Voltage Class	③Rated Power	④UL Certification	⑤Model Description
DX300	043: Three-Phase 440V 021: Single-Phase 220V	2.2kW 3.7kW 5.5kW 11kW 18.5kW	Null: Without UL certification U: UL certified	Null: General model xyz: Customized model or regional code

Inverter Unit

DX300 - □ 43 - 0.4K □ □ -xyz

① ② ③ ④ ⑤ ⑥ ⑦

①Product Series	②Inverter Unit	③Voltage Class	④Rated Power	⑤UL Certification	⑥STO Certification	⑦Model Description
DX300	1: Single-axis 2: Dual-axis 3: Triple-axis	43: Three-phase 440V 23: Three-phase 220V	0.4kW 0.75kW 1.5kW 2.2kW 3.7kW 5.5kW 7.5kW	Null: Without UL certification U: UL certified	Null: Without STO certification T: STO certified	None: General model xyz: Customized model or regional code

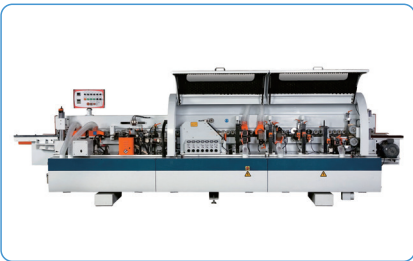
Note: These part numbers are for naming rule explanation purposes only; not all combinations are available.
For details, please contact the Shihlin Electric sales contact

Applicable Capacity

Type	Input voltage	2.2kW	3.7kW	5.5kW	11kW	18.5kW
Rectifier Unit	Single-phase 220V					
	Three-phase 440V					

Type	Output Voltage	0.4kW	0.75kW	1.5kW	2.2kW	3.7kW	5.5kW	7.5kW
Inverter Unit	Three-phase 220V Single Axis							
	Three-phase 220V Dual-Axis							
	Three-phase 440V Single-Axis							
	Three-phase 440V Dual-Axis							
	Three-phase 440V Triple-Axis							

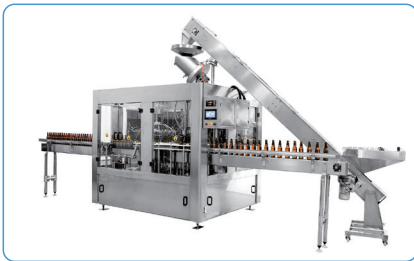
Applications



Woodworking: Edge Banding Machine



PCB Manufacturing: Cleaning Systems



Food&Beverage: Liquid Filling Solutions



Food Processing: Production Lines



Logistics: Conveyor Systems

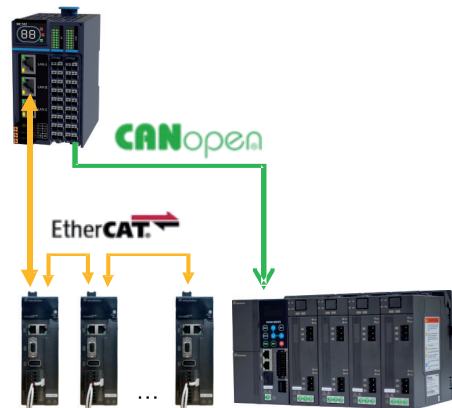


Solar/PV Industry: Handling Lines

Product Features

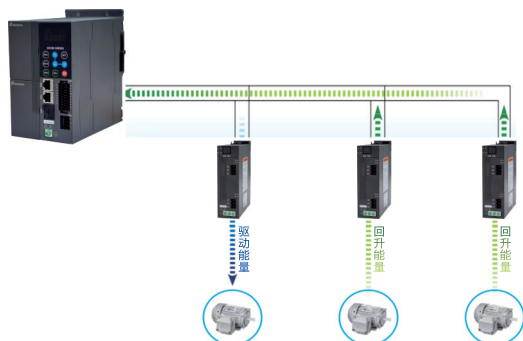
Space Saving and Wiring Efficiency

Convenient application with centralized multi-machine installation that significantly saving control panel space and wiring costs.



