LITEON
光寶科技

Intelligent Integration with Innovation

LITE-ON Technology
The Best Partner for Smart Manufacturing

Industrial Automation

AC Drive
Servo Drive
HMI

About LITE-ON

LITE-ON Group

Founded in 1975, LITE-ON embraces being "Best Partner in Opto-Electronic, Eco-Friendly and Intelligent Technologies" as its vision to focus on the development of optoelectronics and key electronic components, and strives to build up competitive edge through resource integration and optimized management. LITE-ON produces products that are used in a broad range of applications, such as computers, communications, consumer electronics, automotive electronics, LED lighting, cloud computing, industrial automation as well as biotech and healthcare. LITE-ON is a worldwide leading provider of optoelectronics, information technology, storage devices, and mobile devices components.

For more than 40 years, LITE-ON has concentrated on establishing a competitive advantage in mass production. Through resource integration and management, we maximize the returns from a diverse product portfolio to realize excellent revenue growth and profits. In 2014, LITE-ON successfully completed its "One LITE-ON" program by integrating nine of its main subsidiaries under one management, while the main business strategy remains focusing on improving resource utilization, automation, production optimization, and streamlined processes for better productivity and efficiency. In the long-term, the focus is on profitability, sound governance and improving shareholder returns to lay down the foundation for a sustainable century enterprise.

In recent years, LITE-ON has been shifting its production focus from IT and communication towards IoT (Internet of Things) applications such as cloud computing, LED lighting, automotive, biotech, and industrial automation. The global technology industry is now set to welcome a new wave of changes, LITE-ON aims to leverage its existing advantage as a world-class enterprise in this age of changes and challenges to become the partner of choice for global customers developing innovations and applications for photonics, energy-saving and smart technologies.

IN 4C INDUSTRY

Computer - Magnesium aluminum alloy casing period punctuation. The largest transformer manufacturer in Taiwan and one of the major providers of power supplies used in notebook computers, desktops and LCD TVs. Global market share of notebook adapters is over 60% period punctuation.

Consumer Electronics - World's 2nd largest mobile phone casing supplier.

Communication - Semiconductor components applied on communications, information, consumer electronics products' switching power supply & system power supply, photo couplers, LED, switching hubs and WLAN.

Car - As the first automotive electronics manufacturer to acquire global certification TS16949, LITE-ON Automotive concentrates on engine control system, rear parking assistance system, Body Control System, LED automotive lamp module and Cruise Control System in the automotive industry. LITE-ON Automotive is the only company in the world which is capable of providing the integrated design service in LED automotive lamp module. LITE-ON is also the world's top three supplier for assemblies of diode rectifiers for car generators.

World-Class Quality

50 factories in America, Europe, Asia.
Low DPPM capable manufacturing to service.
High quality requirement industry.

Global Network

30 branch offices and 250 hubs.
40 years of experience in ODM/OEM.

LITE-ON Industrial Automation

With 50 factories, 30 branches, and over 250 hubs, we are capable of serving our customers globally in a timely manner.

With 40 years of success in technology and outstanding quality for highest customer satisfaction period. LITE-ON is taking AC drives as a first step in industrial automation. We are aiming to provide servo systems, motion control and HMI to become a total solution provider in industrial automation over the next 10 years.

Factory Equipment Automation Benefits

Improve overall factory productivity
Effectively reduce operating costs
Improve working environment
Maintain consistent production quality
Improve competitiveness

Market Positioning & Application

VFD

Premium Current Vector AC Drive EVO 8000 Series

0.75kW~110kW
1HP~150HP

Lathes
Hoists
Extruders
Extractors
Presses

Drawing Machines
Printing Machines
Wire Drawing Machines
Injecting Machine
Dyeing & Finishing Machines

VFD

Compact Vector Drive EVO 6800 Series

0.4kW~132kW
0.5HP~150HP

Presses
Ceramic Machines
Plastic Machines
Textile Machinery
Fans & Pumps

Disc Coal Feeders
Feeders
Belts Conveyors
Pulverized Coal Feeders

VFD

Ultra Compact Vector AC Drive EVO 6000 Series

0.2kW~3.7kW
0.25HP~5HP

Feeders
Winding Machines
Conveyors
Woodworking machinery
Food Processing Machines

Fans & Pumps
Labeling Machines
Knitting Machines
Packaging Machines
Inductrial Sewing Machines

Market Positioning & Application

SERVO

MicroType High Performance Servo Drives
ISA-7 Series

100W~2kW

Cutting Machines
Sawing Machines
Industrial Machinery
Conveyor Machines
Electric Discharge Machines

Human Machine Interface
HMI EasyLynk

Industrial Automation Application
Smart Home Automation Application
Processing tools
CAD/CAM Manufacturing
Conveyor Application
Others Interface Application

Inverter

Compact Vector AC Drive / EVO 6800 Series

Strong performance for V/F control. Completely protection by the voltage, ampere and temperature detection system.

Specific hardware design and software functions to meet the harsh environment required.

- CE、UL Certificate

DESIGN AWARD 2016

Features

Multiple Installations / Remote Keypad

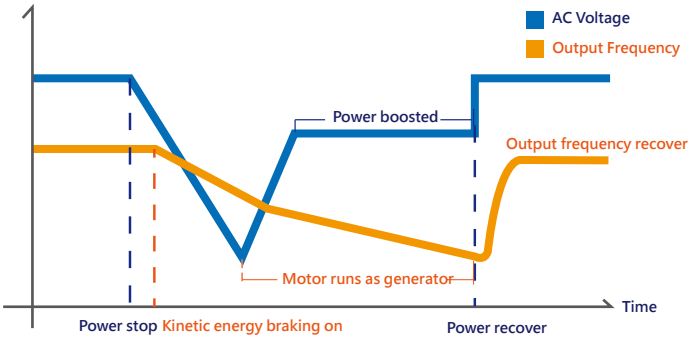
- Full power ranges can be flange / wall mounted.
- Standard with LED remote keypad, maximum extend to 200m.

