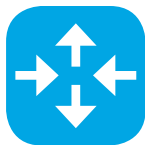




# Z-KEY

## 2-PORT MODBUS RTU INDUSTRIAL GATEWAY / SERIAL DEVICE SERVER

# Z-KEY



**ModBUS Gateway**  
(ModBUS TCP-IP ↔ ModBUS RTU)



**ModBUS Gateway shared memory**



**Serial Device Server**  
(Remote Virtual COM)



 **SENECA**  
www.seneca.it

## 2-PORT MODBUS RTU INDUSTRIAL GATEWAY / SERIAL DEVICE SERVER



Z-KEY is a device that can extend networks and allow the transfer of process data between different levels of IT and industrial communication architecture. Z-KEY guarantees signals transmission between ModBUS TCP-IP / ModBUS RTU in different modes, increasing the number of connected nodes and network distances.

The device can also extend the serial network operating as a transparent Remote virtual COM to the serial communication protocol.

Equipped with nr.1 10/100 Tx Fast Ethernet port and nr. 2 serial ports (RS232 / RS485, RS485), Z-KEY offers multiple methods of configuration through DIP-switches, web server and software tools such as SDD (Seneca Discovery Device), SESC (Seneca Ethernet to Serial Connection), EASY Z-KEY.

Z-KEY advanced functions include supporting lot Server «Cloud BOX», advanced serial diagnostics, «Quarantine» mode with time settable for “in fail” devices.

### HIGHLIGHTS

#### MULTIFUNCTION GATEWAY



#### EMBEDDED / CUSTOM WEB SERVER



#### MAXIMUM CONFIGURATION FLEXIBILITY



#### EXCEL TEMPLATE FOR TAGS DECLARATION AND EXPORT



#### SUPPORT UP TO 8 SIMULTANEOUS MODBUS TCP-IP CLIENTS



#### SUPPORT UP TO 128 MODBUS RTU SLAVE NODES AND 10 MODBUS TCP-IP SERVERS



#### MAPPING UP TO 500 TAGS



#### CLOUD BOX SUPPORT



#### QUARANTINE MODE WITH SETTABLE TIME



#### SERIAL COMMUNICATION PROTOCOL TRANSPARENCY



#### AUTOMATED IP ADDRESS SCAN



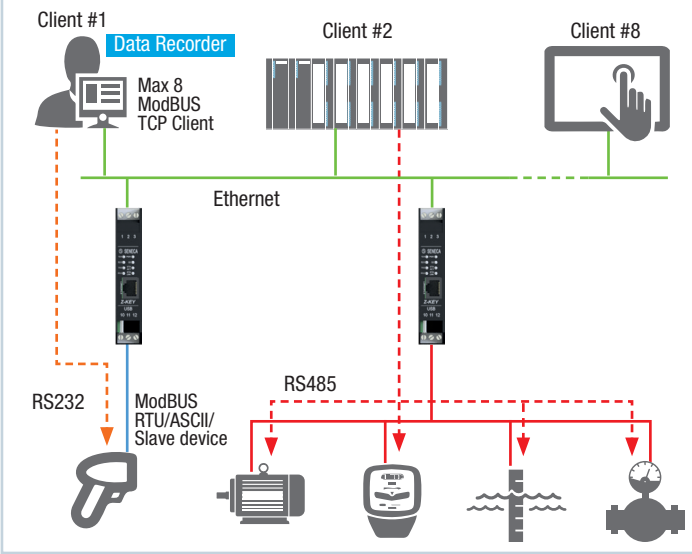
#### FIRMWARE UPDATE BY MICRO SD AND WEB SERVER



