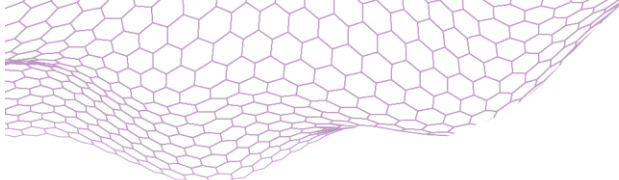




# DUAL PORT MODBUS RTU TO TCP GATEWAY

## DDSE SERIES





## SYNOPSIS

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- WALL-MOUNTED, 1\* RS232, 1\*485/422-TO-1\*100M 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, 1\*485/422 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>DNS</b>                             | Supported                                                                                                               |
| <b>User Configuration</b>              | Web Page 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.<br>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>            | Customize the content heartbeat packet content                                                                          |
| <b>RFC2217</b>                         | Supported                                                                                                               |
| <b>HTTPD Client</b>                    | Supported                                                                                                               |
| <b>WebSocket Client</b>                | Supported                                                                                                               |
| <b>Transmission Delay</b>              | <10ms                                                                                                                   |

### INTERFACE

|                         |                                                                                                                                                                                                              |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>100M Copper Port</b> | 1x10/100Base-T(X) auto-sensing RJ45ports,<br>Support full/half duplex, auto MDI/MDI-X                                                                                                                        |
| <b>Serial Port</b>      | Port Type : 1*RS485/422 and 1*RS232<br>Connector : 5-position 5.08mm pitch terminal block<br>Baud rate : 600bps to 460800bps<br>Data bit :7bit, 8bit<br>Stop bit :1bit, 2bit<br>Parity bit : None, Odd, even |
| <b>Reset</b>            | One-click restart or restore the factory Settings button                                                                                                                                                     |
| <b>LED Indicator</b>    | Power supply indicator, Running indicator, alarm, Ethernet port indicator, Serial port indicator                                                                                                             |

## APPROVAL AND STANDARD TESTED FOR

|                      |                                                                                                                                                                                                                                                                    |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>IEC61000-4-2</b>  | (ESD): $\pm 8\text{kV}$ (contact), $\pm 15\text{kV}$ (air)                                                                                                                                                                                                         |
| <b>IEC61000-4-3</b>  | (RS): 10V/m 80 MHz-1 GHz: 10 V/m                                                                                                                                                                                                                                   |
| <b>IEC 61000-4-4</b> | (EFT): Power supply: $\pm 4\text{kV}$ ; Data port: $\pm 2\text{kV}$                                                                                                                                                                                                |
| <b>IEC 61000-4-5</b> | (Surge)<br>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>CE, FCC, RoHS</b> | Tested For                                                                                                                                                                                                                                                         |

## POWER SUPPLY

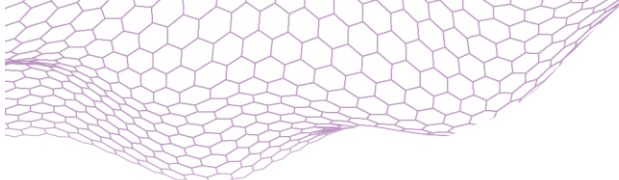
|                          |                                                                         |
|--------------------------|-------------------------------------------------------------------------|
| <b>Input Voltage</b>     | DC 9 to 36V                                                             |
| <b>Power Consumption</b> | $< 0.5\text{W}@DC12\text{V}$                                            |
| <b>Connection</b>        | 2-pin 5.08mm pitch terminal blocks or $\Phi 2.5\text{mm}$ DC round head |

## PHYSICAL CHARACTERISTICS

|                      |                                          |
|----------------------|------------------------------------------|
| <b>Dimensions</b>    | 96×90×26 mm (mounting brackets included) |
| <b>Installations</b> | Wall-mounted                             |
| <b>Enclosure</b>     | Metal                                    |
| <b>IP Rating</b>     | IP40                                     |

## ENVIRONMENT

|                            |                                                |
|----------------------------|------------------------------------------------|
| <b>Working Temperature</b> | $-40^{\circ}\text{C}$ to $+85^{\circ}\text{C}$ |
| <b>Storage Temperature</b> | $-40^{\circ}\text{C}$ to $+85^{\circ}\text{C}$ |
| <b>Relative Humidity</b>   | 5% to 95% (non-condensing)                     |



## ORDERING INFORMATION

DDSE M 2 D 24 ME

|             |                                                |
|-------------|------------------------------------------------|
| <b>DDSE</b> | Databridge Dynamic Modbus RTU to TCP Converter |
| <b>M</b>    | Support for Modbus protocols                   |
| <b>2</b>    | Dual Port (1*RS485/422 and 1*RS232)            |
| <b>D 24</b> | DC 9-36V                                       |
| <b>ME</b>   | Fixed                                          |

