MOTOR CONTROL

REGAL

MARATHON DRIVES
MD100G GENERAL PURPOSE
VARIABLE SPEED DRIVES

marathon™ Drives

REGAL

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MD100G
60.00
ESC
ENT
WARNING
Risk of Injury or Electric Shock.
Risk of Electric Shock.
Risk of Electric Shock.

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Specialised Features

MD100G improves user convenience with smart copier

Functions without power input

The drive does not need to be powered when using the smart copier.

LED lamp feedbacks

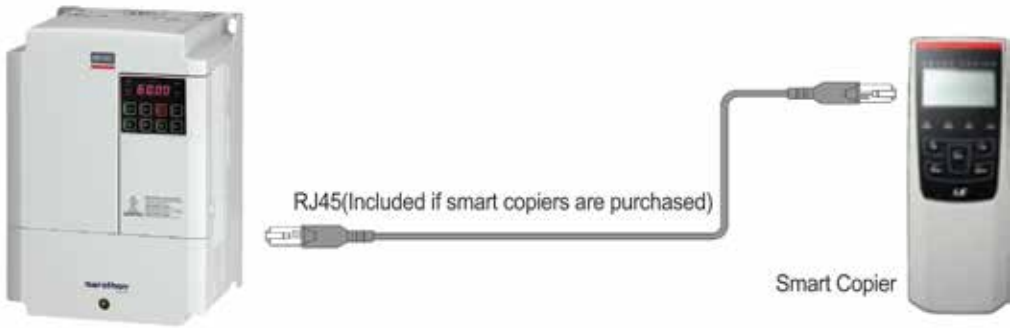
The run LED flickers during normal operation. The error LED flickers when events such as communication errors occur.

Read/Write function of parameters

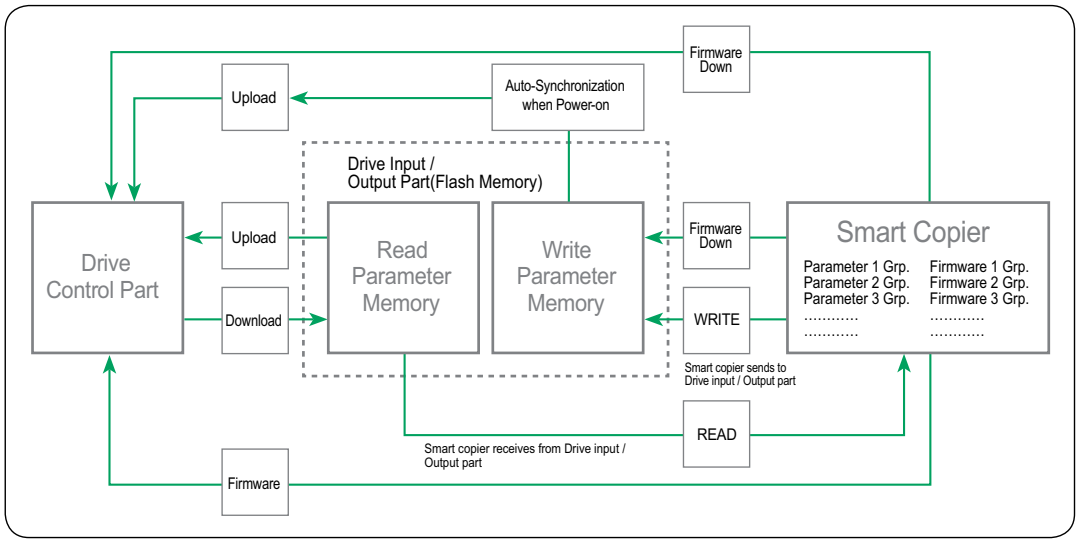
Parameters can be copied/loaded from the drive to the smart copier and vise versa, simply with the keypad.

Simple installation

Firmware and parameters saved in the smart copier can be downloaded to both the drive I/O and the control part. Firmware can be downloaded from a PC by using a USB cable.



Smart copier flow chart



※ Smart Copier will be available soon.

Specialised Features

Main capacitor lifecycle estimation
Estimated through monitoring the change in the capacitance value.

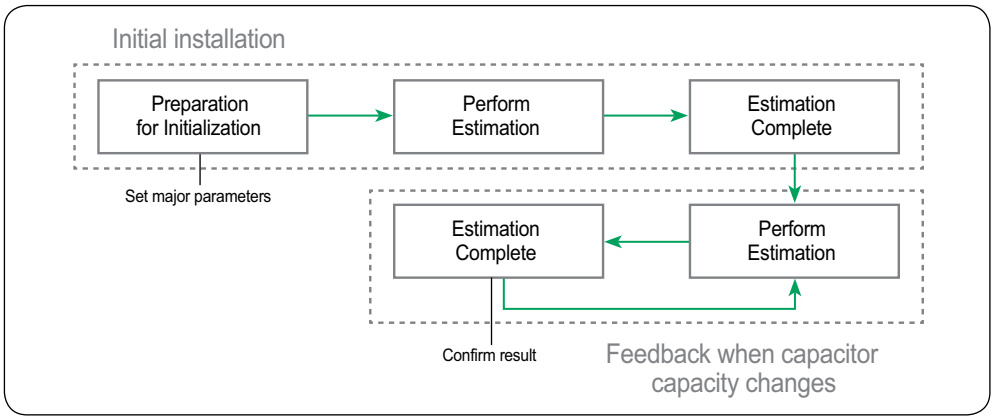
Fan lifecycle estimation
Warning signal is displayed when fan is operated over a certain amount of hours.

P2P function embedded
I/O input and output can be shared among master and slave drives. (RS485 wiring required)

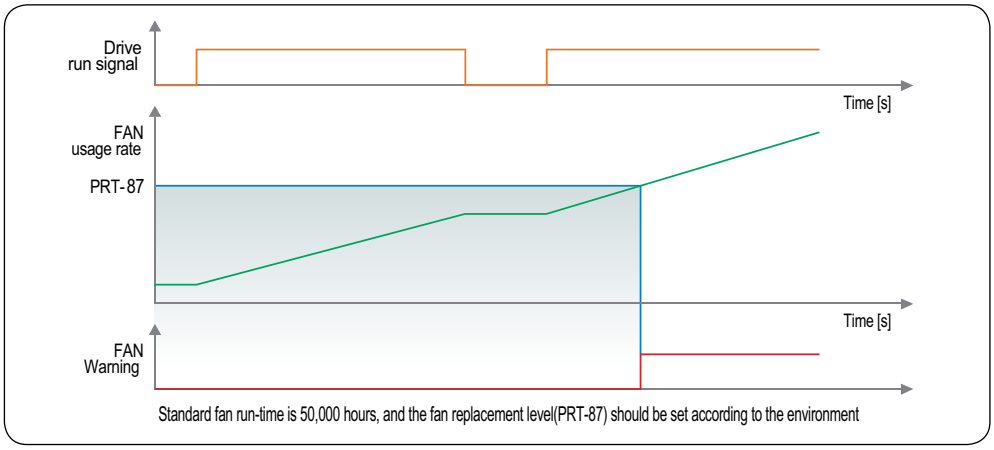
Multi keypad function
Multiple drives can be controlled and monitored with single keypad. (RS485 wiring required)

User sequence function
Simple PLC sequences can be operated with various function block combinations.

Main capacitor lifecycle estimation



Fan lifecycle estimation



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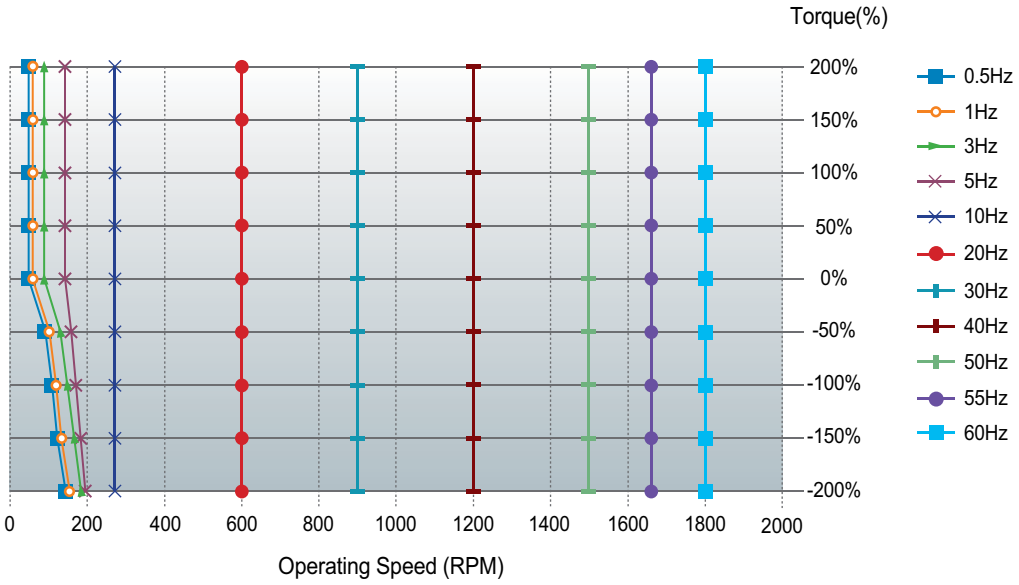
Powerful Performance

MD100G is a drive with enhanced sensorless control

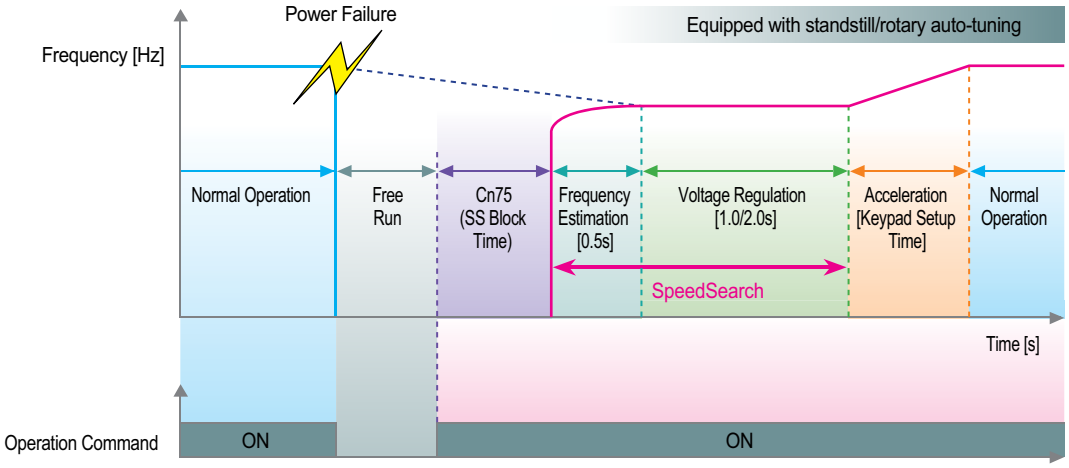
Powerless sensorless control

Starting torque of 200%/0.5Hz is produced and provides robust power in the low speed region.
The motor auto-tuning function is optimized to maximise motor performance.



Flying start function

Drive capable of quick reliable smooth restarts into bi-directional rotating loads.



Suitable for Users

MD100G offers a variety of customer conveniences to compete in the global market

Various field bus options easy to install and use

Possible to connect to a variety of fieldbus networks
Easy maintenance and mounting

(Various field bus options)

❶ Profibus-DP ❷ Ethernet IP ❸ Modbus TCP ❹ CANopen

Simple cooling fan replacement

Replaceable fan without complete disassembly

Conduit kit

Acquired UL open type & enclosed type1 certification
※ UL open type is offered as default
※ UL enclosed type1 needs conduit kit(option) installation

Flange type

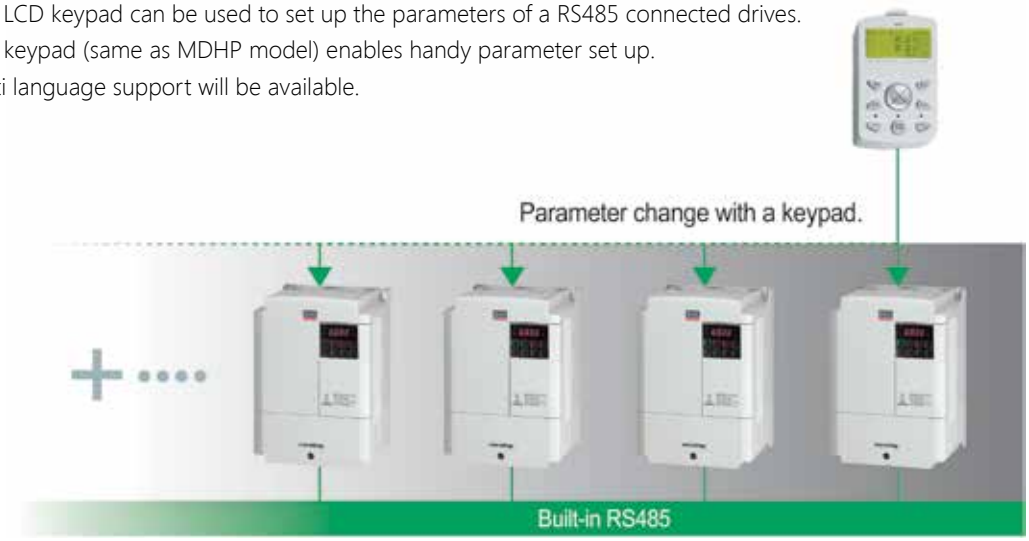
The heat sink can be mounted outside of the panel in case the space is limited.

Extension I/O option card

- Relay output: 2ea (NO/NC selectable)
- Digital input: 3ea (NPN/PNP selectable)
- Analog I/O: 2ea/1ea each

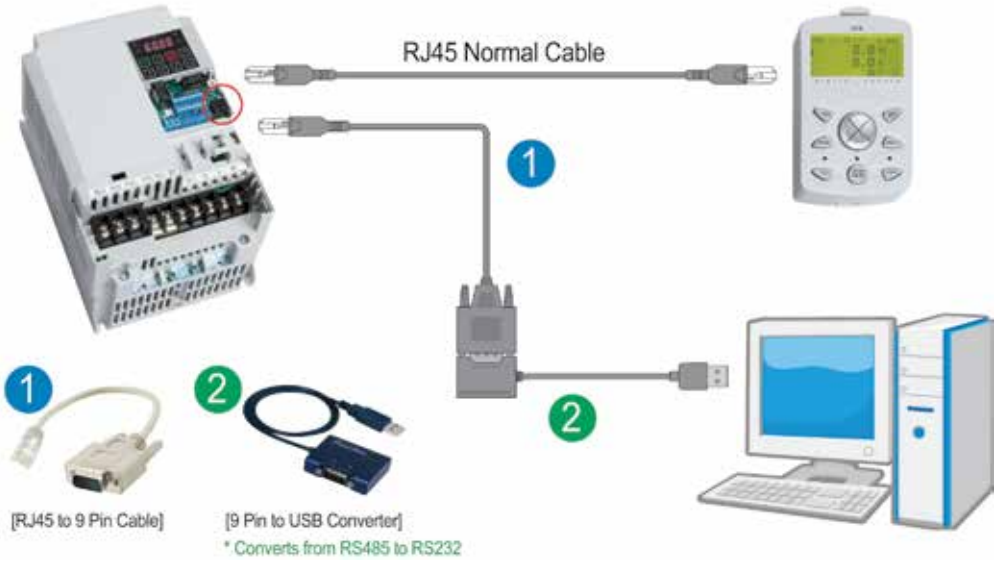
Multi-keyed function

Single LCD keypad can be used to set up the parameters of a RS485 connected drives.
※ LCD keypad (same as MDHP model) enables handy parameter set up.
※ Multi language support will be available.



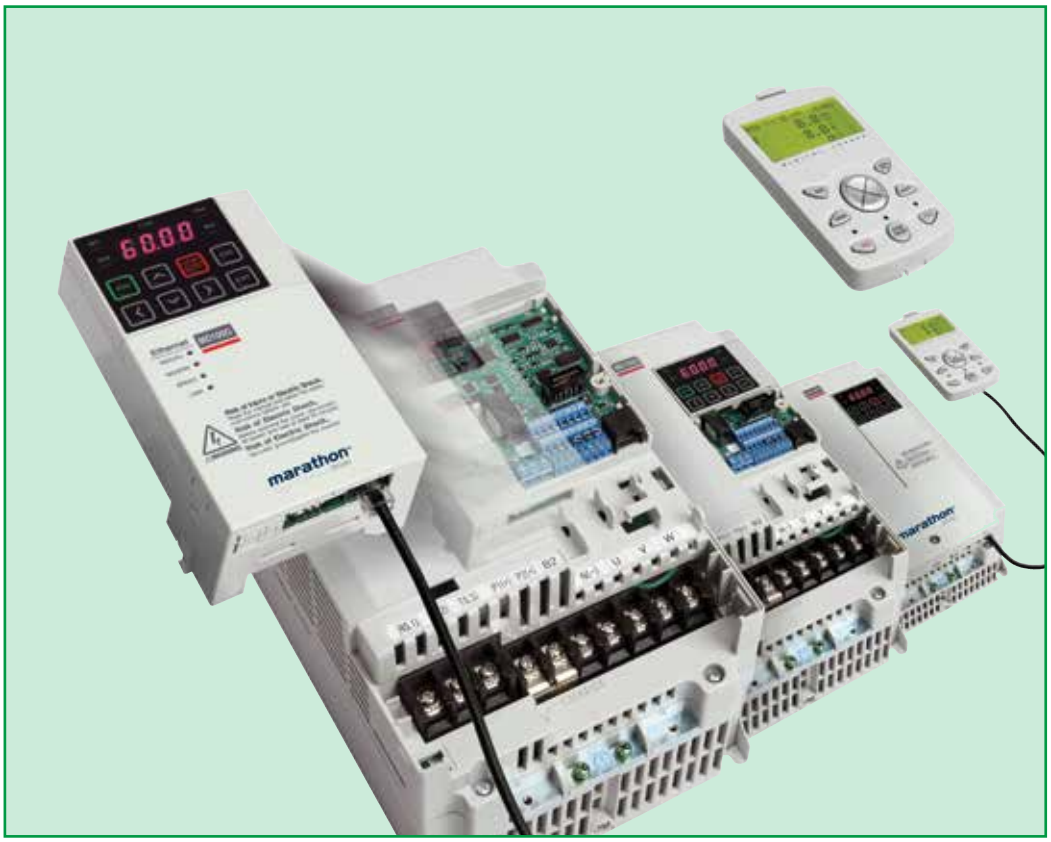
Suitable for Users

DriveView7 connection with RJ45 port



※ Cable 1 needs to be purchased as an option.

