ADLEEPOWER®

INSTRUCTION MANUAL

GENERAL-PURPOSE INVERTER



THANK YOU VERY MUCH FOR YOUR PURCHASE OF ADLEE INVERTER AS SERIES.
PLEASE READ THIS INSTRUCTION MANUAL BEFORE INSTALLATION OF THE INVERTER.

2. SPECIFICATIONS

(1) Single phase input port

Model		AS1		AS2				
Voltage		1φ110VAC ±10%		1φ200~240VAC ±10%				
Model No		AS1-104	AS1-107	AS2-104	AS2-107	AS2-115	AS2-122	AS2-137
Input Frequency		50HZ ~ 60HZ ± 10%						
Output Voltage		3φ 220VAC						
Output Frequency		0.5 ~ 400HZ / 0.5 ~ 2400HZ (High frequency)						
Output Rated current (A)		2.5 A	4.1 A	2.5 A	4.1 A	7 A	10 A	16 A
Capacity (KVA)		1.0 KVA	1.6 KVA	1.0 KVA	1.6 KVA	2.7 KVA	3.8 KVA	6.1 KVA
Largest motor KW (4 poles)		0.4KW	0.75KW	0.4KW	0.75KW	1.5KW	2.2KW	3.7KW
Control		Sine wave pulse width modulation						
Braking		Regenerative discharge braking						
Over current Capacity		150% of rated current (1 minute)						
Acceleration time		0.1 ~ 6000 SEC						
Deceleration time		0.1 ~ 6000 SEC						
Frequency setting	Digital	Use keyboard ▲ ▼ ◀ for setting and confirm by PROG						
	Analog	By frequency knob						
Display type		LED Digits						
Cooling Method		Self-cooled	Air-cooled	Self-cooled	Self-cooled	Air-cooled	Air-cooled	Air-cooled
Dimension drawing		Fig 1	Fig 2	Fig 1	Fig 1	Fig 2	Fig 2	Fig 3
Weight (NW . KG)		1.2KG	1.3KG	1.2KG	1.3KG	1.3KG	1.4KG	4.2KG

Note : AS2-107 for special use, dimension drawing refer to Fig2.