Excellent Overload Capability

- The improved current overload capabilities make our Drive a better performance during acceleration/deceleration, and overcome more harsh applications.

Kinetic Energy Braking

- When the power shuts down, the regeneration from motor braking is utilized to keep the AC drive powered until power supply recovers.



Compact Design & Full Power Range Applications

- The compact design and full power ranges of EVO6800 provides the benefits of saving space and being able to adapt in many different applications and environments.

Global Certifications

- All models comply with EU RoHS standards.
- Conformity to CE / UL / CUL.

Application

- Presses
- Ceramic Machines
- Plastic Machines
- Textile Machinery
- Fans & Pumps
- Disc Coal Feeders
- Feeders
- Belts Conveyors
- Pulverized Coal Feeders






Ratings

- 200V Class

200V Class[*1]						
Model	EVO680021C	D75	1D5	2D2	--
Frame		1		2	--
Model	EVO680023C	D75	1D5	2D2	3D7
Frame		1		2	
Max. Motor Capacity	HP	1	2	3	5
	kW	0.75	1.5	2.2	3.7
Input Voltage (V) / Frequency (Hz)		1Phase/3 Phases, 200~240 V , -15% ~ +10% , 50/60Hz			
Rating Output	Current	4.2	7	11	17
	Max. Output (Hz)	0~400 Hz			
	Carrier Frequency (kHz)	6~12 kHz			
Cooling Method		Fan			

- 400V Class

400V Class									
Model	EVO680043S		0D4	D75	1D5	2D2	3D7	5D5	7D5	011
Frame			1				2		3	
Max. Motor Capacity	HP	HD	0.5	1	2	3	5	7.5	10	15
		ND	1	2	3	5	7.5	10	15	20
	kW	HD	0.4	0.75	1.5	2.2	3.7	5.5	7.5	11
		ND	0.75	1.5	2.2	3.7	5.5	7.5	11	15
Input Voltage (V) / Frequency (Hz)			3 Phases , 380V ~ 480V , -15% ~ +10% , 50/60Hz							
Rating Output	Current	HD	1.8	3.4	4.2	5.5	9.5	12.6	18.5	25
		ND	2.3	4.1	5.4	8	12.6	17	25	31
	Max. Output (Hz)		0~400 Hz							
	Carrier Frequency (kHz)		2~12 kHz						2~15 kHz	
Cooling Method			Fan							

400V Class											
Model	EVO680043S		015	018	022	030	037	045	055	075	090	110
Frame			4		5		6			7		
Max. Motor Capacity	HP	HD	20	25	30	40	50	60	75	100	125	150
		ND	25	30	40	50	60	75	100	125	150	175
	kW	HD	15	18.5	22	30	37	45	55	75	90	110
		ND	18.5	22	30	37	45	55	75	90	110	132
Input Voltage (V) / Frequency (Hz)			3 Phases, 380V ~ 480V , -15% ~ +10% , 50/60Hz									
Rating Output	Current	HD	32	38	45	60	75	92	115	150	180	215
		ND	38	45	60	75	92	115	150	180	215	248[*2]
	Max. Output (Hz)		0~400 Hz									
	Carrier Frequency (kHz)		2~15 kHz				2~12 kHz			2~10 kHz		
Cooling Method			Fan									

*1 : 6800C series is without UL certification.

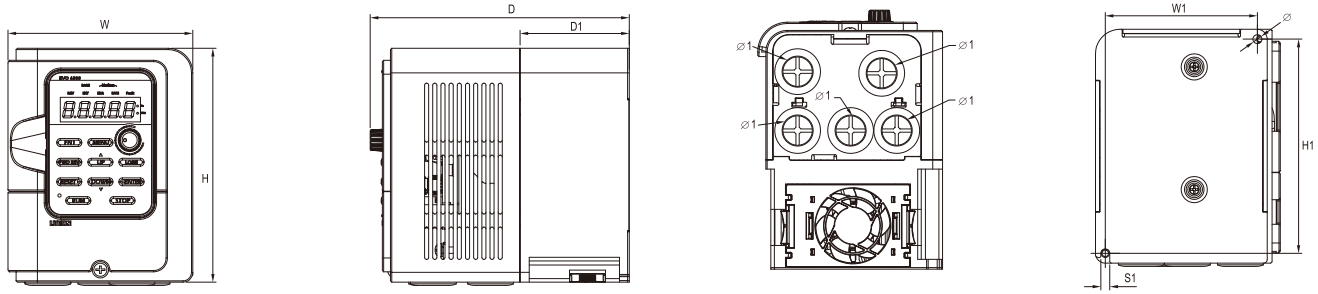
*2 : The maximum current rating could reach 260A and under UL standard current rating is 248A.

Dimensions

Unit : mm / inch

Frame	W	W1	H	H1	D	D1	S1	Ø	Ø1	Ø2	Ø3	Ø4
1	113 (4.45)	93 (3.66)	143 (5.63)	131 (5.16)	159 (6.24)	151 (5.89)	5.5 (0.22)	5.5 (0.22)				
2	145 (5.71)	128 (5.04)	184 (7.25)	172 (6.77)	168 (6.56)	161 (6.34)	5.5 (0.22)	5.5 (0.22)	22 (0.87)	28 (1.10)		
3	225 (8.79)	202 (7.89)	260 (10.16)	242 (9.46)	198 (7.74)	190 (7.42)	6.5 (0.25)	6.5 (0.25)	22 (0.86)	35 (1.36)	44 (1.73)	
4	235 (9.25)	212 (8.35)	340 (13.38)	322 (12.68)	218 (8.59)	210 (8.27)	6.5 (0.25)	6.5 (0.25)	22 (0.86)	28 (1.10)	35 (1.36)	
5	281 (11.06)	257 (10.11)	385 (15.15)	367 (14.45)	219 (8.62)	211 (8.30)	6.5 (0.25)	6.5 (0.25)	22 (0.86)	28 (1.10)	35 (1.36)	44 (1.73)
6	304 (11.88)	270 (10.55)	550 (21.48)	530 (20.70)	323 (12.62)	315 (12.30)	11 (0.43)	11 (0.43)				
7	344 (13.43)	260 (10.15)	665 (25.97)	640 (25.00)	358 (13.98)	350 (13.67)	11 (0.43)	11 (0.43)	19 (0.74)			