※ Cable 2 is universal product which is not offered from Regal Australia.



Standard Compliance

MD100G meets a diverse range of requirements in the global market

Built-in DC reactor

Effective in improving power factor and w THD.
3-phase 400V 30~75kW

Built-in EMC filter

Meets the electrical noise reduction regulation.
Related standards: 2nd Environment / Category C3 (Class A) – CE standard is certified
※ 1-phase 200V 0.4 to 2.2kW (C2) / 3-phase 400V 0.4 to 75kW (C3)

Global compliance

Global standard compliance

N1458

Dual rating operation

Designed to be used for heavy and normal duty applications.
Overload capacity – Heavy duty operation: 150% of rated current, 60 seconds
– Normal duty operation: 120% of rated current, 60 seconds

Selectable rotary/standstill auto-tuning

Standstill or rotary auto-tuning options are available as standard to find motor constants with or without rotating the motor for optimized motor performance.

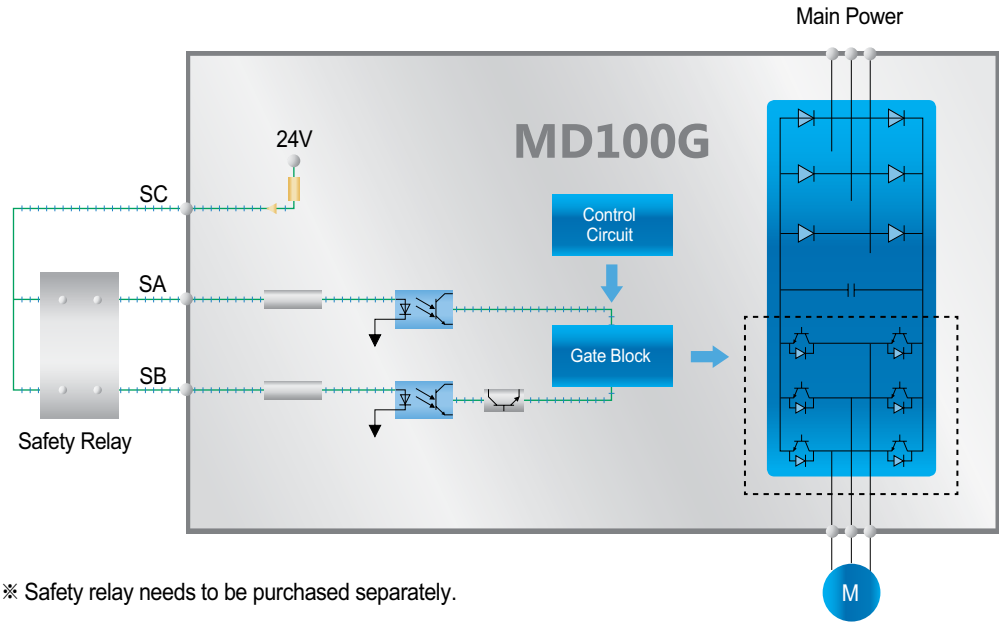
Safety Function

MD100G has built-in safety functions suitable for modern safety standards

Built-in safe torque off (STO)

The Safety input function meets EN ISO 13849-1 PLd and EN 61508 SIL2 (EN60204-1, stop category 0).
This feature is standard and enables compliance with current safety standards.

Redundant input circuit



※ Safety relay needs to be purchased separately.

The drive for harsh ambient conditions

MD100G IP66 / NEMA 4X Series

Protected against foreign substances such as fine dust and high pressure water spray.

- Satisfies NEMA standard type 4X for indoor use
- Satisfies IEC 60529 standard IP66
- 200 / 400V 0.4 to 22kW

IP66 / NEMA 4X

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Standard I/O

Motor Rating	1-Phase 200V	3-Phase 200V	3-Phase 400V	
	IP20	IP66	IP20	IP66
0.4kW	MDLV0004100G-1EOFNS	MDLV0004100G-2EXNNS	MDLV0004100G-4EOFNS	MDLV0004100G-4EXFNS
0.75kW	MDLV0008100G-1EOFNS	MDLV0008100G-2EXNNS	MDLV0008100G-4EOFNS	MDLV0008100G-4EXFNS
1.5kW	MDLV0015100G-1EOFNS	MDLV0015100G-2EXNNS	MDLV0015100G-4EOFNS	MDLV0015100G-4EXFNS
2.2kW	MDLV0022100G-1EOFNS	MDLV0022100G-2EXNNS	MDLV0022100G-4EOFNS	MDLV0022100G-4EXFNS
3.7kW		MDLV0037100G-2EXNNS	MDLV0037100G-4EOFNS	MDLV0037100G-4EXFNS
4.0kW		MDLV0040100G-2EXNNS	MDLV0040100G-4EOFNS	MDLV0040100G-4EXFNS
5.5kW		MDLV0055100G-2EXNNS	MDLV0055100G-4EOFNS	MDLV0055100G-4EXFNS
7.5kW		MDLV0075100G-2EXNNS	MDLV0075100G-4EOFNS	MDLV0075100G-4EXFNS
11kW		MDLV0110100G-2EXNNS	MDLV0110100G-4EOFNS	MDLV0110100G-4EXFNS
15kW		MDLV0150100G-2EXNNS	MDLV0150100G-4EOFNS	MDLV0150100G-4EXFNS
18.5kW			MDLV0185100G-4EOFNS	MDLV0185100G-4EXFNS
22kW			MDLV0220100G-4EOFNS	MDLV0220100G-4EXFNS
30kW			MDLV0300100G-4CO(F)DS	
37kW			MDLV0370100G-4CO(F)DS	
45kW			MDLV0450100G-4CO(F)DS	
55kW			MDLV0550100G-4CONDS	
75kW			MDLV0750100G-4CONDS	

※(F): Built-in EMC or Non_EMC type selectable
※55 - 75kW satisfies EMC class 3

Model Number Identification

MDLV	0008	100G	-	2	E	O	F	D	S

- **MDLV** — Marathon Drive Low Voltage
- **0008** — Motor rating (kW) 0004 - 0750 0.4kW - 75kW
- **100G** — Series Name General Purpose
- **2** — Input Voltage: 1: 1-phase 200-240V; 2: 3-phase 200-240V; 4: 3 phase 380-480V
- **E** — Keypad: E: LED keypad; S: LCD keypad
- **O** — Enclosure Type: O: IP20/21; X: IP66
- **F** — EMC Filter: F: Built-in EMC; N: Non-EMC
- **D** — Reactor: D: Built-in DCL; N: Non-reactor
- **S** — I/O: M: Multiple (3.5mm); S: Standard (5mm)

1-Phase 200V (0.4 to 2.2kW) Specifications

MDLV□□□□100G-1□□□□□		0004	0008	0015	0022
Motor rating	Heavy Duty kW	0.4	0.75	1.5	2.2
	Normal Duty kW	0.75	1.5	2.2	3.7
Output rating	Capacity Heavy Duty kVa	1.0	1.9	3.0	4.2
	Capacity Normal Duty kVa	1.2	2.3	3.8	4.6
	Rated Current Heavy Duty	2.5	5.0	8.0	11.0
	Rated Current Normal Duty	3.1	6.0	9.6	12.0
	Frequency Hz	0-400Hz (IM sensorless 0-120 Hz)			
	Voltage	3-phase 200-240V			
Input rating	Voltage	1-phase 200-240V AC (-15% - +10%)			
	Frequency Hz	50-60Hz (±5%)			
	Rated Heavy Duty	4.4	9.3	15.6	21.7
	Current (A) Normal Duty	5.8	11.7	19.7	24.0
Weight kg		0.9	1.3	1.5	2.0
	inc. Built-in EMC	1.14	1.76	1.76	2.22

3-Phase 400V (0.4 to 22kW) Specifications

MDLV□□□□100G-4□□□□□		0004	0008	0015	0022	0037	0055	0075	0110	0150	0185	0220
Motor rating	Heavy Duty kW	0.4	0.75	1.5	2.2	3.7	5.5	7.5	11.0	15.0	18.5	22.0
	Normal Duty kW	0.75	1.5	2.2	3.7	4.0	7.5	11.0	15.0	18.5	22.0	30.0
Output rating	Capacity Heavy Duty kVa	1.0	1.9	3.0	4.2	6.1	9.1	12.2	18.3	22.9	29.7	34.3
	Capacity Normal Duty kVa	1.5	2.4	3.9	5.3	7.6	12.2	17.5	22.9	29.0	33.5	44.2
	Rated Current Heavy Duty	1.3	2.5	4.0	5.5	8.0	12.0	16.0	24.0	30.0	39.0	45.0
	Rated Current Normal Duty	2.0	3.1	5.1	6.9	10.0	16.0	23.0	30.0	38.0	44.0	58.0
	Frequency Hz	0-400Hz (IM sensorless 0-120 Hz)										
	Voltage	3-phase 380-480V										
Input rating	Voltage	3-phase 380-480V AC (-15% to +10%)										
	Frequency Hz	50-60Hz (±5%)										
	Rated Heavy Duty	1.1	2.4	4.2	5.9	8.7	12.9	17.5	26.5	33.4	43.6	50.7
	Current (A) Normal Duty	2.0	3.3	5.5	7.5	10.8	17.5	25.4	33.4	42.5	49.5	65.7
Weight kg		0.9	1.9	1.3	1.5	2.0	3.3	3.4	4.6	4.8	7.5	7.5
	inc. Built-in EMC	1.18	1.18	1.77	1.80	2.23	-	-	-	-	-	-

3-Phase 400V (30 to 75kW) Specifications

MDLV□□□□100G-4□□□□□		0300	0370	0450	0550	0750
Motor rating	Heavy Duty kW	30.0	37.0	45.0	55.0	75.0
	Normal Duty kW	37.0	45.0	55.0	75.0	90.0
Output rating	Capacity Heavy Duty kVa	46.5	57.2	69.4	83.8	115.8
	Capacity Normal Duty kVa	57.2	69.4	81.5	108.2	128.8
	Rated Current Heavy Duty	61.0	75.0	91.0	110.0	152.0
	Rated Current Normal Duty	75.0	91.0	107.0	142.0	169.0
	Frequency Hz	0-400Hz (IM sensorless 0-120 Hz)				
	Voltage	3-phase 380-480V				
Input rating	Voltage	3-phase 380-480V AC (-15% to +10%)				
	Frequency Hz	50-60Hz (±5%)				
	Rated Heavy Duty	56.0	69.0	85.0	103.0	143.0
	Current (A) Normal Duty	69.0	85.0	100.0	134.0	160.0
Weight kg		25.8	34.4	34.4	41.8	43.8
	inc. Built-in EMC	-	-	-	-	-

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Control Specifications

Control method	V/f, Slip compensation, Sensorless vector*
Frequency setting resolution	Digital command: 0.01Hz / Analog command: 0.06Hz (maximum frequency: 60Hz)
Frequency accuracy	1% of the maximum output frequency
V/f pattern	Linear, Squared, User V/F
Overload capacity	HD: 150% 1 minute, ND: 120% 1 minute
Torque boost	Manual / Automatic torque boost

*Available upon request. Please contact Regal for PM sensorless function.

Operation Specifications

Operation mode		Keypad / Terminal / Communication option selectable	
Frequency setting		Analog : -10 to 10[V], 0 to 10[V], 4 to 20[mA] / Digital : Keypad, Pulse train input	
Operation function		PID control, 3-wire operation, Frequency limit, Second function, Anti-forward and reverse direction rotation, Commercial transition, Speed search, Power braking, Leakage reduction, Up-down operation, DC braking, Frequency jump, Slip compensation, Automatic restart, Automatic tuning, Energy buffering, Flux braking, Fire Mode	
Input	Multi-function terminal Standard I/O (5 points) Multiple I/O (7 points)	NPN (Sink) / PNP (Source) Selectable	
		Function: Forward run, Reverse run, Reset, External trip, Emergency stop, Jog operation, Multi-step frequency high,middle, low, Multi-step acceleration/ deceleration-high, middle, low, DC braking at stop, 2nd motor select, Frequency up/down, 3-wire operation, Change into normal operation during PID operation, Change into main body operation during option operation, Analog command frequency fixing, Acceleration/deceleration stop etc. Selectable	
	Analog Input	V1: -10 to 10V, selectable V2: 0 to 10V/I2 4 tp 20mA	
	Pulse train	0Hz to 32kHz, Low level: 0 to 0.8V, High level: 3.5 to 12V	
Output	Open collector terminal	Fault output and drive operation status output	less than DC 24V 50mA
	Multi-function relay		(N.O., N.C.) less than AC 250V 1A, less than DC 30V 1A
	Analog output	Selectable A0; V: 0 to 10V/0 to 20mA; Frequency, Output current, Output voltage, DC stage voltage etc. selectable	
	Pulse train	Maximum 32kHz, 10 to 12 [V]	

Protective Function Specifications

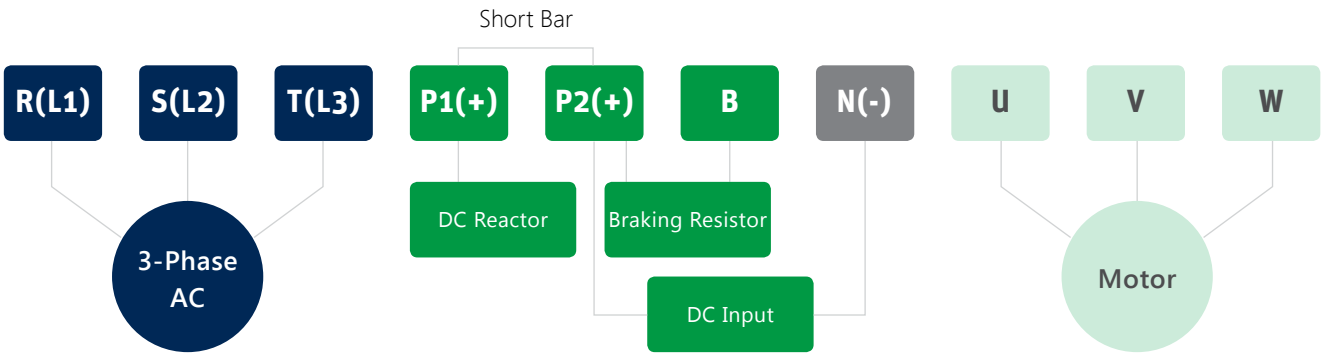
Trip	Over current trip, External signal trip, ARM short circuit current trip, Over heat trip, Input imaging trip, Ground trip, Motor over heat trip, I/O board link trip, No motor trip, Parameter writing trip, Emergency stop trip, Command loss trip, External memory error, CPU watchdog trip, Motor normal load trip, Over voltage trip, Temperature sensor trip, Drive over heat, Option trip, Output imaging trip, Drive overload trip, Fan trip, Pre-PID operation failure, External break trip, Low voltage trip during operation, Low voltage trip, Safety A(B) trip, Analog input error, Motor overload trip,
Alarm	Command loss trip alarm, overload alarm, normal load alarm, drive overload alarm, fan operation alarm, resistance braking rate alarm, number of corrections on rotor tuning error
Momentary power loss	HD below 15ms (ND below 8ms): Continuous operation (To be within rated input voltage, rated output) HD above 15ms (ND above 8ms): Automatic restart operation enable

Environment Specifications

Cooling type	Forced fan cooling structure Forced cooling type : 0.4 to 15 kW 200V/0.4 to 22 kW 400V (excluding some models)
Protection degree	IP20/UL Open (Default), UL Enclosed Type 1 (Option), IP66/NEMA 4X (Option)
Ambient temperature	Ambient temperature under the condition of no ice or frost. HD: -10 to 50°C / ND: -10 to 40°C [However, recommended to use load below 80% when using at 50°C under light load]
Storage temperature	-20 to 65 degrees C
Humidity	Relative humidity below 90% RH (no dew formation)
Altitude, vibration	Below 1,000m, below 5.9m/sec2 (0.6G)
Location	No corrosive gas, flammable gas, oil mist and dust etc. indoors (pollution degree 2 environment)
Pressure	70 to 106 kPa

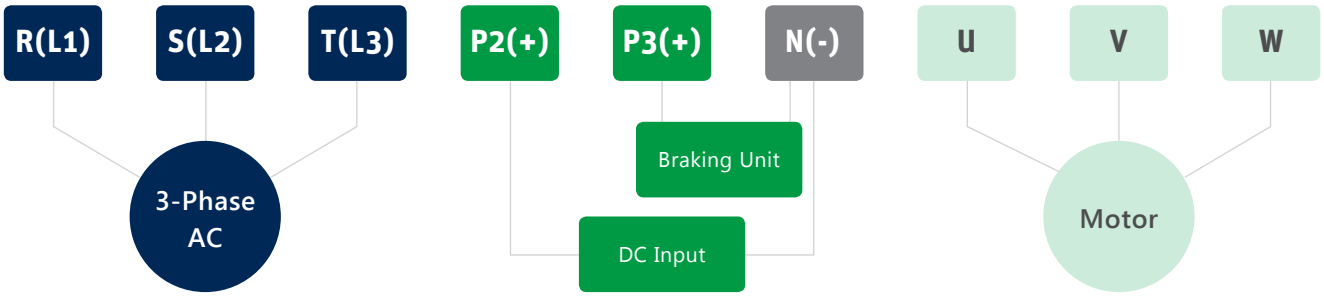
Control Terminal Specifications / Wiring

0.4 to 22kW



※Short bar should be removed when wiring DC reactor.
※1-Phase 200V 0.4kW, 3-Phase 200/400V 0.4 to 0.75kW : Short bar or DC reactor should be connected.

