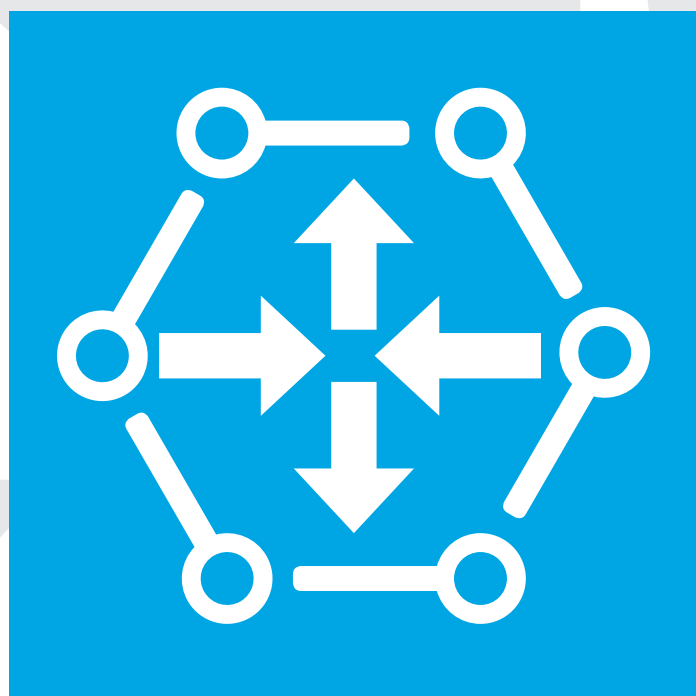



100% Made & Designed in Italy

INDUSTRIAL GATEWAYS

PROTOCOL CONVERTERS
R-KEY / Z-KEY MODELS



 **SENECA**
www.seneca.it

INDUSTRIAL GATEWAYS - PROTOCOL CONVERTERS



SENECA's DIN-rail industrial gateways-protocol converters are devices used to transfer data between different networks and fieldbuses. Gateways available in R (32x53x90mm) or Z (17.5x100x112mm) format can be used within the infrastructure to connect networks and systems with different communication protocols. Configuration is via Web Server or EASY SETUP 2 dedicated software. Available in different Master / Slave configurations and compatible with main PLCs, they can be integrated into the configurators of different manufacturers.

HIGHLIGHTS



PROTOCOL CONVERSION

Industrial gateways connect Modbus devices to networks and fieldbuses by bidirectionally converting ModBUS, M-BUS, ProfinetIO, M-BUS, Ethernet/IP protocols.



SERIAL DEVICE SERVER

Gateways that support such a mode connect devices with an RS232 serial interface or RS485 to a local network for serial data transmission via Ethernet



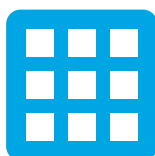
CONNECTIVITY

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



FLEXIBLE CONFIGURATION

Configuration, by serial, Ethernet or USB interface, is simple and immediate with EASY SETUP 2 configuration software or webserver



SHARED MEMORY

In "Tag - "shared memory" gateway Mode, SENECA devices acquire data continuously via ModBUS and store them in their shared memory,



SERIAL SNIFFER

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



APPROVALS

Passing severe tests for potential risks of fire, electrical shock and mechanical failures, most of the models are provided with UL marking.



INTEGRATION

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



FLEX

La tecnologia FLEX consente di commutare la conversione tra differenti protocolli di comunicazione nello stesso dispositivo. Ciò consente di gestire rapidi cambi di layout di produzione e di trasferire dati in modo efficiente.

