



Unitronics Variable Frequency Drives

High-performance, cost-effective VFDs, ideal for machines & process control

- Simple to Use
- Robust
- Broad Power & Voltage Range
- STO Safe
-

B7 Series

Ethernet Support, Functional Safety, and Closed-loop Precision

Optimize your applications with integrated and precise torque, speed, and position control, while reducing your development time.

B7 inverters offer advanced motor control with features typically found in specialized drive solutions. Automatic integration and easy configuration benefits you with faster time to market, reduced development, and commissioning time, while reducing energy costs, gaining flexibility, and increasing productivity.

Main features:

- **Ethernet connectivity:** Integrate seamlessly into modern industrial networks via optional communication card.
- **Built-in STO:** B7 is Functional Safety certified.
- **Broad Power & Voltage Range:**
 - 200-240V ▶ 0.75kW-55kW/1-75HP
 - 380-480V ▶ 1.5kW-500kW/2-670HP
 - 520-600V ▶ 0.75kW-110kW/1-150HP
- **Closed-loop control:** Position, Speed and Torque: supports both constant torque load and variable torque load.
- **Supports** multiple motor types including Asynchronous Induction Motors and PM Synchronous motors.
- **Built-in brake unit** for VFDs of 220V ($\leq 15\text{kW}/20\text{HP}$), 460V ($\leq 30\text{kW}/40\text{HP}$), and 575V ($\leq 18.5\text{kW}/25\text{HP}$).
- **LCD keyboard** paired with a 16-line text + graphics screen including 'Wizard Mode' makes setting parameters a snap.
- **Expandable architecture:** Expansion card slots enable you to adapt B7 to your specific needs. Available cards include communication, PG encoder, and I/O
- **Approvals:** UL & cUL, CE and Functional Safety.

Simplified configuration, automatic integration, and freely-provided Ready-Made Motion code reduces development and commissioning time.



UMI- B7 Series: Specification

Power	B7 Series	
	Input Voltage	200-240VAC, Three Phase 380-480VAC, Three Phase 520-600VAC, Three Phase
	Input Frequency	50/60Hz (47-63Hz)
	Supported Motors	Asynchronous Induction Motors, Permanent Magnet Synchronous
	Output Frequency	0-400Hz
	Overload Capacity	150% 60 seconds, 180% 10 seconds, 200% 1 second
Control	Control Method	SVPWM (Space Vector PWM) VC (Closed loop vector control) SVC (Sensorless Vector Control)
	Control Setting	MODBUS, Analog, Digital, PID, Pulse, variety of communication cards
	Communication	Build in MODBUS RTU RS-485 + optional communication cards (see catalog)
	Keypad	Removable: All power range
Input	Analog Inputs	Total 2: AI1: 0-10V/0-20mA , AI2: -10->10V
	Digital Inputs	4 regular inputs; max.frequency:1kHz; internal impedance:3.3kOhm 2 high-speed inputs ; max frequency:50kHz
Output	Analog Outputs	1 output, AO1:0-10v/0-20mA
	Digital Outputs	Total 2: 1 output sink/source, 1 output 50kHz
	Relay Outputs	Total 2 Programmable Multi-functional outputs
Features	Dynamic Braking unit	Built-in for VFDs of 220V ($\leq 15\text{kW}/20\text{HP}$), 480V ($\leq 30\text{kW}/40\text{HP}$), and 575V ($\leq 18.5\text{kW}/25\text{HP}$) Optional for VFDs of 220V (18.5-55kW/25-75HP), 480V (37kW/50HP), 575v (22-110kW/30-150HP)
	EMC Filters	For 480V VFDs Built-In C3, Comply with IEC/ 61800-3
	Expansion cards	Max 2 expansion cards for drives $\leq 5.5\text{kW}$ and max 3 expansion cards for drives $\geq 7.5\text{kW}$
General	Operating Temperature	(-10)°C/14°F – 50°C/122°F (de-rated by 1% for every 1°C/2°F above 40°C/104°F)
	Enclosure Rating	IP20
	Mounting Options	Wall, floor, flange mounting
	Cooling	Air-cooling
	Safe Torque Off	Yes Integrated STO (SIL2)
	Compliance	CE, UL and cUL