30 to 75kW



Drive Model		Screw	Torque	Wire			
				mm2		AWG	
			Kgf • cm	R.S.T	U.V.W	R.S.T	U.V.W
200V 1-Phase	0.4kW	M3.5	2.1 - 6.1	2	2	14	14
	0.75kW	M3.5	2.1 - 6.1	2	2	14	14
	1.5kW	M3.5	2.1 - 6.1	2	2	14	14
	2.2kW	M4	2.1 - 6.1	3.5	3.5	12	12
	0.4kW	M3.5	2.1 - 6.1	2	2	14	14
	0.75kW	M3.5	2.1 - 6.1	2	2	14	14
	1.5kW	M3.5	2.1 - 6.1	2	2	14	14
	2.2kW	M3.5	2.1 - 6.1	2	2	14	14
	3.7kW	M4	2.1 - 6.1	2	2	14	14
	4kW	M4	2.1 - 6.1	2	2	14	14
400V 3-Phase	5.5kW	M4	2.1 - 6.1	2.5	2.5	14	14
	7.5kW	M4	2.1 - 6.1	4	4	12	12
	11kW	M5	4.0 - 10.2	4	4	12	12
	15kW	M5	4.0 - 10.2	6	6	10	10
	18.5kW	M5	4.0 - 10.2	10	10	8	8
	22kW	M5	4.0 - 10.2	16	10	8	8
	30-37kW	M8	61.2 - 91.8	25	25	4	4
	45-75kW	M8	61.2 - 91.8	70	70	1/0	1/0

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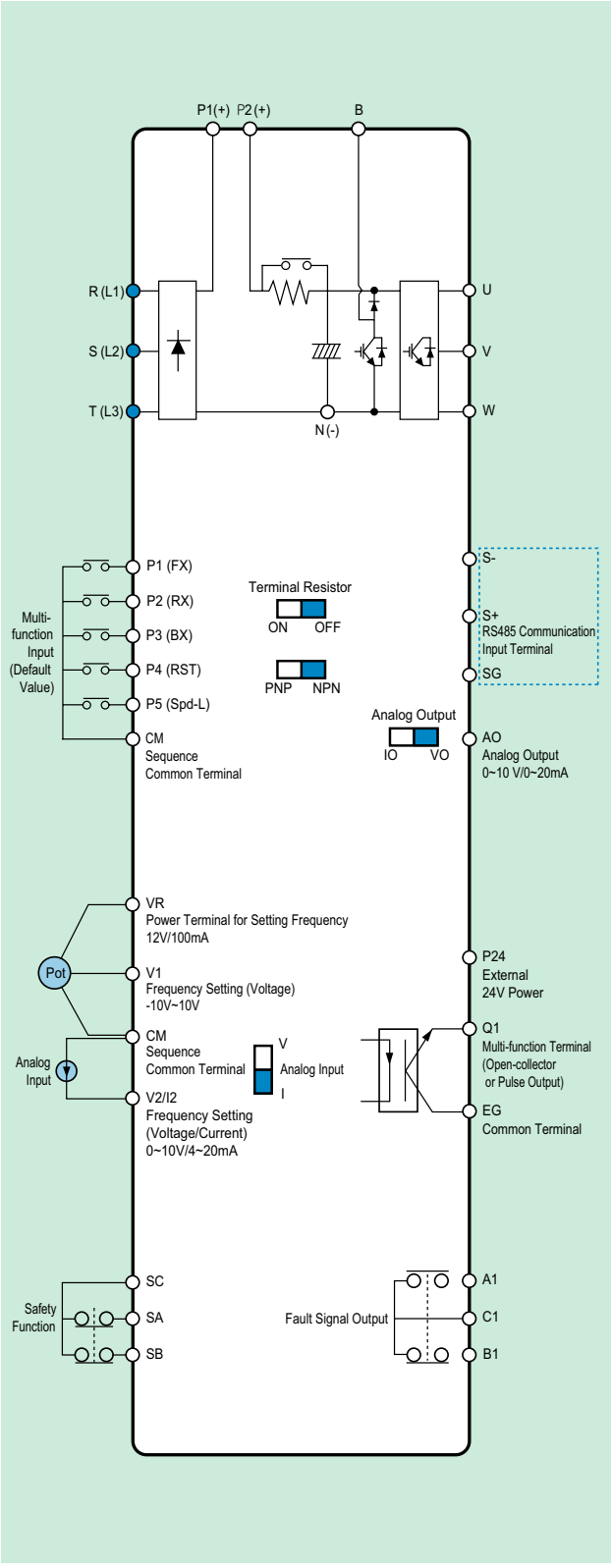
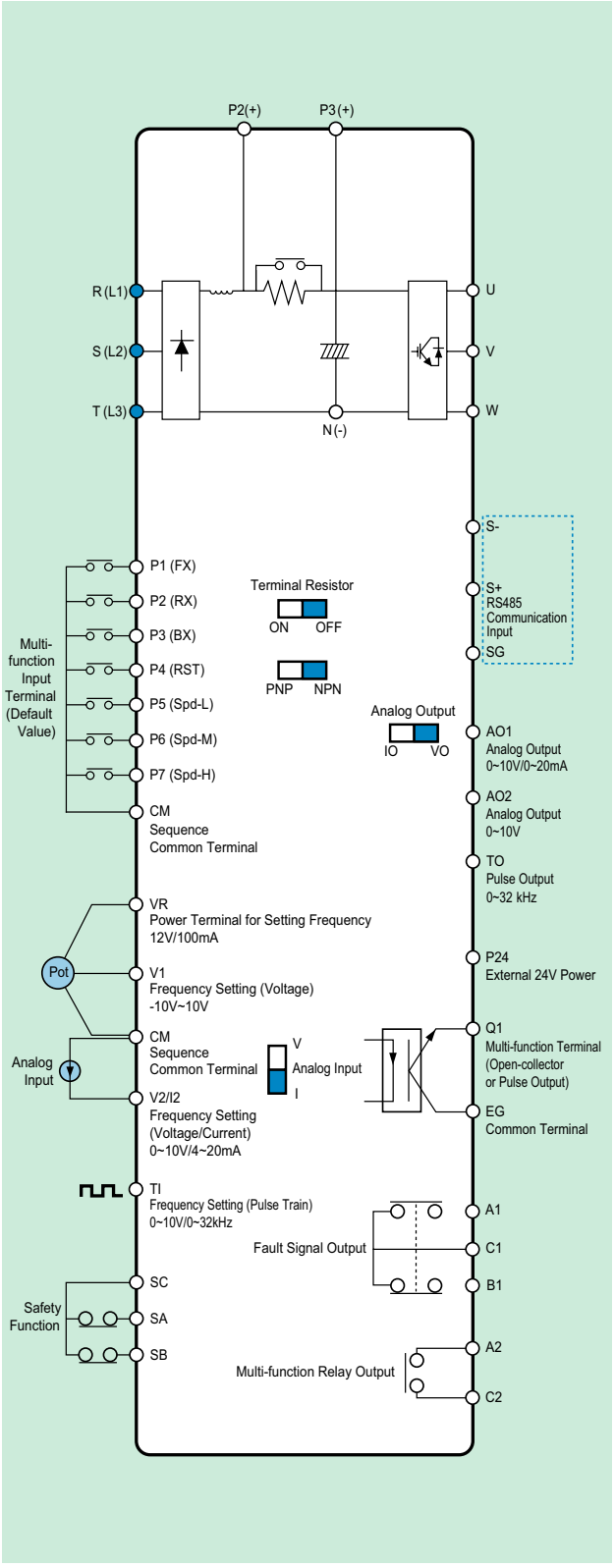
Wiring (Standard I/O)

0.4 to 22kW



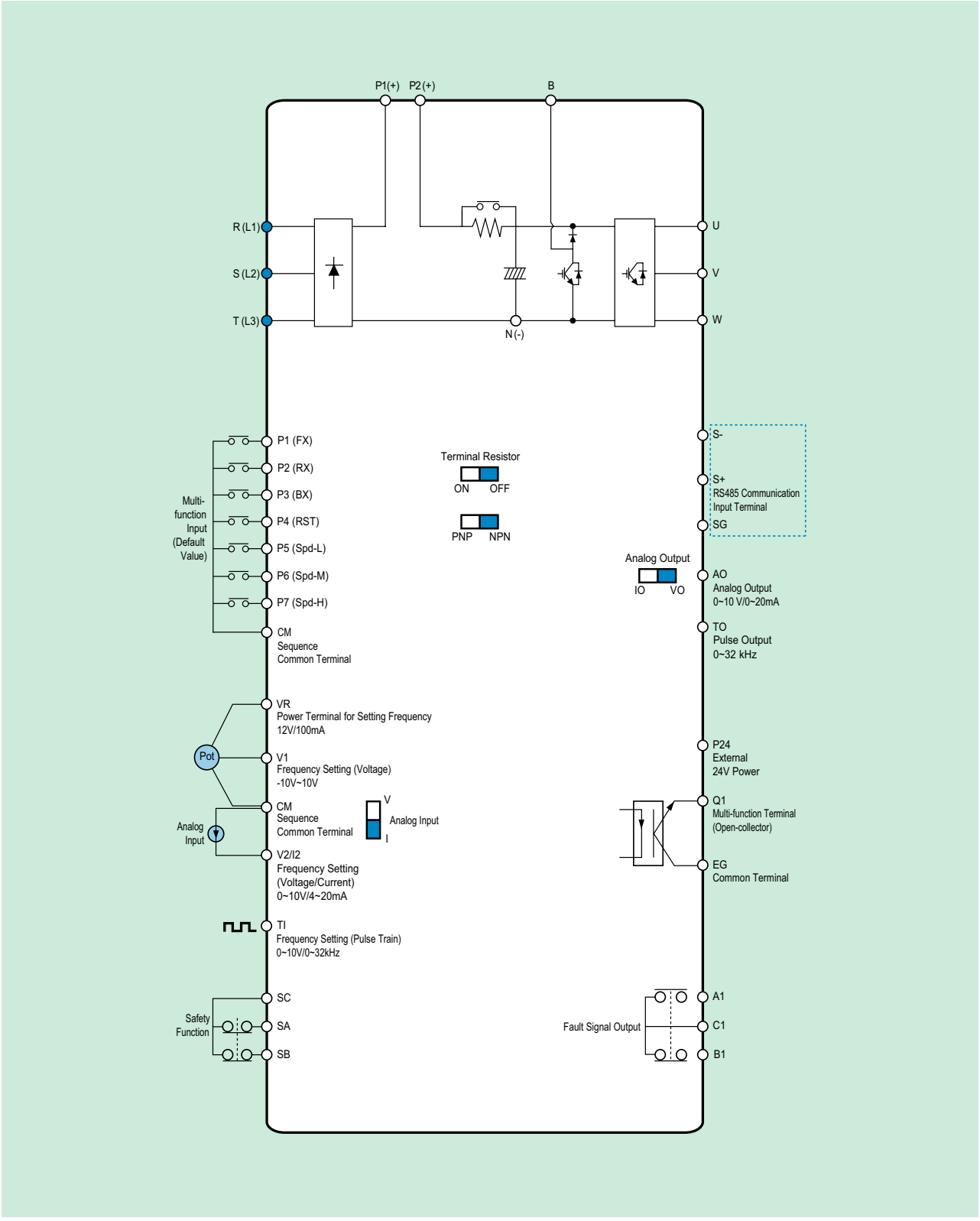
30 to 75kW



※Default is marked in blue.

Wiring (Multiple I/O)

0.4 to 22kW

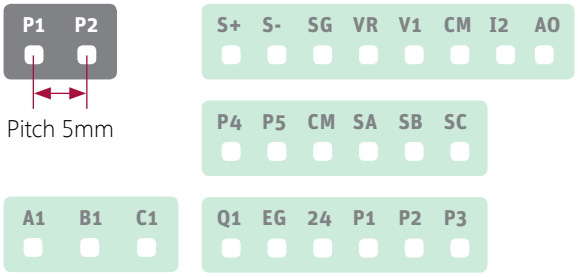


※Default is marked in blue.

Terminal Configuration

Standard I/O

0.4 to 22kW



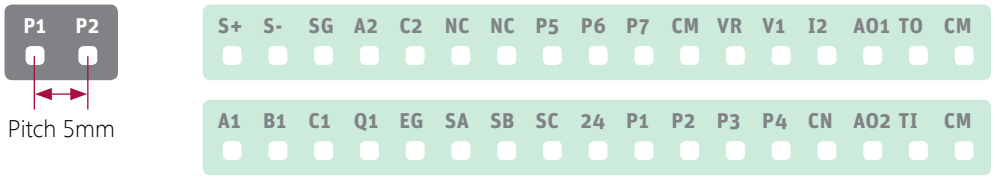
Multiple I/O

0.4 to 22kW

※MD100G can be supplied with either standard I/O or extension I/O

Standard I/O

30 to 75kW



※I/O board is supplied built-in. LCD loader can be mounted on the front of the drive. ※NC: Terminal not in use.

Terminal Type	Recommended Wire Size (mm2) (AWG)		Screw	Torque	Electrical Specifications
	No Crimp-style Terminal	Crimp-style Terminal		N.m	
P1 - P7, CM	0.75 (18)	0.5 (20)	M2	0.22 - 0.25	
VR					Max output V/I : 12V, 100mA, volume resistor 1 to 5kΩ
V1					UNIPOLAR : 0 ~ 10V (max12V) BIPOLAR : -10 ~ 10V(max ±12V)
I2					4 to 20mA (max 0 to 24mA), input resistor 249Ω.
AO1					0 to 10V(max output V/I : 12V, 10mA) 0 to 20mA (Load resistor less than 500 Ω, max output current : 24mA)
AO2					0 to 10V(max output V/I : 12V, 10mA)
Q1					Less than DC 26V, 100mA
EG					
24					Max output current : 150mA
TI					0 to 32kHz (Low Level : 0 to 0.8V, High Level : 3.5 to 12V)
TO					0 to 32kHz, 0 to 12V
SA, SB, SC					Less than DC 24V, 25mA
S+, S-, SG					
A1, B1, C1	1.0 (17)	1.5 (15)	M2.6	0.4	Less than AC250V 1A, less than DC30V 1A
A2, C2					Less than AC250V, 5A, less than DC30V, 5A

Keypad Functions

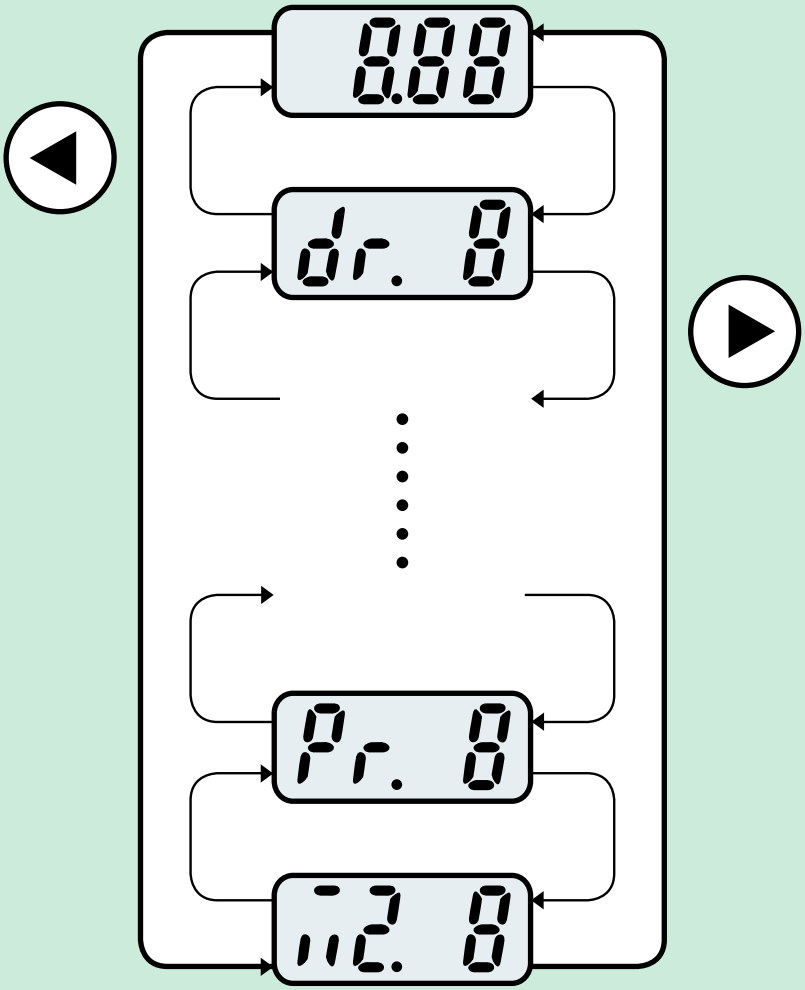
Display	Term	Function Description	
RUN	RUN Key	Run command	
STOP RESET	STOP/RESET Key	STOP: Stop command during operation, RESET: Reset command when a fault occurs.	
^	UP Key	Used to scroll through codes or to increase a parameter value	
v	DOWN Key	Used to scroll through codes or to decrease a parameter value	
<	Left Key	Used to jump to other parameter groups or move the cursor to the left	
>	Right Key	Used to jump to other parameter groups or move the cursor to the right	
ENT	Enter Key	Used to set a parameter value or to save the changed parameter value	
ESC	Escape Key	Used to cancel the Jog or Remote/Local change key or when editing	
FWD	Forward Run	Illuminated during forward run	Flickering when a fault occurs
REV	Reverse Run	Illuminated during reverse run	
RUN	RUN Key	Illuminated during operation (flickering during acceleration/deceleration)	
SET	Setting	Illuminated during parameter setting/Flickering when the ESC key is operating as a multi-key	
7-Segment	Current Value	Indicates operating conditions and parameter data	

Moving to other Groups

Group Name	Display	Function Description
Operation Group*	-	The most basic parameters required for operation such as a target frequency, acceleration/ deceleration time.
Drive Group (Drive)	dr	Basic operation parameters and parameters related to keypad operation, such as jog operation, motor capacity selection, torque boost.
Basic Function Group (Basic)	bA	This group contains basic functions such as motor parameters and multi-step frequencies.
Advanced Function Group (Advanced)	Ad	This group contains acceleration/deceleration patterns and frequency limit functions etc.
Control Function Group (Control)	Cn	This group contains functions related to sensorless and vector control.
Input Terminal Block Function Group (Input Terminal)	In	This group contains functions related to the drive input terminal block such as multi-function digital input and analog input.
Output Terminal Block Function Group (Output Terminal)	OU	This group contains functions related to the drive output terminal block such as relay and analog output.
Communication Function Group (Communication)	Cm	This group contains RS485 communication setting parameters.
Application Function Group (Application)	AP	This group contains functions for the PID control sequence operation etc.
Protective Function Group (Protection)	Pr	This group contains protective functions for motors and drive.
Motor Function● (Motor 2)	M2	This group contains parameter settings for a second motor to be connected.

*Indicates only the target frequency when LCD keypad is installed.
●Visible only when setting the function item of In.65~71 multi-function input terminal as no.26(2nd Motor).

How to move between groups in the first code of each group

Group Name	Display	Group Movement
Operation Group*	-	
Drive Group (Drive)	dr	
Basic Function Group (Basic)	bA	
Advanced Function Group (Advanced)	Ad	
Control Function Group (Control)	Cn	
Input Terminal Block Function Group (Input Terminal)	In	
Output Terminal Block Function Group (Output Terminal)	OU	
Communication Function Group (Communication)	Cn	
Application Function Group (Application)	AP	
Protective Function Group (Protection)	Pr	
Motor Function● (Motor 2)	M2	

*Indicates only the target frequency when LCD keypad is installed. The first code of the operation group is a place to set a target frequency.
It had been set as 0.00 when shipping from the factory, however, if a user changes the operating frequency, it indicates the changed operating frequency.
●Visible only when setting the function item of In.65~71 multi-function input terminal as no.26(2nd Motor).

