

Power Solutions

- Telecom Power
- Server Power
- Electric Power
- Medical Power
- Display Power
- LED Power
- Laser Power
- OA Power
- Flat Panel Power
- Bi-directional Inverters for Portable Power
- Solar & BESS & EV Charging Solution

Industry Automation

- Servo System
- Control System
- Elevator Controller
- Linear Motors
- IOT Solution
- Encoder
- Variable Frequency Drive
- Internal Gear Pump

New Energy Solutions

- Multiplexed EV Charging System(OBC & DC-DC)
- Power Electronic Unit(2-in-1, 3-in-1)
- E-Compressor
- TV EDU
- Motor Control Unit
- Construction Machinery Controller
- Intelligent Active Hydraulic Suspension (i-AHS)
- Railway A/C Controller
- Railway VFD
- Light Electric Vehicle Controller
- Thermal Mgmt. System

Home Appliance Control Solutions

- Residential A/C Controller
- Commercial A/C Controller
- Heat Pump Controller
- Vehicle A/C Controller
- Solar A/C Controller
- Mini Compressor Controller
- Refrigerator Controller
- Washer/Dryer Controller
- Residential Microwave
- Industrial Microwave
- Smart Bidet
- RF Thawing System

Precision Connection

- FFC
- FPC
- Coaxial Cable
- CCS
- Litz Wire
- Peek Wire



L6 Series Electric Drive Products

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Version: 202407

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ABOUT MEGMEET

MEGMEET is a comprehensive solution provider for hardware and software R&D, production, sales, and service in the field of electrical automation. With power electronics and automation control at its core, MEGMEET's main businesses include Power Solutions, Industrial Automation, New Energy Solutions, Intelligent Equipment, Home Appliance Control Solutions, and Precision Connection.

MEGMEET has established a robust R&D, manufacturing, marketing, and service platform, with over 7,300 employees worldwide. MEGMEET's global presence includes R&D Centers in China, Germany, and the United States; Manufacturing Centers in Thailand, India, and China; and Regional Offices across North America, Europe, and Asia.

MEGMEET is committed to creating a cleaner living environment for all human beings through more efficient energy utilization and improved manufacturing efficiency. MEGMEET aims to become the world leader in electrical automation and achieve the goal of MEGMEET EVERYWHERE.

 2600+ R&D Staff	 10 R&D Centers	 8 R&D Manufacturing Bases
 7300+ Total Employees	 1700+ No. of Patents & IP Rights	



L6 Series Electric Drive Products

Product Introduction

With the new energization of engineering vehicles, customers have put forward higher and higher requirements on the use efficiency of electric energy, the driving range of vehicles, the convenience of operation, the comfort of driving sense and so on. The OEMs urgently need to improve the market competitiveness of the vehicle, from good control performance to excellent energy efficiency, from a wide range of cold and hot environment adaptability to comfortable control experience, from adaptability to complex road conditions to braking energy feedback requirements, MEGMEET offers a complete range of product solutions.

L6 series electric drive products are developed for the drive needs of electric engineering vehicles. It is suitable for 0.4~10T electric balance forklift, electric tractor, high-altitude arm truck, concrete mixer truck, loader, electric shear lifting platform, logistics storage truck, golf cart, electric sightseeing car, electric sanitation car, electric lawn mower, stacker car, all kinds of electric patrol car, electric scooter for the elderly and other electric engineering vehicles.

L6 is suitable for medium speed pump drive hydraulic systems as well as high speed walking electric drive systems. L6 supports lead-acid battery and lithium battery power supply, adapts to 24V-600Vdc battery voltage system, with a maximum peak power of 110kW.

L6 has flexible bus control and upper computer monitoring, supports A/B photoelectric encoder and resolver. L6 has excellent dust-proof and water-proof capability, meets the test standards of IP65 and IP67, adapts to the rapid change of ambient temperature in a short time, and meets the use requirements of various harsh environments.

We also provide electronic control system solutions including vehicle instrument, controller, permanent magnet synchronous motor and so on.



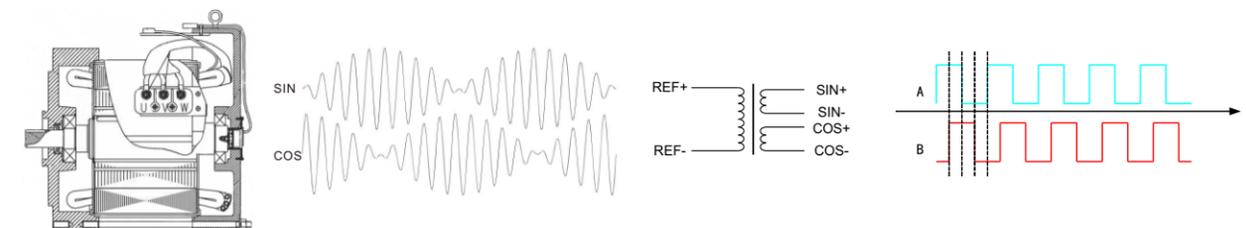
Product Features

Complete variety

- Input voltage specifications: 24V, 48V, 72V, 80V, 96V, 144V, 280~500V, etc.
- Output current specifications: 150A, 200A, 275A, 350A, 450A, 550A, 650A, etc.
- The maximum peak power is 110kW.

Adaptive motor and encoder

- Adapt to AC asynchronous motor +A/B incremental encoder, and permanent magnet synchronous motor + resolver. Suitable for single drive walking system, single drive hydraulic action system, single walking + single hydraulic action system, double drive walking + single hydraulic action system, four drive walking + single hydraulic action system, etc.



External interface

- L6 series electric drive products provide industry universal 35PIN interface, the pin function definition is basically consistent with imported brands, compatible with a variety of vehicles sealed I/O interface, which can meet the control requirements of vehicle system to the maximum extent.
- L6 series electric drive products provide two standard frame CAN bus, with optional 120 ohm matching resistance, communication speed baud rate range: 125K, 250K, 500K, 1M.
- CAN1 is a common CAN port, which is used to match the upper computer monitoring software MDs-smart independently developed by our company. Connected by USB-CAN box, CAN1 can be used to read and write drive parameters, monitor status, analyze waveform, update firmware, etc., so as to facilitate maintenance and debugging.
- CAN2 is a vehicle isolation CAN port, which can be customized to specific communication protocols according to user requirements, to replace the drive currently used by the customer.

Control performance

- L6 series electric drive products adopt advanced vector control algorithm, which makes special algorithm processing for the different characteristics of asynchronous machine and synchronous machine at high, medium and low speed, as well as some special working conditions, such as steep slope slow descent of electric forklift, dual drive differential speed, brake control of high-altitude arm truck, climbing of four-drive arm truck, acceleration and deceleration synchronization, etc. It can maximize the control performance of the motor and ensure a wide range of torque and speed control accuracy. The output frequency adjustment range is 0~300Hz, and the peak running current can reach 200~600A.

Vehicle safety and handling comfort

- Built-in dual drive differential control function and turning limit function can realize the "dual drive turning electric differential speed" effect without the VCU, suitable for the dual drive system without VCU control, and ensure driving safety.
- Built-in steep slope descent, automatic anti-slip and intelligent throttle function, improve the active safety of the vehicle while improving the driving experience.

Energy efficiency

- According to the actual calibration results of the customer's motor, a set of optimal control parameters are developed and cured into the customized software. The control parameters involve high speed stability, heavy load stability, acceleration and deceleration stability, rated point efficiency, peak point efficiency, etc., which can greatly improve the working efficiency of the walking system and the hydraulic system.
- Brake or reverse energy feedback control, maximize energy saving management, extend vehicle mileage.

Protection function

- With the basic protection functions such as undervoltage, overvoltage, overcurrent and output short circuit
- With drive overheating, motor overheating, overload and encoder disconnection fault and other alarm, and automatic shutdown settings.
- With battery electrode reverse connection protection, power line and encoder disconnection detection protection
- Fully ensure the normal operation of the drive, motor and the whole electric control system.

