Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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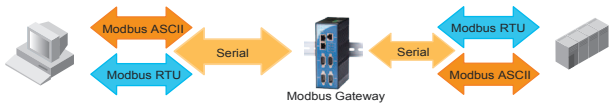
Modbus Gateways

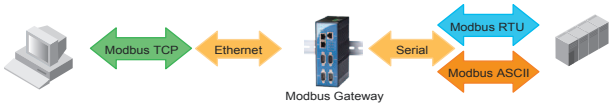
8/16-port Modbus Gateway
MB5408A / MB5408A2-N / MB5416A / MB5416A2-N

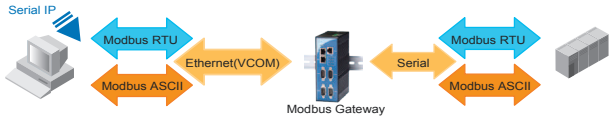
4-port Modbus Gateway
MB5404D-X / MB5404D-Sis-X

Modbus is an industry adopted communication protocol based on RTU, ASCII, and TCP protocols for various applications; these three protocols are commonly used by various equipments in the industry, such as DCS, PLC, HMI, power meters, various sensor and measuring instruments.

The Modbus Gateway is capable of implementing the Modbus protocol conversion between different hardware interfaces, thereby streamlining the process of management and application.







Diverse Hardware Infrastructure

Modbus Gateway supports the four most commonly used communication standards, RS-232/485/422, and Ethernet. The ease-of-use configuration utility provided with Modbus Gateway can quickly select the hardware interface , and easily switch to the existing communication infrastructure.

Switching between Modbus Protocols

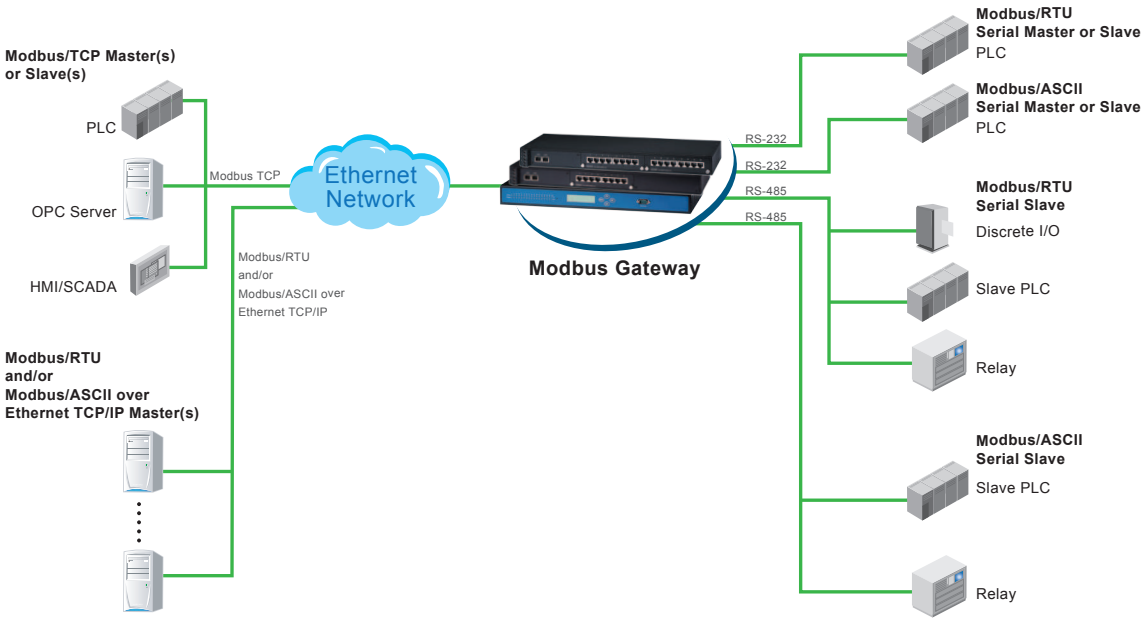
Modbus Gateway supports the standard Modbus protocol and is capable of converting any Modbus protocols between Modbus TCP, Modbus RTU, and Modbus ASCII for all supported hardware interfaces.