# APPLICATION EXAMPLES

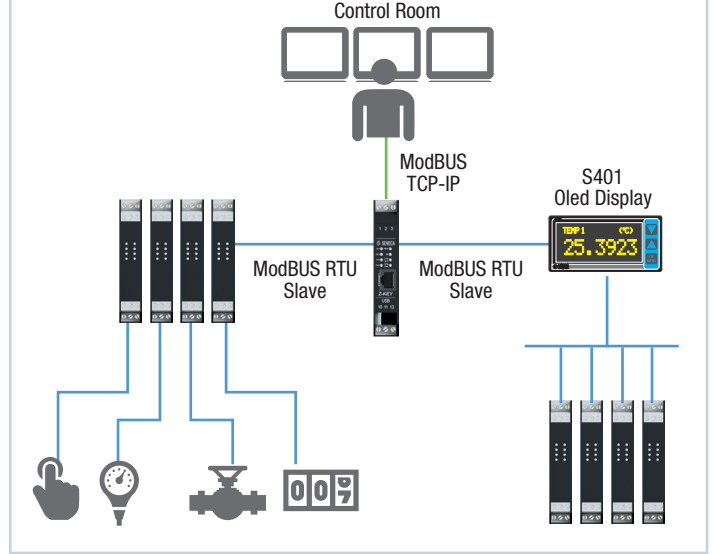
## MODBUS GATEWAY

MODBUS TCP-IP → MODBUS RTU)



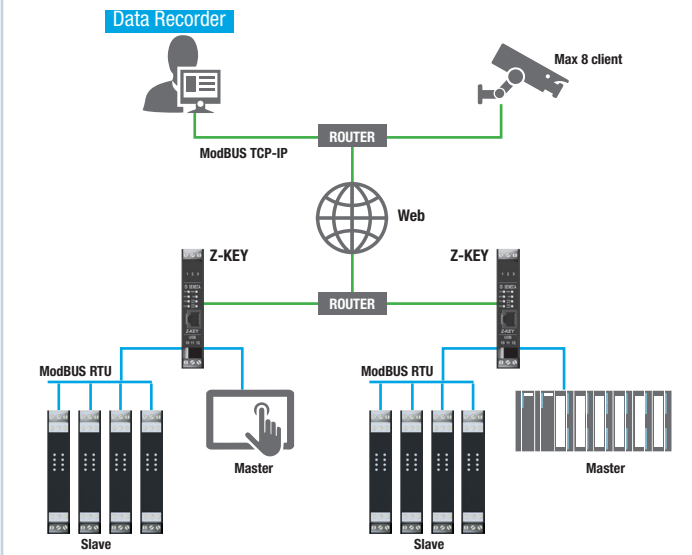
## MODBUS GATEWAY

MODBUS TCP-IP → MODBUS RTU)



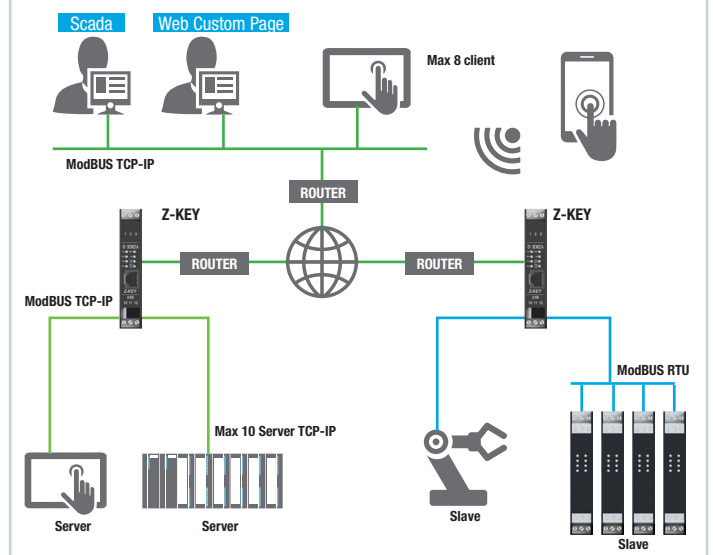
## MODBUS GATEWAY SHARED MEMORY

(MODBUS TCP-IP → MODBUS RTU MASTER/SLAVE)