3. DIMENSION DRAWINGS

Unit : mm

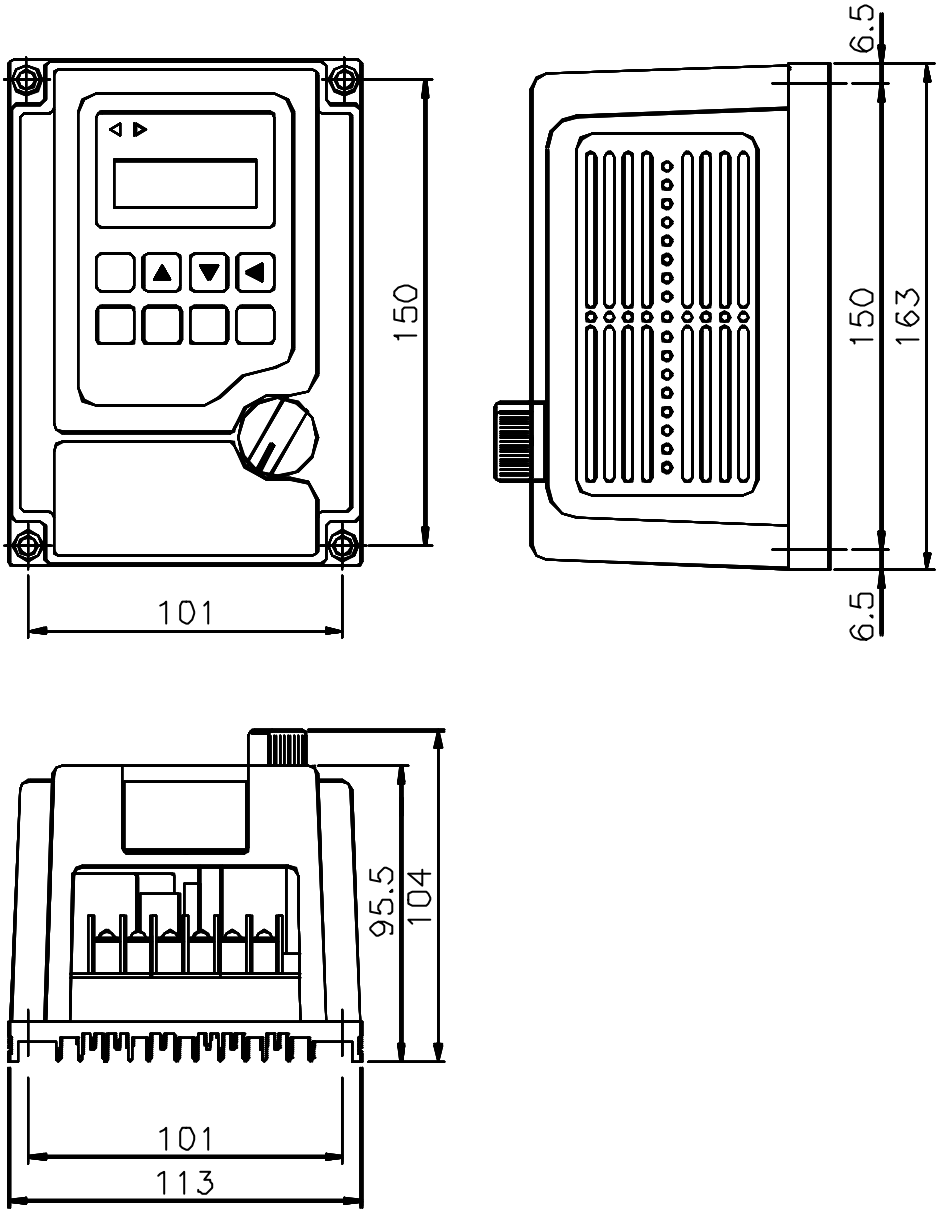


Fig 1

Unit : mm

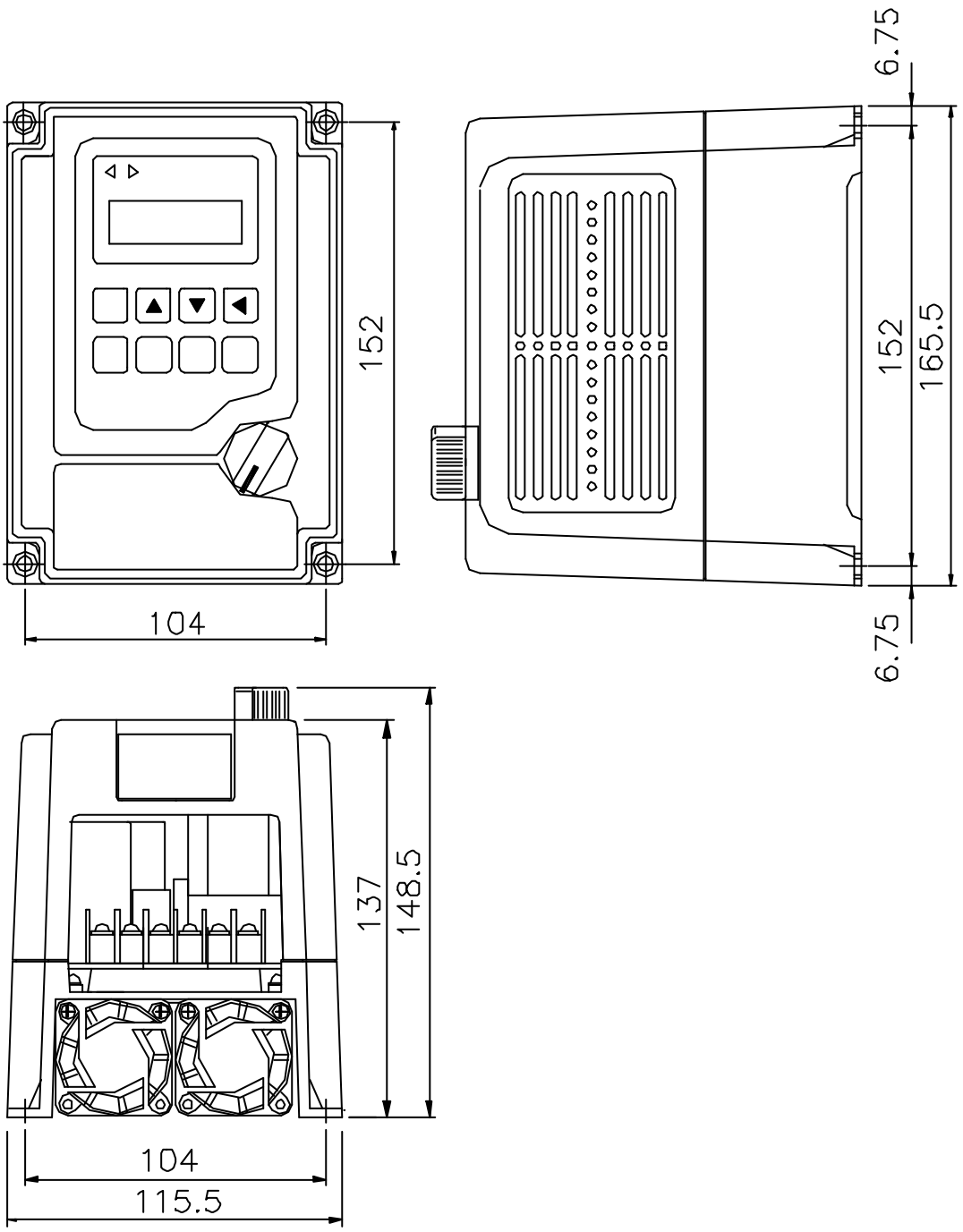


Fig 2

Unit : mm

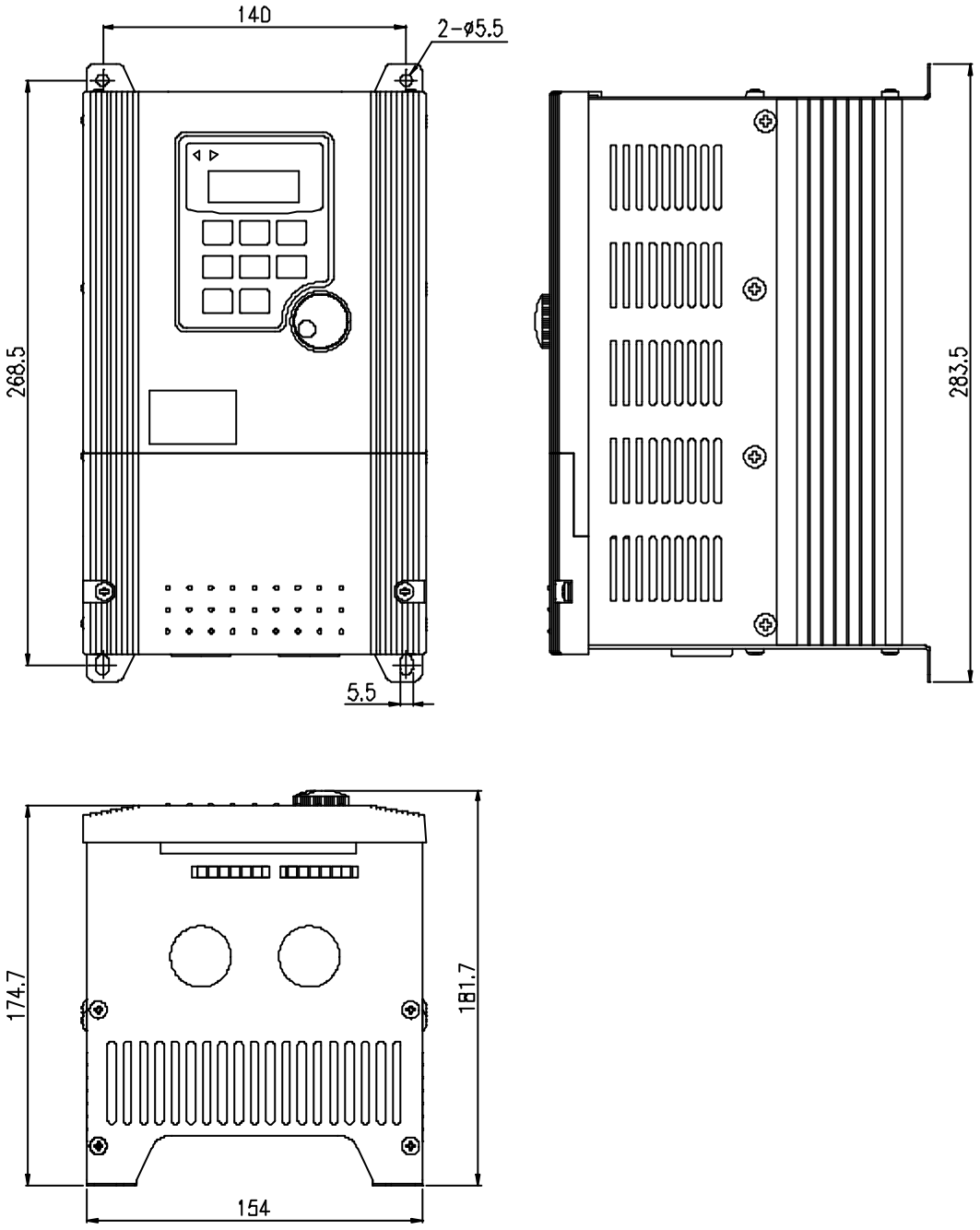


Fig 3

4. INSTALLATION

