



Cost-effective automation

The smart system for all compact controllers in the 100th class

PHOENIX CONTACT – Communicating with customers and partners worldwide

Phoenix Contact is a leading manufacturer of electrical connection and industrial automation technology. Founded more than 80 years ago, the company now has 10,200 employees, of which more than 5,600 are located in Germany. A sales network of over 46 subsidiaries and more than 30 sales representatives guarantees proximity to the customer.

The product range includes high-grade components, systems and services across a wide variety of applications. The selection ranges from modular terminal blocks to interface technology, PCB connection technology and solutions for surge protection to hardware and software solutions for the automation of industrial systems.



Global Player within close reach of the customer

Phoenix Contact values in-house expertise. The design and development departments continuously implement innovative product ideas and deliver special solutions to meet customer requirements. Numerous patents have resulted from products developed at Phoenix Contact.

Web-based automation for more cost-effectiveness

Automation is neither expensive nor complicated. On the contrary: The compact controllers in the 100th class give you an easy and quick entry into the world of automation. These smallest members of the controller range from Phoenix Contact are ideal for the automatic operation of small to medium-sized applications and offer an optimal price-performance ratio. All controllers in the 100th class have an integrated web server. Together with WebVisit, the software tool from Phoenix Contact for easy creation of visualization pages, you can access your visualization all over the world using any Java-compatible

web browser. The small PLCs are true team players and work in perfect harmony with the IP20 Inline I/O modules, web panels and network components as one system. You can create a flexible automation solution even without profound programming knowledge.

Automation was never as easy!

Discover the web-based system solution for all compact controllers in the 100th class: Simply smart!