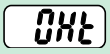
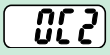
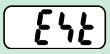
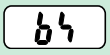
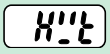
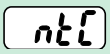
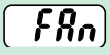
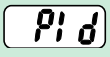
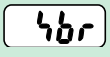
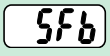
Keypad Functions - Protective Functions for Output Current and Input Voltage

Display	LCD Indication	Type	Description
OLt	Over Load	Latch	Displayed when motor overload protection is selected and the load exceeds the set value. It works only if Pr.20 is set as a value other than 0.
ULt	Under Load	Latch	Displayed when the under-load protection function is selected and the motor load is below the set normal duty level. It works only if Pr.27 is set as a value other than 0.
OCt	Over Current 1	Latch	Displayed when the drive output current rises above 200% of rated current.
Ovt	Over Voltage	Latch	Displayed when the voltage of the DC circuit increases above the specified value.
Lvt	Low Voltage	Level	Displayed when the voltage of the DC circuit decreases below the specified value.
Lv2	Low Voltage2	Latch	Displayed when the voltage of the DC circuit decreases below the specified value when operating the drive.
GFt	Group Trip	Latch	Displayed when current is flowing above the specified value because of a ground fault at the drive output stage. The ground fault detection current is different for each drive capacity.
EtH	E-Thermal	Latch	Prevents overheating when operating a motor in overload for an extended time period and operates according to inverse time characteristics. It works only if Pr.40 is set as a value other than 0.
POt	Out Phase Open	Latch	Displayed when any output phase to the 3-phase motor is open circuit. It works only if bit 1 of Pr.05 is set as 1.
IPO	In Phase Open	Latch	Displayed when any output phase to the 3-phase motor is open circuit. It works only if bit 2 of Pr.05 is set as 1.
IOL	Drive OLT	Latch	Inverse time thermal property protection function for protecting the drive from overheating. The criteria is 150%, 1 minute, 200%, 4 seconds based on the drive rated current. The 200%, 4 seconds is different for each drive capacity.
nit	No Motor Trip	Latch	Displayed when a motor is not connected when operating the drive. It works only if Pr.31 is set as 1.

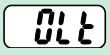
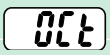
Keypad Functions - Protective Functions by the Keypad and Option

Display	LCD Indication	Type	Description
LOr	Lost Command	Level	This fault is displayed if the frequency or operation command signal is lost when using any methods other than keypad commands. It works if Pr.12 is set as a value other than 0.
IOt	IO Board Trip	Latch	Displayed when a basic I/O or external communication card is not connected with the drive or the contact condition is poor.
S100		Latch	- 'MD100' is displayed when I/O is disconnected from the main CPU. - If the MD100 code is displayed for more than 5 seconds ErrC occurs.
ErrC		Latch	
PAr	ParaWrite Trip	Latch	Displayed when there is no communication while writing parameters due to a loader cable fault or bad connection etc.
OPt	Option Trip-1	Latch	Displayed when there is a communication error between the drive main body and a communication option board.

Protective Functions by Internal Circuit Faults and External Signals

Display	LCD Indication	Type	Description
	Over Heat	Latch	A fault occurs if the temperature of the drive heat sink rises above the specified value.
	Over Current2	Latch	A fault occurs if the DC unit in the drive detects a short-circuit current value.
	External Trip	Latch	Indicates that a fault has occurred to wiring connected to a multi-function terminal that has been configured as 'External trip' (Data code 4 set in function IN 65 ~71)
	BX	Level	Indicates that a signal has been received to a multi-function terminal that has been configured as 'BX Base Block' (Data code 5 set in function IN 65 ~71)
	H/W-Diag	Fatal	There is an internal fault on the memory (EEPRom), analog-digital converter output (ADC Off Set), and CPU malfunction (Watch Dog-1, Watch Dog-2) etc. in the drive. - EEP Err: There is an internal fault when reading/writing parameters due to KPD EEP Rom damage. - ADC Off Set: There is a fault with the internal current sensing circuit.
	NTC Open	Latch	This fault occurs if an error is detected in the temperature detecting sensor of the power semiconductor (IGBT).
	Fan Trip	Latch	This fault occurs if a cooling fan error is detected. It works if Pr.79 is selected as 0.
	Pre-PID Fail	Latch	While operating Pre-PID by setting a function between AP.34~36, if the control value(PID feedback)is continuously entered below the set value, this fault is displayed.
	Ext-Brake	Latch	This error can happen when operating external brake signals and any of the multi-function input terminals have been configured accordingly. If the drive output current at starting is held at less than Ad-41 level this fault is output. Set one of OU-31, 32 as no. 35 BR Control.
	Safety A(B) Err	Level	This error occurs if a fault with the safety inputs occur. If either input A or B is missing, the drive will display this fault code.

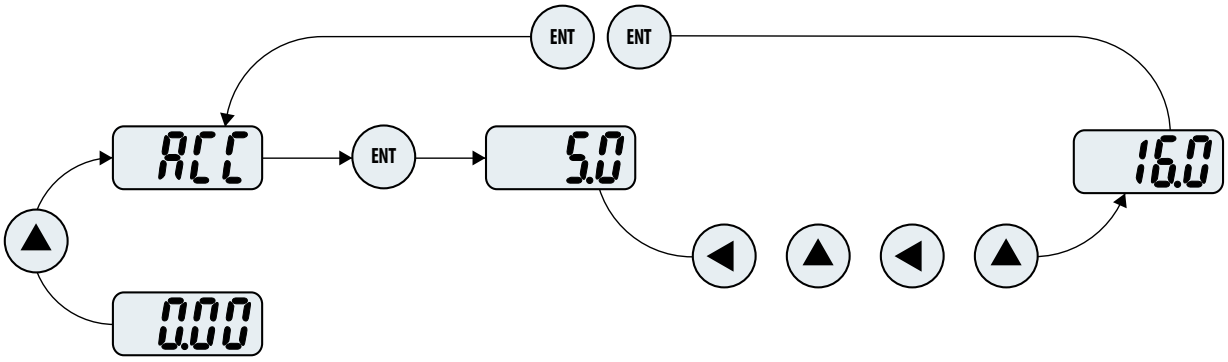
Fault Recovery

Display	Type	Cause	Solution
	Over Load	Load is larger than the motor rating. The value set in the overload fault level (Pr.21) is too small.	Increase the capacity of motor and drive. Increase the set value of the overload fault level
	Under Load	There is a problem in the connection between the motor and the load. The normal duty level (Pr.29, 30) is set larger than minimum load of the system.	Decrease the capacity of motor and drive. Lower the set value of the light load level.
	Over Current1	The acceleration/deceleration is too short for the inertia of load(GD2). The drive load is larger than the rating. The drive output is applied when the motor is idling. Motor mechanical brake is on.	Set the acceleration/deceleration time longer. Replace with an drive with large capacity. Operate after the motor stops or use the speed search function. Check the mechanical brake.

Fault Recovery

Display	Type	Cause	Solution
OUt	Over Voltage	The deceleration time is too short compared to the inertia of load (GD2). A regenerative load is connected to the drive output. AC input voltage is high.	Set the deceleration time longer. Use a braking resistor. Check whether the AC input voltage is above the specified value.
LUt	Low Voltage	AC input voltage is low. Larger load than the power capacity is connected to the power system. (Welding machine or motor line-start etc.) A device on the power input side of the drive is defective.	Check whether the AC input voltage is below the specified value. Increase the power capacity. Replace the electromagnetic contactor.
Lu2	Low Voltage2	AC input voltage is lowered during operation. There is an input open phase under the low AC input voltage condition. A device on the power input side of the drive is defective.	Check whether the AC input voltage is below the specified value. Check the input wiring. Replace the electromagnetic contactor.
GFt	Ground Trip	The drive output wire has a ground fault. The motor insulation has failed.	Investigate the drive output terminal wiring. Replace the motor.
EtH	E-Thermal	The motor is overheated. The drive load is larger than the rating. Electronic thermal level is set low. The drive has been operating at low speed for a long time.	Reduce the load or the operating frequency. Increase the drive capacity. Set the appropriate electronic thermal level. Force cool the motor.
POt	Out Phase Open	Bad connection or open circuit at an output device. Output wiring & defect occurred.	Check for faulty/open device on the drive output device. Check the output wiring.
IPO	In Phase Open	Bad connection on a device on the drive input side. Input wiring defect occurred. Consider replacing the drive DC unit condenser.	Check the device at the drive input side. Check the input wiring. Replace the drive DC unit condenser. Contact the nearest service center.
IOL	Drive OLT	Load is larger than the drive rating. The torque boost amount is too large.	Increase the capacity of motor and drive. Reduce the torque boost amount.
OHt	Over Heat	There is a problem with the cooling system. The drive has been used for a longer time than the replacement period of cooling fan. Ambient temperature is high.	Check whether there is a foreign substance in the vent such as the air inlet and outlet. Replace the drive cooling fan. Keep the temperature around the drive below 50°C.
OC2	Over Current2	The drive output wiring is short-circuited. There is a problem in the drive power semiconductor (IGBT).	Investigate the drive output terminal wiring. The drive cannot be operated. Contact the nearest service center.
ntC	NTC Open	Ambient temperature is too low. There is a problem in the temperature sensor inside the drive.	Operate the drive at a place where ambient temperature is above -10°C. Contact the nearest service center.
FAn	FAN Lock	Foreign substances have entered into the drive vent where the fan is located. Consider replacing the drive cooling fan.	Check the air inlet and outlet. Replace the drive cooling fan.
FAn	IP66 FAN Trip	The fan connector is not connected. Consider replacing the drive cooling fan.	Connect the fan connector. Replace the drive cooling fan.

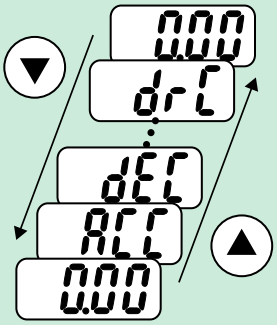
An example of changing the acceleration time from 5.0 seconds to 16.0 seconds



1	0.00	■ Indicate the first code information of the operation group. ■ Press the UP key (▲)
2	ACC	■ Indicate the acceleration time ACC that is the second code of the operation group. ■ Press the ENTER key (ENT).
3	5.0	■ 0 in 5.0 flickers at 1-second interval. ■ Press the Left Shift key (◄)
4	5.0	■ 5 in 5.0 flickers, which indicates that the value of 5 can be changed. ■ Press the UP key (▲)
5	6.0	■ The value is changed into 6.0. ■ Press the Left Shift key (◄)
6	06.0	■ As 0 in 06.0 flickers, it indicates 06.0. ■ Press the UP key (▲)
7	16.0	■ 16.0 is indicated. Press the ENTER key (ENT). ■ 16.0 flickers. Press the ENTER key (ENT).
8	ACC	■ ACC is indicated. The acceleration time is changed into 16.0 second.

*Flickering when modifying a parameter is for asking whether you are going to enter the value. When pressing the enter key (ENT) at this step, the input is completed. If you do not want to enter the modified value, you can press the left, right, up or down keys (◄) (►) (▲) (▼) except the enter key (ENT) in the ON condition to cancel the input.

How to Move between Codes in the operation group



1	0.00	■ Indicates 0.00 that is the first code of the operation group. ■ Press the UP key (▲)
2	ACC	■ Indicates ACC that is the second code of the operation group. ■ Press the UP key (▲)
3	dEC	■ Indicates dEC that is the third code of the operation group. ■ Press the UP key (▲)
4	drC	■ Indicates drC that is the last code of the operation group. ■ Press the UP key (▲) once again on the last code of the operation group.
5	0.00	■ Return to the first code of the operation group.
		■ Using the DOWN key (▼), you can move in the opposite order of the above.

Braking Resistors

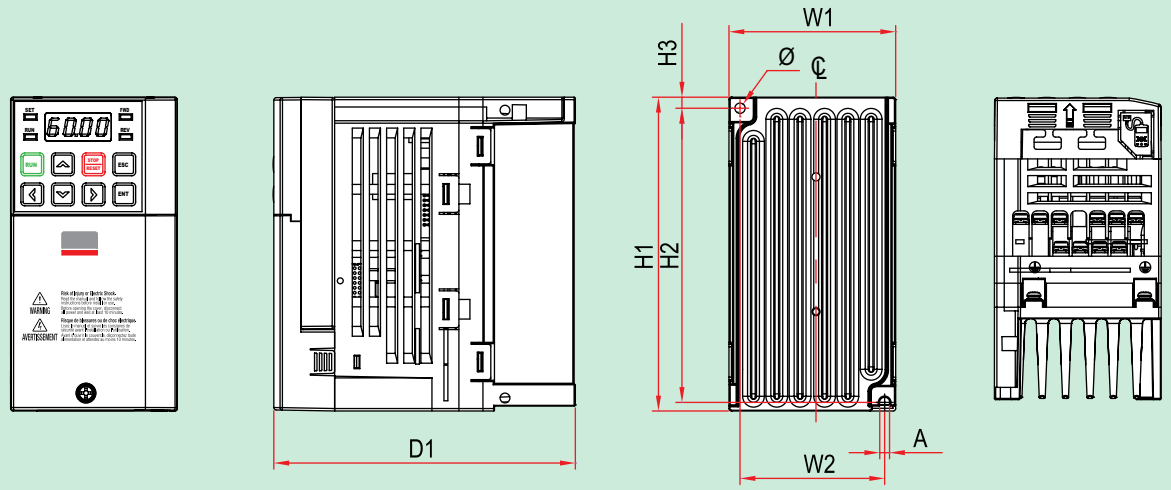
150% Braking Torque, 5% ED						
Motor Rating	200V 1-Phase		200V 3-Pase		400V 3-Phase	
	Resistor (ohm)	Watt (W)	Resistor (ohm)	Watt (W)	Resistor (ohm)	Watt (W)
0.4kW	300	100	300	100	1,200	100
0.75kW	150	150	150	150	600	150
1.5kW	60	300	60	300	300	300
2.2kW	50	400	50	400	200	400
3.7kW	-	-	33	600	130	600
4.0kW	-	-	33	600	130	600
5.5kW	-	-	20	800	85	1,000
7.5kW	-	-	15	1,200	60	1,200
11kW	-	-	10	2,400	40	2,000
15kW	-	-	8	2,400	30	2,400
18.5kW	-	-	-	-	20	3,600
22kW	-	-	-	-	20	3,600
30kW	-	-	-	-	12	5,000
37kW	-	-	-	-	12	5,000
45kW	-	-	-	-	6	10,000
55kW	-	-	-	-	6	10,000
75kW	-	-	-	-	6	10,000

※As ED (%) increases, watt (W) value increases proportionally.

Peripheral Devices

Voltage	Capacity	Rated Current (A)			
		Circuit Breaker (MCCB)		Leakage Breaker (ELCB)	Magnetic Contactor (MC)
1-Phase 200V	0.4kW	5	15	5	9
	0.75kW	10	15	10	11
	1.5kW	15	15	15	18
	2.2kW	20	20	20	22
3-Phase 400V	0.4kW	3	15	5	7
	0.75kW	5	15	5	7
	1.5kW	10	15	10	9
	2.2kW	10	15	10	12
	3.7kW	15	15	15	18
	4.0kW	20	20	20	18
	5.5kW	30	30	30	22
	7.5kW	30	30	30	32
	11kW	50	50	50	50
	15kW	60	60	60	65
	18.5kW	75	80	75	75
	22kW	100	90	100	85
	30kW	125	125	125	105
	37kW	150	150	150	130
	45kW	175	175	175	150
	55kW	225	225	225	185
	75kW	300	300	300	225

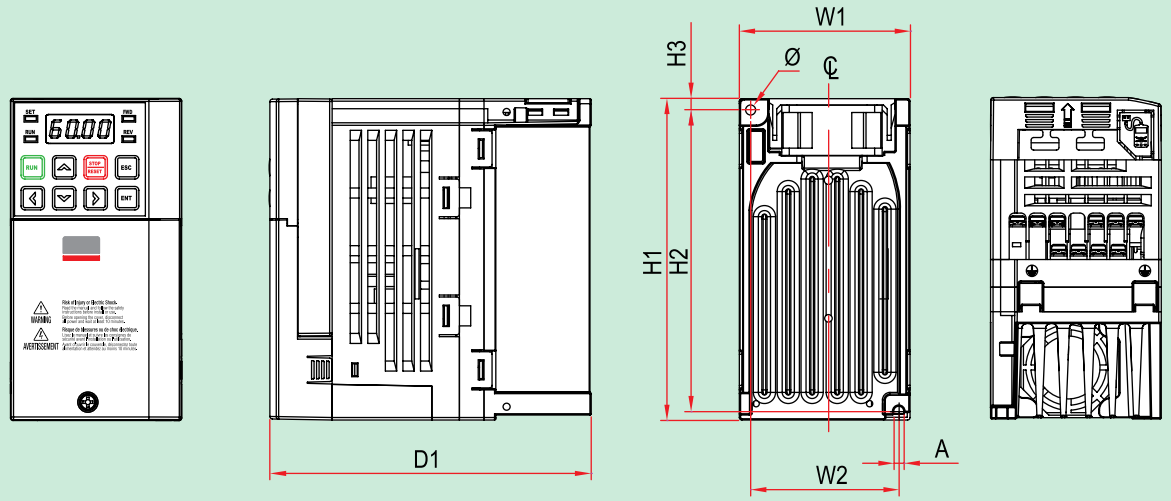
MDLV0004100G-2 & -4 Dimensions



Unit: mm & kg

Part Number	W1	W2	H1	H2	H3	D1	A	Ø	Weight
MDLV0004100G-2	68	61.1	128	119	5	123	4	4	0.86
MDLV0004100G-4	68	61.1	128	119	5	123	4	4	0.86