Inadequate environment around installation site and installation surface can result in damage to the inverter.

Before operating the AS series inverter, please check the following points :

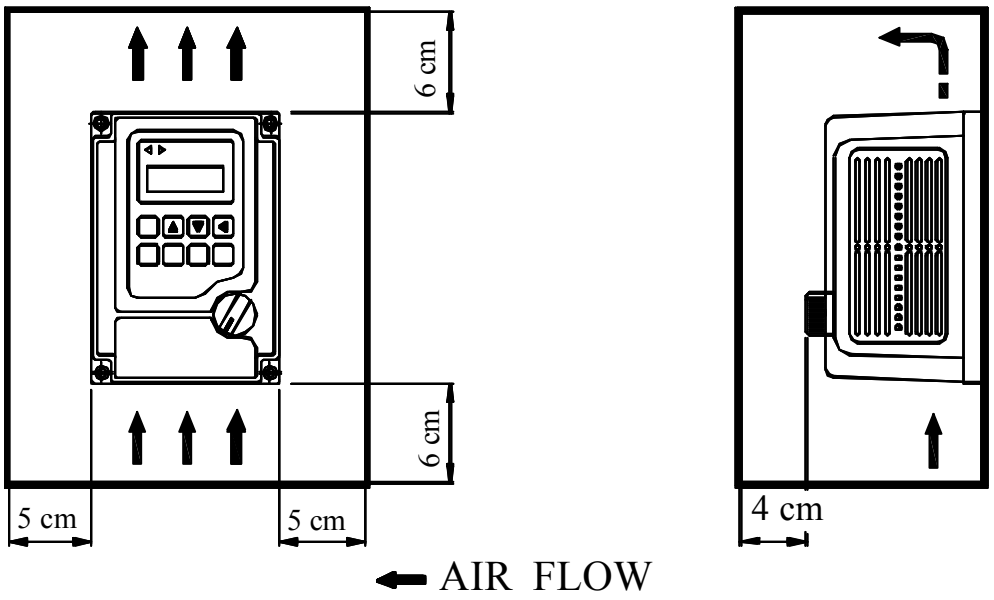
(1) Avoid high temperature, high humidity, easy-to-dew ambient environment. Don't expose to dust or dirt, corrosive gas, and coolant mist, and direct sunlight. Place the unit in a well-ventilated room.

