INDUSTRIAL AUTOMATION
AND INFORMATION TECHNOLOGY

Intelligent Manufacturing

Provide Integrated Automation Solutions

i-CON

Large PLC & Motion control products

Complete series of PLC self-developed software platform

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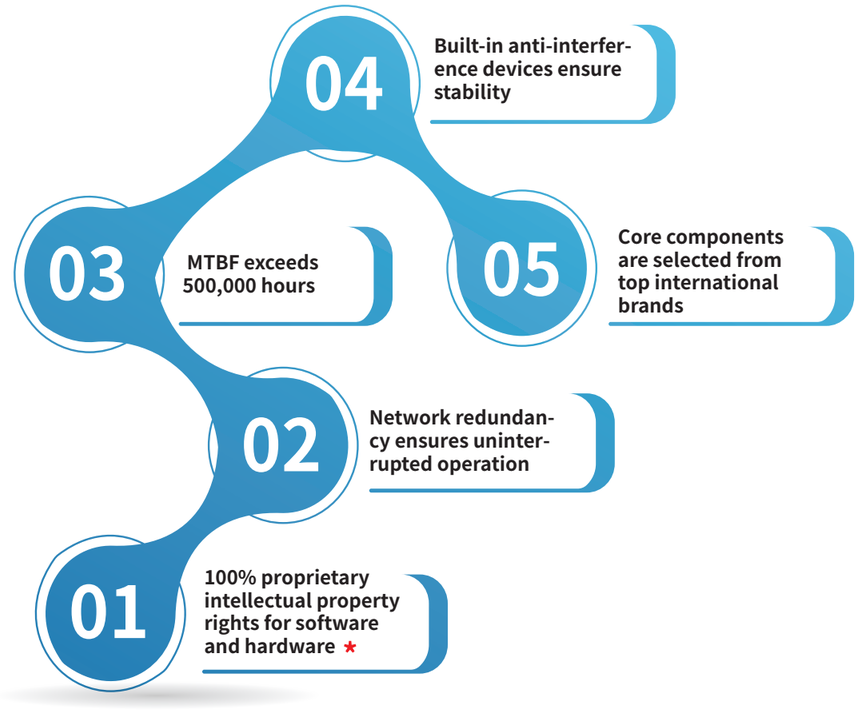
Company Introduction

FIVE CHARACTERISTICS



COMPANY INTRODUCTION

ICON is committed to providing high-quality automation products and solutions,established in 2016.We offer top-tier products to global users, including PLC controllers, high-precision bus-type servo systems, and I/O modules. These products have been widely applied in industries such as tires, photovoltaic, printing, packaging, and semiconductors.

Our mission is to make industrial automation more accessible through technological innovation and the integration of IT solutions. By adopting new business models and providing advanced, reliable, and efficient solutions through a unified hardware platform, we aim to meet the needs of our customers. As ICON continues to grow rapidly, in addition to our R&D center in Beijing and our marketing center in Shanghai, we have established a factory in Jiaxing, Zhejiang Province, to better serve our clients.

We have an elite team of experts with extensive knowledge in industrial network protocols and industrial products. Additionally, we collaborate with world-class universities and research institutions to ensure our technology remains at the forefront through continuous research and development.

We are dedicated to developing solutions that integrate the best global products, services, and professional expertise, ensuring product quality, production flexibility, and reliability.

ICON strives to become the most innovative, influential, and trusted partner for global industrial users.

CATALOG

PART 01

Products

Provide Integrated Automation Solutions.

ICC-E/P/B Series
PLC

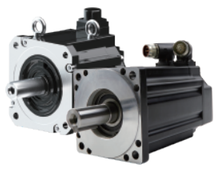
ICD Series
I/O

ICP-T Series
HMI

ICM-D7/D5/D3/D1P/D1/D1C Series
Servo Driver

ICM-S1 Series
Dual-axis stepper

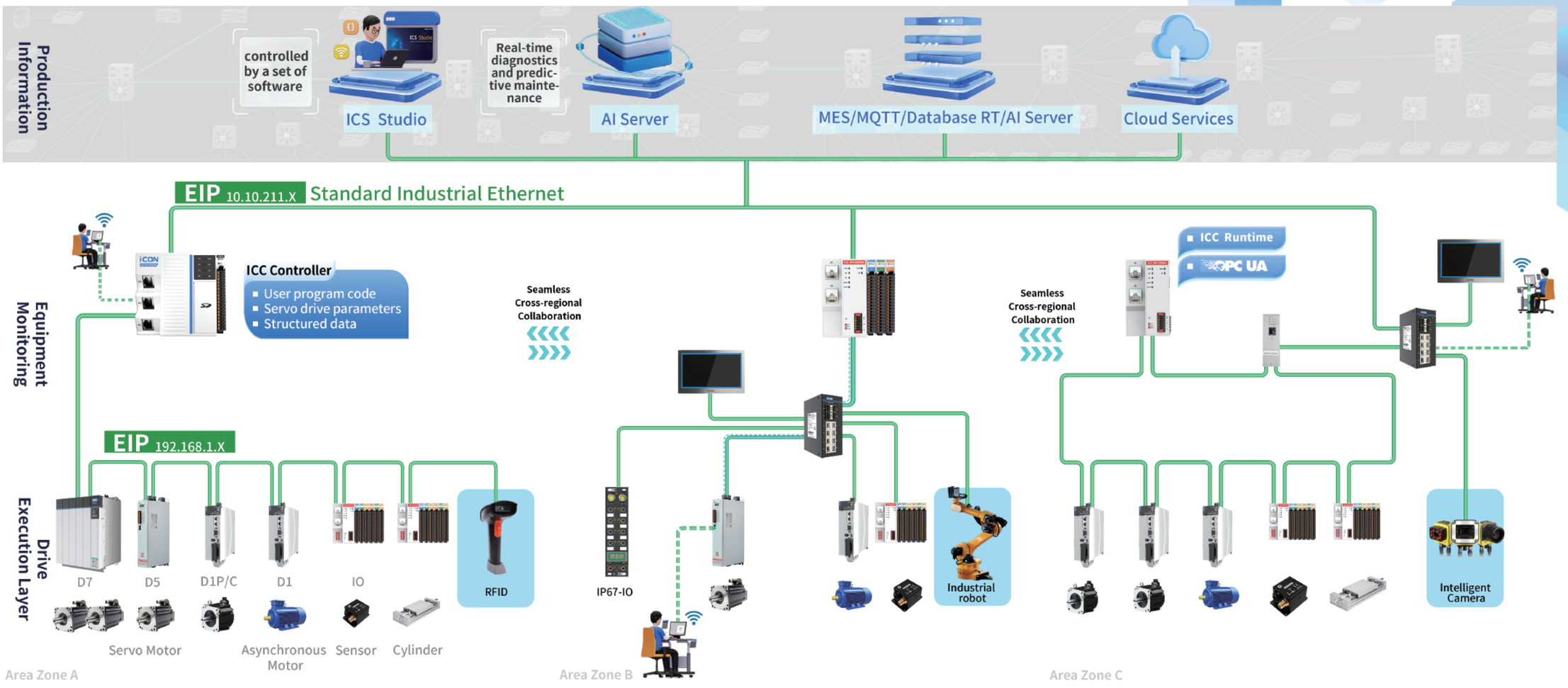
ICF-C/H Series
VFD



ICM Series
Motor

PART 02

One network throughout



Plug-and-Play

Device integration without downtime, without affecting the existing network, achieving instant availability and improving production efficiency

Easy Maintenance

After replacing components such as servo drives and frequency converters, the EIP network can automatically complete parameter configuration within one minute, ensuring rapid device recovery

Flexible Network Topology

Supports star, ring, bus, and hybrid topologies to ensure optimal device layout and network efficiency

Predictive Maintenance

Utilizes big data models for real-time diagnostics and predictive maintenance of critical components

Open Communication Protocol

Based on open Ethernet technology, allowing rapid integration of third-party devices such as industrial robots and intelligent vision systems, enabling immediate access to the field layer, control layer, and information layer

Unified Software Control

ICS Studio software integrates PLC programming, online debugging, servo parameter configuration, and direct commands into one platform, simplifying the development and debugging process and shortening time-to-market

Global Access Control

Authorized personnel can monitor the entire network's status from any location, ensuring quick response and maintenance

Device-Level Redundant Ring Network Technology

Supports multi-point self-healing with a recovery time of less than 3ms

ICC Series Programmable Controller

ICC-E Series PLC

The ICC-E Series PLC is a new generation of large-scale programmable logic controllers provided by ICON to meet the most demanding application needs. It offers various control strategies for intelligent machinery in modern manufacturing,including motion control and process control. Additionally, it provides rich industrial Ethernet communication based on a multi-task control engine, achieving comprehensive integration of factory OT (Operational Technology) and IT (Information Technology).

Combined with the ICS Studio integrated development environment, it maximizes the performance of ICC series controllers throughout the product lifecycle, meeting the high-performance, multi-purpose, flexible, and scalable requirements of industrial automation applications.

- Eight-Core 64-bit Processor, with a Maximum Frequency of 2.4 GHz
- Support Up to 256 Axes of Motion Control
- Embedded energy storage module, no battery required

	ICC-E030ERM	ICC-E050ERM	ICC-E0100ERM	ICC-E0200ERM
User Program Capacity	3MB	5MB	10MB	20MB
TCP Connections	512			
Ethernet Nodes[1]	60	120	180	250
Number of Motion Axes	16	32	128	256
Axis Refresh Rate	64 axes/ms			
Communication Ports	Support 3 Independent Gigabit Ethernet Ports			
Local I/O	32			
Operating Temperature	0°C~50°C			
Relative Humidity	5%RH~90%RH (No Condensation)			
Supported Software	ICS Studio			
Dimensions (W x H x D)	112x100x84mm			

Note: [1] A dual-axis drive only occupies one network node address

ICC-P Series PLC

The ICC-P Series Large PLC is a large-architecture programmable controller. It integrates motion control based on standard industrial Ethernet protocols, and combined with the ICS Studio application software, provides scalable motion options for a wider range of machines, offering comprehensive solutions for machine manufacturers.