Product certification test

- Meet EN 12895 industrial vehicle EMC test requirements
- Meet the electromagnetic compatibility of ISO 13766-1 earth-moving machinery
- Meet EN 1175 requirements for electrical safety of industrial vehicles
- Meet the environmental reliability test requirements of GB/T 18488-1 and GB/T 18488-2 drive motor systems for electric vehicles
- Meet the requirements of the EN 13849-1 functional safety certification
- Meet the general technical requirements of T-CCMA 0129 motor controller for non-road electric vehicles

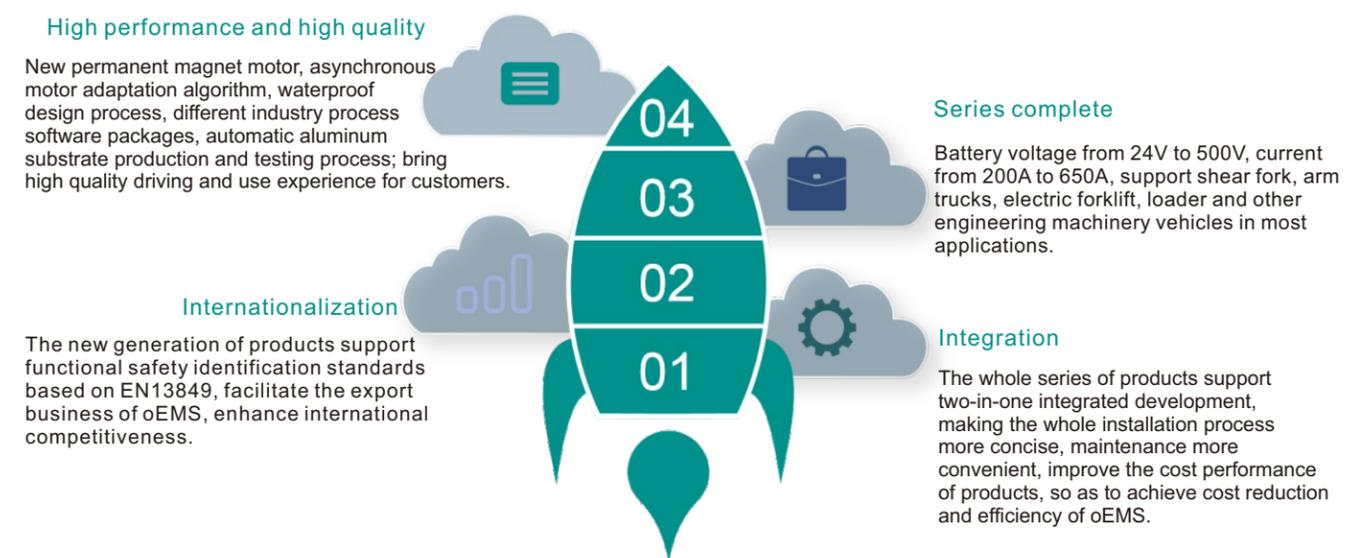
Processing technology

- The power substrate of L6 series electric drive products adopts advanced vacuum reflow welding technology, and the entire production process is completed in the Zhuzhou International Manufacturing Center of MEGMEET. Strict quality control management system ensures extremely low void rate, which ensures the continuous and stable high current output of the drive.

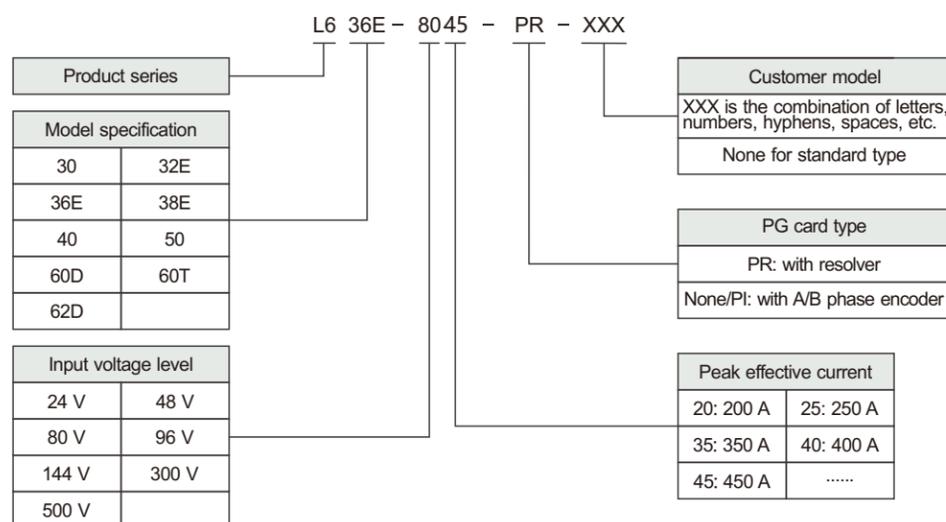
Customized development

- Customized development can be done according to the special needs of different models and applications.

MEGMEET is committed to continuous iteration of the product, the new generation of electric drive products have the following features.



Product Model Description



Product Series Data

Model	Voltage level	Operating voltage range	Power supply starting voltage	Output current		Cooling method
				1h	2 mins	
L630-2424-Z-X	24VDC	20V~28V	18V	80A	240A	Natural cooling
L630-2428-X	24VDC	20V~28V	18V	84A	280A	Natural cooling
L630-2428-Z-X	24VDC	20V~28V	18V	84A	280A	Natural cooling
L632E-2420-X	24VDC	20V~28V	18V	150A	200A	Natural cooling
L632E-2437-X	24VDC	20V~28V	18V	185A	375A	Natural cooling
L632E-4827-X	48VDC	33V~60V	28.8V	120A	275A	Natural cooling
L632E-4835-X	48VDC	33V~60V	28.8V	150A	350A	Natural cooling
L636E-4845-X	48VDC	33V~60V	28.8V	175A	450A	Natural cooling
L636E-8025-X	80VDC	56V~96V	48V	100A	250A	Natural cooling
L636E-8035-X	80VDC	56V~96V	48V	120A	350A	Natural cooling
L636E-8040-X	80VDC	56V~96V	48V	135A	400A	Natural cooling
L636E-8045-X	80VDC	56V~96V	48V	150A	450A	Natural cooling
L636E-9620-X	96VDC	72V~120V	65V	90A	200A	Natural cooling
L636E-1420-X	144VDC	105V~175V	96V	120A	200A	Natural cooling

Model	Voltage level	Operating voltage range	Power supply starting voltage	Output current		Cooling method
				1h	2 mins	
L638E-4865-X	48VDC	33V~60V	28.8V	200A	650A	Natural cooling
L638E-8050-X	80VDC	56V~96V	48V	155A	500A	Natural cooling
L638E-8065-X	80VDC	56V~96V	48V	200A	650A	Natural cooling
L638E-9650-X	96VDC	72V~120V	65V	155A	500A	Natural cooling
L638E-1435-X	144VDC	105V~175V	96V	100A	350A	Natural cooling
L638E-1450-X	144VDC	105V~175V	96V	135A	500A (1 min)	Natural cooling
L640-4D12-X	300VDC	250V~410V	*	53A	110A (1 min)	Natural cooling
L640-4D20-X	300VDC	250V~410V	*	96A	192A (1 min)	Air cooling
L640-4D30-X	320VDC	250V~410V	*	120A	260A (30s)	Water cooling
L650-5D60-X	500VDC	450V~600V	*	150A	300A (30s)	Water cooling
L650-5D90-X	500VDC	450V~600V	*	225A	450A (30s)	Water cooling
L650-5DB0-X	500VDC	450V~600V	*	300A	600A (30s)	Water cooling
L660D-2420-X	24VDC	20V~28V	18V	2*80A	2*200A	Natural cooling
L660D-2424-X	24VDC	20V~28V	18V	2*85A	2*240A(1min)	Natural cooling
L660D-2428-X	24VDC	20V~28V	18V	2*90A	2*280A(1min)	Natural cooling
L660T-2420-X	24VDC	20V~28V	18V	2*80A	2*200A/DC pump output current 280A	Natural cooling
L660T-2424-X	24VDC	20V~28V	18V	2*85A	2*240A(1min)/DC pump output current 280A	Natural cooling
L660T-2428-X	24VDC	20V~28V	18V	2*90A	2*280A(1min)/DC pump output current 280A	Natural cooling
L662D-4827-X	48VDC	33V~60V	28.8V	2*100A	2*270A	Natural cooling
L662D-4835-X	48VDC	33V~60V	28.8V	2*120A	2*350A	Natural cooling
L662D-4840-X	48VDC	33V~60V	28.8V	2*130A	2*400A	Natural cooling
L662D-4845-X	48VDC	33V~60V	28.8V	2*150A	2*450A	Natural cooling
L662D-8025-X	80VDC	56V~96V	48V	2*100A	2*250A	Natural cooling
L662D-8035-X	80VDC	56V~96V	48V	2*120A	2*350A	Natural cooling
L662D-8040-X	80VDC	56V~96V	48V	2*130A	2*400A	Natural cooling
L662D-8045-X	80VDC	56V~96V	48V	2*150A	2*450A	Air cooling

Note: * indicates that there is no such parameter.

