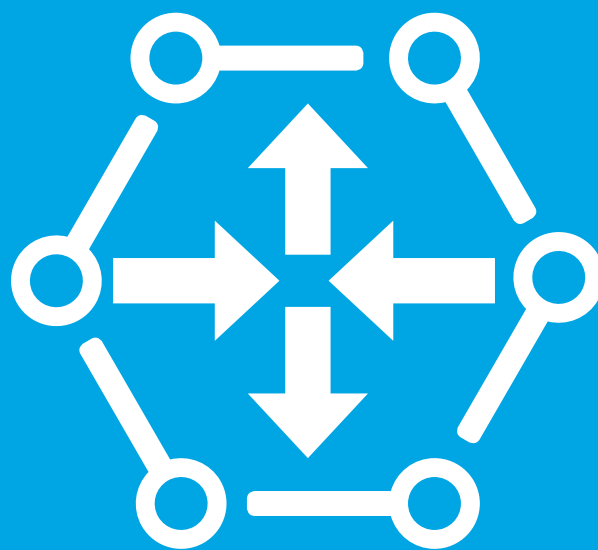


   
100% Made & Designed in Italy

# INDUSTRIAL GATEWAYS

**PROTOCOL CONVERTERS**  
R-KEY / Z-KEY MODELS



 **SENECA**  
www.seneca.it



SENECA's DIN rail protocol converters - industrial gateways are devices used to transfer data between different networks and fieldbuses.

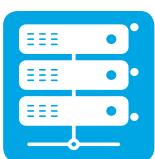
The gateways available in R (32x53x90mm) or Z (17.5x100x112mm) formats can be used within the infrastructure to facilitate communication between networks and systems with different protocols. Configuration is performed via a Web Server or the dedicated EASY SETUP 2 software. Available in various Master / Slave configurations and compatible with major PLCs, they are integrable into configurators from various manufacturers.

## HIGHLIGHTS



### PROTOCOL CONVERSION

Industrial gateways connect Modbus devices to networks and fieldbuses by bidirectionally converting protocols such as ModBUS RTU/TCP-IP, M-BUS, Profinet, IO, M-BUS, Ethernet/IP, OPC UA, IEC 61850.



### SERIAL DEVICE SERVER

Gateways in this mode connect devices with RS232 or RS485 serial interfaces to a local network for the transmission of serial data via Ethernet.



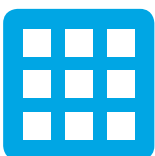
### CONNECTIVITY

Gateways manage up to 128 slave nodes per serial port, 1,200 bytes read/write, and 10 TCP-IP Servers.



### FLEXIBLE CONFIGURATION

Configuration through serial, Ethernet, or USB ports is straightforward and immediate using the EASY SETUP 2 configuration software or a web server.



### SHARED MEMORY

In the "Tag – 'shared memory'" Gateway mode, SENECA devices continuously acquire data via ModBUS and store it in their shared memory.



### SERIAL SNIFFERS

With the serial sniffer feature, gateways analyze serial network traffic and display ModBUS protocol variables.



### CERTIFICATIONS

Having passed stringent tests for potential fire hazards, electrical shocks, and mechanical failures, many models are equipped with UL certification.



### INTEGRATION

"KEY" gateways facilitate compatibility and coexistence with PLCs, automation systems, and third-party programming environments (e.g., TIA Portal, PLCLogix 5000) thanks to the generation of specific configuration files EDS or GDSML.

## AVAILABLE CONVERSIONS AND MODELS

| PLC Side<br>Field Side | Modbus<br>RTU                     | Modbus<br>ASCII                   | Modbus<br>TCP/IP                  | PROFINET <sup>®</sup>                 | ETHERNET/IP                           |
|------------------------|-----------------------------------|-----------------------------------|-----------------------------------|---------------------------------------|---------------------------------------|
| Modbus<br>RTU          |                                   | R-KEY-LT<br>Z-KEY-0<br>Z-KEY-2ETH | R-KEY-LT<br>Z-KEY-0<br>Z-KEY-2ETH | R-KEY-LT-P<br>Z-KEY-P<br>Z-KEY-2ETH-P | R-KEY-LT-E<br>Z-KEY-E<br>Z-KEY-2ETH-E |
| Modbus<br>ASCII        | R-LT<br>Z-KEY-0<br>Z-KEY-2ETH     |                                   | R-KEY-LT<br>Z-KEY-0<br>Z-KEY-2ETH | R-KEY-LT-P<br>Z-KEY-P<br>Z-KEY-2ETH-P | R-KEY-LT-E<br>Z-KEY-E<br>Z-KEY-2ETH-E |
| Modbus<br>TCP/IP       | R-KEY-LT<br>Z-KEY-0<br>Z-KEY-2ETH | R-KEY-LT<br>Z-KEY-0<br>Z-KEY-2ETH |                                   | R-KEY-LT-P<br>Z-KEY-P<br>Z-KEY-2ETH-P | R-KEY-LT-E<br>Z-KEY-E<br>Z-KEY-2ETH-E |
| M-Bus                  | R-KEY-MBUS<br>Z-KEY-MBUS          |                                   | R-KEY-MBUS<br>Z-KEY-MBUS          | R-KEY-MBUS-P (*)<br>Z-KEY-MBUS-P (*)  |                                       |