- Up to 128 axes of motion control on standard industrial Ethernet
- Embedded energy storage module, no battery required
- Provide enhanced diagnostics and fault handling capabilities, display status and errors of controller
- Offer open socket functionality, supporting modbus TCP as well as devices like printers, barcode readers, and servers

	ICC-P020ERM	ICC-P030ERM	ICC-P050ERM	ICC-P080ERM	ICC-P0100ERM
User Program Capacity	2MB	3MB	5MB	8MB	10MB
TCP Connections	512				
Ethernet Nodes[1]	40	60	120	150	180
Number of Motion Axes	8	16	32	64	128
Axis Refresh Rate	16 axes/ms				
Communication Ports	Support 2 Independent Gigabit Ethernet Ports				
Local I/O	32				
Operating Temperature	0°C~50°C				
Relative Humidity	5%RH~90%RH (No Condensation)				
Supported Software	ICS Studio				
Dimensions (W x H x D)	59x100x75mm				

Note: [1] A dual-axis drive only occupies one network node address

ICC-B Series PLC

The ICC-B Series mid-scale programmable controller integrates motion control based on standard industrial Ethernet protocols, and combined with the ICS Studio application software, provides scalable motion options for a wider range of machines, offering comprehensive solutions for machine manufacturers.

- Up to 16 axes of motion control on standard industrial Ethernet
- Embedded energy storage module, no battery required
- Provide up to 3MB of user storage space

	ICC-B010ERM	ICC-B020ERM	ICC-B030ERM
User Program Capacity	1MB	2MB	3MB
TCP Connections	128		
Ethernet Nodes[1]	24	40	60
Number of Motion Axes	4	8	16
Axis Refresh Rate	4 axes/ms		
Communication Ports	Support 2 FastEthernet ports		
Local I/O	32		
Operating Temperature	0°C~50°C		
Relative Humidity	5%RH~90%RH (No Condensation)		
Supported Software	ICS Studio		
Dimensions (W x H x D)	59x100x75mm		

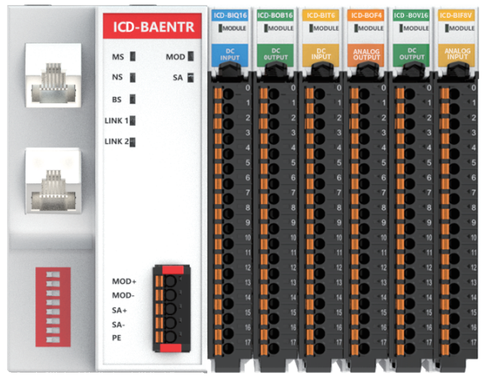
Note: [1] A dual-axis drive only occupies one network node address

PART 03

ICD-B Series I/O Modules

ICD-B Series I/O

The ICD-B Series I/O Modules are general-purpose I/O modules which support standard industrial Ethernet protocols, providing users with a better choice for cost-saving, simplifying wiring, and improving system reliability.



- 12mm module width with an ultra-thin design, effectively utilize space and increase port density
- Single-row connector for direct plug-in wiring with removable terminal blocks, enhancing wiring efficiency and accuracy
- Support hot swapping, making module removal convenient for maintenance
- Adapter modules use standard Industrial Ethernet Protocol for communication with PLCs, supporting linear and redundant ring network topologies

	Product Name	Function Description
1	ICD-BAENTR	Provide 24V DC field power supply and 5V backplane power supply. Dual Ethernet ports, support linear and redundant ring network topologies
2	ICD-BIF8V	8-Ch Analog Voltage Input Module
3	ICD-BIF8C	8-Ch Analog Current Input Module
4	ICD-BOF4	4-Ch Analog V/I Output Module
5	ICD-BIR8	8-Ch RTD Input Module
6	ICD-BIT6	6-Ch Thermocouple Input Module
7	ICD-BIQ16	16-Ch Sink/Source Digital Input Module
8	ICD-BOV16	16-Ch Sink Digital Output Module
9	ICD-BOB16	16-Ch Source Digital Output Module
10	ICD-BSERIAL	2-Ch Serial Comms Interface Module
11	ICD-BHSC	2-Ch High-Speed Counter Module
12	ICD-BOW8	8-Ch Electromechanical Relay Output
13	ICD-BIA8	8-Ch AC Signal Input Module
14	ICD-BOA8	8-Ch AC Power Output Module

ICD-B Series I/O Modules Technical Specification Sheet

Adapter	ICD-BAENTR				
Technical Parameters					
Power Parameters	MOD System Power Supply: 24.4V-28.8V DC, typical value 24V DC/1A SA Power Supply: 24.4V-28.8V DC, typical value 24V DC/6A (primarily powers the analog IO modules)				
Communication Parameters	Two Ethernet RJ45 ports; 100Mbps, Full-Duplex only; Single IP address; Supports Ring/Star/Linear topologies; Supports up to 32 I/O points				
Analog Quantity	**ICD-BIF8V**	**ICD-BIF8C**	**ICD-BOF4**	**ICD-BIR8**	**ICD-BIT6**
Technical Parameters					
Channel Input Signal Range	Voltage Mode: 0...10V ±10V	Current Mode: 4...20mA 0...20mA	—	0....3200Ω	±75mA
Channel Output Signal Range	—	—	Voltage Mode:0...10V; Current Mode:4...20mA 0...20mA	—	—
Number of Channels	8	8	4	8	6+1个CJC sensors
Resolution	Voltage Mode:16bit	Current Mode:16bit	Voltage Mode:16bit; Current Mode:16bit	16bit	15bit
Accuracy	Voltage Mode: 0.1% of full scale / 25°C	Current Mode: 0.1% of full scale / 25°C	Voltage Mode:0.1% of full scale / 25°C Current Mode:0.1% of full scale / 25°C	Less than 0.1% of full scale / 25°C	—
Port Protection	—	—	Short Circuit Protection, Overload Protection, Overcurrent Protection	—	Overvoltage Protection
Isolation Withstand Voltage	3.75KV rms	3.75KV rms	3.75KV rms	3.75KV rms	5KV rms
Isolation Method	Optocoupler Isolation	Optocoupler Isolation	Optocoupler Isolation	Optocoupler Isolation	Digital Isolation

Digital quantity	ICD-BIQ16	ICD-BOV16	ICD-BOB16
Technical Parameters			
Channel input model range	10-28.8VDC, standard input 24VDC	—	—
Channel output signal range	—	10-28.8VDC, standard input 24VDC	10-28.8VDC, standard input 24VDC
Channel output current range	—	Maximum 500mA per single channel, maximum 6A for the module.	Maximum 500mA per single channel, maximum 6A for the module.
Number of channels	16	16	16
Port protection	Overvoltage Protection	Short-circuit protection, overcurrent protection	Short-circuit protection, overload protection, overcurrent protection, overtemperature protection
Minimum/maximum on - state input voltage	10VDC/28.8VDC	—	—
Minimum/maximum on - state input current	2mA/5mA	—	—
Maximum off - state input current	1.5mA	—	—
Input delay time	0.5ms - 65.5ms (selectable)	—	—
Nominal on - state output voltage	—	24VDC	24VDC
Minimum/maximum on - state output voltage	—	10VDC/28.8VDC	10VDC/28.8VDC
Channel output current	—	Maximum 500mA	Maximum 500mA
Isolation withstand voltage	3.75KV rms	—	—
Isolation method	Optocoupler Isolation	—	—

Special quantity	ICD-BSERIAL
Technical Parameters	
Number of channels	2
Operating mode	• Universal ASCII Modbus RTU • Modbus ASCII
Communication interface	• 2 full-duplex (RS-232,RS-422) • 2 half-duplex (RS-485)
Number of messages	0...255
Handshake mode	RTS/CTS hardware handshake is always enabled RTS/CTS can be controlled by the user
Supported baud rate	1200, 2400, 4800, 9600,19200,38400,57600, 115200RTS/CTS Can be controlled by the user
Isolation withstand voltage	5KV rms
Isolation method	Magnetic isolation

Special quantity	ICD-BHSC
Technical Parameters	
Channel input signal range	2 channels of ABZ differential input (supporting 5/12/24V)
Channel output signal range	4 - channel Sourcing output, 10 - 28.8VDC, standard output 24VDC
Number of channels	2
Port protection	Overcurrent protection、Overtemperature protection、Overload protection
Minimum/maximum on - state input voltage	3VDC/32VDC
Minimum/maximum on - state input current	4mA/8mA
Maximum off - state input current	1mA
Maximum off - state input voltage	1.5V
Nominal on - state output voltage	24VDC
Minimum/maximum on - state output voltage	10VDC/28.8VDC
Channel output current	Maximum 500mA
Input filter selection	关断10 us (50 kHz)100 us (5 kHz)1.0 ms (500 Hz)10.0 ms (50 Hz)
Maximum input frequency	1.0 MHz counter and encoder X1 configuration (no filter) 500 kHz encoder X2 configuration (no filter) 250 kHz encoder X4 configuration (no filter)
Output delay time from off to on	25 us (depending on the load)
Isolation withstand voltage	3.75KV rms
Isolation method	Optocoupler isolation