MDLV0004100G-1 / MDLV0008100G-2 & -4 Dimensions

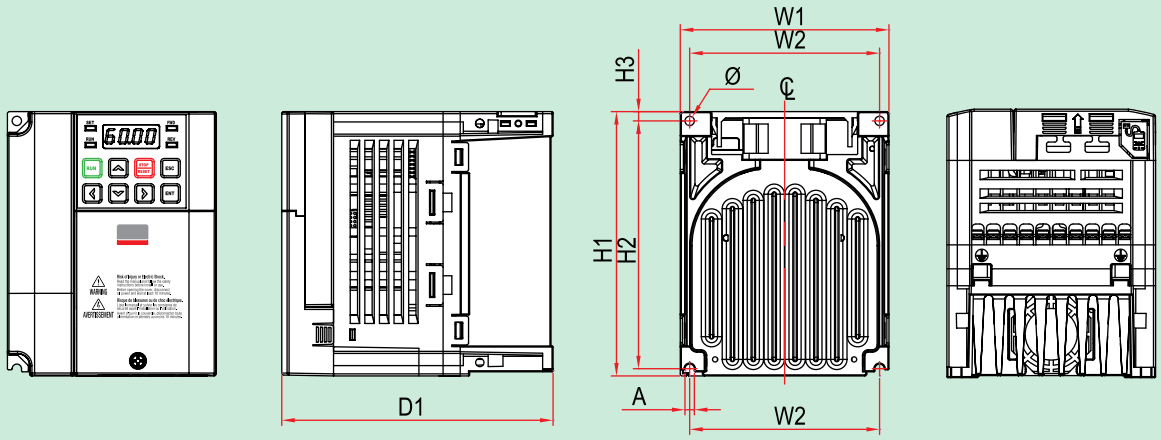


Unit: mm & kg

Part Number	W1	W2	H1	H2	H3	D1	A	Ø	Weight
MDLV0004100G-1	68	61.1	128	119	5	128	4	4	0.88
MDLV0008100G-2	68	61.1	128	119	5	128	4	4	0.86
MDLV0008100G-4	68	61.1	128	119	5	128	4	4	0.88

marathon™ Drives

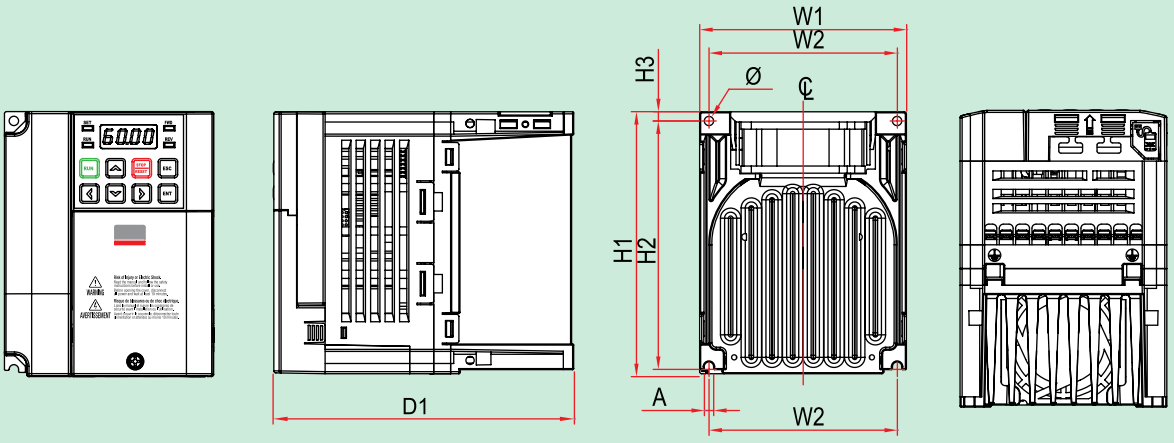
MDLV0008100G-1 / MDLV0015100G-2 & -4 Dimensions



Unit: mm & kg

Part Number	W1	W2	H1	H2	H3	D1	A	Ø	Weight
MDLV0008100G-1	100	91	128	120	4.5	130	4.5	4.5	1.3
MDLV0015100G-2	100	91	128	120	4.5	130	4.5	4.5	1.5
MDLV0015100G-4	100	91	128	120	4.5	130	4.5	4.5	1.5

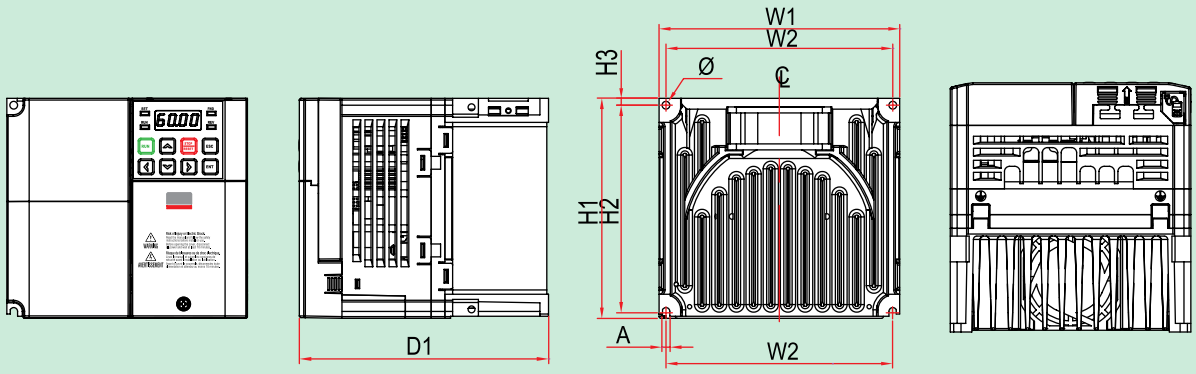
MDLV0015100G-1 / MDLV0022100G-2 & -4 Dimensions



Unit: mm & kg

Part Number	W1	W2	H1	H2	H3	D1	A	Ø	Weight
MDLV0015100G-1	100	91	128	120	4.5	145	4.5	4.5	1.5
MDLV0022100G-2	100	91	128	120	4.5	145	4.5	4.5	1.5
MDLV0022100G-4	100	91	128	120	4.5	145	4.5	4.5	1.5

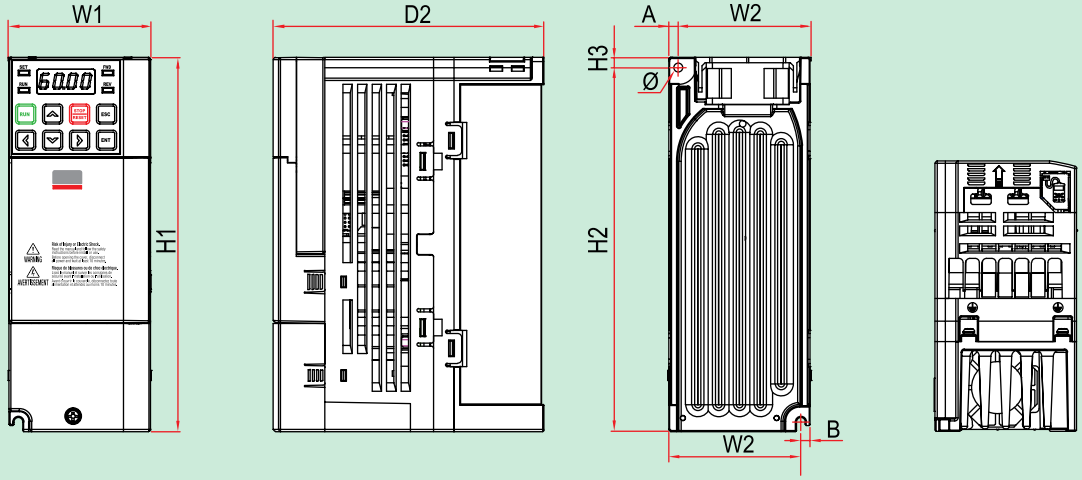
MDLV0022100G-1 / MDLV0037100G-2 & -4 / mdlv0040100g-2 & -4 Dimensions



Unit: mm & kg

Part Number	W1	W2	H1	H2	H3	D1	A	Ø	Weight
MDLV0022100G-1	140	132.2	128	120.7	3.7	145	4.4	4.5	2.2
MDLV0037100G-2	140	132.2	128	120.7	3.7	145	4.4	4.5	2.3
MDLV0037100G-4	140	132.2	128	120.7	3.7	145	4.4	4.5	2.7
MDLV0040100G-2	140	132.2	128	120.7	3.7	145	4.4	4.5	2.3
MDLV0040100G-4	140	132.2	128	120.7	3.7	145	4.4	4.5	2.7

MDLV0004100G-1 & -4 / MDLV0008100G-4 (Built-in EMC) Dimensions

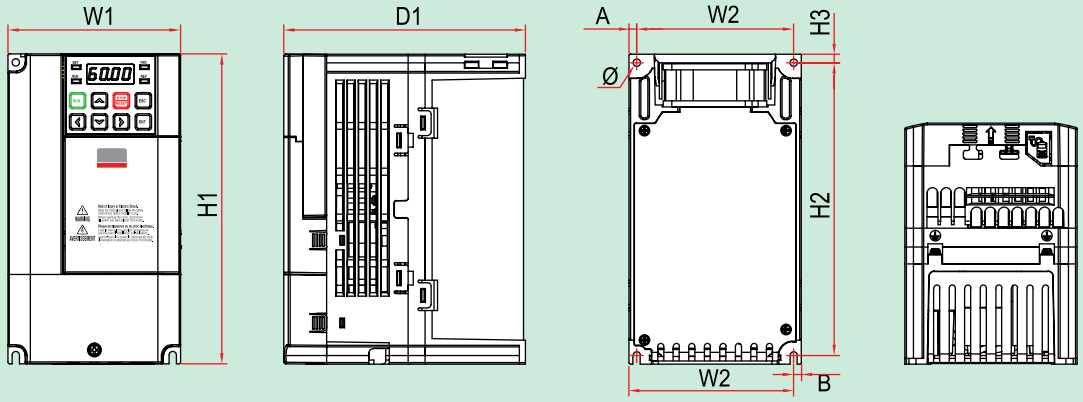


Unit: mm & kg

Part Number	W1	W2	H1	H2	H3	D1	A	B	Ø	Weight
MDLV0004100G-1*	68	63.5	180	170.5	5	130	4.5	4.5	4	1.1
MDLV0004100G-4*	68	63.5	180	170.5	5	130	4.5	4.5	4	1.2
MDLV0008100G-4*	68	63.5	180	170.5	5	130	4.5	4.5	4	1.2

*EMC filter built-in Class 2

MDLV00081000G-1 / MDLV00151000G-1 & -4 / MDLV00221000G-4 (Built-in EMC) Dimensions

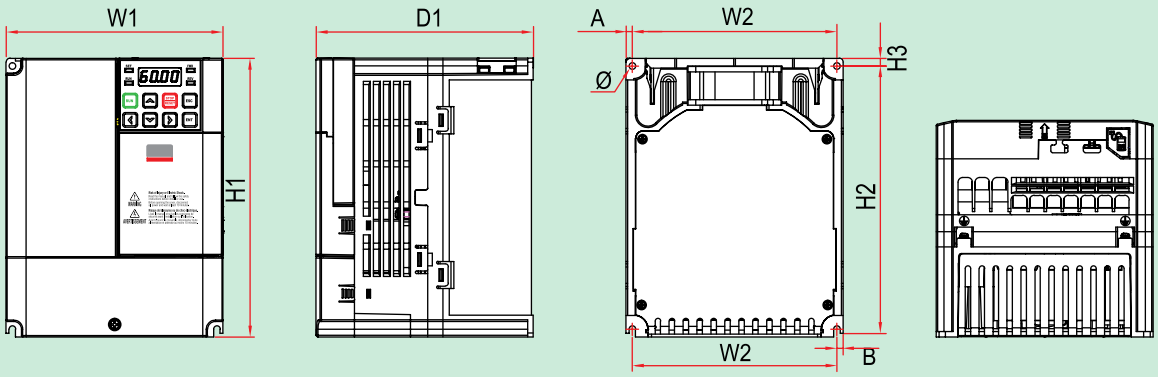


Unit: mm & kg

Part Number	W1	W2	H1	H2	H3	D1	A	B	Ø	Weight
MDLV0008100G-1*	100	91	180	170	5	140	4.5	4.5	4.5	1.8
MDLV0015100G-1*	100	91	180	170	5	140	4.5	4.5	4.5	1.8
MDLV0015100G-4*	100	91	180	170	5	140	4.5	4.5	4.5	1.8
MDLV0022100G-4●	100	91	180	170	5	140	4.5	4.5	4.5	1.8

*EMC filter built-in Class 2 ●EMC filter built-in Class 3

MDLV00221000G-1 / MDLV00371000G-4 / MDlv00401000G-4 (Built-in EMC) Dimensions

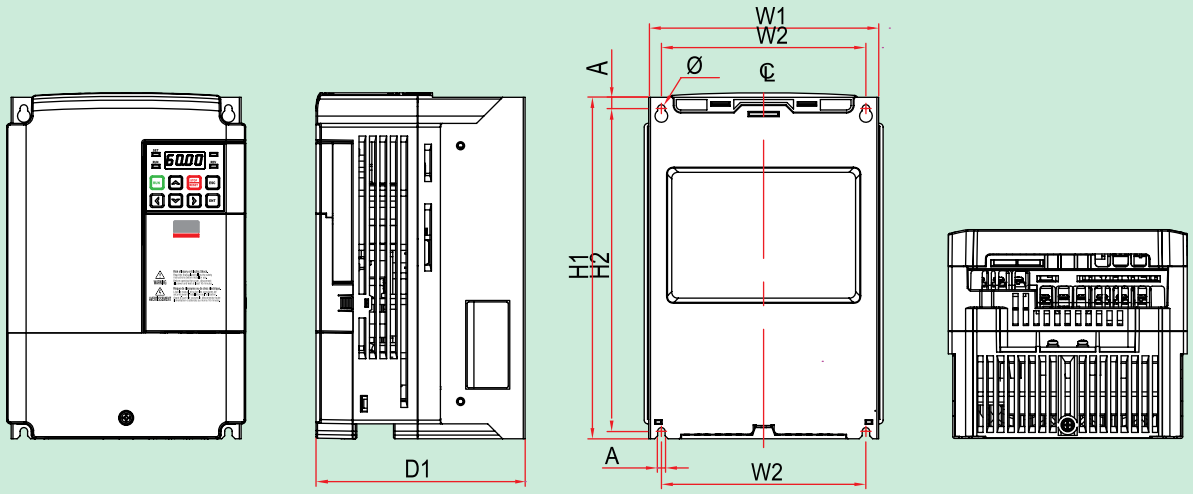


Unit: mm & kg

Part Number	W1	W2	H1	H2	H3	D1	A	B	Ø	Weight
MDLV0022100G-1*	140	132	180	170	5	140	4	4	4.5	2.2
MDLV0037100G-4●	140	132	180	170	5	140	4	4	4.5	2.2
MDLV0040100G-4●	140	132	180	170	5	140	4	4	4.5	2.2

*EMC filter built-in Class 2 ●EMC filter built-in Class 3

MDLV0055100G-2 & -4 / MDLV0075100G-2 & -4 Dimensions

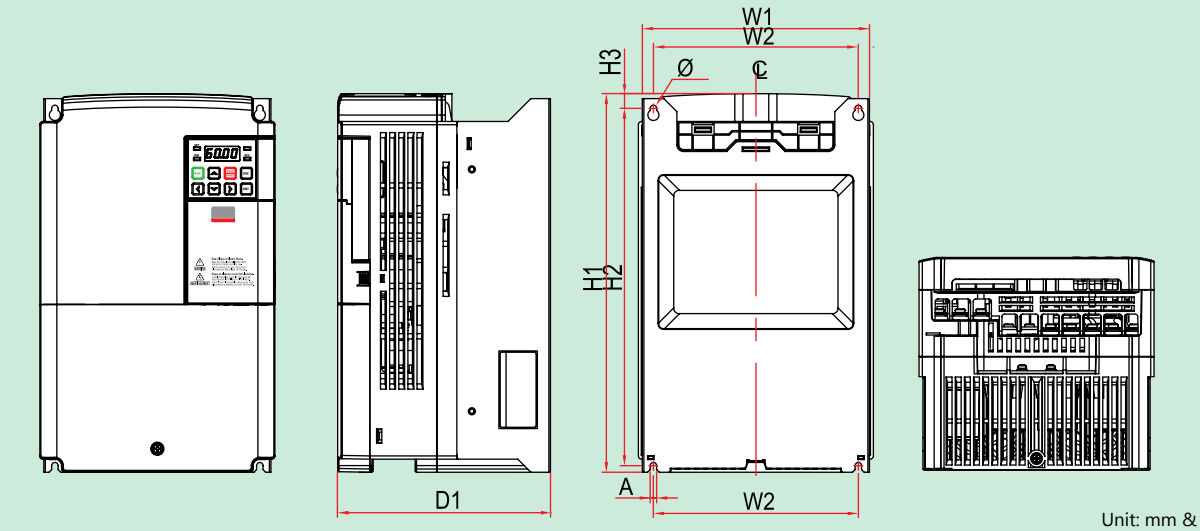


Unit: mm & kg

Part Number	W1	W2	H1	H2	H3	D1	A	Ø	Weight
MDLV0055100G-2	160	137	232	216.5	10.5	140	5	5	3.3
MDLV0075100G-2	160	137	232	216.5	10.5	140	5	5	3.3
MDLV0055100G-4●	160	137	232	216.5	10.5	140	5	5	3.3 / 3.4
MDLV0075100G-4●	160	137	232	216.5	10.5	140	5	5	3.3 / 3.4

●EMC filter built-in Class 3

MDLV0110100G-2 & -4 / MDLV0150100G-4 Dimensions



Unit: mm & kg

Part Number	W1	W2	H1	H2	H3	D1	A	Ø	Weight
MDLV0110100G-2	180	157	290	273.7	11.3	163	5	5	4.6
MDLV110100G-4●	180	157	290	273.7	11.3	163	5	5	4.6 / 4.8
MDLV150100G-4●	180	157	290	273.7	11.3	163	5	5	4.6 / 4.8

●EMC filter built-in Class 3

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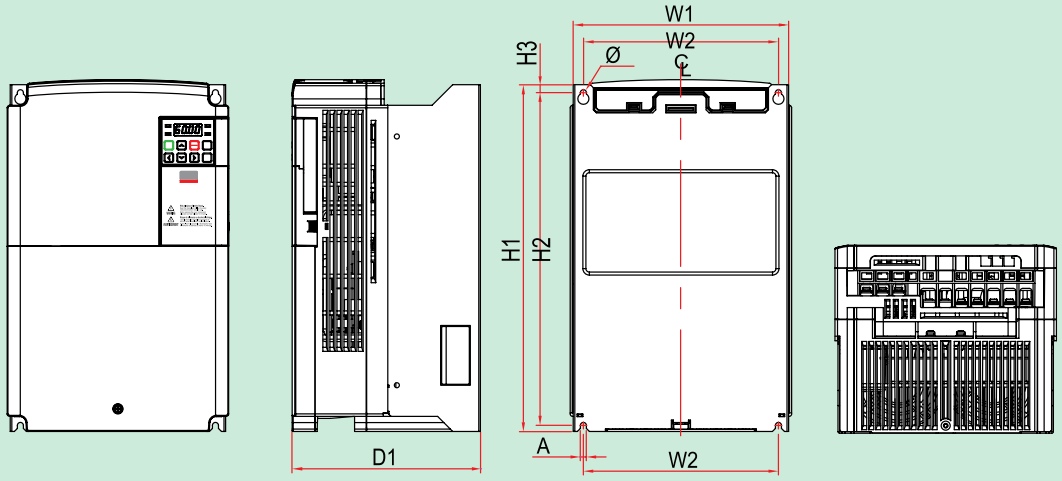
MDLV0150100G-2 / MDLV0185100G-4 / MDLV0220100G-4 Dimensions

