akytec

EQUIPMENT FOR INDUSTRIAL AUTOMATION

PRODUCT OVERVIEW

2025-2026

- DIGITAL PANEL METERS
- PLC
- PROCESS CONTROLLERS
- SOFTWARE
- I/O MODULES
- LORAWAN DEVICES
- COMMUNICATION DEVICES
- SENSORS AND TRANSMITTERS

FRESH WIND FROM HANOVER

akYtec GmbH is a European manufacturer of industrial automation equipment, producing PLCs, HMIs, process indicators, I/O modules, and cloudbased monitoring solutions. You can find our products in use across the world — from HVAC systems and water treatment plants to manufacturing lines, agricultural facilities, and many other applications.

We put our customers at the center of everything we do. Our technical support team is available in English, German, Serbian, Polish, Turkish, Spanish, and many other languages, ensuring that communication is never a barrier.

„From the very beginning, our approach has been clear: listen to our customers and respond to their needs. We support every user of our products, no matter the order size or project scale. Our team is always ready to help — whether you are integrating a single device or building a complete automation system."

— A word from our managing director, Alex Holm

PROCESS DISPLAYS OVERVIEW

Our universally applicable configurable digital displays are characterized by their compact design and unique form factor can be mounted in a 22.5 mm cutout for standard indicator lights or push buttons.
These process displays require neither mounting screws nor special rectangular cutouts, which makes their installation on a control panel or control cabinet door quick, easy, and convenient. The wall-mount ITP11-W loop-powered digital display has a universal enclosure which can be snapped onto a DIN rail or attached to a tube.

The akYtec process displays differ in the supported signal types. You can choose from a variety of different signals such as 4-20 mA, 0-10 V, RTD, TC, etc., using the following quick selection guide of our digital displays. Boasting a neat front footprint of 48x26mm, our device showcases up to 4 digits with crystal clarity at a height of 14 mm. Thanks to its compact 55mm cylindrical rear, it effortlessly fits into limited spaces, making it perfect for push-button panels or control cabinets. Choose the ideal model for your space requirements.

Overview table:

						
Device	**ITP11**	**ITP14, ITP16**	**ITP11-W**	**ITP15-M**	**ITP17**	**SMI2-M**
Input signal	4–20 mA (Current loop)	**ITP14** 4-20 mA, 0-10 V **ITP16 TC**, RTD (Pt100, Pt1000 etc.)	4-20 mA (Current loop)	4–20 mA, 0–10 V, TC, RTD (Pt100, Pt1000 etc.)		RS485, Modbus RTU/ASCII, microUSB Configuration
LED color	Red or green			3 colors (red/green/ yellow)		
Output signal	-	NPN-Transistor 200 mA, 42 V DC				-
Role in the system	Indicator					Master / Slave / Spy
Display	7-segment, 4-digit			10 segments	7-segment, 4-digit	
Protection	Front IP65, Rear IP20					

ITP11 / ITP11-G

The ITP11 is a universal, microprocessor controlled display unit for monitoring industrial processes. The measured values are scalable. The ITP11 is designed to be connected to any transmitter with a 4-20 mA output. It requires no auxiliary power and is supplied directly from the current loop.This device has a compact enclosure that fits into a standard Ø22.5 mm mounting cutout, which provides quick and easy installation of many displays of this kind to be accommodated on a control panel or at the control cabinet door.

Functions and features:

- Visualization of any 4-20 mA signal received from a relevant output of a sensor, PLC, I/O module, etc.
- Signal scaling
- Adjustable decimal point position
- Display of up to four 14 mm high digits including the decimal point
- Square root function (for special transmitters)
- Damping of the measured signal
- Alarm function (blinking when exceeding the setpoints)
- Error indication when exceeding the measuring limits
- Access protection

Standard variants	Description	Enclosure
ITP11	ITP11 with red LED color	48 x 26 x 65 mm Panel mount
ITP11-G	ITP11 with green LED color	

Two variants of display color	RED OR GREEN
Analog input 4-20 mA	4-20 mA
Loop-powered (4-20 mA)	4-20 mA
Easy mounting in Ø 22.5 mm borehole	Ø 22.5 MM
Save time for installation	
Compact size	
Can be installed in a push-button box	
Accuracy 0.2%	0.2
Wide range of ambient temperatures	+80°C -40°C

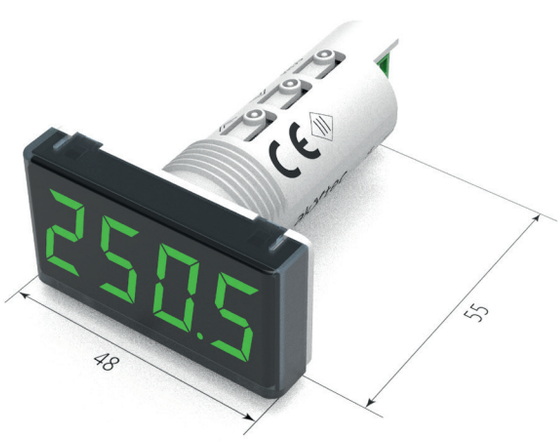
Areas of application:

The 4-20 mA process indicator ITP11 is particularly suitable for the fast and easy installation of visual display systems for various processes, such as water supply or thermal processing. The ITP11 can be used as an additional standalone display unit for on-site process visualization or as a part of a complex visual display system.

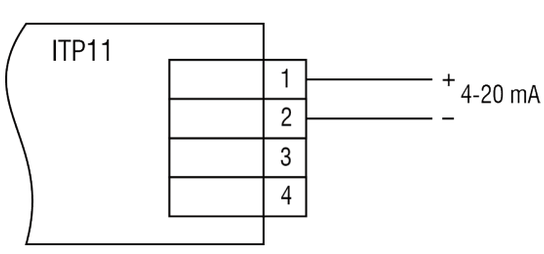
Technical data:

Power supply	from current loop
Input signal	4-20 mA (2-wire)
Input	1
Measuring range	3.8-22.5 mA
Guaranteed normal operation	3.2-25 mA
Voltage drop, max.	4 V
Accuracy	0.2 % + 1 digit
Display	4-digit, 7-segment LED display
Character height	14 mm
Display colour	red or green
Sampling rate (without damping)	1 reading/s
Dimensions	48 x 26 x 65 mm
Weight	approx. 30 g
Protection class	III
Ambient temperature	-40...+80 °C
Storage temperature	-25...+80 °C
Humidity	up to 80% (non-condensing)

Dimensions:



Electrical connection:



ITP11-R-W / ITP11-G-W

The ITP11-W is a universal applicable display unit for monitoring of industrial processes. It connects to any 4-20 mA output to visualise the present signal. This process display requires no auxiliary power and is supplied directly from the current loop. The ITP11-W is delivered in a dust-tight and water-resistant IP65-rated enclosure suitable for DIN-rail or wall mounting as well as a firm fixation on a tube (up to ø200mm).

Functions and features:

- Visualization of any 4-20 mA signal received from a relevant output of a sensor, PLC, I/O module, etc.
- Display of up to four 14 mm high digits including the decimal point
- Signal scaling
- Damping of the measured signal
- Square root calculation
- Access protection
- Wall, DIN rail or tube (ø20...200 mm) mounting
- Dust-tight and water-resistant IP65-rated enclosure

Standard variants	Description	Enclosure
ITP11-R-W	ITP11-W with red LED	70 x 50 x 28 mm DIN rail / Wall / Tube
ITP11-G-W	ITP11-W with green LED	

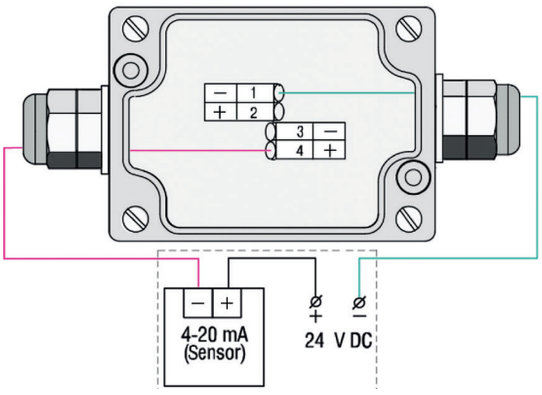
Two variants of display color	RED OR GREEN
Analog input 4-20 mA	4-20 mA
DIN rail mounting	DIN
Wall mounting	WALL
Tube mounting (ø20...200mm)	TUBE
Accuracy 0.2%	0.2
High IP Code	IP65
Wide range of ambient temperatures	+80°C -40°C

Technical data:

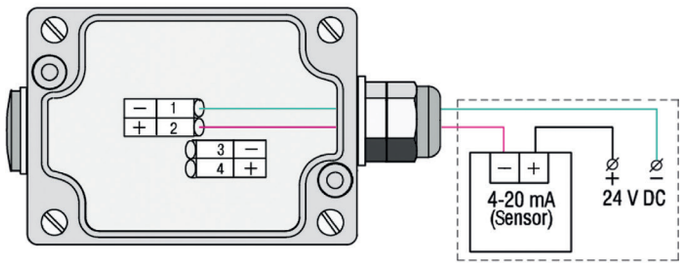
Supply current	from current loop
Voltage drop, max.	10 V
Input signal	4-20 mA
Measuring range	3.8...22.5 mA
Accuracy	0.2% + 1 digit
Sampling rate	1 reading / s
Ambient temperature	-40...+80 °C
Protection class	III
IP Code	IP65
Dimensions	70 x 50 x 28 mm
Weight	approx. 150 g
Mounting	DIN rail, wall, tube
Cable clamping range	Ø 3...6 mm

Wiring diagrams:

Two-side connection:



Connection from the right:



Mounting types:

ITP14 / ITP14-G

The ITP14 is a universally-applicable process display for monitoring and control of industrial processes. This display features a configurable current/voltage input and an NPN transistor output. The NPN transistor output makes it possible to implement on-off control of a low voltage relay up to 42 V DC / 200 mA.
This device has a compact enclosure that fits into a standard Ø22.5 mm mounting cutout, which provides quick and easy installation of many displays of this kind to be accommodated on a control panel or at the control cabinet door.

Functions and features:

- Analog input 0-5 mA, 0(4)-20 mA, 0(2)-10 V
- Display of up to four 14 mm high digits including the decimal point
- Signal scaling
- ON/OFF control with an NPN output
- Square root function (for special transmitters)
- Damping of the measured signal
- Alarm function (blinking when exceeding the setpoints)
- Error indication when the input signal is out of range
- Error indication when wire break or short circuit

Standard variants	Description	Enclosure
ITP14	ITP14 with red LED	48 x 26 x 65 mm Panel mount
ITP14-G	ITP14 with green LED	

Two variants of display color	RED OR GREEN
Configurable input for linear current or voltage singals	AI mA,V
NPN transistor output to control a low voltage relay (up to 42 V DC / 200 mA)	DO NPN
Power supply	24 V DC
Easy mounting in Ø 22.5 mm borehole	Ø 22.5 MM
Compact size	
Push-button box installation option	
Accuracy 0.2%	0.2
Wide range of ambient temperatures	+60°C -40°C

Areas of application:

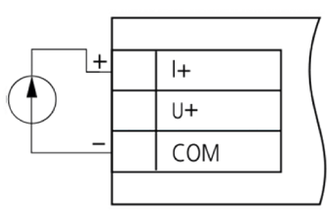
The universal display ITP14 is particularly suitable for the fast and easy installation of visual display systems for various processes, such as water supply, thermal processing, and many others. The ITP14 can be used as an additional stand-alone display unit for on-site process visualization or as a part of a complex visual display system.

Technical data:

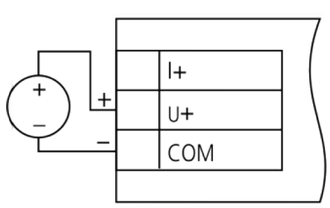
Power supply	24 (10…30) V DC
Power consumption, max.	1 W
Input	1
Input signal	0-5 mA, 0(4)-20 mA, 0(2)-10 V
Sampling time	0.3 s
Accuracy	± (0,2% FS + 1 digit)
Temperature influence	≤ 0,2% / 10 °C
Input resistance	0-5 mA, 0(4)-20 mA ≤ 120 Ohm / 0(2)-10 V ≥ 250 kOhm
Output	1
Type	NPN transistor
Loading capacity	200 mA, 42 V DC
Display colour	red or green
Dimensions	48 x 26 x 65 mm
Weight	approx. 30 g
Protection class	III
Ambient temperature	-40…+60 °C
Storage temperature	-25…+55 °C
Humidity	up to 80% (non-condensing)

Dimensions:

Electrical connection:



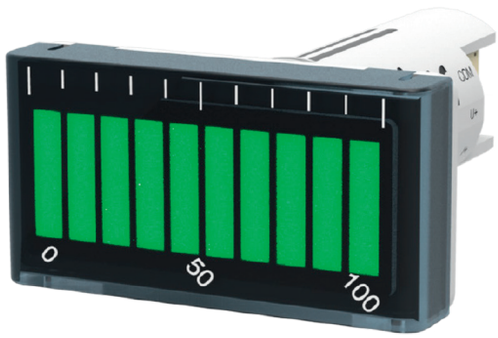
Current sensor wiring



Voltage sensor wiring

ITP15

The ITP15 Bar Graph Display is a compact process indicator that is intended to visualize an analog input signal in the range from 0 to 100% with 10 bars 10% each. The input signal can be either a linear voltage signal of 0(2)-10 V or a current signal of 0(4)-20 mA.
Due to cylindrical form of the mounting part of the enclosure, the device can be positioned either vertically or horizontally without changing the mounting cutout. The ITP15 fits into a standard cutout of Ø22.5 mm. The cutouts of the same diameter are commonly used for mounting standard signal lamps or push buttons at control cabinets or panels.
Along with indication, a simple on-off control can be implemented with the NPN transistor output of the ITP15. This output can control a load of up to 200 mA, 42 V DC.



Functions and features:

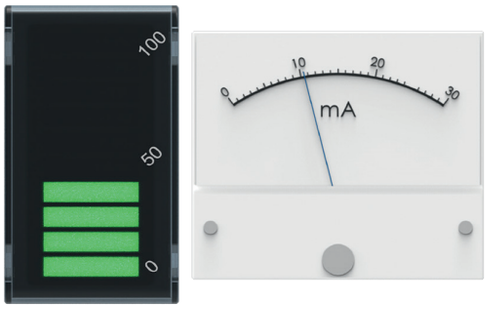
- Bar graph indication of the measured value
- Display range 0...100%
- 10 two-color bars (green/red) 10% each
- Configurable analog input (0-5 mA, 0(4)-20 mA, 0(2)-10 V)
- ON/OFF control with an NPN-transistor output
- 2 modes of blinking (fast/slow)
- Alarm settings

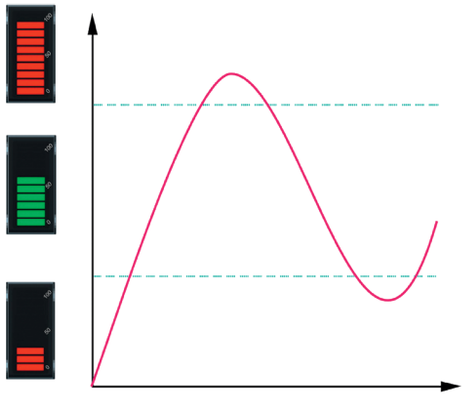
10 two-color bars	RED GREEN
Configurable input for linear current or voltage signals	AI mA,V
NPN-transistor output (42 V DC, up to 200 mA)	DO NPN
Power supply	24 V DC
On-off control	ON OFF
Easy mounting in Ø22.5 borehole	Ø 22.5 MM
Compact size	
Push-button box installation option	
Wide range of ambient temperatures	+60°C -40°C

Technical data:

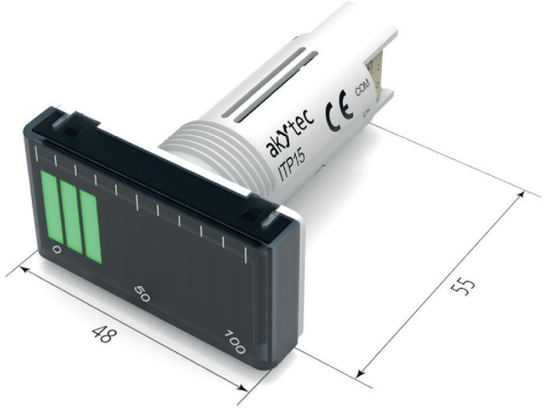
Power supply	24 (10…30) V DC
Power consumption, max.	1 W
Input	1
Input signal	0-5 mA, 0(4)-20 mA, 0(2)-10 V
Sampling time	0.3 s
Input resistance	0-5 mA, 0(4)-20 mA ≤ 120 Ohm / 0(2)-10 V ≥ 250 kOhm
Output	1
Type	NPN transistor
Loading capacity	200 mA, 42 V DC
Bargraph	10 two-color bars (LED)
Bars color	red/green
Resolution	10 %
Dimensions	48 x 26 x 65 mm
Weight	approx. 30 g
Protection class	III
Ambient temperature	-40…+60 °C
Storage temperature	-25…+55 °C
Humidity	up to 80% (non-condensing)

The bars can change their color if the process value crosses the setpoints.

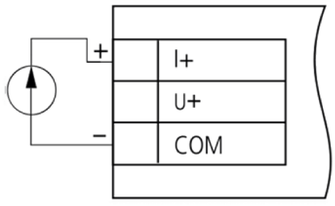




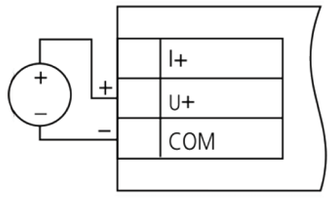
Dimensions:



Electrical connection:



Current sensor wiring



Voltage sensor wiring

ITP15-M

The ITP15-M Bar Graph Display is a compact panel-mount process indicator designed to visualize an analog input signal ranging from 0 to 100% with 10 bars, each representing 10%. It features a three-color display that shows parameters in green, yellow, and red. You can customize the thresholds for color changes to suit their specific needs.
The ITP15-M's compact and standardized design fits into a standard 22.5 mm borehole for signal lamps, allowing for quick and simple installation.

Functions and features:

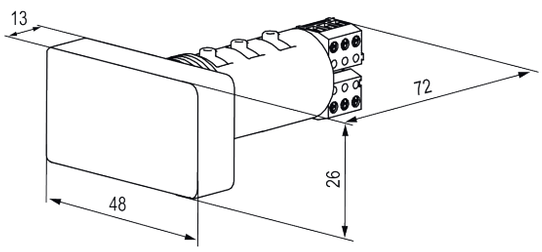
- Three-color 10 segments indicator (green\red\yellow)
- Configurable analog input (0-5 mA, 0(4)-20 mA, 0(2)-10 V), RTDs and thermocouples signals.
- Programming via MicroUSB.
- Display range 0...100%
- ON/OFF Control: Includes an NPN output for ON/OFF control functionality.
- Operating modes: continuous indication of the measured parameter\three-color indication by thresholds.
- Standardised design and fits into a standard 22.5 mm borehole for signal lamps.
- Adjustable decimal point position.

Display operation:

Typical applications with quality parameter display and color change from normal signal level (green) to warning (yellow) and critical (red) are related to the following conditions:

- Decrease in signal to a critical level.
- Increase in signal to a critical level.
- Deviations from the normal level towards critical decrease or critical increase.

Dimensions:

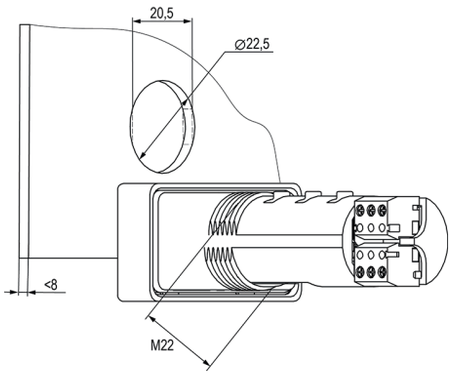


Three LED colors	RED YELLOW GREEN
Analog input for mA and V signals	0-10V 4-20mA
Analog input for thermocouples: B, J, K, N, R	TC
Analog input for RTDs: 50/100/1000 Ω Cu, Pt, Ni, M, P	RTD
Digital output with NPN type	DO NPN
Powered by 24 V DC	24 V DC
Easy mounting in Ø 22.5 mm borehole	Ø 22.5 MM
High IP Code	IP65
Wide range of ambient temperatures	+60°C -40°C

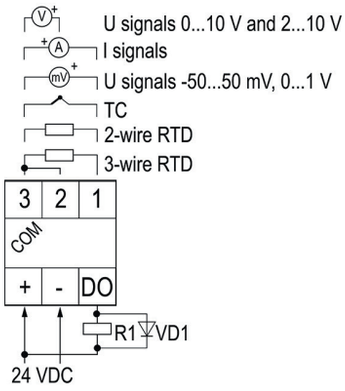
Technical data:

Power supply	24 (10..30) V DC
Power consumption, max.	1 W
Inputs	1
Input signal	0-5 mA, 0(4)-20 mA, 0(2)-10 V), RTDs and thermocouples signals
Sampling time	1 s
Accuracy **RTD, U / I signals** **TC, pyrometers**	 ± 0,25 % ± 0,5 %
Outputs	NPN transistor, loading capacity 200 mA, 42 VDC
Display color	Red & Green & Yellow
IP Code (front / rear)	IP65 / IP20
Dimensions	48 × 26 × 72 mm
Weight approx	approx. 150 g
Protection class	III
Ambient temperature	-40…+60 °C
Humidity	30…80 % (non-condensing)

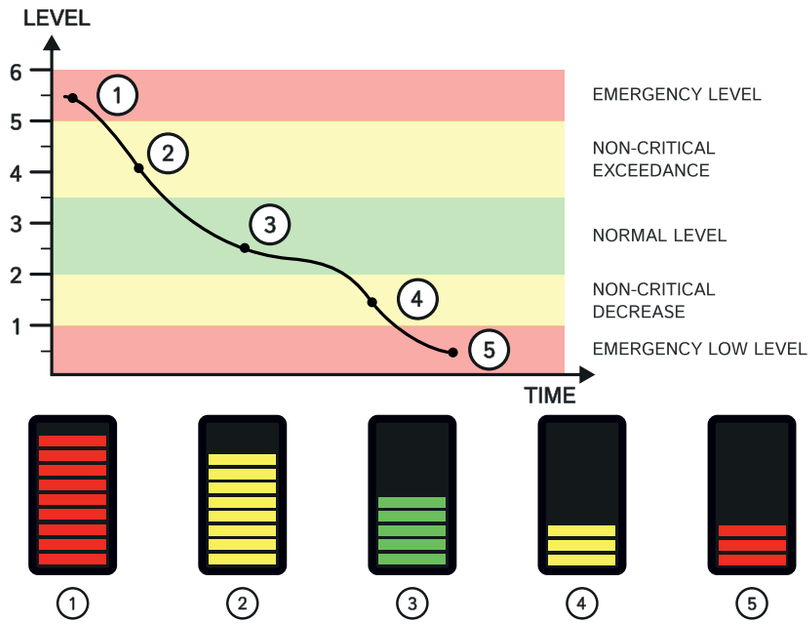
Mounting cutout:



Wiring diagram:



Operation modes:



ITP16 / ITP16-G

The ITP16 is a temperature indicator for monitoring and control of industrial processes. This display features a configurable analog input for various RTD, TC or linear voltage signals and a digital output. The NPN transistor output makes it possible to implement on-off control of a low voltage relay (up to 42 V DC / 200 mA).
This device has a compact enclosure that fits into a standard Ø22.5 mm mounting cutout, which provides quick and easy installation of many displays of this kind to be accommodated on a control panel or at the control cabinet door.

Functions and features:

- Support for a wide range of RTDs and TCs
- Display of up to four 14 mm high digits including the decimal point
- Linear voltage signal scaling
- Adjustable decimal point position
- Square root function (for special transmitters)
- Damping of the measured signal
- Alarm function (blinking of the measured signal)
- Error indication when the input signal is out of range
- Error indication when wire break or short circuit

Standard variants	Description	Enclosure
ITP16	ITP16 with red LED	48 x 26 x 65 mm Panel mount
ITP16-G	ITP16 with green LED	

Two variants of display color	RED OR GREEN
Configurable input for a wide range of RTDs and TCs	AI TC,RTD
NPN transistor output to control a low voltage relay (up to 42 V DC / 200 mA)	DO NPN
Power supply	24 V DC
Easy mounting in Ø 22.5 mm borehole	Ø 22.5 MM
Compact size	
Push-button box installation option	
Accuracy 0.2%	0.2
Wide range of ambient temperatures	+60°C -40°C

Areas of application:

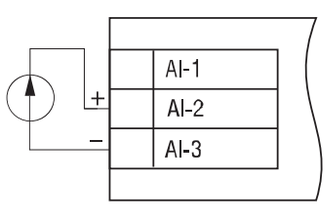
The universal display ITP16 is particularly suitable for the fast and easy installation of visual display systems for various thermal processes. The ITP16 can be used as an additional stand-alone display unit for on-site process visualization or as a part of a complex visual display system.