ICD-BIQ16、ICD-BOB16、ICD-BOV16、ICD-BIF8V、ICD-BIF8C、ICD-BOF4、ICD-BIR8、ICD-BIT6、ICD-BSERIAL、ICD-BHSC、ICD-BOW8、ICD-BIA8、ICD-BOA8	
Environmental parameters	
Operating temperature	0-50℃
Storage temperature	-40℃~85℃
Relative humidity	5%RH～95%RH (no condensation)

Alternating quantity	ICD-BOW8	ICD-BIA8	ICD-BOA8
Technical Parameters			
Number of output channels	8		
Output type	Digital output,Relay output	-	AC output
Input type	-	AC input	-
Output voltage level	-	-	85V~242V AC
Input voltage level	-	79V~242V AC	-
Output voltage frequency	-	-	47~63Hz
Input voltage frequency	-	47~63Hz	-
Maximum output current	-	-	0.5A per channel 4A for the entire module
Maximum input current	-	15mA @ 242V AC per channel	-
Minimum input current	-	3mA @164V AC 2mA @79V AC	-
Maximum leakage current in off state	-	-	1mA
Contact rating	240V AC，2A @ 50Hz 30V DC，2A	-	-
Hardware switch response time	约15mS	-	-
Switching frequency	Recommended: 3 times per second, maximum not exceeding 6 times(Frequency affects lifespan; the lower the frequency, the longer the lifespan)(Frequency affects service life; a lower frequency results in a longer service life.)	-	-
Mechanical life of the relay	20 million cycles	-	-
	100,000 cycles	-	-
Electrical life	250V AC, @2250V DC withstand test for 60 seconds, between the field side and the control system/backplane.	300V AC, @1800V DC withstand test for 60 seconds, between the field side and the control system/backplane.	300V AC, @1800V DC withstand test for 60 seconds, between the field side and the control system/backplane.
Relay control voltage monitoringresponse time	Support	-	-
Physical parameters			
Size (WxHxD)	24x75x100mm		
Weight (net weight)	Approximately 120 grams		

ICD-S series high-protection I/O

The ICD-S series of industrial-grade high-protection IO modules are specifically designed for harsh industrial environments, boasting an IP67 protection rating and allowing for direct on-site installation (saving space in control cabinets and reducing wiring). Through IO-Link communication, it simplifies device setup, diagnostics, data management, and installation maintenance processes, while providing efficient diagnostics to quickly locate faults, significantly enhancing system performance and reliability. This series integrates high protection, efficient processing, flexible expansion, and intelligent management, offering stable and reliable industrial automation solutions.

- IP67 high-protection structure: ensures stable operation in harsh environments such as humidity, dust, and vibration. The unique sealing structure and material selection effectively resist external erosion, extending the service life of the equipment.
- Easy to install and wire: With standardized interfaces and cables, wiring becomes simpler and neater, reducing wiring complexity and costs.
- Modular design, easy to expand: Flexible expansion, support for plug-and-play, simplifies system integration and maintenance work, allows for rapid deployment or module replacement, greatly reducing the risk of downtime
- Intelligent management: Equipped with an intelligent diagnostic module, it monitors the operating status of equipment in real time and provides predictive maintenance
- Enhanced mechanical stability: The housing is made of PBT+GF30% reinforced plastic material, enabling it to withstand strong vibrations and impacts.

model	ICD-SIOL8M12P5ER
Communication protocol	EIP
Dimensions (WxHxD)	68mmx226mmx37.6mm
IO-Link version	V1.1
IO-Link transmission rate	COM1(4.8kbaud) COM2(38.4kbaud) COM3(230.4kbaud)
Number/Type of IO-Link ports	8个CLASS A
Number input type	16-channel PNP
Digital output type	16-channel PNP
Configurable input/output	YES
Channel output current	Maximum 2A/channel in SIO mode
Power supply	18~30.2VDC，9A
Power supply interface	IN: 7/8" male connector, 5-core OUT: 7/8" female connector, 5-core
Communication connection interface	M12 female connector, D-Code, 4-core
IO-Link/ Signal Connection	Supports 8 IO-LINK masters/sensors, with M12 A-Code female connector, 5-pin
Protection grade	IP67
Temperature range	-25°C~70°C
Diagnosis	Power supply detection, overvoltage, undervoltage alarm/ communication status alarm/chip temperature alarm, etc
Casing	engineering plastic

	ICD-S16CFGNM12	ICD-S16CFGPM12
Communication protocol	IO-Link V1.1	
IO-Link transmission rate	38.4kBaud	
Dimensions (WxHxD)	68mm x 180mm x 32mm	
Number of digital ports	16-channel	
Configurable input/output	YES	
Communication connector	1 piece, M12 male connector, A-Code, 4-core	
Channel connector	8 pieces, M12 tapped holes, A-Code, 5-core	
Digital output	NPN output, 0.5A per point, 2A per module	PNP, 0.5A per pin, 2A per module
Digital input	NPN	PNP
Power supply	18~30.2VDC，2A	
Temperature range	-25°C~70°C	
Protection grade	IP67	
Diagnosis	Power supply undervoltage identification, diagnostic information reporting; output short circuit, overload, overtemperature detection	
Casing	engineering plastic	

PART 04

ICP-T Series HMI

The ICP-T Series is Inovance's new generation HMI (Human Machine Interface), featuring a low-power high-performance CPU, large-capacity storage, multiple size specifications, and a high-brightness TFT LCD display. It supports Inovance's ICS Studio automation integration platform for configuration programming, debugging, and monitoring of Inovance's complete product portfolio. With comprehensive functionality, this HMI effectively addresses diverse industrial application requirements.

ICP-T系列HMI

- **Superior Visual Experience**:
  Featuring a high-resolution display with wide viewing angles and exceptional color reproduction accuracy, it delivers crisp visuals adaptable to various lighting conditions. The intuitive UI design features legible icons/text and streamlined workflows, significantly reducing the learning curve and operational complexity

- **High-Efficiency Interaction Performance：**
  Equipped with a high-performance processor, it ensures instant response to commands with high touch sensitivity. Support for multi-touch and industry-standard gestures (swiping, pinching, rotating) enables effortless execution of complex operations.

- **Advanced Graphics Processing Capabilities：**The integrated high-performance processor renders complex graphics and animations smoothly, ensuring seamless visual performance.

- **Ruggedized Construction：**The product housing utilizes high-strength materials capable of withstanding extreme temperature and humidity conditions.

Type	ICP-T1101	ICP-T1156
Display screen size	10.1 inches	15.6 inches
Viewing angle	85'	
Ethernet	Gigabit X1	
Resolution	1024X600	1920×1080
Colour	24 Bit	
Touch Screen	4-wire industrial resistive touch screen	
DRAM	1GB	2GB
FLASH	8GB	
Backlight	LED	
Serial port	COM1/ COM3：RS232/RS485/RS422 ; COM2：RS485/RS422	
SD card	Support TF card	
Other interfaces	USB2.0 X1、Type-C X1	
Wireless expansion module interface	Support 4G, WiFi expansion module (separate accessory)	
Panel protection level	Front panel IP65, rear cover IP20	
Operation temperature	-10~60°C	0~50°C
Storage temperature	-20°C~70°C	-20°C~60°C
Ambient humidity	10%RH to 90%RH (without condensation)	
Size (WxHxD)	272x213x34mm	396.5x260.5x50.5mm
Mechanical structure	Engineering plastic	Aluminum alloy shell

PART 05

ICM Series Servo Drives

ICM-D7 Series Servo Drives

The ICM-D7 Series Servo Drives are multi-axis drive products composed of a unified rectifier unit and multiple inverter units, forming a common DC bus drive system. They are designed to meet the drive requirements of single machinery with multiple drive points or continuous production lines.The entire D7 series adopts a uniform depth and height casing, making it convenient for customers to install and debug.

Advantages

- Dual-Axis Inverter Module Power Range: 1.5 kW to 15 kW
- Single-Axis Inverter Module Power Range: 7.5 kW to 110 kW
- Support Both Synchronous Motor Closed-Loop and Asynchronous Motor Open-Loop Control
- Equipped with Dedicated DC Busbar
- Adopt MPU+FPGA Control Architecture with an Embedded Linux Operating System, Enhancing Multi-Threading Processing Capabilities
- Include STO Safety Function as Standard
- Compatible with Various Encoders: Multi-Turn Encoders/DSL Encoders/Hiperface Encoders/Incremental Encoders/SSI Encoders/BiSS-C Encoders

Drive Model	ICM-D7P160	ICM-D7RP500
Nominal Operating Voltage	380-480Vac	
Input Voltage Tolerance	±10%	
Bus Capacitor	1230uF	5400uF
24V Control Power Supply		
Input Voltage	24V±10%	
Maximum Current (Non-Brake Motor)	1.5A	
Bus out		
Output Voltage (RMS)	510-710Vdc	
Continuous Output Current (RMS)	67A	220A
Peak Output Current (RMS)[1]	160A	500A
Maximum Continuous Output Power	40kw@600Vdcbus	132kw@600Vdcbus
Altitude Derating Factor	10% Maximum Continuous Output Current/ 1000m Altitude	
IO		
Number of IO channels	4	
Drive mode	Current injection	
Electrical isolation	2kV	
Input high-level voltage	15-30V	
Low Level Input Voltage	-1~5V	
Input Current	⩽15mA	
Input Delay	The input signal is not greater than 6ms	
Environmental condition		
Installation method	Vertical wall-mounted installation	
Ambient temperature	-10°C~45°C	
Ambient humidity	0%RH~90%RH (no condensation)	
Working altitude	Below 1000m	
Protection level	IP20	
Storage temperature	-25°C~50°C	
Mechanical parameters		
Size (WxHxD)	100x380x270mm	300x380x270mm