Product Technical Specifications

Carrier frequency	Max. 8kHz	
Maximum output frequency	300Hz	
Electrical isolation voltage of radiator	500Vac	
Storage ambient temperature	-40°C~+70°C	
Operating ambient temperature	-30°C~+50°C	
EMC	Radiation emission RE	BS EN 12895: 2015+A1-2019 ISO 13766-1: 2018 EN IEC 61000-6-4: 2019
	Radiation immunity RS	ISO 13766-1: 2018 EN12895: 2015+A1-2019 EN IEC 61000-6-2: 2019
	BCI immunity	ISO 13766-1: 2018 ISO 11452-4: 2020
	Electrostatic test ESD	EN12895: 2015+A1-2019 ISO 13766-1: 2018 EN IEC 61000-6-2: 2019
Safety regulations and environmental reliability	EN 1175: 2020 T-CCMA 0129: 2022 GB/T 18488.1: 2015 GB/T 18488.2: 2015	
IP rating	L630, L632E, L636E, L638E, L660D/T, L662D models	L640 and L650 models
	IP65	IP67

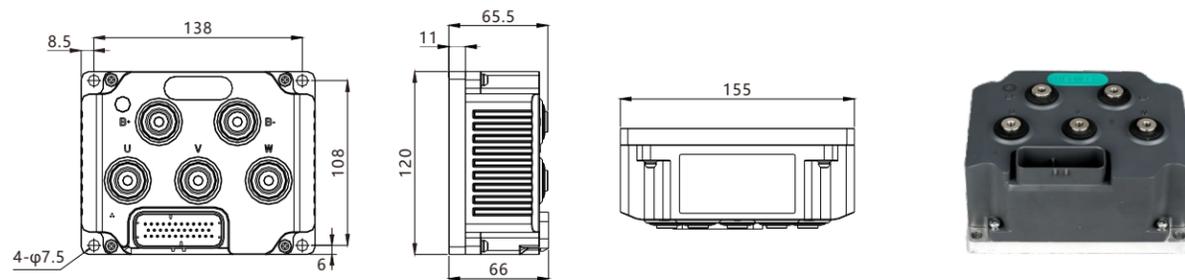
Product Installation Data

Model	Gross weight (kg)	Dimension (mm)	Base mounting hole	Terminal screw specification	Water pipe connector
L630-2424-Z-X	1.25	155*120*66	4*Ø7mm	5xM6x16	None
L630-2428-X	1.5	155*120*76			
L630-2428-Z-X			2.23	180*140*73.5	4*Ø7mm
L632E-2420-X					
L632E-2437-X					
L632E-4827-X					
L632E-4835-X	4.12	232*165*92	4*Ø7mm	5xM8x16	None
L636E-4845-X					
L636E-8025-X					
L636E-8035-X					
L636E-8040-X					
L636E-8045-X					
L636E-9620-X	6.37	232*275*92	4*Ø7mm	6xM8x16	None
L636E-1420-X					
L638E-4865-X					
L638E-8050-X					
L638E-8065-X					
L638E-9650-X	5.6	299*242*127.28	4*Ø10mm	5xM6x16	None
L640-4D12-X					
L640-4D20-X					
L640-4D30-X	5.4	322*242*131.5	3*Ø10mm	5xM6x16	5*Ø20±0.2
L650-5D60-X					
L650-5D90-X					
L650-5DB0-X	2.48	206*150*69.3	4*Ø7.5mm	9xM6x16	None
L660D-2420-X					
L660D-2424-X					
L660D-2428-X					
L660T-2420-X					
L660T-2424-X					
L660T-2428-X	5.36	275*200*75	4*Ø7.5mm	9xM8x16	None
L662D-4827-X					
L662D-4835-X					
L662D-4840-X					
L662D-4845-X					
L662D-8025-X					
L662D-8035-X					
L662D-8040-X					
L662D-8045-X					

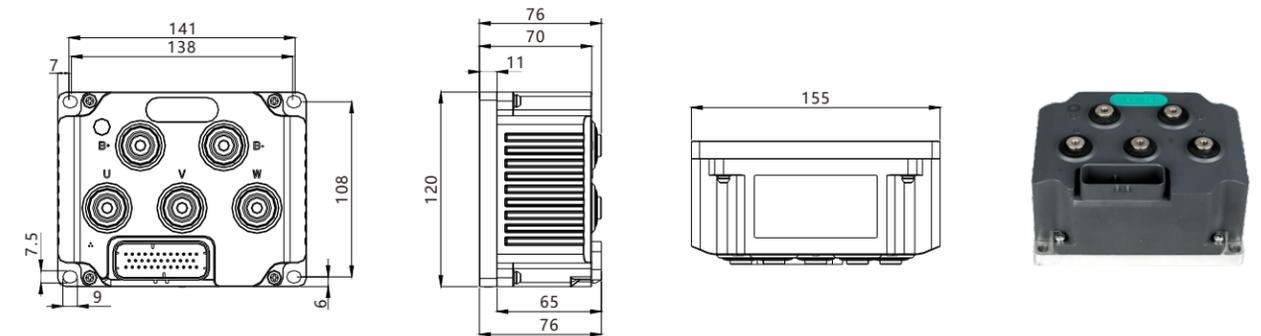
Note: Our company provides 2D and 3D files of the corresponding models. Please contact our technical staff if necessary.