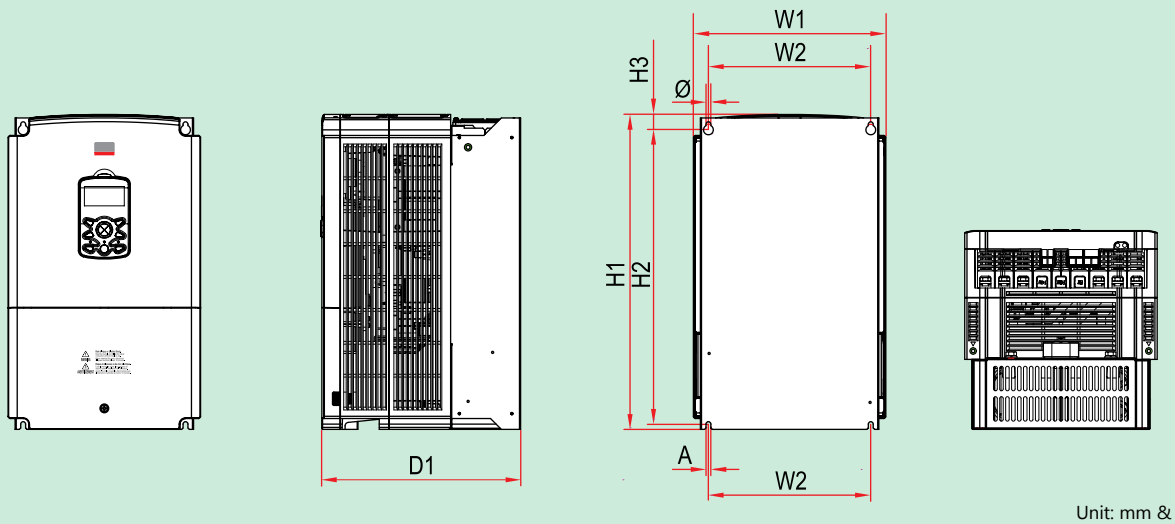


Unit: mm & kg

Part Number	W1	W2	H1	H2	H3	D1	A	Ø	Weight
MDLV0150100G-2	220	193.8	350	331	13	187	6	6	4.6
MDLV0185100G-4●	220	193.8	350	331	13	187	6	6	7.5
MDLV0220100G-4●	220	193.8	350	331	13	187	6	6	7.5

●EMC filter built-in Class 3

MDLV0300100G-4 Dimensions

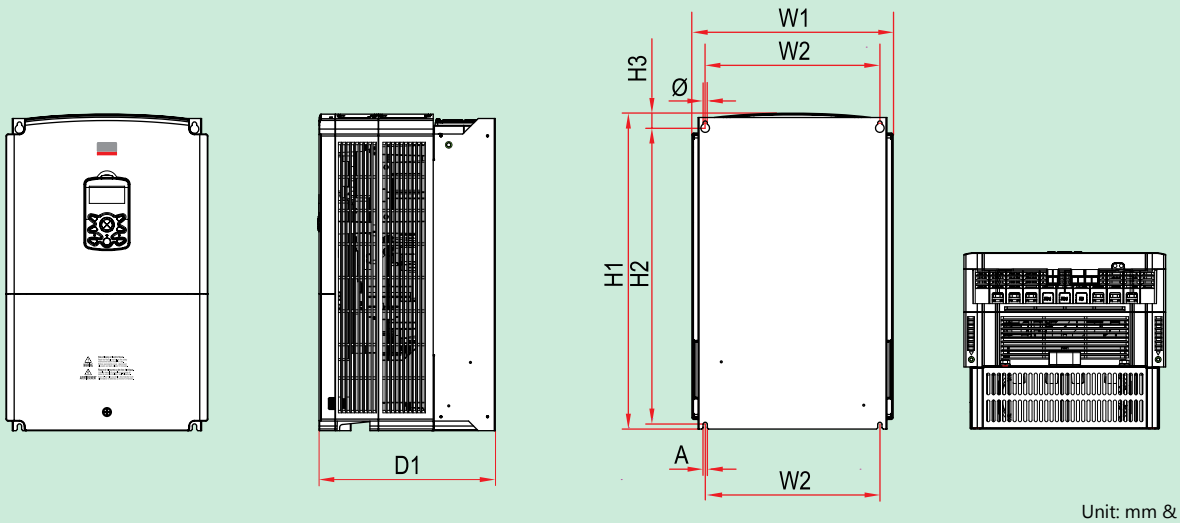


Unit: mm & kg

Part Number	W1	W2	H1	H2	H3	D1	A	Ø	Weight
MDLV0300100G-4●	275	232	450	428.5	14	284	7	7	26

●EMC filter built-in Class 3

MDLV0370100G-4 / MDLV0450100G-4 Dimensions

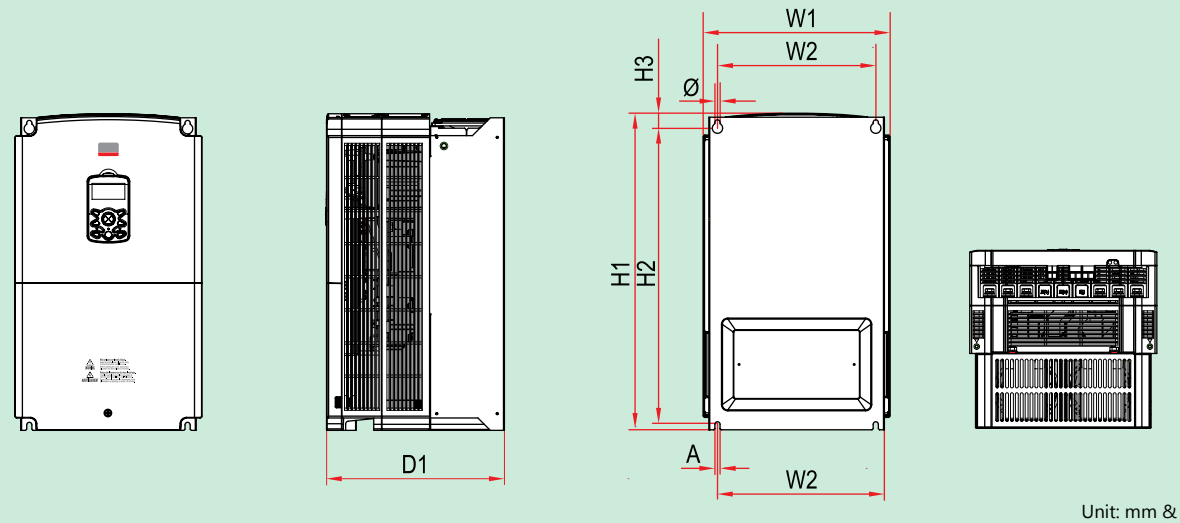


Unit: mm & kg

Part Number	W1	W2	H1	H2	H3	D1	A	Ø	Weight
MDLV0370100G-4●	325	282	510	486.5	16	284	7	7	35
MDLV0450100G-4●	325	282	510	486.5	16	284	7	7	35

●EMC filter built-in Class 3

MDLV0550100G-4 / MDLV0750100G-4 Dimensions



Unit: mm & kg

Part Number	W1	W2	H1	H2	H3	D1	A	Ø	Weight
MDLV0550100G-4●	325	275	550	524.5	16	309	9	9	43
MDLV0750100G-4●	325	275	550	524.5	16	309	9	9	43

●EMC filter built-in Class 3

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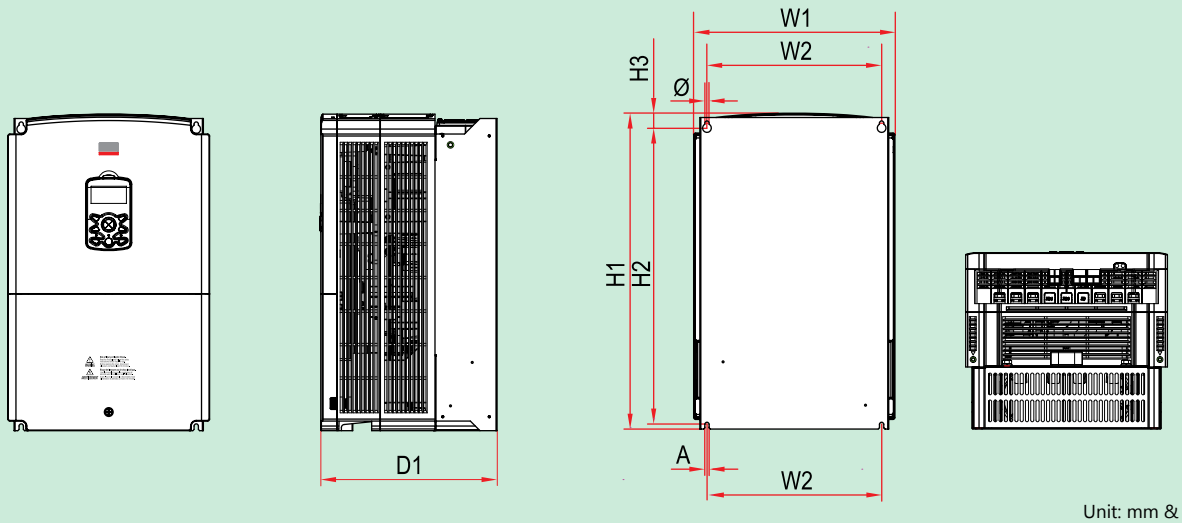
MDLV0004100G-2X & -4X / MDLV0008100G-2X & -4X (NEMA 4X) Dimensions

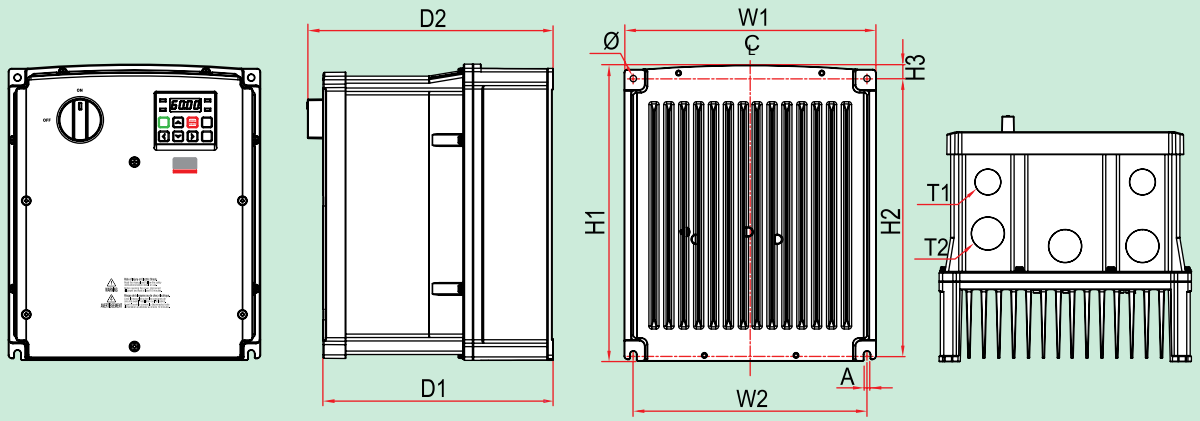


Unit: mm & kg

Part Number	W1	W2	H1	H2	H3	D1	D2	A	Ø	T1	T2	Weight
MDLV0004100G-2X	180	170	256.6	245	8.2	174.2	188.2	4.5	4.5	22.3	-	3.6
MDLV0008100G-2X	180	170	256.6	245	8.2	174.2	188.2	4.5	4.5	22.3	-	3.6
MDLV0004100G-4X●	180	170	256.6	245	8.2	174.2	188.2	4.5	4.5	22.3	-	3.7
MDLV0008100G-4X●	180	170	256.6	245	8.2	174.2	188.2	4.5	4.5	22.3	-	3.7

●EMC filter built-in Class 3

MDLV0015100G-2X & -4X / MDLV0022100G-2X & -4X / MDLV0037100G-2X & -4X / MDLV0040100G-2X & -4X (NEMA 4X) Dimensions



Unit: mm & kg

Part Number	W1	W2	H1	H2	H3	D1	D2	A	Ø	T1	T2	Weight
MDLV0015100G-2X	220	204	258.8	241	11.8	201	215	5.5	5.5	22.3	28.6	5.2
MDLV0220100G-2X	220	204	258.8	241	11.8	201	215	5.5	5.5	22.3	28.6	5.3
MDLV0037100G-2X	220	204	258.8	241	11.8	201	215	5.5	5.5	22.3	28.6	5.6
MDLV0040100G-2X	220	204	258.8	241	11.8	201	215	5.5	5.5	22.3	28.6	5.6
MDLV0015100G-4X●	220	204	258.8	241	11.8	201	215	5.5	5.5	22.3	28.6	5.3
MDLV0022100G-4X●	220	204	258.8	241	11.8	201	215	5.5	5.5	22.3	28.6	5.5
MDLV0037100G-4X●	220	204	258.8	241	11.8	201	215	5.5	5.5	22.3	28.6	5.6
MDLV0040100G-4X●	220	204	258.8	241	11.8	201	215	5.5	5.5	22.3	28.6	5.6

●EMC filter built-in Class 3

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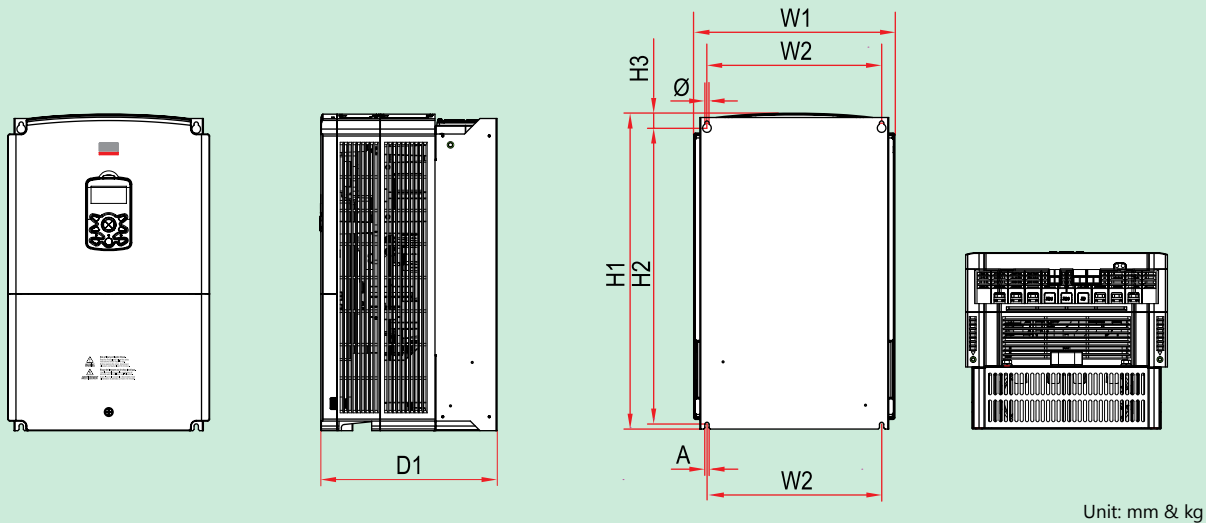
MDLV0055100G-2X & -4X / MDLV0075100G-2X & -4X (NEMA 4X) Dimensions

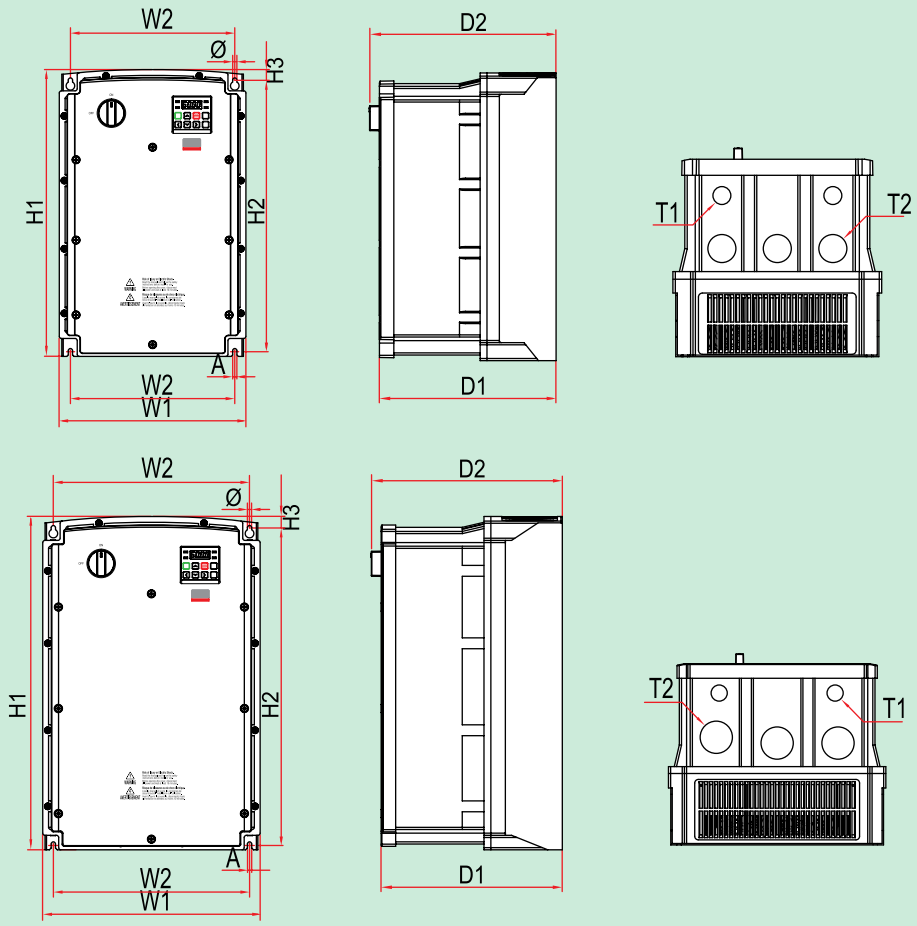


Unit: mm & kg

Part Number	W1	W2	H1	H2	H3	D1	D2	A	Ø	T1	T2	Weight
MDLV0055100G-2X	250	232	328	308	11	227.2	241.2	6	6	22.3	28.6	9.0
MDLV0075100G-2X	250	232	328	308	11	227.2	241.2	6	6	22.3	28.6	9.0
MDLV0055100G-4X●	250	232	328	308	11	227.2	241.2	6	6	22.3	28.6	8.8
MDLV0075100G-4X●	250	232	328	308	11	227.2	241.2	6	6	22.3	28.6	8.9