UMI- B7 Series: Models

Article Number	Description
230 3Ph drives	
UMI-0007CU-B7	0.75kW/1HP 230V Three Phase UL
UMI-0015CU-B7	1.5kW/2HP 230V Three Phase UL
UMI-0022CU-B7	2.2kW/3HP 230V Three Phase UL
UMI-0040CU-B7	4kW/5HP 230V Three Phase UL
UMI-0055CU-B7	5.5kW/7.5HP 230V Three Phase UL
UMI-0075CU-B7	7.5kW/10HP 230V Three Phase UL
UMI-0110CU-B7	11kW/15HP 230V Three Phase UL
UMI-0150CU-B7	15kW/20HP 230V Three Phase UL
UMI-0185CU-B7	18.5kW/25HP 230V Three Phase UL
UMI-0220CU-B7	22kW/30HP 230V Three Phase UL
UMI-0300CU-B7	30kW/40HP 230V Three Phase UL
UMI-0370CU-B7	37kW/50HP 230V Three Phase UL
UMI-0450CU-B7	45kW/60HP 230V Three Phase UL
UMI-0550CU-B7	55kW/75HP 230V Three Phase UL
480 3Ph drives	
UMI-0015EU-B7	1.5kW/2HP 480V Three Phase UL
UMI-0022EU-B7	2.2kW/3HP 480V Three Phase UL
UMI-0040EU-B7	4kW/5HP 480V Three Phase UL
UMI-0055EU-B7	5.5kW/7.5HP 480V Three Phase UL
UMI-0075EU-B7	7.5kW/10HP 480V Three Phase UL
UMI-0110EU-B7	11kW/15HP 480V Three Phase UL
UMI-0150EU-B7	15kW-20HP 480V Three Phase UL
UMI-0185EU-B7	18.5kW/25HP 480V Three Phase UL
UMI-0220EU-B7	22kW/30HP 480V Three Phase UL
UMI-0300EU-B7	30kW/40HP 480V Three Phase UL
UMI-0370EU-B7	37kW/50HP 480V Three Phase UL
UMI-0450EU-B7	45kW/60HP 480V Three Phase UL
UMI-0550EU-B7	55kW/75HP 480V Three Phase UL
UMI-0750EU-B7	75kW/100HP 480V Three Phase UL
UMI-0900EU-B7	90kW/125HP 480V Three Phase UL
UMI-1100EU-B7	110kW/150HP 480V Three Phase UL
UMI-1320EU-B7	132kW/175HP 480V Three Phase UL
UMI-1600EU-B7	160kW/215HP 480V Three Phase UL
UMI-1850EU-B7	185kW/250HP 480V Three Phase UL
UMI-2000EU-B7	200kW/270HP 480V Three Phase UL
UMI-2200EU-B7	220kW/300HP 480V Three Phase UL
UMI-2500EU-B7	250kW/335HP 480V Three Phase UL
UMI-2800EU-B7	280kW/375HP 480V Three Phase UL
UMI-3150EU-B7	315kW/420HP 480V Three Phase UL
UMI-3500EU-B7	350kW/470HP 480V Three Phase UL
UMI-4000EU-B7	400kW/535HP 480V Three Phase UL
UMI-5000EU-B7	500kW/670HP 480V Three Phase UL

Article Number	Description
575V 3Ph drives	
UMI-0007FU-B7	0.75kW/1HP 575V Three Phase UL
UMI-0015FU-B7	1.5kW/2HP 575V Three Phase UL
UMI-0022FU-B7	2.2kW/3HP 575V Three Phase UL
UMI-0040FU-B7	4kW/5HP 575V Three Phase UL
UMI-0055FU-B7	5.5kW/7.5HP 575V Three Phase UL
UMI-0075FU-B7	7.5kW/10HP 575V Three Phase UL
UMI-0110FU-B7	11kW/15HP 575V Three Phase UL
UMI-0150FU-B7	15kW/20HP 575V Three Phase UL
UMI-0185FU-B7	18.5kW/30HP 575V Three Phase UL
UMI-0220FU-B7	22kW/30HP 575V Three Phase UL
UMI-0300FU-B7	30kW/40HP 575V Three Phase UL
UMI-0370FU-B7	37kW/50HP 575V Three Phase UL
UMI-0450FU-B7	45kW/60HP 575V Three Phase UL
UMI-0550FU-B7	55kW/75HP 575V Three Phase UL
UMI-0750FU-B7	75kW/100HP 575V Three Phase UL
UMI-0900FU-B7	90kW/125HP 575V Three Phase UL
UMI-1100FU-B7	110kW/150HP 575V Three Phase UL
Extension cards	
UMI-S0006	CANopen communication card
UMI-S0008	EtherCAT communication card
UMI-S0007	EthernetIP communication card
UMI-S0009	Modbus TCP communication card
UMI-S0170	IO Card
UMI-S0011	Multifunction incremental PG card
UMI-S0013	Resolver PG card
UMI-S0014	Sin_Cos PG card
UMI-S0010	24V incremental PG card