Product Dimensions

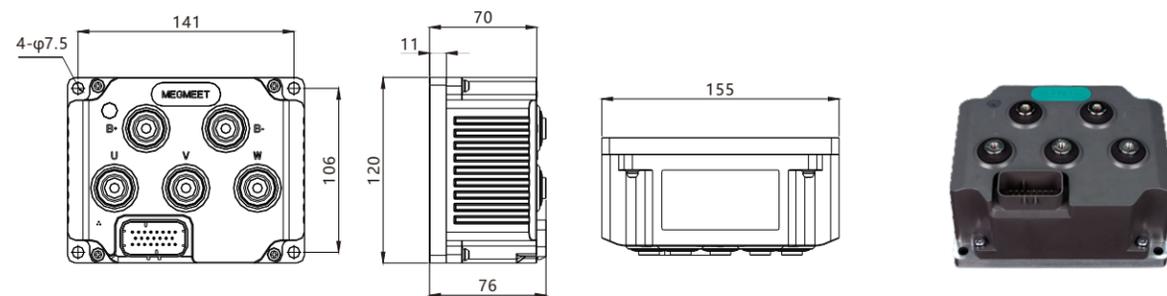
L630-2424-Z mounting dimensions



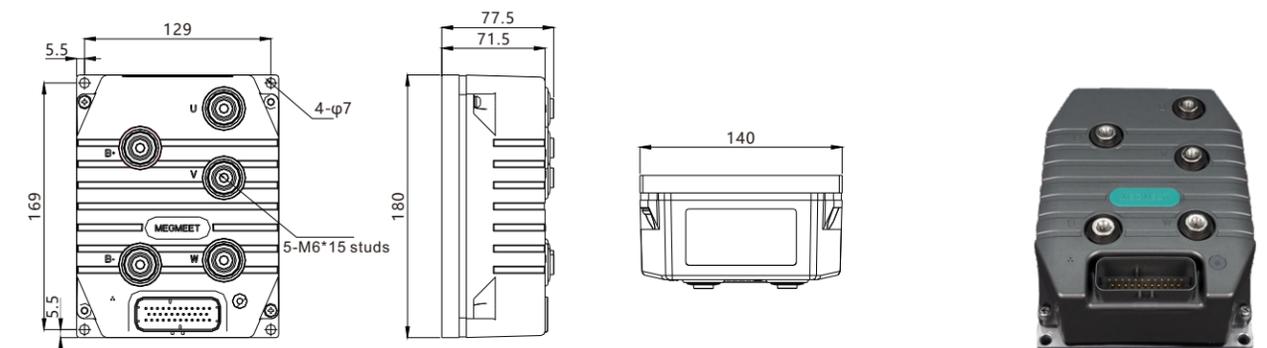
L630-2428-Z mounting dimensions



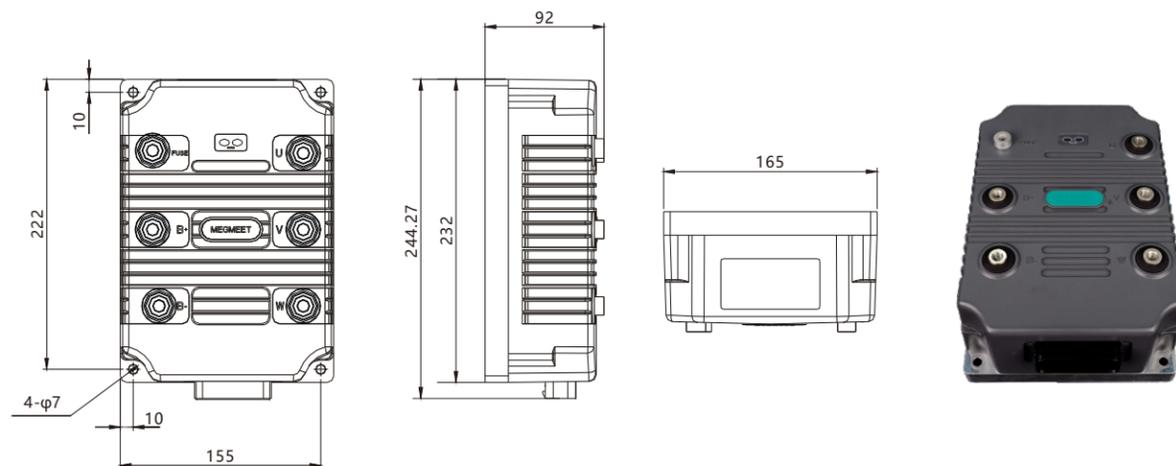
L630-2428 mounting dimensions



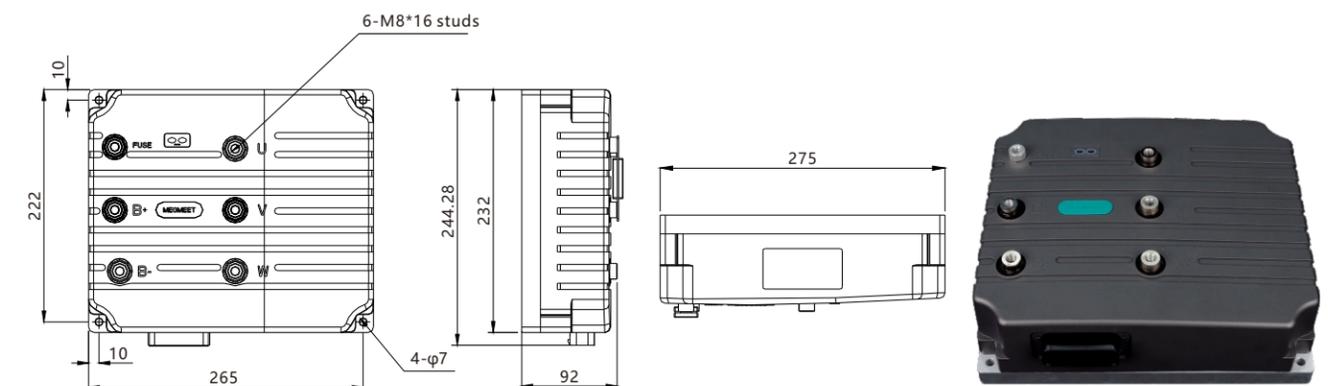
L632E mounting dimensions



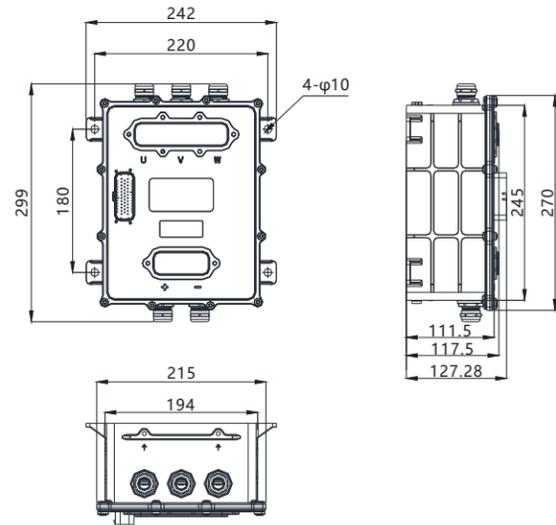
L636E mounting dimensions



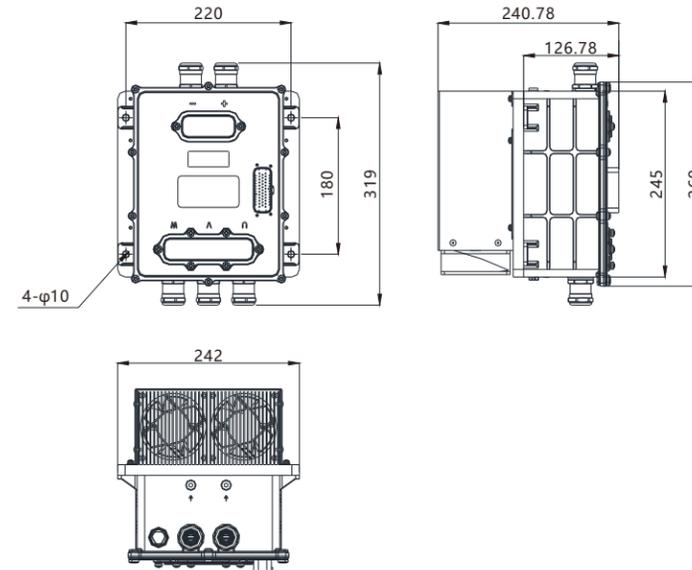
L638E mounting dimensions



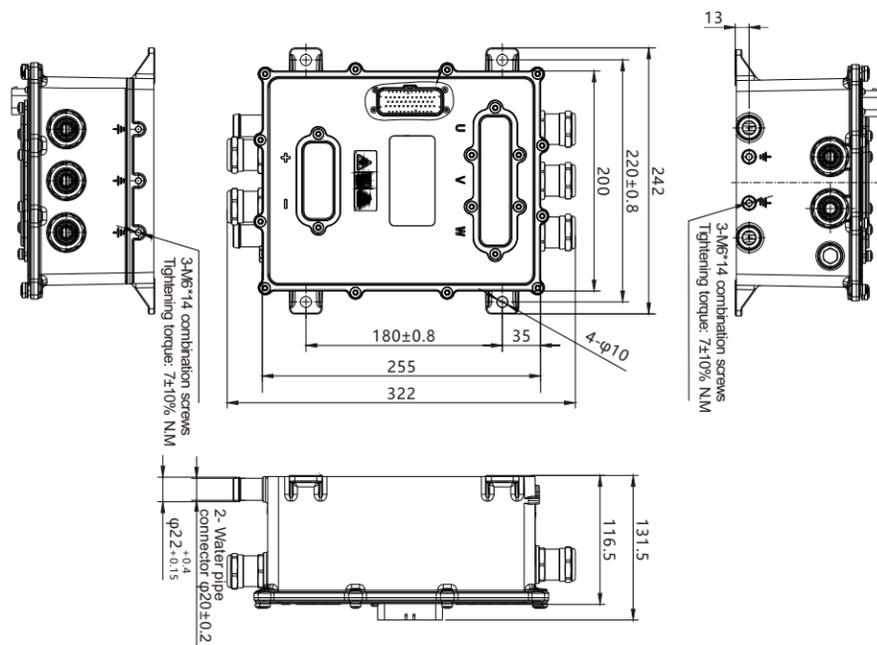
L640 mounting dimensions (natural cooling)