Technical data:

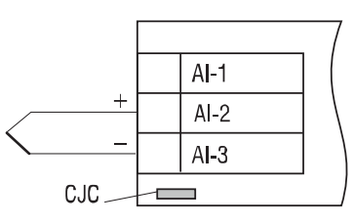
Power supply	24 (10…30) V DC
Power consumption, max.	1 W
Input	1
Input signal	TC, RTD, 0-1 V, -50…+50mV
Sampling time	2 s
Accuracy	± 0.2% FS
Temperature influence	≤ 0,2% / 10 °C
Output	1
Type	NPN transistor
Loading capacity	200 mA, 42 V DC
LED colour	red or green
Dimensions	48 x 26 x 65 mm
Weight	approx. 30 g
Protection class	III
Ambient temperature	-40…+60 °C
Storage temperature	-25…+55 °C
Humidity	up to 80% (non-condensing)

Dimensions:

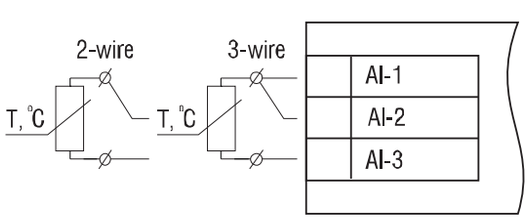
Electrical connection:



Voltage signal wiring



TC sensor wiring



RTD sensor wiring

ITP17

The ITP17 is a universal indicator for monitoring industrial processes. It features a three-color display that shows parameters in green, yellow, and red. You can customize the thresholds for color changes to suit their specific needs. The ITP17 simplifies the selection process by directly interfacing with a variety of sensors, including those for temperature, level, pressure, and humidity, ets.
This indicator has a compact, standardised design and fits into a standard 22.5 mm borehole. This provides quick and easy installation and many displays can be accommodated in a control cabinet door or on a panel.

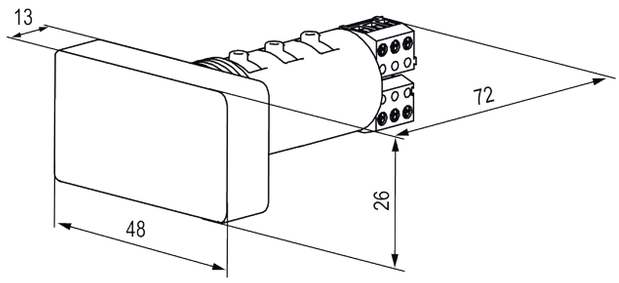
Functions and features:

- Three-color seven-segment indicator (green\red\yellow)
- Configurable analog input (0-5 mA, 0(4)-20 mA, 0(2)-10 V), RTDs and thermocouples signals.
- Programming via MicroUSB.
- ON/OFF Control: Includes an NPN output for ON/OFF control functionality.
- Operating modes: continuous indication of the measured parameter\three-color indication by thresholds.
- Standardised design and fits into a standard 22.5 mm borehole for signal lamps.
- Adjustable decimal point position

Display operation:

The visual notification of the measured value status in ITP-17 is accompanied by an automatic color change.

Dimensions:



Three LED colors	RED YELLOW GREEN
Analog input for mA and V signals	0-10V 4-20mA
Analog input for thermocouples: B, J, K, N, R	TC
Analog input for RTDs: 50/100/1000 Ω Cu, Pt, Ni, M, P	RTD
Digital output with NPN type	DO NPN
Powered by 24 V DC	24 V DC
Easy mounting in Ø 22.5 mm borehole	Ø 22.5 MM
High IP Code	IP65
Wide range of ambient temperatures	+60°C -40°C

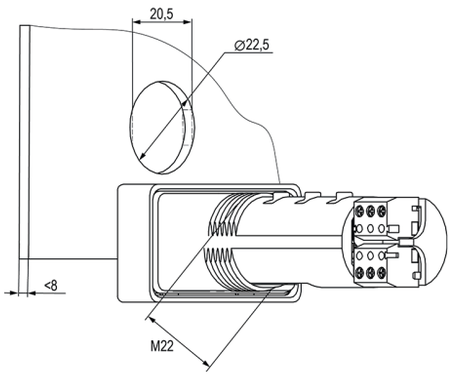
Areas of application:

The universal three-color display ITP17 is particularly suitable for the fast and easy installation of visual display systems for various processes, such as water supply, thermal processing, and many other. The ITP17's compact size ensures that it can be used on-site as an additional display unit for measurement values or as part of a complex visual display system.

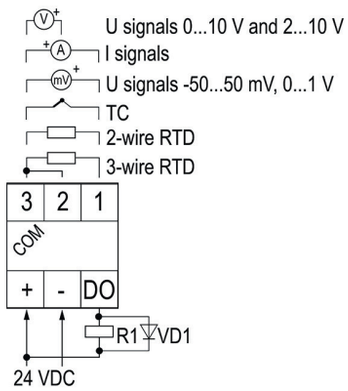
Technical data:

Power supply	24 (10..30) VDC
Power consumption, max.	1 W
Inputs	1
Input signal	0-5 mA, 0(4)-20 mA, 0(2)-10 V), RTDs and thermocouples signals
Sampling time	1 s
Accuracy **RTD, U / I signals** **TC, pyrometers**	 ± 0,25 % ± 0,5 %
Outputs	NPN transistor, loading capacity 200 mA, 42 VDC
Display color	Red & Green & Yellow
IP Code (front / rear)	IP65 / IP20
Dimensions	48 × 26 × 72 mm
Weight approx	approx. 150 g
Protection class	III
Ambient temperature	-40…+60 °C
Humidity	30…80 % (non-condensing)

Mounting cutout:



Mounting cutout:



SMI2-M

The SMI2-M is a universal display unit for monitoring industrial processes. It has an RS485 interface and the measured values can be displayed up to four digits. Imagine streamlining multiple devices without the usual technical problems.

Functions and features:

- Configurable byte/register order for all operating modes.
- Displaying values like INT, DINT, WORD, DWORD, REAL, STRING, Portrait (bit mask of indicator segments), Time (value in the "xx:yy" format).
- Customizable number of leading zeros and decimal places.
- Supports blinking and creeping modes.
- Possibility of linear scaling of the obtained value.
- Control of color, blinking and other parameters via Modbus registers.
- The presence of a built-in logic mode for changing the color and blinking mode in case of values outside the specified range.
- LED brightness control.
- Supports Modbus RTU/ASCII protocols in Master/Slave/Spy modes.

Modes:

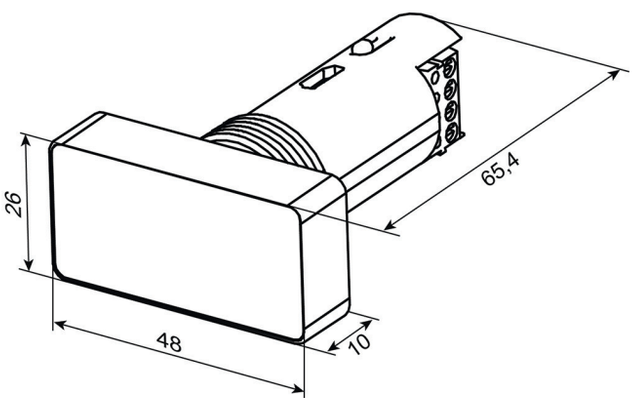
Master – acts as a master, polling another device (e.g. TCR) and showing one parameter. The indicator's color and blinking follow user-defined built-in logic.
Slave – shows a value from a master (PLC or PR). Color/blinking come either from the master's program or from SMI2-M logic. Several indicators can share one RS-485 bus.
Spy – listens on a bus with an existing master, capturing requests/responses with chosen address, function, and register. Useful when equipment cannot be reconfigured. Also enables synchronous updates: a master broadcast to address 0 lets each indicator extract its own register value for parallel display.

Three LED colors	RED YELLOW GREEN
Protocol Modbus RTU/ASCII; RS485 interface	Modbus RS485
Save time for installation	
Master / Slave / Spy in the Modbus network	MASTER SLAVE SPY
Power supply	24 V DC
Easy mounting in ø 22.5 mm borehole	∅ 22.5 MM
High IP Code	IP65
Compact size	
Push-button box installation option	
Wide range of ambient temperatures	+70°C -40°C

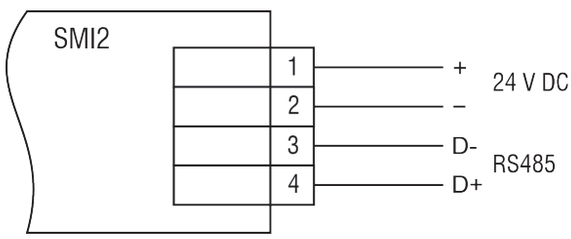
Technical data:

Power supply	12 / 24 (10.5...30) V DC
Power consumption, max.	1.5 W
Protocols	Modbus RTU / ASCII (Master / Slave / Spy)
Interface	RS485 (2-wire bus)
Baud rate	2.4...115.2 kbit/s
Display	4-digit, 7-segment LED display
Character height	14 mm
Display colour	red, green, yellow
Dimensions	48 x 26 x 65 mm
Weight	approx. 30 g
Protection class	III
Ambient temperature	-40...+70 °C
Storage temperature	-25...+70 °C
Humidity	up to 80% (non-condensing)
Galvanic isolation	yes

Dimensions:



Electrical connection:



SPC210

The SPC210 combines the advanced process control capabilities of a PLC (Programmable Logic Controller) with the intuitive interface of an HMI (Human-Machine Interface) in a single compact unit, programmable in the CODESYS environment. This integration simplifies system architecture, reduces the number of separate devices, lowers costs, and saves valuable space in control cabinets.

Functions and features:

- Touchscreen sizes: 7″ (800×480) or 10.2″ (1024×600), resistive.
- Interfaces: Ethernet, 3×RS-485, 1×RS-232, USB Host, USB Device, SD slot; galvanic isolation on one RS-485 port.
- Protocols: Modbus (RTU, ASCII, TCP), OPC UA (Server), MQTT (Client), SNMP (Manager/Agent).
- Web visualization: Real-time monitoring via browser.
- OS: Embedded Linux.
- Application protocols: NTP, FTP/FTPS, HTTP/HTTPS, SSH, SMTP/IMAP/POP3, OpenVPN, WireGuard.
- Database connectivity: MySQL, MsSQL, PostgreSQL.
- Development of control and visualization algorithms in the same software.
- Programming: CODESYS V3.5 (IEC 61131-3),
- 5 programming languages, integrated visualization editor, advanced debugging tools, extensive libraries.
- Expandable I/O: Any built-in interface can connect additional modules.
- Other: IP65 protection, USB-A for peripherals (mouse, keyboard), firmware updates via USB/SD, DB9-to-terminal adapter included.

Display operation:

Building automation

HVAC applications

Public utilities

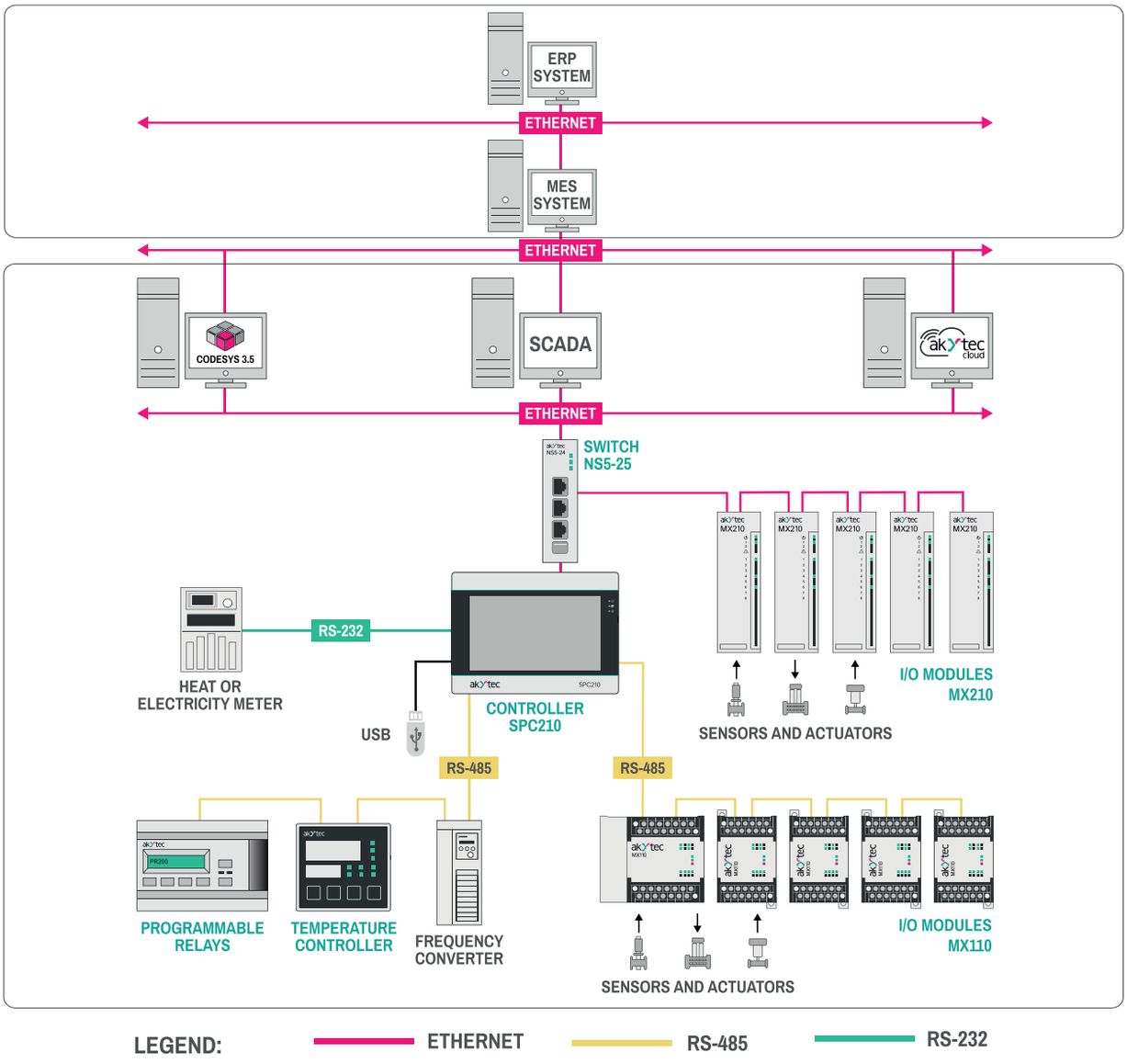
Technical equipment such as pumps, fans, compressors, presses

CODESYS based	CODE SYS
Modbus TCP/ RTU/ ASCII	Modbus
1x Ethernet	
3x RS-485	RS485
1x RS-232	RS232
Powered by 24 V DC	24 V ⚡DC
7″ or 10.2″ resistive touchscreen	
High IP code	IP65
Wide range of ambient temperatures	+55°C -10°C

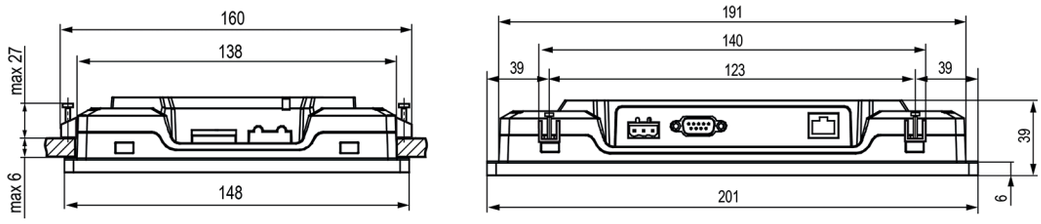
Technical data:

	SPC210-07	SPC210-10
General characteristics		
Processor	4xCortex-A35	
Frequency	1200 MHz	
ROM	4 GB (eMMC)	
RAM	512 MB (DDR3)	
Retain variable memory	64 KB (MRAM)	
Minimum cycle time	10 ms	
Real-time clock (RTC)	Yes	
Sound	Piezo Buzzer, controllable via program	
Display		
Display type	TFT LCD, resistive	
Backlight type	LED (LED backlight)	
Number of colors	16 million	
Diagonal	7.0 inches	10.2 inches
Resolution	800×480 pixels	1024×600 pixels
Brightness	300 cd/m²	350 cd/m²
Interfaces		
COM ports	3 × RS-485, 1 × RS-232.	
Ethernet	1 × Ethernet 10/100 Mbps (RJ45) for device connection, project upload, and web visualization; supported protocols: Modbus TCP (Master/Slave), OPC UA (Server), MQTT (Client/Broker), SNMP (Manager/Agent).	
USB device	1 × USB 2.0 B (for project upload and Mass Storage Device connection)	
USB host	1 × USB 2.0 A (for archives, recipe file import, project upload; max current 500 mA)	
SD card	For archives, recipe file import, project upload	
Power		
Power supply voltage range	24 (15–28) V DC	
Max power consumption	15 W	20 W
Insulation resistance	10 MΩ at 500 V DC	
Insulation voltage	500 V AC (max 1 minute)	
Programming		
OS Version	Linux 4.19.232-rt104	
Programming environment	CODESYS V3.5 SP17 Patch 3	
Enclosure		
Design	Panel mounting	
Dimensions (W×H×D)	(201.2×147.2×39) ± 1 mm	(272×191×41.5) ± 1 mm
Mounting dimensions	192×138 mm	260×179 mm
Protection class (front panel)	IP65	
Protection class (rear panel)	IP20	
Other characteristics		
Gross weight	≤ 1 kg	≤ 1.6 kg
Average service life	≥ 10 years	
Mean time between failures	≤ 60,000 hours	

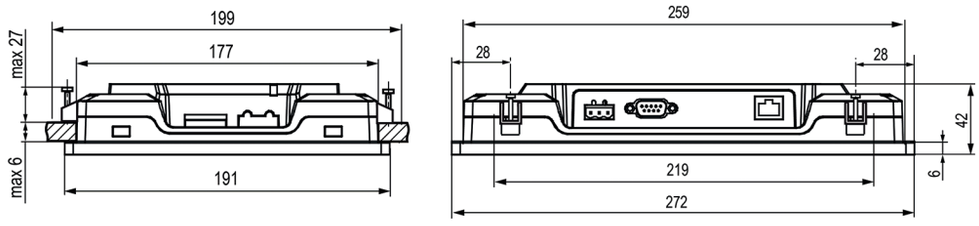
System architecture:



SPC210-07 dimensions:

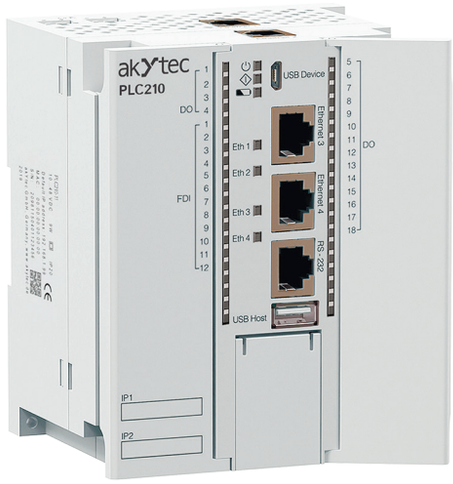


SPC210-10 dimensions:



PLC210

The PLC210 is a new line of CODESYS-based controllers with advanced communication capabilities and enhanced reliability features. Within a single software environment, users can develop control logic, create an HMI, and configure communication with other devices. For I/O expansion, the Mx210 Ethernet module series is recommended. The main communication interface is Ethernet, with four ports, three of which form a managed switch.



Functions and features:

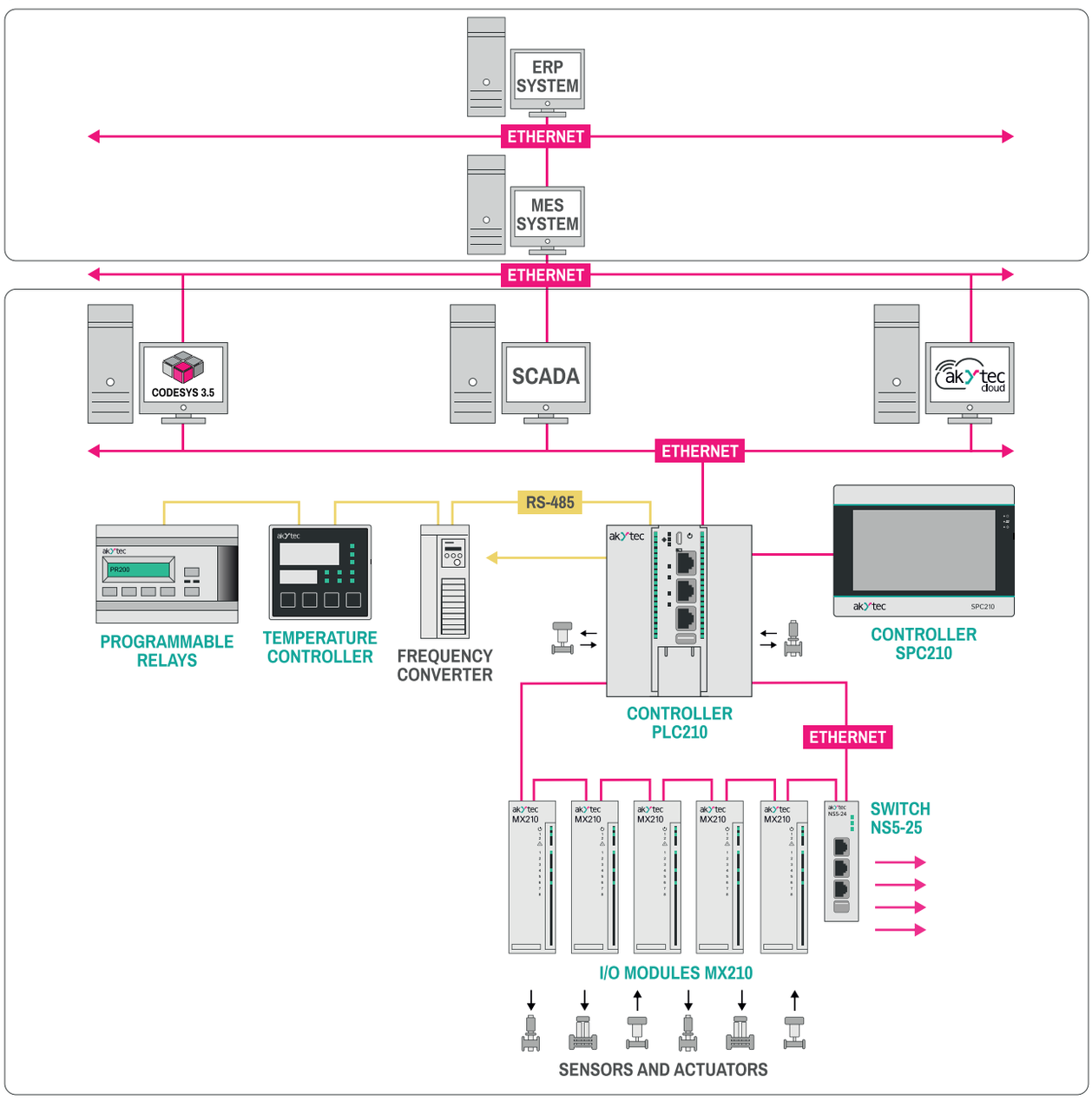
- High-performance CPU up to 1.8 GHz
- Memory: up to 8 GB ROM, 2 GB RAM, 64 KB MRAM RETAIN
- Linux OS with real-time patch
- Four Ethernet ports (three in a managed switch)
- Supported protocols: Modbus RTU/ASCII/TCP, OPC UA (Server), MQTT (client/broker), SNMP (Manager/Agent), utility meter protocols, custom protocol support
- GSM/GPRS modem compatibility
- Application protocols: NTP, FTP/FTPS, HTTP/HTTPS, SSH, SMTP/IMAP/POP3
- MySQL and MS SQL database connection
- CODESYS web visualization support
- Built-in web interface for configuration and diagnostics
- Easy connection to akYtec Cloud
- Dual power inputs for redundancy
- Ethernet ring topology support with Mx210 modules (STP/RSTP)
- Built-in firewall
- DIN rail or wall mounting
- Removable terminal blocks with captive screws
- Cable management system
- Replaceable CR2032 battery, Start/Stop switch, MicroSD slot under cover
- Wide power supply range: 10…36 VDC
- Extended operating temperature: -40…+55 °C (-20…+55 °C for PLC210-1x)

CODESYS based	CODESYS
Modbus TCP/ RTU/ ASCII	Modbus
4x Ethernet	
2x RS-485	RS485
1x RS-232	RS232
Up to 24DI and up to 18DO on board	24 DI 18 DO
Up to 4AI on board	4 AI
Powered by 24 V DC	24 V DC
Wide range of ambient temperatures	+55°C -10°C

Technical data:

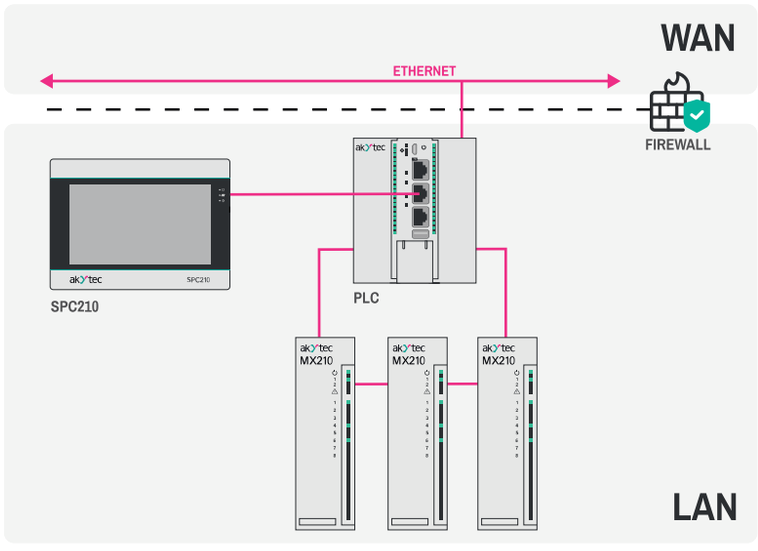
	DI	DO	AI	AO
PLC210-11	12 DI 8 - fast up to 100 kHz 4 - up to 300 Hz	18 DO 18 -relay	-	-
PLC210-12	24 DI 8 - fast up to 100 kHz 16 - up to 300 Hz	12 DO 12 -relay	-	-
PLC210-13	24 DI 8 - fast up to 100 kHz 16 - keys up to 20 Hz	16 DO 8 - up to 100 kHz 8 - up to 300 Hz	-	-
PLC210-14	12 DI 8 - fast up to 100 kHz 4 - up to 300 Hz	12 DO 12 -relay	4 AI 4 – universal input	-

System architecture:



LEGEND: ETHERNET RS-485

Scheme 1

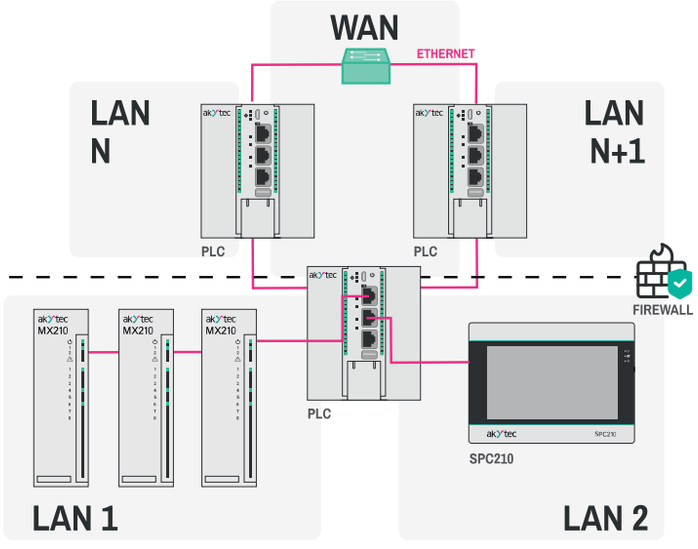


Ethernet 1, Ethernet 2, and Ethernet 3 ports are bridged to the local area network (LAN).