UMI- B7 Series: Power Rated Specifications

Model	Rated output power (kW/HP)	Rated output current (A)	Rated power frequency (Hz)	Rated power voltage (V)
UMI-0007CU-B7	0.75/1	4.5	50Hz/60Hz, Allowed range: 47–63Hz	3PH 200–240V
UMI-0015CU-B7	1.5/2	7		
UMI-0022CU-B7	2.2/3	10		
UMI-0040CU-B7	4/5	16		
UMI-0055CU-B7	5.5/7.5	20		
UMI-0075CU-B7	7.5/10	30		
UMI-0110CU-B7	11/15	42		
UMI-0150CU-B7	15/20	55		
UMI-0185CU-B7	18.5/25	70		
UMI-0220CU-B7	22/30	80		
UMI-0300CU-B7	30/40	110		
UMI-0370CU-B7	37/50	130		
UMI-0450CU-B7	45/60	160		
UMI-0550CU-B7	55/75	200		
UMI-0015EU-B7	1.5/2	3.7	50Hz/60Hz, Allowed range: 47–63Hz	3PH 380–480V
UMI-0022EU-B7	2.2/3	5		
UMI-0040EU-B7	4/5	9.5		
UMI-0055EU-B7	5.5/7.5	14		
UMI-0075EU-B7	7.5/10	18.5		
UMI-0110EU-B7	11/15	25		
UMI-0150EU-B7	15/20	32		
UMI-0185EU-B7	18.5/25	38		
UMI-0220EU-B7	22/30	45		
UMI-0300EU-B7	30/40	60		
UMI-0370EU-B7	37/50	75		
UMI-0450EU-B7	45/60	92		
UMI-0550EU-B7	55/75	115		
UMI-0750EU-B7	75/100	150		
UMI-0900EU-B7	90/120	180		
UMI-1100EU-B7	110/150	215		
UMI-1320EU-B7	132/175	260		
UMI-1600EU-B7	160/215	305		
UMI-1850EU-B7	185/250	340		
UMI-2000EU-B7	200/300	380		
UMI-2200EU-B7	220/300	425		
UMI-2500EU-B7	250/335	480		
UMI-2800EU-B7	280/375	530		
UMI-3150EU-B7	315/420	600		
UMI-3500EU-B7	350/470	650		
UMI-4000EU-B7	400/535	720		
UMI-5000EU-B7	500/670	860		

UMI- B7 Series: Power Rated Specifications

Model	Rated output power (kW/HP)	Rated output current (A)	Rated power frequency (Hz)	Rated power voltage (V)
UMI-0007FU-B7	0.75/1	2.1	50Hz/60Hz, Allowed range: 47-63Hz	3PH 520-600V
UMI-0015FU-B7	1.5/2	3.2		
UMI-0022FU-B7	2.2/3	4.5		
UMI-0040FU-B7	4/5	6.5		
UMI-0055FU-B7	5.5/7.5	9		
UMI-0075FU-B7	7.5/10	12		
UMI-0110FU-B7	11/15	16		
UMI-0150FU-B7	15/20	21		
UMI-0185FU-B7	18.5/25	27		
UMI-0220FU-B7	22/30	35		
UMI-0300FU-B7	30/40	45		
UMI-0370FU-B7	37/50	52		
UMI-0450FU-B7	45/60	62		
UMI-0550FU-B7	55/75	86		
UMI-0750FU-B7	75/100	98		
UMI-0900FU-B7	90/125	120		
UMI-1100FU-B7	110/150	150		

UMI- B7 Series: Product Designation

No.	Key	Description
1	Product Line	Unitronics Motion Inverters
2	Power Range	0007:750W/1HP 0022:2.2kW/3HP
3	Power Rating	C : 3PH 200V-240V E : 3PH 380V-440V/480V F : 3PH 520-600V
4	Certification	*U - CE, UL and cUL certified
5	Product series	B7