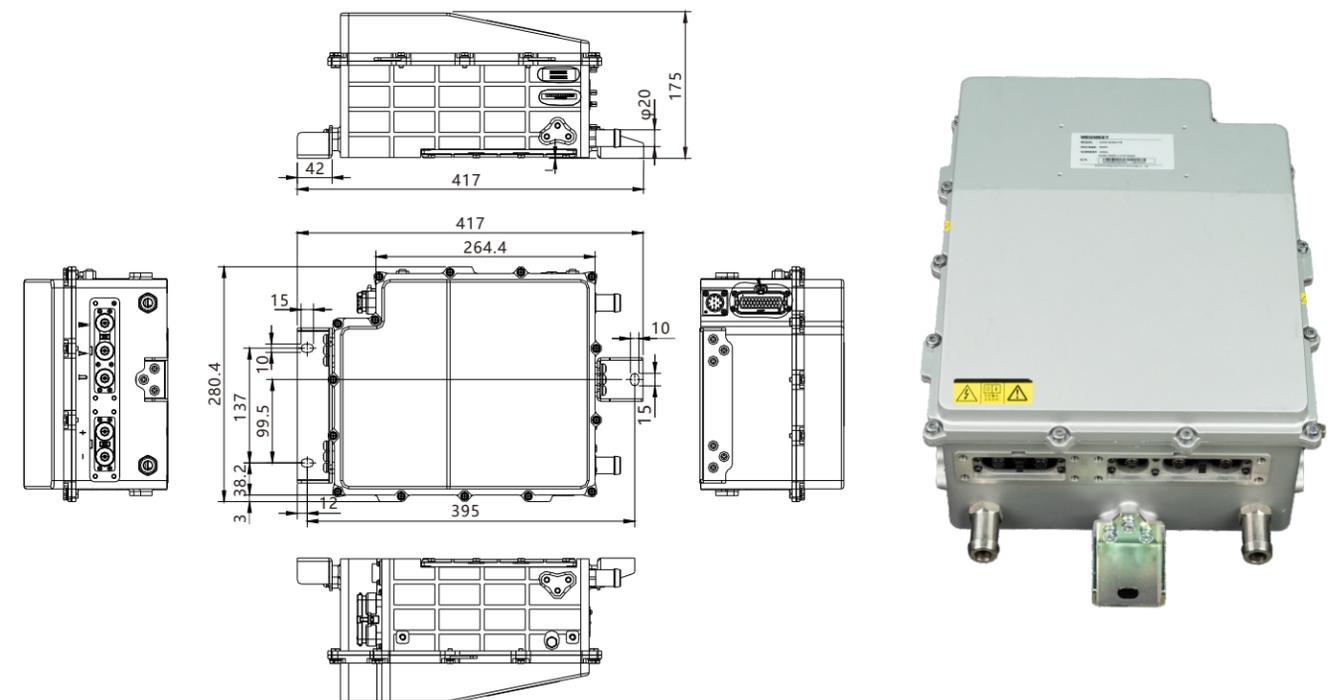
L640 mounting dimensions (air cooling)



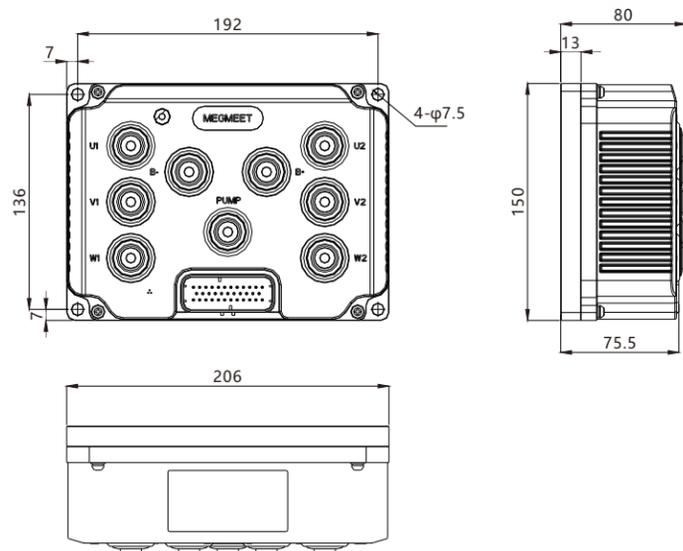
L640 mounting dimensions (water cooling)



L650 mounting dimensions

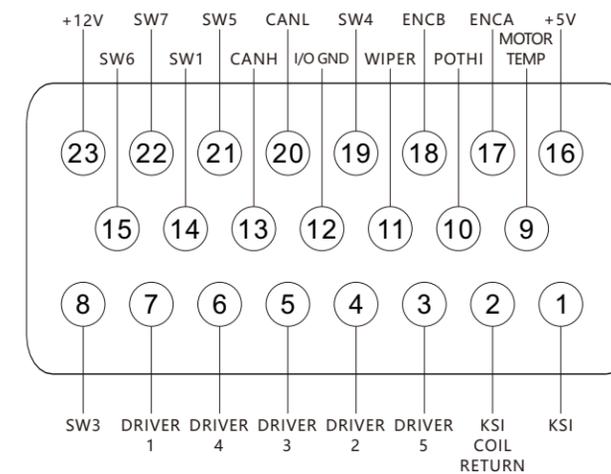


L660D/T mounting dimensions

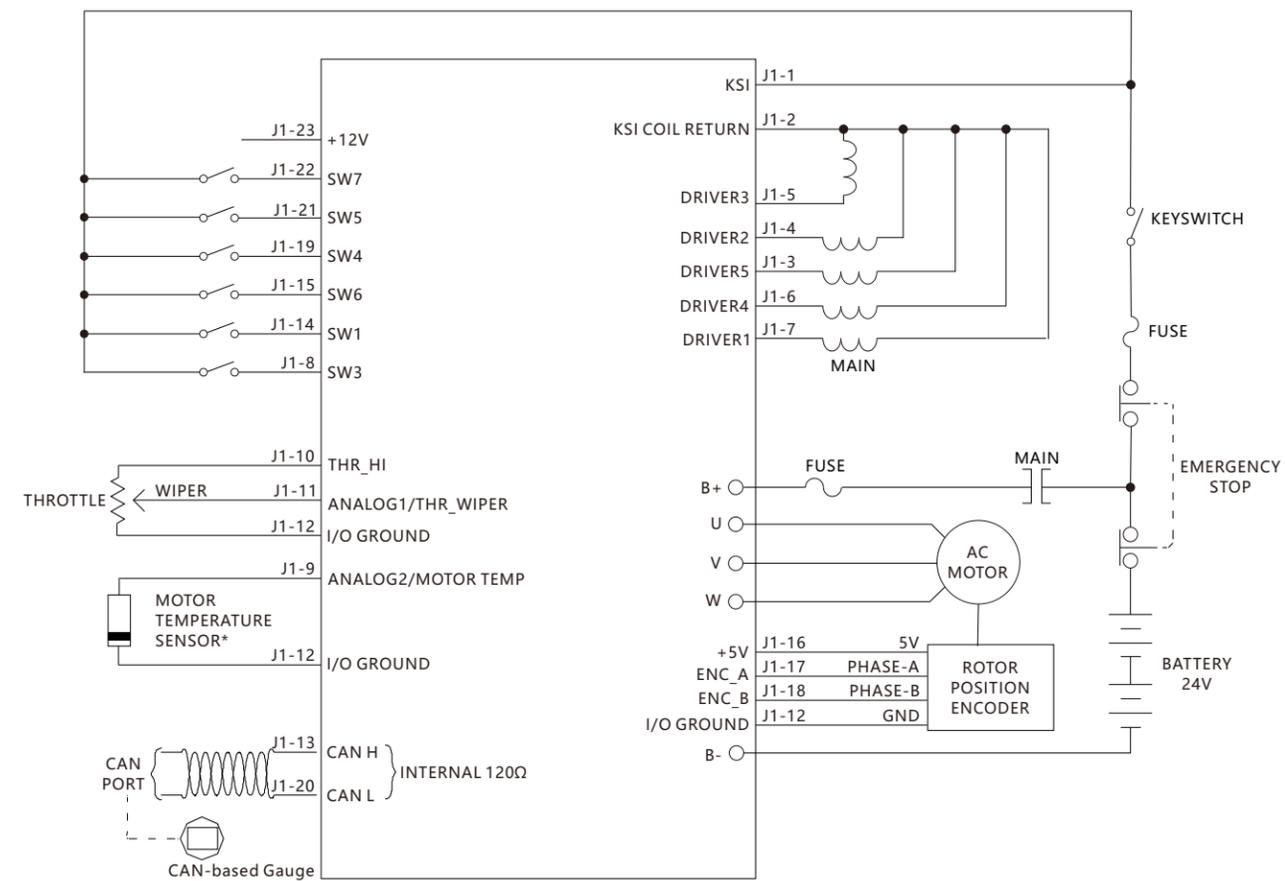
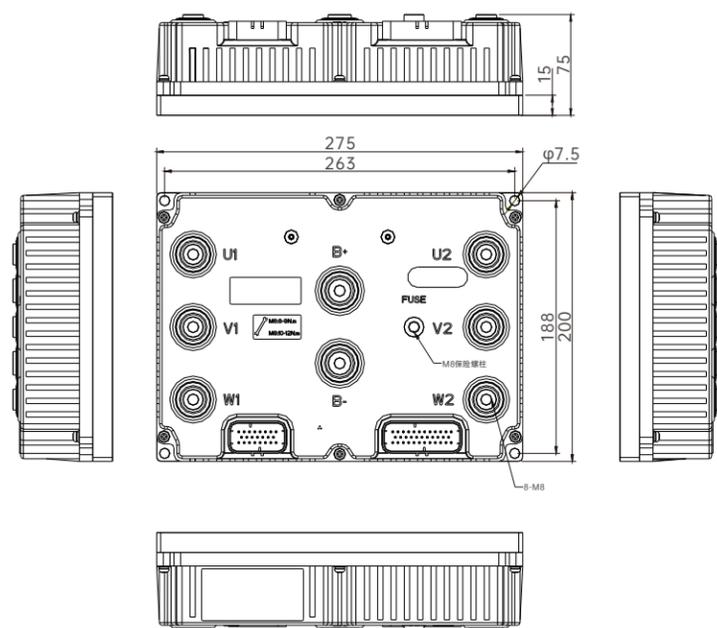