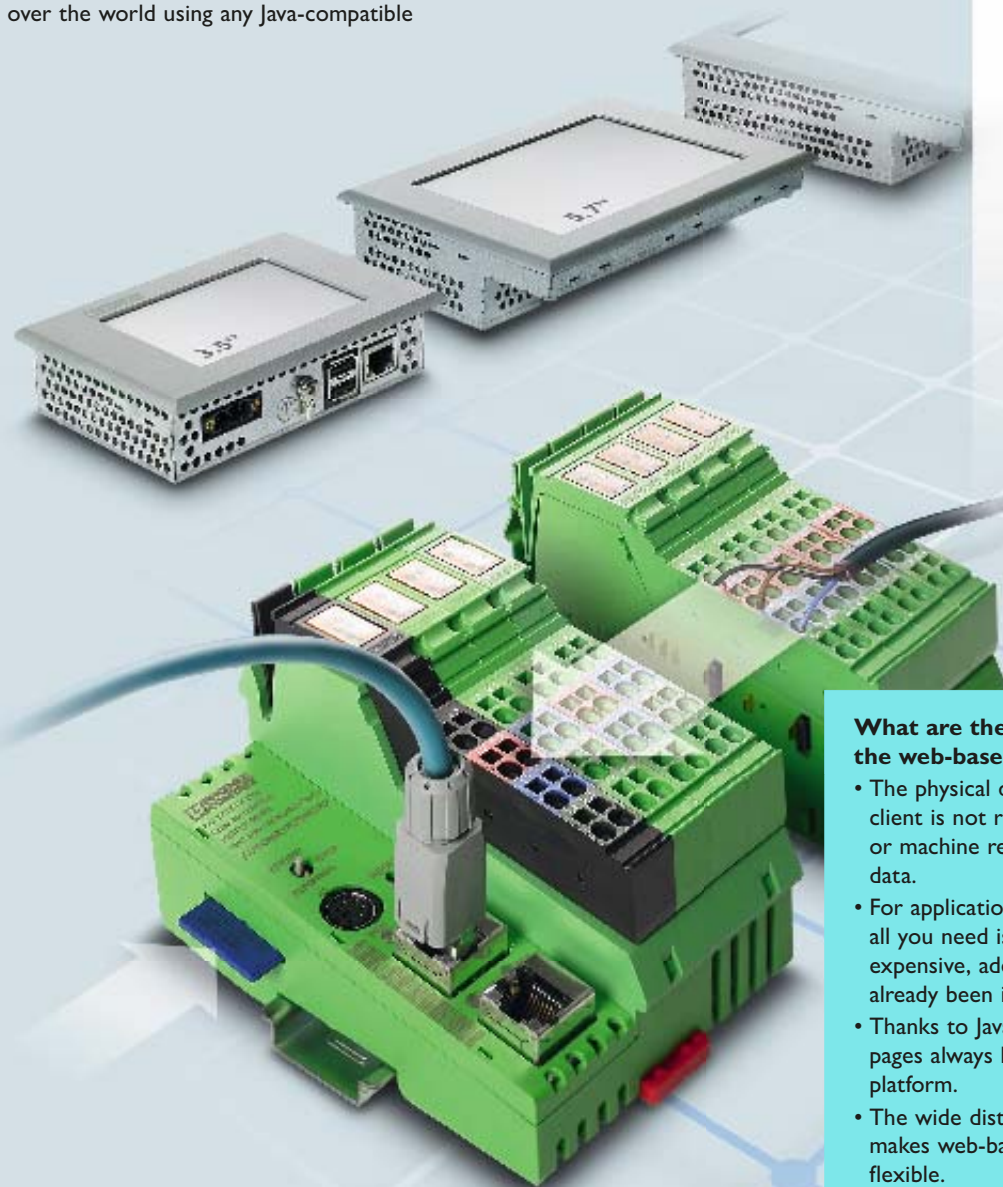


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What are the advantages of the web-based solution?

- The physical distance between the server and the client is not relevant. You can maintain your system or machine remotely and view process or machine data.
- For applications like remote access or diagnostics, all you need is a PC with web browser and no expensive, additional software as the web server has already been integrated in the controller.
- Thanks to Java-based visualization, the visualization pages always look the same irrespective of the platform.
- The wide distribution of efficient web browsers makes web-based visualization both profitable and flexible.



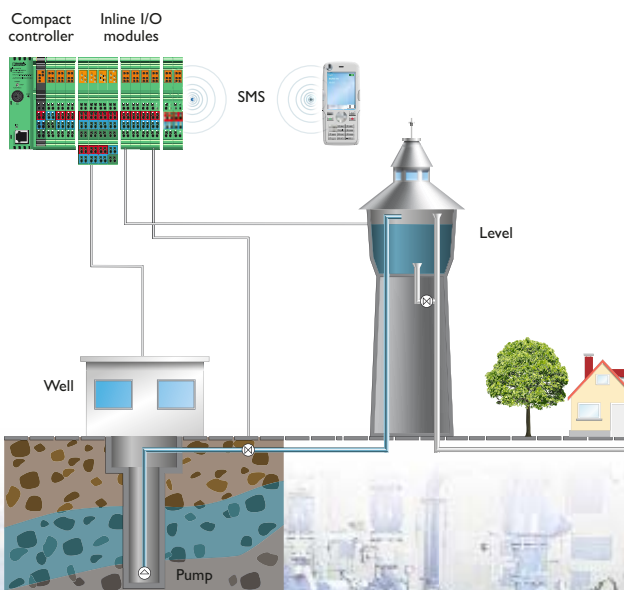
Solutions for all applications – Flexible use

Water management

In water management, the compact controllers are ideal for the control of bubblers, for example, and elevated tanks in order to ensure constant supply for consumers.

The advantages for the user:

- Bidirectional communication with control systems through permanent and dial-up lines as well as mobile phone and wireless data communication
- Integration of flow gauges and level sensors
- Modular extendibility of the remote control station with digital and analog inputs and outputs
- Remote control and data logging in accordance with international remote control standards, e.g. IEC 60870-5-101/104 and with company-specific protocols

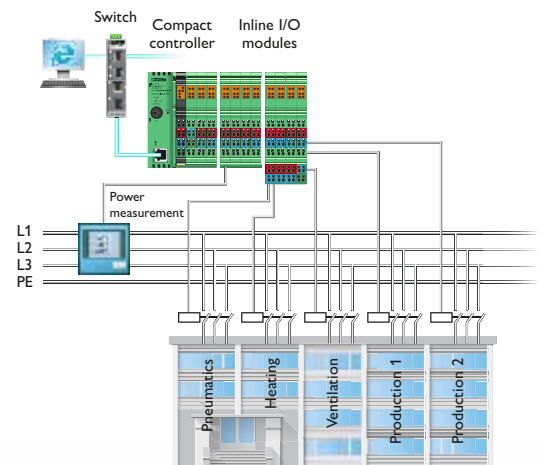


Building automation

In building automation, energy consumption can be monitored using the compact controllers in the 100th class in individual rooms as well as in production halls. Energy can be saved as convenience functions are reduced or switched off briefly during peak loads.