Frame 1



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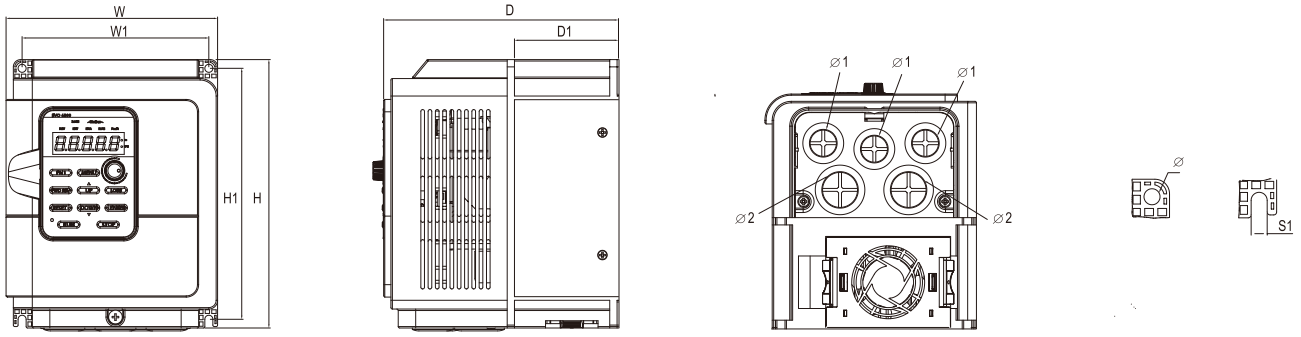

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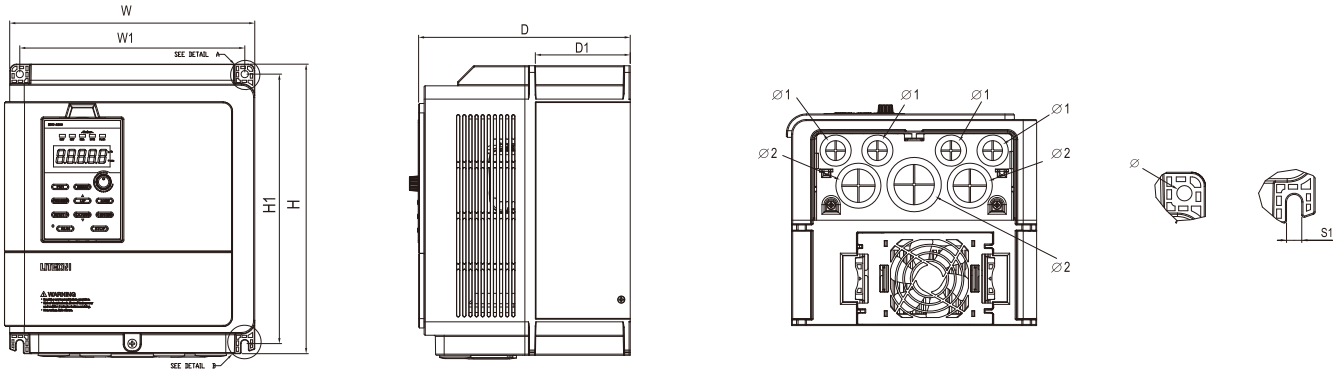
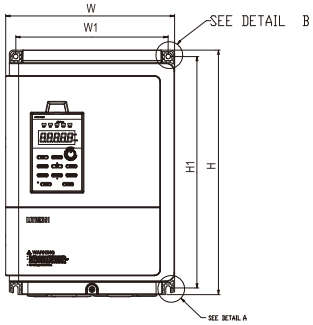
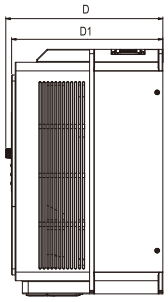
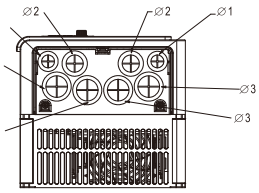


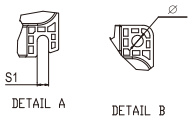
Dimensions

Frame 4









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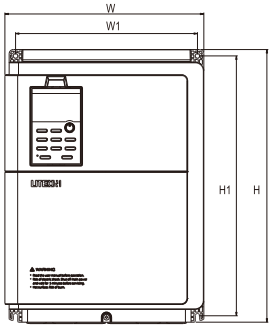

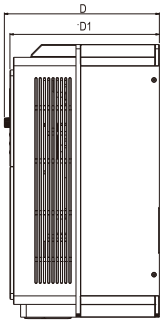

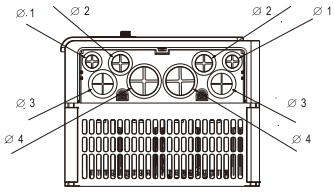

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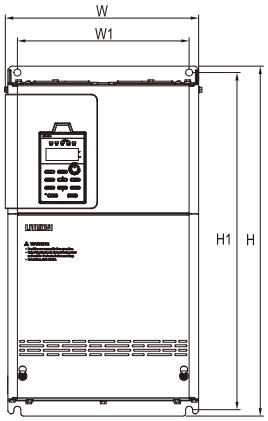

