4 PORT RS232/485 TO 2 ETHERNET PORTS MODBUS INDUSTRIAL GATEWAY

DDSE SERIES

SYNOPSIS

- THE DDSE I MS 4 MV IS A DIN-RAIL MOUNTED INDUSTRIAL MODBUS GATEWAY DESIGNED FOR RELIABLE AND FLEXIBLE COMMUNICATION IN INDUSTRIAL AUTOMATION ENVIRONMENTS.
- THIS DEVICE FEATURES 2 × 100M COPPER ETHERNET PORTS AND 4 × RS232/RS485 SERIAL PORTS, OFFERING WIDE COMPATIBILITY AND CONNECTIVITY OPTIONS.
- ADDITIONALLY, THE DEVICE PROVIDES ONE-CLICK SYSTEM RESTART AND FACTORY RESET OPTIONS FOR USER CONVENIENCE AND MAINTENANCE EFFICIENCY

FEATURES

- SUPPORT CONVERSION BETWEEN MODBUS RTU/ASCII AND MODBUS TCP PROTOCOLS, AND SUPPORT MODBUS RTU/ASCII OVER TCP TRANSPARENT TRANSMISSION
- SUPPORT MODBUS SLAVE READAHEAD, SINGLE PORT AUTOMATICALLY LEARNS UP TO 256 RTU OR 128 ASCII INSTRUCTIONS, AND PRE-READS DATA TO ACHIEVE FAST RESPONSE
- SUPPORT MODBUS ADDRESS MAPPING, MAPPING A SINGLE READ/WRITE INSTRUCTION WITH READ/WRITE INSTRUCTIONS OF MULTIPLE ADDRESSES, REALIZING BATCH READ/WRITE WITH A SINGLE INSTRUCTION
- SUPPORT SERIAL PORT FORWARDING, REALIZES TRANSPARENT TRANSMISSION OF DATA BETWEEN THE SERIAL PORT AND OTHER SERIAL PORTS, AND PROVIDES ONE-WAY FORWARDING/RECEIVING AND TWO-WAY FORWARDING DIRECTION CONTROL
- SUPPORT JSON FUNCTION, WHICH CAN CONVERT THE COLLECTED MODBUS SLAVE DEVICE DATA INTO JSON FORMAT AND SEND IT TO THE SERVER

ADDITIONAL FEATURES & BENEFITS

- High-performance CPU processing power, Cortex-A7 core, running frequency up to 800MHz
- Dual Ethernet ports can be configured as two independent network segments or cascade ports
- Support Pair Connection Master/Slave mode, devices can be used in pairs, easy to operate
- Support RealCOM_MCP/CCP/MW mode, maps the network to local COM, and seamlessly connects
- Support HTTPD Client mode and can perform GET or POST operations with HTTPD server
- Support WebSocket Client mode, enabling two-way communication with the WebSocket server
- Support multiple sub-packaging mechanisms, converts Serial port data into Ethernet data packets according to data length or time, to meet the real-time needs of different networks
- Support frame header and tail mode. The Serial port can filter data frames based on the start byte and end byte of the frame
- Support registration package and heartbeat package to realize connection verification and connection status detection
- Support Modbus virtual ID, mapping the real ID of the Modbus slave to a virtual ID for data communication to avoid duplication of slave IDs
- Support Serial port communication parameters, working mode, statistics of sent and received frames
- Support log Local storage, Network storage and Serial port log output
- Support Serial port/Device restart, Factory settings restoration, Device upgrade and NTP client

TECHNICAL SPECIFICATIONS

SOFTWARE

Network Protocol	IP, TCP, UDP, DNS, ARP, SNMP Trap, SSH, ICMP, HTTP, HTTPS, DHCP Client, RFC2217, NTP, SMTP, TELENT
IP Obtaining Method	Static IP/DHCP
DNS Resolution	Support
User Configuration	Web page configuration / CONSOLE port simple network parameter configuration
Simple Transparent	UDP / UDP Multicast / TCP Client / TCP Server / RealCOM / Pair Connection
Modbus	Modbus RTU /ASCII to Modbus TCP
Serial Port Data Packaging	Time and length can be set; the maximum pack length is 1460 bytes
Data Encryption	DES / 3DES / AES / RC2 / RC4 / RC5 / Blowfish
SSL Encryption	TLS1.0 / TLS1.1 / TLS1.2
TCP Server Connection	The single Serial port supports up to 32 * TCP Client connections
TCP Client Connection	Single Serial port supports up to 16 * TCP Server connections
Network Cache	Send: 16 Kbyte; receive: 16 Kbyte
Serial Port Cache	Send: 16 Kbyte; receive: 16 Kbyte
Heartbeat Package	Support TCP Keepalive, custom heartbeat package content
Registration Package	Customize the registration package content
RFC2217	Support
Serial to Serial Data Forwarding	Users can select the data forwarding rules between the current Serial port and other Serial ports
Modbus Address Mapping	This feature is only effective in Modbus RTU Slave and Modbus ASCII Slave modes and is mutually exclusive to the Modbus slave pre-read and Modbus slave address mapping features
HTTPD Client	Support
WebSocket Client	Support
MQTT	Support
JSON	The JSON function is supported in the HTTPD Client, WebSocket Client, and MQTT mode
RealCOM	Support
Transmission Delay (Average)	<10ms
Supporting Software	Virtual Serial port software,

INTERFACE

100M Ethernet	2* 10/100Base-T (X) auto-sensing RJ45 port, supporting full/half duplex, auto MDI/MDI-X, and 1.5kV electromagnetic isolation protection
Serial Port	Serial port type: 4* RS232 or RS485 is optional Connectors: 6 pin 3.81mm spacing with lock connection terminal

Baud rate	: 300bps-460800bps
Data bit	: 7bit,8bit
Stop Bit	: 1bit, 2bit
Check bit	: None, Odd, Even
Serial isolation	: 2 KVA/3kVDC isolation protection

Console Port	1* CONSOLE port, in accordance with USB2.0 specification, using Micro-B USB2.0 socket
Button	One-click restart or restore the factory Settings
Status LED	Power indicator, operation indicator, Ethernet interface SPEED/LINK indicator, Serial port indicator

APPROVALS & STANDARDS TESTED FOR

IEC 61000-4-2	Electrostatic Discharge: ±8kV (contact), ±15kV (air)
IEC 61000-4-4	Electrical Fast Transient Power supply: ± 4kV; communication port: ± 2kV
IEC 61000-4-5	Surge Immunity Power supply: co-mode ± 4kV, difference mode ± 2kV RS485: co-mode ± 4kV, difference mode ± 2kV. Copper port: co-mode ± 6kV, difference mode ± 2kV

POWER

Input Voltage	Dual DC 9 to 60V Redundancy Power input
Power Consumption (full load)	2W@DC24V(RS232), 1.8W@DC24V(RS485)
Connection	5-pin 5.08mm spacing with lock connection terminal
Protection	Non-polarity

MECHANICAL

Ingress Protection	IP40
Installation	Easy installation on 35mm DIN rails
Dimension	140×35×100 mm (DIN rail mounting clip excluded)
Weight	0.45kg

ENVIRONMENT

Operating temperature	-40 to 85ºC
Storage temperature	-40 to 85ºC
Relative humidity	5% to 95% (no condensation)

ORDERING CODE

DDSE I MS 4 XXX MV

DDSE	Databridge Dynamic Serial to Ethernet Converter
I	Isolated ports
MS	Secured Modbus RTU to Modbus TCP
4	4* Serial Port
XXX	232: 4* RS232
	485: 4* RS485
MV	Fixed