Ethernet port 4 is used as a separate isolated network interface for WAN connection, protected by a firewall.

This scheme allows the network to be divided into two zones, providing a single IP address space for Ethernet ports 1-3.

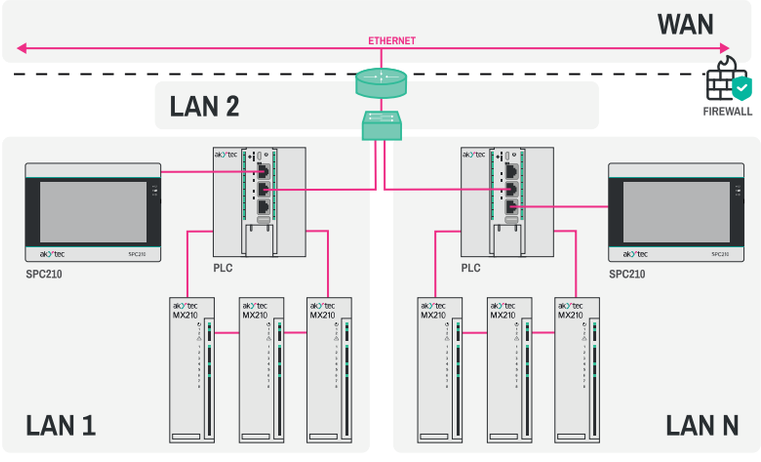
Scheme 2



Ethernet 1 and Ethernet 2 ports are bridged to a firewall-protected Wide Area Network (WAN) connection.

Ethernet 3 and Ethernet 4 ports are separate isolated network interfaces for local area network (LAN) connections.

Scheme 3



Ethernet 1, Ethernet 2, and Ethernet 3 ports are bridged to a local area network (LAN).

Ethernet port 4 is a separate isolated network interface for connection to a separate local area network (LAN).

Technical data:

Power supply	
Number of power ports	2 (main and backup)
Power supply	10…36 V (nominal 24 V)
Power consumption, max.: – model 11 – model 12 – model 13 – model 14	 16 W 14 W 10 W 12 W
Inverse-polarity protection	Yes
Appliance class	II
Computing resources	
CPU	4x Cortex-A55 1.8 GHz
ROM	8 GB (eMMC)
RAM	2 GB (DDR4)
Retain-memory	64 KB (MRAM)
Communication interfaces	
Ethernet	
Number of ports	Number of ports 4 (RJ-45) Ports 1-3 – Ethernet switch, 10/100 Mbps Port 4 – a separate Ethernet network adapter 10/100/1000 Mbps
Industrial protocols*	Modbus TCP (Master / Slave), OPC UA (Server), MQTT (Client/Broker), SNMP (Manager/Agent)
Application protocols*	NTP, FTP, FTPS, HTTP, HTTPS, SSH, SMTP/IMAP/POP3, OpenVPN, WireGuard
Maximum cable length	100 m
RS485	
Number of ports	2
Industrial protocols*	Modbus RTU (Master / Slave), Modbus ASCII (Master / Slave), akYtec (Master)
Baud rate	1200, 2400, 4800, 9600,19200, 38400, 57600, 115200 bps
Galvanic isolation against other circuits, min.	1500 V
Pull-up resistors	Yes
Terminating resistors	No
RS232	
Number of ports	1 (Tx, Rx, GND)
Maximum number of devices in the network	1
Industrial protocols*	Modbus RTU (Master / Slave), Modbus ASCII (Master / Slave), akYtec (Master)
Baud rate	1200, 2400, 4800, 9600,19200, 38400, 57600, 115200 bps
USB Device	
Number of ports	1 × micro USB (RNDIS)
Supported services	CODESYS Gateway, FTP, HTTP, HTTPS, SSH

Connected drives	
USB Host	
Number of connectors	1 × USB type A
Supported devices	MSD / FTDI, USB 2.0
SD card	
Number of connectors	1
Type	microSD
Real-time clock	
Accuracy, max.:	
– at +25 °C	5 s/day
– at –20 °C and +55 °C	20 s/day
Backup battery	CR2032
General information	
Dimensions	(105 × 125 × 84) ± 2 mm
Weight	max. 1.2 kg
IP code	IP20
Average lifetime, min.	8 years

MINI-PLCs OVERVIEW

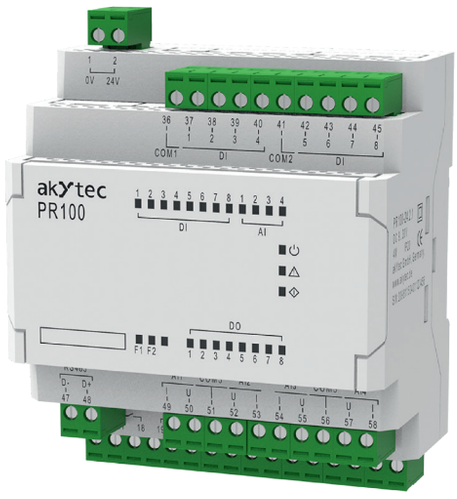
Programmable relays of akYtec are small PLCs. Devices of this type can also be called intelligent relays, small logic controllers, compact PLCs, mini-PLCs, etc. The control algorithms of these devices are created directly by the user, and can't be read from the internal memory after the upload, making these simple PLCs versatile in the residential and municipal sectors, in agriculture, as well as in various industrial sectors. Future adaptations of the system can be updated by the user using the freely available and easy-to-use akYtec ALP software, without any need to modify the circuit.

Overview table:

						
Device	**PR100**	**PR102**	**PR103**	**PR200**	**PR205**	**PR225**
I/O points	20	40	26	24	23	22
Digital inputs	8	16	6	8	6	8
Fast digital inputs (100 kHz)	-	-	4	-	2	-
Digital outputs	8	14	8	8	8	8
Fast digital outputs	-	-	-	4	2	-
Analog inputs	4	8	6	4	4	4
Type	4-20 mA, 0-10 V	NTC, PTC, PT1000, 4-20 mA, 0-10V, 0-300 kOhm		4-20 mA, 0-10 V, 0-4 kOhm	PT1000, NTC/PTC, 4-20 mA, 0-10 V, 0-300 kOhm, digital mode	
Analog outputs	-	2	2	2	3	2
Type	-	4-20 mA, 0-10 V (on device variant)				
Ethernet	-	-	1	-	1	1
RS485	1	2	-	up to 2	2	2
Extension (PRM)	-	up to 2	up to 2	up to 2	up to 2	-

PR100

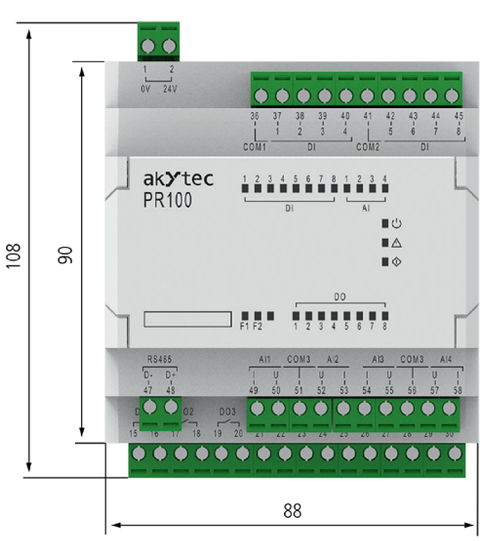
The PR100 is a compact Mini-PLC designed to solve basic automation tasks in, for example, lighting control, pumping control, ventilation and heating control, and other simple control systems.
With its minimum width, which measures as narrow as five standard MCBs placed inline, and dedicated enclosure form, the PR100 Mini-PLC allows for space-saving installation even in smaller consumer units , not to mention control cabinets. This device can operate in non-heated environments down to -40°C as well as in heated ones in temperatures up to +55°C.
An application program is written in function block format in the akYtec ALP programming software available free of charge. The control algorithm is uploaded to the device memory through a micro USB cable.



Functions and features:

- Built-in 8DI + 8DO + 4AI + 1xRS485 in one device
- A total of 20 I/Os
- Configurable inputs for 4-20mA, 0-10V
- RS485 interface with Modbus RTU / ASCII | Master/Slave
- USB-powered in the programming mode
- Real-time clock
- Software-based features include: retain variables, day timer, week timer, PID control, etc.

Dimensions:



8 digital inputs	8 DI
8 digital outputs	8 DO
4 analog inputs	4 AI
Protocol Modbus RTU/ASCII	Modbus
RS485 interface	RS485
USB interface	
Built-in real-time clock	
DIN rail mounting	DIN
Free programming software	FREE SOFT
Wide range of ambient temperatures	+55°C -40°C

Technical Data:

	PR100.24.2.1
General	
Power supply	24 (9...30) V DC
Power consumption, max.	4 W
Real Time Clock	Backup 5 years (CR2032)
Real Time Clock accuracy	± 3 s/day
Extension modules	none
Programming	
Programming environment	akYtec ALP
Programming language	FBD + support of function blocks on ST
Programming interface	Mini-USB
Memory	
ROM	128 kB
RAM	16 kB
Retain memory	1 kB
Network variables	128 bytes
Communication	
Interface	RS485
Protocols	Modbus RTU / ASCII (Master / Slave)
Baud rate	9.6...115.2 kBit/s
Digital inputs	
Quantity	8
Type	Switch contact
Logical states	
1	8.5...30 V DC (2...5 mA)
0	-3...+5 V DC (0...15 mA)
Galvanic isolation	in groups of 4
Universal inputs	
Quantity	4
Mode	Analog / Digital
Galvanic isolation	none
Analog input	4-20 mA, 0-10 V
ADC resolution	12 bit
Digital outputs	
Quantity	8
Type	relay, NO
Galvanic isolation	individual
Switching capacity	
AC	5 A, 250 V (resistive load)
DC	3 A, 30 V
Minimum load current	10 mA (at 5 V DC)
Environment	
Ambient temperature	-40...+55 °C
Storage temperature	-25...+55 °C
Humidity	up to 80 % (at +25 °C, non-condencing)
IP Code	IP20
Enclosure	
Dimensions	88 × 108 × 58 mm
Weight	approx. 250 g
Material	plastic

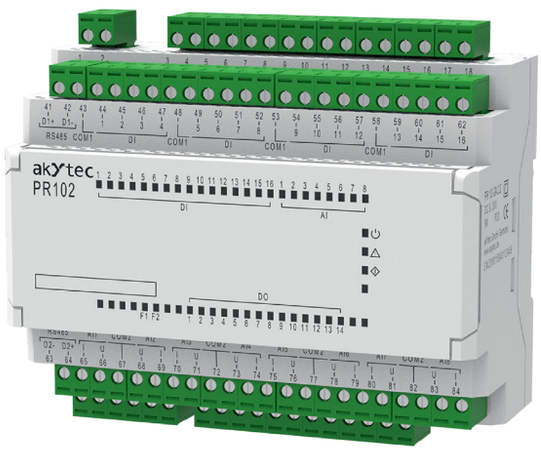
The Mini-PLC PR100 cannot be expanded with PRM extension modules.

PR102

The PR102 is a Mini-PLC designed to implement basic control systems for various applications such as lighting control, pumping control, ventilation and heating control, and others.

The key advantages of PR102 are its extensive functionality and high density of I/O points. Occupying only 123 mm of a DIN-rail length in a control cabinet, this Mini-PLC offers a total of 40 built-in digital and analog inputs and outputs, and two RS485 ports for communication with Modbus-RTU/ASCII-enabled devices. Furthermore, the built-in I/Os may be directly expanded with up to two extension modules of the PRM series.

An application program is written in function block format in the akYtec ALP programming software available free of charge. The control algorithm is uploaded to the device memory via a micro-USB-cable connection.



Functions and features:

- Built-in 16DI + 14DO + 8AI + 2AO + 2xRS485 in one device
- A total of 40 I/Os
- 8 analog inputs, each capable of connecting:
  - RTD sensors (Pt500/1000, Ni500/1000, etc.)
  - NTC/PTC sensors
  - 4-20 mA / 0-10 V signals
  - Digital signals
- 2 analog outputs configurable for 4-20 mA or 0-10 V
- 2xRS485 interfaces with Modbus RTU / ASCII | Master/Slave
- PRM-expandable: up to 32 additional I/O points over an internal bus with no loss in performance
- Real-time clock
- USB-powered in the programming mode
- Overall dimensions: 123x108x58 (with terminal blocks)

16 digital inputs	16DI
14 digital outputs	14DO
8 analog inputs	8AI
2 analog outputs	2AO
Modbus RTU/ASCII | RS485	Modbus RS485
USB interface	
Built-in real-time clock	
DIN rail mounting	DIN
Free programming software	FREE SOFT
Wide range of ambient temperatures	+55°C -40°C

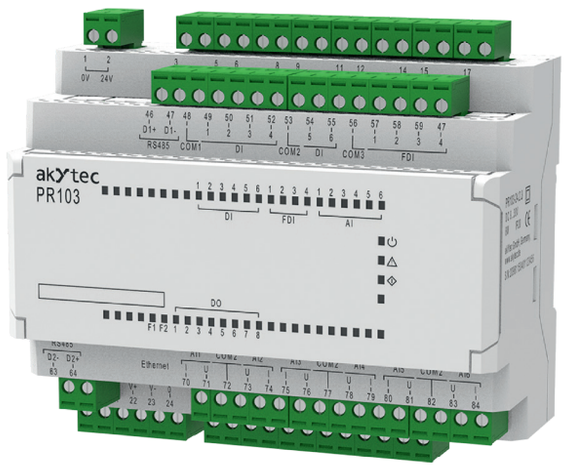
Technical Data:

	PR102.24.2.2
General	
Power supply	24 (9...30) V DC
Power consumption, max.	8 W
Real Time Clock	Backup 5 years (CR2032)
Real Time Clock accuracy	± 3 s/day
Extension modules	up to 2 PRMs
Programming	
Programming environment	akYtec ALP
Programming language	FBD + support of function blocks on ST
Programming interface	Mini-USB
Memory	
ROM	128 kB
RAM	32 kB
Retain memory	1016 bytes
Communication	
Interface	2x RS485
Protocols	Modbus RTU / ASCII (Master / Slave)
Baud rate	9.6...115.2 kBit/s
Digital inputs	
Quantity	16
Type	Switch contact
Logical states	
1	8.5...30 V DC (2...5 mA)
0	-3...+5 V DC (0...15 mA)
Galvanic isolation	none
Universal inputs	
Quantity	8
Mode	Analog / Digital
Galvanic isolation	none
Analog input	4-20 mA, 0-10 V, 0-300 kOhm Pt1000, PTC, NTC...
ADC resolution	12 bit
Digital outputs	
Quantity	14
Type	relay, NO
Galvanic isolation	individual
Switching capacity	
AC	5 A, 250 V (resistive load)
DC	3 A, 30 V
Minimum load current	10 mA (at 5 V DC)
Analog outputs	
Quantity	2
Analog outputs	4-20 mA, 0-10 V
Permissible load	12...30 V
DAC resolution	12 bit
Galvanic isolation	individual
Environment	
Ambient temperature	-40...+55 °C
Storage temperature	-25...+55 °C
Humidity	up to 80 % (at +25 °C, non-condencing)
IP Code	IP20
Enclosure	
Dimensions	123 × 108 × 58 mm
Weight	approx. 250 g
Material	plastic

PR103

The PR103 is the first akYtec programmable relay with Ethernet on board. It is designed to control ventilation, heating, pump groups and other equipment. Ethernet interface allows to integrate the device into distributed systems, to realize remote control and management of equipment using akYtec Cloud service. PR103 has 2 RS-485 interfaces on board for data transmission to the upper level.

To expand its own inputs/outputs, the PRM expansion modules can be connected via the internal bus. Algorithm writing is performed by the user in FBD language with support of function blocks on ST in free programming environment ALP. Algorithm loading and configuration is performed via microUSB, Ethernet or RS-485.



Functions and features:

- Built-in 6DI + 8DO + 4Fast DI + 6AI + 2AO + 1xEthernet + 2xRS485 in one device
- 6 analog inputs, each capable of connecting:
  - RTD sensors (Pt500/1000, Ni500/1000, etc.)
  - NTC/PTC sensors
  - 4-20 mA / 0-10 V signals
  - Digital signals
- 10 digital inputs, 4 of which support pulse counting (up to 100 kHz)
- 2 analog outputs configurable for 4-20 mA or 0-10 V
- Ethernet interface with support for Modbus TCP client (master) / server (slave)
- 2xRS485 interfaces with support for Modbus RTU / ASCII | Master/Slave
- PRM-expandable: up to 32 additional I/O points over an internal bus with no loss in performance
- Real-time clock
- USB-powered in the programming mode

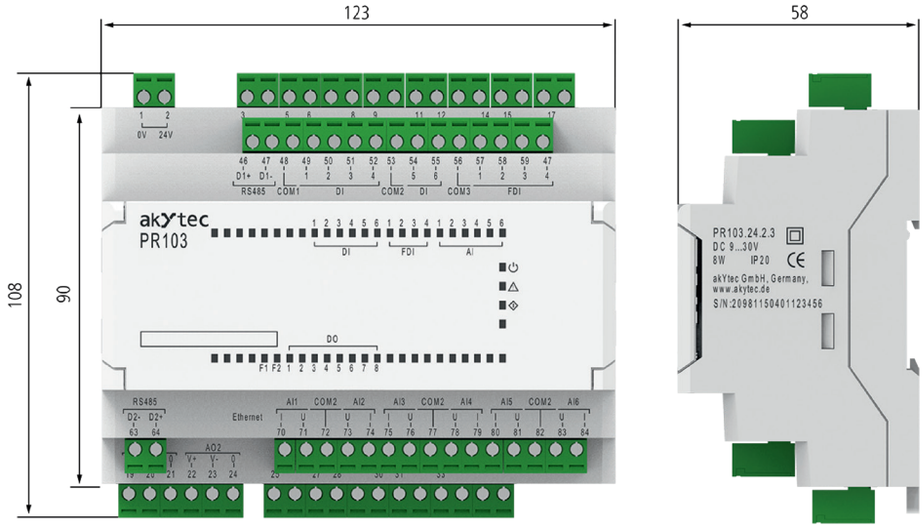
6 digital inputs, 8 digital outputs	6 DI AND 8 DO
6 analog inputs, 2 analog outputs	6 AI AND 2 AO
4 fast digital inputs	4 DI FAST
Modbus TCP | Ethernet	
USB interface	
Modbus RTU / ASCII | RS485	Modbus RS485
Built-in real-time clock	
DIN rail mounting	DIN
Free programming software	FREE SOFT
Wide range of ambient temperatures	+55°C -40°C

Technical data:

Programming	
Programming environment	ALP
Programming language	FBD + support of function blocks on ST
Non-volatile memory capacity	2040 bytes
Network variable memory capacity (Slave mode)	2040 bytes
Number of network requests in Master mode	192
Stack	Dynamic
ROM memory	224 KB
RAM memory	60 KB
Programming and configuration interfaces	microUSB, Ethernet, RS-485
General information	
Supply voltage range	9...30 V (nominal = 24 V)
Minimum program execution cycle time	1 ms (depending on the program's complexity)
Real-time clock	yes
Expansion modules PRM	Yes, up to 2
Discrete inputs	
Quantity	6 pcs
Connected sensors	Switching devices (button contacts, switches, relays, etc.), dry contact sensors Push-pull output sensors NPN output sensors PNP output sensors
Nominal supply voltage	24 V
Galvanic isolation	In groups of 4 and 2 inputs
Isolation voltage rating	510 V
Fast discrete inputs	
Number of inputs	4
Supported input types	Push-pull output sensors/Sensors with a push-pull output, NPN output sensors/Sensors with a NPN output, PNP output sensors/Sensors with a PNP output
Minimum pulse duration	5 µs
Maximum pulse frequency	100 kHz
Nominal supply voltage	24 V
Galvanic isolation	In groups of 4 inputs
Isolation voltage rating	510 V
Analog inputs	
Number of inputs	6
Measured signal types	4...20 mA, 0...10 V, Pt1000, NTC, PTC, 0...300 kOhm, etc.
Maximum refresh rate of input values	1 ms
Discrete mode operation	Yes
Galvanic isolation	none
Discrete outputs	
Number of outputs	Up to 10
Types of outputs	Relay (normally open) or transistor switch (NPN)

Maximum permissible load	
Relay output	5 A at a maximum voltage of 250 V AC cos(φ) > 0,95; 3 A at a maximum voltage of 30 V DC
Transistor [switch] output	0,5 A at a maximum voltage of 40 V DC
Galvanic isolation	
Relay output	Individual
Transistor [switch] output	None
Isolation voltage rating	
Relay output	2300V
Transistor [switch] output	None
Analog outputs	
Number of outputs	Up to 2
Types of output signals	Universal: 4...20 mA/0...10 V
DAC resolution	12 bits
Galvanic isolation	Individual
Isolation voltage rating	510 V
Communication features	
Ethernet interface (1 pc)	
Communication protocol	Modbus TCP
Operation mode	Master/Slave
RS-485 interface (2 pcs)	
Communication protocol	Modbus RTU/ASCII
Operation mode	Master/Slave
Environment	
Ambient temperature	-40...+55 °C
Storage temperature	-25...+55 °C
Humidity	up to 80% (at +25 °C, non-condensing)
IP Code	IP20
Enclosure	
Dimensions	123 x 108 x 58 mm

Dimensions:



Supported sensors:

Sensor	Measuring range
RTD according to IEC 60751:2008	
Pt500, Pt1000	-200…+850°C
Cu500, Cu1000	-50…+200°C
Ni500, Ni1000	-60…+180°C
RTD according to GOST 6651	
500P, 1000P	-200…+850°C
500M, 1000M	-50…+200°C
Standart signals	
0-10 V 4-20 mA	0...100%
Resistive signal	
0-300 kOhm	0...100%
Thermistors / NTC	
B57861S series, 2 kOhm, B25/100 = 3560	-55…+100°C
B57861S series, 3 kOhm, B25/100 = 3988	-55…+145°C
B57861S series, 5 kOhm, B25/100 = 3988	-35…+145°C
B57861S series, 10 kOhm, B25/100 = 3988	-35…+155°C
B57861S series, 30 kOhm, B25/100 = 3964	-20…+155°C
B57861S series, 50 kOhm, B25/100 = 3760	-10…+155°C
NTC 3435, 10 kOhm	-40…+105°C
NTC 3977, 10 kOhm	-40…+125°C
Thermistors / PTC	
KTY82-110	-55…+150°C
KTY82-120	
KTY82-121	
KTY82-122	
KTY82-150	
KTY82-151	

PR200

The PR200 Programmable Relay is a multifunctional and easy-to-use device designed in a plastic enclosure for DIN rail mounting as an alternative to the PLC. This mini PLC is available in several versions depending on the supply voltage (24 V DC or 230 V AC) and the set of built-in inputs and outputs (digital, analog, or their combination). This device features a programmable 2-line 32-character LCD display. On option, one or two RS485 interfaces are available for implementing a Modbus communication either in Master or in Slave mode. A user-friendly programming software, akYtec ALP, is included free of charge.