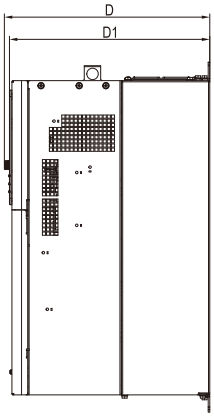

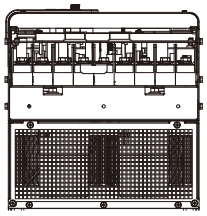

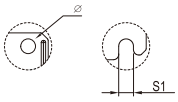

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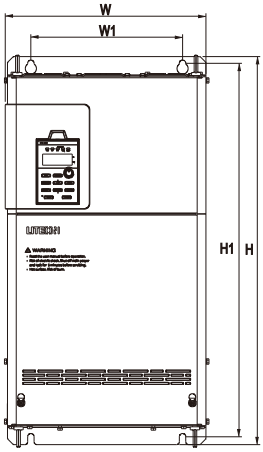
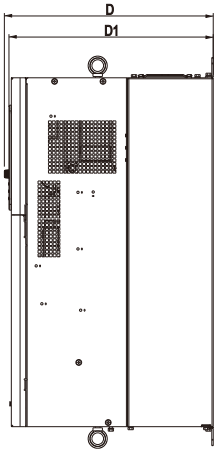
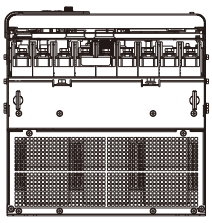
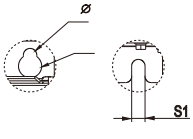


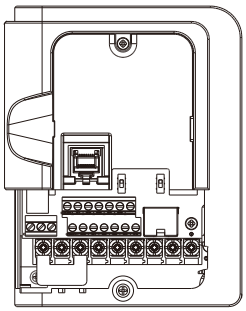


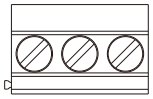




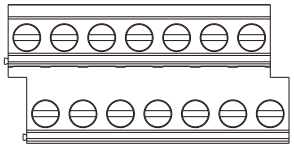
Terminal Block Description

- 200V



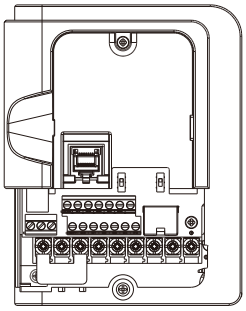


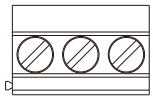
R1A	R1B	R1C



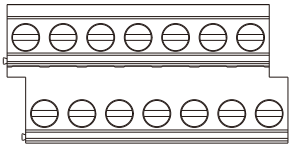
+10V	A2	AC	FM	D1	DC	S5
+24V	SC	S1	S2	S3	S4	PE

- 400V F1~F2



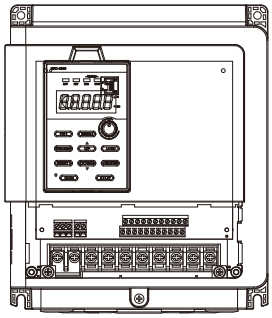


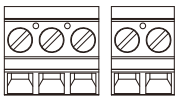
R1A	R1B	R1C



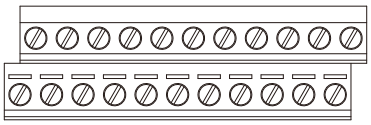
V	A2	AC	AM	D1	DC	S4C
+24V	COM	S1	S2	S3	S4	PE

- 400V F3~F7





R1A	R1B	R1C	R2A	R2C



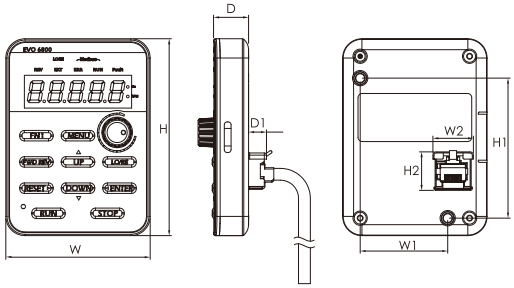
V+	A1	A2	S1	S3	S5	S7	S7C	MP	DC	D1
AC	FM	AM	24V	S2	S4	S6	COM	D+	D-	PE