Control Circuit Terminal, Wiring for Basic Operation

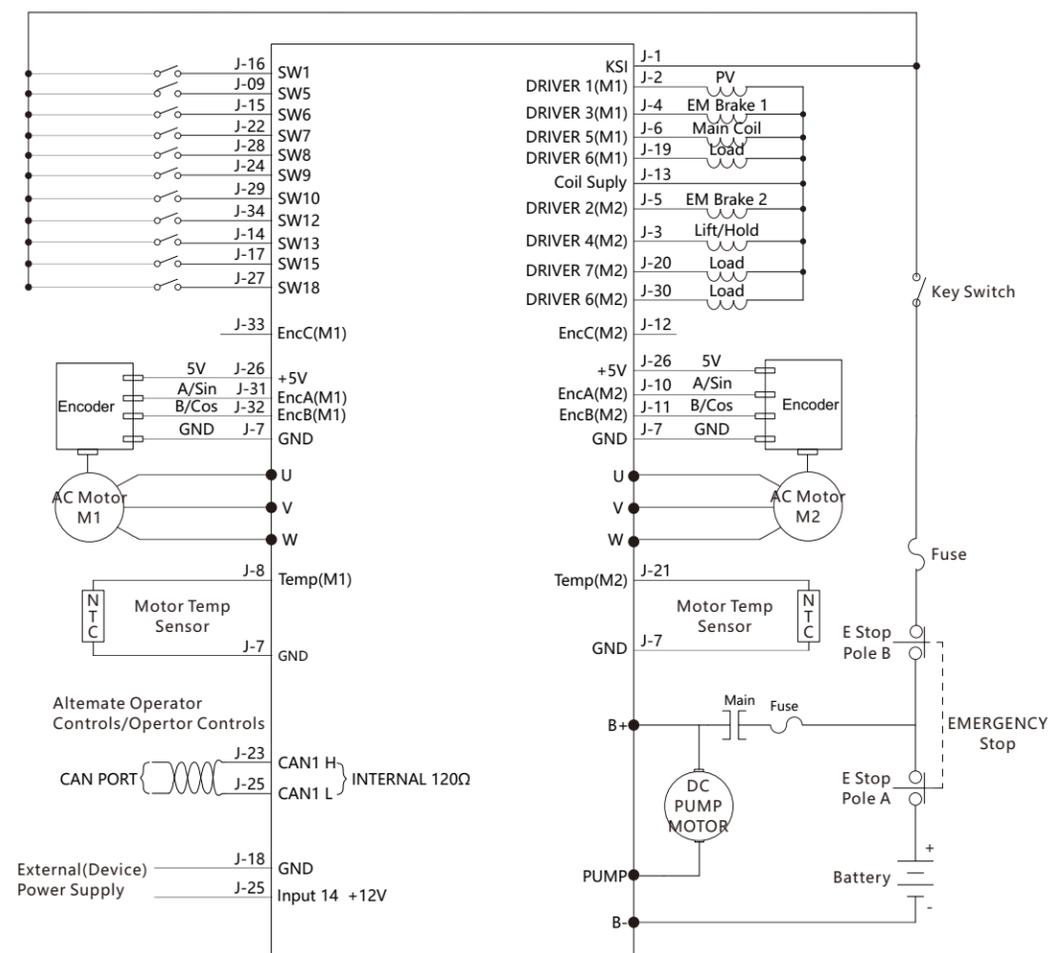
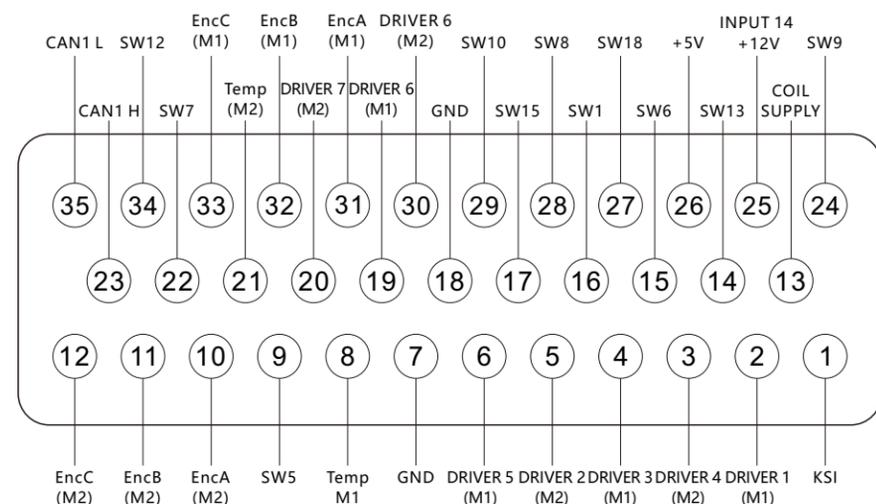
L630-2428 model



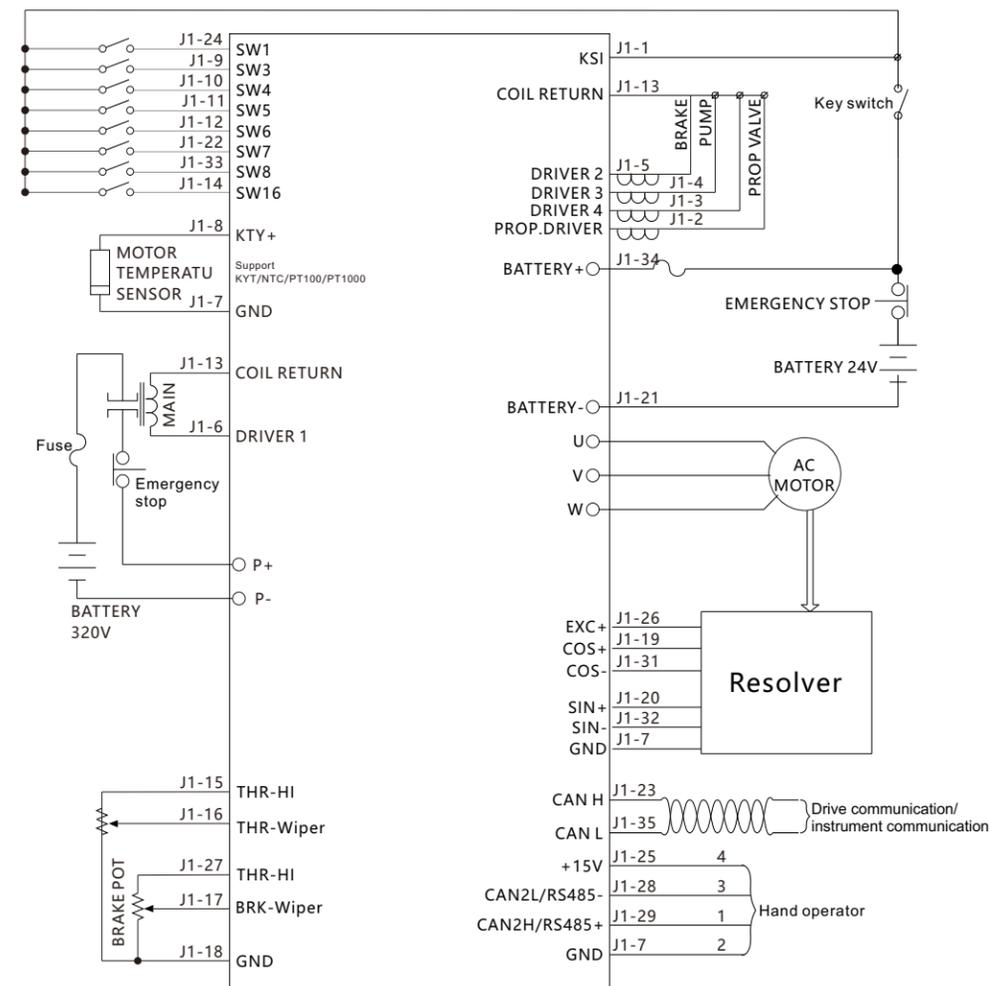
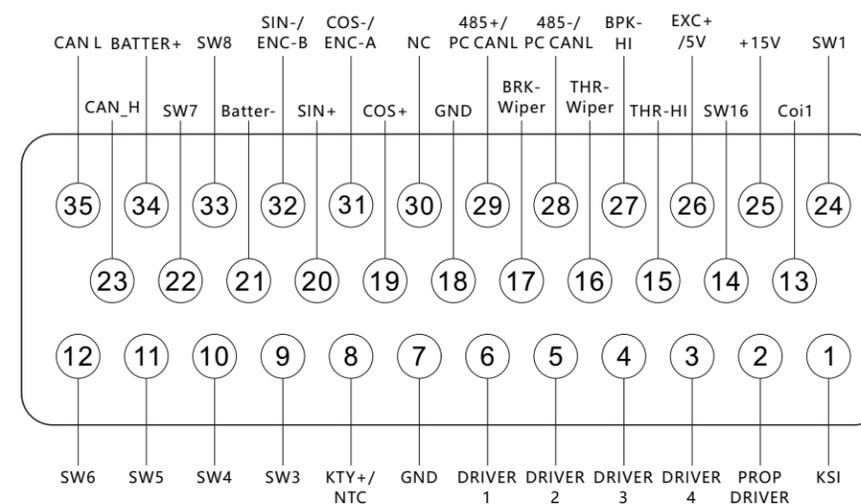
L662D mounting dimensions