Product Designation Key				
UMI - 0022 E U - B7				
①	②	③	④	⑤

UMI- B7 Series: Drive Dimensions

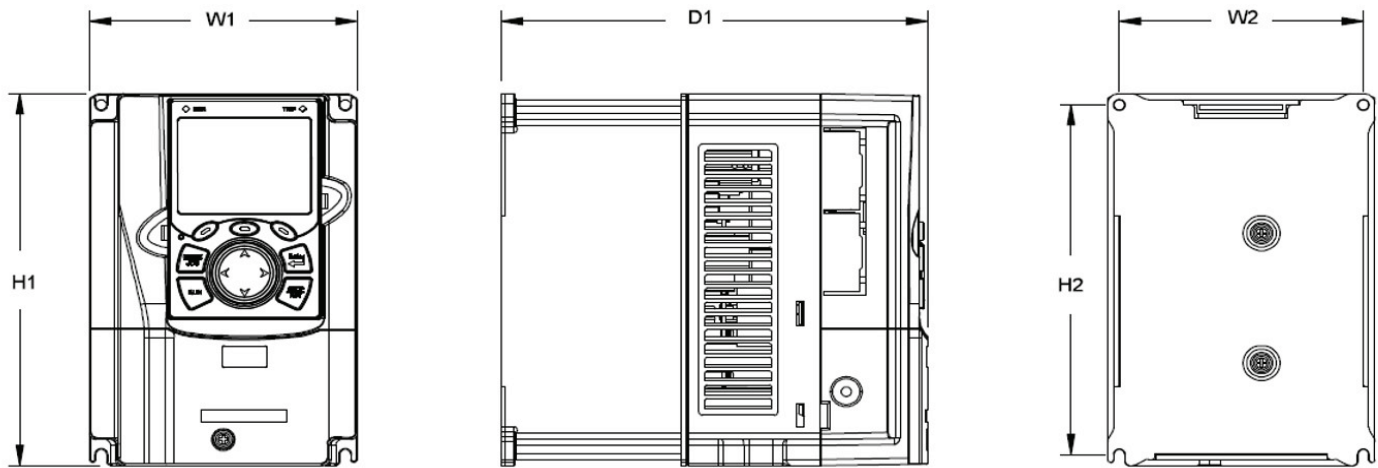
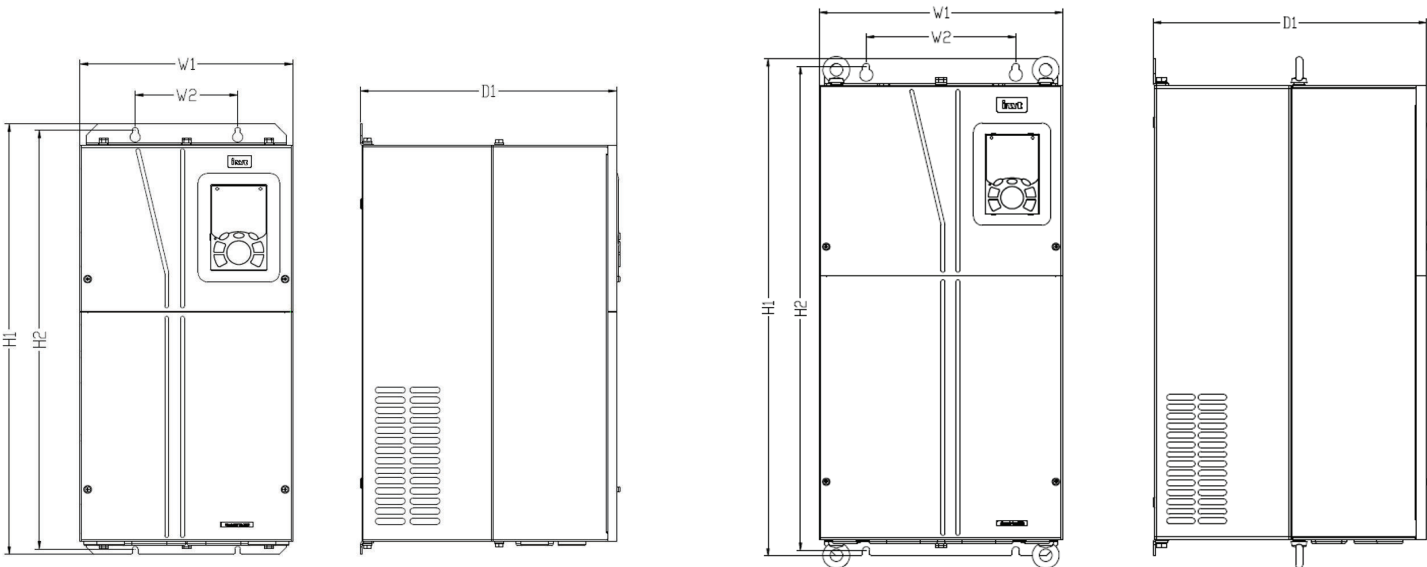
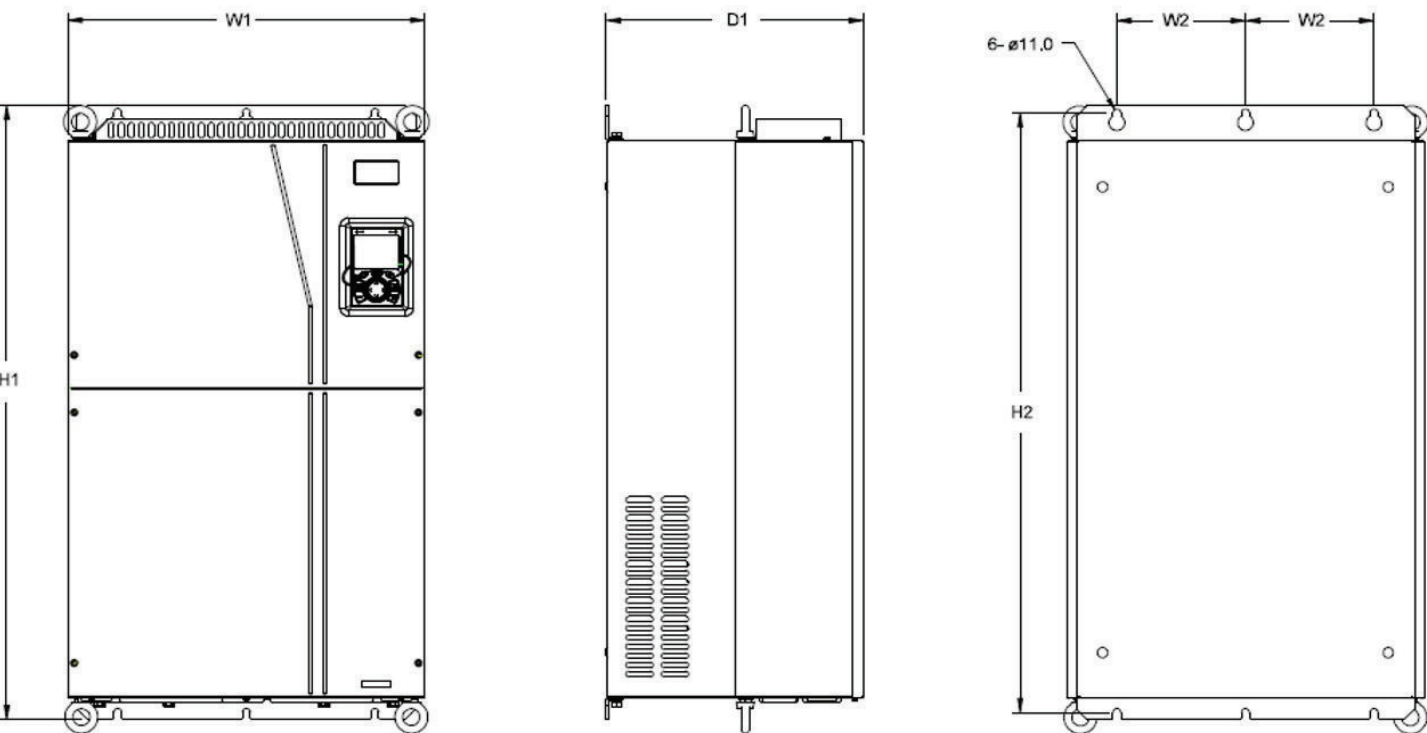