The advantages for the user:

- Seamless communication with other controllers spread throughout the building, via the Ethernet interface
- High flexibility thanks to modularization allowing you to extend the compact controllers by adding terminal blocks from the Inline I/O system



Cost-effective automation

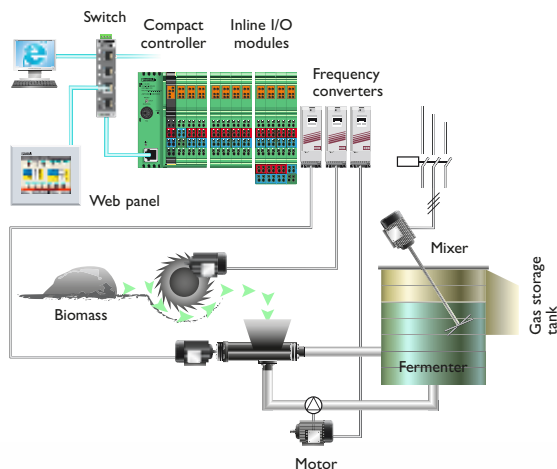
The class 100 controllers allow easy entry into the world of automation and are ideal for automated operation of small and medium-sized applications. Extend the controllers by adding input and output modules depending on your requirements and create an inexpensive automation system. Discover the numerous application options yourself with the help of some example applications:

Regenerative energy

In biogas systems, pumps and mixers that serve for continuous supply of biomass and slurry to the fermenter can be controlled using the compact controllers in the 100th class.

The advantages for the user:

- Simple and competitively priced operation and monitoring with the integrated web server and the project planning software WebVisit
- Seamless flow of information up to the control center and the Internet, using IT standards such as TCP/IP and HTTP

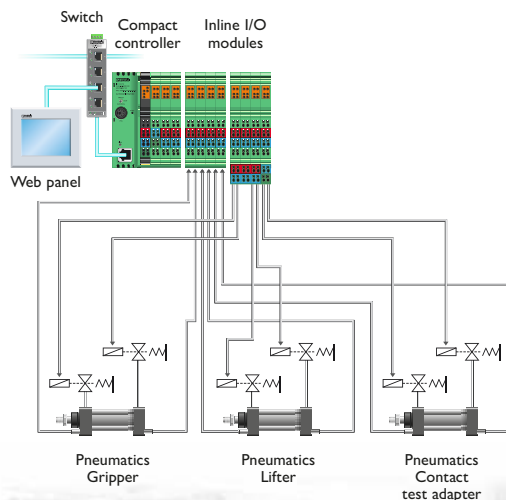


Mechanical engineering

In mechanical engineering, the small PLCs can, for instance, be used in testing equipment for the control of grippers, lifters and test adapters. The manufactured products can thus be subjected to a function test.

The advantages for the user:

- Exchange of archiving/recipe data via FTP as well as direct access to SQL databases
- Many functions, such as 8 digital inputs and 4 digital outputs, RS-232 interface, realtime clock and data memory with minimum space requirements



Our system for compact controllers – Cost-effective automation

For inexpensive automation of your application, the product range from Phoenix Contact offers a complete system for the compact controllers in the 100th class. Naturally, all components of this system have been adapted to match each other and PC Worx Express offers the suitable development environment for your application free of charge.

Combine the different products according to your requirements and create your ideal automation solution. Our extensive interoperability tests guarantee smooth functioning of your application.

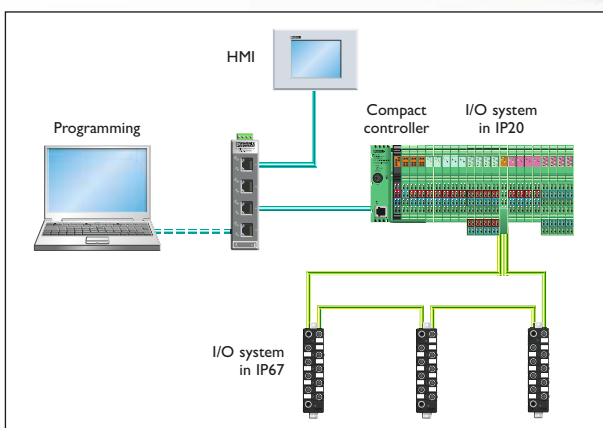


Components for network technology

Various switches are available for structuring an integral Ethernet-based automation solution. Develop a reliable network at an optimum price!

I/O systems for use in the control cabinet

For the extension of the controller, we offer a large range of input and output modules as well as various function terminals. You can, for instance, record temperatures, masses and positions each with a module that can be flexibly connected to the compact controller.



System overview

All necessary elements of the system for the 100 controller class can be combined with each other for the structuring of an automation solution.

Software

Seamless software tools allow easy implementation of automation solutions. Right from I/O configuration and system visualization to structuring of modern remote control technology. Use our tools to develop a functional application according to your requirements.



Project+

Resy+

OPC
FOUNDATION

WebVisit

PC WORX Express

Devices for operation and monitoring

Machines and systems can be operated and monitored competitively by combining one of our smart compact controllers in the 100th class with a web panel.