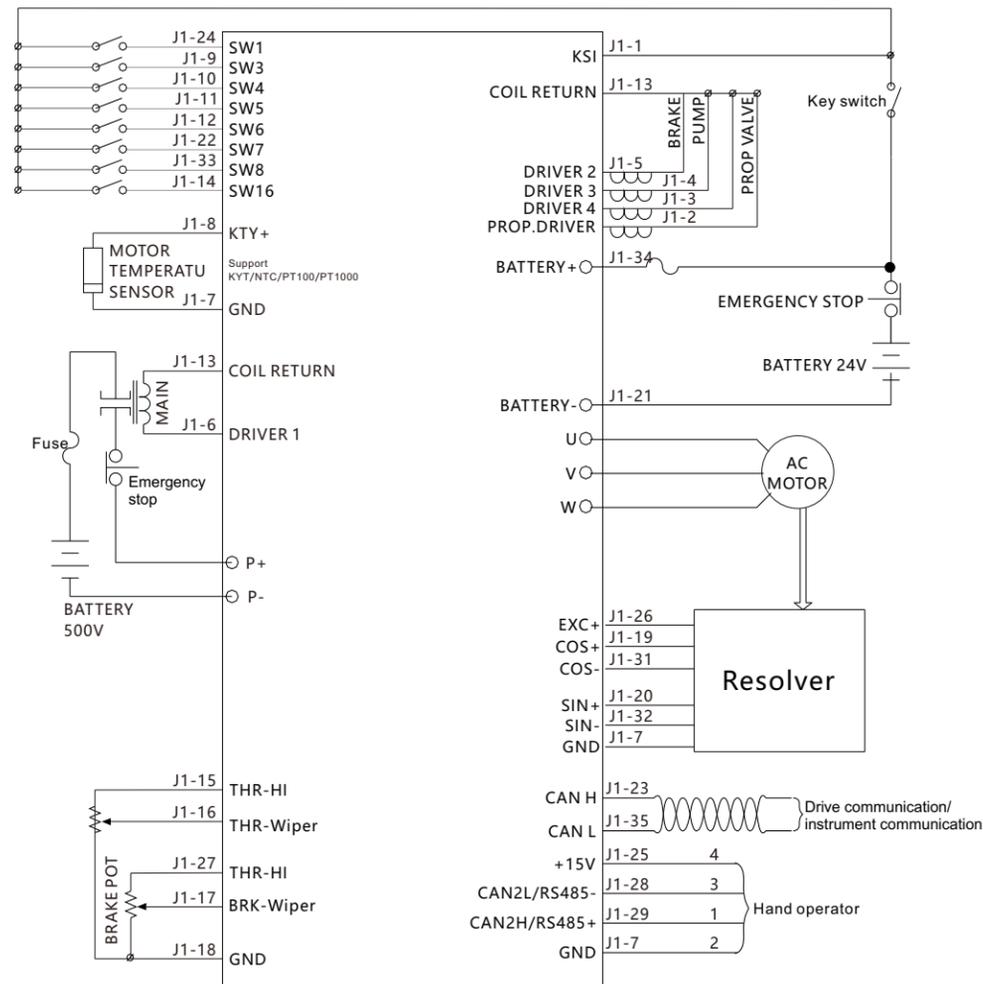
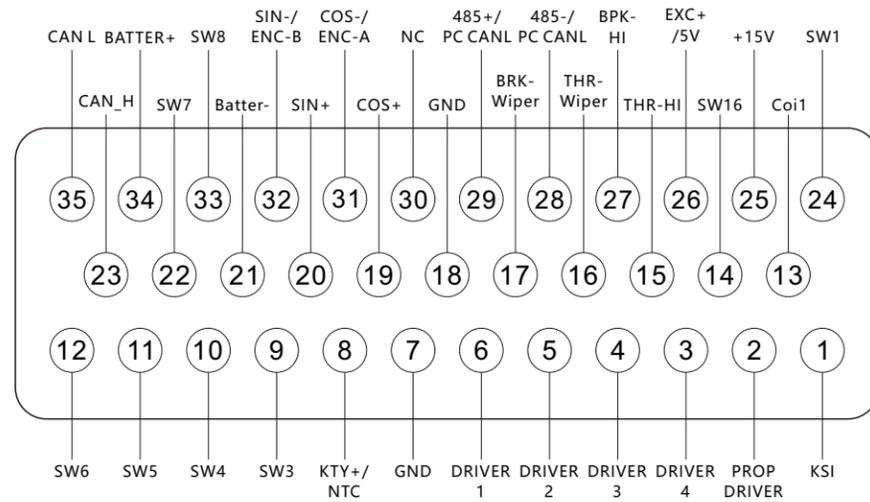
L660T model



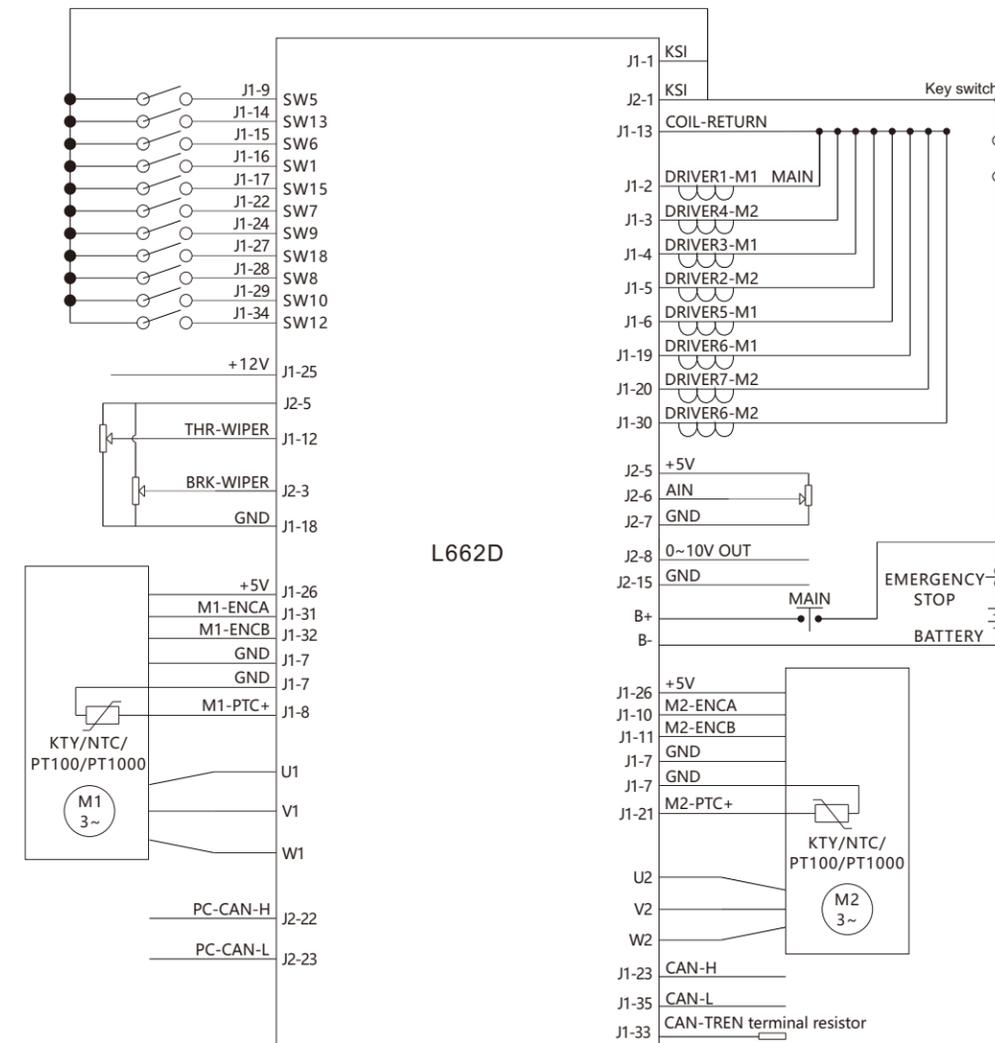
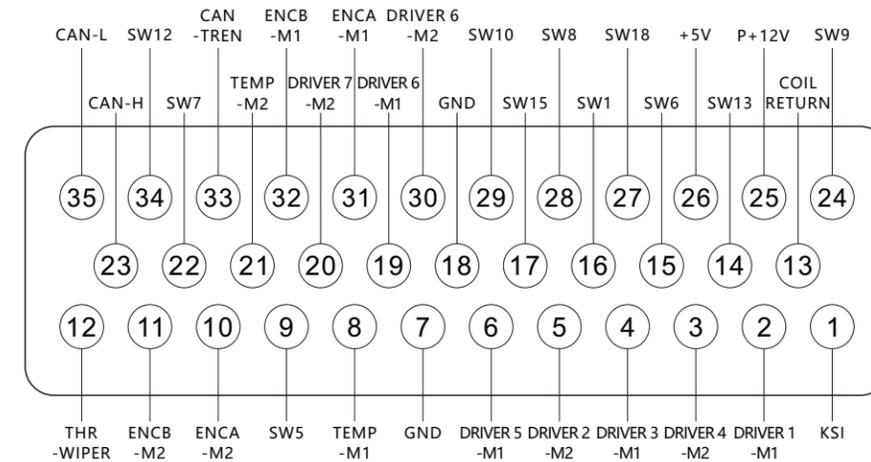
L640 model