Note: [1] Duration not exceeding 1s

Drive Model	ICM-D7D015	ICM-D7D032	ICM-D7S160	ICM-D7S260	ICM-D7S500
Nominal Operating Voltage	510-720Vdc				
Input Voltage Tolerance	±10%				
Bus Capacitor	560uF	840uF	1640uF	2050uF	5400uF
24V Control Power Supply					
Input Voltage	24V±10%				
Maximum Current (Non-Brake Motor)	1.5A				
Motor drive output					
Number of axles	2		1		
Continuous Output Current (RMS)	5A	13A	80A	150A	220A
Peak Output Current (RMS) [1]	12.5A	30A	160A	260A	500A
Maximum Continuous Output Power	3.0kW*2	7.5kW*2	50kW	90kW	132kW
Altitude Derating Factor	10% Maximum Continuous Output Current/ 1000m Altitude				
Switching frequency	4kHz				
Overload protection/output short-circuit protection	YES				
Maximum Output Frequency	250Hz				
Motor brake					
Number of brake channels	2		1		
Output voltage	23.5V±10%				
Maximum continuous output current	⩽2A*2		⩽5A		
Maximum action frequency	0.5Hz				
IO					
Number of IO channels	4*2		4		
Drive mode	Current injection				
Electrical isolation	2kV				
Input high-level voltage	15-30V				
Input low-level voltage	-1~5V				
Input Current	⩽15mA				
Input Delay	The Reg signal is not greater than 12us				
	The HOME signal is not greater than 24ms, the enable signal is not greater than 6ms, and the OT signal is not greater than 6ms				
Mechanical parameters					
Size (WxHxD)	50x380x270mm	50x380x270mm	100x380x270mm	200x380x270mm	300x380x270mm

ICM-D5/D3 Series Servo Drives

The ICM-D5/D3 Series Servo Drives feature a compact overall structure, support Industrial Ethernet, multi-axis synchronization, and interpolation, making them particularly suitable for complex multi-axis applications.

ICM-D5 Series Servo Drives

ICM-D3 Series Servo Drives

Advantages

- Continuous output capability from 0.4 kW to 40 kW
- Maximum drive current from 8A to 160A
- Ultra-wide power input range from 200VAC to 500VAC
- D3 Series support Tamagawa encoders
- D5 Series support Tamagawa encoders/DSL encoders/ Hiperface encoders/incremental encoders/SSI encoders
- 2.5 times drive overload capacity
- Dual-axis drive (below 8 kW)
- Support common DC bus

Drive Model	ICM-D5D05	ICM-D5D08	ICM-D5D11	ICM-D5D18	ICM-D5D28	ICM-D5D38
Nominal Operating Voltage	380V@3Ph	380V@3Ph	380V@3Ph	380V@3Ph	380V@3Ph	380V@3Ph
Input Voltage Tolerance	±10%	±10%	±10%	±10%	±10%	±10%
Maximum Continuous Input Power	0.7kW@220V 2.1kW@380V	1.0kW@220V 3.1kW@380V	1.6kW@220V 4.7kW@380V	2.8kW@220V 8.3kW@380V	4.1kW@220V 11.8kW@380V	5.5kW@220V 16.3kW@380V
Bus Capacitor	470uF	470uF	470uF	470uF	1230uF	1230uF
24V Control Power Supply						
Input Voltage	24V±10%					
Maximum Current (Non-Brake Motor)	1.6A	1.6A	1.6A	1.6A	1.8A	1.8A
Motor Drive Output						
Number of Axes	2	2	2	2	2	2
Output Voltage (RMS)	0~180V @220V1Ph 0~380V @380V3Ph	0~180V @220V1Ph 0~380V @380V3Ph	0~180V @220V1Ph 0~380V @380V3Ph	0~180V @220V1Ph 0~380V @380V3Ph	0~180V @220V1Ph 0~380V @380V3Ph	0~180V @220V1Ph 0~380V @380V3Ph
Continuous Output Current (RMS) [1]	2A	2.8A	4.5A	8A	11.5A	16A
Peak Output Current (RMS)	5A	8A	11A	18A	28A	38A
Maximum Continuous Output Power	1kW	1.5kW	2.3kW	4kW	5.8kW	8kW
Altitude Derating Factor	10% Maximum Continuous Output Current/ 1000m Altitude					
Switching Frequency	8kHz	8kHz	8kHz	4kHz	4kHz	4kHz
Overload Protection/ Output Short-Circuit Protection	yes					
Maximum Output Frequency	600Hz					
Maximum Length of Motor Power Cable [2]	40m					
Maximum Length of Motor Communication Cable [2]	40m					
Motor Brake						
Number of Brake Channels	2					
Output Voltage	23.5V±10%					
Maximum Continuous Output Current	⩽2A					
Brake Output Internal Resistance	⩽0.5Ω					
Arc Extinguishing Voltage	≈30V					
Maximum Arc Extinguishing Energy per Operation	≈5W					
Maximum Operating Frequency	0.5Hz					

Drive Model	ICM-D5D05	ICM-D5D08	ICM-D5D11	ICM-D5D18	ICM-D5D28	ICM-D5D38
IO Input						
Number of I/O Channels	4 channels of digital input signals per axis, software-configurable for functions such as Enable, Registration, Home, Over Travel, etc					
Drive Type	Current Injection					
Electrical Isolation	IO Signal and Power Drive: 2000W					
Input High-Level Voltage	15~30V					
Input Low-Level Voltage	-1~5V					
Input Current	⩽15mA					
Input Delay	Reg signal not greater than 12μs					
	HOME signal not greater than 24ms, Enable signal not greater than 6ms, OT signal not greater than 6ms					
IO Output						
Number Of Channels	1*2					
Output Form	Optocoupler Open-Collector Output					
Contact Capacity	0.2A 30VDC					
Ambient Conditions						
Mounting Method	Vertical Wall-Mount Installation					
Ambient Temperature	0°C~50°C					
Ambient Humidity	0%RH~90%RH (No Condensation)					
Operating Altitude	Normal： -200m~500m					
	Maximum： 4000m					
Pollution Conditions	level 2 (Free of Conductive Contaminants)					
Protection Rating	IP20 (EN60529)					
Storage Temperature	-25°C~55°C (No Frost/ No Condensation)					
Mechanical Parameters						
Dimensions	315×65×210mm				460×75×270mm	
Weight (net weight)	3.4kg				6.5kg	

Note: [1] Duration not exceeding 1s
[2] For cable lengths exceeding 15m/25m, use cables specified by ICON

Drive Model	ICM-D5S50	ICM-D5S70	ICM-D5S100	ICM-D5S130	ICM-D5S160
Nominal Operating Voltage	380V@3Ph/ 220V@3Ph	380V@3Ph/ 220V@3Ph	380V@3Ph/ 220V@3Ph	380V@3Ph/ 220V@3Ph	380V@3Ph/ 220V@3Ph
Input Voltage Tolerance	±10%	±10%	±10%	±10%	±10%
Maximum Continuous Input Power	13.3kW	17.5kW	25.8kW	34kW	42kW
Bus Capacitor	1230uF	1230uF	2050uF	2050uF	2050uF
24V Control Power Supply					
Input Voltage	24V±10%				
Input Capacitance	1360uF				
Maximum Current (Non-Brake Motor)	2A	2A	3.8A	3.8A	3.8A
Motor Drive Output					
Number of Axes	1	1	1	1	1
Output Voltage (RMS)	0~380V	0~380V	0~380V	0~380V	0~380V
Continuous Output Current (RMS)	25A	33A	50A	65A	80A
Peak Output Current (RMS) [1]	50A	70A	100A	130A	160A
Maximum Continuous Output Power	13kW	17kW	25kW	33kW	40kW
Altitude Derating Factor	10% Maximum Continuous Output Current/ 1000m Altitude				
Switching Frequency	4kHz				
Overload Protection/ Output Short-Circuit Protection	yes				
Maximum Output Frequency	600Hz				
Maximum Length of Motor Power Cable [2]	40m				
Maximum Length of Motor Communication Cable [2]	40m				
Motor Brake					
Number of Brake Channels	1				
Output Voltage	23.5V±10%				
Maximum Continuous Output Current	⩽4A				
Brake Output Internal Resistance	⩽0.5Ω				
Arc Extinguishing Voltage	≈30V				
Maximum Arc Extinguishing Energy per Operation	≈5W				
Maximum Operating Frequency	0.5Hz				

Drive Model	ICM-D5S50	ICM-D5S70	ICM-D5S100	ICM-D5S130	ICM-D5S160
IO Input					
Number of I/O Channels	4 channels of digital input signals per axis, software-configurable for functions such as Enable, Registration, Home, Over Travel, etc				
Drive Type	Current Injection				
Electrical Isolation	IO Signal and Power Drive: 2000W				
Input High-Level Voltage	15~30V				
Input Low-Level Voltage	-1~5V				
Input Current	⩽15mA				
Input Delay	Reg signal not greater than 12μs				
	HOME signal not greater than 24ms, Enable signal not greater than 6ms, OT signal not greater than 6ms				
IO Output					
Number Of Channels	1*2				
Output Form	Optocoupler Open-Collector Output				
Contact Capacity	0.2A 30VDC				
Ambient Conditions					
Mounting Method	Vertical Wall-Mount Installation				
Ambient Temperature	0°C~50°C				
Ambient Humidity	0%RH~90%RH (No Condensation)				
Operating Altitude	Normal： -200m~500m				
	Maximum： 4000m				
Pollution Conditions	level 2 (Free of Conductive Contaminants)				
Protection Rating	IP20 (EN60529)				
Storage Temperature	-25°C~55°C (No Frost/ No Condensation)				
Mechanical Parameters					
Dimensions	460×75×270mm		472×171.5×271mm		
Weight (net weight)	6.5kg		13.6kg		