(\*) Soon available

## FLEXIBLE AND RECONFIGURABLE DEVICES WITH FLEX TECHNOLOGY



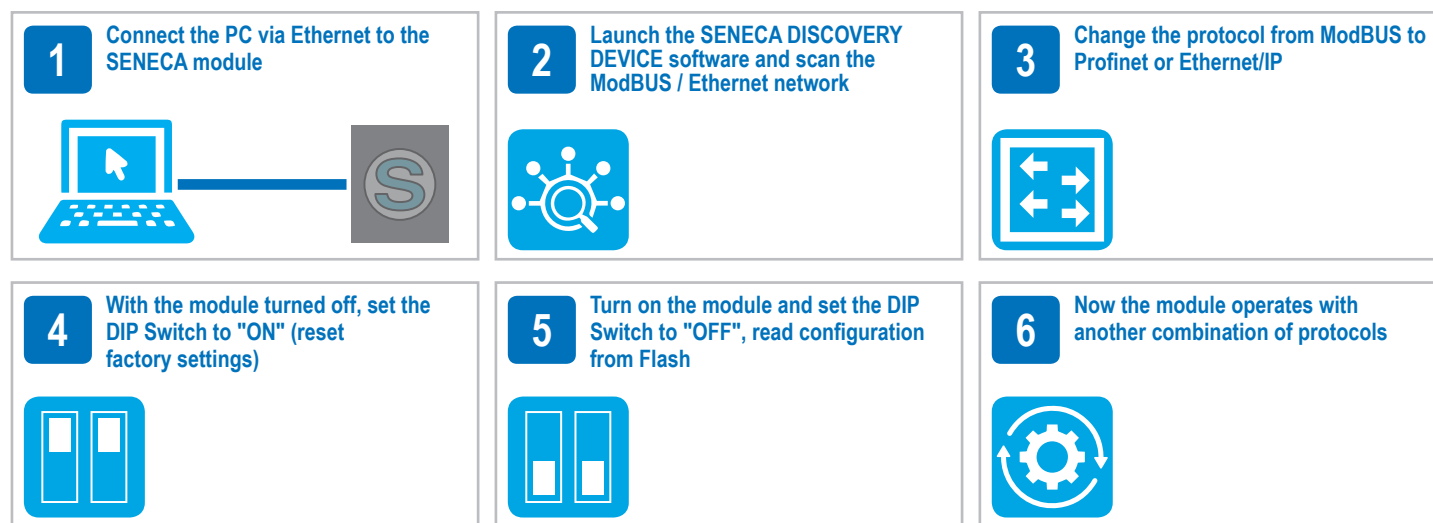
SENECA's proprietary FLEX technology allows connecting a single device capable of supporting various protocols in serial and Ethernet industrial communication networks. From the same gateway, for example, it is possible to change the type of protocol conversion in a few steps, quickly addressing changes in production layouts or efficiently transferring data to and from PLCs and other Master/Slave or Client/Server devices. This flexible approach saves time, financial resources, and the hassle of managing multiple devices with different purchasing codes, regardless of the application type.

### STRENGTHS

- A single multiprotocol solution on one device
- Maximum connectivity in a single hardware
- The functionality of multiple gateways at the price of one
- Simplification of purchasing codes
- Reduction in storage and handling costs
- Immediate selection of multiple protocol combinations based on the freely downloadable Seneca Discovery Device tool from Seneca website
- No programming software or change of tag and I/O registers needed
- Supported and interchangeable protocols: ModBUS RTU, ModBUS TCP-IP, ModBUS ASCII, Profinet, Ethernet/IP, OPC UA, IEC 61850)

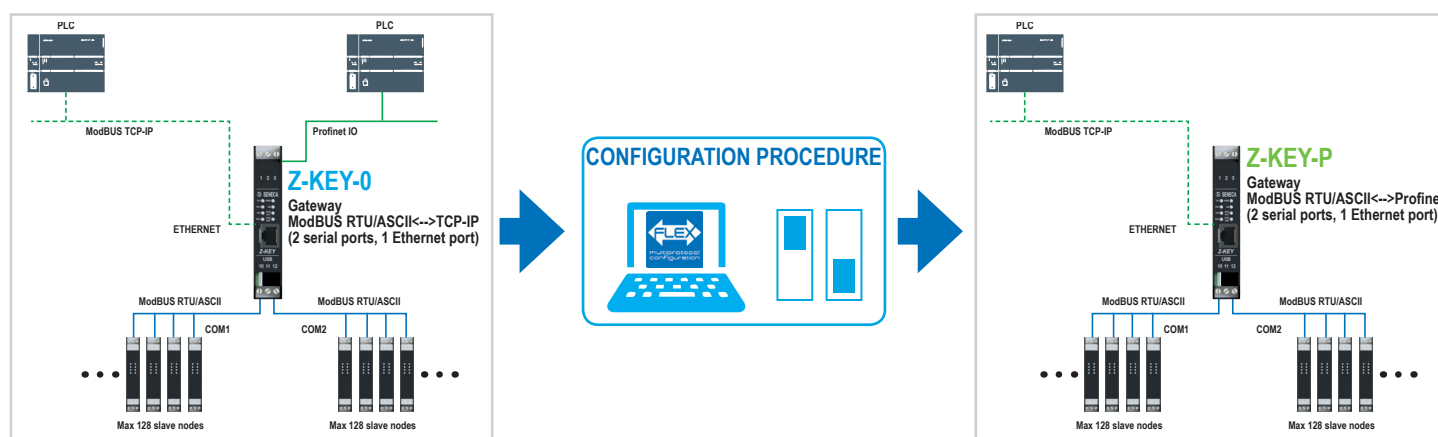
### PROTOCOL RECONFIGURATION PROCEDURE WITH FLEX TECHNOLOGY

- Connect the PC to the FLEX device via Ethernet
- Launch the SENECA DISCOVERY DEVICE software, available on the SENECA website; scan the ModBUS / Ethernet network
- Select the new combination of protocols to apply to the device
- With the module turned off, set the DIP Switch to "Factory Reset"
- Turn on the module and set the DIP Switch to "Read configuration from Flash"



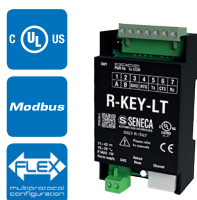
For more information: [www.seneca.it/flex](http://www.seneca.it/flex)

### EXAMPLE OF TRANSFORMATION FROM MODBUS GATEWAY TO PROFINET GATEWAY



## TECHNICAL DATA

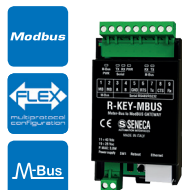
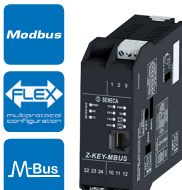
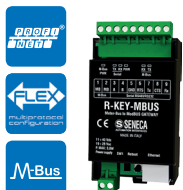
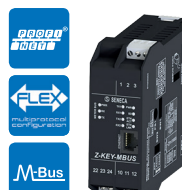
## ModBUS Gateways