Functions and features:

- Up to built-in 8DI + 8DO + 4AI + 2AO/4FDO + LCD +2xRS485 in one device
- Configurable inputs for 4-20mA, 0-10V, 0-4000Ohm (PTC, KTY thermistors, Pt1000)
- Up to 2xRS485 interfaces with Modbus RTU / ASCII | Master/Slave
- Versatile programming of LCD display
- Configuration with the function buttons or using ALP software
- 2 programmable LEDs
- PRM-expandable: up to 32 additional I/O points over an internal bus with no loss in performance
- Real-time clock

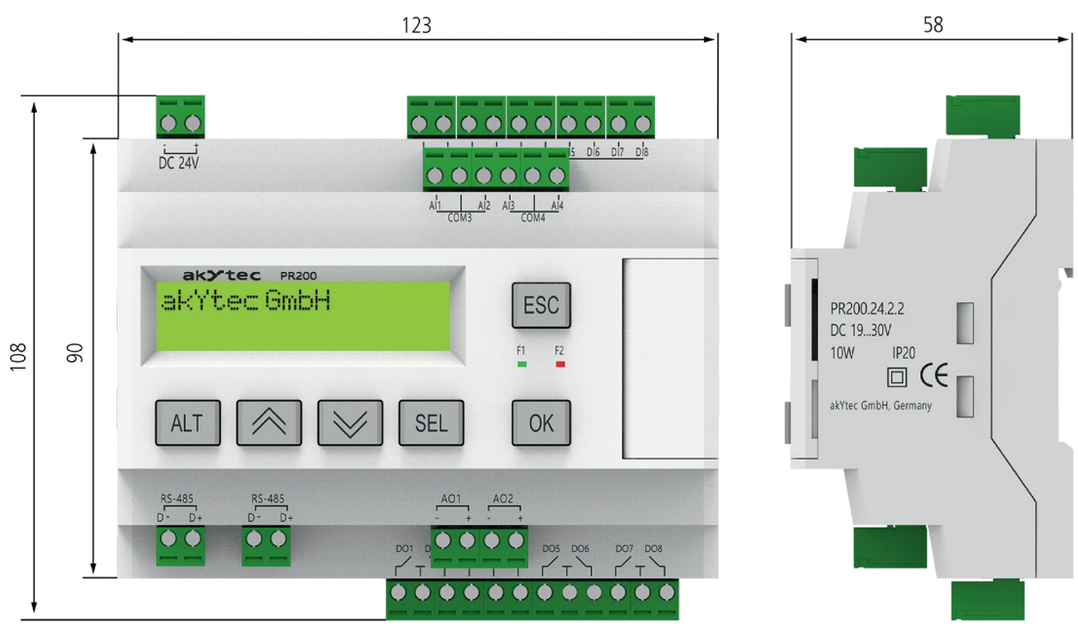
Possible areas of application:

- Building automation
- Indoor and outdoor lighting, shop window lighting, access systems
- Technical equipment such as pumps, fans, compressors, presses
- Conveyor and filling systems

8 digital inputs	8 DI
Up to 8 digital outputs	8 DO
Up to 4 analog inputs	4 AI
Up to 2 analog outputs	2 AO
Up to 4 fast digital outputs	4 FDO
LCD display	LCD
Protocol Modbus RTU/ASCII	Modbus RTU
Up to 2 RS485 interfaces	RS485
DIN rail mounting	DIN
Wide range of ambient temperatures	+50°C -20°C

Standard variant	Description	Enclosure
PR200.24.1.1	24 V DC, 8DI+6DO, LCD, 1xRS485	123 x 108 x 58 mm, DIN rail
PR200.24.2.0	24 V DC, 8DI+8DO+4AI+2AO, LCD	
PR200.24.2.2	24 V DC, 8DI+8DO+4AI+2AO, LCD, 2xRS485	
PR200.24.3.2	24 V DC, 8DI+8DO+4AI, LCD, 2xRS485	
PR200.24.4.0	24 V DC, 8DI+8DO+4AI+2AO, LCD	
PR200.24.4.2	24 V DC, 8DI+8DO+4AI+2AO, LCD, 2xRS485	
PR200.24.5.2	24 V DC, 8DI+8DO +4FDO (Transistors) + 4AI, LCD, 2xRS485	
PR200.230.1.1	230 V AC, 8DI+6DO, LCD, 1xRS485	
PR200.230.2.0	230 V AC, 8DI+8DO+4AI+2AO, LCD	
PR200.230.2.2	230 V AC, 8DI+8DO+4AI+2AO, LCD, 2xRS485	
PR200.230.3.2	230 V AC, 8DI+8DO+4AI, LCD, 2xRS485	
PR200.230.4.0	230 V AC, 8DI+8DO+4AI+2AO, LCD	
PR200.230.4.2	230 V AC, 8DI+8DO+4AI+2AO, LCD, 2xRS485	
PR200.230.5.2	230 V AC, 8DI+8DO +4FDO (Transistors) + 4AI, LCD, 2xRS485	

Dimensions:



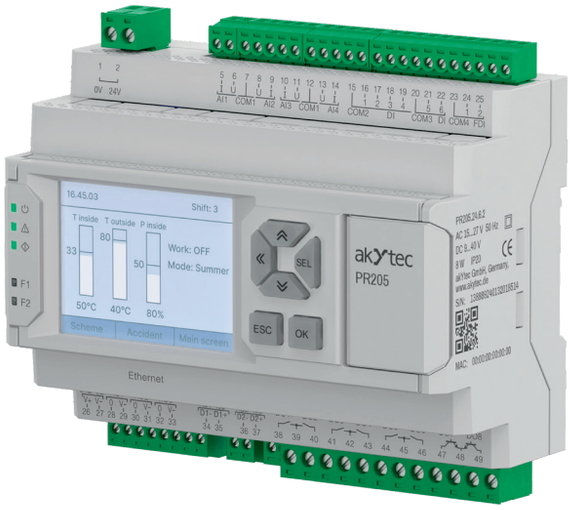
Technical data:

	PR200.230	PR200.24
Programming		
Programming software	akYtec ALP	
Retain memory	1016 bytes	
Stack	Dynamic	
Network variable memory size (slave mode)	128 bytes	
Network variable memory size (master mode)	128 bytes	
Memory ROM	128 kB	
Memory RAM	32 kB	
Programming interface	mini-USB	
Programming language	FBD + support of function blocks on ST	
Language support in the application	English, German	
General specifications		
Power supply	230 (90...264) V AC; 50 (47...63) Hz	24 (19...30) V DC
Power consumption, max.	Up to 17 VA	10 W
Minimum cycle time	1 ms (depends on program complexity)	
Real Time Clock	Backup 5 years (CR2032)	
Expansion modules PRM	Yes, up to 2 pcs.	
Built-in power supply	Yes, 24±3 V DC 100 mA	No
Digital inputs (DI)		
Quantity	8	
Type	Switch contact	Switch contact, PNP with open collector
Connectable sensors	Switching devices (buttons, switches, reed switches, relays, etc.)	Switching devices (buttons, switches, reed switches, relays), sensors having a PNP transistor with open collector output
Logical states		
1	159...264 V AC (0.75...1.5 mA)	15...30 V DC (5 mA)
0	0...40 V AC (0...0.5 mA)	-3...+5 V DC (0...1 mA)
Galvanic isolation	group of 4 inputs (1-4, 5-8)	
Electrical insulation strength	2830 V, between groups - 1780 V	
Analog inputs (AI)		
Quantity	Up to 4	
Analog input	4-20 mA, 0-10 V, 0-4 kOhm	
Resolution ADC	12 bit	
Period of updating values of all channels, not more than	10 ms	
Input signal	Analog / Digital	
Galvanic isolation	none	
Digital outputs (DO / FDO)		
Quantity	Up to 12	
Type	Relay (NO) and transistor keys (NPN type)	
Contact capacity		
Relay (DO)	5 A at ≤ 250 VAC, cos φ > 0.95 (resistive load) 3 A at ≤ 30 VDC Maximum frequency 50 Hz	
Transistor (FDO)	0.2 A at ≤ 60 V DC Maximum frequency 500 Hz	
Minimum load current - Relay (DO)	10 mA (at 5 V DC)	
Galvanic isolation	in groups of 2	
Electrical insulation strength	Relay: 2830 V, between groups - 1780 V Transistor: 2830 V	

Analog outputs (AO)	
Quantity	Up to 2
Analog output type	4...20 mA or 0...10 V (selectable when ordering) PR200.x.2.x – 4...20 mA PR200.x.4.x – 0...10 V
Resolution DAC	10 bit
Galvanic isolation	4...20 mA output: individual 2830 V 0...10 V output: group 2830 V
Permissible load	12...30 V, max. 1 kOhm
Communication	
RS-485 interface (up to 2 pcs. selectable)	
Interface	RS485
Protocols	Modbus RTU / ASCII (Master / Slave)
Baud rate	9.6...115.2 kBit/s
Display and control	
Display type	Backlit monochrome text LCD, 2 lines, 2×16 characters
Supported languages	English, German
Function keys	6
Environment	
Ambient temperature	-20...+55 °C
Storage temperature	-25...+55 °C
Humidity	up to 80% (non-condensing)
IP Code	IP20
Dimensions	123 x 108 x 58 mm
Weight	ca. 350 g
Material	plastic

PR205

The PR205 is a compact PLC with Ethernet and a graphic display that allows for user-friendly and clear user interfaces, which greatly simplifies setup and information comprehension. The device combines an optimal configuration of analog and discrete I/O for controlling ventilation, heating, air conditioning systems using the free ALP programming environment. Ethernet and RS-485 interfaces allow you to connect additional modules, output information to the upper level and control other elements of the system, as well as output information in akYtec Cloud.



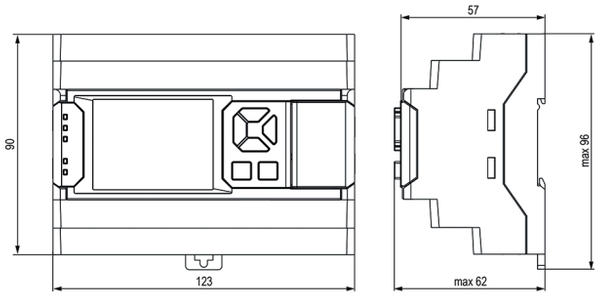
Functions and features:

- 2.4" color display (320×240), 6 customizable buttons, 5 LEDs (3 service, 2 user)
- 4 AI (PT1000, NTC/PTC, 4–20 mA/0–10 V, discrete), 3 AO (4–20 mA/0–10 V), 6 DI (24 V), 2 fast DI (100 kHz), 8 DO (relay/transistor)
- Ethernet & 2×RS-485 (Modbus TCP/RTU/ASCII), cloud/SCADA integration, PC configuration, I/O expansion via Mx210/Mx110/PRM
- Compact 7-module housing, removable terminals, quick battery change, 24 V DC, –20…+55 °C, USB/Ethernet setup

Possible areas of application:

- Building automation
- HVAC applications
- Engine controls
- Indoor and outdoor lighting, shop window lighting, access systems
- Technical equipment such as pumps, fans, compressors, presses
- Conveyor and filling system

Dimensions:



6 digital inputs, 2 fast digital inputs	6 DI 2 FDI
8 digital outputs	8 DO
4 analog inputs, 3 analog outputs	4 AI 3 AO
Modbus TCP/ RTU/ ASCII	Modbus
Free programming software	FREE SOFT
2.4" color display (320×240)	
DIN rail mounting	DIN
USB interface	
Wide range of ambient temperatures	+50°C -20°C

Technical data:

Programming	
Programming software	akYtec ALP
Retain memory	2040 bytes
Network variable memory size (Slave mode)	2040 bytes
Network variable memory size (Master mode)	192
Memory ROM	224 KB
Memory RAM	60 KB
Programming interface	microUSB, Ethernet
Programming language	FBD + support of function blocks on ST
Language support in the application	English, German
Flash memory (archive)	
Number of write and erase cycles	100 000
Maximum archive file size	2048 bytes
Maximum number of archive files	50 pcs.
Minimum archive recording period	30 sec.
General specifications	
Power supply	20...36 V (nominal = 24 V)
Power consumption, max.	8 W
Minimum cycle time	1 ms (depends on program complexity)
Real Time Clock	Backup 5 years (CR2032)
Expansion modules PRM	Yes, up to 2 pcs.
Digital inputs (DI)	
Quantity	6 pcs
Connectable sensors	Switching devices (buttons, switches, reed switches, relays), Sensors with push-pull output Sensors with NPN output Sensors with PNP output
Logical states	
1	8.5...40 V DC (5 mA)
0	-3...+5 V DC (0...1 mA)
Galvanic isolation	group of 4 inputs
Electrical insulation strength	510 V
Fast Digital inputs (FDI)	
Quantity	2 pcs
Supported input types	Push-pull output sensors/Sensors with a push-pull output, NPN output sensors/Sensors with a NPN output, PNP output sensors/Sensors with a PNP output
Minimum pulse duration	
Maximum pulse frequency	100 kHz
Nominal supply voltage	24 V
Galvanic isolation	group of 4 inputs
Isolation voltage rating	510 V
Analog inputs (AI)	
Quantity	4
Measured signal types	4...20 mA, 0...10 V, Pt1000, NTC, PTC, 0...300 kOhm, etc.
Maximum refresh rate of input values	1 ms
Discrete mode operation	Yes
Galvanic isolation	none

Technical data:

Digital outputs (DO)	
Number of outputs	Up to 8
Types of outputs	Relay (normally open)
Maximum permissible load	
Relay output	5 A at a maximum voltage of 250 V AC cos(φ) > 0,95; 3 A at a maximum voltage of 30 V DC
Transistor [switch] output	0,5 A at a maximum voltage of 40 V DC
Galvanic isolation	
Relay output	Individual
Transistor [switch] output	None
Isolation voltage rating	
Relay output	2300V
Transistor [switch] output	None
Fast Digital outputs (FDO)	
Quantity	Up to 2
Type	transistor keys (NPN type)
Contact capacity	0.5 A at ≤ 40 V DC Maximum frequency 500 Hz
Analog outputs (AO)	
Quantity	Up to 2
Analog output type	Universal: 4...20 mA/0...10 V
Resolution DAC	12 bits
Galvanic isolation	4...20 mA output: individual 2830 V 0...10 V output: group 2830 V
Permissible load	12...30 V, max. 1 kOhm
Communication	
RS-485 interface (up to 2 pcs. selectable)	
Protocols	Modbus RTU / ASCII (Master / Slave)
Ethernet interface (1pc)	
Protocols	Modbus TCP (Master / Slave)
Display and control	
Display type	Graphic (IPS LCD)
Number of colors displayed	65535
Diagonal	2,4“
Resolution	320 × 240 px
Supported languages	English, German
Function keys	6 mechanical buttons (with program user customization)
LEDs	3 service diodes, 2 with possibility of user customization
Environment	
Ambient temperature	-20...+55 °C
IP Code	IP20
Enclosure	
Dimensions	123 x 108 x 58 mm
Weight	ca. 350 g
Material	plastic

PR225

The PR225 is a new programmable relay in a panel case with 3.5" graphic display and Ethernet. Suitable for control in water supply, heating, ventilation, air conditioning, food industry and other industries. Color screen provides a user-friendly interface without the need for an operator panel. Ethernet allows integration into distributed systems, remote control via akYtec Cloud, and system expansion with Mx210 modules. Up to 2 RS-485 interfaces allow connection of Mx110 modules for control and data acquisition. Programming is performed in the free ALP environment, which provides flexibility in creating algorithms and taking into account the peculiarities of a particular system.

Functions and features:

- 3.5" color display (320×480), 7 customizable buttons, 5 LEDs (3 service, 2 user)
- 4 AI (PT1000, NTC/PTC, 4–20 mA/0–10 V, discrete), 2 AO (4–20 mA/0–10 V), 8 DI (24 V), 8 DO (relay/transistor)
- Ethernet & 2×RS-485 (Modbus TCP/RTU/ASCII), Cloud/SCADA integration, PC configuration, I/O expansion via Mx210/Mx110
- 100×100×72 mm panel, removable terminals, quick battery change, 24 V DC or 220 V AC, –20…+55 °C, USB/Ethernet setup

Areas of application:

- Automation of production lines
- Building automation and HVAC applications
- Engine controls
- Indoor and outdoor lighting, shop window lighting, access systems
- Technical equipment such as pumps, fans, compressors, presses
- Conveyor and filling systems

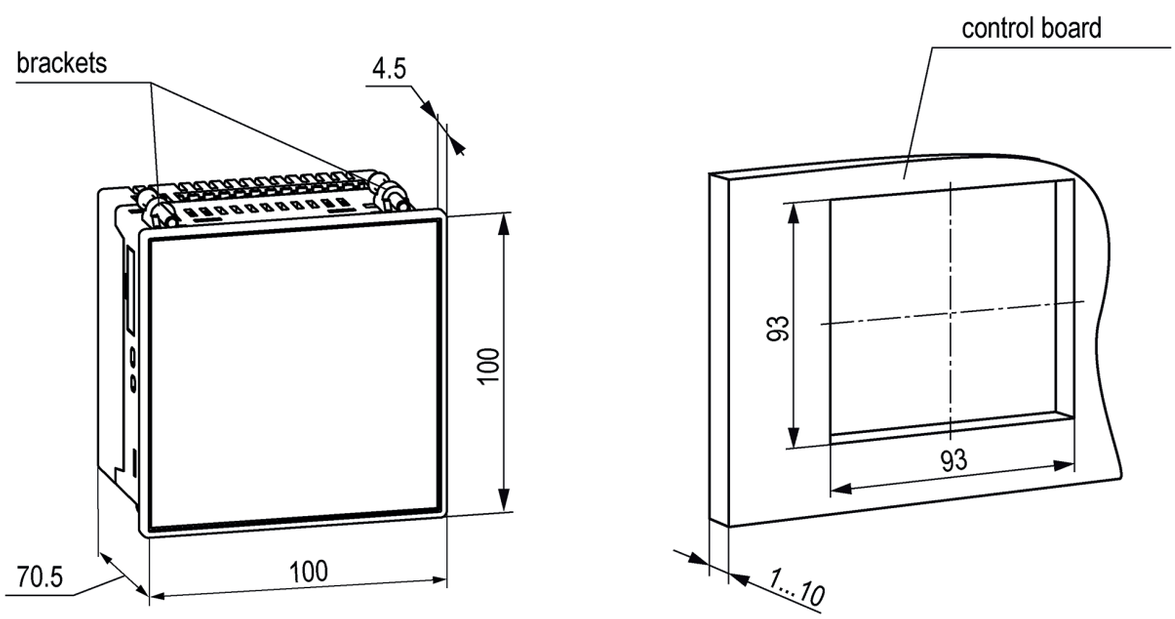
8 digital inputs, 8 digital outputs	8 DI 8 DO
4 analog inputs, 2 analog outputs	4 AI 2 AO
Modbus TCP/ RTU/ ASCII	Modbus
Free programming software	FREE SOFT
3.5" color display (320×240)	
USB interface	
Wide range of ambient temperatures	+50°C -20°C

Technical data:

Programming	
Programming software	akYtec ALP
Retain memory	2040 bytes
Network variable memory size (Slave mode)	2040 bytes
Network variable memory size (Master mode)	192
Memory ROM	224 KB
Memory RAM	60 KB
Programming interface	USB Type-C, Ethernet
Programming language	FBD + support of function blocks on ST
Language support in the application	English, German
Flash memory (archive)	
Number of write and erase cycles	100 000
Maximum archive file size	2048 bytes
Maximum number of archive files	50 pcs.
Minimum archive recording period	30 sec.
General specifications	
Power supply	20...36 V DC (nominal = 24 V) / 90 to 264 V AC (nominal 230 V, at 50 Hz)
Power consumption, max.	10 W / 15 VA
Minimum cycle time	1 ms (depends on program complexity)
Real Time Clock	Backup 5 years (CR2032)
Expansion modules PRM	No
Digital inputs (DI)	
Quantity	8 pcs
Connectable sensors	Switching devices (buttons, switches, reed switches, relays), Sensors with push-pull output Sensors with NPN output Sensors with PNP output
Logical states	
1	8.5...40 V DC (5 mA)
0	-3...+5 V DC (0...1 mA)
Galvanic isolation	group of 4 inputs
Electrical insulation strength	510 V
Analog inputs (AI)	
Quantity	4
Measured signal types	4...20 mA, 0...10 V, Pt1000, NTC, PTC, 0...300 kOhm, etc.
Maximum refresh rate of input values	1 ms
Discrete mode operation	Yes
Galvanic isolation	none
Digital outputs (DO)	
Number of outputs	8
Types of outputs	Relay (normally open)
Maximum permissible load	
Relay output	5 A at a maximum voltage of 250 V AC cos(φ) > 0,95; 3 A at a maximum voltage of 30 V DC
Transistor [switch] output	0,5 A at a maximum voltage of 40 V DC
Galvanic isolation	
Relay output	Individual
Transistor [switch] output	None

Isolation voltage rating	
Relay output	2300V
Transistor [switch] output	None
Analog outputs (AO)	
Quantity	2
Analog output type	Universal: 4...20 mA/0...10 V
Resolution DAC	12 bits
Galvanic isolation	4...20 mA output: individual 2830 V 0...10 V output: group 2830 V
Permissible load	12...30 V, max. 1 kOhm
Communication	
RS-485 interface (up to 2 pcs. selectable)	
Protocols	Modbus RTU / ASCII (Master / Slave)
Ethernet interface (1pc)	
Protocols	Modbus TCP (Master / Slave)
Display and control	
Display type	Graphic (IPS LCD)
Number of colors displayed	65535
Diagonal	3,5“
Resolution	320 × 480 px
Supported languages	English, German
Function keys	7 mechanical buttons (with program user customization)
LEDs	3 service diodes, 2 with possibility of user customization
Environment	
Ambient temperature	-20...+55 °C
IP Code	IP54 – Front panel, IP20 – Back panel
Enclosure	
Dimensions	100 x 100 x 71 mm
Weight	ca. 500 g
Material	plastic

Dimensions:



PRM

The PRM provides the quickest and the most convenient,as regards installation and configuration, digital or analog I/O extension for the PR200, PR102, PR103 Programmable Relays from akYtec. This module connects to the PR200, PR205, PR102, PR103 base unit directly over the internal bus, which ensures much faster and reliable communication as if it would be the case with RS485/Modbus. Moreover, the communication over the internal bus requires no additional I/O configuration as it is with Modbus registers.

Functions and features:

- Independent power supply (24V DC or 230V AC on option)
- The same high-speed performance as that of the PR200, PR205, PR102, PR103 base unit
- Easy connection, removal and replacement
- Galvanic isolation between power supply and I/O groups

Standard variants	Description	Enclosure
PRM.230.1	230 V AC, 8DI + 8DO	DIN rail / wall 80 x 108 x 58 mm
PRM.24.1	24 V DC, 8DI + 8DO	
PRM.230.2	230 V AC, 4AI + 4DO	
PRM.24.2	24 V DC, 4AI + 4DO	
PRM.230.3	230 V AC, 4AI + 2AO	
PRM.24.3	24 V DC, 4AI + 2AO	

The PRM expansion modules are compatible with all akYtec programmable relays except the PR100, PR225.

8 digital inputs and 8 digital outputs	8 DI AND 8 DO
4 analog inputs and 2 analog outputs	4 AI AND 2 AO
Galvanic isolation	PS In Out
Cost effective	
DIN rail mounting	DIN
Standard protection level	IP20
Wide range of ambient temperatures	+50°C -20°C

Technical data:

	PRM.230.1	PRM.230.2	PRM.230.3	PRM.24.1	PRM.24.2	PRM.24.3
General						
Power supply	230 (90...264) V AC;50 (47...63) Hz			24 (19...30) V DC		
Power consumption, max.	8 VA			4 W		
Mounting	DIN rail (switchboard / distribution box)					
Ambient temperature	-20...+55 °C					
IP code	IP20					
Dimensions	80 x 108 x 58 mm					
Weight	approx. 250 g					
Inputs						
Quantity	8	4		8	4	
Mode	Digital	Analog		Digital	Analog	
Type	Switch contact	Incl. RTD, TC, 0-4 kOhm, 0(4)-20 mA, 0-1 V		Switch contact PNP with open collector	Incl. RTD, TC, 0-4 kOhm, 0(4)-20 mA, 0-1 V	
Logical states						
Logical 1	159...264 V AC (0.75...1.5 mA)	-		15...30 V DC (5 mA)	-	
Logical 0	0...40 V AC (0...0.5 mA)	-		-3...+5 V DC (0...1 mA)	-	
Galvanic isolation	in groups of 4	-		in groups of 4	-	
ADC resolution	-	16 bit		-	16 bit	
Outputs						
Quantity	8	4	2	8	4	2
Mode	Digital		Analog	Digital		Analog
Type	relay (NO)		4-20 mA, 0-10 V, 0-5 V, 0-20(24) mA	relay (NO)		4-20 mA, 0-10 V, 0-5 V, 0-20(24) mA
Galvanic isolation	in groups of 2		in groups of 1	in groups of 2		in groups of 1
Switching capacity						
AC	5 A, 250 V (resistive load)		-	5 A, 250 V (resistive load)		-
DC	3 A, 30 V		-	3 A, 30 V		-
Minimum load current	10 mA (at 5 V DC)		-	10 mA (at 5 V DC)		-
DAC resolution	-		12 bit	-		12 bit

SMI200

The SMI200 is a compact symbolic operator panel with control logic. It is designed for displaying and editing textual and digital parameters of a system and can be used in harsh operating conditions alongside programmable relays, controllers, or input/output modules connected via an RS-485 network.
The SMI200 comes equipped with an RS-485 interface for device control over the network or data transmission to the upper level. The device programming is carried out using akYtec ALP programming software over micro-USB. The SMI200 enables control and regulation of indoor or outdoor lighting, heating, ventilation, and pumps as well as roller shutters and doors.