Modbus ID Routing

Modbus Gateway is not only capable of hardware and protocol conversions, and when a Modbus ID conflict occurs, the Modbus Gateway also supports ID routing to the existing Modbus hardware.

Simple Integration for Complex Configurations

Modbus Gateway supports various types of hardware communication interfaces, Modbus protocol conversion, and Modbus ID routing. Therefore the Modbus Gateway can integrate your existing and complex Modbus hardware configuration into a simple network that can be easily managed.



Note:
A total of up to 254 slave devices can be supported.

Specifications

Model Name	MB5404D-X / MB5404D-Sis-X	MB5408A / MB5408A2-N	MB5416A / MB5416A2-N
Ethernet (RJ-45 Connector)	Dual 10/100M Fast-Ethernet Auto-detection		
Network Protocol	Modbus TCP/ASCII/RTU, IPv4, ARP, ICMP, TCP, DHCP Client, SNMP, HTTP, Telnet, RFC2217, NTP, DNS, SMTP, Syslog		
Watch Dog Timer	Hardware watch dog, auto-reset		
Real-Time Clock	External		
Serial Port	4-Port 9-Pin D-Sub connectors(MB5404D-X) 5-Pin lockable Terminal Blocks(MB5404D-Sis-X)	8-Port RJ-45 connectors	16-Port RJ-45 connectors
Serial Interface	RS-232/422/485, software selectable. For the different modes supported in each model, refer to the ordering information.		
Date Rate	300 ~ 921,600bps (MB5404D-X), 300~230,400bps (MB5404D-X-Sis)	300 ~ 921,600bps	
Data Bits	5, 6, 7, 8		
Parity Check	None, Even, Odd, Space, Mark		
Stop Bits	1, 2		
Flow Control	None, XON/XOFF, RTS/CTS		
Power Input	DC 9 - 48V, 7-pin TB	AC 100 ~ 240V (AC Models) / 24 - 48 VDC (DC Models)	
Operation Temperature	-40°C ~ 80°C	-20°C ~ 70°C	
Storage Temperature	-40°C ~ 85°C		
Humidity	5%~95% non-condensing		
Mounting	DIN-Rail	Rack mount (1U)	
Dimension (W x H x D) mm	53.4 x 145.7 x 119.9	436 x 43.5 x 200	
Configuration	Web Browser, Windows-based Utility		
Weight	900g	3,000g	3,200g
MTBF	188251 hours / 21.5 years	TBD	TBD

Optional Accessories

Category	Model No.	Specification	MB5404D-X MB5404D-Sis-X	MB5408A MB5408A2-N	MB5416A MB5416A2-N
Power adapter	US315-12(US-Y) P/N:505001511200009G	Y-Type (5.08 mm) power adaptor, 100-240VAC input, 1.25A @ 12VDC output, US plug	✓		
	USE315-12(EU-Y) P/N:505001511200019G	Y-Type (5.08 mm) power adaptor, 100-240VAC input, 1.25A @ 12VDC output, EU plug	✓		
	UV315-12(US-LDC) P/N:505001511200108G	Lockable DC jack (5.5/1.35/9.5 mm) power adaptor, 100-240VAC input, 1.25 A @ 12 VDC output, US plug	✓		
	UVE315-12(EU-LDC) P/N:505001511200118G	Lockable DC jack (5.5/1.35/9.5 mm) power adaptor, 100-240VAC input, 1.25 A @ 12 VDC output, EU plug	✓		
Terminal Block	2ESDPM-07P P/N:50707871G	7-pin 5.08mm Screw Terminal Block with 180˚ Angle	✓		
	2ESDVM-07P P/N:50707741G	7-pin 5.08mm Screw Terminal Block with 90˚ Angle	✓		
Mounting Kit	WMK-B-459 P/N:202EH731000003G	Black metal Wall Mount Kit	✓		
	CDK-S-459 P/N:201EH731000005G	Conductive silver metal DIN-Rail Kit	✓		
	RMK-B-718 P/N:202SE641600005G	Rack Mount Kit		✓	✓
Serial Cable	CBL-RJ45(8P)-DB9(M)-90 P/N:50891781G	8-pin RJ45-DB9 Male Cable, 90cm		✓	✓
	CBL-RJ45(8P)-DB9(F)-90-C P/N:50891971G	8-pin RJ45-DB9 Female Cross Over Cable, 90cm	✓ (Console)	✓	✓
Grounding Cable	GDC-120 P/N:59906861G	120mm copper woven grounding cable	✓		
DB9 to TB5 Converter	ADP-DB9(F)-TB5 P/N:59906231G	Female DB9 to Female 3.81mm TB5 Converter	✓ (MB5404D-X)	✓	✓