CONVERSION AND AVAILABLE MODELS

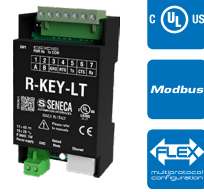
PLC side / Field Side	Modbus RTU	Modbus ASCII	Modbus TCP/IP	PROFINET®	ETHERNET/IP
Modbus RTU		R-KEY-LT Z-KEY-0 Z-KEY-2ETH	R-KEY-LT Z-KEY-0 Z-KEY-2ETH	R-KEY-LT-P Z-KEY-P Z-KEY-2ETH-P	R-KEY-LT-E Z-KEY-E Z-KEY-2ETH-E
Modbus ASCII	R-LT Z-KEY-0 Z-KEY-2ETH		R-KEY-LT Z-KEY-0 Z-KEY-2ETH	R-KEY-LT-P Z-KEY-P Z-KEY-2ETH-P	R-KEY-LT-E Z-KEY-E Z-KEY-2ETH-E
Modbus TCP/IP	R-KEY-LT Z-KEY-0 Z-KEY-2ETH	R-KEY-LT Z-KEY-0 Z-KEY-2ETH		R-KEY-LT-P Z-KEY-P Z-KEY-2ETH-P	R-KEY-LT-E Z-KEY-E Z-KEY-2ETH-E
M-Bus	R-KEY-MBUS Z-KEY-MBUS		R-KEY-MBUS Z-KEY-MBUS		

TECHNICAL DATA

ModBUS Gateways

This gateway family allows PLCs with serial, ModBUS or Ethernet interfaces to connect ModBUS RTU/ASCII Master/Slave and TCP-IP Client/Server devices

R-KEY-LT



ModBUS RTU/ASCII↔TCP-I gateway (1 serial port, 1 Ethernet port)

Z-KEY-0



ModBUS RTU/ASCII↔TCP-IP gateway (2 serial ports, 1 Ethernet port)

Z-KEY-2ETH



ModBUS RTU/ASCII↔TCP-IP gateway (2 serial ports, 2 Ethernet ports)

GENERAL DATA

Power Supply	10..40 Vdc; 19..28 Vac	11..40 Vdc; 19..28 Vac	10..40 Vdc; 19..28 Vac
Max power consumption	1 W	1,5 W	2 W
Max isolation		1,5 kVac (Ethernet)	
LED, status indicators		Power supply Rx/Tx RS232/R485 Ethernet ACT/LNK	
Protection degree		IP20	
Operating temperature		-25 °C..+65 °C	
Connections	Removable 7-way screw clamp, 5 mm pitch Removable 2-way screw terminal, 5 mm pitch RJ45 bottom side connector	Removable 3-way screw terminals, 5 mm pitch IDC10 rear connector for DIN rail 46277 RJ45 front connector (x1)	RJ45 front connector (x2)
Dimension (wxhxd)	32 x 53 x 90 mm	17,5 x 100 x 112 mm	
Weight	80 g	100 g	170 g
Case	PC/ABS self-extinguishing UL94-V0	Nylon PA6 30% glass fiber, self-extinguishing class V0	
Mounting		For DIN rail (IEC EN 60715)	
Approvals		CE, UKCA, UL	CE, UKCA

COMMUNICATION

Ethernet ports		Nr 1 Fast Ethernet 100 Tx port	Nr.2 Fast Ethernet 100 Tx ports, switch configuration
Serial ports	#1	Nr.1 RS232 / RS485 serial port switchable, baud rate max 115kbps on connector	
	#2	-	Nr.1 RS485 port, baud rate max 115k on IDC10 connector for bus and terminals
Supported protocols		ModBUS TCP-IP ModBUS RTU ModBUS ASCII	
Operating mode		Gateway ModBUS RTU/ASCII ↔ TCP-IP Gateway ModBUS "TAG" Serial Device Server	
FLEX technology - multiprotocol conversion (ModBUS, Profinet, Ethernet/IP)		Si	
Variables memory area		500 tag	
Connectivity		Max 8 Client TCP-IP (Server Mode) Max 10 Server TCP-IP (Client Mode) Max 128 ModBUS RTU/ASCII slave nodes	

CONFIGURATION

DIP Switches	Yes
Web Server	Yes
EASY SETUP 2	Yes
EDS/GSDML	-
SDD (Seneca Discovery Device)	Yes
SESC (Seneca Ethernet to Serial Connection)	Yes
Order code	R-KEY-LT Z-KEY-0 Z-KEY-2TH

TECHNICAL DATA

M-BUS Gateways

R-KEY-MBUS

Z-KEY-MBUS

ModBUS RTU/TCP-IP / M-BUS gateway (1 M-BUS port, 1 serial port, 1 Ethernet port)
ModBUS RTU / TCP-IP / M-BUS gateway (1 M-BUS port, 2 serial ports, 2 Ethernet ports)