Functions and features:

- Freely programmable device
- 2-line 32-character LCD display
- Master / Slave in a Modbus network over RS485
- Quick and easy installation in a Ø22.5 mm mounting cutout
- Programming software akYtec ALP (available at no charge)
- Real-time clock

Areas of application:

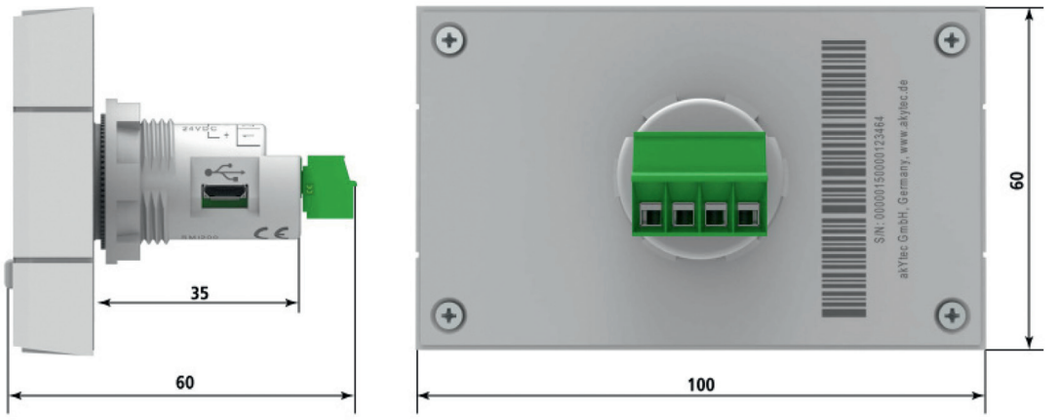
- Indoor and outdoor lighting systems
- HVAC applications
- Engine control
- Oven / furnace / kiln control
- Lifting systems
- Access control

LCD display	LCD
Protocoll Modbus RTU/ASCII	Modbus
RS485 interface	RS485
USB interface	
Real-Time Clock	
Effortless installation	
Reliable protection level	IP54
Wide range of ambient temperatures	+50°C -20°C

Technical data:

General	
Power supply	24 (9...32) V DC
Power consumption, max.	2.5 W
Display	LCD with backlight, 2-line, 2x16-characters
Function keys	6
Real Time Clock	yes
Mounting	ø 22.5 mm borehole
Ambient temperature	-20...+55 °C
IP code	front IP54, rear IP20
Dimensions	100 x 60 x 60 mm
Weight	approx. 150 g
Programming	
Programming environment	akYtec ALP
Programming language	FBD + support of function blocks on ST
RAM	32 kB
ROM	128 kB
Network variable memory	512 bytes
Interfaces	
RS485	2-pole connector
Protocols	Modbus RTU / ASCII (Master / Slave)
Baud rate	9.6...115.2 kbit/s
Programming interface	Micro-USB

Dimensions:



2TCR1

The 2TCR1 is a dual-channel device designed for precise measurement, monitoring, and control of temperature and other physical parameters such as pressure, humidity, level, and flow. The device supports independent regulation on two channels, enabling advanced control strategies including average value and differential control. Equipped with an RS-485 interface and Modbus RTU protocol, 2TCR1 ensures seamless integration into automated systems and SCADA platforms. Configuration is performed via USB Type-C using the free akYtec ToolPro software. Suitable for a wide range of industrial applications.

Functions and features:

- Dual independent control channels: supports average or delta-based control of temperature, pressure, and other physical parameters.
- Wide sensor compatibility for inputs: 4–20 mA, 0–10 V, thermocouples, RTDs, and more.
- Flexible interfaces and configuration: RS-485 (Modbus RTU) for SCADA and PLC integration, USB Type-C for quick setup without external power.
- Additional features: Overlimit alarm signaling, protection against unauthorized access, signal trend display, and weather-dependent regulation

Ordering code:

2TCR1 – X. X X RS

Enclosure type:
P1 – panel-mounting, 96x96x53 mm, IP54 front;
P2 – panel-mounting, 96x48x100 mm, IP54 front;
P5 – panel-mounting, 48x48x103 mm, IP54 front;

Input:
R – universal measurement inputs with 2 red indicators;

Output:
R – electromagnetic relay, 8 A 220 V;

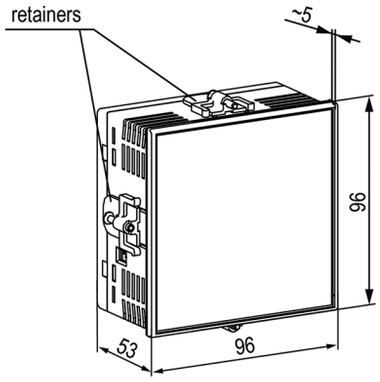
RS - RS485 inferface

Independent dual-channel control	2 CHANNELS
Modbus RTU/ ASCII protocol	Modbus RTU/ASCII
Temperature, pressure, humidity, and more	2 UNIVERSAL INPUTS
Relay outputs (R)	UNIVERSAL OUTPUT
1x RS-485	RS485
ON/OFF control	ON OFF
Analog P-control	P CONTROL
Powered by 230 VAC / 24 VDC	24V⚡DC 230V⚡AC
Wide range of ambient temperatures	+55°C -40°C

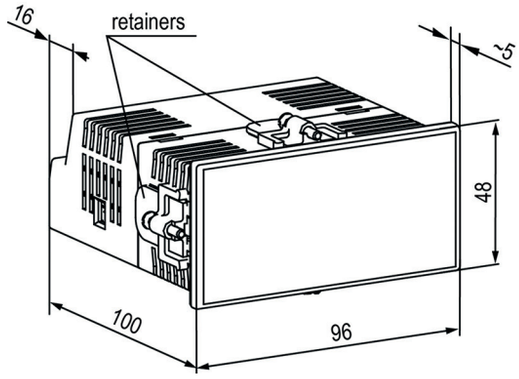
Technical data:

Power supply	
Power supply	230 (90...264) V AC at 50 (47...63) Hz 24 (21...120) V DC
Power consumption, max.	11 VA 9 W
Inputs	
Number	2
Outputs	
Number	2
Configuration interface	
Type	USB Type-C
Data exchange protocol (mode)	Modbus-RTU (Slave)
Data exchange interface	
Type	RS485
Data exchange protocol (mode)	Modbus-RTU (Slave), Modbus ASCII (Slave)
Mechanical	
Dimensions P1 enclosure P2 enclosure P5 enclosure	 (96 x 96 x 53) ± 1 mm (96 x 48 x 100) ± 1 mm (48 x 48 x 103) ± 1 mm
IP Code (front/rear)	IP5/IP20
Weight (gross/net)	approx. 400 g / 250 g
Average service life	12 years

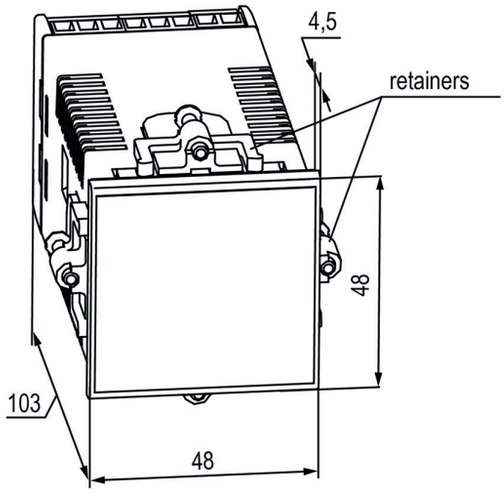
Dimensions:



Dimensions of P1



Dimensions of P2



Dimensions of P5

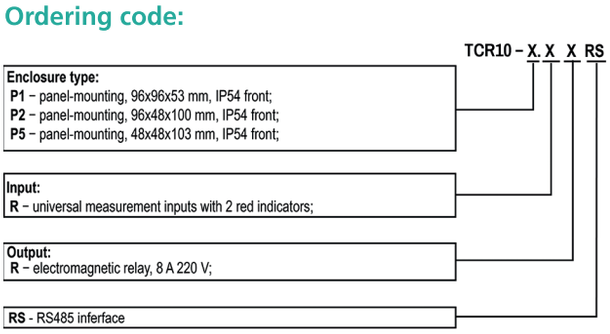
TCR10

The TCR10 is a universal PID controller designed for accurate regulation of temperature, pressure, humidity, level, flow, and other physical parameters in industrial processes. The controller supports heating and cooling modes, with advanced PID and P-control algorithms and auto-tuning functionality. Equipped with an RS-485 interface and Modbus RTU protocol, TCR10 ensures seamless integration into automated systems and SCADA platforms. Configuration is performed via USB Type-C using the free akYtec ToolPro software.TCR10 is widely used in applications such as extrusion, injection molding, heat chambers, packaging, and food production.

Functions and features:

- Universal sensor input: configurable analog input (0-5 mA, 0(4)-20 mA, 0(2)-10 V), RTDs and thermocouples signals.
- Auto-tuning algorithm: automatic PID coefficient setup for optimal performance
- RS-485 Interface: Modbus RTU/ASCII protocol for SCADA integration
- Remote Start/Stop: control via additional external input
- Alarm signaling: out-of-range and loop break alarms
- Parameter protection: prevents unauthorized access to settings

Ordering code:

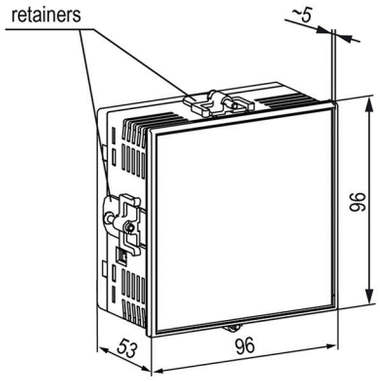


Independent dual-channel control	2 CHANNELS
Modbus RTU/ ASCII protocol	Modbus RTU/ASCII
Temperature, pressure, humidity, and more	2 UNIVERSAL INPUTS
Relay outputs (R)	UNIVERSAL OUTPUT
1x RS-485	RS485
PID control	PID CONTROL
Auto-tune	
Powered by 230 VAC / 24 VDC	24V⚡DC 230V⚡AC
Wide range of ambient temperatures	+55°C -40°C

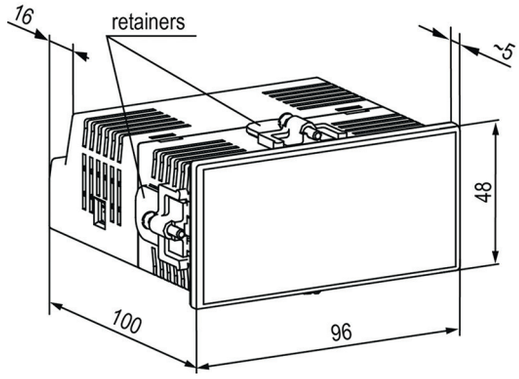
Technical data:

Power supply	
Power supply	230 (90...264) V AC at 50 (47...63) Hz 24 (21...120) V DC
Power consumption, max.	11 VA 9 W
Inputs	
Number	2
Outputs	
Number	2
Configuration interface	
Type	USB Type-C
Data exchange protocol (mode)	Modbus-RTU (Slave)
Data exchange interface	
Type	RS485
Data exchange protocol (mode)	Modbus-RTU (Slave), Modbus ASCII (Slave)
Mechanical	
Dimensions P1 enclosure P2 enclosure P5 enclosure	 (96 x 96 x 53) ± 1 mm (96 x 48 x 100) ± 1 mm (48 x 48 x 103) ± 1 mm
IP Code (front/rear)	IP5/IP20
Weight (gross/net)	approx. 400 g / 250 g
Average service life	12 years

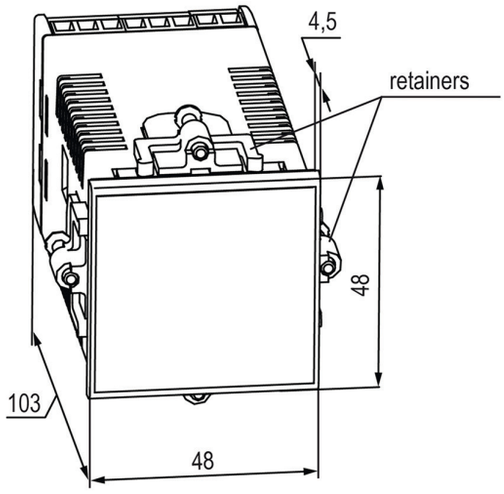
Dimensions:



Dimensions of P1



Dimensions of P2



Dimensions of P5

akYtec CLOUD

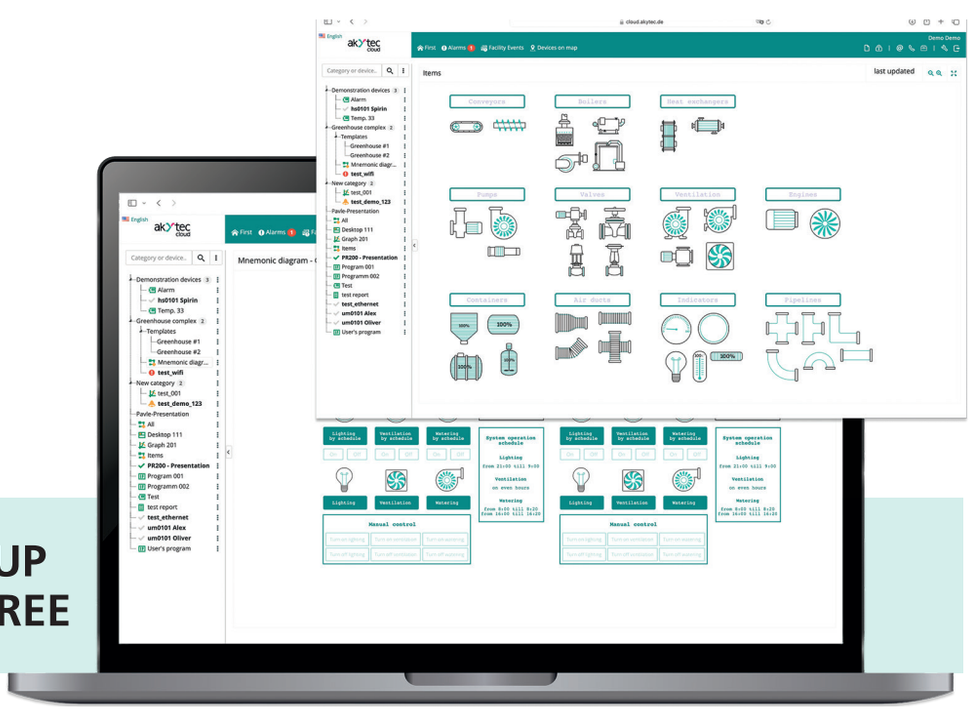
The akYtec Cloud is a free online service for industrial monitoring, control, and data collection. It combines Web SCADA, an industrial security system, a virtual PLC, and a flexible data platform in one solution. Devices connect easily via Ethernet or RS485 gateways, with quick-start templates enabling setup in just one minute — no programming required.

Functions and features:

- Free web SCADA with real-time dashboards, historical data, KPI tracking, and XLSX export
- Distributed object monitoring with alarms on a world map
- Secure industrial security system with alert thresholds and unlimited free notifications via email or Telegram
- Remote control and Virtual PLC for online ST programming and parameter editing
- Easy device connection via Ethernet or RS485 gateways, setup in 1 minute with templates
- Data storage on Tier III European servers with REST API access
- User access management with roles, permissions, and integrator accounts

Possible applications:

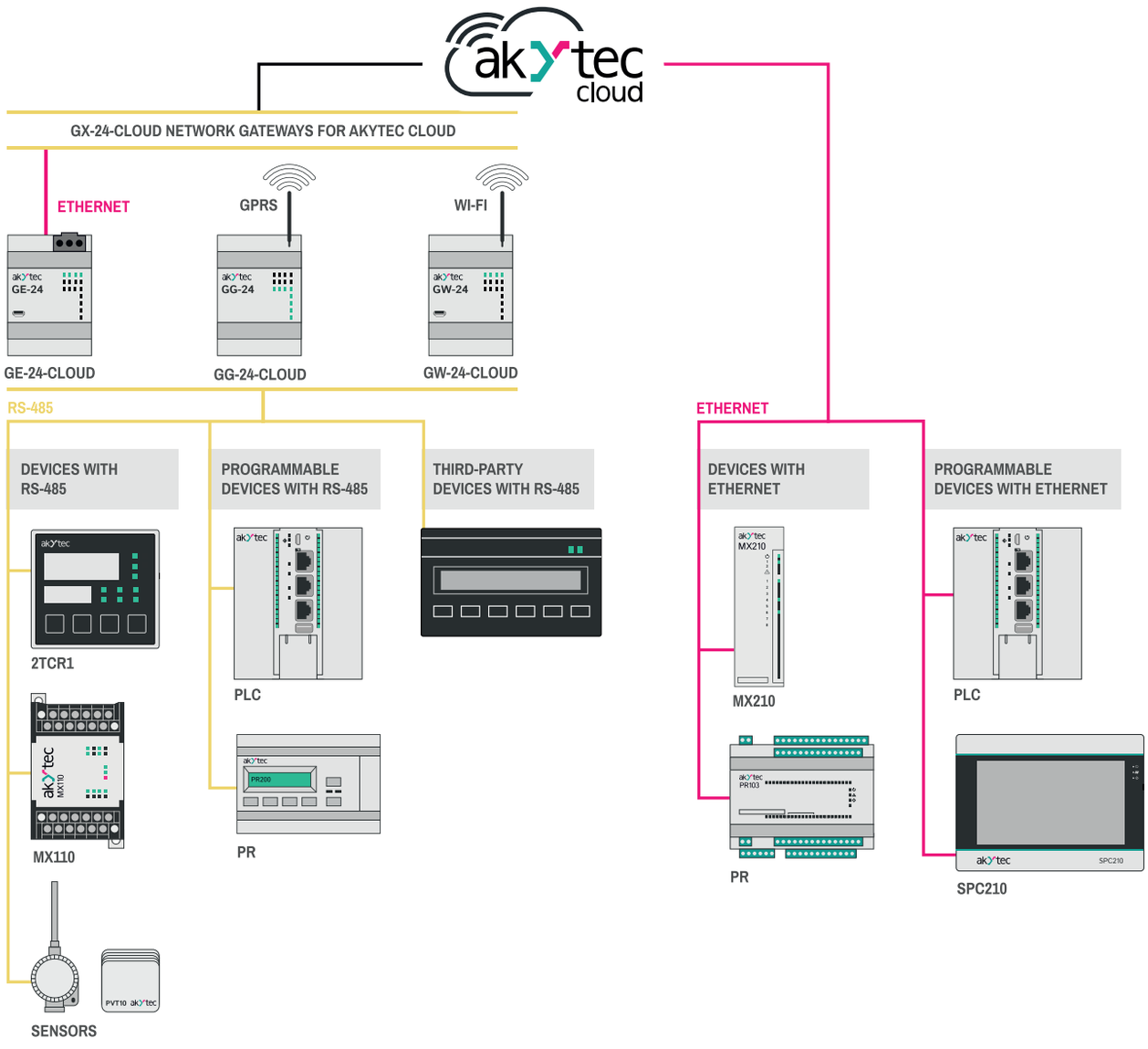
- Industrial facility monitoring and control via Web SCADA
- Remote management of HVAC, water treatment, and energy systems
- Secure alarm and event notification systems for critical assets
- Virtual PLC for remote automation, training, or prototyping
- Data acquisition platform for custom monitoring applications
- Centralized management of multiple customer or site systems



SIGN UP FOR FREE

How to connect devices:

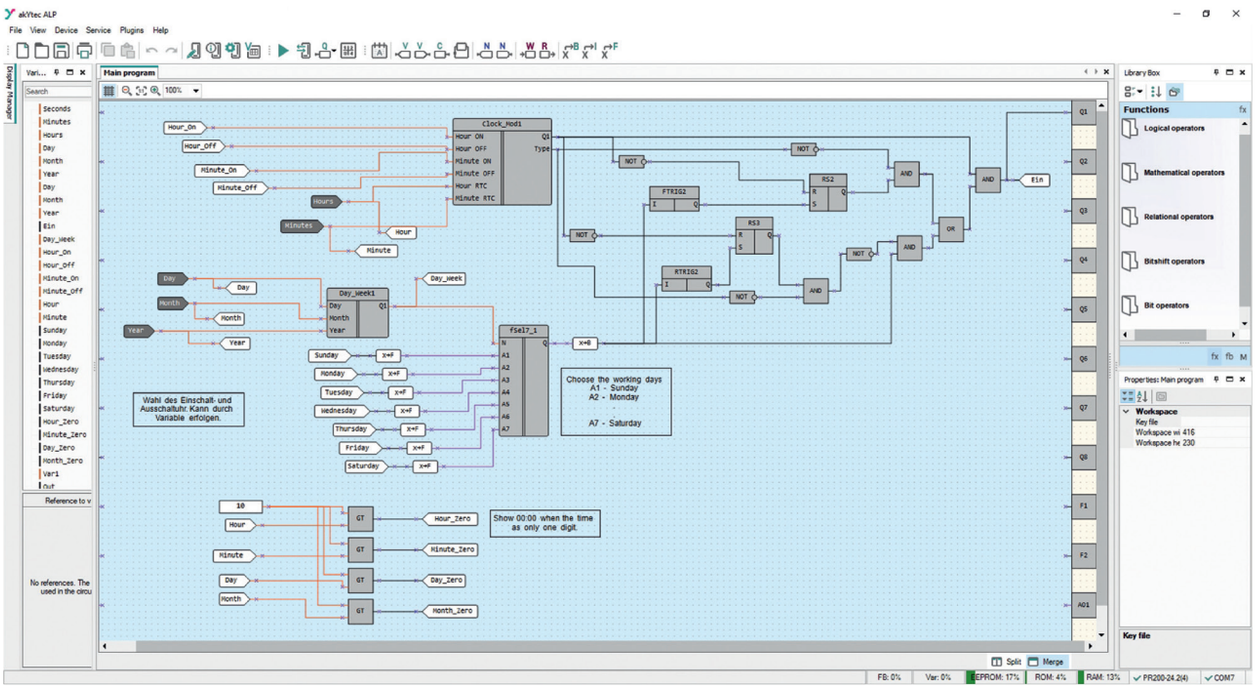
Devices with RS485 interfaces can connect to akYtec Cloud via our Gx-24-Cloud gateways. akYtec devices featuring Ethernet interfaces can connect directly to the cloud without the need for gateways, either through access to the local network or via a router. You can also connect akYtec devices in just one minute using pre-configured templates — no programming skills required!



SOFTWARE

akYtec ALP

The akYtec ALP software tool is a programming environment for akYtec programmable relays. Projects for programmable relays are written in the programming language FBD (Function Block Diagram) and ST (Structured text) according to IEC 61131-3. akYtec ALP is completely free and runs on Windows.



Properties:

- Creating your own function blocks / macros
- Simulation mode
- Real-time I/O status monitoring
- Use of internal variables for a simplified project creation
- Firmware update function
- Templates for network variables
- Complete overview of resource use and their availability in the project
- Integrated Display Manager
- Access to Online Macro Database
- Auto-update
- Cloud operation wizard

Free programming software — FREE SOFT

Programming language FBD (Function Block Diagram) — FBD

Programming language ST for creating users macros (Structured text) — ST

Overview of the functions, function blocks and macros:

Functions:
- Logical operators
- Mathematical operators
- Relational operators
- Bit operators

Function blocks:
- Triggers
- Timers
- Generators
- Counters
- PID controller

Macros:
- HVAC
- Analog conversions
- Signal converters (Pt1000, NTC, PTC)
- Control (On-Off, Range monitor)
- And many others

MX110 SERIES

The I/O-Modules of the MX110 Series offer a cost effective and flexible solution in distributed automation systems. Unlike many centralized I/O systems, the operation of these modules requires no need for involving any bus couplers nor supply modules because each MX110 unit has its own power supply and communication terminals on board. With the proven RS485 interface and intelligent functions, such as pulse counting or sensor state diagnostics, the MX110 modules can be used in different fields, e.g., building technology, process industry, etc. These robust digital and analog modules are used for decentralized data acquisition and process control as well as they can serve as a proper supplement to existing systems or new automation systems to be deployed.

The use of I/O-Modules provides:

- Significant reduction of cabling resulting in the lower susceptibility to interferences
- Reduced setup time due to direct connection of sensors and actuators
- Higher flexibility of the entire system due to free placement and easy replaceable elements
- Better system adaptability and extensibility

Applications:

- I/O signal transmission to a SCADA system or HMI (e.g. operator terminal)
- Increasing the number of I/O points of a PLC
- Any RS485-capable fieldbus network with communication via Modbus RTU/ASCII

Functions:

- PWM
- Pulse counter function
- Sensor-based status diagnostics
- Diagnostics of RS485 network status
- Additional logic functions at digital inputs and outputs
- Transmission protocol autodetection
- Generation of appropriate error signals or alarm signals
- DIN rail or wall mounting

Modbus protocol	Modbus
RS485 interface	RS485
Galvanic isolation	PS In Out RS485
DIN rail mounting	DIN
Wall mounting	WALL
Wide range of ambient temperatures	+50°C -20°C

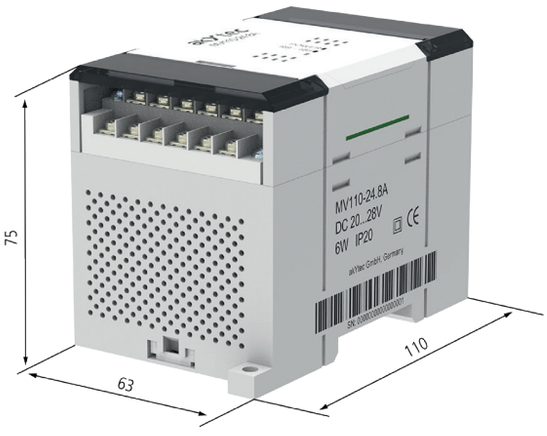
Configuration

The configuration software is available free of charge. A simple and convenient interface enables fast and uncomplicated configuration of I/O-Modules. The configuration mask can be saved as a file.