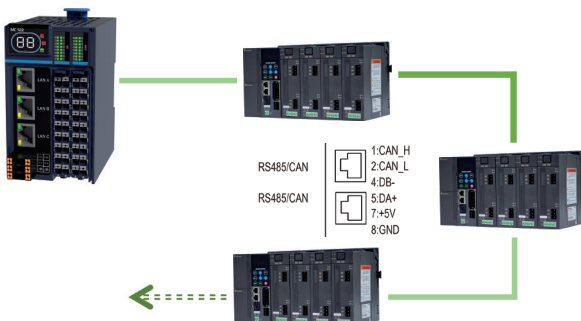
Common DC Bus Energy-Saving Design

Inverter units share a common DC bus, allowing regenerative braking energy to be consumed by neighboring units. Integrated with optimized control algorithms, ensures high-efficiency operation.



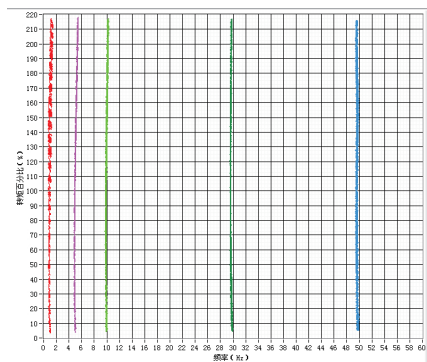
Multiple Communication Protocols

Equipped with built-in CANopen, Modbus protocols and dual RJ45 interfaces for networking control.



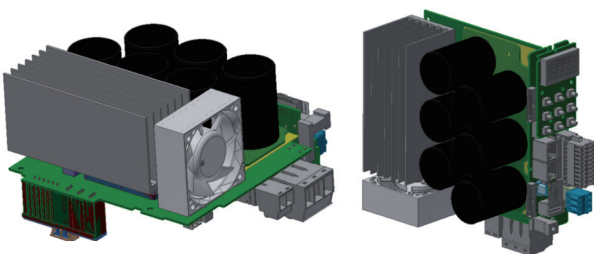
High Starting Torque

High starting torque 180% at 3Hz and 200% at 5Hz with overcurrent capacities of 150% for 60 seconds and 200% for 3 seconds.



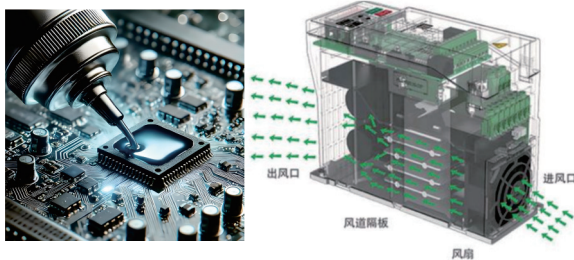
Extreme Vibration Resistance

Complies with rigorous vibration durability designs. Internal inverter layout is carefully optimized to avoid cantilever structures and reduce vibration transmission paths.



Superior Environmental Resistance

Circuit boards fully protected with UV-conformal coating and an isolated airflow design, achieving a protection rating of up to IP40.



Product Features

High-Performance Synchronous Motor Control Technology

Supports open-loop control for both Induction Motors (IM) and Permanent Magnet Synchronous Motors (PM).

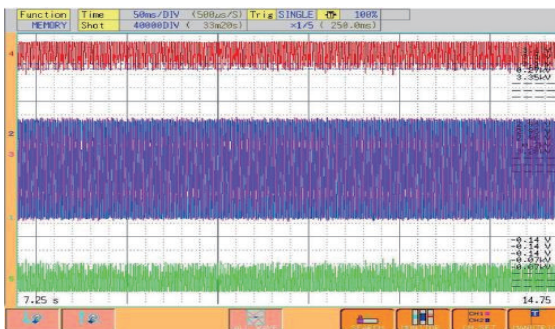


Optional External LCD Keypad



Lower Motor Noise

Low-noise carrier control (Soft-PWM) converts harsh metallic motor noise into a more pleasant composite tone; achieves low-noise operation and reduces external radio frequency interference.