Note: [1] Duration not exceeding 1s
[2] For cable lengths exceeding 15m/25m, use cables specified by ICON

Drive Model	ICM-D3D05	ICM-D3D08	ICM-D3D11	ICM-D3D18	ICM-D3D28	ICM-D3D38
Nominal Operating Voltage	380V@3Ph	380V@3Ph	380V@3Ph	380V@3Ph	380V@3Ph	380V@3Ph
Input Voltage Tolerance	±10%	±10%	±10%	±10%	±10%	±10%
Maximum Continuous Input Power	0.7kW@220V 2.1kW@380V	1.0kW@220V 3.1kW@380V	1.6kW@220V 4.7kW@380V	2.8kW@220V 8.3kW@380V	4.1kW@220V 11.8kW@380V	5.5kW@220V 16.3kW@380V
Bus Capacitor	470uF	470uF	470uF	470uF	1230uF	1230uF
24V Control Power Supply						
Input Voltage	24V±10%					
Maximum Current (Non-Brake Motor)	1.4A	1.4A	1.4A	1.4A	1.6A	1.6A
Motor Drive Output						
Number of Axes	2	2	2	2	2	2
Output Voltage (RMS)	0~180V @220V1Ph 0~380V @380V3Ph	0~180V @220V1Ph 0~380V @380V3Ph	0~180V @220V1Ph 0~380V @380V3Ph	0~180V @220V1Ph 0~380V @380V3Ph	0~180V @220V1Ph 0~380V @380V3Ph	0~180V @220V1Ph 0~380V @380V3Ph
Continuous Output Current (RMS)	2A	2.8A	4.5A	8A	11.5A	16A
Peak Output Current (RMS) [1]	5A	8A	11A	18A	28A	38A
Maximum Continuous Output Power	1kW	1.5kW	2.3kW	4kW	5.8kW	8kW
Altitude Derating Factor	10% Maximum Continuous Output Current/ 1000m Altitude					
Switching Frequency	8kHz	8kHz	8kHz	4kHz	4kHz	4kHz
Overload Protection/ Output Short-Circuit Protection	yes					
Maximum Output Frequency	600Hz					
Maximum Length of Motor Power Cable [2]	40m					
Maximum Length of Motor Communication Cable [2]	40m					
Motor Brake						
Number of Brake Channels	2					
Output Voltage	23.5V±10%					
Maximum Continuous Output Current	⩽2A					
Brake Output Internal Resistance	⩽0.5Ω					
Arc Extinguishing Voltage	≈30V					
Maximum Arc Extinguishing Energy per Operation	≈5W					
Maximum Operating Frequency	0.5Hz					

Drive Model	ICM-D3D05	ICM-D3D08	ICM-D3D11	ICM-D3D18	ICM-D3D28	ICM-D3D38
IO Input						
Number of I/O Channels	4 channels of digital input signals per axis, software-configurable for functions such as Enable, Registration, Home, Over Travel, etc					
Drive Type	Current Injection					
Electrical Isolation	IO Signal and Power Drive: 2000W					
Input High-Level Voltage	15~30V					
Input Low-Level Voltage	-1~5V					
Input Current	⩽15mA					
Input Delay	Reg signal not greater than 12μs HOME signal not greater than 24ms, Enable signal not greater than 6ms, OT signal not greater than 6ms					
Ambient Conditions						
Mounting Method	Vertical Wall-Mount Installation					
Ambient Temperature	0°C~50°C					
Ambient Humidity	0%RH~90%RH (No Condensation)					
Operating Altitude	Normal： -200m~500m Maximum： 4000m					
Pollution Conditions	level 2 (Free of Conductive Contaminants)					
Protection Rating	IP20 （EN60529）					
Storage Temperature	-25°C~55°C (No Frost/ No Condensation)					
Mechanical Parameters						
Dimensions	315×65×210mm				460×75×270mm	
Weight (net weight)	3.4kg				6.5kg	

Note: [1] Duration not exceeding 1s
[2] For cable lengths exceeding 15m/25m, use cables specified by ICON

ICM-D1P Series Servo Drives

The ICM-D1P Series Servo Drives are an upgraded version of the ICM-D1 Drives, featuring a built-in brake function that eliminates the need for external relays, ensuring safety and efficiency while supporting full closed-loop control.

ICM-D1P Series Servo Drives

Advantages

- Built-in brake output, eliminating the need for external relays
- Standard equipped with STO and dynamic braking functions
- Support standard Industrial Ethernet, compatible with ring/linear network topologies
- Support common DC bus, eliminating the need for braking resistors
- Compatible with various encoders/including Tamagawa encoders/DSL encoders/ Hiperface encoders/incremental encoders/SSI encoders/and BiSS-C encoders

Drive Model	ICM-D1PS15-S
Nominal Operating Voltage	380V@3Ph
Input Voltage Tolerance	±10%
Bus Capacitor	340uF
Control Power Supply	Single-Phase 380W
Motor Drive Output	
Number of Axes	1
Continuous Output Current (RMS)	5.4A
Peak Output Current (RMS)	14A
Maximum Continuous Output Power	1.5kW
Switching Frequency	8kHz
Overload Protection/Output Short-Circuit Protection	yes
Maximum Length of Motor Power Cable [1]	40m
Maximum Length of Motor Communication Cable [1]	40m
IO Input	
Number of I/O Channels	4 channels of DI input signals, software-configurable for functions such as Enable, Registration, Home, OverTravel, etc
Input Delay	Reg signal not greater than 12μs HOME signal not greater than 24ms, Enable signal not greater than 6ms, OT signal not greater than 6ms
Ambient Conditions	
Mounting Method	Vertical Wall-Mount Installation
Ambient Temperature	0°C~55°C (For ambient temperatures above 45°C, derate by 10% for every additional 5°C increase)
Ambient Humidity	0%RH~90%RH (No Condensation)
Operating Altitude	Normal use below 1000m; for 1000m to 2000m, please derate
Pollution Conditions	level 2 (Free of Conductive Contaminants)
Protection Rating	IP20 (EN60529)
Storage Temperature	-20°C~70°C (No Frost/ No Condensation)
Mechanical Parameters	
Dimensions	182×59×170mm
Weight (net weight)	1.60kg

Note: [1] For cable lengths exceeding 15m/25m, use cables specified by ICON

ICM-D1 Series Servo Drives

The ICM-D1 Series Servo Drives can be configured via standard Industrial Ethernet and communication bus with motion controllers that support the corresponding industrial network protocols. The drives feature a stand-alone structure with integrated rectification, inversion, and braking units, suitable for a power range of 0.4 kW to 7.5 kW.

ICM-D1 Series Servo Drives

Advantages

- Continuous output capability from 0.4 kW to 7.5 kW
- Equipped with STO safety function
- Support standard Industrial Ethernet, compatible with ring/linear network topologies
- Support common DC bus, eliminating the need for braking resistors
- Support dynamic braking
- Support frequency conversion function
- Compatible with Tamagawa encoders

Drive Model	ICM-D1S11S(-S)	ICM-D1S18S(-S)	ICM-D1S15-S	ICM-D1S30-S	ICM-D1S70(-S)
Nominal Operating Voltage	220V@1Ph	220V@1Ph	380V@3Ph	380V@3Ph	380V@3Ph
Input Voltage Tolerance	±10%	±10%	±10%	±10%	±10%
Bus Capacitor	660uF	940uF	340uF	500uF	1000uF
Control Power Supply	Bus power supply does not require external power supply		Single-Phase 380W		
Motor Drive Output					
Number of Axes	1	1	1	1	1
Continuous Output Current (RMS)	2.8A	5.5A	5.4A	11.9A	25.7A
Peak Output Current (RMS)	10.1A	16.9A	14A	29.7A	64.2A
Maximum Continuous Output Power	0.4kW	0.75kW	1.5kW	3.0kW	7.5kW
Switching Frequency	8kHz			5kHz	
Overload Protection/Output Short-Circuit Protection	yes				
Maximum Length of Motor Power Cable [1]	40m				
Maximum Length of Motor Communication Cable [1]	40m				
IO Input					
Number of I/O Channels	4 channels of DI input signals, software-configurable for functions such as Enable, Registration, Home, OverTravel, etc				
Input Delay	Reg signal not greater than 12μs HOME signal not greater than 24ms, Enable signal not greater than 6ms, OT signal not greater than 6ms				
Ambient Conditions					
Mounting Method	Vertical Wall-Mount Installation				
Ambient Temperature	0°C~55°C (For ambient temperatures above 45°C, derate by 10% for every additional 5°C increase)				
Ambient Humidity	0%RH~90%RH (No Condensation)				
Operating Altitude	Normal use below 1000m; for 1000m to 2000m, please derate				
Pollution Conditions	level 2 (Free of Conductive Contaminants)				
Protection Rating	IP20 (EN60529)				
Storage Temperature	-20°C~70°C (No Frost/ No Condensation)				
Mechanical Parameters					
Dimensions	173×52×170mm	173×52×170mm	182×59×170mm	192×81×170mm	242×90×250mm
Weight (net weight)	1.02kg	1.02kg	1.60kg	1.80kg	3.52kg

Note: [1] For cable lengths exceeding 15m/25m, use cables specified by ICON

ICM-D1C Series Servo Drives

The ICM-D1C Series Servo Drives are designed with a compact form based on the ICM-D1 Drives, making them smaller and available with optional braking resistors.With a power range covering 0.4kW to 7.5kW, they are an economical choice for small automation equipment.