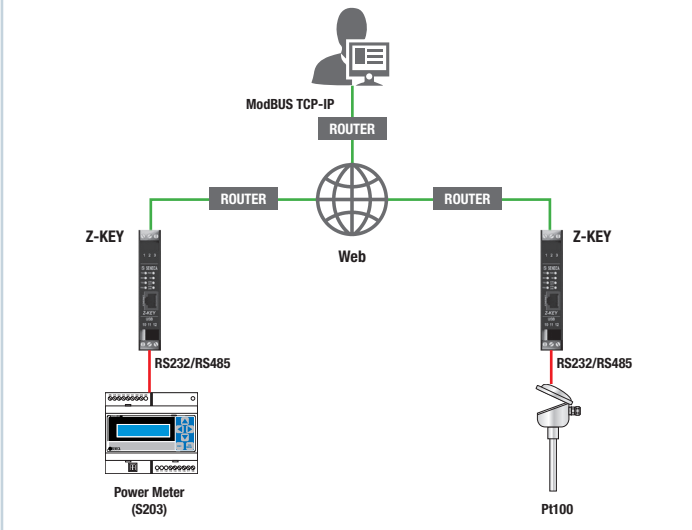
## MODBUS GATEWAY SHARED MEMORY

(MODBUS TCP-IP CLIENT → ModBUS RTU Slave / ModBUS TCP-IP Server)

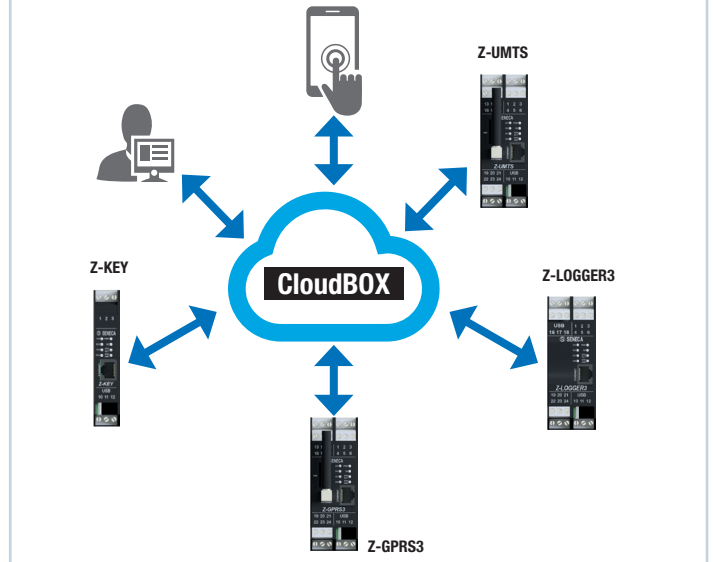


## SERIAL DEVICE SERVER / VIRTUAL COM

SESC - ETH ↔ Serial



## IoT CONNECTIVITY





## 2-PORT MODBUS RTU INDUSTRIAL GATEWAY SERIAL DEVICE SERVER

### TECHNICAL DATA

#### GENERAL DATA

|                       |   |
|-----------------------|---|
| Power supply          | 10..40 Vdc; 19..28 Vac  |
| Power consumption     | 2 W @ 24 Vac (typical)  |
| Isolation             | 1,5 kVac  |
| LED status indicators | Power supply<br>Rx-Tx serial communication<br>Ethernet link and traffic |
| Protection degree     | IP20  |
| Micro SD              | Max 32 GB   |
| Operating temperature | -20 °C..+50 °C  |
| Dimension (wxhxd)     | 17,5 x 100 x 112 mm   |
| Weight                | 170 g   |
| Case                  | Nylon 6, 30% fiberglass filled, self extinguishing class V0             |
| Mounting              | For DIN rail (IEC EN 60715)   |

#### COMMUNICATION

|                                      |   |
|--------------------------------------|---|
| Ethernet ports (ETH1, ETH2)          | Nr.1 Fast Ethernet port 10/100 Tx, RJ45 front connector (up to 8 TCP-IP clients)  |
| Serial ports (COM1, COM2, COM4)      | Nr.1 RS232 / RS485 switching serial port, max baud rate 115k on connector<br>Nr.1 RS485 port, max baud rate 115k on IDC10 connector for bus and terminals |
| USB ports                            | Nr.1 microUSB port on side connector  |
| Protocols                            | ModBUS TCP-IP, ModBUS RTU   |
| Nr. Max TCP-IP Clients (Master Mode) | 8   |
| Nr. Max TCP-IP Servers (Slave Mode)  | 10  |
| Nr. Max variables / tags             | 500   |
| Nr. Max Modbus RTU/ASCII             | 128   |
| Slave nodes                          |   |
| Installation site                    | Manned with enabled network access  |