ModBUS RTU/TCP-IP / M-BUS gateway (1 M-BUS port, 1 serial port, 1 Ethernet port)

ModBUS RTU / TCP-IP ↔ M-BUS gateway (1 M-BUS port, 2 serial ports, 2 Ethernet ports)

GENERAL DATA

Power Supply	11..40 Vdc; 19..28 Vac	
Max power consumption	3,8 W	6,5 W
Max isolation	1,5 kVac	
LED, status indicators	Power supply M-BUS power supply Rx/Tx RS232/R485 M-BUSTx/Rx	
Protection degree	IP20	
Operating temperature	-25..+65°C	
Connection	7-way removable screw terminals, 5 mm pitch 2-way removable screw terminals, 5 mm pitch Connector on the bottom side RJ45	3-way removable screw terminals, 5 mm pitch IDC10 rear connector for DIN rail 46277 RJ45 front connector Micro USB side connector
Dimension (wxhxd)	53,3 x 90 x 32,2 mm	100 x 35 x 112 mm
Weight	80 g	190 g
Case	PC / ABS self-extinguishing UL94-V0	Glass-filled PA6 black plastic
Mounting	DIN rail (IEC EN 60715) or wall-mounted	
Approvals	CE, UKCA	

COMMUNICATION

Ethernet ports	Nr.1 Fast Ethernet 100 Tx port, RJ45	
Ethernet ports #1	Nr.1 Fast Ethernet 100 Tx port, RJ45	
Ethernet ports #2		Nr.1 RS485 port, baud rate max 115k on IDC10 connector for bus and terminals
USB ports	Nr 1 Micro USB port on side connector	
Porte M-BUS	Nr.1 M-BUS port, baud rate 300...38.400 bps	
Supported protocols	ModBUS TCP-IP server	
	Modbus RTU slave	
	M-BUS Master	
Operating mode	Gateway ModBUS RTU/TCP-IP↔M-BUS	
Variables memory area	500 tag	
Connectivity	Max 8 TCP-IP Clients (Server Mode) Max 128 ModBUS RTU/ASCII slave nodes Max 25 M-BUS slave nodes	

CONFIGURATION

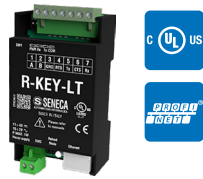
DIP Switch	Si
Web Server	Si
SDD (Seneca Discovery Device)	Si
Order code	R-KEY-MBUS
	Z-KEY-MBUS

TECHNICAL DATA

Profinet Gateways

This gateway family allows PLCs with Profinet IO interface to connect to ModBUS RTU/ASCII Master/Slave and ModBUS TCP-IP Server devices.

R-KEY-LT-P



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

Z-KEY-P



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

Z-KEY-2ETH-P



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

GENERAL DATA

Power supply	10..40 Vdc; 19..28 Vac	11..40 Vdc; 19..28 Vac	
Max power consumption	1 W	1,5 W	2 W
Max isolation	1.500 Vac		
LED, status indicators	Power supply Rx/Tx RS232/R485 Ethernet ACT/LNK Profinet communication		
Protection degree	IP20		
Operating temperature	-25 °C..+65 °C		
Connections	Removable 7-way screw terminals, 5mm pitch	Removable 3-way screw terminals, 5mm pitch	
	Removable 2-way screw terminals, 5mm pitch	IDC10 Rear Connector for DIN Rail 46277	
	Connector on the bottom side RJ45	RJ45 front connector (x1)	RJ45 front connector (x2)
Dimension (wxhxd)	32 x 53 x 90 mm	17,5 x 100 x 112 mm	
Weight	80 g	100 g	170 g
Case	PC/ABS autoestinguente UL94-V0 colore Grigio RAL 7035	Nylon PA6 30% glass fiber, self-extinguishing class V0	
Mounting	For DIN rail (IEC EN 60715)		
Approvals	CE, UKCA, UL		CE, UKCA