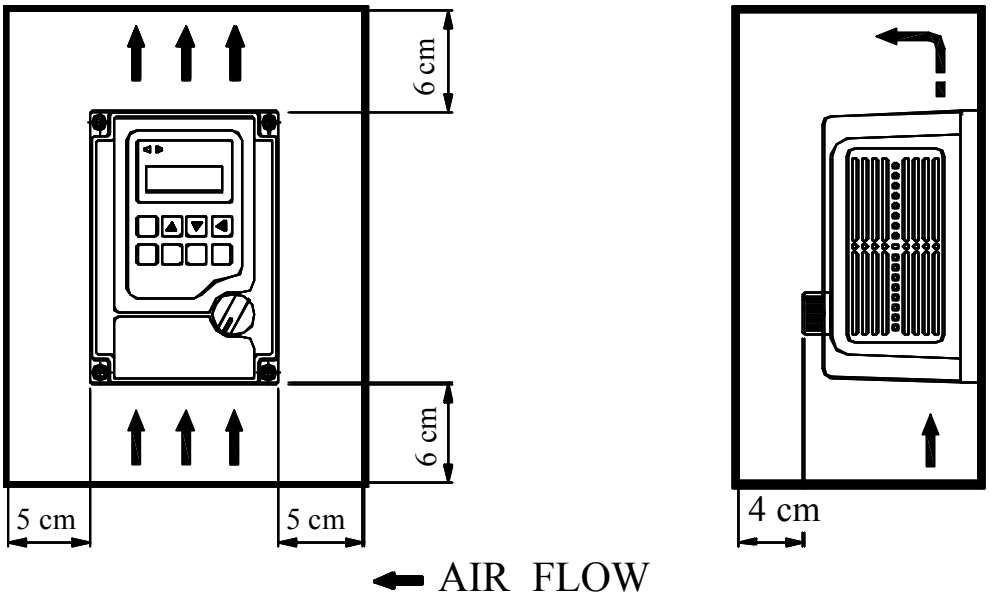
(2) Avoid a place subjected to substantial vibration.

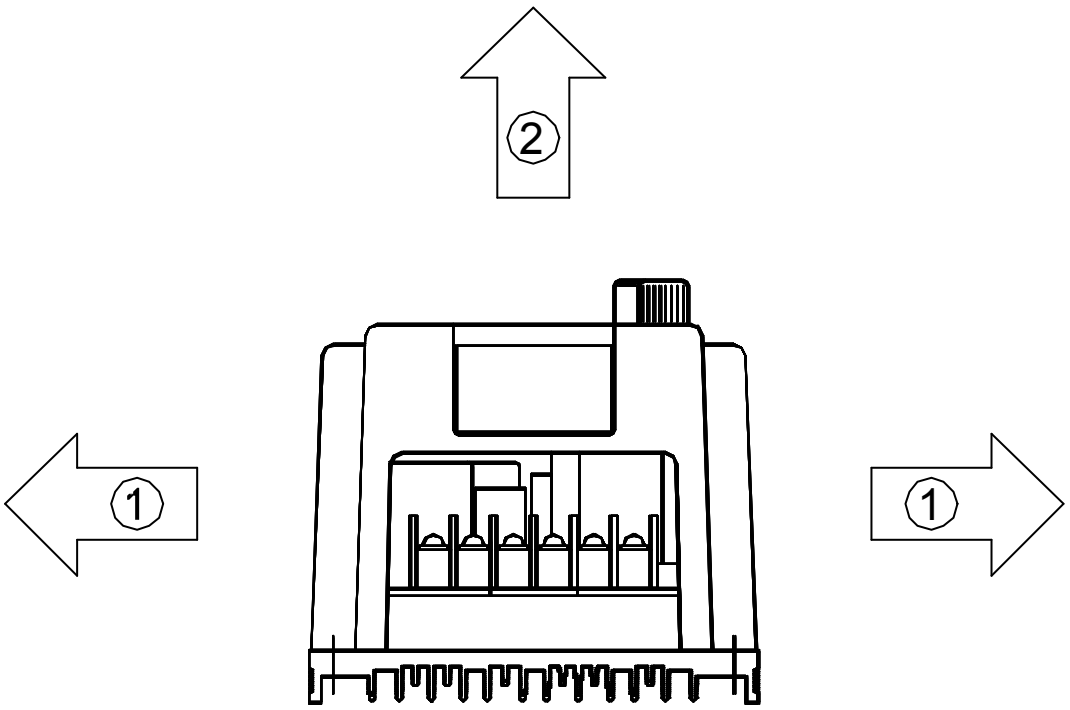
(3) When installing the unit within the cabinet. Please pay attention to ventilation and limit the ambient temperature in between -10℃ ~ 45℃ . (14℉ ~ 113℉).