Reduced Alarms

Optimized current stall prevention quickly suppresses current surges, effectively reducing and preventing alarms.



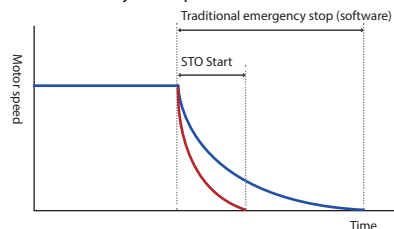
International Certifications

The entire series is CE certified, with optional UL and STO compliance.



Safe Torque Off (STO)

Supports STO (Safe Torque Off) function to improve the safety integration of machinery and operation.



DX300 Series Expansion Cards



EC302 EtherCAT Communication Expansion Card
PN302 Profinet Communication Expansion Card
EB308R2 I/O Expansion Card
EB388A I/O Expansion Card

Electrical Specifications

440V Rectifier Unit

440V Rectifier Unit				
DX300-043-□□□K		5.5	11	18.5
Output	Rated Output Capacity (kVA)	10	18	29
	Equivalent AC Current (Total inverter current)	12.0	24.0	38.0
	Overcurrent Capability	150% 60s 200% 3s		
	Max. Output Voltage Range	DC 510V~720V		
Power Supply	Rated Power Supply Voltage	Three-Phase 380-480V 50Hz / 60Hz		
	Permissible Voltage Range	Three-Phase 323-528V 50Hz / 60Hz		
	Frequency Fluctuation Range	±5%		
	Power Supply Capacity (kVA)	11.5	20	32
Cooling Method		Forced Air Cooling		
Weight (kg)		1.45	1.54	1.72

440V Inverter Unit

440V Inverter Unit (Single Axis)									
DX300-143-□□□K			0.4	0.75	1.5	2.2	3.7	5.5	7.5
Input	Input Current A (HD)		1.9	3.4	5.3	7.5	11.3	15.0	21.3
	Input Current A (HD)		2.3	3.8	5.8	8.1	13.1	19.6	25.6
	Input Voltage Range		DC 510V~720V						
Output	HD	Rated Output Capacity (kVA)	1	2	3	4.6	6.9	10	14
		Rated Output Current (A)	1.5	2.7	4.2	6.0	9.0	12.0	17.0
		Applicable Motor Capacity (HP)	0.5	1	2	3	5	7.5	10
		Applicable Motor Capacity (kW)	0.4	0.75	1.5	2.2	3.7	5.5	7.5
		Overcurrent Capability	150% 60s 200% 3s						
		Carrier Frequency (kHz)	1~15kHz						
	ND	Rated Output Capacity (kVA)	1.4	2.3	3.5	5	8	12	15.6
		Rated Output Current (A)	1.8	3.0	4.6	6.5	10.5	15.7	20.5
		Applicable Motor Capacity (HP)	1	2	3	5	7.5	10	15
		Applicable Motor Capacity (kW)	0.75	1.5	2.2	3.7	5.5	7.5	11
		Overcurrent Capability	120% 60s 150% 3s						
		Carrier Frequency (kHz)	1~15kHz						
Max. Output Voltage		Three-Phase 380~480V							
Cooling Method			Natural Cooling	Forced Air Cooling					
Weight (kg)			0.99	1.02	1.02	1.02	1.03	1.03	1.04