Figure C-4 Wall installation diagram of VFDs of 220V 0.75-15kW/1-20HP and 460V 1.5-30kW/2-40HP



Wall installation diagram of VFDs of 220V 18.5-55kW/25-75HP and 460V 37-55kW/50-75HP Wall installation diagram of VFDs of 460V 75-110kW/100-150HP



Wall installation diagram of VFDs of 460V 132-200kW/175-270HP

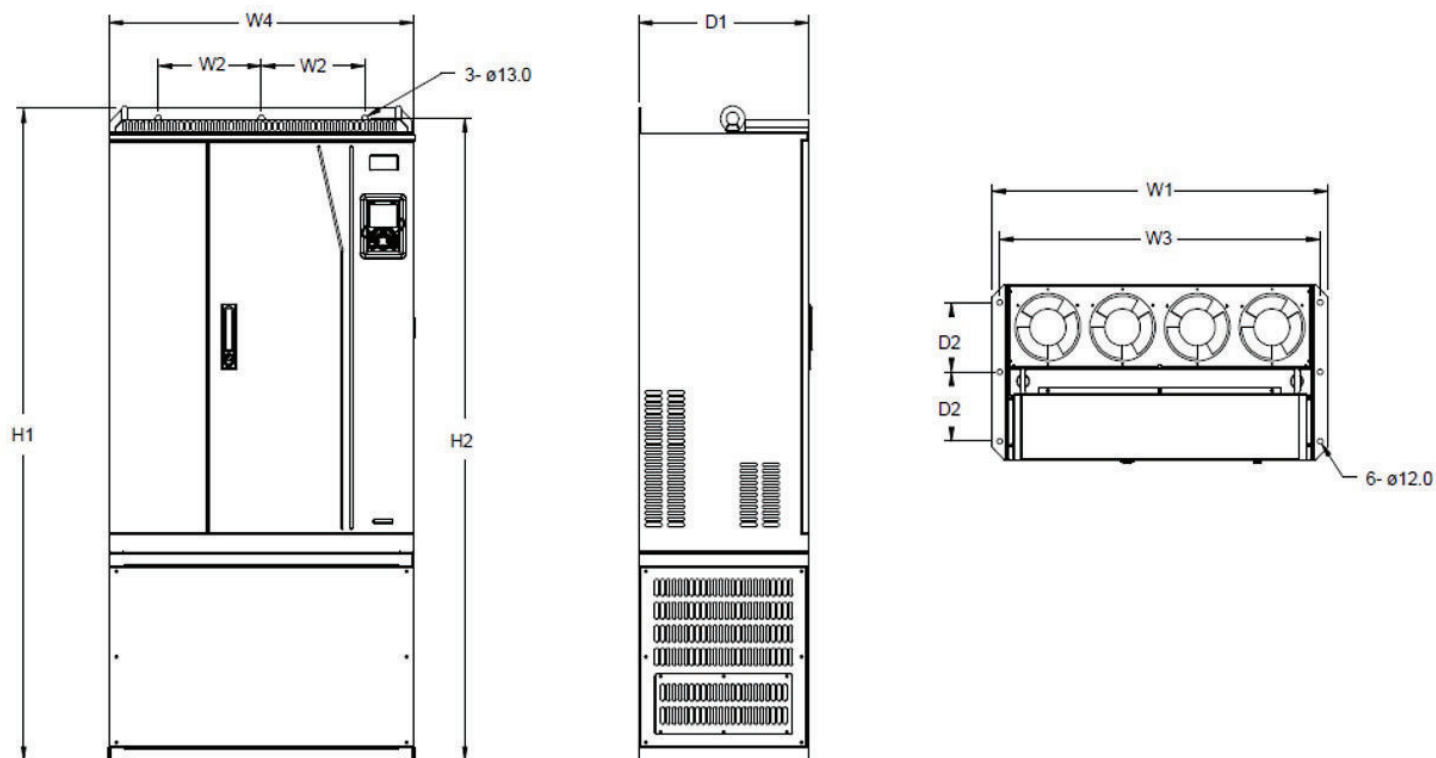
UMI- B7 Series: Drive Dimensions

Wall installation dimensions of 220V 0.75-55kW/1-75HP (unit: mm)

Model	W1	W2	H1	H2	D1	Installation hole
0.75kW-1HP	126	115	186	175	185	Ø5
1.5kW-2.2kW/2-3HP	146	131	256	243.5	192	Ø5
4kW-5.5kW/5-7.5HP	170	151	320	303.5	219	Ø6
7.5kW/10HP	230	210	330	311	217	Ø6
11kW-15kW/15-20HP	255	237	400	384	242	Ø7
18.5kW-30kW/25-40HP	270	130	557	540	325	Ø7
37kW-55kW/50-75HP	325	200	682	661	365	Ø9.5

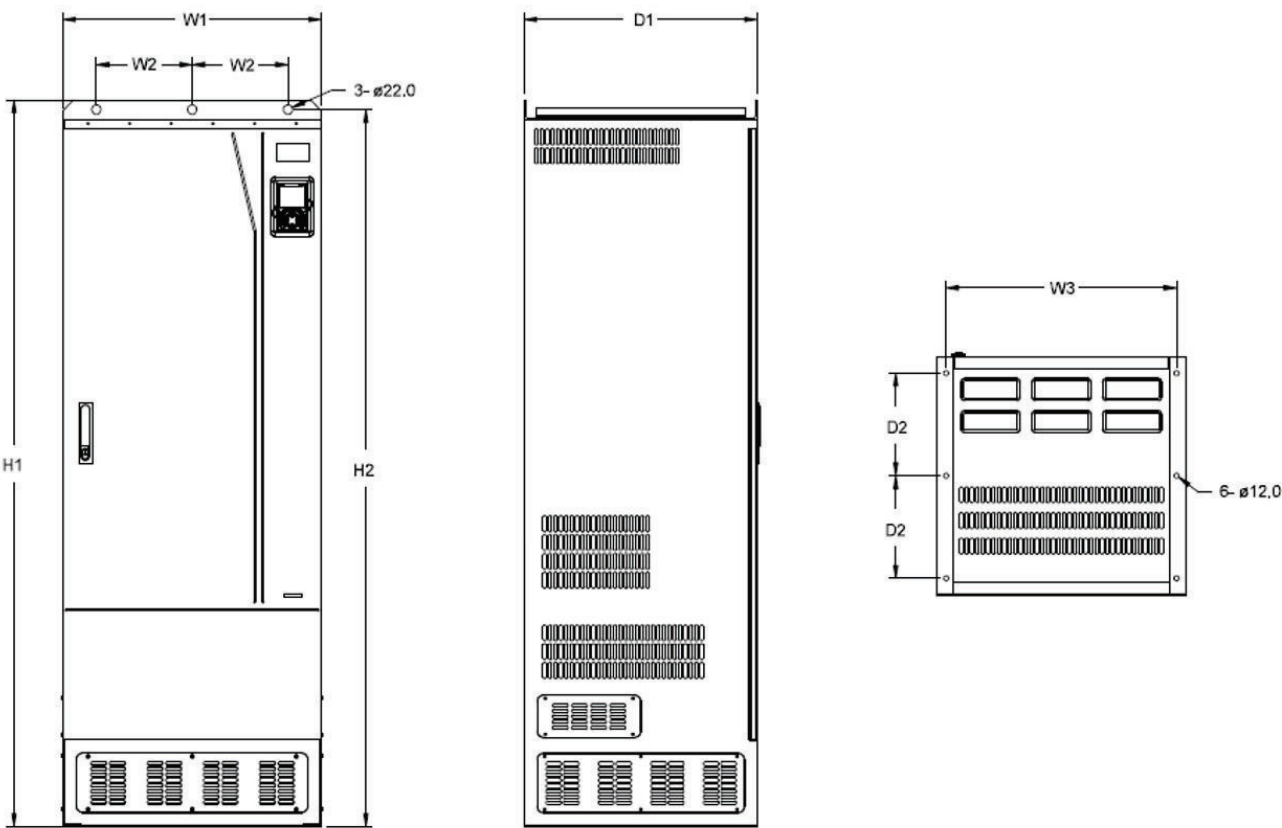
Wall installation dimensions of 460V VFDs (unit: mm)