Keypad Dimensions

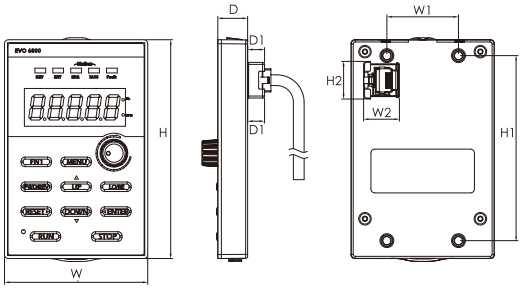
Unit : mm

FRAME	W	W1	W2	H	H1	H2	D	D1
F1 - F2	66	40	18.5	90	64	17.6	16	8.2
F3 - F7	72	36	18	110	93	18.9	15	8.5

● F1 - F2



● F3 - F7



General Specification

Item		Specification
Comtrol Characteristic	Control Method	V/F, Sensorless Voltage Vector Control (SVVC)
	Ouput Frequency	0~400 Hz
	Frequency Accuracy	Digital reference: within ±0.01% of the Max. output freqeuncy
		Analog reference: within ±0.1% of max. output frequency
	Frequency Setting Resolution	Digital input: 0.01Hz
		Analog Output: 1/1000 of max. frequency
	Starting Torque*	150% / 3Hz (V/F)
		150% / 1Hz (IM Sensorless Voltage Vector Control)
	Speed Control Range*	1: 40 (V/F)
		1:100 (Sensorless Voltage Vector Control)
	Speed Control Accuracy	±0.2% in Sensorless Voltage Vector Control
	Speed Response	> 5 Hz in Sensorless Voltage Vector Control
	Acc/Dec Time	0.0 ~ 6000.0 sec
	Speed Response	approx. 20%
	V/F Pattern	15 fixed and 1 programmable
	Overload Capacity	150% for 1 min. within every 10 min.
Operating Environment	Area of Use	Indoor without corrosive gas/liquid or flammable gas/liquid/oil mist/dust
	Ambient Temperature	-10℃ ~+50C,-10℃~+40℃(NEMA type1),below 90% RH without froze or condensation
	Storage Temperature	-20℃ ~ +60℃
	Altitude	Up to 1000 meters
	Vibration	Below 9.8 m/s² (10 ~ 20Hz), below 5.9 m/s² (20 ~ 55Hz)
	Enclosure	IP20, NEMA1 (with NEMA kit option)
Number of I/O F1-F2	Analog Input (AI)	1 points (A2: 0 ~ 5V, 0 ~ 10V, 0 or 4 ~ 20mA)
	Digital Input (DI)	200V : 5 points 400V : 4 points
	Analog Output (AO)	200V : FM 0~ 10V 400V : AM 0~10V / 0 or 4 ~ 20mA
	Digital Output (DO)	1 point
	Relay Output (RO)	1 point
Number of I/O F3-F7	Analog Input (AI)	2 points (A1: 0 ~10V, -10 ~ 10V / A2: 0 or 4 ~ 20mA , 0 ~ 10V, 0 ~ 5V)
	Digital Input (DI)	7 points
	Analog Output (AO)	2 points (FM : 0~10V, -10V~10V / AM : 0 or 4~20mA ,0~10V)
	Digital Output (DO)	1 point
	Relay Output (RO)	2 points
	Pulse Input (PI)	1 point (1 Common digital input point)
	Pulse Output (PO)	1 point
Build-In		Modbus (RS-485), communication at max. speed 115200 bps
Option (under development)		Profibus-DP,CANopen,EtherCAT

* The data is tested under laboratory environment conditions.

Terminal Block Description

- 200V

Type	Terminal Name	Code	Terminal Discription	
Main Circiut (200V)	AC power input	R/L1	Input power terminal	
		S/L2		
		T/L3		
	Braking resistor	B1	200V : Braking transistor built-in. Please purchase optional braking resistor to connect	
		B2		
	AC drive output	U/T1	Please connect to AC motor	
		V/T2		
		W/T3		
	Gound terminal	E	Ground terminal for AC drive. Please ensure grounding is properly wired.	
Control Circuit	Digital input terminal 1	S1	Photo coupler: input voltage 24V/ 8mA Default setting on sink mode. Use Sink/Source DIP switch on the control board to set sink/source mode for multi-function digital inputs.	ON : Forward /OFF : Stop
	Digital input terminal 2	S2		ON : Reverse /OFF : Stop
	Digital input terminal 3	S3		External fault 1 (normal open)
	Digital input terminal 4	S4		Fault reset
	Digital input terminal 5	S5		Multi-speed frequency command
	Digital output terminal 1	D1	Programmable digital output terminal,Photo coupler output 30V/2~15mA	
	Digital output common	DC	Digital output terminal	
	Digital input common	SC	Common terminal of digital input for NPN/PNP mode switch.	
	Digital input signal power	+24V	Digital control signal common +24V/50mA	
	Auxiliary power	+10V	Auxiliary power terminal for analog input +10V /20mA	
	Analog input terminal 1	A1	Programmable analog input 0 or 4~20mA / 0~10V/ 0~5V	Main frequency command
	Analog signal common	AC	Common terminal of analog signal	
	Analog output	FM	Programmable analog output, 0 ~ 10V	
	Shielded Ground	PE	Ground terminal for control signal shielded cable to effectively suppress external interference. Please ensure this is properly wired.	
	Relay 1	R1A	Normal open terminal	Relay output DC30V 3A AC250V 5A
		R1B	Normal closed terminal	
		R1C	Common terminal	
Com.	RS-485 port	RJ45	To connect RS-485 communication at max. speed 115200 bps	

Terminal Block Description

- 400V F1~F2

Type	Terminal Name	Code	Terminal Discription	
Main Circiut (400V)	AC power input	R/L1 S/L2 T/L3	Input power terminal	
	Braking resistor	B1 B2	400V : Braking transistor built-in. Please purchase optional braking resistor to connect	
	DC Power negative input	-	DC Power negative input	
	AC drive output	U/T1 V/T2 W/T3	Please connect to AC motor	
Control Circuit	Digital input terminal 1	S1	Photo coupler: input voltage 24V/ 8mA Default setting on sink mode. Use Sink/Source DIP switch on the control board to set sink/source mode for multi-function digital inputs.	ON : Forward /OFF : Stop
	Digital input terminal 2	S2		ON : Reverse /OFF : Stop
	Digital input terminal 3	S3		External fault 1 (normal open)
	Digital input terminal 4	S4		Fault reset
			Pulse input terminal 50kHz	Frequency command
	Digital input common	S4C	Common terminal of digital input	
	Digital output terminal 1	D1	Programmable digital output terminal,Photo coupler output	Zero speed
			Pulse output 50kHz/24V_{p-p} 15mA	Frequency command
	Digital output common	DC	Digital output terminal	
	Digital input signal power	+24V	Digital control signal common +24V/200mA	
	Auxiliary power	+V	Auxiliary power terminal for analog input +10V/5mA	
	Analog input terminal 2	A2	Programmable analog input 0 or 4~20mA / 0~10V / 0~5V	
	Analog output	AM	Programmable analog output 0 or 4~20mA / 0~10V	
	Analog signal common	AC	Common terminal of analog signal	
	Relay 1	R1A	Normal open terminal	Relay output DC30V 3A AC250V 5A
		R1B	Normal closed terminal	
		R1C	Common terminal	
Com.	RS-485 port	RJ45	To connect RS-485 communication at max. speed 115200 bps	