#### OPERATING MODE

|                              |   |
|------------------------------|---|
| Modbus Gateway               | From ModBUS TCP-IP to ModBUS RTU<br>From ModBUS RTU to ModBUS TCP-IP  |
| Modbus Gateway shared memory | From ModBUS TCP-IP Client to ModBUS TCP-IP Server<br>From ModBUS TCP-IP Client to ModBUS RTU Master / Slave<br>From ModBUS RTU Master to ModBUS RTU Slave |

Serial Device Server Remote Virtual COM

#### SETTINGS

|   |                           |
|---|---------------------------|
| DIP switches                                | Yes                       |
| Web server                                  | Yes                       |
| SDD (Seneca Discovery Device)               | Yes                       |
| SESC (Seneca Ethernet to Serial Connection) | Yes                       |
| EASY Z-KEY                                  | Yes                       |
| Firmware update                             | Web Server, FTP, Micro SD |

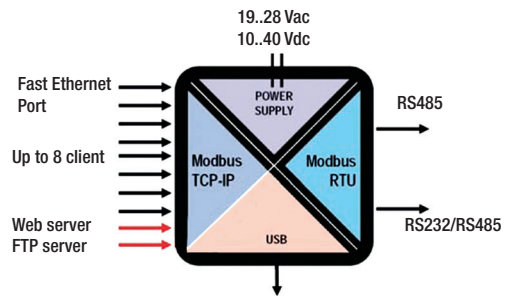
#### ADVANCES FUNCTIONS

|  |     |
|--|-----|
| Cloud BOX support                                  | Yes |
| Serial communication advanced diagnostica          | Yes |
| TAG writing by Web Server (Gateway shared memory)  | Yes |
| Fail serial device quarantine (with settable time) | Yes |

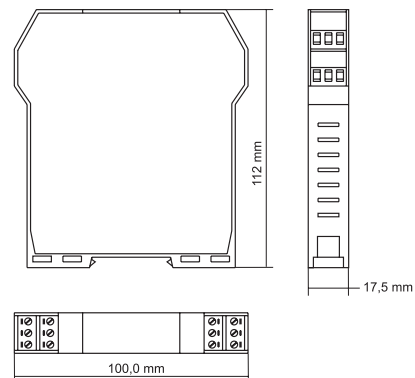
#### STANDARD

|           |                                       |
|-----------|---------------------------------------|
| Approvals | CE                                    |
| Norms     | EN61000-6-4, EN 61000-6-2, EN 61010-1 |

### ISOLATION /& SIGNALS DIAGRAM



### DIMENSIONI



### ORDER CODES

| Code                     | Description   |
|--------------------------|---|
| <b>GATEWAY</b>           |   |
| Z-KEY                    | 2-Port ModBUS RTU Industrial Gateway / Serial Device Server   |
| <b>SERVER IOT SERVER</b> |   |
| CLOUD BOX                | Industrial IoT PC BOX with Scada functions                    |
| <b>SOFTWARE TOOLS</b>    |   |
| EASY Z-KEY               | Configuration tool for Z-KEY IP address                       |
| SDD                      | SENECA Discovery Device                                       |
| SESC                     | SENECA Ethernet to Serial Connection                          |
| TEMP-TAG-Z-KEY           | Excel template for Z-KEY tags (gateway mode)                  |
| TEMP-WEB-Z-KEY           | Web page template for Z-KEY                                   |
| <b>ACCESSORIES</b>       |   |
| CS-DB9M-MEF-PH           | Serial communication cable (DB9M / MEF 10-12) 3 wires, 1,5 mt |
| CE-RJ45-RJ45-R           | Straight-thru Ethernet cable (RJ45-RJ45)                      |
| Z-PC-DIN2-17.5           | DIN rail bus system 2 slots 17.5 mm                           |
| Z-PC-DIN8-17.5           | DIN rail bus system 8 slot 17.5 mm                            |
| Z-PC-DINAL2-17.5         | DIN rail bus system head terminal + 2 slots 17.5 mm           |
| Z-SUPPLY                 | Single-phase switching power supply 24V @ 1.5A                |

Technical data, diagrams and drawings in this document are indicative only and not binding.