|                                                                                                                                                              | R-KEY-LT                                                                                                                                                    | Z-KEY-0                                                                                                                                  | Z-KEY-2ETH                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| This family of gateways allows connecting PLCs with serial, ModBUS, or Ethernet interfaces to ModBUS RTU/ASCII Master/Slave and TCP-IP Client/Server devices |                                                                            |                                                        |  |
|                                                                                                                                                              | ModBUS RTU/ASCII Gateway↔TCP-IP<br>(1 serial port, 1 Ethernet port)                                                                                         | ModBUS RTU/ASCII Gateway↔TCP-IP<br>(2 serial ports, 1 Ethernet port)                                                                     | ModBUS RTU/ASCII Gateway↔TCP-IP<br>(2 serial ports, 2 Ethernet ports)               |
| GENERAL DATA                                                                                                                                                 |                                                                                                                                                             |                                                                                                                                          |                                                                                     |
| Power Supply                                                                                                                                                 | 11..40 Vdc; 19..28 Vac                                                                                                                                      | 11..40 Vdc; 19..28 Vac                                                                                                                   | 11..40 Vdc; 19..28 Vac                                                              |
| Max Consumption                                                                                                                                              | 1 W                                                                                                                                                         | 1.5 W                                                                                                                                    | 2 W                                                                                 |
| Max isolation                                                                                                                                                |                                                                                                                                                             | 1.5 kVac (Ethernet)                                                                                                                      |                                                                                     |
| LED, status indicators                                                                                                                                       |                                                                                                                                                             | Power Supply<br>Rx/Tx RS232/R485<br>Ethernet ACT/LNK                                                                                     |                                                                                     |
| Protection degree                                                                                                                                            |                                                                                                                                                             | IP20                                                                                                                                     |                                                                                     |
| Operating temperature                                                                                                                                        |                                                                                                                                                             | -25 °C...+65 °C                                                                                                                          |                                                                                     |
| Connections                                                                                                                                                  | 7-way removable screw terminal, 5 mm pitch<br>2-way removable screw terminal, 5 mm pitch<br>Bottom RJ45 connector                                           | Removable screw terminals 3 ways, pitch 5 mm<br>Rear IDC10 connector for DIN rail 46277<br>Front RJ45 connectorFront RJ45 connector (x2) |                                                                                     |
| Dimensions (WxHxD)                                                                                                                                           | 32 x 53 x 90 mm                                                                                                                                             | 17.5 x 100 x 112 mm                                                                                                                      |                                                                                     |
| Weight                                                                                                                                                       | 80 g                                                                                                                                                        | 100 g                                                                                                                                    | 170 g                                                                               |
| Enclosure                                                                                                                                                    | PC/ABS self-extinguishing UL94-V0, Grey<br>RAL 7035                                                                                                         | Nylon PA6 30% glass fiber, self-extinguishing class V0                                                                                   |                                                                                     |
| Installation                                                                                                                                                 |                                                                                                                                                             | For DIN rail (IEC EN 60715)                                                                                                              |                                                                                     |
| Certifications                                                                                                                                               |                                                                                                                                                             | CE, UKCA, UL                                                                                                                             |                                                                                     |
| COMMUNICATION                                                                                                                                                |                                                                                                                                                             |                                                                                                                                          |                                                                                     |
| Ethernet Ports                                                                                                                                               | #1 Fast Ethernet 100 Tx                                                                                                                                     |                                                                                                                                          | port #2 Fast Ethernet 100 Tx ports, switch configuration                            |
| Serial Ports #1                                                                                                                                              | #1 serial port RS232 / RS485 switchable, max baud rate 115kbps on connector                                                                                 |                                                                                                                                          |                                                                                     |
| #2                                                                                                                                                           | -                                                                                                                                                           | #1 RS485 port, max baud rate 115k on IDC10 connector for bus and terminals                                                               |                                                                                     |
| Supported Protocols                                                                                                                                          | ModBUS TCP-IP<br>ModBUS RTU<br>ModBUS ASCII                                                                                                                 |                                                                                                                                          |                                                                                     |
| Operating Modes                                                                                                                                              | ModBUS RTU/ASCII TCP-IP Gateway<br>ModBUS 'TAG' Gateway<br>Serial Device Server<br>TCP Server Serial Device<br>Modbus Gateway Serial to Ethernet Virtual ID |                                                                                                                                          |                                                                                     |
| FLEX (multiprotocol configuration)                                                                                                                           | Yes                                                                                                                                                         |                                                                                                                                          |                                                                                     |
| Variable memory area                                                                                                                                         | 500 tags                                                                                                                                                    |                                                                                                                                          |                                                                                     |
| Connectivity                                                                                                                                                 | Max 8 TCP-IP Clients (Server Mode)<br>Max 10 TCP-IP Servers (Client Mode)<br>Max 128 Slave Nodes ModBUS RTU/ASCII per serial port                           |                                                                                                                                          |                                                                                     |
| CONFIGURATION                                                                                                                                                |                                                                                                                                                             |                                                                                                                                          |                                                                                     |
| DIP Switch                                                                                                                                                   | Yes                                                                                                                                                         |                                                                                                                                          |                                                                                     |
| WEB SERVER                                                                                                                                                   | Yes                                                                                                                                                         |                                                                                                                                          |                                                                                     |
| EASY SETUP 2                                                                                                                                                 | Yes                                                                                                                                                         |                                                                                                                                          |                                                                                     |
| EDS/GSDML                                                                                                                                                    | -                                                                                                                                                           |                                                                                                                                          |                                                                                     |
| SDD (Seneca Discovery Device)                                                                                                                                | Yes                                                                                                                                                         |                                                                                                                                          |                                                                                     |
| SESC (Seneca Ethernet to Serial Connection)                                                                                                                  | Yes                                                                                                                                                         |                                                                                                                                          |                                                                                     |
| ORDER CODES                                                                                                                                                  | R-KEY-LT                                                                                                                                                    | Z-KEY-0                                                                                                                                  | Z-KEY-2ETH                                                                          |

The technical data and diagrams in this document are indicative and not binding.