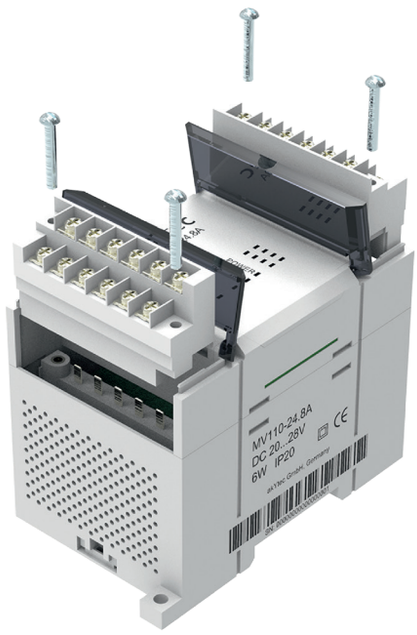
Overview table:

Module	Digital inputs	Digital outputs	Analog inputs	Analog outputs	Properties
Input modules					
MV110-24.8A			8		Inputs: RTD, TC, 0-5 mA, 0(4)-20 mA, 0-1 V, ±50 mV, ±1 V, 25...900(2000) Ohm, switch contacts
MV110-24.8AS			8		"Fast" inputs: 0(4)-20 mA, 0-5 mA, 0-10 V, measuring frequency up to 200 Hz
MV110-24.16D	16				Inputs: switch contacts (no external power supply required), NPN sensors, pulse counters (24 V DC external power supply, measuring frequency up to1kHz)
MV110-24.16DN	16				Inputs: switch contacts, NPN/PNP sensors, pulse counters (24 V DC external power supply, measuring frequency up to 1kHz)
MV110-24.32DN	32				Inputs: switch contacts, NPN sensors, pulse counters (24 V DC external power supply, measuring frequency up to 1kHz)
Combined I/O-Modules					
MK110-24.8D.4R	8	4			Inputs: Switching contacts, NPN sensors Outputs: relays 4 A, 24 V DC
Output modules					
MU110-24.8I				8	Outputs: 4-20 mA, accuracy 0.5 %
MU110-24.6U				6	Outputs: 0-10 V, accuracy 0.5 %
MU110-24.8R		8			Outputs: relays (NO), 4 A, 250 V AC or 24 V DC
MU110-24.8K		8			Outputs: NPN transistors, 400 mA, 60 V DC
MU110-24.16R		16			Outputs: relays (NO) 3 A at 250 V AC or 30 V DC
MU110-24.16K		16			Outputs: NPN transistors, 400 mA, 60 V DC
MU110-24.32R		32			Outputs: relays (NO) 3 A at 250 V AC or 30 V DC

Mx110 Dimensions:



Plug-in screw terminals:



Analog input module MV110-24.8A

8 AI

4-20 mA

TC

t° RTD

Analog inputs	8
ADC resolution	16 bit
Input signals	
Resistance thermometer	Pt50, Pt100, Pt500, Pt1000 Ni100, Ni500, Ni1000
Thermocouple	A, J, N, K, S, R, B, T
Position encoder	25...900 Ohm, 25...2000 Ohm, 0(4)-20 mA, 0-5 mA
Standard signal	0-1 V, 0-5 mA, 0-20 mA, 4-20 mA
Usable as digital input	yes, 8x
Accuracy, max.	
Resistance thermometer	±0.25%
Thermocouple	±0.5%
Position encoder	±0.25%
Standard signal	±0.25%
Sampling rate per input, max.	
Resistance thermometer	0.9 s
Thermocouple	0.6 s
Position encoder	0.6 s
Standard signal	0.6 s

Analog input module MV110-24.8AS

8 AI

4-20 mA

0-10V

FAST

Analog inputs	8
ADC resolution	10 bit
Input signals	
Standard signal	0-10 V, 0-5 mA, 0-20 mA, 4-20 mA
Usable as digital input	no
Accuracy, max.	±0.25 %
Input resistance	
0-10 V	min. 200 Ohm
0-5 mA	130...500 Ohm
0-20 mA	130...250 Ohm
4-20 mA	130...250 Ohm
Sampling rate per input, max.	5 ms ± 2%

Supply	
Power supply	24 (20...28) V DC
Power consumption, max.	6 W
Communication	
Interface	RS485
Protocol	Modbus RTU / ASCII
Baud rate	2.4...115.2 kbit/s
IP Code	IP20
Environment	
Ambient temperature	-20...+55 °C
Storage temperature	-25...+55 °C
Humidity	up to 80%, non-condensing
Enclosure	
Dimensions	63 x 110 x 75 mm
Weight	approx. 240 g
Material	Plastic

Digital input module
MV110-24.16D(DN)

16 DI

PNP

NPN

Digital inputs	16
MV110-24.16D	
Input signal	switch contact, NPN
Galvanic isolation	–
Pulse frequency, max.	1 kHz
Pulse length, min.	0.5 ms
Current, max.	7 mA
Lead resistance, max.	100 Ohm
MV110-24.16DN	
Input signal	switch contact, NPN/PNP
Galvanic isolation	1500 V, in groups of 4
Pulse frequency, max.	1 kHz
Pulse length, min.	0.5 ms
Integrated voltage source	24±3 V
Current, max.	8.5 mA (with 27 V)
Logical „1“, min.	4.5 mA
Logical „0“, max.	1.5 mA

Digital I/O module
MK110-24.8D.4R

8 DI

NPN

4 DO

RELAY

Digital inputs	8
Input signal	switch contact, NPN
Galvanic isolation	–
Insulation strength	1500 V
Pulse frequency, max.	1 kHz
Pulse width, min.	0.5 ms
Current, max.	7 mA
Lead resistance, max.	100 Ohm
Digital outputs	4
Type	relays
Permissible load	4 A, 24 V DC

Supply	
Power supply	24 (20…28) V DC
Power consumption, max.	6 W
Communication	
Interface	RS485
Protocol	Modbus RTU / ASCII
Baud rate	2.4...115.2 kbit/s
IP Code	IP20
Environment	
Ambient temperature	-20...+55 °C
Storage temperature	-25...+55 °C
Humidity	up to 80%, non-condensing
Enclosure	
Dimensions	63 x 110 x 75 mm
Weight	approx. 240 g
Material	Plastic

Digital input module
MV110-24.32DN

32DI

PNP

NPN

Input signal	switch contact, NPN/PNP
Galvanic isolation	1500 V, in groups of 4
Pulse frequency, max.	1 kHz
Pulse length, min.	0.5 ms
Integrated voltage source	24±3 V
Current, max.	8.5 mA (with 27 V)
Logical „1“, min.	4.5 mA
Logical „0“, max.	1.5 mA

Supply	
Power supply	24 (21...35) V DC
Power consumption, max.	40 W
Communication	
Interface	RS485
Protocol	Modbus RTU / ASCII
Baud rate	2.4...115.2 kbit/s
IP Code	IP20
Environment	
Ambient temperature	-20...+55 °C
Storage temperature	-25...+55 °C
Humidity	up to 80%, non-condensing
Enclosure	
Dimensions	140 x 114 x 75 mm
Weight	approx. 800 g
Material	Plastic

Digital output module
MU110-24.32R

32DO

RELAY

Digital outputs	32
Type	relay (NO)
Current, max	3 A at 250 V AC or 30 V DC

Supply	
Power supply	20 W (32R)
Communication	
Interface	RS485
Protocol	Modbus RTU / ASCII
Baud rate	2.4...115.2 kbit/s
IP Code	IP20
Environment	
Ambient temperature	-20...+55 °C
Storage temperature	-25...+55 °C
Humidity	up to 80%, non-condensing
Enclosure	
Dimensions	140 x 114 x 75 mm
Weight	approx. 800 g
Material	Plastic

Analog output module MU110-24.8I

8 AO

4-20 mA

Analog outputs	8
Output signal	4-20 mA
DAC resolution	10 bit
Accuracy, max.	±0.5 %
Load resistance	0...1300 Ohm

Analog output module MU110-24.6U

6 AO

0-10V

Analog outputs	6
Output signal	0-10 V
DAC resolution	10 bit
Accuracy, max.	±0.5 %
Load resistance	min. 2000 Ohm

Supply	
Power supply	24 (18…29) V DC
Power consumption, max.	6 W
Communication	
Interface	RS485
Protocol	Modbus RTU / ASCII
Baud rate	2.4...115.2 kbit/s
IP Code	IP20
Environment	
Ambient temperature	-20...+55 °C
Storage temperature	-25...+55 °C
Humidity	up to 80%, non-condensing
Enclosure	
Dimensions	63 x 110 x 75 mm
Weight	approx. 240 g
Material	Plastic

Digital output module

MU110-24.8R

8 DO | RELAY

MU110-24.8K

8 DO | NPN

MU110-24.16R

16DO | RELAY

MU110-24.16K

16DO | NPN

Digital outputs	8
MU110-24.8R	
Type	relay (NO)
Current, max.	4 A at 250 V AC or 24 V DC
MU110-24.8K	
Type	NPN
Current, max.	400 mA at 60 V DC

Digital outputs	16
MU110-24.16R	
Type	relay (NO)
Current, max.	3 A at 250 V AC or 30 V DC
MU110-24.16K	
Type	NPN
Current, max.	400 mA at 60 V DC
Galvanic isolation	in groups of 4

Supply	
Power supply	24 (21...35) V DC
Power consumption, max.	6 W (8R, 8K), 12 W (16R, 16K)
Communication	
Interface	RS485
Protocol	Modbus RTU / ASCII
Baud rate	2.4...115.2 kbit/s
IP Code	IP20
Environment	
Ambient temperature	-20...+55 °C
Storage temperature	-25...+55 °C
Humidity	up to 80%, non-condensing
Enclosure	
Dimensions	63 x 110 x 75 mm
Weight	approx. 240 g
Material	Plastic

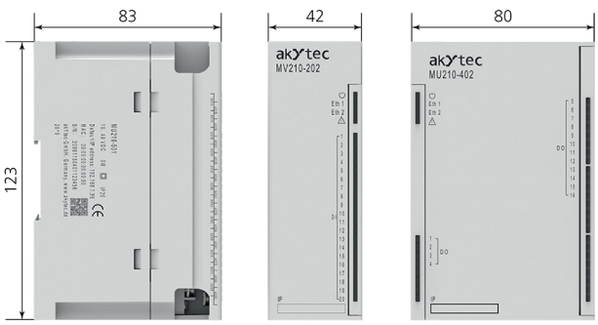
MX210 SERIES

The Ethernet I/O-Modules of the MX210 series are available in different variants depending on the combination of the number, type, and properties of their inputs and outputs. The MX210 series includes modules featuring high-frequency inputs of up to 100 kHz for high-speed counting.
Each module of this series has two built-in Ethernet ports. This allows interconnection of these devices according to the daisy chain connection, which stands out by simplicity and scalability. The two Ethernet ports are bypass-capable, meaning that the data transfer is not interrupted even if one of the modules fails.
Any MX210 extension module can simultaneously communicate with up to 4 TCP clients, which facilitates cabling and configuring of the control system.

Functions and features:

- Up to 32 DI / 24 DO | up to 8 AI / 6 AO
- A wide range of various digital and analog inputs and outputs
- Network status diagnostics
- Supported protocols: Modbus TCP, MQTT, SNMP, SNTP
- 2-port Ethernet Switch (LAN bypass)
- Daisy-Chain Wiring
- Alarm signals
- Real-time clock
- Data logging
- Group configuration of multiple modules
- Easy mounting and connection
- Free of charge configuration tool

Dimensions:



Modbus TCP	Modbus TCP
2 Ethernet ports	
Daisy-Chain Wiring with LAN bypass	BYPASS
USB interface	
Galvanic isolation	PS In Out Eth1 Eth2
Data logging	CSV
DIN rail mounting	DIN
Wall mounting	WALL
Wide range of ambient temperatures	+55°C -40°C
Free software included	FREE SOFT

Overview table:

Module	Digital inputs	Digital outputs	Analog inputs	Analog outputs	Properties
Input modules					
MV210-101			8		Inputs: RTD, TC, 0-5 mA, 0(4)-20 mA, 0-1 V, ±50 mV, ±1 V, 0...(2)5 kOhm
MV210-202	20				Inputs: switch contacts, NPN / PNP sensors, pulse counters (24 V DC external power supply, measuring frequency up to 100 kHz)
MV210-204	20				Inputs: switch contacts (no external power supply required), NPN sensors, pulse counters (24 V DC external power supply, measuring frequency up to 400 Hz)
MV210-212	32				Inputs: switch contacts, NPN / PNP sensors, pulse counters (24 V DC external power supply, measuring frequency up to 100 kHz)
MV210-214	32				Inputs: switch contacts (no external power supply required), NPN sensors, pulse counters (24 V DC external power supply, measuring frequency up to 400 Hz)
MV210-221	15				6 inputs: switch contacts (no external power supply required), NPN sensors, pulse counters (24 V DC external power supply, measuring frequency up to 400 Hz). 9 inputs: AC 230 V
Combined I/O-Modules					
MK210-311	6	8			Inputs: switch contacts (no external power supply required), NPN sensors; Outputs: relays (NO), 5 A at 250 V AC, cos > 0.4 or 3 A at 30 V DC
MK210-312	12	4			Inputs: switch contacts (24 V DC external power supply), NPN/PNP sensors; Outputs: relays (NO), 5 A at 250 V AC, cos > 0.4 or 3 A at 30 V DC
Output modules					
MU210-401		8			Outputs: relays (NO) 5 A at 250 V AC, cos > 0.4 or 3 A at 30 V DC
MU210-402		16			Outputs: relays (NO) 5 A at 250 V AC, cos > 0.4 or 3 A at 30 V DC
MU210-403		24			Outputs: relays (NO) 5 A at 250 V AC, cos > 0.4 or 3 A at 30 V DC
MU210-412		24			Outputs: PNP transistors; 150 mA, 36 V DC (DO1…DO8) and 400 mA, 36 V DC (DO9…DO24)
MU210-502				6	Outputs: 0(4)...20 mA, 0...(1)10 V, accuracy 0.5 %

Technical data:

Supply	
Power supply	24 (10…48) V DC
Communication	
Interface	Ethernet 10/100 Mbps
Protocol	Modbus TCP, MQTT, SNMP, SNTP
Configuration	USB 2.0 (USB micro), Ethernet 10/100 Mbps
Environment	
Ambient temperature	-40...+55 °C
Storage temperature	-25...+55 °C
Humidity	up to 80%, non-condensing
IP Code	IP20
Appliance class	II

Analog input module MV210-101

8 AI

4-20 mA

TC

RTD

Analog inputs	8
ADC resolution	16 bit
Input signals	
Resistance thermometer	Pt50, Pt100, Pt500, Pt1000 Ni100, Ni500, Ni1000
Thermocouple	A, J, N, K, S, R, B, T
Position encoder	0-2(5) kOhm
Standard signal	-1...1 V, -50…+50 mV, 0-5 mA, 0-20 mA, 4-20 mA

Digital input module MV210-202

20 DI

NPN

PNP

FAST

Digital inputs	20
Input signals	Switch contact, NPN/PNP
Power consumption, max.	5 W
Pulse frequency, max.	100 kHz
Pulse length, min.	5 µs (1-8 DI) 1 ms (9-20 DI)
Logical „1“, min	5.5 mA (8.8...30.0 V)
Logical „0“, max	1.2 mA (0.0...6.1 V)

Digital input module MV210-204

20 DI

NPN

Digital inputs	20
Input signals	Switch contact, NPN
Power consumption, max.	5 W
Pulse frequency, max.	400 Hz
Pulse length, min.	1 ms
Integrated voltage source	no external power supply required 24±3 V (only for NPN inputs)
Lead resistance, max.	100 Ohm

Digital input module MV210-212

32 DI

NPN

PNP

FAST

Digital inputs	32
Input signals	Switch contact, NPN/PNP
Power consumption, max.	6 W
Pulse frequency, max.	100 kHz
Pulse length, min.	5 µs (1-8 DI) 1 ms (9-32 DI)
Logical „1“, min	5.5 mA (8.8...30.0 V)
Logical „0“, max	1.2 mA (0.0...6.1 V)

Digital input module MV210-214

32 DI

NPN

Digital inputs	32
Input signals	Switch contact, NPN
Pulse frequency, max.	400 Hz
Pulse length, min.	1 ms
Integrated voltage source	no external power supply required 24±3 V (only for NPN inputs)
Lead resistance, max.	100 Ohm

Digital input module MV210-221

15 DI

NPN

Digital inputs	9+6
Input signals	230 V AC signals + dry contact NPN
Pulse frequency, max.	400 Hz
Pulse length, min.	1 ms
Integrated voltage source	no external power supply required 24±3 V (only for NPN inputs)
Lead resistance, max.	100 Ohm

Digital I/O module MK210-311

6 DI

8 DO

NPN

Digital inputs	6
Input signal	Switch contact, NPN
Pulse length, min.	1 ms
Integrated voltage source	24±3 V (only for NPN inputs)
Lead resistance, max.	100 Ohm
Digital outputs	8
Type	Relay output (NO)
Permissible load	5 A, 250 V AC; 3 A, 30 V DC

Digital I/O module MK210-312

12 DI

NPN

PNP

4 DO

Digital inputs	12
Input signal	Switch contact, NPN/PNP
Pulse frequency, max.	100 kHz
Pulse length, min.	5 µs (1-8 DI) 1 ms (9-12 DI)
Logical „1“, min	5.5 mA (8.8...30.0 V)
Logical „0“, max	1.2 mA (0.0...6.1 V)
Digital outputs	4
Type	Relay output (NO)
Permissible load	5 A, 250 V AC; 3 A, 30 V DC

Digital output module MU210-401

8 DO

RELAY

Digital outputs	8
Output signal	Relay output (NO)
Power consumption, max.	6 W
Permissible load	5 A, 250 V AC; 3 A, 30 V DC;
Pulse frequency, max.	1 Hz
Pulse length, min.	50 ms

Digital output module MU210-402

16DO

RELAY

Digital outputs	16
Output signal	Relay output (NO)
Power consumption, max.	9 W
Permissible load	5 A, 250 V AC; 3 A, 30 V DC;
Pulse frequency, max.	1 Hz
Pulse length, min.	50 ms

Analog output module MU210-502

6 AO

4-20 mA

0-10V

Analog outputs	6
Type	0(4)…20 mA, 0…10 V
Accuracy	±0.5%
Power consumption, max	5 W

Digital output module MU210-403

Digital outputs	24
Output signal	Relay output (NO)
Power consumption, max.	9 W
Permissible load	5 A, 250 V A; 3 A, 30 V DC;
Pulse frequency, max.	1 Hz
Pulse length, min.	50 ms

Digital output module MU210-412

Digital outputs	24
Output signal	PNP (DO1…DO8) and Push-Pull-Schalter (DO9…DO24)
Power consumption, max.	4 W
Permissible load	150 mA, 36 V DC (DO1…DO8) and 400 mA, 36 V DC (DO9…DO24)
Pulse frequency, max.	60000 Hz (DO1…DO8) and 1 Hz (DO9…DO24)
Pulse length, min.	5 µs (DO1…DO8) and 1 ms (DO9…DO24)

CI200

The CI200-LW pulse counter is designed for monitoring the state of up to 4 wired discrete inputs (pulse counting or emergency signal detection), with subsequent accumulation and transmission of measurements via the LoRaWAN network. The device is battery-powered with the option to connect an external DC power source.

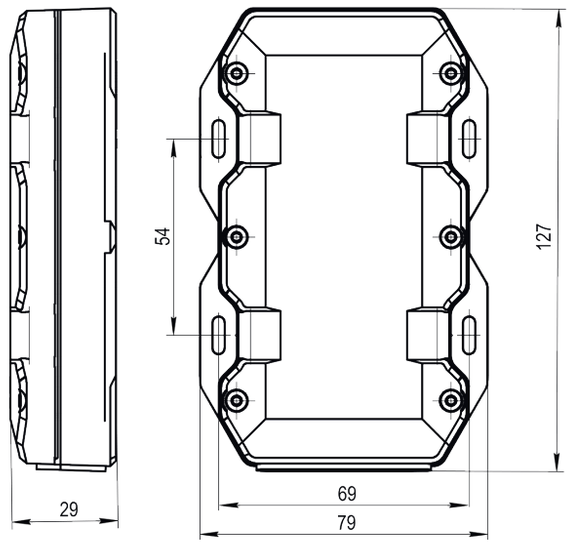
Functions and features:

- LoRaWAN 1.0.4 class A, C
- Activation method: ABP, OTTA
- Activation: NFC
- Device setup: Mobile App via Bluetooth LE
- 1 x DO (open collector)
- IP 65 and operation temperature -40 … +70C
- Power Supply: Batteries and 5… 30 V DC
- 4 x DI (status/pulse)

Possible applications:

- Integration up to 4 existing utility meters in to wirless LoRaWAN network
- Organize the wireless control of 1 remote operating unit
- Organize the wireless monitoring the statuses of up to 4 remote devices

Dimensions:



Wireless communication via LoRaWAN	
Pulse counting	
Security input	
External device control (Open collector)	
Activation via NFC	
Bluetooth on board	
Powered by internal battery	
External power supply connection available	5...30 V⚡DC
Setting up via Android app	
Wide range of ambient temperatures	+70°C -40°C
High IP Code	IP65

Technical Data:

Data transfer interface	
Data transmitting technology	LoRaWAN 1.0.4 class A, C
Frequency Bands	EU868
ADR support	yes
Transmission power, max.	+20 dBm
Receiver sensitivity	-137 dBm
Communication period	1, 5, 10, 30 min; 1, 4, 6, 12, 24 hours
Memory capacity for storing packets	20 000 packages
Transmission power, max.	100 mW
Activation method in the LoRaWAN network	ABP/OTTA
Antenna type	Internal / External
Encryption algorithm	Hardware AES-128
Configuration interfaces	
Device identification	NFC-A
Device setup	Bluetooth LE 5.1
Configuration software	
Mobile app	akYtec IoT Configurator
Pulse-security input	
Operating mode switching	software
Number	4 pcs
Frequency of registered pulses, max., Hz	200
Internal pull-up to device power supply	yes
ESD protection	yes
Type of connected devices	"dry" contact, open collector
Open collector digital output	
Number	1 pcs
Load current, no more than	1 A
Switching voltage	Up to 24 V
Memory	
Memory type	flash
Built-in memory capacity	8 MB
Power supply	
Battery voltage	3 V
Battery type	2 x ER18505
Total battery capacity	2 500 mAh
Autonomous operation time	Up to 5 years, depending on settings
External DC power supply	5…30 V
Mechanical	
Color	RAL 7035 (light gray)
Material	ABS+PC plastic
IP code	IP65
Dimensions	129 x 79 x 29 mm
Cable length	2 x 1m
Weight, max.	approx. 230 g (with cables)
MTBF	50 000 hours

Connections:

	Wire color	Cabel #1	Cabel #2
	Green	DI1	DO
	Green-white	COM1	COM
	Blue	DI2	BAT
	Blue-white	COM2	-
	Orange	DI3	24V
	Orange-white	COM3	-
	Brown	DI4	0V
	Brown-white	COM4	-

Modification	Description	Availability
CI200-LW.EU.0.2.4.1.0.1	4-channels pulse counter with internal antenna for European frequency band	On stock
CI200-LW.EU.1.2.4.1.0.1	4-channels pulse counter with external antenna for European frequency band	By request

*Included 2x UTP cables (lenght 1,5 m).

CI201

The CI201-LW pulse counter is designed for using together with BD-series of Honeywell Elster Metronica gas meter, for wireless pulse reading with subsequent accumulation and transmission of measurements via the LoRaWAN network. The CI201-LW connects to standard socket of gas meter and has Hall sensor to monitor an illegal metering corrections. The device is battery-powered.

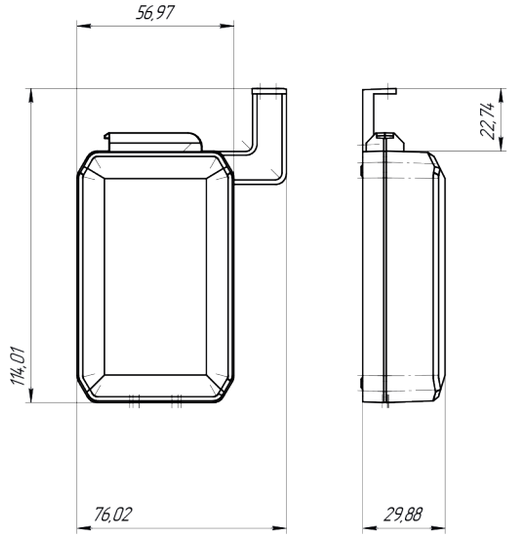
Functions and features:

- LoRaWAN 1.0.4
- Activation method: ABP, OTTA
- Activation: NFC
- Device setup: Mobile App via Bluetooth LE
- 1 x DO (open collector)
- IP65 and operation temperature -40 … +70C

Possible applications:

- Integration of an existing Honeywell Elster Metronica BD-series gas meter into a wireless LoRaWAN network
- Implementation of wireless control for a remote operating unit

Dimensions:



Wireless communication via LoRaWAN

Pulse counting

Hall sensor

External device control (Open collector)

Activation via NFC

Bluetooth on board

Powered by internal battery

Setting up via Android app

Wide range of ambient temperatures

+70°C
-40°C

High IP Code

IP65

Technical Data:

Data transfer interface	
Data transmitting technology	LoRaWAN 1.0.4 class A
Frequency Bands	EU868
ADR support	yes
Transmission power, max.	+20 dBm
Receiver sensitivity	-137 dBm
Communication period	1, 5, 10, 30 min; 1, 4, 6, 12, 24 hours
Memory capacity for storing packets	20 000 packages
Transmission power, max.	100 mW
Activation method in the LoRaWAN network	ABP/OTTA
Antenna type	Internal
Encryption algorithm	Hardware AES-128
Configuration interfaces	
Device identification	NFC-A
Device setup	Bluetooth LE 5.1
Configuration software	
Mobile app	akYtec IoT Configurator
Open collector digital output	
Number	1 pcs
Load current, no more than	1 A
Switching voltage	Up to 24 A
Memory	
Memory type	flash
Built-in memory capacity	8 MB
Power supply	
Battery voltage	3 V
Battery type	2 x CR123A
Total battery capacity	1500 mAh
Autonomous operation time	Up to 5 years, depending on settings
Mechanical	
Color	RAL 7035 (light gray)
Material	ABS+PC plastic
IP code	IP65
Dimensions	114 x 76 x 30 mm
Weight, max.	approx. 135 g
MTBF	50 000 hours

Connections:

Modification	Description	Availability
CI201-LW.EU.0.2.0.1	Pulse counter with internal antenna for European frequency band	On stock

IC200-MBUS

The IC200-MBUS-LW device is designed to connect to existing equipment with an M-Bus interface using the M-Bus protocol, followed by data transmission over a LoRaWAN network for monitoring and optimization of resource usage, such as water, heat, electricity, and gas, where the device connects to corresponding meters to collect data for subsequent analysis and reporting. The device is powered by a battery with the option to connect an external DC power source.