ICM-D1C Series Servo Drives

Advantages

- Compact size, saving installation space
- Support standard Industrial Ethernet, compatible with ring/linear network topologies
- Support frequency conversion function
- Compatible with Tamagawa encoders

Drive Model	ICM-D1CS11S	ICM-D1CS18S	ICM-D1CS15	ICM-D1CS30	ICM-D1CS70
Nominal Operating Voltage	220V@1Ph	220V@1Ph	380V@3Ph	380V@3Ph	380V@3Ph
Input Voltage Tolerance	±10%	±10%	±10%	±10%	±10%
Bus Capacitor	660uF	940uF	340uF	500uF	1000uF
Control Power Supply	Bus power supply does not require external power supply				
Motor Drive Output					
Number of Axes	1	1	1	1	1
Continuous Output Current (RMS)	2.8A	5.5A	5.4A	11.9A	25.7A
Peak Output Current (RMS)	10.1A	16.9A	14A	29.7A	64.2A
Maximum Continuous Output Power	0.4kW	0.75kW	1.5kW	3.0kW	7.5kW
Switching Frequency	8kHz			5kHz	
Overload Protection/Output Short-Circuit Protection	yes				
Maximum Length of Motor Power Cable [1]	40m				
Maximum Length of Motor Communication Cable [1]	40m				
IO Input					
Number of I/O Channels	4 channels of DI input signals, software-configurable for functions such as Enable, Registration, Home, OverTravel, etc				
Input Delay	Reg signal not greater than 12μs HOME signal not greater than 24ms, Enable signal not greater than 6ms, OT signal not greater than 6ms				
Ambient Conditions					
Mounting Method	Vertical Wall-Mount Installation				
Ambient Temperature	0°C~55°C (For ambient temperatures above 45°C, derate by 10% for every additional 5°C increase)				
Ambient Humidity	0%RH~90%RH (No Condensation)				
Operating Altitude	Normal use below 1000m; for 1000m to 2000m, please derate				
Pollution Conditions	level 2 (Free of Conductive Contaminants)				
Protection Rating	IP20（EN60529）				
Storage Temperature	-20°C~70°C（No Frost/ No Condensation）				
Mechanical Parameters					
Dimensions	170×40×150mm	170×50×150mm	180×55×182mm	180×81×182mm	250×90×242mm
Weight (net weight)	0.64kg	0.8kg	1.1kg	1.5kg	3.2kg

Note: [1] For cable lengths exceeding 15m/25m, use cables specified by ICON

PART 05

ICM Series Servo Motor

ICM-L/M/BICM Series Servo Motor

Features

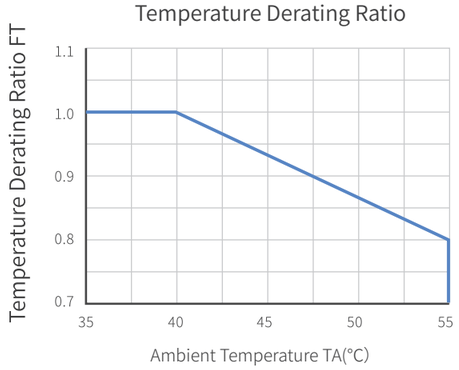
The ICM-L/M/B series low-to-medium inertia AC permanent magnet synchronous servo motors possess the following outstanding characteristics, providing reliable support for customers' high-end intelligent equipment:

- High torque density, low cogging torque, and high overload capacity, with a compact structure suitable for applications with stringent space requirements.
- Maximum speed up to 10,000 rpm, with over 200 standard winding designs available to meet various demanding application needs.
- Protection rating up to IP66, with optional shaft seals to achieve complete dust and strong water jet protection.
- High-precision feedback encoders; the ICM-L/M/B series motors can be equipped with various encoder types, including single/multi-turn absolute and incremental encoders, with a maximum precision of 23 bits per revolution.
- Single connector design (optional configuration) combines the power and feedback cables into one, saving costs and reducing wiring space requirements. Fully digital feedback data offers enhanced performance and reliability.
- Certified with UL and CE.

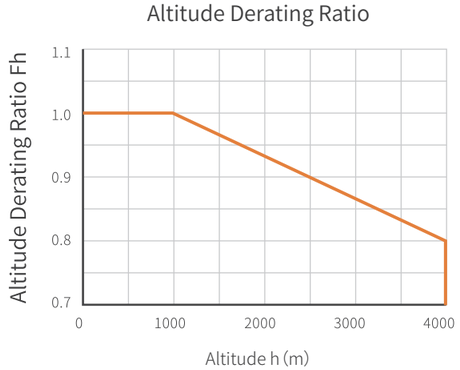
Motor Derating Conditions

When exceeding the environmental conditions specified in IEC 60034-1, the operation of the motor must refer to the following table for derating.

Temperature Derating Ratio



Altitude Derating Ratio



Derating Calculation Method

1. When the ambient temperature > 40°C, the derated torque M0_red=M0 X FT
2. When the installation altitude > 1000 m, the derated torque M0_red=M0 X Fh
3. When the ambient temperature > 40°C and the installation altitude > 1000 m, the derated torque M0_red=M0 X FT X Fh

Product Applications

The ICM-L/M/B series servo motors are suitable for various applications.

Packaging Machinery

Food and Beverage, Pharmaceutical, Daily Chemical Packaging Machinery, Tobacco Machinery.

Large-scale Automation Equipment

Printing Machinery, Intelligent Logistics, Large Medical Devices, Precision Textile Machinery

Industrial Robots

Serial Arm Robots, DELTA Robots, SCARA Robots, Cartesian Robots

Processing Machinery

Machining Centers, CNC Machine Tools, Servo Hydraulic Presses, Punching Machines, Injection Molding Machines.

Motor Environmental Conditions

Attributes	值
Operating Temperature	0~40°C
Altitude	0~1000m
Storage Temperature	-30°C~60°C
Storage Relative Humidity	5%RH~90%RH (No Condensation)
Storage Environment	Non-corrosive
IP Rating with Optional Shaft Seals [1] **and Environment-Sealed Cable Connectors** [2]	IP66: Dust-tight and Splash-proof
IP Rating of Motors Without Shaft Seals and Installed in the Following Orientation	
◎ **Shaft Downward**	◎ IP53: Dust-tight and Protected Against Strong Water Jets
◎ **Shaft Horizontal**	◎ IP51: Dust-tight and Protected Against Vertically Falling Drops of Water
◎ **Shaft Upward**	◎ IP50: Dust-tight and Not Waterproof

Note:[1] The International Protection Standard (IP66) is approximately equivalent to NEMA 35 (Dust-tight and Waterproof).
[2] To achieve the specified IP rating for the motor, an optional shaft seal kit must be used, and the system rating also depends on the IP rating of the cable.

ICM-L/M Series Motor Ordering Code

IC	M	-	L	16	20	-	25	3	D	M	-	N	K	S		-	C	x	x
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20

01 Product Brand Logo (Two Digits)

Product Brand: I-CON,
represented as IC

02 Product Category (One Digit)

Standard Motor represented as M

03 Separator Used

04 Motor Inertia (One Digit)

L: Low Inertia Motor
M: Medium Inertia Motor

05 Flange Size of the Motor (Two Digits)

Represents the hundreds and tens digits of the motor flange size
Reference table for L/M type flanges

06: Motor ϕ63 16: Motor ϕ165
07: Motor ϕ75 21: Motor ϕ215
10: Motor ϕ100 26: Motor ϕ265
11: Motor ϕ115 30: Motor ϕ300
13: Motor ϕ130

06 Stall Torque of the Motor (Two Digits)

1.≤10 N·m represented as 00-09
2.For 10 ≤ N,m < 100, use the integer value
3.For 100 ≤ N,m < 200, use A0-A9, where A represents 100
4.For 200 ≤ N,m < 300, use B0-B9, where B represents 200
5.For 300 ≤ N,m < 400, use C0-C9, where C represents 300
...