Model	W1	W2	H1	H2	D1	Installation hole
1.5kW-2.2kW/2-3HP	126	115	186	175	185	Ø5
4kW-5.5kW/5-7.5HP	146	131	256	243.5	192	Ø5
7.5kW-11kW/10-15HP	170	151	320	303.5	219	Ø6
15kW-18.5kW/20-25HP	230	210	330	311	217	Ø6
22kW-30kW/30-40HP	255	237	400	384	242	Ø7
37kW-55kW/50-75HP	270	130	557	540	325	Ø7
75kW-110kW/100-150HP	325	200	682	661	365	Ø9.5
132kW-200kW/175-270HP	500	180	872	850	360	Ø11



Floor installation diagram of VFDs of 460V 220-315kW/300-420HP

UMI- B7 Series: Drive Dimensions

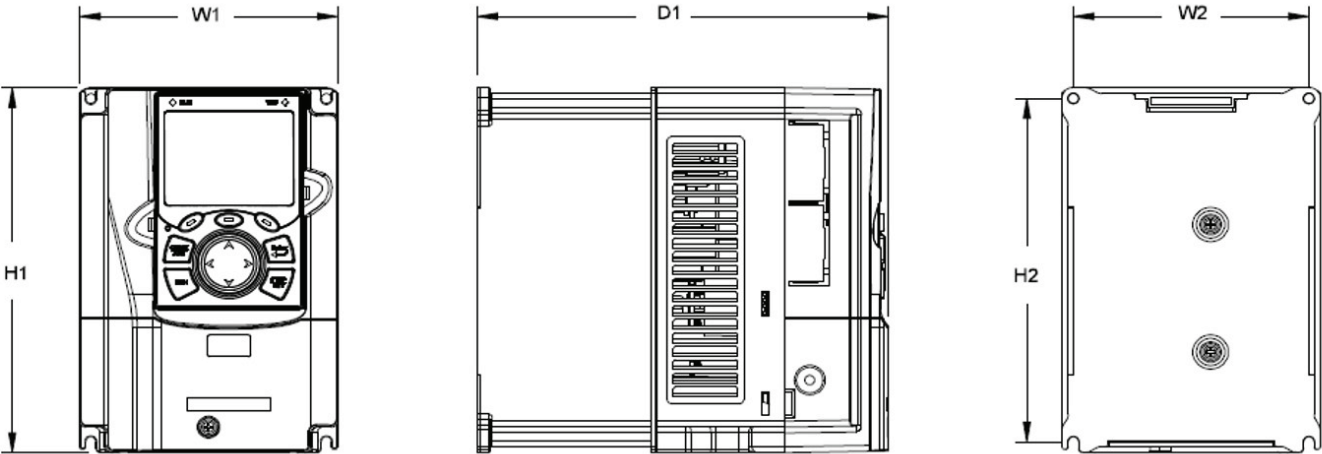


Floor installation diagram of VFDs of 460V 350-500kW/470-670HP

Floor installation dimensions of 460V VFDs 350-500kW/470-670HP (unit: mm)

Model	W1	W2	W3	W4	H1	H2	D1	D2	Installation hole
220kW-315kW/300HP-420HP	750	230	714	680	1410	1390	380	150	ø 13/12
350kW-500kW/470-670HP	620	230	572	—	1700	1678	560	240	ø 22/12