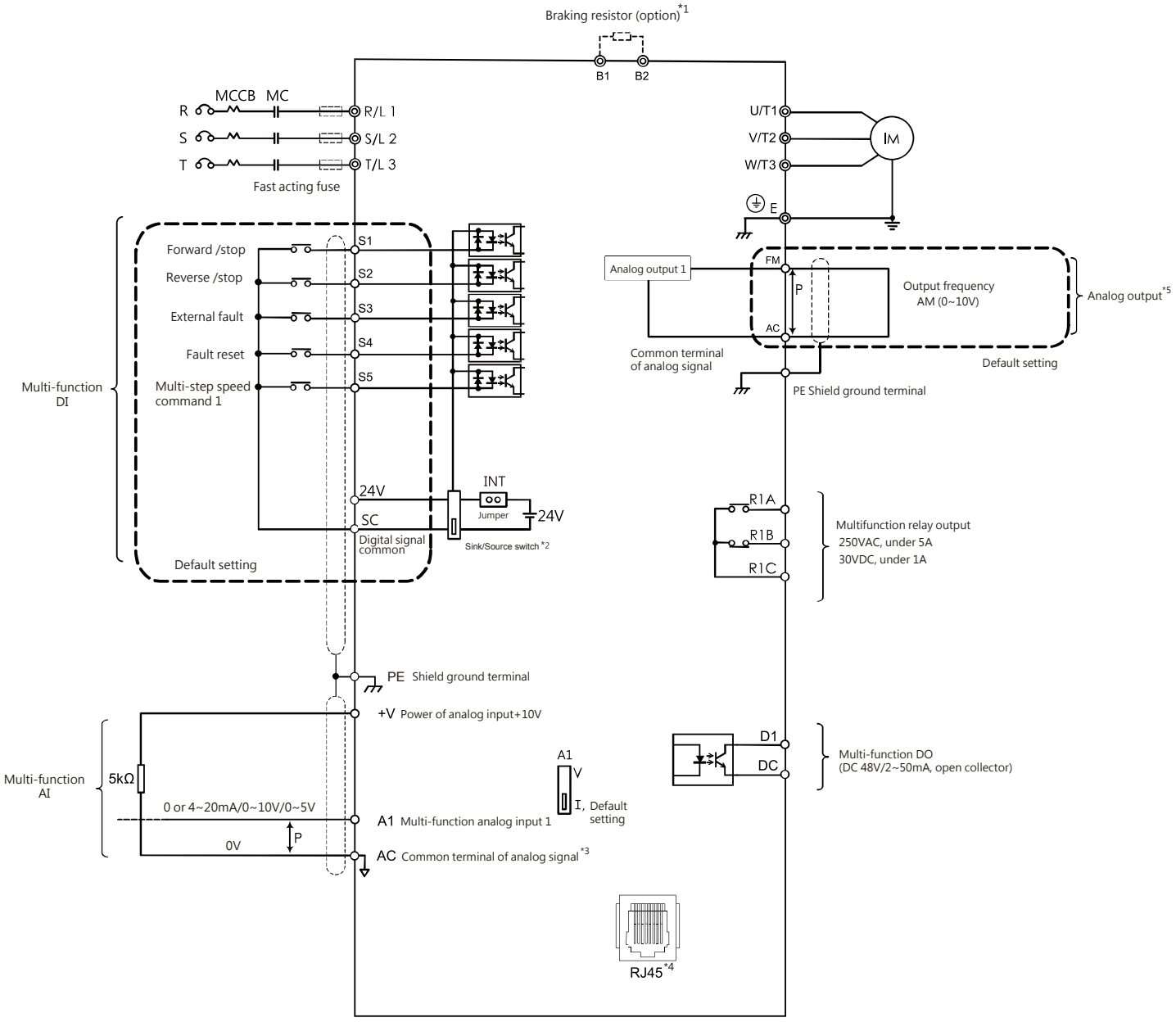
Terminal Block Description

- 400V F3~F7

Type	Terminal Name	Code	Terminal Discription	
Main Circiut	AC power input	R/L1	Input power terminal	
		S/L2		
		T/L3		
	Braking resistor	B1	400V Class , ≦ 37kW: Braking transistor built-in. Please purchase optional braking resistor to connect.	
		B2	200V Class ,≦ 22kW: Braking transistor built-in. Please purchase optional braking resistor to connect.	
	Braking module	DC+	400V Class ≧ 45kW: Please purchase optional braking module to connect. 200V Class ≧ 30kW: Please purchase optional braking module to connect.	
		DC-		
	DC reactor	DC+1/ DC+2	400V class, 11kW~132kW: Please remove the jumper and connect DC reactor to these terminals. 400V class > =45kW: selection of build-in DC reactor is available.	
		P/DC+		
	AC drive output	U/T1	Please connect to AC motor	
		V/T2		
		W/T3		
	Gound terminal	E	Ground terminal for AC drive. Please ensure grounding is properly wired.	
Control Circuit	Auxiliary power	V+	Auxiliary power terminal for analog input +10/ 20mA	
	Analog signal common	AC	Common terminal of analog signal	
	Analog input terminal 1	A1	Programmable analog input 1, 0 ~ 10V / -10 ~ +10V	Main frequency command
	Analog input terminal 2	A2	Programmable analog input 2, 0 or 4 ~ 20mA / 0 ~ 10V / 0~5V	Auxiliary frequency command
	Analog output 1	FM	Programmable analog output, 0 ~ 10V / -10 ~ +10V	Output frequency
	Analog output 2	AM	Programmabl+E6e analog output, 0 or 4 ~ 20mA / 0 ~ 10V	Output current
	Digital input signal power	24V	Power terminal for digital control signal +24V / 200mA	
	Digital input terminal 1	S1	Photo coupler: input voltage 24V/ 8mA Default setting on sink mode. Use Sink/Source DIP switch on the control board to set sink/source mode for multi-function digital inputs.	ON：Forward / OFF：Stop
	Digital input terminal 2	S2		ON：Reverse / OFF：Stop
	Digital input terminal 3	S3		External fault 1 (normal open)
	Digital input terminal 4	S4		Fault reset
	Digital input terminal 5	S5		Multi-speed frequency command 1
	Digital input terminal 6	S6		Multi-speed frequency command 2
	Digital input terminal 7	S7	Pulse input terminal 50kHz / max. input: 10~24V / min input: 0~0.5V	
	Digital input terminal common	S7C	Digital input terminal common	
	Digital input common	COM	Common terminal of digital input	
	Pulse train output terminal	MP	Programmable pulse train output, voltage output $30V_{p-p}$ / 30mA , max. frequency 50kHz	Frequency command (defaut)
	Digital output terminal 1	D1	Programmable digital output terminal,Photo coupler output 48V/2~50mA	
	Digital output common	DC	Digital output terminal	
	RS-485 port	D+	To connect RS-485 communication at max. speed 115200 bps	
		D-		
	Shielded Ground	PE	Ground terminal for control signal shielded cable to effectively suppress external interference. Please ensure this is properly wired.	
	Relay 1	R1A	Normal open terminal	Relay output DC30V 3A AC250V 5A
		R1B	Normal closed terminal	
		R1C	Common terminal	
	Relay 2	R2A	Normal open terminal 2	
		R2C	Common terminal 2	
Com.	RS-485 port	RJ45	To connect RS-485 communication at max. speed 115200 bps	