07 Separator Used

08 Rated Speed (Two Digits)

Use a two-digit value,*100RPM to represent the motor's rated speed

09 Rated Voltage (One Digit)

2:220/240Vac
3:380/440Vac

10 Feedback Element (One Digit)

D: SICK Hiperface DSL 18Bit
T : TAMAGAWA 23Bit
H : SICK Hiperface 1024S/C
L : TAMAGAWA 17Bit
G : SICK Hiperface 128S/C
F : SICK Hiperface DSL 17Bit
B: SICK Hiperface DSL 20Bit

11 Feedback Characteristics (One Digit)

M: Multi-turn Absolute Encoder
S: Single-turn Absolute Encoder
N: None

12 Separator Used

13 Brake(One Digit)

B: Safety Brake
N: None

14 Keyway(One Digit)

K: With Keyway
N: Without Keyway

15 Shaft Seal (One Digit)

S: Standard Shaft Seal
N: NoneN: None

16 Special Notes: Use only for the following motors (One Digit)

F: Air-Cooled Motor
L: Water-Cooled Motor
Vacancy: Standard motor

17 Separator Used

18 Indicate

Customization

19 Custom Category(One Digit)

0: More than two customizations
1: Protection type
2: Appearance type
3: Parameter and performance type
4: Encoder information writing

20 Custom Item(One Digit)

0: More than two customizations
1: Inertia
2: Speed
3: 940+623 dual connector
4: 740 connector
5: Protection level IP67
6: Shaft diameter
7: Shaft extension
8: Precision level
9: Body length
A: Encoder
B: Specific electronic nameplate

ICM-L/M Series Motor

Flange Size	Motor Model	Rated Power	Rated Speed	Rated Torque	Peak Torque	Rated Current	Peak Current	moment coefficient	Rotor Inertia		Optional components
									Non-brake	brake	
		kW	RPM	Nm	Nm	A	A	Nm/A	X10^{-4}Kg.m^2		
63	ICM-L0601-603	0.65	6000	1.04	4.02	1.61	6.6	0.65	0.25	0.30	Brake
75	ICM-L0702-503	1.15	5000	2.19	7.1	2.66	9.2	0.82	0.33	0.51	Brake
100	ICM-L1003-353	1.17	3500	3.2	9.6	3.0	10.4	1.08	0.74	0.85	Brake
	ICM-L1004-403	2.01	4000	4.8	14.4	4.9	17.2	0.98	1.04	1.15	Brake
115	ICM-L1106-353	2.24	3500	6.1	24	5.1	20.4	1.21	3.49	3.75	Brake
130	ICM-L1310-453	3.91	4500	8.3	32	8.0	32.2	1.03	4.61	5.06	Brake
	ICM-M1314-353	4.95	3500	13.5	48	10.8	39.1	1.26	23.3	23.7	Brake
165	ICM-M1620-353	6.3	3500	17.1	50	15.2	48	1.12	45.5	47.1	Brake
	ICM-M1624-353	8.0	3500	21.7	62.5	18.9	59	1.15	60.6	62.3	Brake
	ICM-M1632-253	6.8	2500	26	100	14.2	59	1.84	80.9	82.5	Brake
215	ICM-M2145-303	9.3	3000	29.5	135	20.4	96	1.44	175	182	Brake
	ICM-M2160-203	10.0	2000	47.9	180	22.3	86	2.14	235	241	Brake
	ICM-M2180-403-F	24.8	4000	59.3	200	52.6	194	1.13	235	241	Brake
300	ICM-L30A1-303-F	28.9	3000	92	190	68.3	166	1.35	163	192	Brake
	ICM-L30A6-253-F	38.2	2500	146	290	92.1	219	1.58	239	268	Brake

ICM-B Series Motor Ordering Code

IC	M	-	B	09	02	-	30	2	M	M	-	N	K	S	
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16

01 Product Brand Logo (Two Digits)

Product Brand: I-CON,
represented as IC

02 Product Category (One Digit)

Standard Motor represented as M

03 Separator Used

04 Motor type(One Digit)

B: B Series Motor

05 Size of the Motor (Two Digits)

05 : 40 Frame
07 : 60 Frame
09 : 80 Frame
14 : 130 Frame
20 : 180 Frame

06 Motor stalling torque (Two Digits)

1.<1N. m is represented by R0-R9, where R represents the decimal point;
2.1 ≤ N.m<10 is represented by 00-09;
3.10 ≤ N.m<100 corresponds to integer representation;
4.100 ≤ N.m<200 Use A0-A9 to represent: A represents 100

07 Separator Used

08 Rated Speed (Two Digits)

Use a two-digit value,*100RPM to represent the motor's rated speed

09 Rated Voltage (One Digit)

2:220/240Vac
3:380/440Vac

10 Feedback Element (One Digit)

T: TAMAGAWA 23Bit
M: Magnetic Encoder 17 Bit

11 Feedback Characteristics (One Digit)

M: Multi-turn Absolute Encoder

12 Separator Used

13 Brake(One Digit)

B: Safety Brake
N: None

14 Keyway(One Digit)

K: With Keyway
N: Without Keyway

15 Shaft Seal (One Digit)

S: Standard Shaft Seal
N: NoneN: None

16 Special Notes: Use only for the following motors (One Digit)

F: Air-Cooled Motor
Vacancy: Standard motor

ICM-B Series Motor

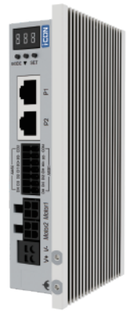
Frame	Motor Model	Rated Power	Rated Speed	Rated Torque	Peak Torque	Rated Current	Peak Current	moment coefficient	Rotor Inertia		Optional components
									Non-brake	brake	
		kW	RPM	Nm	Nm	A	A	Nm/A	X10^{-4}Kg.m^2		
40Frame	ICM-T05R3-302-C01	0.1	3000	0.32	0.384	0.6	0.72	0.530	0.051	0.065	Brake
	ICM-T05R3-302	0.1	3000	0.318	0.636	1.31	2.62	0.242	0.043	0.052	Brake
60Frame	ICM-B07R6-302	0.2	3000	0.64	1.92	1.5	4.5	0.427	0.263	0.276	Brake
	ICM-B0701-302	0.4	3000	1.27	3.81	2.8	8.4	0.454	0.487	0.5	Brake
80Frame	ICM-B0902-302	0.75	3000	2.39	7.1	5	15	0.480	1.41	1.51	Brake
	ICM-B0903-303	1.0	3000	3.3	9.9	3.6	10.8	0.920	1.81	1.91	Brake
100Frame	ICM-B1103-303	1.0	3000	3.2	9.6	2.9	8.7	1.100	2.458	3.042	Brake
	ICM-B1106-303	2.0	3000	6.4	19.2	5.7	17.1	1.120	4.422	5	Brake
130Frame	ICM-B1405-153	0.85	1500	5.39	14.2	3.2	8.4	1.680	13.9	16	Brake
	ICM-B1408-153	1.3	1500	8.34	23.3	4.8	13.4	1.740	19.9	22	Brake
	ICM-B1411-153	1.8	1500	11.5	28.7	6.5	16.3	1.770	26	28.1	Brake
180Frame	ICM-B2018-153	2.9	1500	18.6	42.5	11.9	28	1.560	44	59	Brake
	ICM-B2028-153	4.4	1500	28.4	71	16.5	41.3	1.720	66	80	Brake
	ICM-B2035-153	5.5	1500	35	87.5	21	52.5	1.670	102	110	Brake
	ICM-B2048-153	7.5	1500	48	119	26	65	1.850	146	156	Brake
200Frame	ICM-B2170-153	11	1500	70	190	55	150	1.3	105.8	111.1	Brake
	ICM-B2195-153	15	1500	95	224	63	156	1.5	141.7	147	Brake

PART 07

ICM series stepper drive products

ICM-S series stepper driver

ICM-S Series Stepper Drives, integrating cutting-edge technology and innovative design, deliver revolutionary performance enhancements to the field of industrial automation. With their exceptional micro-stepping control, wide voltage compatibility, and intelligent protection mechanisms, they ensure precise and reliable motor control in diverse industrial environments.



ICM-S series stepper driver

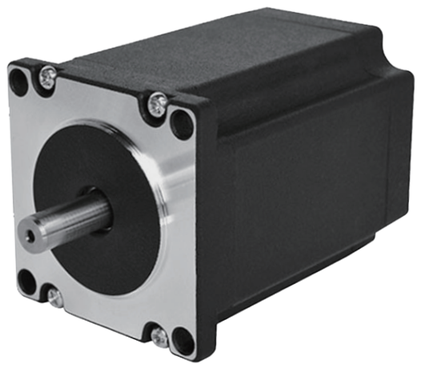
Advantages of ICM-S series stepper drivers

- **Rapid Response:** Advanced control algorithms enable fast positioning and high dynamic response, ideal for high-speed precision applications.
- **Environmental Adaptability:** Wide-voltage design and enhanced protection ensure stable operation in varying environments.
- **Energy Efficiency & High Performance:** Optimized current control and microstepping technology reduce energy consumption, meeting energy-saving requirements.
- **High Reliability & Flexibility:** Dual-port Ethernet provides network redundancy and data isolation, significantly enhancing system reliability and network management flexibility.

Drive Model	ICM-S1D10D
Power Module	
Power Amplification Type	Dual H-Bridge, Four-Quadrant Operation
Current Control	PWM Frequency: 16 kHz
Control Mode	Open-Loop Modes: Speed Mode, Position Mode
Output Current	Max. Continuous Output Current: 2 × 10A
Input Voltage	Operating Voltage (Recommended): 24–70 VDC；Absolute Input Voltage Range: 18–75 VDC
Protection Features	Overvoltage Protection，Undervoltage Protection，Overtemperature Protection，Overcurrent Protection，Motor Winding Short-Circuit (Phase-to-Phase / Phase-to-Ground)
Controller	
Open-Loop Mode	Increased system damping ratio suppresses mid-frequency instability, ensuring stable motor operation across the entire speed range.
	Harmonic content adjustment in current waveforms minimizes torque ripple at low speeds (0.25–1.5 r/s).
	On power-up, the drive auto-detects motor parameters (e.g. resistance, inductance) and optimizes system performance based on these values.
	During motor standby, the holding current decays to 0%–90% of operating current after a user-configurable delay (down to milliseconds).
Signal Filter	Digital Input Noise Filter, PID Filter, Notch Filter
Operating Modes	Supports EtherNet Industrial Ethernet Protocol
Digital Inputs	2×4 Digital Inputs (DI1–DI4) Opto-isolated, Sink/Source Configurable, Single-ended, 5–24 VDC, Min. Pulse Width: 100μs, Max. Pulse Frequency: 5 kHz
Digital Outputs	2×1 Digital Outputs Opto-isolated, Open-collector, Max. 30V/100mA, Max. Pulse Frequency: 10 kHz
Communication Interface	Dual-Port Ethernet (RJ45 Connector)
Physical specifications	
Ambient Temperature	0 to 40°C (32 to 104°F) with proper heatsink
Ambient Humidity	0%RH~90%RH (No Condensation)
Operation & Display	IP address configurable via keys; 3-digit LED display shows fault codes
Mechanical Specifications	
Size (WxHxD)	30.8x151x79.5mm

ICM-H SERIES STEPPER MOTOR

ICM-H Series Stepper Motors deliver high precision, exceptional stability, and low-noise operation, addressing modern industry's demand for accurate motion control across a wide range of automation applications.