COMMUNICATION

Ethernet ports	Nr 1 Fast Ethernet 100 Tx port, RJ45		Nr 2 Fast Ethernet 100 Tx ports, RJ45 (switch)
Serial ports	#1	Nr.1 RS232 / RS485 serial port, max baud rate 115kbps on connector	
	#2	-	Nr.1 RS485 port, max baud rate 115kbps on IDC10 connector and terminals
Supported protocols	ModBUS TCP-IP ModBUS RTU ModBUS ASCII Profinet IO (Class A Device, Cyclic Real-time (RT) and Acyclic Data)		
Operating mode	Profinet IO ↔ ModBUS RTU/TCP-IP Master gateway Profinet IO ↔ ModBUS RTU/TCP-IP Slave gateway		
Variables memory area	1200 Byte R + 1200 Byte W		
Connectivity	1200 Byte R + 1200 Byte W Max 3 TCP-IP Servers (Client Mode) Max 8 TCP-IP Clients Max 128 ModBUS RTU/ASCII slave nodes		

CONFIGURATION

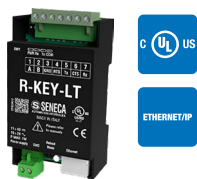
DIP Switch	Si		
Web Server	Si		
EASY SETUP 2	Si		
EDS/GSDML	Si		
Order code	R-KEY-LT-P	Z-KEY-P	Z-KEY-2ETH-P

TECHNICAL DATA

Ethernet / IP Gateways

This gateway family allows PLCs with Ethernet/IP interface to connect to ModBUS RTU Master/Slave and ModBUS TCP-IP Server devices.

R-KEY-LT-E



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

Z-KEY-E



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

Z-KEY-2ETH-E



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

GENERAL DATA

Power supply	10..40 Vdc; 19..28 Vac		
Max power consumption	1 W	1,5 W	2 W
LED, status indicators	Ethernet connection RX / TX RS232/RS485 RX/TX RS485 Ethernet/IP communication		
Max isolation	1,5 kVac		
Protection degree	IP20		
Operating temperature	-25..+65°C		
Connections	Removable 7-way screw terminals, 5 mm pitch Removable 2-way screw terminals, 5 mm pitch Connector on the bottom side RJ45	Removable 3-way screw terminals, 5 mm pitch IDC10 rear connector for DIN rail 46277 RJ45 front connector (x1)	RJ45 front connector (x2)
Dimension (wxhxd)	32 x 53 x 90 mm	17,5 x 100 x 112 mm	
Weight	80 g	100 g	170 g
Case	PC/ABS self-extinguishing UL94-V0	Nylon PA6 30% glass fiber, self-extinguishing class V0	
Mounting	For DIN rail (IEC EN 60715)		
Approvals	CE, UKCA, UL		CE, UKCA

COMMUNICATION

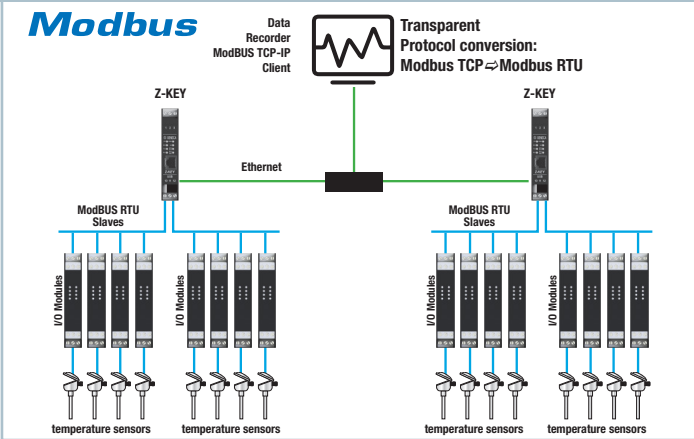
Ethernet ports	Nr.1 Fast Ethernet 100 Tx port, RJ45		Nr 2 Fast Ethernet 100 Tx ports, RJ45
Serial ports #1	Nr.1 RS232 / RS485 serial port switchable, baud rate max 115kbps on connector		
#2	-	Nr.1 RS485 port, baud rate max 115kbps on IDC10 connector for bus and terminals	
Operating mode	ModBUS RTU/TCP-IP/ASCII ↔ Ethernet/IP Gateway		
FLEX technology - multiprotocol switching (ModBUS, Profinet, Ethernet/IP)	Yes		
Variables memory area	512 Byte R + 512 Byte W		
Connectivity	Max 3 client TCP-IP (Server Mode) Max 128 ModBUS RTU/ASCII slave nodes		

