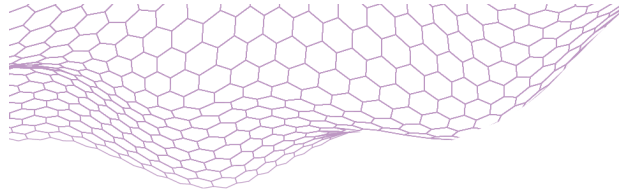




# SINGLE PORT SERIAL TO ETHERNET / MODBUS RTU TO TCP CONVERTER

## DDSE SERIES





## SYNOPSIS

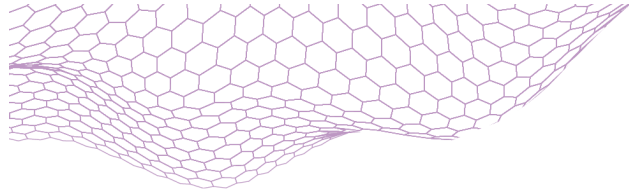
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- WALL-MOUNTED ISOLATED RS232/485/422-TO-ETHERNET SERIAL SERVER DESIGNED FOR INDUSTRIAL APPLICATIONS
- POWERED BY A 32-BIT ARM CORTEX-M7 PROCESSOR WITH A 400 MHZ OPERATING FREQUENCY
- EQUIPPED WITH AN EXTERNAL HARDWARE WATCHDOG FOR ENHANCED SYSTEM RELIABILITY
- POWER, ETHERNET, AND SERIAL INTERFACES FEATURE HIGH-LEVEL ESD, SURGE, AND EFT PROTECTION, PROVIDING STRONG ANTI-INTERFERENCE PERFORMANCE
- SUPPORTS 1 × RS232/485/422 SERIAL PORT AND 1 × 100 MBPS ETHERNET COPPER PORT
- BUILT-IN TCP/IP PROTOCOL STACK ENABLES FAST, FLEXIBLE, AND RELIABLE ETHERNET CONNECTIVITY FOR SERIAL DEVICES
- ENSURES SMOOTH, STABLE, AND HIGH-SPEED INDUSTRIAL COMMUNICATION BETWEEN SERIAL AND ETHERNET NETWORKS
- SUPPORTS WEB CONFIGURATION FOR NETWORK MANAGEMENT FUNCTIONS, INCLUDING:
  - A. SERIAL/NETWORK WORKING MODES
  - B. DNS SETTINGS
  - C. NETWORK LOGGING
  - D. SERIAL PORT RESTART
  - E. SYSTEM MANAGEMENT
- SUPPORTS MULTIPLE CONVERSION/COMMUNICATION MODES:
  - A. UDP / UDP MULTICAST
  - B. TCP CLIENT / TCP SERVER
  - C. MODBUS RTU MASTER/SLAVE
  - D. MODBUS ASCII MASTER/SLAVE
  - E. REALCOM MCP/CCP/MW
  - F. PAIR CONNECTION MASTER/SLAVE
  - G. HTTPD CLIENT
  - H. WEBSOCKET CLIENT
- ENABLES SERIAL-TO-ETHERNET AND SERIAL-TO-MODBUS TCP PROTOCOL CONVERSION
- BUILT WITH INDUSTRIAL-GRADE COMPONENTS OFFERING:
  - A. WIDE-TEMPERATURE AND WIDE-VOLTAGE TOLERANCE
  - B. LIGHTNING AND SURGE RESISTANCE
  - C. STRONG ELECTROMAGNETIC INTERFERENCE (EMI) RESISTANCE
  - D. HIGH RELIABILITY AND LONG-TERM DURABILITY
  - E. STABLE PERFORMANCE IN HARSH ENVIRONMENTS