●EMC filter built-in Class 3

MDLV0110100G-2X & -4X / MDLV0150100G-2X & -4X / MDLV0185100G-4X / MDLV0220100G-4X (NEMA 4X) Dimensions

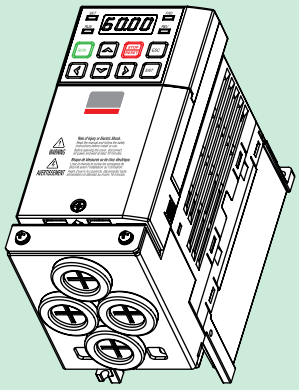


Unit: mm & kg

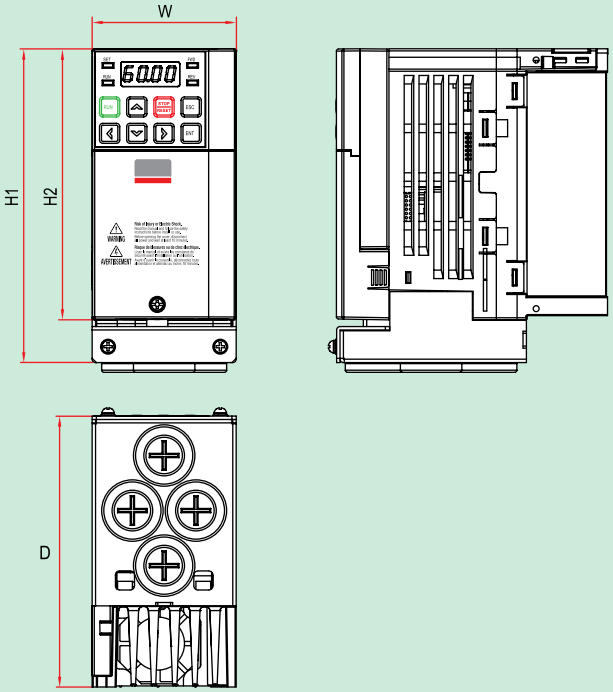
Part Number	W1	W2	H1	H2	H3	D1	D2	A	Ø	T1	T2	Weight
MDLV0110100G-2X	260	229	399.6	277	14.6	254.4	259.6	6	6	22.3	34.9	9.6
MDLV0150100G-2X	300	270.8	460	436.5	15.5	250	264	6	6	22.3	44.5	12.1
MDLV0110100G-4X●	260	229	399.6	377	14.6	245.4	259.6	6	6	22.3	34.9	9.6
MDLV0150100G-4X●	260	229	399.6	377	14.6	245.4	259.6	6	6	22.3	34.9	9.8
MDLV0185100G-4X●	300	270.8	460	436.5	15.5	250	264	6	6	22.3	44.5	12.4
MDLV0220100G-4X●	300	270.8	460	436.5	15.5	250	264	6	6	22.3	44.5	12.4

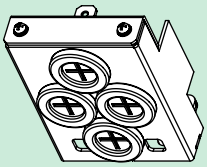
●EMC filter built-in Class 3

Conduit Option

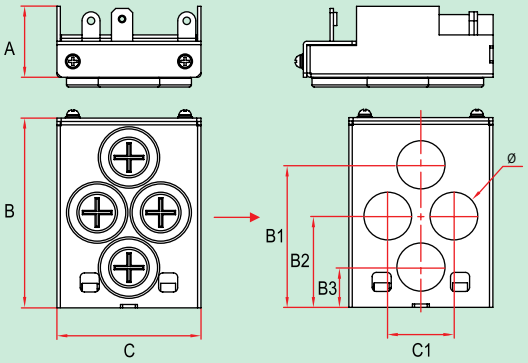


Drive + Conduit





Conduit



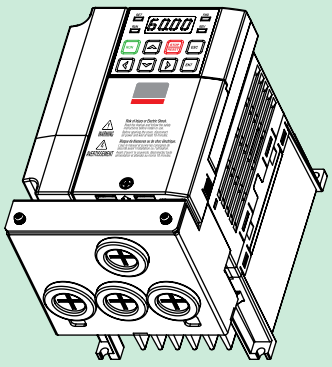
※ Without rubber packing

Unit: mm & kg

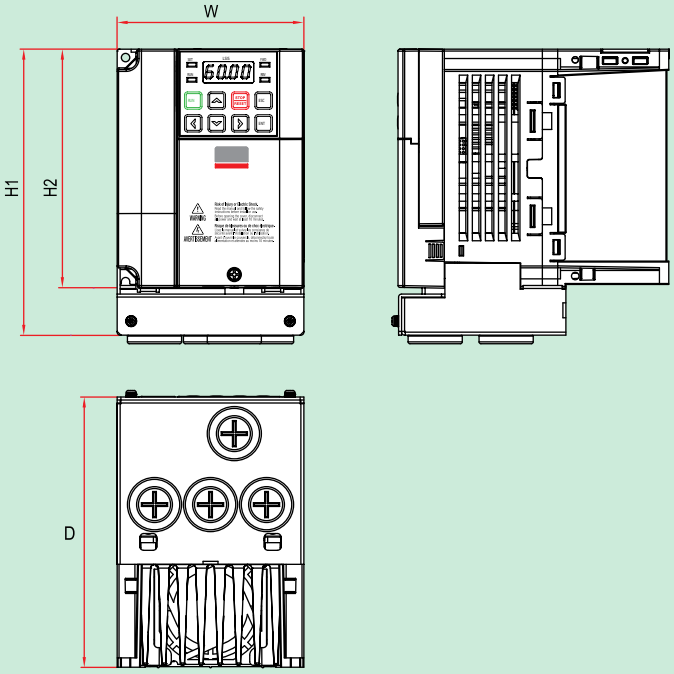
Part Number	W	H1	H2	D	A	B	C	B1	B2	C1	C2	Ø	Weight
MDLV0004100G-2	68	148.2	128	123	33.5	89.6	68	71	45	19	30	22.3	1.2
MDLV0004100G-4	68	148.2	128	123	33.5	89.6	68	71	45	19	30	22.3	1.2
MDLV0004100G-1	68	148.2	128	128	33.5	89.6	68	71	45	19	30	22.3	1.2
MDLV0008100G-2	68	148.2	128	128	33.5	89.6	68	71	45	19	30	22.3	1.2
MDLV0008100G-4	68	148.2	128	128	33.5	89.6	68	71	45	19	30	22.3	1.2

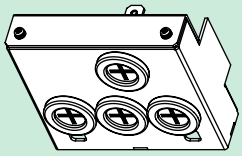
※Conduit Size: Ø : 22.3mm

Conduit Option

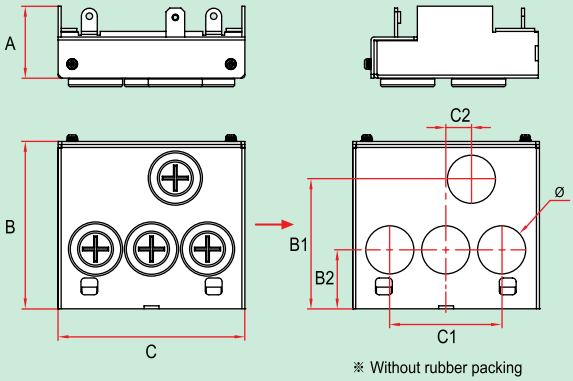


Drive + Conduit





Conduit



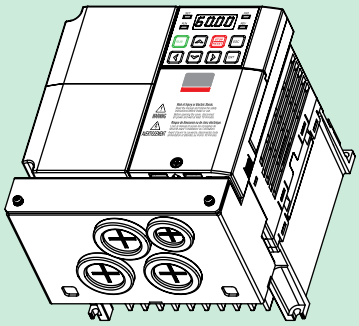
※ Without rubber packing

Unit: mm & kg

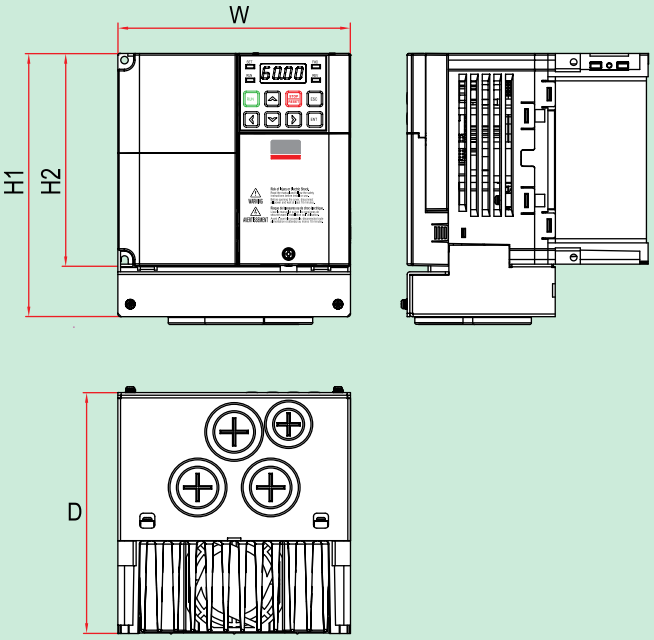
Part Number	W	H1	H2	D	A	B	C	B1	B2	C1	C2	Ø	Weight
MDLV0008100G-1	100	153.2	128	130	38.5	89.6	100	70	32	60	12.8	22.3	1.7
MDLV0015100G-2	100	153.2	128	130	38.5	89.6	100	70	32	60	12.8	22.3	1.7
MDLV0015100G-4	100	153.2	128	130	38.5	89.6	100	70	32	60	12.8	22.3	1.7
MDLV0015100G-1	100	153.2	128	130	38.5	89.6	100	70	32	60	12.8	22.3	1.7
MDLV0022100G-2	100	153.2	128	130	38.5	89.6	100	70	32	60	12.8	22.3	1.9
MDLV0022100G-4	100	153.2	128	130	38.5	89.6	100	70	32	60	12.8	22.3	1.9

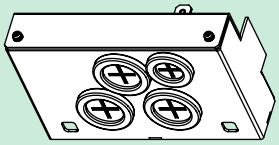
※Conduit Size: Ø : 22.3mm

Conduit Option

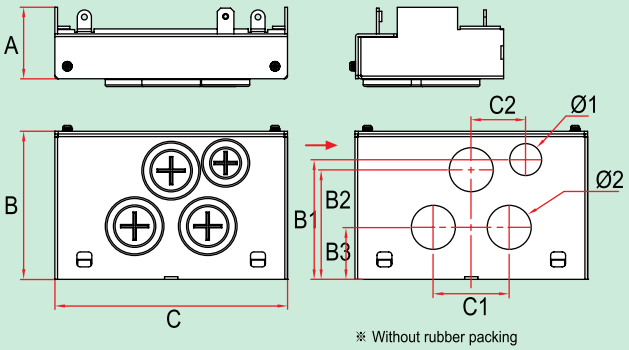


Drive + Conduit





Conduit



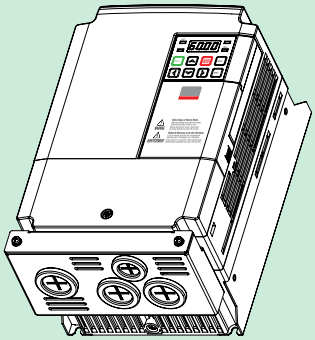
※ Without rubber packing

Unit: mm & kg

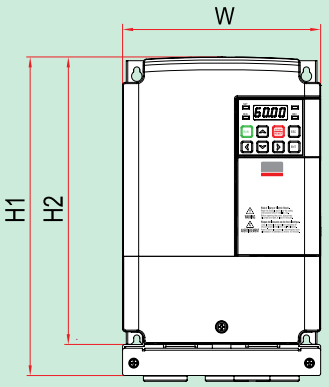
Part Number	W	H1	H2	D	A	B	C	B1	B2	B3	C1	C2	Ø1	Ø2	Weight
MDLV0022100G-1	140	158.4	128	145	43	89.1	140	70	65.4	32	44	32.8	22.3	28.6	2.6
MDLV0037100G-2	140	158.4	128	145	43	89.1	140	70	65.4	32	44	32.8	22.3	28.6	2.6
MDLV0037100G-4	140	158.4	128	145	43	89.1	140	70	65.4	32	44	32.8	22.3	28.6	2.6
MDLV0040100G-2	140	158.4	128	145	43	89.1	140	70	65.4	32	44	32.8	22.3	28.6	2.6
MDLV0040100G-4	140	158.4	128	145	43	89.1	140	70	65.4	32	44	32.8	22.3	28.6	2.6

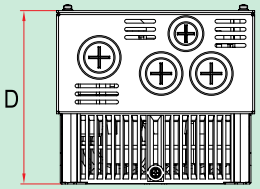
※Conduit Size: Ø : 22.3mm, Ø : 28.6mm

Conduit Option

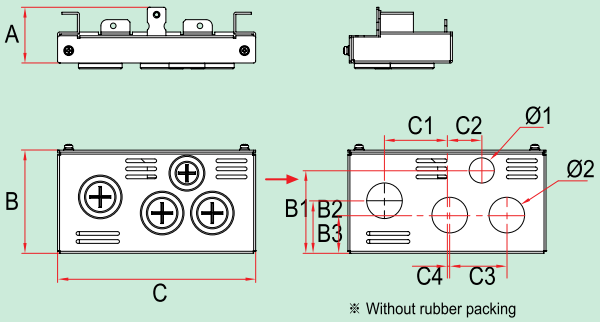


Drive + Conduit





Conduit



※ Without rubber packing

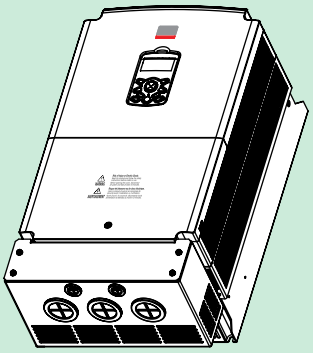
Unit: mm & kg

Part Number	W	H1	H2	D	A	B	C	B1	B2	B3	C1	C2	C3	C4	Ø1	Ø2	Weight
MDLV0055100G-2	160	257.3	232	140	45	83.3	160	64.7	45.5	32.5	45.5	24.5	40.5	4.5	22.3	28.6	3.65
MDLV0055100G-4●	160	257.3	232	140	45	83.3	160	64.7	45.5	32.5	45.5	24.5	40.5	4.5	22.3	28.6	3.65
MDLV0075100G-2	160	257.3	232	140	45	83.3	160	64.7	45.5	32.5	45.5	24.5	40.5	4.5	22.3	28.6	3.65
MDLV0075100G-4●	160	257.3	232	140	45	83.3	160	64.7	45.5	32.5	45.5	24.5	40.5	4.5	22.3	28.6	3.65
MDLV0110100G-2	180	315.3	290	163	49	89.3	180	70	45.5	33	54.5	29	53	2.5	22.3	35	3.05
MDLV0110100-4●	180	315.3	290	163	49	89.3	180	70	45.5	33	54.5	29	53	2.5	22.3	35	5.05
MDLV0150100G-2	220	382	350	187	63.5	90.6	215	70.8	47	34	66	32	67	-	22.3	44.5	5.15
MDLV0150100G-4●	180	315.3	290	163	49	89.3	180	70	45.5	33	54.5	29	53	2.5	22.3	35	5.05
MDLV0185100G-4●	220	382	350	187	63.5	90.6	215	70.8	47	34	66	32	67	-	22.3	44.5	8.05
MDLV0220100G-4●	220	382	350	187	63.5	90.6	215	70.8	47	34	66	32	67	-	22.3	44.5	8.05