Advantages of ICM-H Series Stepper Motors

- **Precise position control:** The stepper motor can rotate at a fixed step length, achieving precise position control
- **High torque output:** This stepper motor possesses high static and dynamic torque output capabilities, giving it a significant advantage in applications requiring high torque output, such as automation equipment and robots
- **High reliability:** Manufactured with high-quality materials, and subjected to rigorous quality control and durability testing, ensuring stable performance in various harsh environments
- **Low vibration and low noise:** The design of the stepper motor focuses on reducing vibration and noise, improving the comfort of the working environment, and extending the service life of the equipment

ICM-H series stepper motor ordering code

IC	M	-	H	57	R4	-	45	A	-	00	-	S01
01	02	03	04	05	06	07	08	09	10	11	12	13

01 Product Brand Logo (Two Digits)
Product Brand: I-CON, represented as IC

02 Product Category (One Digit)
Standard Motor represented as M

03 Separator Used

04 Motor type(One Digit)
H : Stepper motor

05 Motor frame number(Two Digits)
Outline dimensions of motor
20:20mm
28:28mm
35:35mm
42:42mm
56:56mm
60:60mm
86:86mm

06 Torque of motor(Two Digits)
Indicate motor torque

07 Separator Used

08 Electric current(Two Digits)
1. <1A is represented by R0-R9, where R represents a decimal point;
2. For currents ranging from 1A to 10A, use 00-99 to represent;

09 Step angle (One Digit)
A: Step angle 1.8°

10 Separator Used

11 Standard(Two Digits)
SZ: Dual output shaft
BZ: Brake
FS: Waterproof

12 Separator Used

13 Non standard code(Three Digits)
First place
S: Shaft extension modification
L: Lead wire modification
F: Shaft extension with platform
N: Optical axis
K: Shaft extension with key slot
I: Change of shaft diameter
C: Lead wire with connector
M: With synchronizing wheel
The last two
Special application code

ICM-H series stepper motor

Frame	Motor model	Out shaft	Static moment	Electric current	Resistance	Inductance	Rotor inertia	Weight
		-	Nm	A/相	Ω/相	mH	g.cm²	Kg
42	ICM-H42R5-15A	Single output shaft	0.45	1.5	2.1	4.3	58	0.3
	ICM-H42R6-25A	Single output shaft	0.6	2.5	0.9	1.6	85	0.38
	ICM-H42R8-25A	Single output shaft	0.78	2.5	1	2.4	115	0.5
57	ICM-H5701-40A	Single output shaft	1.3	4	0.4	1.65	280	0.72
	ICM-H5702-40A	Single output shaft	2	4	0.58	2.7	460	1.05
	ICM-H5702-50A	Single output shaft	2	5	0.4	1.8	460	1.05
60	ICM-H6002-40A-SZ	Double output shaft	2.5	4	0.65	2	900	1.36
86	ICM-H8604-60A	Single output shaft	4.5	6	0.4	2.9	1400	2.2
	ICM-H8608-60A	Single output shaft	8.5	6	0.6	5.5	2700	3.8
	ICM-H8610-60A	Single output shaft	10.2	6	0.7	6	2940	4.2

PART 08

ICF-C/H Series VFD

The ICF-C/H series frequency converter is a product specifically designed to meet the stringent requirements of the high-end industrial automation field. This series of frequency converters utilizes advanced vector control technology, enabling wide-range speed regulation and suitable for various complex industrial application scenarios. The frequency converter features an optimized V/F control algorithm, ensuring efficient operation of the motor under different load conditions. Equipped with a dual-port Ethernet module, it supports ring, linear, and star network topologies as well as redundant ring network functions, achieving advanced network redundancy and optimized data communication.

Advantages of ICF-C/H series frequency converters

- **High Reliability**
  Integrated intelligent diagnostics module enables real-time drive health monitoring, reducing failure rates by 30% (MTBF >100,000 hours).
- **High Performance & Precision**
  Advanced vector control algorithm achieves ±0.05% speed accuracy and ±3% torque regulation across 0-200 Hz range.
- **Broad Application Scope**
  Compatible with both PMSM and induction motors (0.4-630kW), supporting flexible control mode selection (V/F, SVC, FOC) and hardware configurations.
- **High-Speed Communication**
  Dual Ethernet bus interfaces (EtherNet/IP + PROFINET) with ⩽1μs cycle time for deterministic control.

Single-phase 200V~240V (F0~F1)

Model:ICF-C1S2Sxxxx		Specifications	
		2R8N	4R6N
Frame size		F0	F1
Input	Rated input current (A)	6.2	10.2
	Rated Voltage & Frequency	AC: Single-phase 200V~240V, 50/60Hz	
	voltagefluctuation range	-15% to 10%, actual allowable range: 170V AC to 264V AC	
	fluctuationrange of frequency	±5%, actual allowable range: 47.5Hz~63Hz	
	Power capacity (kVA)	1.5	2.4
Output	Power (kW)	0.37	0.75
	Rated output current (A)	2.8	4.6
	Output voltage	Three-phase 0V~input voltage	
	Maximum output frequency	599Hz(Can be changed through parameters)	
	Carrier Frequency	0.5kHz~16.0kHzAdaptive Carrier Frequency Adjustment (based on load characteristics)	
	Overload Capacity	Overload 150% rated current for 60s	
Overvoltage Category		OVCIII	
Pollution Degree		PD2	
Ingress Protection (IP) Rating		IP40 (IP20 for the distribution wiring part and capacitor ventilation port)	

3-phase 380–480 V AC (F2)

Model:ICF-C1S4Txxxx		Specifications	
		5R5B	013B
Frame size		F2	
Input	Rated input current (A)	6.7	15.8
	Rated Voltage & Frequency	AC Input: 3-phase 380–480 V AC, 50/60 Hz	
	voltagefluctuation range	-15% to +10%,Operating voltage range: 323–528 V AC	
	fluctuationrange of frequency	±5%,Operating frequency range: 47.5–63 Hz	
	Power capacity (kVA)	5.6	13.1
Output	Power (kW)	2.2	5.5
	Rated output current (A)	5.5	13
	Output voltage	3-phase 0V~input voltage	
	Maximum output frequency	599Hz(Can be changed through parameters)	
	Carrier Frequency	0.5kHz~16.0kHzAdaptive Carrier Frequency Adjustment (based on load characteristics)	
	Overload Capacity	Overload 150% rated current for 60s	
Overvoltage Category		OVCIII	
Pollution Degree		PD2	
Ingress Protection (IP) Rating		IP40 (IP20 for the distribution wiring part and capacitor ventilation port)	

3-phase 380V~480V(F3~F11)

Model:ICF-H1S4Txxxx		Specifications					
		025B	045B/N	075B/N	210N	426N	725N
Frame size		F3	F4	F5	F7	F9	F11
Input	Rated Input Current (Heavy Load)	32.2	59	69	196	410	687
	Rated Input Current (Light Load)	39.7	79	86	239	507	840
	Rated Voltage & Frequency	AC Input: 3-phase 380–480 V AC, 50/60 Hz					
	Permitted Voltage Fluctuation	-15% to +10%,Operating voltage range: 323–528 V AC					
	Permitted Frequency Fluctuation	±5%,Operating frequency range: 47.5–63 Hz					
	Required Supply Capacity (Heavy Load)	33.4	44	63	179	375	629
	Required Supply Capacity (Light Load)	42.8	59	79	220	453	952
Output	Output Power (Heavy Load)	11	22	37	110	220	400
	Output Power (Light Load)	15	30	45	132	280	500
	Rated Output Current (Heavy Load)	25	45	75	210	426	725
	Rated Output Current (Light Load)	32	60	91	253	520	880
	Output Voltage	3-phase 0V~input voltage					
	Max. Output Frequency	599Hz(Can be changed through parameters)					
	Carrier Frequency	0.5kHz~16.0kHzAdaptive Carrier Frequency Adjustment (based on load characteristics)					
	Overload Capability	Overload 150% rated current for 60s Light load 110% rated current for 60s					
Overvoltage Category		OVCIII					
Pollution Degree		PD2					
Ingress Protection (IP) Rating		IP20					

PART 06

APPLICATION CASE

High-speed filling machine

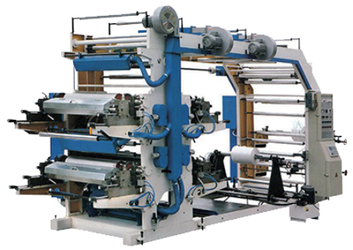
Sanitary material production equipment

Truss robot

Tire Building Machine

Photovoltaic laminating machine

Photovoltaic cell loading and unloading equipment

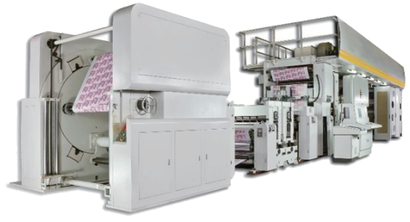


Wire winding equipment

High speed coating machine

High speed multi line cutting equipment

Medical testing equipment



Satellite flexographic printing machine

Unit type flexographic printing machine