(4) Use a nonflammable material, such a steel sheet on the wall for installation. (The rear side will generate heat)

(5) Install the unit always vertically with a marginal spacing around.

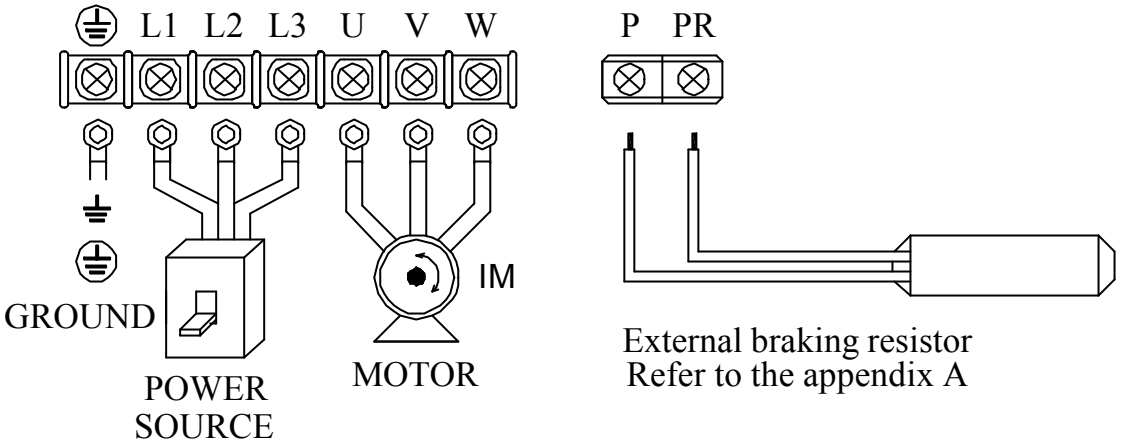



6 cm
6 cm
5 cm
5 cm
4 cm
AIR FLOW


2
1
1

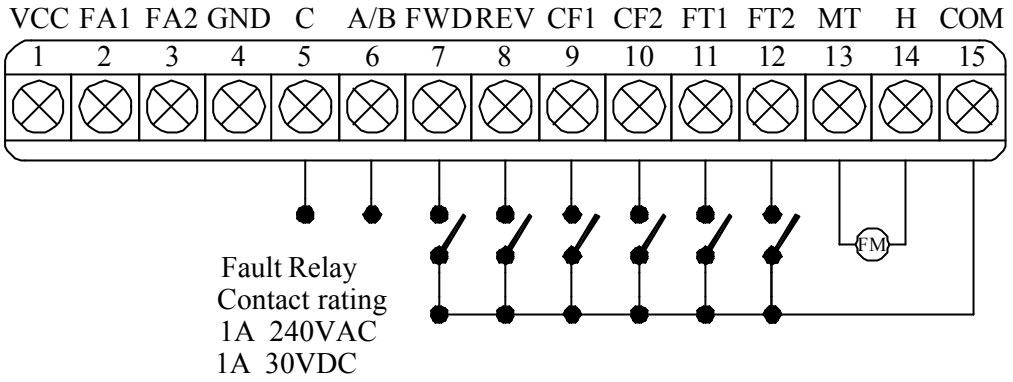
5. DESCRIPTION OF TERMINALS

(1) Main circuit connection diagram



Main circuit terminal			
No.	Symbol	Description	Terminal name
1	⏚	Ground	Ground(Earth) Terminal
2	L1	Connect power supply	(L1,L2) Single Phase (L1,L2,L3) 3 Phase
3	L2		
4	L3		
5	U	Inverter output	Terminals connected to motor
6	V		
7	W		
8	P	Dynamic brake	Terminals connected to braking Resistor, resistance refer to Appendix A
9	PR		