CONFIGURATION

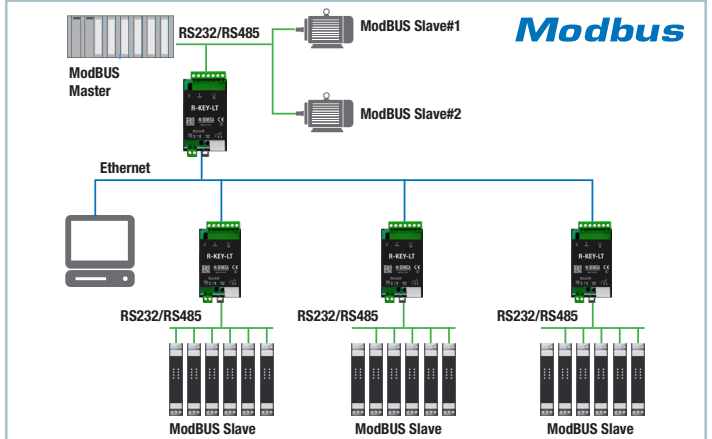
DIP Switches	Yes
Web Server	Yes
EASY SETUP 2	Yes
EDS/GSDML	Yes
SDD (Seneca Discovery Device)	Yes
Order code	R-KEY-LT-E Z-KEY-E Z-KEY-2ETH-E