Ordering Information

	Model Name	P/N	Description
Isolation	**MB5416A**	1P1MB5416A0001G	16-Port Industrial Modbus Gateway, RJ-45, 2.5kV Isolation, AC 100~240V, Supporting RS232, US Plug
	MB5416A-DC	1P1MB5416A0002G	16-Port Industrial Modbus Gateway, RJ-45, 2.5kV Isolation, DC 24-48V, Supporting RS232
	MB5416A-S5	1P1MB5416A0003G	16-Port Industrial Modbus Gateway, RJ-45, 2.5kV Isolation, AC 100~240V, Supporting RS422/485, US Plug
	MB5416A-S5-DC	1P1MB5416A0004G	16-Port Industrial Modbus Gateway, RJ-45, 2.5kV Isolation, DC 24-48V, Supporting RS422/485
	MB5416A-EU	1P1MB5416A0011G	16-Port Industrial Modbus Gateway, RJ-45, 2.5kV Isolation, AC 100~240V, Supporting RS232, EU Plug
	MB5416A-S5-EU	1P1MB5416A0013G	16-Port Industrial Modbus Gateway, RJ-45, 2.5kV Isolation, AC 100~240V, Supporting RS422/485, EU Plug
	MB5408A	1P1MB5408A0001G	8-Port Industrial Modbus Gateway, RJ-45, 2.5kV Isolation, AC 100~240V, Supporting RS232, US Plug
	MB5408A-DC	1P1MB5408A0002G	8-Port Industrial Modbus Gateway, RJ-45, 2.5kV Isolation, DC 24-48V, Supporting RS232
	MB5408A-S5	1P1MB5408A0003G	8-Port Industrial Modbus Gateway, RJ-45, 2.5kV Isolation, AC 100~240V, Supporting RS422/485, US Plug
	MB5408A-S5-DC	1P1MB5408A0004G	8-Port Industrial Modbus Gateway, RJ-45, 2.5kV Isolation, DC 24-48V, Supporting RS422/485
	MB5408A-EU	1P1MB5408A0011G	8-Port Industrial Modbus Gateway, RJ-45, 2.5kV Isolation, AC 100~240V, Supporting RS232, EU Plug
	MB5408A-S5-EU	1P1MB5408A0013G	8-Port Industrial Modbus Gateway, RJ-45, 2.5kV Isolation, AC 100~240V, Supporting RS422/485, EU Plug
	MB5404D-Sis-X	1P1MB5404DX001G	4-Port Industrial Modbus Gateway, Terminal Block (TB5) lockable connectors, 2kV Isolation, DC 9-48V, Supporting RS-422/485, DIN-Rail Type
Non-Isolation	**MB5416A2-N-DC**	1P1MB5416A200CG	16-Port Industrial Modbus Gateway, RJ-45, DC 24-48V, Supporting RS232/422/485 Software Selectable
	MB5416A2-N-US	1P1MB5416A200BG	16-Port Industrial Modbus Gateway, RJ-45, AC 100~240V, Supporting RS232/422/485 Software Selectable, US Plug
	MB5416A2-N-EU	1P1MB5416A201BG	16-Port Industrial Modbus Gateway, RJ-45, AC 100~240V, Supporting RS232/422/485 Software Selectable, EU Plug
	MB5408A2-N-DC	1P1MB5408A2006G	8-Port Industrial Modbus Gateway, RJ-45, DC 24-48V, Supporting RS232/422/485 Software Selectable
	MB5408A2-N-US	1P1MB5408A2005G	8-Port Industrial Modbus Gateway, RJ-45, AC 100~240V, Supporting RS232/422/485 Software Selectable, US Plug
	MB5408A2-N-EU	1P1MB5408A2015G	8-Port Industrial Modbus Gateway, RJ-45, AC 100~240V, Supporting RS232/422/485 Software Selectable, EU Plug
	MB5404D-X	1P1MB5404DX002G	4-Port Industrial Modbus Gateway, D-Sub(M) (DB9) connectors, DC 9-48V, Supporting RS-232/422/485 Software Selectable, DIN-Rail Type