## TECHNICAL DATA

## M-BUS Gateways

|                                                                                                                                                                                                                                       | R-KEY-MBUS                                                                                                                                                          | Z-KEY-MBUS                                                                                                                        | R-KEY-MBUS-P                                                                                                                                                        | Z-KEY-MBUS-P                                                                                                                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| <p>This family of gateways enables conversion from M-BUS (Meter Bus) protocol to ModBUS RTU / ModBUS TCP-IP and Profinet. These converters are capable of reading, converting, and transferring data from up to 25 M-BUS devices.</p> |                                                                                    |                                                  |                                                                                   |                                                |
|                                                                                                                                                                                                                                       | ModBUS RTU/TCP-IP ↔ M-BUS<br>(1 M-BUS port, 1 serial port, 1 Ethernet port)                                                                                         | ModBUS RTU/TCP-IP ↔ M-BUS<br>(1 M-BUS port, 2 serial ports, 1 Ethernet port)                                                      | Profinet ↔ M-BUS Gateway<br>(1 M-BUS port, 1 serial port, 1 Ethernet port)                                                                                          | Profinet ↔ M-BUS Gateway<br>(1 M-BUS port, 2 serial ports, 1 Ethernet port)                                                       |
| GENERAL DATA                                                                                                                                                                                                                          |                                                                                                                                                                     |                                                                                                                                   |                                                                                                                                                                     |                                                                                                                                   |
| Power Supply                                                                                                                                                                                                                          | 11..40 Vdc; 19..28 Vac                                                                                                                                              |                                                                                                                                   |                                                                                                                                                                     |                                                                                                                                   |
| Max Consumption                                                                                                                                                                                                                       | Max 1 W                                                                                                                                                             | 6.5 W (3.5 W typical)                                                                                                             | Max 1 W                                                                                                                                                             | 6.5 W (3.5 W typical)                                                                                                             |
| Max isolation                                                                                                                                                                                                                         | 1,500 Vac                                                                                                                                                           | 1,500 Vac across 3 ways                                                                                                           | 1,500 Vac                                                                                                                                                           | 1,500 Vac across 3 ways                                                                                                           |
| LED status indicators                                                                                                                                                                                                                 | Power Supply<br>M-BUS Power Supply<br>Rx/Tx RS232/R485<br>M-BUSTx/Rx                                                                                                |                                                                                                                                   |                                                                                                                                                                     |                                                                                                                                   |
| Protection degree                                                                                                                                                                                                                     | IP20                                                                                                                                                                |                                                                                                                                   |                                                                                                                                                                     |                                                                                                                                   |
| Operating temperature                                                                                                                                                                                                                 | -25...+65°C                                                                                                                                                         |                                                                                                                                   |                                                                                                                                                                     |                                                                                                                                   |
| Connections                                                                                                                                                                                                                           | Screw terminals, 7-way removable screw terminal, 5 mm pitch<br>Screw terminals, 2-way removable screw terminal, 5 mm pitch<br>Ethernet connector on the bottom side | Removable screw terminals 3 ways, pitch 5 mm<br>Rear IDC10 connector for DIN rail 46277<br>Front RJ45 connector<br>Side Micro USB | Screw terminals, 7-way removable screw terminal, 5 mm pitch<br>Screw terminals, 2-way removable screw terminal, 5 mm pitch<br>Ethernet connector on the bottom side | Removable screw terminals 3 ways, pitch 5 mm<br>Rear IDC10 connector for DIN rail 46277<br>Front RJ45 connector<br>Side Micro USB |
| Dimensions (WxHxD)                                                                                                                                                                                                                    | 53.3 x 90 x 32.2 mm                                                                                                                                                 | 100 x 35 x 112 mm                                                                                                                 | 53.3 x 90 x 32.2 mm                                                                                                                                                 | 100 x 35 x 112 mm                                                                                                                 |
| Weight                                                                                                                                                                                                                                | 80 g                                                                                                                                                                | 190 g                                                                                                                             | 80 g                                                                                                                                                                | 190 g                                                                                                                             |
| Enclosure                                                                                                                                                                                                                             | PC / ABS self-extinguishing UL94-V0                                                                                                                                 | Black glass-filled PA6 plastic, black color                                                                                       | PC / ABS self-extinguishing UL94-V0                                                                                                                                 | Black glass-filled PA6 plastic, black color                                                                                       |
| Installation                                                                                                                                                                                                                          | On DIN rail IEC EN 60715 or wall-mounted                                                                                                                            |                                                                                                                                   | On DIN rail IEC EN 60715 or wall-mounted                                                                                                                            |                                                                                                                                   |
| Certifications                                                                                                                                                                                                                        | CE, UKCA                                                                                                                                                            |                                                                                                                                   |                                                                                                                                                                     |                                                                                                                                   |
| COMMUNICATION                                                                                                                                                                                                                         |                                                                                                                                                                     |                                                                                                                                   |                                                                                                                                                                     |                                                                                                                                   |
| Ethernet Ports                                                                                                                                                                                                                        | #1 Fast Ethernet 100 Tx port, RJ45                                                                                                                                  |                                                                                                                                   | #1 Fast Ethernet 100 Tx port, RJ45                                                                                                                                  |                                                                                                                                   |
| Serial Ports                                                                                                                                                                                                                          | #1 switchable RS232 / RS485 serial port, max baud rate 115kbps                                                                                                      |                                                                                                                                   |                                                                                                                                                                     |                                                                                                                                   |
| #1                                                                                                                                                                                                                                    |                                                                                                                                                                     |                                                                                                                                   |                                                                                                                                                                     |                                                                                                                                   |
| #2                                                                                                                                                                                                                                    |                                                                                                                                                                     | #1 RS485 port, max baud rate 115k on IDC10 connector for bus and terminals                                                        |                                                                                                                                                                     | #1 RS485 port, max baud rate 115k on IDC10 connector for bus and terminals                                                        |
| USB Ports                                                                                                                                                                                                                             |                                                                                                                                                                     | #1 Micro USB port on side connector                                                                                               |                                                                                                                                                                     | #1 Micro USB port on side connector                                                                                               |
| M-BUS Ports                                                                                                                                                                                                                           | #1 M-BUS port, max 25 slave nodes, baud rate from 300 to 38,400 bps                                                                                                 |                                                                                                                                   |                                                                                                                                                                     |                                                                                                                                   |
| Supported Protocols                                                                                                                                                                                                                   | ModBUS TCP-IP server<br>ModBUS RTU slave<br>M-BUS Master                                                                                                            |                                                                                                                                   | Profinet IO (Class A Device, Cyclic Real-Time (RT), Acyclic Data)<br>M-BUS Master                                                                                   |                                                                                                                                   |
| Operating Modes                                                                                                                                                                                                                       | ModBUS RTU/TCP-IP↔M-BUS                                                                                                                                             |                                                                                                                                   | Profinet IO Gateway↔ M-BUS                                                                                                                                          |                                                                                                                                   |
| FLEX (multiprotocol configuration)                                                                                                                                                                                                    | Yes                                                                                                                                                                 |                                                                                                                                   |                                                                                                                                                                     |                                                                                                                                   |
| Variable memory area                                                                                                                                                                                                                  | 500 tags                                                                                                                                                            |                                                                                                                                   |                                                                                                                                                                     |                                                                                                                                   |
| Connectivity                                                                                                                                                                                                                          | Max 8 TCP-IP Clients (Server Mode)<br>Max 128 slave nodes ModBUS RTU/ASCII<br>Max 25 slave nodes M-BUS                                                              |                                                                                                                                   |                                                                                                                                                                     |                                                                                                                                   |
| CONFIGURATION                                                                                                                                                                                                                         |                                                                                                                                                                     |                                                                                                                                   |                                                                                                                                                                     |                                                                                                                                   |
| DIP Switch                                                                                                                                                                                                                            | Yes                                                                                                                                                                 |                                                                                                                                   |                                                                                                                                                                     |                                                                                                                                   |
| WEB SERVER                                                                                                                                                                                                                            | Yes                                                                                                                                                                 |                                                                                                                                   |                                                                                                                                                                     |                                                                                                                                   |
| EASY SETUP 2                                                                                                                                                                                                                          | -                                                                                                                                                                   |                                                                                                                                   | Yes                                                                                                                                                                 |                                                                                                                                   |
| EDS/GSDML                                                                                                                                                                                                                             | -                                                                                                                                                                   |                                                                                                                                   | Yes                                                                                                                                                                 |                                                                                                                                   |
| SDD (Seneca Discovery Device)                                                                                                                                                                                                         | Yes                                                                                                                                                                 |                                                                                                                                   |                                                                                                                                                                     |                                                                                                                                   |
| ORDER CODES                                                                                                                                                                                                                           | R-KEY-MBUS                                                                                                                                                          | Z-KEY-MBUS                                                                                                                        | R-KEY-MBUS-P                                                                                                                                                        | Z-KEY-MBUS-P                                                                                                                      |