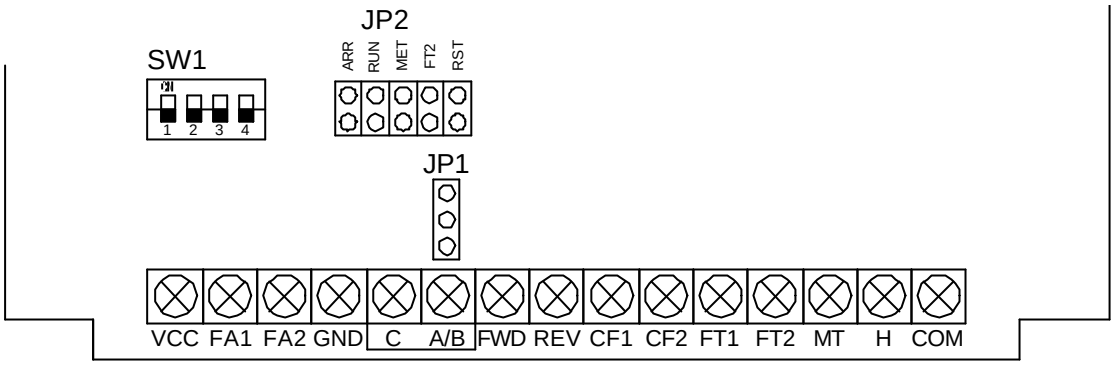
(2) Control circuit terminal



No	Symbol	Multi function analog terminal	
1	VCC	Analog source	Power source +5V of analog terminals
2	FA1	Free analog terminal 1	See CD44 & 3-1 SW1
3	FA2	Free analog terminal 2	See CD45 & 3-1 SW1
4	GND	Analog common terminal	Common terminal of free analog terminals

Control circuit terminal			
No	Symbol	Terminal name	Description
5	C	Alarm output C	Fault alarm contact (common)
6	A/B	Alarm output A/B	Fault alarm contact A(normal open) / B(normal close)
7	FWD	Forward operation	Forward operation / stop terminal
8	REV	Reverse operation	Reverse operation / stop terminal
9	CF1	Multistage speed terminal	CF1 / CF2 / SPEED: OFF / OFF / SPEED - 1; ON / OFF / SPEED - 2; OFF / ON / SPEED - 3; ON / ON / SPEED - 4
10	CF2		
11	FT1	Multi function terminal 1	See functions description (CD42)
12	FT2	Multi function terminal 2	See functions description (CD43)
13	MT	Multi function output terminal (SEE 3-2 JP1)	
14	H	Ref source +10V	Basic source +10V 20mA
15	COM	Common terminal	Common terminal of control terminals

(3) Description of Hardware setting



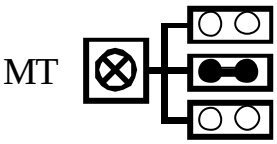
3-1 DIP Switch setting (SW1)

Setting FA1		Setting FA2	
ON 1 2 3 4	**FA1 : 0 - 10V**	ON 1 2 3 4	**FA2 : 0 - 10V**
ON 1 2 3 4	**FA1 : 0 - 5V**	ON 1 2 3 4	**FA2 : 0 - 5V**
ON 1 2 3 4	**FA1 : 4 - 20mA**	ON 1 2 3 4	**FA2 : 4 - 20mA**
ON 1 2 3 4	**Error setting**	ON 1 2 3 4	**Error setting**

3-2 Jumper Setup

1.JP2 : ARR/MET/RUN/RST/FT2 terminal

MT : Multi function output terminal selector signal



ARR→ Frequency arrive in MT terminal.

MET→ Connecting a frequency Meter in MT terminal.

RUN→ Running signal in MT terminal.

FT2 : Free Terminal 2 function selector



RST→ Reset system.