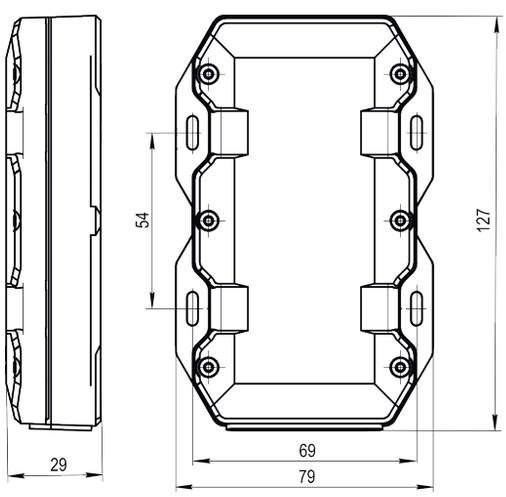
Functions and features:

- LoRaWAN 1.0.4 class A, C
- Activation method: ABP, OTTA
- Activation: NFC
- Device setup: Mobile App via Bluetooth LE
- 1 x DO (open collector)
- IP 65 and operation temperature -40 … +70C
- Power Supply: Batteries and 5… 30 V DC
- 1 x DI (status/pulse)
- Up to 10 M-Bus slave devices

Possible applications:

- Integration of up to 10 existing utility meters into a wireless LoRaWAN network
- Implementation of wireless control for a remote operating unit
- Wireless monitoring of the status of a remote device

Dimensions:

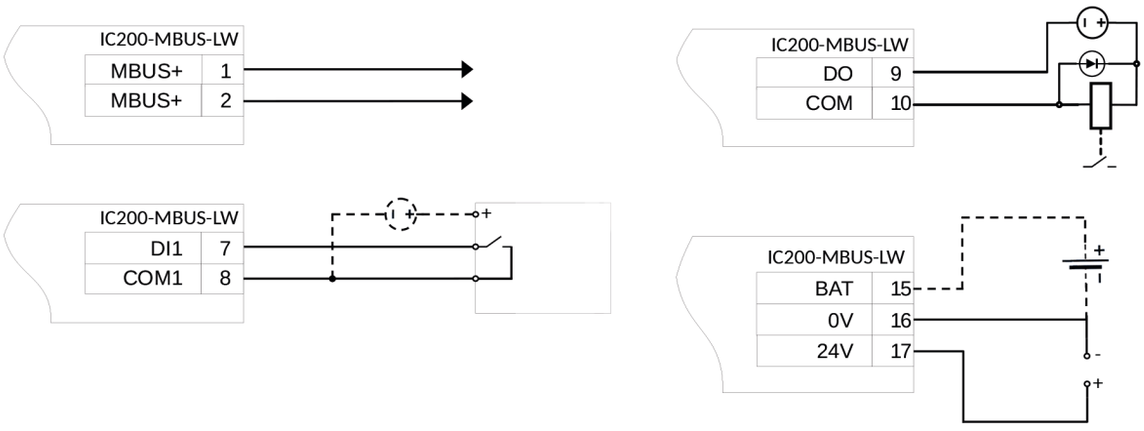


Wireless communication via LoRaWAN	
Pulse counting	
Security input	
External device control (Open collector)	
Activation via NFC	
Bluetooth on board	
Powered by internal battery	
External power supply connection available	5...30 V⚡DC
Setting up via Android app	
Wide range of ambient temperatures	+70°C -40°C
High IP Code	IP65

Technical Data:

Data transfer interface	
Data transmitting technology	LoRaWAN 1.0.4 class A, C
Frequency Bands	EU868
ADR support	yes
Transmission power, max.	+20 dBm
Receiver sensitivity	-137 dBm
Communication period	1, 5, 10, 30 min; 1, 4, 6, 12, 24 hours
Memory capacity for storing packets	20 000 packages
Transmission power, max.	100 mW
Activation method in the LoRaWAN network	ABP/OTTA
Antenna type	Internal / External
Encryption algorithm	Hardware AES-128
Configuration interfaces	
Device identification	NFC-A
Device setup	Bluetooth LE 5.1
Configuration software	
Mobile app	akYtec IoT Configurator
M-Bus	
Number of ports	1 pcs
Number of data storage registers	10 pcs
Number of M-Bus slave devices	Up to 10 pcs
Pulse-security input	
Operating mode switching	software
Number	1 pcs
Frequency of registered pulses, max., Hz	200
Internal pull-up to device power supply	yes
ESD protection	yes
Type of connected devices	"dry" contact, open collector
Open collector digital output	
Number	1 pcs
Load current, no more than	1 A
Switching voltage	Up to 24 V
Memory	
Memory type	flash
Built-in memory capacity	8 MB
Power supply	
Battery voltage	3 V
Battery type	2 x CR123A
Total battery capacity	1500 mAh
Autonomous operation time	Up to 5 years, depending on settings
External DC power supply	5…30 V
Mechanical	
Color	RAL 7035 (light gray)
Material	ABS+PC plastic
IP code	IP65
Dimensions	129 x 79 x 29 mm
Weight, max.	approx. 195 g
MTBF	50 000 hours

Connections:



Modification	Description	Availability
IC200-MBUS-LW.EU.0.2.1.1	M-BUS converter with internal antenna for European frequency band	On stock
IC200-MBUS-LW.EU.1.2.1.1	M-BUS converter with external antenna for European frequency band	By request

IC200-MRTU

The IC200-MRTU-LW device is designed to connect to existing equipment with a Modbus RTU (RS-485) interface using the MODBUS protocol, followed by data transmission over a LoRaWAN network for monitoring and management of technological processes, data collection from various sensors, and equipment control. Accounting and analysis of resource consumption. The device is powered by a battery with the option to connect an external DC power source.

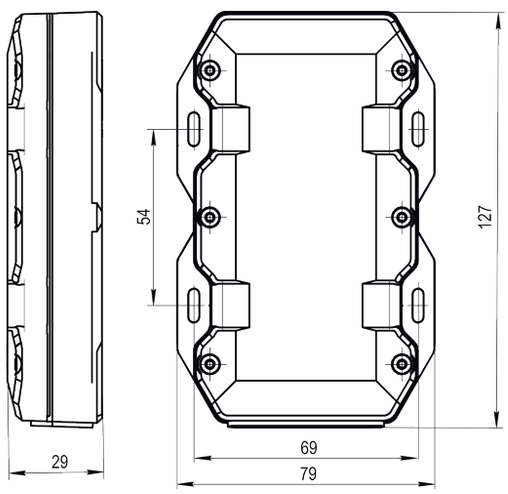
Functions and features:

- LoRaWAN 1.0.4 class A, C
- Activation method: ABP, OTTA
- Activation: NFC
- Device setup: Mobile App via Bluetooth LE
- 1 x DO (open collector)
- IP 65 and operation temperature -40 … +70C
- Power Supply: Batteries and 5… 30 V DC
- 1 x DI (status/pulse)
- Up to 10 Modbus RTU slave devices

Possible applications:

- Integration up to 10 existing utility meters to wireless LoRaWAN network
- Organize the wireless control of 1 remote operating unit
- Organize the wireless monitoring the status of 1 remote device

Dimensions:

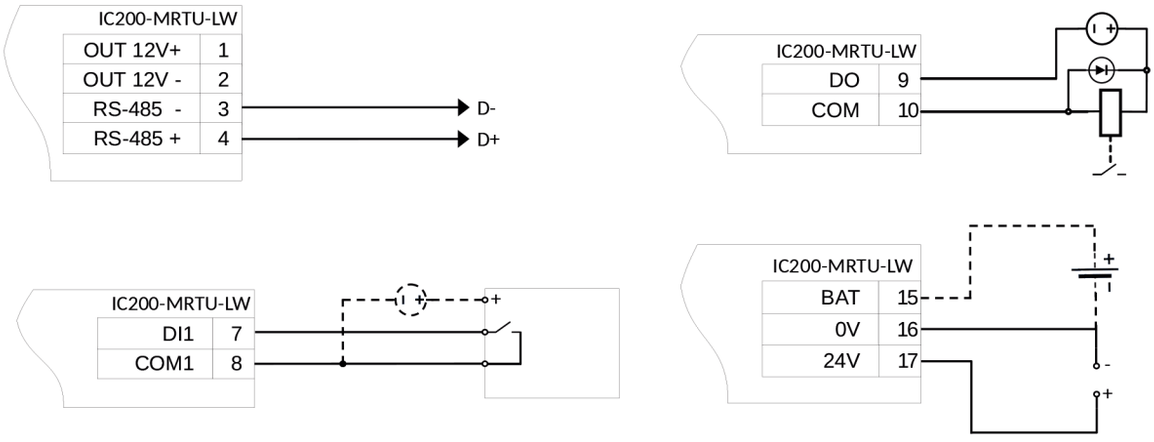


Wireless communication via LoRaWAN	
Pulse counting	
Security input	
External device control (Open collector)	
Activation via NFC	
Bluetooth on board	
Powered by internal battery	
External power supply connection available	5...30 V⚡DC
Setting up via Android app	
Wide range of ambient temperatures	+70°C -40°C
High IP Code	IP65

Technical Data:

Data transfer interface	
Data transmitting technology	LoRaWAN 1.0.4 class A, C
Frequency Bands	EU868
ADR support	yes
Transmission power, max.	+20 dBm
Receiver sensitivity	-137 dBm
Communication period	1, 5, 10, 30 min; 1, 4, 6, 12, 24 hours
Memory capacity for storing packets	20 000 packages
Transmission power, max.	100 mW
Activation method in the LoRaWAN network	ABP/OTTA
Antenna type	Internal / External
Encryption algorithm	Hardware AES-128
Configuration interfaces	
Device identification	NFC-A
Device setup	Bluetooth LE 5.1
Configuration software	
Mobile app	akYtec IoT Configurator
Modbus RTU (RS-485)	
Number of RS-485 ports	1 pcs
Number of data storage registers	10 pcs
Number of Modbus RTU slave devices	Up to 10 pcs
Pulse-security input	
Operating mode switching	software
Number	1 pcs
Frequency of registered pulses, max., Hz	200
Internal pull-up to device power supply	yes
ESD protection	yes
Type of connected devices	"dry" contact, open collector
Open collector digital output	
Number	1 pcs
Load current, no more than	1 A
Switching voltage	Up to 24 V
Memory	
Memory type	flash
Built-in memory capacity	8 MB
Power supply	
Battery voltage	3 V
Battery type	2 x CR123A
Total battery capacity	1500 mAh
Autonomous operation time	Up to 5 years, depending on settings
External DC power supply	5…30 V
Mechanical	
Color	RAL 7035 (light gray)
Material	ABS+PC plastic
IP code	IP65
Dimensions	129 x 79 x 29 mm
Weight, max.	approx. 195 g
MTBF	50 000 hours

Connections:



Modification	Description	Availability
IC200-MRTU-LW.EU.0.2.1.1	Modbus RTU converter with internal antenna for European frequency band	On stock
IC200-MRTU-LW.EU.1.2.1.1	Modbus RTU converter with external antenna for European frequency band	By request

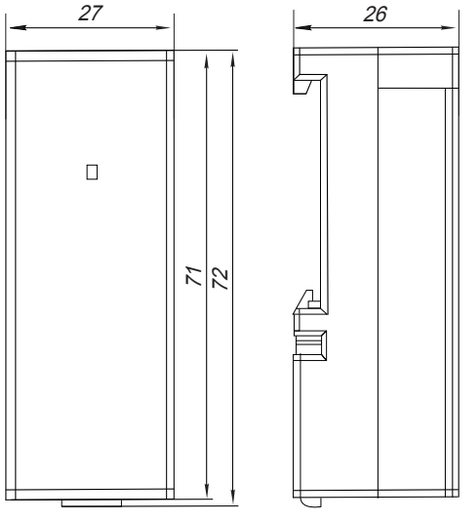
IC4-M

With the USB-RS485 bidirectional converter IC4-M, you can create an extra serial port on a notebook or PC and connect a serial device to a vacant USB port. It provides reliable galvanic isolation between the interfaces. The device is powered directly from the USB port.

Functions and features:

- Bidirectional (USB<->RS485) data exchange
- ADDC (Automatic Data Direction Control) - no flow control is required
- Galvanic isolation between interfaces
- Port-powered from PC's USB – no power supply unit is needed
- Power/Transmit LED indicator
- Operating systems:
  - Windows XP / Server 2003 / Vista / 7 / 8 / 8.1 / 10 / 11
  - Mac OS X
  - Linux 2.6. x/3.x.x l

Dimensions:

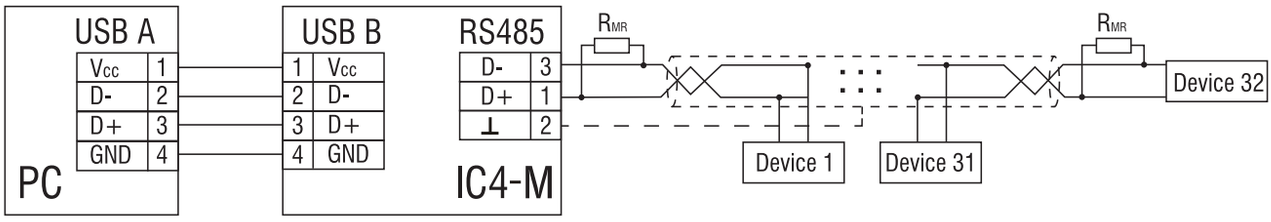


Bidirectional (USB<->RS485) data exchange	RS485 IC4 PC
RS485 interface	RS485
USB interface	
Galvanic isolation	RS485 USB
DIN rail mounting	DIN
Standard protection level	IP20

Technical data:

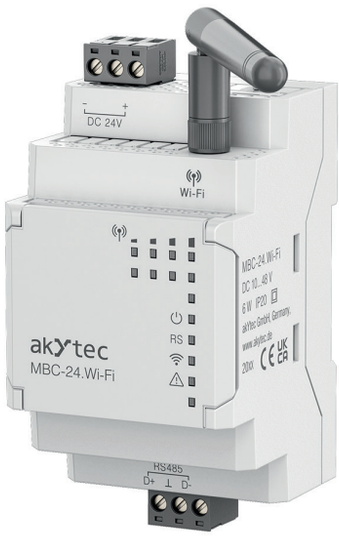
Power supply	over USB (5 V)
Power consumption, max.	2 W
Galvanic isolation	1780 V
USB interface	
Specification	USB 2.0
Terminals	D+, D-
Baud rate	up to 115.2 kbit/s
Cable length, max.	3 m
RS485 interface	
Specification	TIA/EIA-485
Terminals	D+, D-
Number of devices in the network, max.	32
Cable length, max.	1200 m
Dimensions	27 x 72,5 x 26 mm
Weight	approx. 45 g

Wiring:



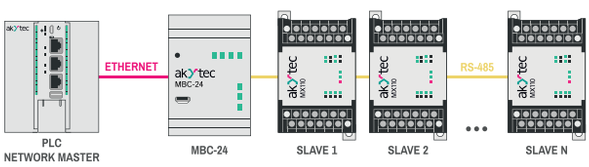
MBC-24.x

The device is designed for bidirectional conversion and data transmission of Modbus RTU/ASCII and Modbus TCP protocols via RS-485 and Ethernet/Wi-Fi communication interfaces, respectively.

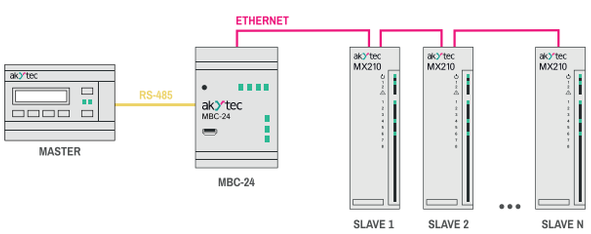


MBC-24.X can be configured as:

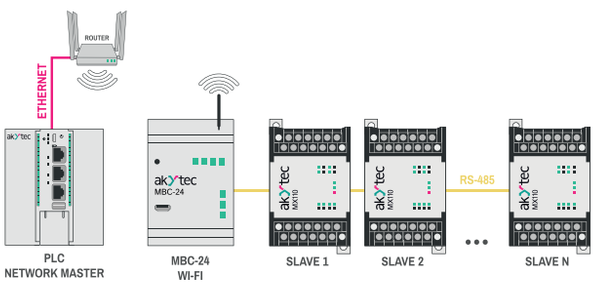
- Master in Ethernet/Wi-Fi network — Slave in RS-485 network (support up to 32 Slave devices in RS-485 network without repeater).
- Master in RS-485 network — Slave in Ethernet/ Wi-Fi network (support up to 31 Slave devices in Ethernet network).



Master in Ethernet network - Slave in RS-485 network

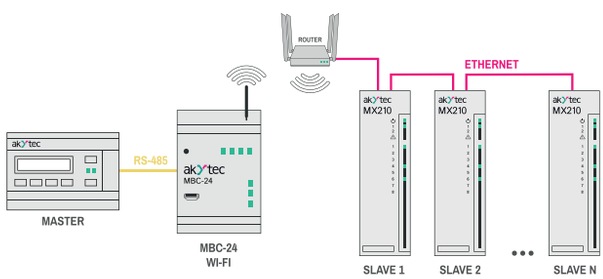


Master in RS-485 network - Slave in Ethernet network



Master in Wi-Fi network - Slave in RS-485 network

Wi-Fi communication interface	WI-FI
Modbus RTU/ASCII and Modbus TCP	Modbus RTU / Modbus TCP
Securely isolated	GALVANIC ISOLATION
Ethernet communication interface	
RS-485 communication interface	RS485
DIN rail mounting	DIN
Wide range of ambient temperatures	+55°C / -40°C



Master in RS-485 network - Slave in Wi-Fi network

Technical Data:

	MBC-24	MBC-24.Wi-Fi
	RS-485 – Ethernet	**RS-485 – Wi-Fi**
Power supply	24 (10…48) VDC	
Galvanic insulation	1770 V	
	RS485	
Supported protocols	Modbus RTU (Master/Slave), Modbus ASCII (Master/Slave)	
Communication speed	1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200 bps	
Maximum length of communication line	1200 m	
Number of Slave devices in the network (without repeaters), max.	32	
	Ethernet	**Wi-Fi**
Supported protocols	Modbus TCP (Master/Slave)	
Standard	IEEE 802.3i/u	IEEE 802.11b/g/n
Communication speed	10/100 Mbps	depends on the standard
Number of Slave devices in the network, max.	31	
	USB	
Type	USB 2.0 (Micro-USB)	
Power supply via USB (during setup)	Supported	
	Enclosure	
Mounting	DIN rail	
Dimensions	55 × 96 × 58 mm	
Weight	0,15 kg	
IP Code	IP20	

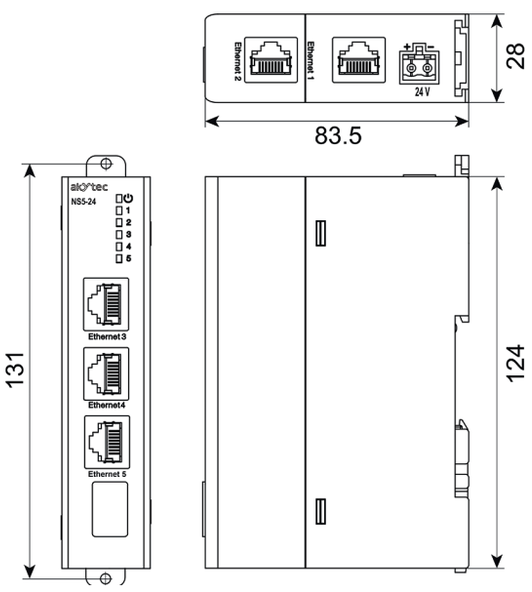
NS5-24

NS5-24 is a reliable, simple, budget-friendly 5 port unmanaged industrial switch. It is designed to connect nodes within one or several network segments. It supports 10...48 V DC power supply and is DIN-rail mounted.

Functions and features:

- Easy and reliable to use. No additional software is required for installation and operation. The device operates on a plug-and-play basis.
- Temperature range -40…+55 °C.
- Automatic detection of MDI/MDI-X connection types. Automatic identification of cable types with straight (568B) and crossover (568A) pinouts supported by connected devices.
- Compact dimensions: 25 × 100 × 86 mm.

Dimensions:

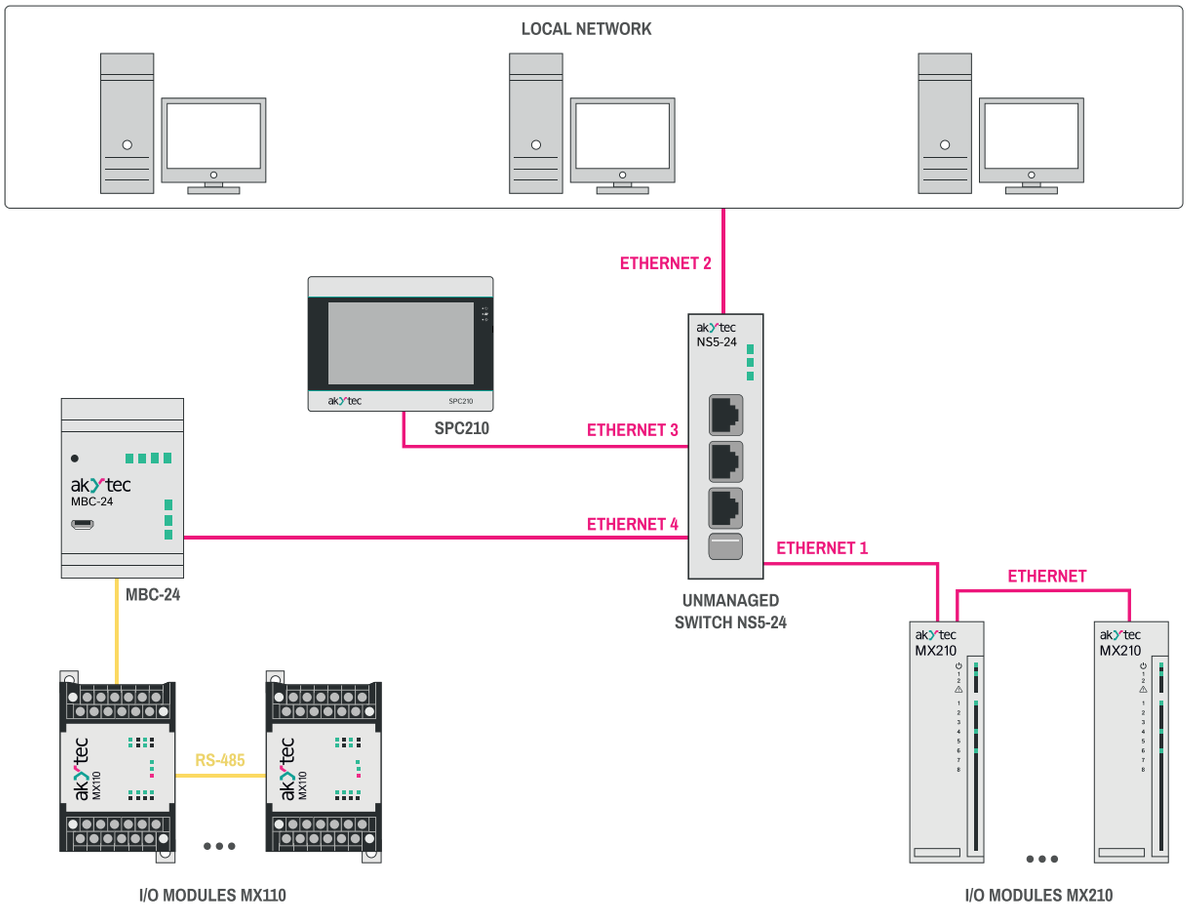


5 Ethernet ports on board	
Wide range of ambient temperatures	+55°C -40°C
DIN rail mounting	DIN
Standard protection level	IP20

Technical data:

Main properties	
Number of ports	5
Switching layer	L2
Power supply	24 (10…48) V DC
Ethernet	
Ports and supported interfaces	5 × 10/100Base-T/TX
Connector type	8P8C (RJ45)
Standard	IEEE 802.3i/802.3u
Enclosure	
Mounting	DIN rail
Dimensions	28,0 × 124,0 × 83,5 mm
IP Code	IP20
Weight	0.15 kg

System architecture:



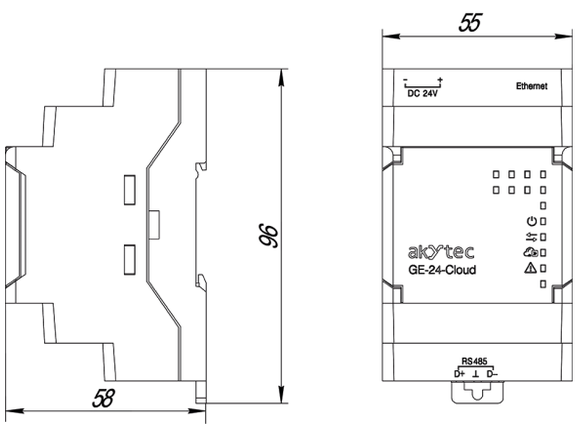
GX-24-Cloud

Gx-24-Cloud network gateways are designed to connect akYtec devices or third-party equipment with RS-485 interface (Modbus protocol) to akYtec Cloud service via one of the interfaces:
GG-24-Cloud - GSM (2G);
GE-24-Cloud - Ethernet;
GW-24-Cloud - Wi-Fi.