Electrical Specifications

440V Rectifier Unit							
DX300-243-□□□K		0.4	0.75	1.5	2.2	3.7	
Input	Input Current A (HD)		3.9	6.9	10.7	15.1	22.7
	Input Current A (HD)		4.4	7.7	11.7	16.3	26.3
	Input Voltage Range		DC 510V~720V				
Output	HD	Rated Output Capacity (kVA)	1	2	3	4.6	6.9
		Rated Output Current (A)	1.5	2.7	4.2	6.0	9.0
		Applicable Motor Capacity (HP)	0.5	1	2	3	5
		Applicable Motor Capacity (kW)	0.4	0.75	1.5	2.2	3.7
		Overcurrent Capability	150% 60s 200% 3s				
		Carrier Frequency (kHz)	1~15kHz				
	ND	Rated Output Capacity (kVA)	1.4	2.3	3.5	5	8
		Rated Output Current (A)	1.8	3.0	4.6	6.5	10.5
		Applicable Motor Capacity (HP)	1	2	3	5	7.5
		Applicable Motor Capacity (kW)	0.75	1.5	2.2	3.7	5.5
		Overcurrent Capability	120% 60s 150% 3s				
		Carrier Frequency (kHz)	1~15kHz				
Max. Output Voltage		Three-Phase 380~480V					
Cooling Method		Forced Air Cooling					
Weight (kg)		1.05	1.05	1.07	1.07	1.08	

440V Inverter Unit (Triple Axis)						
DX300-343-□□□K		0.4	0.75	1.5	2.2	
Input	Input Current A (HD)		5.8	10.3	16	22.6
	Input Current A (HD)		7	11.5	17.5	24.4
	Input Voltage Range		DC 510V~720V			
Output	HD	Rated Output Capacity (kVA)	1	2	3	4.6
		Rated Output Current (A)	1.5	2.7	4.2	6.0
		Applicable Motor Capacity (HP)	0.5	1	2	3
		Applicable Motor Capacity (kW)	0.4	0.75	1.5	2.2
		Overcurrent Capability	150% 60s 200% 3s			
		Carrier Frequency (kHz)	1~15kHz			
	ND	Rated Output Capacity (kVA)	1.4	2.3	3.5	5
		Rated Output Current (A)	1.8	3.0	4.6	6.5
		Applicable Motor Capacity (HP)	1	2	3	5
		Applicable Motor Capacity (kW)	0.75	1.5	2.2	3.7
		Overcurrent Capability	120% 60s 150% 3s			
		Carrier Frequency (kHz)	1~15kHz			
	Max. Output Voltage		Three-Phase 380~480V			
	Cooling Method		Forced Air Cooling			
Weight (kg)		1.06	1.07	1.07	1.07	

Electrical Specifications

220V Rectifier Unit

220V Rectifier Unit				
DX300-021-□□□K		2.2		3.7
Output	Rated Output Capacity (kVA)	4.2		6.7
	Equivalent AC Current (Total inverter current)	11.0		17.5
	Overcurrent Capability	150% 60s 200% 3s		
	Max. Output Voltage Range	DC 270V~360V		
Power Supply	Rated Power Supply Voltage	Single-phase 200~240V 50Hz/60Hz		
	Permissible Voltage Range	Single-phase 170~264V 50Hz/60Hz		
	Frequency Fluctuation Range	± 5%		
	Power Supply Capacity (kVA)	6.4		10
Cooling Method		Forced Air Cooling		
Weight (kg)		1.40		1.49