The technical data and diagrams in this document are indicative and not binding.

## TECHNICAL DATA

## PROFINET IO Gateways

## R-KEY-LT-P

## Z-KEY-P

## Z-KEY-2ETH-P

This family of gateways allows connecting PLCs with Profinet IO interfaces to ModBUS RTU/ ASCII Master/Slave devices and ModBUS TCP-IP Server.



ModBUS ↔ Profinet IO Gateways  
(1 serial port, 1 Ethernet port)

ModBUS ↔ Profinet IO Gateways  
(2 serial ports, 1 Ethernet port)

ModBUS ↔ Profinet IO Gateways  
(2 serial ports, 2 Ethernet ports)

## GENERAL DATA

|                        |                                                                                |  |                                                     |                           |
|------------------------|--------------------------------------------------------------------------------|--|-----------------------------------------------------|---------------------------|
| Power Supply           | 11..40 Vdc; 19..28 Vac                                                         |  | 11..40 Vdc; 19..28 Vac                              |                           |
| Max Consumption        | 1 W                                                                            |  | 1.5 W                                               | 2 W                       |
| Max isolation          | 1,500 Vac                                                                      |  |                                                     |                           |
| LED, status indicators | Power Supply<br>Rx/Tx RS232/R485<br>Ethernet ACT/LNK<br>Profinet Communication |  |                                                     |                           |
| Protection degree      | IP20                                                                           |  |                                                     |                           |
| Operating temperature  | -25 °C..+65 °C                                                                 |  |                                                     |                           |
| Connections            | Screw terminals, 7-way removable screw terminal, 5 mm pitch                    |  | Removable screw terminals 3 ways, pitch 5 mm        |                           |
|                        | Screw terminals, 2-way removable screw terminal, 5 mm pitch                    |  | Rear IDC10 connector for DIN rail 46277             |                           |
|                        | RJ45 connector on the bottom (x1)                                              |  | Front RJ45 connector (x1)                           | Front RJ45 connector (x2) |
| Dimensions (WxHxD)     | 32 x 53 x 90 mm                                                                |  | 17.5 x 100 x 112 mm                                 |                           |
| Weight                 | 80 g                                                                           |  | 100 g                                               | 170 g                     |
| Enclosure              | PC/ABS self-extinguishing UL94-V0, Grey RAL 7035                               |  | Nylon PA6 30% glass fiber, V0 flame retardant class |                           |
| Installation           | For DIN rail (IEC EN 60715)                                                    |  |                                                     |                           |
| Certifications         | CE, UKCA, UL                                                                   |  |                                                     |                           |

## COMMUNICATION

|                                    |                                                                                                                                              |                                                                             |                                                                            |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|----------------------------------------------------------------------------|
| Ethernet Ports                     | #1 Fast Ethernet 100 Tx port, RJ45                                                                                                           |                                                                             | #2 Fast Ethernet 100 Tx ports, front RJ45 (switch configuration)           |
| Serial Ports                       | #1                                                                                                                                           | #1 serial port RS232 / RS485 switchable, max baud rate 115kbps on connector |                                                                            |
|                                    | #2                                                                                                                                           | -                                                                           | #1 RS485 port, max baud rate 115k on IDC10 connector for bus and terminals |
| Supported Protocols                | ModBUS TCP-IP<br>ModBUS RTU<br>ModBUS ASCII Profinet IO (Class A Device, Cyclic Real-time (RT) and Acyclic Data)                             |                                                                             |                                                                            |
| Operating Modes                    | Profinet IO ModBUS RTU/TCP-IP Master Gateway<br>Profinet IO ModBUS RTU/TCP-IP Slave Gateway<br>Gateway with tag for Port#1 and Port#2 Master |                                                                             |                                                                            |
| FLEX (multiprotocol configuration) | Yes                                                                                                                                          |                                                                             |                                                                            |
| Variable memory area               | 512 Byte R + 512 Byte W                                                                                                                      |                                                                             |                                                                            |
| Connectivity                       | Max 3 TCP-IP Servers (Client Mode)                                                                                                           |                                                                             |                                                                            |
|                                    | Max 8 TCP-IP Clients<br>Max 128 Slave Nodes ModBUS RTU/ASCII for serial port                                                                 |                                                                             |                                                                            |

## CONFIGURATION

|                                             |                                           |
|---------------------------------------------|-------------------------------------------|
| DIP Switch                                  | Yes                                       |
| WEB SERVER                                  | Yes                                       |
| EASY SETUP 2                                | Yes                                       |
| EDS/GSDML                                   | Yes                                       |
| SDD (Seneca Discovery Device)               | Yes                                       |
| SESC (Seneca Ethernet to Serial Connection) | -                                         |
| ORDER CODES                                 | R-KEY-LT-P      Z-KEY-P      Z-KEY-2ETH-P |

The technical data and diagrams in this document are indicative and not binding.

## TECHNICAL DATA

## Ethernet / IP Gateways

Allows PLCs with Ethernet/IP interface to connect to ModBUS RTU Master/Slave and ModBUS TCP-IP Server devices.