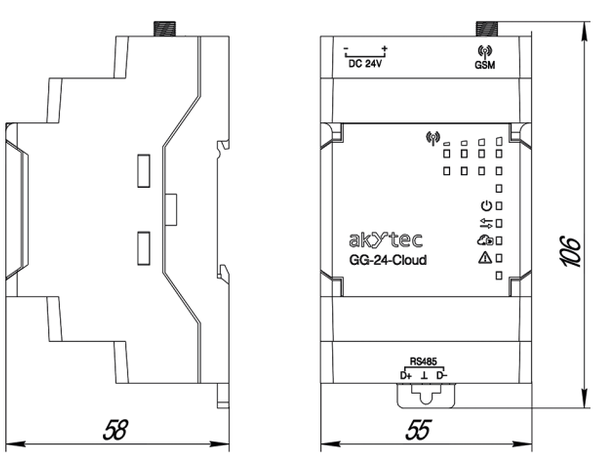
To connect to akYtec Cloud, all you need to do is:

- GG-24-Cloud — install a SIM card;
- GE-24-Cloud — set a static IP or choose DHCP;
- GW-24-Cloud — specify an access point and set a static IP or select DHCP.

Dimensions GE-24-Cloud:



Dimensions GG-24-Cloud:

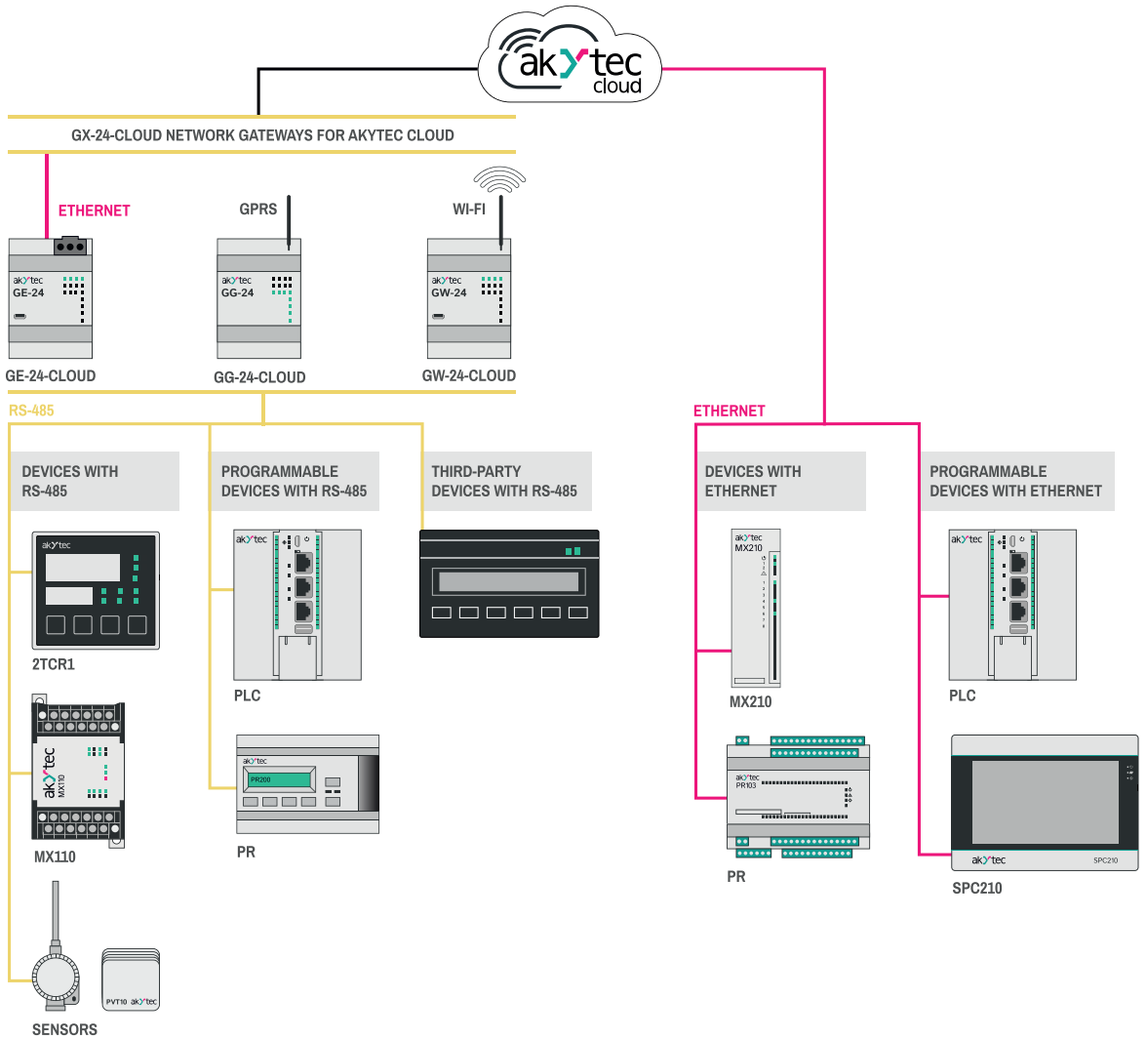


- Ethernet communication interface
- Communication via GPRS
- Communication via WiFi
- RS-485 communication interface
- Made for akYtec Cloud connection
- Wide range of ambient temperatures
- DIN rail mounting

Technical data:

	GE-24	GW-24	GG-24
Power Supply	24 (10…48) V DC		
Power Consumption (max)	6 W		
Galvanic Isolation	1770 V		
Network Interface	RS485		
Supported Protocols	Modbus RTU, Modbus ASCII, akYtec*		
Baud Rate	1200...115200 bps		
Max Cable Length	1000 m		
Cloud Interface	Ethernet	Wi-Fi 802.11 b/g/n	GSM / 2G
Cloud Protocols	TCP, DNS, DHCP		GSM-850, E-GSM-900, DCS-1800, PCS-1900
Cloud Baud Rate	10/100 Mbps	2.4–2.5 GHz	Class 4 (GSM-850, E-GSM-900), Class 1 (DCS-1800, PCS-1900)
Cloud Cable Length	100 m	Antenna cable max. 3 m	
Configuration Interface	USB 2.0 (Micro-USB), Ethernet 10/100 Mbps	USB 2.0 (Micro-USB), Wi-Fi 802.11 b/g/n	USB 2.0 (Micro-USB)
Dimensions (mm)	55 × 96 × 58	55 × 96 × 58 (without antenna)	55 × 100 × 58 (without antenna)
IP Code	IP20		
Service Life	10 years		
Weight	approx. 150 g		

Connection:



NPT3

The NPT3 transmitter is designed to be mounted on a measuring insert in a DIN connection head of Form B. The device converts the sensor signal of a TC or RTD to a 4-20 mA standard signal. The configuration is performed via the USB interface.No programming adapter is required. The configuration software is in delivery included.

Functions and features:

- Suitable for a wide variety of RTDs and TCs
- Support for 2-, 3-, or 4-wire RTD connection
- Operating temperature -40...85°C
- High accuracy and resolution
- High reliability
- Configuring over the USB interface
- Free configuration software included

Areas of application:

- Any DIN Form B sensor head.

Technical data:

Power supply	24 (12...36) V DC
Analog input	1
Analog output	1
RTD	Pt50, Pt100, Pt500, Pt1000, Ni100
TC	B, J, K, N, R, S, T
Accuracy	
TC	0.5 %
RTD	0.25 %
Linearity error, max.	0.2 %
Analog output	4-20 mA
Permissible load	$R_B \leq (U_V\text{-}11\ V) / 0.02\ A$
Ambient temperature	-40...+85 °C
IP code	IP30
Dimensions	Ø 44 x 18 mm
Weight	approx. 25 g

1 universal analog input — **1 AI**

Thermocouple
Resistance temperature detector

Analog output 4-20 mA — **4-20 mA**

USB interface

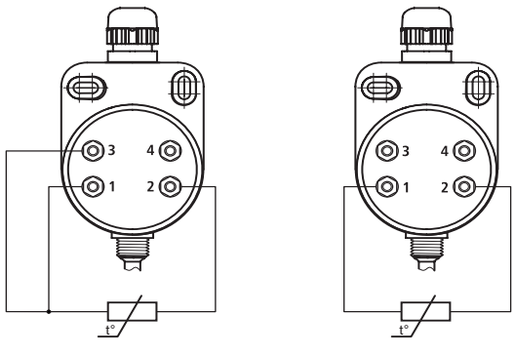
DIN Form B sensor head installation

Wide range of ambient temperatures — +85°C / -40°C

DTS125L

The DTS125L is a temperature sensor for measuring air temperature in outdoor or indoor environments. The wallmount IP65-rated enclosure enables this sensor to be utilized in warehouses manufacturing facilities with high installation demands to dust and water protection.

Electrical connection:



Technical data:

Sensor type	Pt100, Pt1000
Wiring	2-wire, 3-wire
Measuring range	-50...+100 °C
Accuracy class	B
Response time, max.	10 s
Insulation resistance, min.	20 MOhm
IP code	IP65
Protective tube	AISI 321
Probe length	60 mm

PT100/PT1000 sensor type — PT100 PT1000

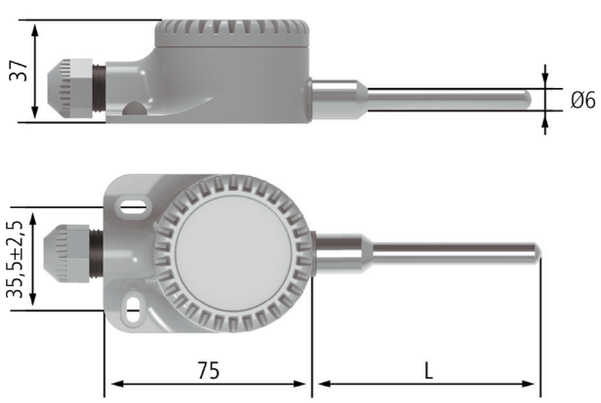
Wide range of ambient temperatures — +100°C -50°C

Wall mount — WALL

High IP Code — IP65

For HVAC systems

Dimensions:



PD100

Overpressure transmitter is designed for pumping stations, water channels, heatings, water treatment and water supply systems, industrial compressor rooms, boiler automatics in boiler houses and for other main industries where accuracy and stability of characteristics are required. Each sensor undergoes initial verification at the production site.

Measuring medium:

Gases, steam, water, slightly aggressive liquids neutral to stainless steel AISI 316L / 1.4435 (AISI 304 / 1.4307).

Key Technical Features:

- Wide pressure range can measure the absolute pressure, gauge pressure and sealed gauge pressure
- Accuracy class: 0,25 %; 0,5 %
- Ambient temperature -20°C~85 °C
- Output signal 4...20 mA
- Power Supply 12 – 30V
- Connector DIN43650A
- Overpressure 200%FS

Why you should choose our PD100:

- Fast delivery in Europe
- Product warranty – 2 years
- We can offer a complete solution from transmitter to controller.

Operating conditions:

Outdoors or indoors without aggressive vapors and gases at absolute or gauge or sealed gauge pressure depending on your range, with ambient air temperature in the range from -20 to +85 °C.

Output signal 4-20 mA	4-20 mA
For PR1XX	for PR1XX
Protection against internal condensation	
For HVAC systems	
Cost effective	
High IP Code	IP65
Wide range of ambient temperatures	+85°C -20°C
For general industrial applications	GENERAL APPLICATION

Technical Data:

Measuring ranges	
Gauge	0...16 bar
Absolute	0...16 bar
Sealed gauge	0...100 bar
Accuracy	
Standard	0.5 % FSO 0.25 % FSO
Output signal	4-20 mA
Medium temperature	-30...+105 °C
Power supply	12...30 V DC
Process connection	G1/2"; G1/4"
Electrical connection	EN175301-803 Form A (DIN 43650A)
IP Code	IP65
Dimensions	80,5 x 47 x 30 mm
Weight	Gross weight for 1 pc., 224g (with box) / Net weight for 1 pc., 182g (without box)

Ordering code:

PD100 G – X X X B – 2 – 7

Input	**[bar]**								
	0...10	G	0	1	0	B			
	0...16	G	0	1	6	B			
Accuracy									
	0.25%						2		
Pressure connection									
	G1/2"							7	

G: Gauge pressure
A: Absolute pressure
S: Sealed gauge pressure.

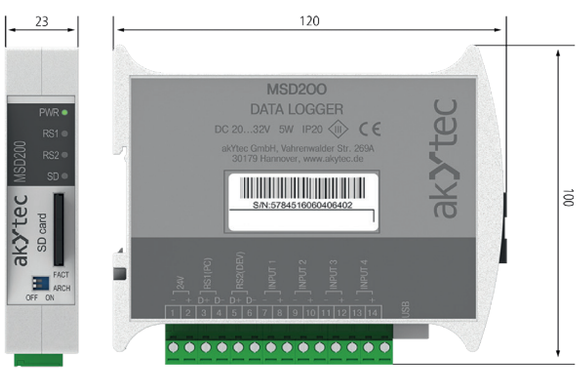
MSD200

MSD200 is a DIN rail device capable of logging data over up to 64 channels and storing them on an SD card (max. 32 GB). This logger has four (0) 4-20 mA analog inputs and two RS485 interfaces (Modbus RTU/ASCII). The MSD200 is configured over the built-in USB port with a free-of-charge software tool (included).

Functions and features:

- 4 analog inputs for standard electrical signals 0-5 mA, 0-20 mA or 4-20 mA
- Scaling function to convert the measured value to any unit
- Monitoring of data received from other devices via Modbus over RS485 interface
- Logging the received data and store it as a hard-copy to a memory card as a CSV file
- Modbus RTU/ASCII communication in master or slave mode over the RS485 interface
- User-friendly software tool MSD200 Configurator

Dimensions:



64 data measuring points	64 CHANNELS
SD card (up to 32 GB)	SD
4 analog inputs	4 AI
4-20 mA input signal	4-20 mA
Modbus protocol	Modbus
RS485 interface	RS485
Master or Slave in a Modbus network	MASTER SLAVE
USB interface	
DIN rail mounting	DIN
Wide range of ambient temperatures	+55°C -10°C

Areas of application:

The MSD200 can be used for data archiving in various processes in the food, chemical, gas and packaging industry as well as in the construction materials and wood processing industries. It can be also applied in many other areas of industrial and building automation.

Technical Data:

General	
Power supply	24 (20...32) V DC
Power consumption, max.	5 W
Number of channels, max.	64
Logging cycle	1…65535 s
Dataset size (per 1 channel)	20 bytes
Storage media	MMC, SD, SDHC, microSD
Storage capacity	≤32 GB
Storage medium file system	FAT32
Analog inputs	
Quantity	4
Input signals	0-5 mA, 0(4)-20 mA
Sampling rate for analog inputs, max.	100 ms
Accuracy	±1.0%
Input resistance	133 Ohm
Galvanic isolation	none
Resolution ADC	12 bit
Communication	
Interfaces	2 x RS485 (RS1, RS2), USB-Device 2.0
Protocol	Modbus RTU / ASCII, akYtec
RS485	
RS1 operation mode	Slave (PC interface)
RS2 operation mode	Master (Device interface)
RS1 protocol	Modbus RTU
RS2 protocol	Modbus RTU / ASCII, akYtec
Baud rate	1.2...115.2 kbit/s
Galvanic isolation	individual
Environment	
Ambient temperature	-10...+55 °C
Humidity	up to 80%, non-condensing
IP Code	IP20
Enclosure	
Dimensions	22.5 x 102 x 120 mm
Weight	approx. 150 g
Material	plastic

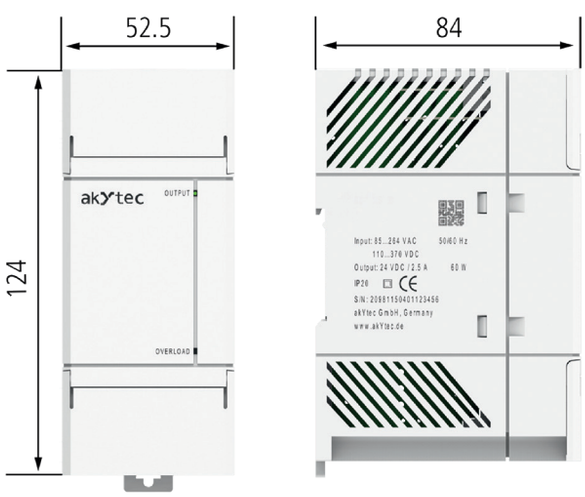
PASF-60.24

The PASF-60.24 is a two phase power supply unit with an integrated output-relay fit for the demanding solutions. It offers maximum functionality for applications in complex systems and machines. The power supply steps down the voltage from 230 V AC to 24 V DC. Output voltage can be adjusted with a trimmer (+-8%). Thanks to the extremely space-saving narrow design, they are particularly suitable for industrial applications in switch boxes or in small control cabinets. To increase the output power, several power supply units of the same type can be connected in parallel. Warning! Improper use can lead to hazards such as short circuit, fire, electric shock, etc.

Functions and features:

- Relay output for alarm
- Parallel connection (for power redundancy).
- Adjusting output voltage (± 8%)
- High stability of output voltage (permissible variation less than 2 %)
- Minimum ripple (0.5%)
- Voltage and current output limit
- Overvoltage and surge protection
- Overload, short circuit and overheat protection
- Universal AC/DC input voltage range

Dimensions:

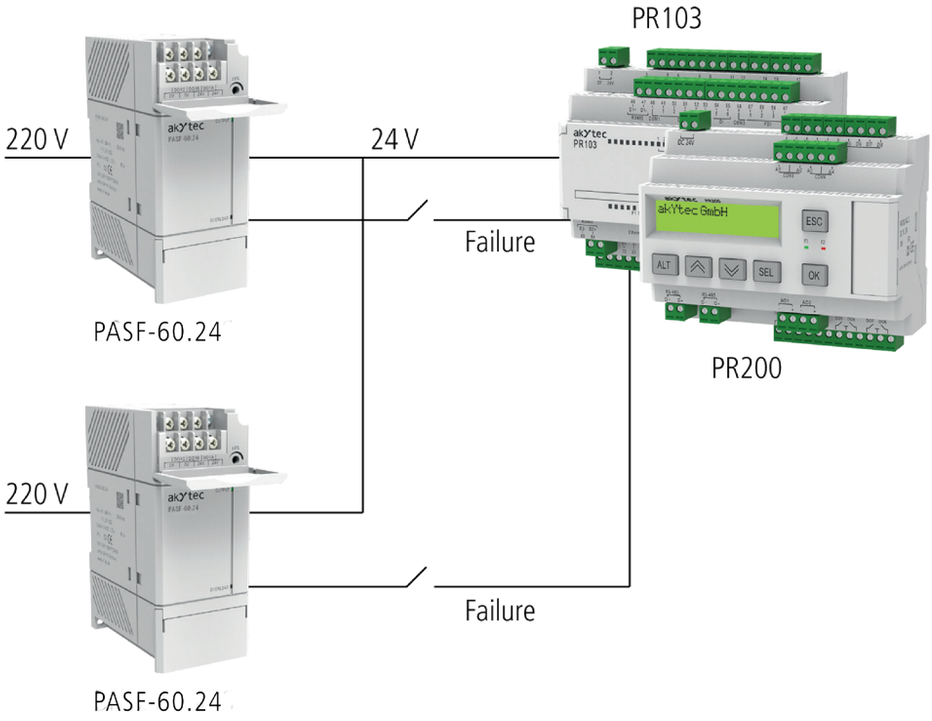


Input signal	85...264 VAC 110...370 VDC
Output signal	24 V⎓DC 2.5A
1 Relay output	1DO
Power backup	
Adjusting output voltage	±8%
Output current limitation	
Galvanic isolation	
DIN rail mounting	DIN
Wall mounting	WALL
Wide range of ambient temperatures	+70°C -40°C

Technical data:

Output	
Rated output voltage	24 V DC
Rated output current	2.5 A
Rated output power consumption	60 W
Output voltage adjustment	±8 %
Pulse voltage alteration, max.	120 mV
Input	
Output voltage limits	
AC	85...264 V, 45...65 Hz
DC	110...370 V
Current consumption	1.25 A
Inrush current	36 A
Efficiency	85%
ADC resolution	12 bit
Protection	
Output current limit	104 … 116% of rated current
Output voltage limit	150% of rated voltage
IP Code	IP20
Environmental conditions	
Ambient temperature	-40…+70 °C
Transportation and storage	-40…+50 °C
Enclosure	
Weight	max. 0.5 kg

Backup:



PASB-15/30/60.24

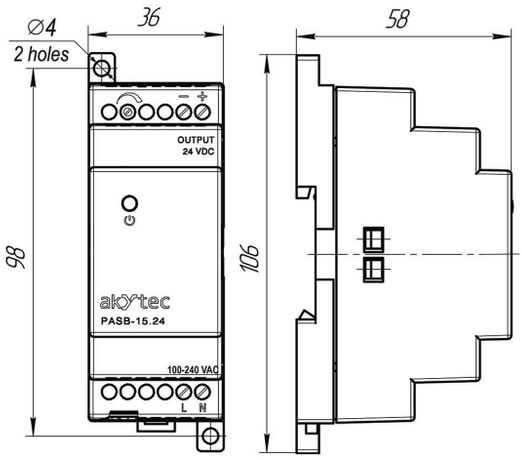
akYtec PASB-15/30/60.24 industrial power supplies are designed to provide stable DC voltage to a wide range of radio-electronic devices, such as relay-automation systems, controllers, etc. Maximum output power: 15 W, 30 W, and 60 W. Each power-supply unit has an output voltage of 24 V. PASB-15/30/60.24 power-supply units are manufactured in plastic enclosures with DIN-rail mounting. They are used to build power-supply systems of varying complexity, including distributed systems.

Functions and features:

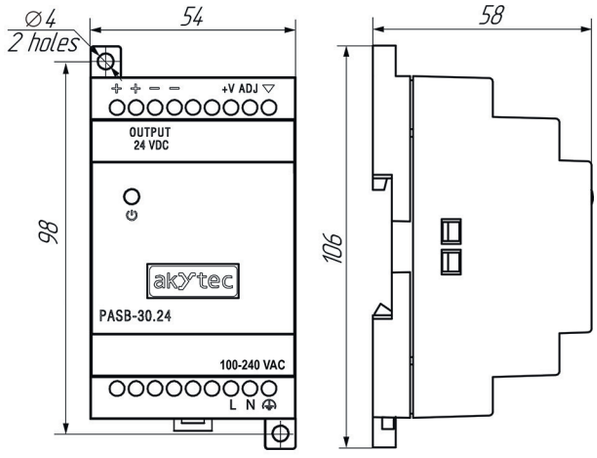
- Conversion of AC/DC voltage to a stable DC voltage.
- Stable operation over a wide range of input voltages without reducing output-voltage characteristics.
- Reliable start-up of loads with high input capacitance (operator panels, modems, etc.).
- Protection against overvoltage and impulse interference at the input.
- Protection against overload, short circuit, and overheating.
- Output-voltage adjustment using an internal trimming resistor within ±8 % of the nominal output voltage, with power retention.
- Indication of output-voltage presence.

Input voltage	90...264 VAC 110...370 VDC
Output current limitation	0,63-2,5A OUTPUT CURRENT
Adjusting output voltage	±8%
Overload protection	
Overheating protection	
Short circuit protection	
DIN rail mounting	DIN
Wall mounting	WALL
Wide range of ambient temperatures	+50°C -20°C

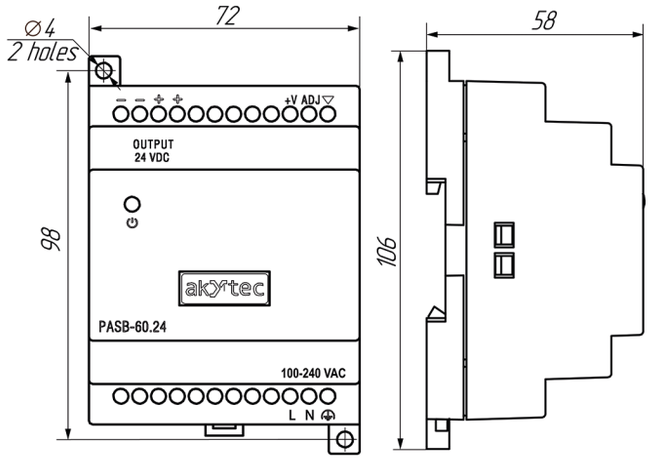
Dimensions:



PASB-15.24



PASB-30.24



PASB-60.24

Technical Data:

Input	
AC Voltage limits	90...264 V
DC Voltage limits	110...370 V
Input AC voltage frequency	45...65 Hz
Output voltage correction	22...26 V
Output	
Output voltage instability when the supply voltage changes	±0,2 %
Output voltage instability when load current changes from 0,1 I_{max} to I_{max}, no more than	±0,5 %
Electrical insulation strength	
- input – output (current value)	3 kV
- input – housing (current value)	1,5 kV
Efficiency coefficient	Not less than 85%
Enclosure protection rating (front panel)	IP20
Operating conditions	
Ambient temperature	–20...+50 °C
Atmospheric pressure	84...106.7 kPa
Relative humidity (at +25 °C and below without condensation)	no more than 80%

* 30 and 60 W power supplies blocks can be connected in parallel and in series.

Electrical characteristics:

	PASB-15.24	PASB-30.24	PASB-60.24
Power, W	15	30	60
Output voltage, V	24		
Max. output current, A	0,63	1,25	2,50
Output voltage pulsation amplitude, mV	120		

CONTENTS

akytec

EQUIPMENT FOR INDUSTRIAL AUTOMATION

akYtec GmbH from Hanover, Germany develops and distributes innovative automation technology and industrial electronic products. These include various digital displays, control panels, programmable relays, and many other devices.

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Technical changes and mistakes reserved, 2025, v2