220V Inverter Unit

220V Inverter Unit (Single Axis)					
DX300-123-□□□K		0.4	0.75	1.5	2.2
Input	Input Current A (HD)	3.4	5.6	10.0	13.8
	Input Current A (HD)	3.8	6.3	10.6	15.6
	Input Voltage Range	DC 270V~360V			
Output	HD	Rated Output Capacity (kVA)	1	1.5	3.2
		Rated Output Current (A)	2.7	4.5	8
		Applicable Motor Capacity (HP)	0.5	1	2
		Applicable Motor Capacity (kW)	0.4	0.75	1.5
		Overcurrent Capability	150% 60s 200% 3s		
		Carrier Frequency (kHz)	1~15kHz		
	ND	Rated Output Capacity (kVA)	1.2	2	3.4
		Rated Output Current (A)	3	5	8.5
		Applicable Motor Capacity (HP)	1	2	3
		Applicable Motor Capacity (kW)	0.75	1.5	2.2
		Overcurrent Capability	120% 60s 150% 3s		
		Carrier Frequency (kHz)	1~15kHz		
	Max. Output Voltage		Three-Phase 200~240V		
	Cooling Method		Natural Cooling	Forced Air Cooling	
Weight (kg)		0.99	1.02	1.03	1.03

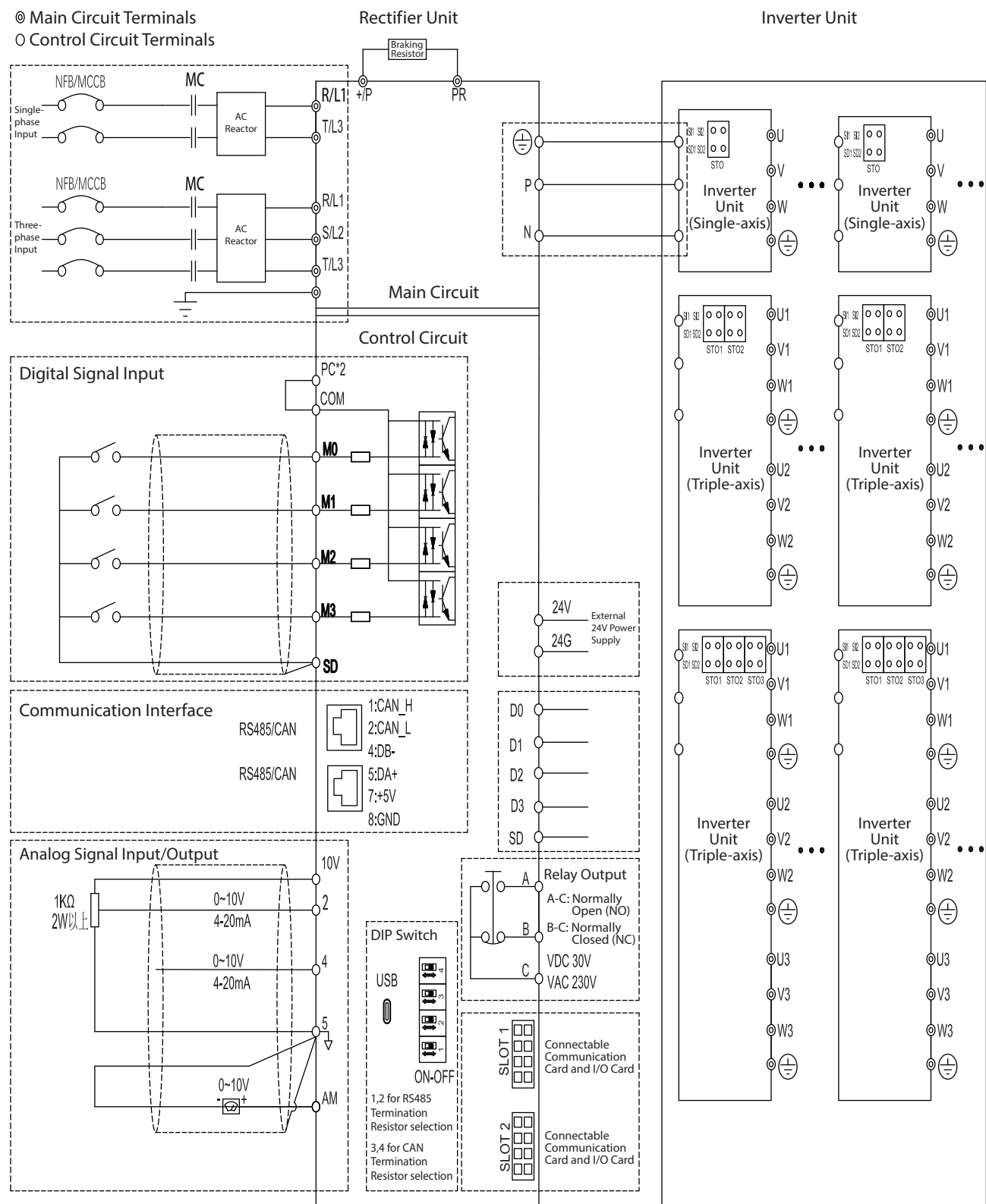
220V Inverter Unit (Dual Axis)					
DX300-223-□□□K		0.4	0.75	1.5	2.2
Input	Input Current A (HD)	6.9	11.3	20.1	27.7
	Input Current A (HD)	7.7	12.7	21.3	31.3
	Input Voltage Range	DC 270V~360V			
Output	HD	Rated Output Capacity (kVA)	1	1.5	3.2
		Rated Output Current (A)	2.7	4.5	8
		Applicable Motor Capacity (HP)	0.5	1	2
		Applicable Motor Capacity (kW)	0.4	0.75	1.5
		Overcurrent Capability	150% 60s 200% 3s		
		Carrier Frequency (kHz)	1~15kHz		
	ND	Rated Output Capacity (kVA)	1.2	2	3.4
		Rated Output Current (A)	3	5	8.5
		Applicable Motor Capacity (HP)	1	2	3
		Applicable Motor Capacity (kW)	0.75	1.5	2.2
		Overcurrent Capability	120% 60s 150% 3s		
		Carrier Frequency (kHz)	1~15kHz		
	Max. Output Voltage		Three-Phase 200~240V		
	Cooling Method		Forced Air Cooling		
Weight (kg)		1.07	1.07	1.08	1.09