L650 model

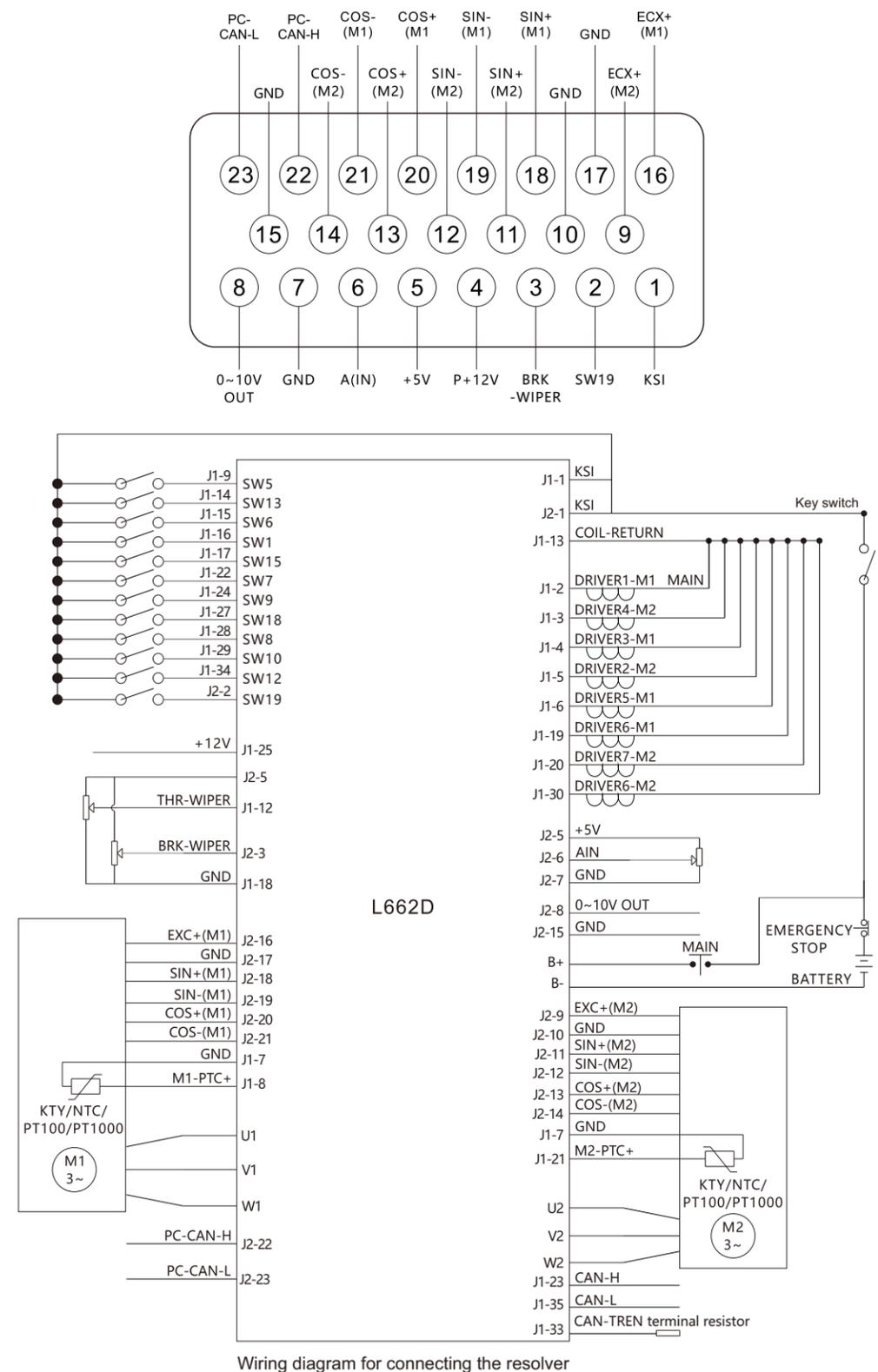


L662D model - terminal 1



Wiring diagram for connecting the incremental encoder

L662D model - terminal 2

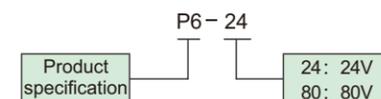


Wiring diagram for connecting the resolver

L6 Series Electric Drive Product Instrumentation

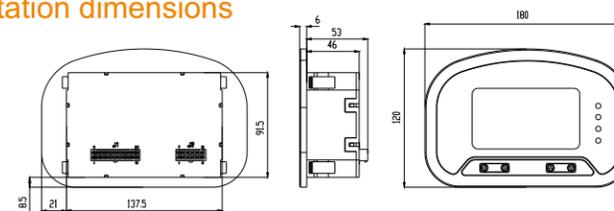
L6 series instrumentation is a color instrumentation developed for the convenience of customers to operate the vehicle. It also reserves the communication interface for the customer to add the vehicle network system in the later stage.

Instrumentation model description Instrumentation product series

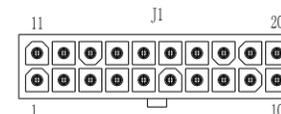


Model	Voltage level	Operating voltage range	Power supply starting voltage	Operating ambient temperature	IP rating	Cooling method
P6-24	24VDC	11V~48V	11V	-20°C~+70°C	IP65	Natural cooling
P6-80	80VDC	48V~90V	48V			

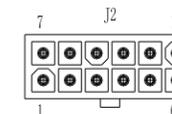
Instrumentation dimensions



Instrumentation terminal description



Pin	Description
1	BATTERY+
2	BATTERY-
3	Sender 1 I/O
4	Sender 2 I/O
5	Sender 3 I/O
6	Sender 4 I/O
7	Switched Input 1
8	Switched Input 2
9	Switched Input 3
10	Switched Input 4
11	Switched Input 5
12	Switched Input 6
13	Keyswitch Input
14	MOSFET Output 1
15	MOSFET Output 2
16	MOSFET Output 3
17	NC
18	Sender 5
19	NC
20	NC



Pin	Description
1	CAN H
2	CAN L
3	GND
4	NC
5	CAN Term 1
6	CAN Term 2
7	RS485-
8	RS485+
9	NC
10	GND
11	NC
12	+7Vout

J1,J2 mating connectors

	J1	J2
Connector	AMP 770585-1	AMP 770581-1
Pin	AMP P/N 770904-1	