## R-KEY-LT-E



ModBUS → Ethernet/IP (1 serial port, 1 Ethernet port)

## Z-KEY-E



ModBUS → Ethernet/IP (2 serial ports, 1 Ethernet port)

## Z-KEY-2ETH-E



ModBUS → Ethernet/IP (2 serial ports, 2 Ethernet ports)

## GENERAL DATA

|                       |                                                                                                                                                            |                                                                                                                                          |       |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Power Supply          | 11..40 Vdc; 19..28 Vac                                                                                                                                     |                                                                                                                                          |       |
| Max Consumption       | 1 W                                                                                                                                                        | 1.5 W                                                                                                                                    | 2 W   |
| LED Status Indicators | Power Supply<br>Ethernet port connections<br>RX / TX RS232/RS485<br>RX/TX RS485<br>Ethernet/IP Communication                                               |                                                                                                                                          |       |
| Max isolation         | 1.5 kVac                                                                                                                                                   |                                                                                                                                          |       |
| Protection degree     | IP20                                                                                                                                                       |                                                                                                                                          |       |
| Operating temperature | -25..+65°C                                                                                                                                                 |                                                                                                                                          |       |
| Connections           | Screw terminals, 7-way removable screw terminal, 5 mm pitch<br>Screw terminals, 2-way removable screw terminal, 5 mm pitch<br>RJ45 connector on the bottom | Removable screw terminals 3 ways, pitch 5 mm<br>Rear IDC10 connector for DIN rail 46277<br>Front RJ45 connectorFront RJ45 connector (x2) |       |
| Dimensions (WxHxD)    | 32 x 53 x 90 mm                                                                                                                                            | 17.5 x 100 x 112 mm                                                                                                                      |       |
| Weight                | 80 g                                                                                                                                                       | 100 g                                                                                                                                    | 170 g |
| Enclosure             | PC/ABS self-extinguishing UL94-V0                                                                                                                          | Nylon 6 with 30% glass fiber, V0 flame retardant class                                                                                   |       |
| Installation          | For DIN rail (IEC EN 60715)                                                                                                                                |                                                                                                                                          |       |
| Certifications        | CE, UKCA, UL                                                                                                                                               |                                                                                                                                          |       |

## COMMUNICATION

|                                    |                                                                             |                                                                              |
|------------------------------------|-----------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Ethernet Ports                     | #1 Fast Ethernet 100 Tx port, RJ45                                          | #2 Fast Ethernet 100 Tx ports, front RJ45                                    |
| Serial Ports #1                    | #1 serial port RS232 / RS485 switchable, max baud rate 115kbps on connector |                                                                              |
| #2                                 | -                                                                           | #1 RS485 port, max baud rate 115k on IDC10 connector for buses and terminals |
| Supported Protocols                | ModBUS RTU, ModBUS TCP-IP, ModBUS ASCII                                     |                                                                              |
| Operating Modes                    | ModBUS RTU/TCP-IP/ASCII ↔ Ethernet/IP Gateway                               |                                                                              |
| FLEX (multiprotocol configuration) | Yes                                                                         |                                                                              |
| Variable memory area               | 512 Byte R + 512 Byte W                                                     |                                                                              |
| Connectivity                       | Max 3 TCP-IP clients (Server Mode)<br>Max 128 slave nodes ModBUS RTU/ASCII  |                                                                              |

## CONFIGURATION

|                                             |                                           |
|---------------------------------------------|-------------------------------------------|
| DIP Switch                                  | Yes                                       |
| WEB SERVER                                  | Yes                                       |
| EASY SETUP 2                                | Yes                                       |
| EDS/GSDML                                   | Yes                                       |
| SDD (Seneca Discovery Device)               | Yes                                       |
| SESC (Seneca Ethernet to Serial Connection) | -                                         |
| ORDER CODES                                 | R-KEY-LT-E      Z-KEY-E      Z-KEY-2ETH-E |

The technical data and diagrams in this document are indicative and not binding.

## TECHNICAL DATA

## OPC UA Gateways

## R-KEY-LT-U

## Z-KEY-U

## Z-KEY-2ETH-U

This family of gateways allows OPC Servers to connect to ModBUS RTU/TCP-IP Master devices and systems.



ModBUS ↔ OPC UA Gateway  
(1 serial port, 1 Ethernet port)

ModBUS ↔ OPC UA Gateway  
(2 serial ports, 1 Ethernet port)

ModBUS ↔ OPC UA Gateway  
(2 serial ports, 2 Ethernet ports)

## GENERAL DATA

|                        |                                                             |                                                          |
|------------------------|-------------------------------------------------------------|----------------------------------------------------------|
| Power Supply           | 11..40 Vdc; 19..28 Vac                                      |                                                          |
| Max Consumption        | 1 W                                                         | 2 W @ 24 Vac (typical)                                   |
| Max isolation          | 1,500 Vac                                                   |                                                          |
| LED, status indicators | Power Supply<br>Rx/Tx RS232/R485<br>Ethernet ACT/LNK        |                                                          |
| Protection degree      | IP20                                                        |                                                          |
| Operating temperature  | -25 °C..+65 °C                                              |                                                          |
| Connections            | Screw terminals, 7-way removable screw terminal, 5 mm pitch | Removable screw terminals 3 ways, pitch 5 mm             |
|                        | Screw terminals, 2-way removable screw terminal, 5 mm pitch | Rear IDC10 connector for DIN rail 46277                  |
|                        | RJ45 connector on the bottom (x1)                           | Front RJ45 connector (x1)      Front RJ45 connector (x2) |
| Dimensions (WxHxD)     | 32 x 53 x 90 mm                                             | 17.5 x 100 x 112 mm                                      |
| Weight                 | 80 g                                                        | 170 g                                                    |
| Enclosure              | PC/ABS self-extinguishing UL94-V0, Grey RAL 7035            | Nylon PA6 30% glass fiber, V0 flame retardant class      |
| Installation           | For DIN rail (IEC EN 60715)                                 |                                                          |
| Certifications         | CE, UKCA, UL                                                |                                                          |

## COMMUNICATION

|                                    |                                                                                                               |                                                                             |
|------------------------------------|---------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| Ethernet Ports                     | #1 Fast Ethernet 100 Tx port, RJ45                                                                            | #2 Fast Ethernet 100 Tx ports, front RJ45 (switch configuration)            |
| Serial Ports                       | -                                                                                                             | #1 serial port RS232 / RS485 switchable, max baud rate 115kbps on connector |
| Supported Protocols                | ModBUS TCP-IP<br>ModBUS RTU<br>ModBUS ASCII<br>OPC UA                                                         |                                                                             |
| Operating Modes                    | OPC UA Server Gateway ↔ ModBUS RTU/TCP-IP Master                                                              |                                                                             |
| FLEX (multiprotocol configuration) | Yes                                                                                                           |                                                                             |
| Variable memory area               | 500 tags                                                                                                      |                                                                             |
| Connectivity                       | Max 3 TCP-IP Servers (Client Mode)<br>128 ModBUS RTU/ASCII slave nodes per serial port<br>Max 1 Client OPC UA |                                                                             |

## SECURITY

|                      |     |
|----------------------|-----|
| Encrypted connection | -   |
| TLS 1.2 Connection   | Yes |
| X.509 Certificates   | Yes |

## CONFIGURATION

|                                             |                                           |
|---------------------------------------------|-------------------------------------------|
| DIP Switch                                  | Yes                                       |
| WEB SERVER                                  | Yes                                       |
| EASY SETUP 2                                | -                                         |
| EDS/GSDML                                   | Yes                                       |
| SDD (Seneca Discovery Device)               | Yes                                       |
| SESC (Seneca Ethernet to Serial Connection) | -                                         |
| ORDER CODES                                 | R-KEY-LT-U      Z-KEY-U      Z-KEY-2ETH-U |

The technical data and diagrams in this document are indicative and not binding.