Wiring Diagram

- 200V



◎ indicates main circuit

○ indicates control circuit

indicates shielded cable

P indicates twisted-pair shielded cable

Notes

*1. When using braking resistor, please ensure stall prevention function is off.

*2. Multi-function analog input S1~S7 can be switched between Sink(NPN) or Source(PNP) mode. Default：NPN mode.

*3. AC is common terminal of analog signal (Analog Common).

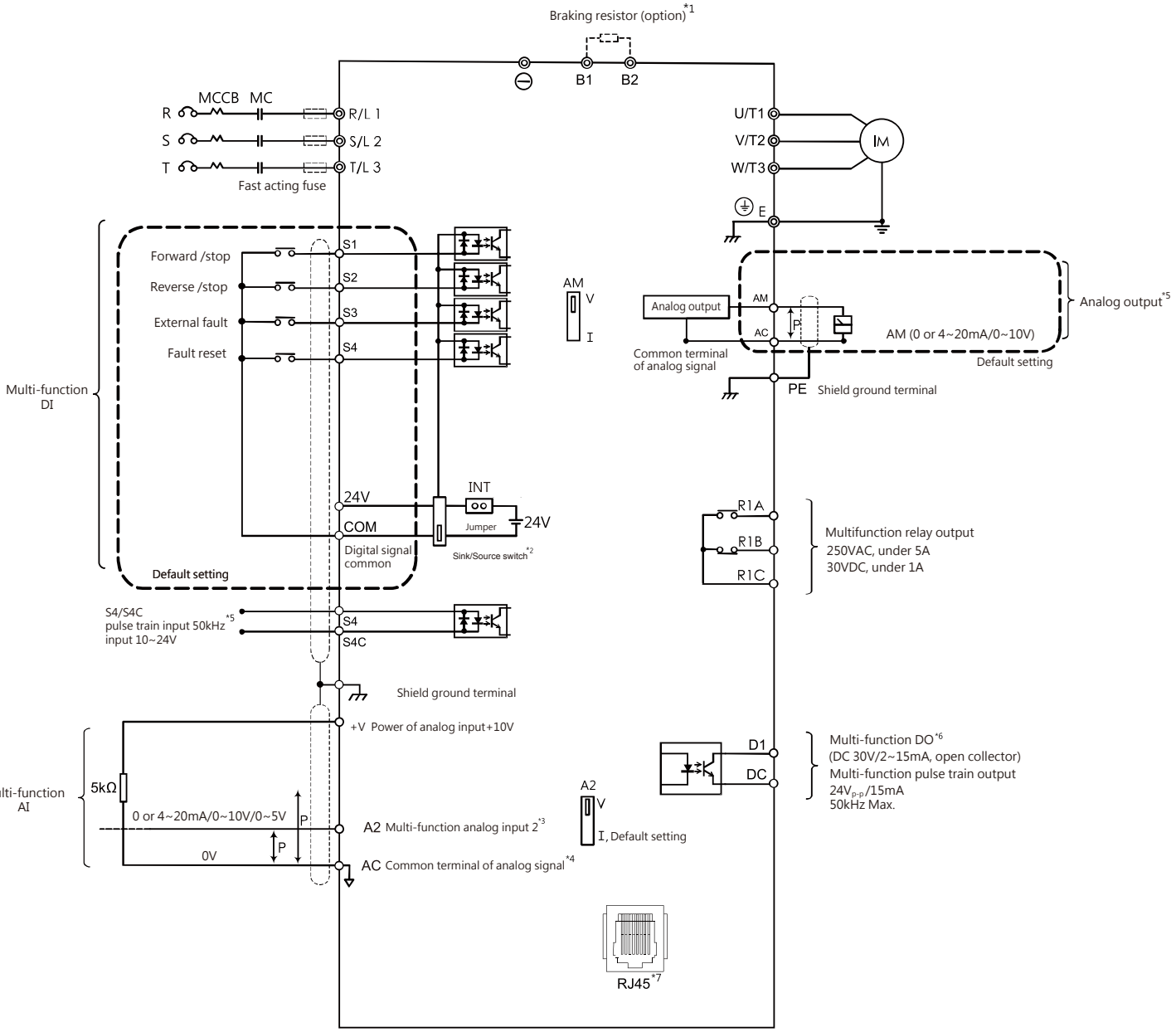
*4. RJ45 is the communication port of RS-485.

*5. Analog output is used to connect frequency meter, current meter, voltage meter and power meter.