Note 1: Inverter Weight (kg): This weight includes the external packaging for the inverter.

General Specifications

Control Mode		SVPWM, V/F Control, General Magnetic Flux Vector Control
Output Frequency Range		0~599.00Hz
Frequency Setting Resolution	Digital Setting	Frequency setting within 100Hz, resolution is 0.01Hz
	Analog Setting	12-bit for 4~20mA signal setting
		12-bit for DC 0~10V signal settinga
Output Frequency Accuracy	Digital Setting	± 0.01% of maximum target frequency
	Analog Setting	± 0.01% of maximum target frequency
Starting Torque		General Magnetic Flux Vector Control: 180% 3Hz, 200% 5Hz
V/F Characteristics		Constant torque curve, Variable torque curve, Five-point polyline
Acc/Dec Characteristics		Linear acc./dec. curve, S-curve acc./dec. 1 & 2 & 3
Drive Motor		IM Motor: V/F control, General magnetic flux vector control; PM Motor: SVC control
Stall Prevention		Adjustable stall prevention level 0~250% (P.22), Default value 150%
Target Frequency Setting		Operator setting, 0~10V or 4~20mA analog signal, Multi-speed level setting, Communication setting
Communication Function		RJ45 interface, Built-in Shihlin/Modbus, CANopen communication protocols; Optional EtherCAT, Profinet, CC-Link IE Field Basic protocols (Expected to be launched)
Protection/Alarm Functions		Output short circuit protection, Overcurrent protection, Overvoltage protection, Undervoltage protection, Motor overheat protection (P.9), IGBT module overheat protection, Communication error protection, Ground leakage current protection...
Environment	Ambient Temperature	-10 ~ +50°C (Non-freezing)
	Ambient Humidity	Below 90%Rh (Non-condensing)
	Storage Temperature	-20 ~ +65°C
	Ambient Environment	Indoor, no corrosive gas, no flammable gas, no flammable dust
	Altitude	Below 2000 meters; when above 1000 meters, derate by 2% for every 100 meters increase
	Vibration	5.9m/s² (0.6G) or less
	Protection Rating	IP40
	Overvoltage Category	III
	Pollution Degree	2
International Certification	Protection Class	Class I
	CE, UL (Optional), STO (Optional)	