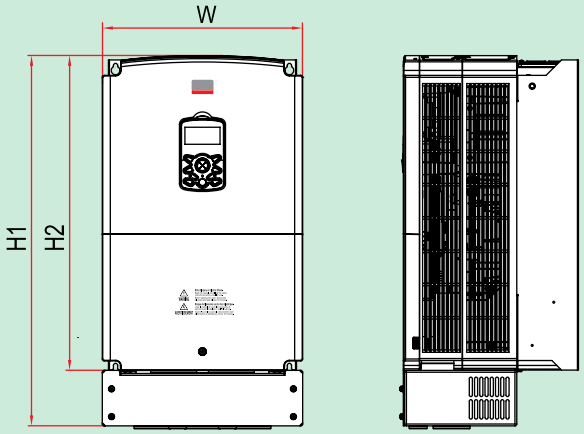
※Conduit Size: Ø : 22.3mm, Ø : 28.6mm

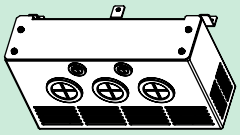
marathon™ Drives

Conduit Option

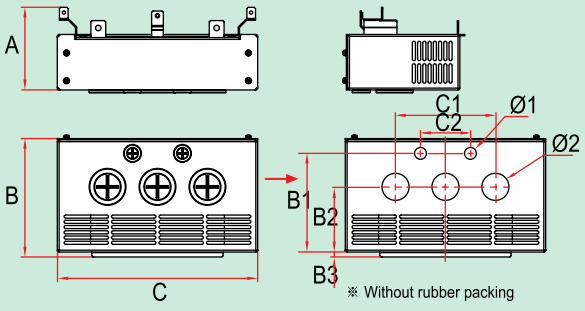


Drive + Conduit





Conduit

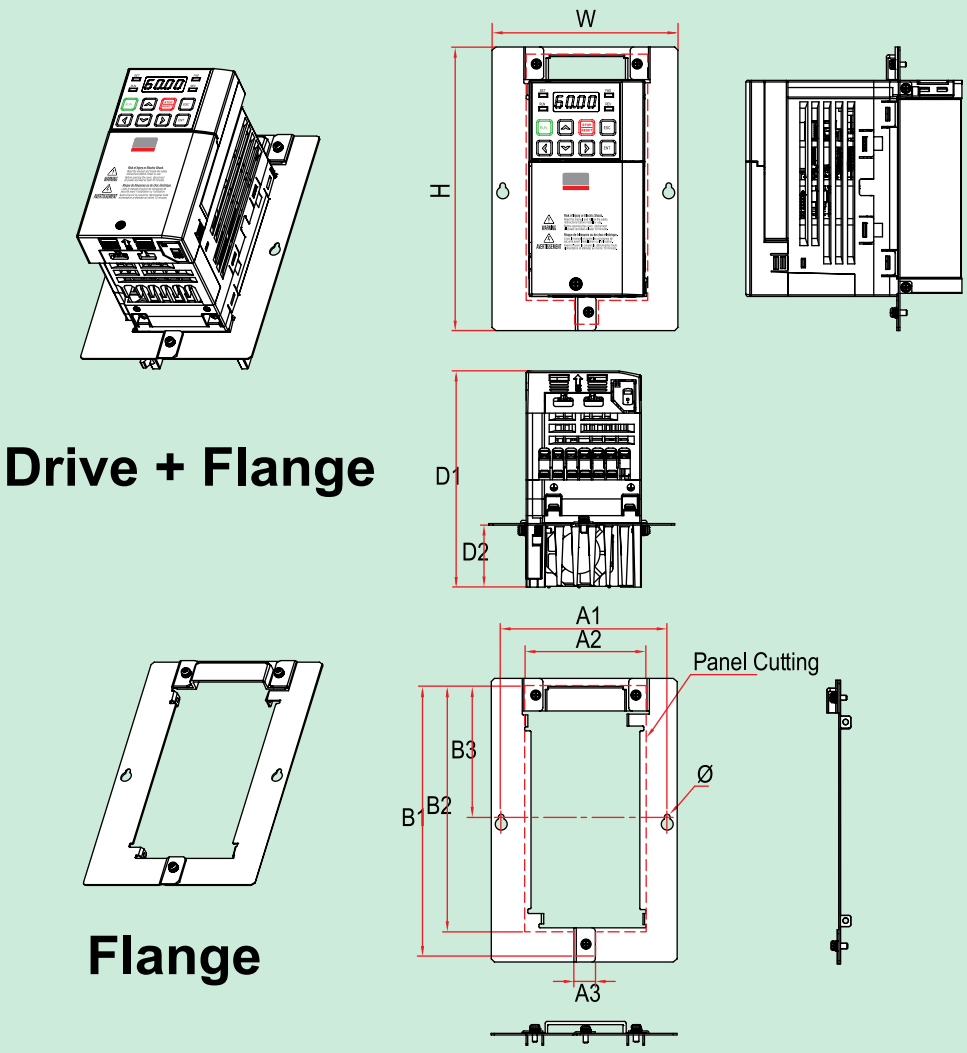


Unit: mm & kg

Part Number	W	H1	H2	D	A	B	C	B1	B2	B3	C1	C2	Ø1	Ø2	Weight
MDLV0300100G-4●	275	521.5	450	284	112.5	192	275	160	105.8	8	162	81	22.3	44.5	28.7
MDLV0370100G-4●	325	600.5	510	284	134	192	325	160	105.8	8	162	81	22.3	50.8	38.4
MDLV0450100G-4●	325	600.5	510	284	134	192	325	160	105.8	8	162	81	22.3	50.8	38.4
MDLV0550100G-4●	325	685.5	550	309	183	187	325	155	100.8	8	192	81	22.3	63.5	47.2
MDLV0750100G-4●	325	685.5	550	309	183	187	325	155	100.8	8	192	81	22.3	63.5	47.2

※Conduit Size: Ø : 22.3mm, Ø : 28.6mm

Flange Option

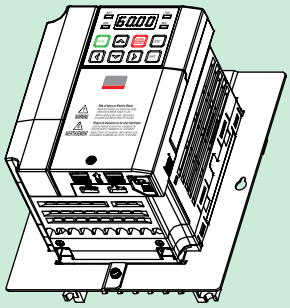


Unit: mm & kg

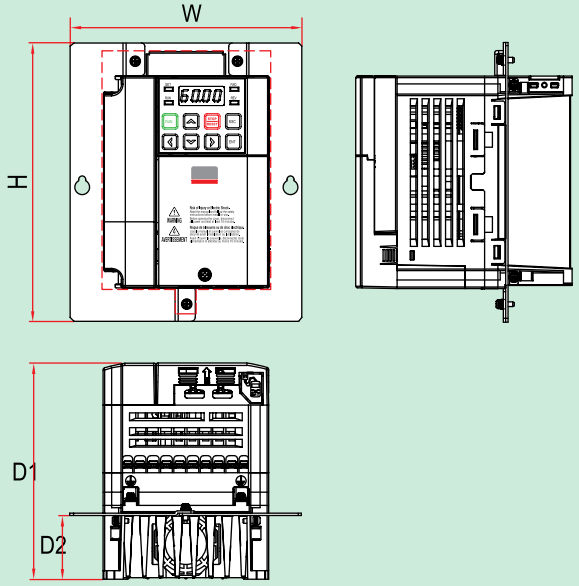
Part Number	W	H	D1	D2	A1	A2	A3	B1	B2	B3	Ø	Weight
MDLV0004100G-2	110	168	123	31.8	98	72	14	159.8	145.4	77.9	3.5	1.1
MDLV0004100G-4	110	168	123	31.8	98	72	14	159.8	145.4	77.9	3.5	1.1
MDLV0004100G-1	110	168	128	36.8	98	72	14	159.8	145.4	77.9	3.5	1.1
MDLV0008100G-2	110	168	128	36.8	98	72	14	159.8	145.4	77.9	3.5	1.1
MDLV0008100G-4	110	168	128	36.8	98	72	14	159.8	145.4	77.9	3.5	1.1

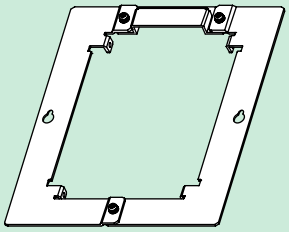
marathon™ Drives

Flange Option



Drive + Flange





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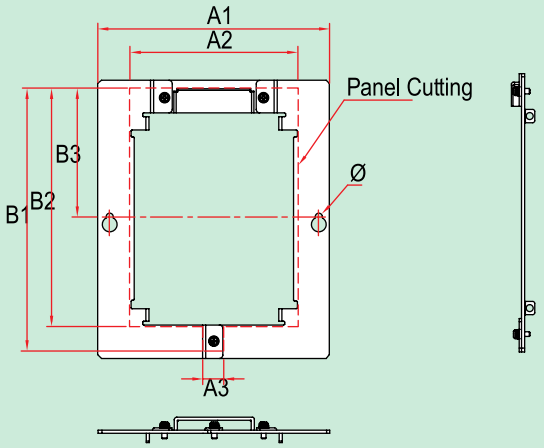
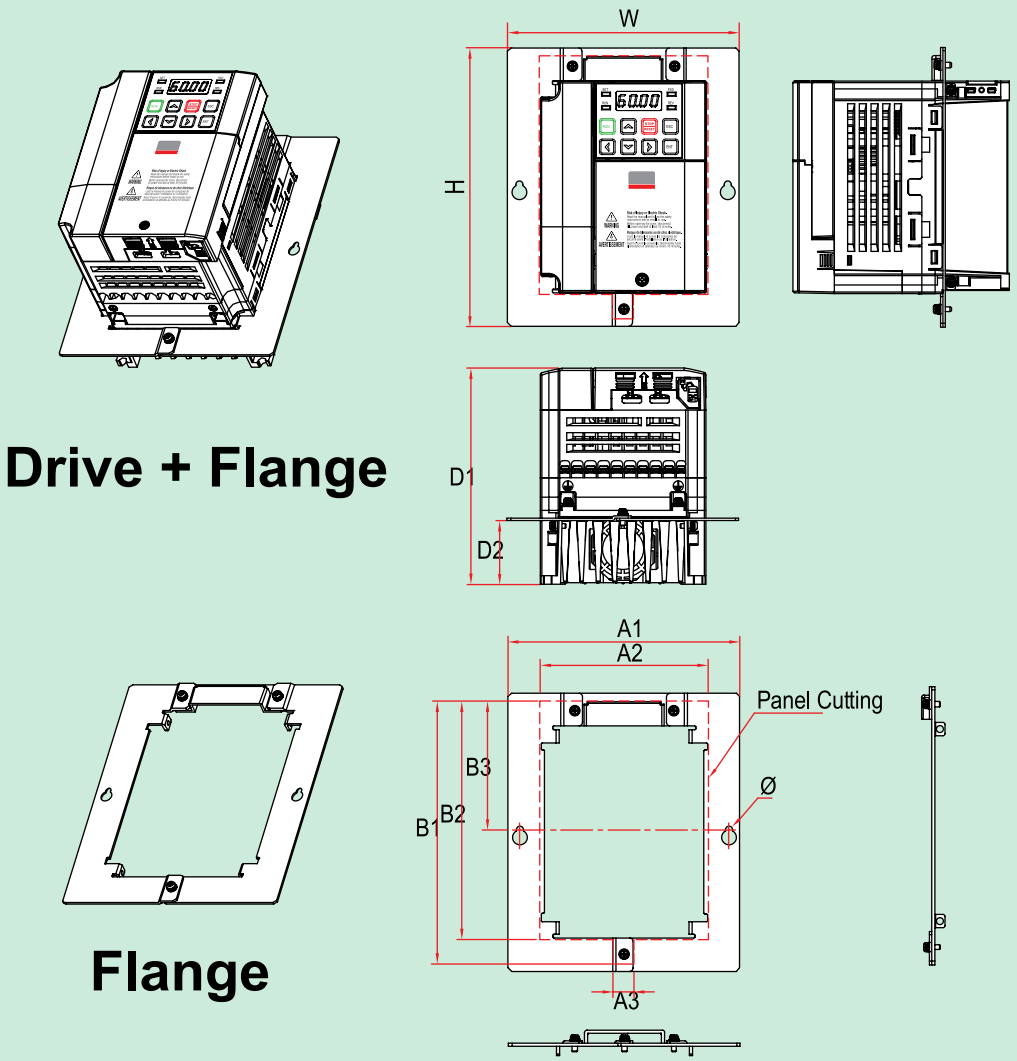


Unit: mm & kg

Part Number	W	H	D1	D2	A1	A2	A3	B1	B2	B3	Ø	Weight
MDLV0008100G-1	140	168	130	38.2	140	102	14	159.8	144.4	77.9	4.5	1.6
MDLV0015100G-2	140	168	130	38.2	140	102	14	159.8	144.4	77.9	4.5	1.6
MDLV0015100G-4	140	168	130	38.2	140	102	14	159.8	144.4	77.9	4.5	1.6
MDLV0015100G-1	140	168	145	53.2	140	102	14	159.8	144.4	77.9	4.5	1.8
MDLV0022100G-2	140	168	145	53.2	140	102	14	159.8	144.4	77.9	4.5	1.8
MDLV0022100G-4	140	168	145	53.2	140	102	14	159.8	144.4	77.9	4.5	1.8

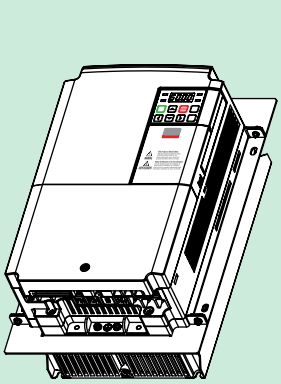
Flange Option



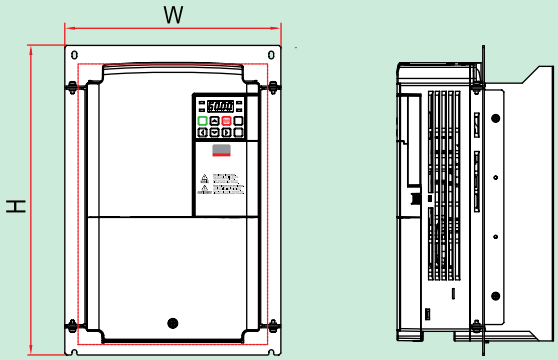
Unit: mm & kg

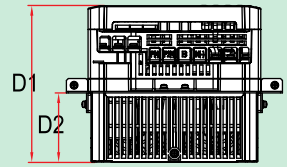
Part Number	W	H	D1	D2	A1	A2	A3	B1	B2	B3	Ø	Weight
MDLV0022100G-1	179.8	168	145	54	165.8	144	14	161.4	146.4	78.9	4.5	2.3
MDLV0037100G-2	179.8	168	145	54	165.8	144	14	161.4	146.4	78.9	4.5	2.3
MDLV0037100G-4	179.8	168	145	54	165.8	144	14	161.4	146.4	78.9	4.5	2.3
MDLV0040100G-2	179.8	168	145	54	165.8	144	14	161.4	146.4	78.9	4.5	2.3
MDLV0040100G-4	179.8	168	145	54	165.8	144	14	161.4	146.4	78.9	4.5	2.3

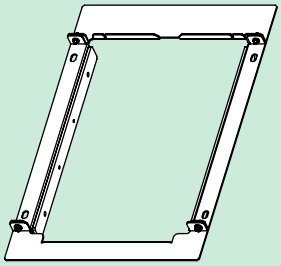
Flange Option



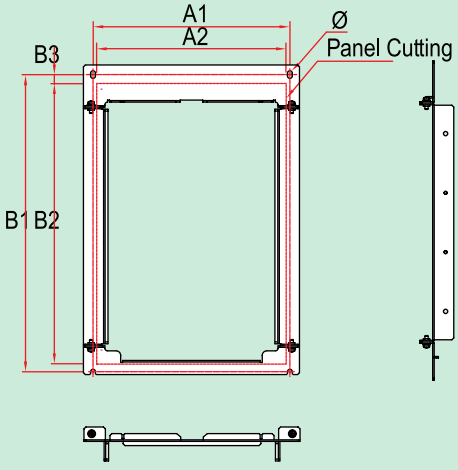
Drive + Flange







Flange

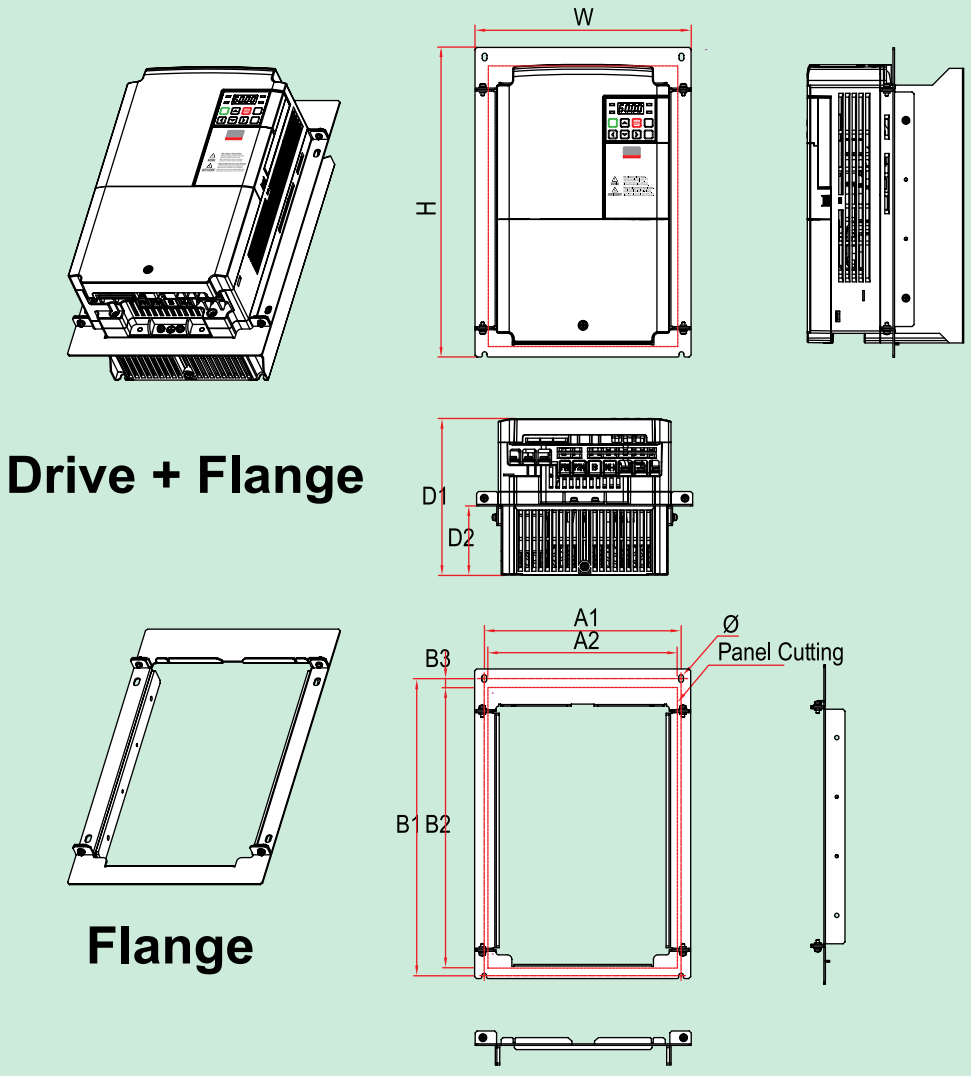


Unit: mm & kg

Part Number	W	H	D1	D2	A1	A2	B1	B2	B3	Ø	Weight
MDLV0055100G-2	206	264.5	140	55.1	186	178	251.5	235	8.4	5	3.7
MDLV0055100G-4●	206	264.5	140	55.1	186	178	251.5	235	8.4	5	3.7
MDLV0075100G-2	206	264.5	140	55.1	186	178	251.5	235	8.4	5	3.7
MDLV0075100G-4●	206	264.5	140	55.1	186	178	251.5	235	8.4	5	3.7
MDLV0110100G-2	225.2	322.7	163	72.1	205.2	197.5	309.7	292.5	9.3	5	5.15
MDLV0110100G-4●	225.2	322.7	163	72.1	205.2	197.5	309.7	292.5	9.3	5	5.15
MDLV0150100G-2	267	384.5	187	936.	247	239	371.5	352	9.5	6	5.4
MDLV0150100G-4●	225.2	322.7	163	72.1	205.2	197.5	309.7	292.5	9.3	5	5.15
MDLV0185100G-4●	267	384.5	187	93.6	247	239	371.5	352	9.5	6	8.3
MDLV0220100G-4●	267	384.5	187	93.6	247	239	371.5	352	9.5	6	8.3

●EMC filter built-in Class 3

Flange Option



Part Number	W1	W2	H1	H2	H3	D1	D2	A	B1	B2	C	Ø	Weight
MDLV0300100G-4●	275	232	495	478.5	7.5	284	100	275	55	35.5	24	7	26.4
MDLV0370100G-4●	325	282	555.5	539	7.5	284	100	325	57.5	35.5	24	7	35.4
MDLV0450100G-4●	325	282	555.5	539	7.5	284	100	325	57.5	35.5	24	7	35.4
MDLV0550100G-4●	325	275	605.5	587	9.5	309	131.6	325	68.5	46.5	24	9	43.5
MDLV0750100G-4●	325	275	605.5	587	9.5	309	131.6	325	68.5	46.5	24	9	43.5

●EMC filter built-in Class 3

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