# TECHNICAL DATA

## IEC 61850 Gateways

### R-KEY-LT-I

### Z-KEY-I

### Z-KEY-2ETH-I

This family of gateways allows IEC 61850 Servers to connect to ModBUS RTU/TCP-IP Master devices and systems.



ModBUS ↔ IEC 61850 Gateway  
(1 serial port, 1 Ethernet port)

ModBUS ↔ IEC 61850 Gateway  
(2 serial ports, 1 Ethernet port)

ModBUS ↔ IEC 61850 Gateway  
(2 serial ports, 2 Ethernet ports)

## GENERAL DATA

|                        |                                                             |                                                          |
|------------------------|-------------------------------------------------------------|----------------------------------------------------------|
| Power Supply           | 11..40 Vdc; 19..28 Vac                                      |                                                          |
| Max Consumption        | 1 W                                                         | 2 W @ 24 Vac (typical)                                   |
| Max isolation          | 1,500 Vac                                                   |                                                          |
| LED, status indicators | Power Supply<br>Rx/Tx RS232/R485<br>Ethernet ACT/LNK        |                                                          |
| Protection degree      | IP20                                                        |                                                          |
| Operating temperature  | -25 °C..+65 °C                                              |                                                          |
| Connections            | Screw terminals, 7-way removable screw terminal, 5 mm pitch | Removable screw terminals 3 ways, pitch 5 mm             |
|                        | Screw terminals, 2-way removable screw terminal, 5 mm pitch | Rear IDC10 connector for DIN rail 46277                  |
|                        | RJ45 connector on the bottom (x1)                           | Front RJ45 connector (x1)      Front RJ45 connector (x2) |
| Dimensions (WxHxD)     | 32 x 53 x 90 mm                                             | 17.5 x 100 x 112 mm                                      |
| Weight                 | 80 g                                                        | 170 g                                                    |
| Enclosure              | PC/ABS self-extinguishing UL94-V0, Grey RAL 7035            | Nylon PA6 30% glass fiber, V0 flame retardant class      |
| Installation           | For DIN rail (IEC EN 60715)                                 |                                                          |
| Certifications         | CE, UKCA, UL                                                |                                                          |

## COMMUNICATION

|                                    |                                                                                                    |                                                                  |
|------------------------------------|----------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| Ethernet Ports                     | #1 Fast Ethernet 100 Tx port, RJ45                                                                 | #2 Fast Ethernet 100 Tx ports, front RJ45 (switch configuration) |
| Serial Ports                       | #1 serial port RS232 / RS485 switchable, max baud rate 115kbps on connector                        |                                                                  |
| Supported Protocols                | ModBUS TCP-IP<br>ModBUS RTU / ASCII<br>IEC 61850 Server<br>MMS                                     |                                                                  |
| Operating Modes                    | IEC 61850 Server Gateway ↔ ModBUS RTU/TCP-IP Master<br>URCB - BRCB event report management         |                                                                  |
| FLEX (multiprotocol configuration) | Yes                                                                                                |                                                                  |
| Variable memory area               | 50 Tags IEC 61850                                                                                  |                                                                  |
| Connectivity                       | Max 3 TCP-IP Servers<br>128 ModBUS RTU/ASCII slave nodes per serial port<br>Max 1 Client IEC 61850 |                                                                  |

## SECURITY

|                      |     |
|----------------------|-----|
| Encrypted connection | Yes |
| TLS 1.2 Connection   | Yes |
| X.509 Certificates   | Yes |

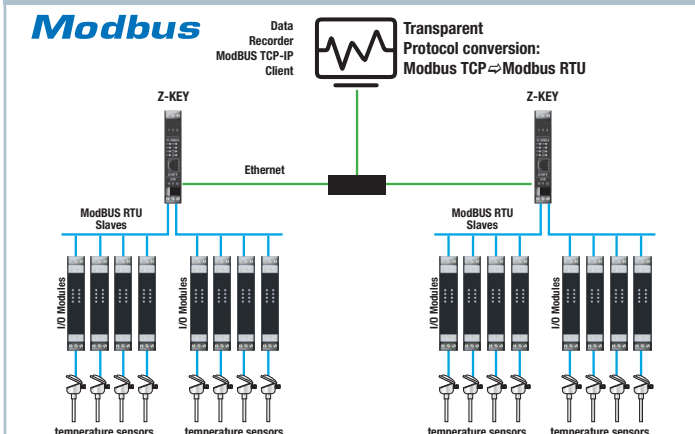
## CONFIGURATION

|                                             |                                           |
|---------------------------------------------|-------------------------------------------|
| DIP Switch                                  | Yes                                       |
| WEB SERVER                                  | Yes                                       |
| EASY SETUP 2                                | -                                         |
| EDS/GSDML/ICD                               | Yes                                       |
| SDD (Seneca Discovery Device)               | Yes                                       |
| SESC (Seneca Ethernet to Serial Connection) | -                                         |
| ORDER CODES                                 | R-KEY-LT-I      Z-KEY-I      Z-KEY-2ETH-I |

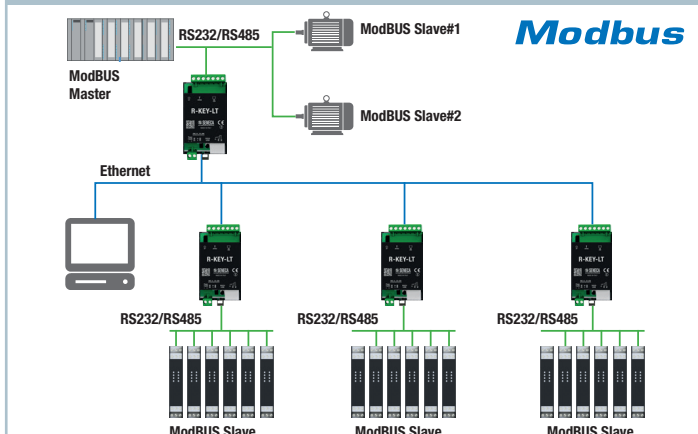
The technical data and diagrams in this document are indicative and not binding.