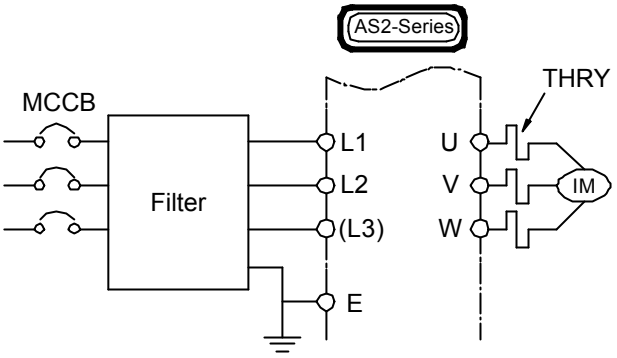
FT2 → Free terminal 2.

2.JP1 : Fault A(Normal open) / Fault B(Normal close)

Fault A  Fault B 

(4) WIRING

4-1 Wiring of main circuit



4-2 Wiring equipments

Select the wiring equipment and wiring size, refer to the table below.

1. On the input power side, a molded case circuit breaker (MCCB) to protect inverter primary wiring should be installed.
2. A leakage current breaker threshold of 200mA and above, or of inverter use is recommended.
3. Use of input side magnetic contactor. An input MC can be used to prevent an automatic restart after recovery from an external power loss during remote control operation. However, do not use the MC reduced reliability.
4. In general, magnetic contactors on the output of the inverter, Should not be used for motor control. Starting a motor with the inverter running will cause large surge currents and the inverter overcurrent protector to trigger.

Model	AS1		AS2					AS4			
Model No	04	07	04	07	15	22	37	07	15	22	37
Capacity (KVA)	1.0	1.6	1.0	1.6	2.7	3.8	6.1	1.9	3.1	4.2	6.5
Current (A)	2.5	4.1	2.5	4.1	7	10	16	2.5	4	6	9
Circuit Breaker (MCCB) (A)	15	15	10	10	15	20	20	10	10	10	15
Electro-Magnetic Contactor (A)	12	12	12	12	12	12	18	12	12	12	12
Thermal relay RC value (A)	4.8	7.6	2.4	3.8	6.8	9	15	1.9	3.4	3.8	6.8

4-6 Wiring and cautionary points

A. Main circuit

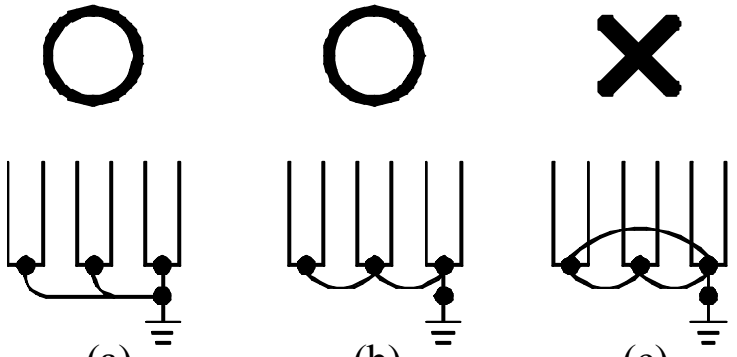
1. Connect the cables of the power supply side to the U, V and W output terminals for the motor.
2. Don't connect any electromagnetic contactor between the inverter and motor. If it is inevitable, turn on the contactor when both the inverter and motor are both at stand still.
3. Don't put the advance phase capacitor between the inverter and motor.
4. Put MCCB in the input power supply.

B. Control signal circuit

1. Separate the power cables of main circuit etc. from the control cables of the sequence and analog signals by passing the cables through the different ducts.
2. Use twisted pair shielded wire for control signal and connect the shield to earth terminal at on end, COMMON terminal of control board. Leave the other end of shielding open.
3. Avoid common Ground leads between high and low level voltage equipment.

C. Grounding

1. Be sure ground both the inverter and motor.
2. Keep grounded leads as short as possible.
3. Shield cables used to protect low-level signal leads should grounded at one end point.
4. Provide class 3 grounding (0.1Ω or less) for a terminal.
5. When grounding several inverters, make connections as shown below, no loop is produced as shown in FIG "a", FIG "b".



B. Terminals wiring diagram

1. SINGLE PHASE