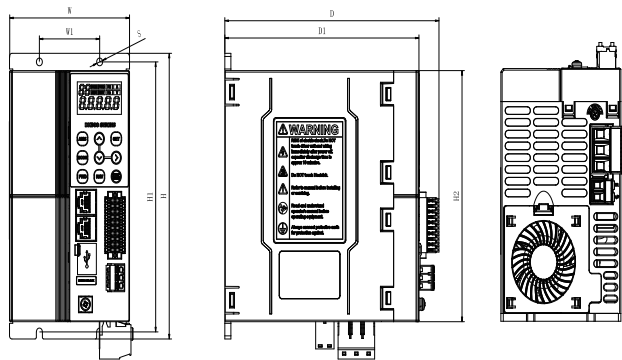
Wiring Diagram



Note: 1. The entire series has a built-in RFI filter to suppress electromagnetic interference. For CE compliance, please refer to the operation manual for installation instructions.
2. The digital signal input wiring in the diagram follows SINK control logic.

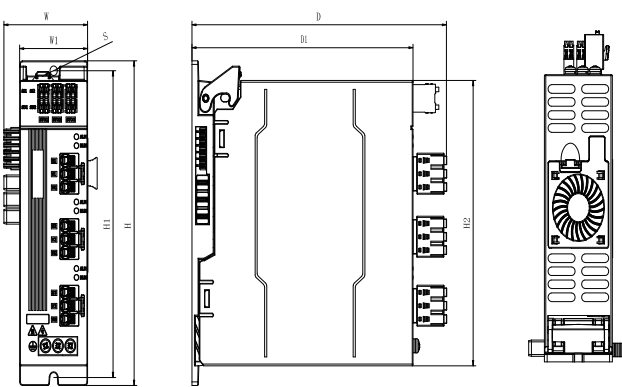
Dimensions

Dimensions of Rectifier Unit (Unit: mm)



Model	W	W1	H	H1	H2	D	D1	S
DX300-043-5.5K	99.5	50	182	172	160	177.6	161	5.5
DX300-043-11K								
DX300-043-18.5K								
DX300-021-2.2K								
DX300-021-3.7K								

Dimensions of Inverter Unit (Unit: mm)



Model	W	W1	H	H1	H2	D	D1	S
DX300-143-0.4K	61	49.5	182	172	160	185.6	161	5.5
DX300-143-0.75K								
DX300-143-1.5K								
DX300-143-2.2K								
DX300-143-3.7K								
DX300-143-5.5K								
DX300-143-7.5K								
DX300-123-0.4K								
DX300-123-0.75K								
DX300-123-1.5K								
DX300-123-2.2K								
DX300-243-0.4K								
DX300-243-0.75K								
DX300-243-1.5K								
DX300-243-2.2K								
DX300-243-3.7K								
DX300-223-0.4K								
DX300-223-0.75K								
DX300-223-1.5K								
DX300-223-2.2K								
DX300-343-0.4K								
DX300-343-0.75K								
DX300-343-1.5K								
DX300-343-2.2K								

Regenerative Braking Resistor

Voltage	Applicable Rectifier Unit (kW)	Braking Resistor (10%ED, 125% Braking Torque)	Maximum Braking Torque Limit		
		Equivalent Braking Resistor Specification	Minimum Resistance Value (Ω)	Maximum Total Braking Current (A)	Maximum Peak Power (kW)
220V	2.2	220W 68.2Ω	60	6	2.2
	3.7	370W 40.5Ω	40	9	3.2
440V	5.5	550W 109.1Ω	75	10	6.9
	11	1100W 54.6Ω	50	14	10.4
	18.5	1850W 32.4Ω	32	23	16.2