*6. This catalog includes the blueprint of our products in the future. For more precise specifications, please refer to the quick start that alongside with our products. If you have any question, please contact our authorized distributors or LITE-ON.

Wiring Diagram

- 400V F1~F2



◎ indicates main circuit

○ indicates control circuit

indicates shielded cable

P indicates twisted-pair shielded cable

Notes

*1. When using braking resistor, please ensure stall prevention function is off.

*2. Multi-function analog input S1~S7 can be switched between Sink(NPN) or Source(PNP) mode. Default：NPN mode.

*3. Switch A2 is used to set analog input as voltage input or current input.

*4. AC is common terminal of analog signal (Analog Common).

*5. Pulse input and digital inputs share the same terminal (5.5kW or less shared S4,7.5kW more common S7).

*6. Pulse output and digital outputs share the same terminal (5.5kW or less shared S4,7.5kW more common S7).

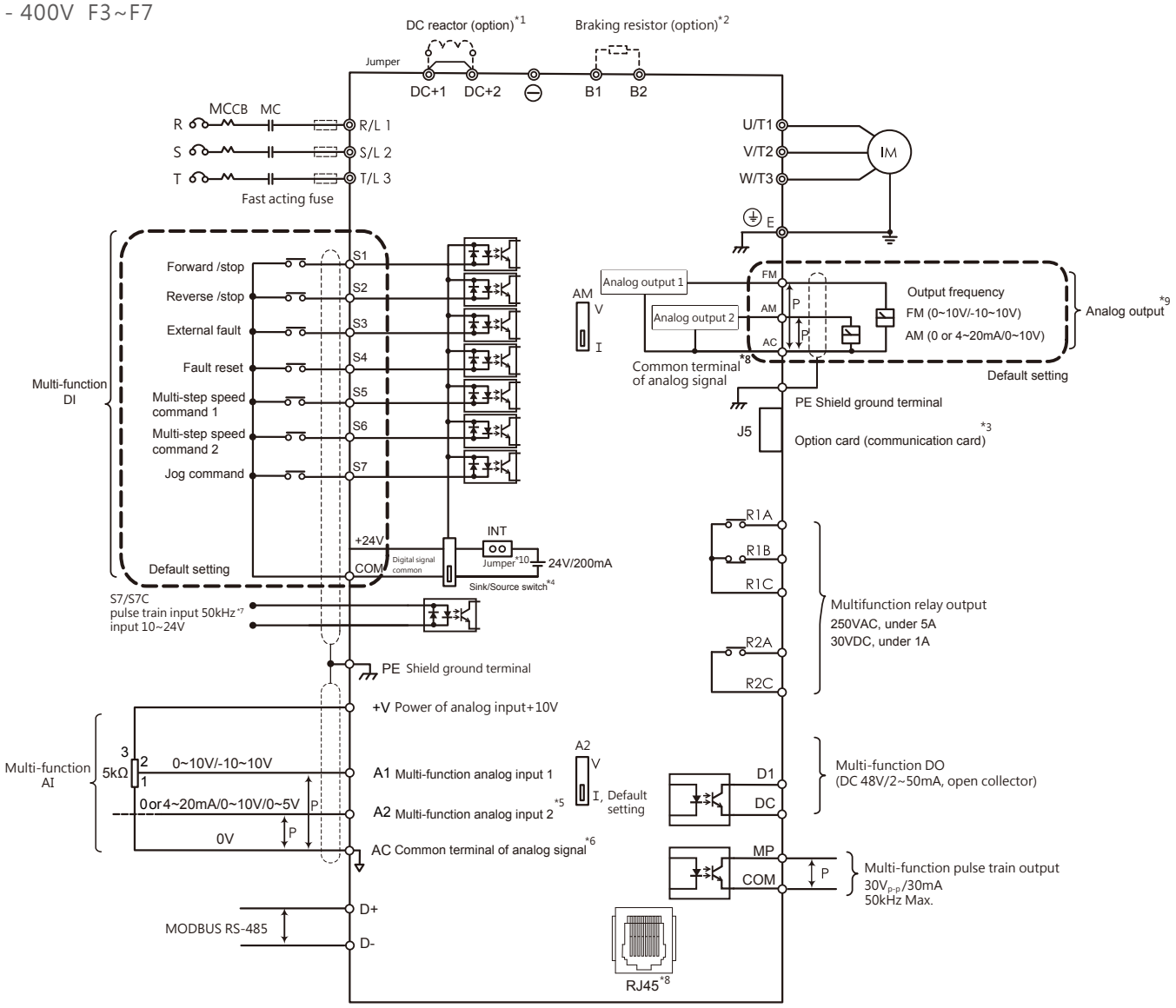
*7. RJ45 is the communication port of RS-485.

*8. Analog output is used to connect frequency meter, current meter, voltage meter and power meter

*9. This catalog includes the blueprint of our products in the future. For more precise specifications, please refer to the quick start that alongside with our products. If you have any question, please contact our authorized distributors or LITE-ON.

Wiring Diagram

- 400V F3~F7



◎ indicates main circuit

○ indicates control circuit

indicates shielded cable

P indicates twisted-pair shielded cable

Notes:

*1. Please remove DC+(+1/+2) jumper when installing DC reactor.

*2. When using braking resistor, please ensure stall prevention function is off.

*3. J5 is port of optional communication card. Please refer to user manual when installing it.

*4. Multi-function analog input S1~S7 can be switched between Sink(NPN) or Source(PNP) mode. Default：NPN mode.

*5. Switch A2 is used to set analog input as voltage input or current input.

*6. AC is common terminal of analog signal (Analog Common).

*7. Pulse input and digital inputs share the same terminal (5.5kW or less shared S4,7.5kW more common S7).

*8. RJ45 is the communication port of RS-485.

*9. Analog output is used to connect frequency meter, current meter, voltage meter and power meter.

*10. Insert the jumper to control board to use the internal 24V signal or remove it to use the external 24V signal.