APPLICATION SCHEMES

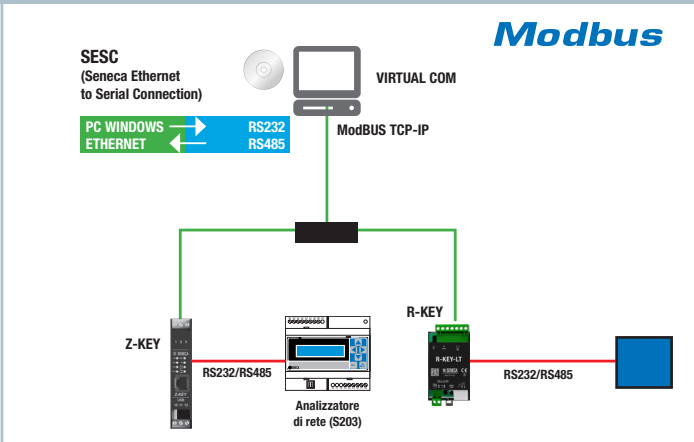
MODBUS GATEWAY - ETHERNET TO SERIAL



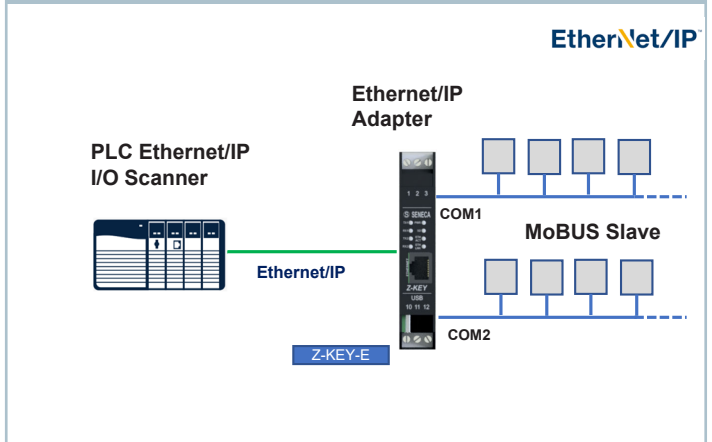
EXTENDED SERIAL OVER ETHERNET



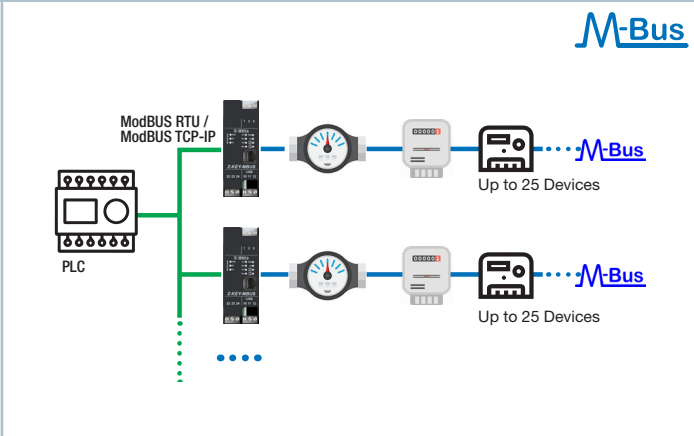
SERIAL DEVICE SERVER - VIRTUAL COM



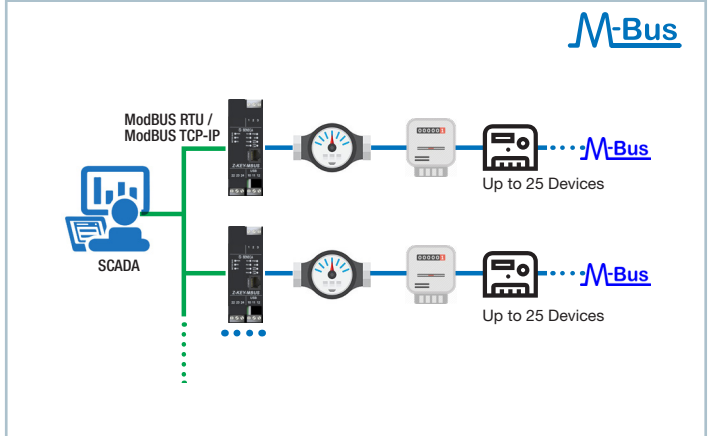
ETHERNET/IP GATEWAY - ADAPTER



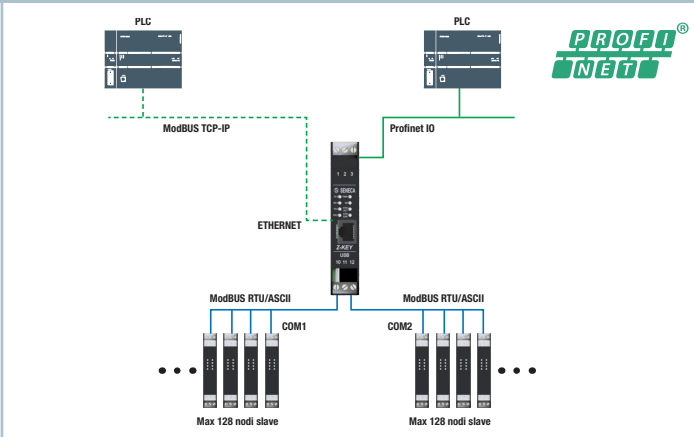
M-BUS GATEWAY - PLC CONNECTION



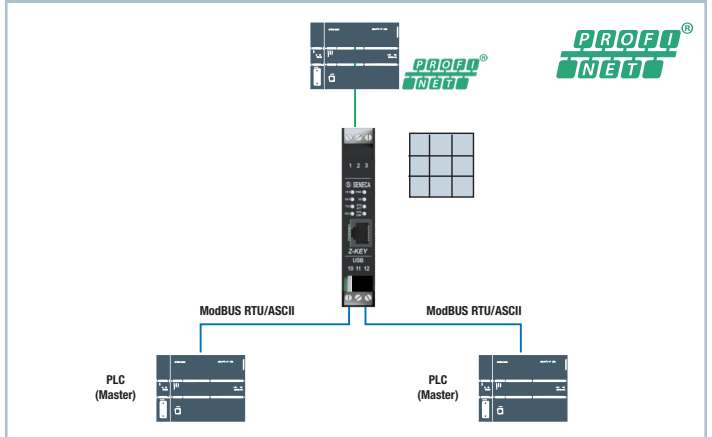
M-BUS GATEWAY - SCADA CONNECTION



PROFINET IO TO MODBUS GATEWAY MASTER



PROFINET IO TO MODBUS GATEWAY SLAVER





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