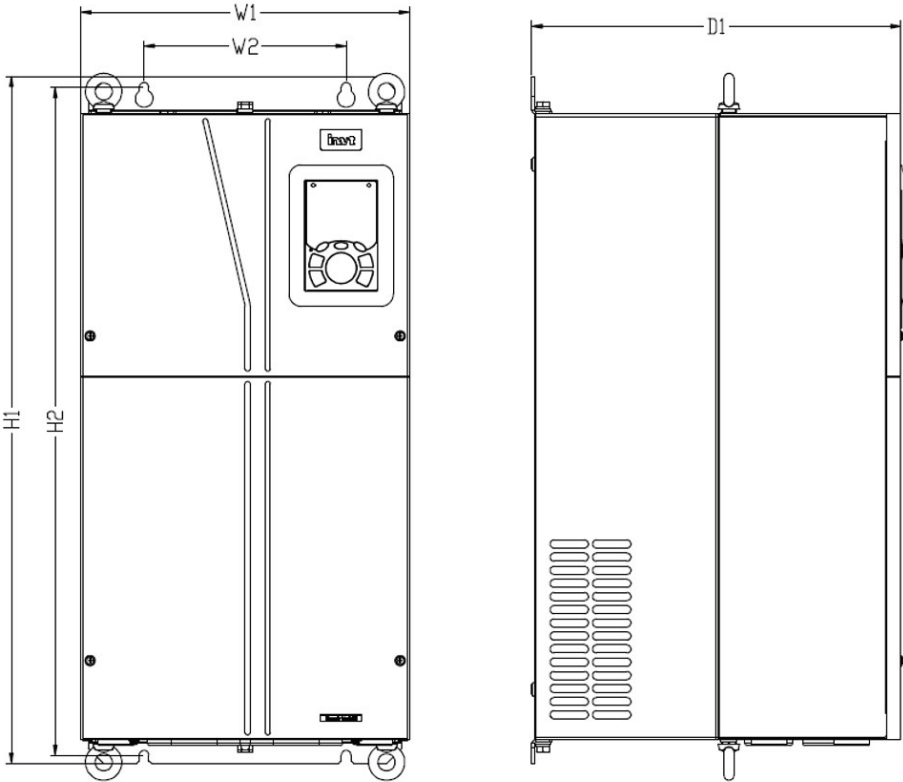
UMI- B7 Series: Drive Dimensions



Wall installation diagram of VFDs of 575V 0.75-18.5kW/1-25HP

Wall installation dimensions of VFDs of 575V 0.75-18.5kW/1-25HP

Model	W1	W2	H1	H2	D1	Installation hole
0.75kW-2.2kW/1-3HP	146	131	256	243.5	192	∅5
4kW-7.5kW/5-10HP	170	151	320	303.5	219	∅6
11kW-18.5kW/15-25HP	230	210	330	311	217	∅6



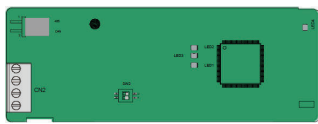
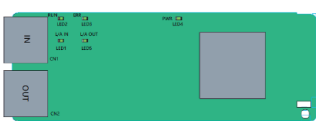
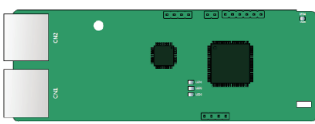
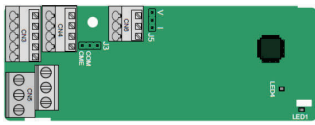
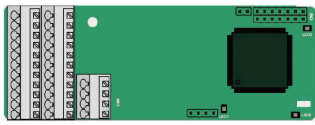
Wall installation diagram for VFDs of 575V 22-110kW/30-150HP

UMI- B7 Series: Drive Dimensions

Wall installation dimensions of VFDs of 575V 22-110kW/30-150HP (unit: mm)

Model	W1	W2	H1	H2	D1	Installation hole
22kW-37kW/30-50HP	270	130	557	540	325	Ø7
45kW-110kW/60-150HP	325	200	682	661	365	Ø9.5

Optional Parts

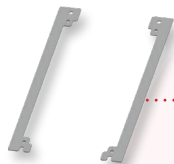
			
24V incremental PG card	CANopen communication card	EtherCAT communication card	EthernetIP communication card & Modbus TCP communication card
UMI-S0010	UMI-S0006	UMI-S0008	UMI-S0007 UMI-S0009
			
IO Card	Multifunction incremental PG card	Resolver PG card	Sin Cos PG card
UMI-S0170	UMI-S0011	UMI-S0013	UMI-S0014



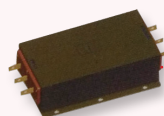
▶ LCD Keypad



▶ Braking Resistors



▶ Flange Mounting Plate
Plates



▶ C2 input/output
filters