## TECHNICAL SPECIFICATIONS

### SOFTWARE

|                                        |                                                                                                                      |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| <b>Network Protocol</b>                | IP, TCP/UDP, ARP, ICMP, DHCP, DNS, HTTP, RFC2217                                                                     |
| <b>IP Obtaining Method</b>             | Static IP/DHCP                                                                                                       |
| <b>Domain Name Resolution</b>          | Supported                                                                                                            |
| <b>User Configuration</b>              | Web configuration                                                                                                    |
| <b>Simple Transparent Transmission</b> | UDP/ UDP Multicast/ TCP Client/ TCP Server/ RealCOM/ Pair Connection                                                 |
| <b>Modbus</b>                          | Modbus RTU/ASCII to Modbus TCP                                                                                       |
| <b>Serial Packaging Mechanism</b>      | The time and length can be set. The default value varies based on the baud rate. Maximum packaging length 1460 bytes |
| <b>TCP Server Connection</b>           | Single serial port supports up to 8 TCP client connections                                                           |
| <b>Network Cache</b>                   | Send: 16Kbyte; Received: 16Kbyte                                                                                     |
| <b>Serial Port Cache</b>               | Send: 1.5Kbyte; Received: 1.5Kbyte                                                                                   |
| <b>Heartbeat Package</b>               | Support TCP Keepalive mechanism and customize heartbeat packet content                                               |
| <b>Registration Package</b>            | Custom registration package content                                                                                  |
| <b>RFC2217</b>                         | Supported                                                                                                            |
| <b>Httpd Client</b>                    | Supported                                                                                                            |
| <b>WebSocket Client</b>                | Supported                                                                                                            |
| <b>RealCom</b>                         | Supported                                                                                                            |
| <b>Mean Transmission Delay</b>         | <10ms                                                                                                                |



## INTERFACE

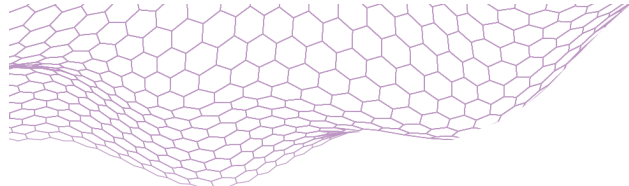
|                         |                                                                                                                                                                                                                                                                          |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>100M Copper Port</b> | 1x10/100Base-T(X) auto-sensing RJ45ports, support full/half duplex, auto MDI/MDI-X                                                                                                                                                                                       |
| <b>Serial Port</b>      | Serial port type: 1 RS232/485/422<br>Connection method: 5.08mm pitch 5-pin terminal block for RS485/422,<br>DB9M for RS232<br>Baud rate: 600bps~460800bps<br>Data bits: 7bit, 8bit<br>Stop bit: 1 bit, 2 bit<br>Check bits: None, Odd, Even<br>Isolation voltage: 2kV DC |
| <b>Reset</b>            | One-click restart or restore the factory Settings button                                                                                                                                                                                                                 |
| <b>Status LED</b>       | Power, operation, Ethernet interface speed and connection/activity status, serial port sending and receiving data                                                                                                                                                        |

## POWER SUPPLY

|                          |                                                                 |
|--------------------------|-----------------------------------------------------------------|
| <b>Input Voltage</b>     | DC9~36V                                                         |
| <b>Power Consumption</b> | < 1W@DC12V                                                      |
| <b>Connection</b>        | 5.08mm pitch 2-pin terminal block or $\Phi$ 2.5mm DC round head |

## PHYSICAL CHARACTERISTICS

|                      |                                                |
|----------------------|------------------------------------------------|
| <b>Dimensions</b>    | 96×90×26 mm (mounting brackets included)       |
| <b>Installations</b> | Installations.<br>Din-Rail Optional on request |
| <b>IP Rating</b>     | IP40                                           |



## ENVIRONMENT

|                            |                         |
|----------------------------|-------------------------|
| <b>Working Temperature</b> | -40°C to +85°C          |
| <b>Storage Temperature</b> | -40°C to +85°C          |
| <b>Relative Humidity</b>   | 5%~95% (non-condensing) |

## CERTIFICATIONS TESTED FOR

|                   |                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>EMC</b>        | IEC 61000-4-2 (ESD): Contact discharge $\pm 8\text{kV}$ , air discharge $\pm 15\text{kV}$<br>IEC 61000-4-5 (Surge): Power supply: common mode $\pm 4\text{kV}$ , differential mode $\pm 4\text{kV}$ ;<br>RS485/422: common mode $\pm 4\text{kV}$ , differential mode $\pm 2\text{kV}$ ;<br>Ethernet port: common mode $\pm 6\text{kV}$ , differential mode $\pm 4\text{kV}$ |
| <b>Tested for</b> | IEC 61000-4-4 (EFT): Power supply: $\pm 4\text{kV}$ ; Data port: $\pm 2\text{kV}$<br>CE, FCC, RoHS                                                                                                                                                                                                                                                                          |

## ORDERING INFORMATION

### DDSE I M D 24 ME

|             |                                                            |
|-------------|------------------------------------------------------------|
| <b>DDSE</b> | Serial to Ethernet Converter / Modbus RTU to TCP Converter |
| <b>I</b>    | 2KV Isolation                                              |
| <b>M</b>    | Support for Modbus protocols                               |
| <b>D 24</b> | DC 9-36V                                                   |
| <b>ME</b>   | Fixed                                                      |