Regulatory Approvals for MB5408A/MB5416A/MB5408A2-N/MB5416A2-N					
EMI	EN 55022: 2010, EN 55024: 2010, FCC Part 15B, Class A				
EMS					
Test	**Item**		**Value**	**Level**	**Criteria**
IEC 61000-4-2	ESD	Enclosure Contact	8 kV	4	B
		Enclosure Air	15 kV		B
IEC 61000-4-3	RS	Enclosure Ports	10 V/m	3	A
IEC 61000-4-4	EFT	Signal Ports	2 kV	4	B
		DC Power Ports	2 kV	3	B
		AC Power Ports	4 kV	4	B
IEC 61000-4-5	Surge	Signal Ports	2 kV line-to-earth	3	B
		Signal Ports	2 kV line-to-earth	3	B
		DC Power Ports	1 kV line-to-earth, 1 kV line-line	2	A
		AC Power Ports	4 kV line-to-earth, 2 kV line-line	4	A
IEC 61000-4-6	CS	Signal Ports	10 V	3	A
		DC Power Ports			
		AC Power Ports			
IEC 61000-4-8	PFMF	Enclosure Ports	10 A/m continuous	3	A
IEC 61000-4-11	Dip	AC Power Ports	Dips: >95% dip, 30% reduction	-	A
			Interruptions: >95%	-	B
Safety	EN60950-1				
Shock	IEC 60068-2-27				
Freefall	IEC 60068-2-32				
Vibration	IEC 60068-2-64				
RoHS II	Yes				

Regulatory Approvals for MB5404D-X /MB5404D-Sis-X					
EMI	EN55022:2006+A1:2007, EN55024:1998+A1:2001+A2:2003, FCC Part 15B, Class A				
EMS					
Test	**Item**		**Value**	**Level**	**Criteria**
IEC 61000-4-2	ESD	Enclosure Contact	6 kV	3	A
		Enclosure Air	8 kV	3	A
IEC 61000-4-3	RS	Enclosure Ports	10 V/m	3	A
IEC 61000-4-4	EFT	Signal Ports	1 kV	3	A
		Power Ports	2 kV	3	A
IEC 61000-4-5	Surge	Signal Ports	2 kV line-to-earth	3	A
		Power Ports	0.5 kV line-to-earth	2	A
IEC 61000-4-6	CS	Signal Ports	10 V	3	A
		Power Ports	10 V	3	A
IEC 61000-4-8	PFMF	Enclosure Ports	1 A/m continuous	1	A
Safety	EN60950-1				
Shock	IEC 60068-2-27				
Freefall	IEC 60068-2-32				
Vibration	IEC 60068-2-64				
RoHS II	Yes				

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