## APPLICATION DIAGRAMS

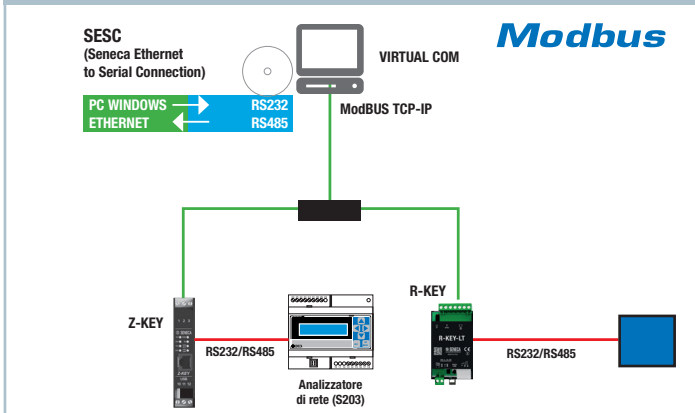
## MODBUS GATEWAY - ETHERNET TO SERIAL



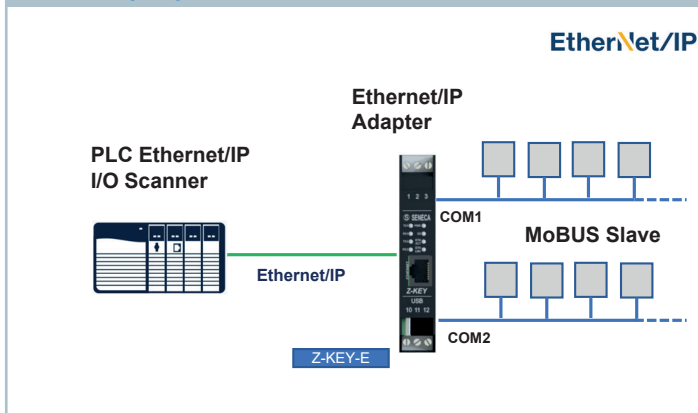
## EXTENDED SERIAL OVER ETHERNET



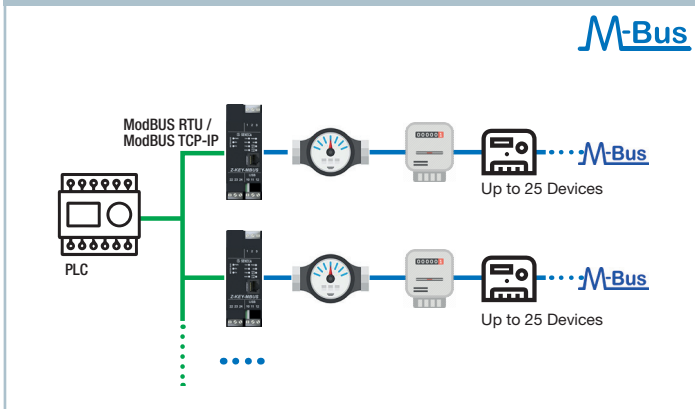
## SERIAL DEVICE SERVER - VIRTUAL COM



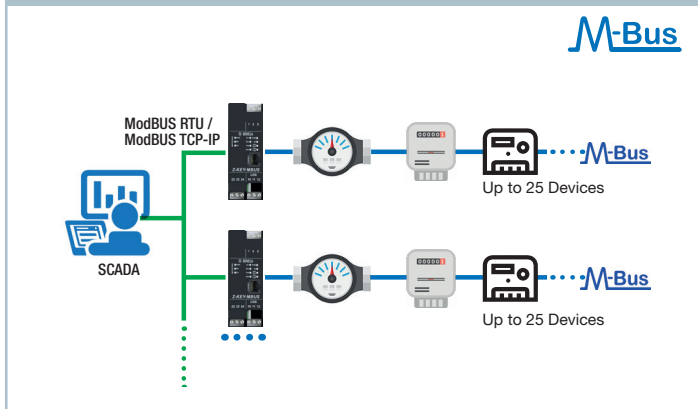
## ETHERNET/IP GATEWAY - ADAPTER



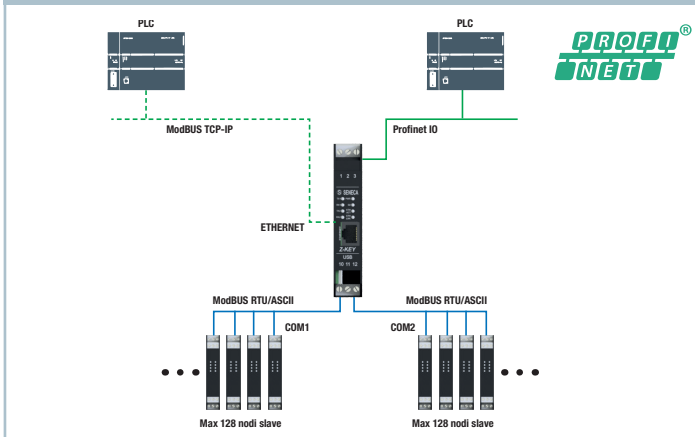
## M-BUS GATEWAY - PLC CONNECTION



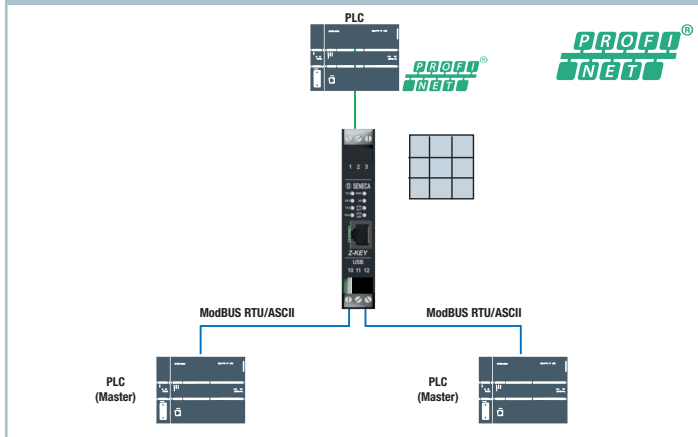
## M-BUS GATEWAY - SCADA CONNECTION



## PROFINET IO TO MODBUS GATEWAY MASTER



## PROFINET IO TO MODBUS GATEWAY SLAVER







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