Compact controllers in the 100th class

The controllers in the 100th class are the smallest members of the control technology range from Phoenix Contact. They are equipped with modern automation and IT technology and form the center point of the profitable system solution. The small PLCs enable an inexpensive entry into the world of automation. A solution cannot be smarter than this!



Quick start starter kit

The ILC 130 starter kit provides an easy entry into automation. Experience the control technology from Phoenix Contact for yourself with this pre-assembled test system and learn how you can automate small-scale applications both profitably and independently.



Industrial modems

Industrial modems allow efficient structuring of worldwide connections e.g. for alarm messaging and remote maintenance. Combined with compact controllers, even small distributed stations can be inexpensively integrated into the overall system.



I/O systems for use in the field

The I/O systems with the IP65/67 degree of protection, i.e. our Fieldline Modular modules facilitate networking of actuators and sensors in direct vicinity of the process.





Cost-effective PLC

ILC 130 ETH Order No.: 2988803

- Processing speed of 90 µs per 1000 instructions (bit data types)
- 1 INTERBUS and 1 Ethernet interface
- 192 kbyte program/data memory each
- 8 kbyte retentive data memory
- 8 direct inputs and 4 direct outputs
- Max. 2048 I/O points
- Supply voltage 24 V DC
- Integrated web/FTP server
- OPC functionality



Standard PLC

ILC 150 ETH Order No.: 2985330

- Processing speed of 90 µs per 1000 instructions (bit data types)
- 1 INTERBUS and 1 Ethernet interface
- 256 kbyte program/data memory each
- 8 kbyte retentive data memory
- 8 direct inputs and 4 direct outputs
- Max. 4096 I/O points
- Supply voltage 24 V DC
- Integrated web/FTP server
- OPC functionality



PLC with extended memory

ILC 155 ETH Order No.: 2988188

- Incl. the license for function block libraries
- Ideal for remote control applications
- Processing speed of 90 µs per 1000 instructions (bit data types)
- 1 INTERBUS and 1 Ethernet interface each
- 512 kbyte program/data memory each
- 48 kbyte retentive data memory
- 8 direct inputs and 4 direct outputs
- Max. 4096 I/O points
- Supply voltage 24 V DC
- Integrated web/FTP server
- OPC functionality



PLC with modem

ILC 150 ETH GSM/GPRS Order No.: 2916545

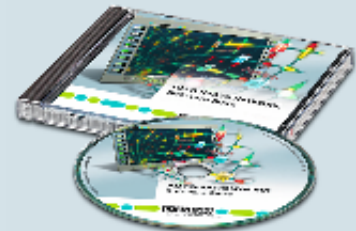
- Integrated GSM/GPRS modem
- Ideal controller for remote control and remote maintenance
- Processing speed of 90 µs per 1000 instructions (bit data types)
- 1 INTERBUS and 1 Ethernet interface
- 512 kbyte program/data memory each
- 48 kbyte retentive data memory
- 16 direct inputs and 4 direct outputs
- Max. 4096 I/O points
- Supply voltage 24 V DC
- Integrated web/FTP server
- OPC functionality



PLC with two Ethernet ports

ILC 170 ETH 2TX Order No.: 2916532

- 256 MB flash memory (SD card that can be inserted)
- Enabling the function block library using the SD card with license
- Processing speed of 90 µs per 1000 instructions (bit data types)
- 1 INTERBUS and 2 Ethernet interfaces
- 512 kbyte program/data memory each
- 48 kbyte retentive data memory
- 8 direct inputs and 4 direct outputs
- Max. 4096 I/O points
- Supply voltage 24 V DC
- Integrated web/FTP server
- OPC functionality



Programming software

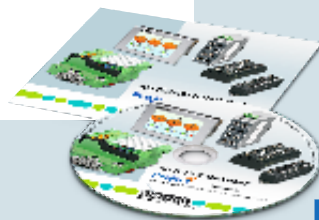
PC WORX EXPRESS Order No.: 2988670

- Free programming environment
- Simple handling, especially for IEC 61131 beginners
- Network configuration on the basis of INTERBUS and Ethernet
- Network diagnostics (Diag+ functionality integrated)
- Structured text (ST) and ladder diagram (KOP/LD)
- 64 kbyte input and 64 kbyte output data
- Supports languages like German and English

I/O systems in the control cabinet – Flexible extension

All controllers in the 100th class already have eight digital inputs and four digital outputs. Your application requires more actuators and sensors to be integrated? No problem: Our Inline automation kit helps you extend your compact controller flexibly by simply aligning I/O modules. Selected for your special requirements, all required automation functions can be put together individually.

The 'Plugging instead of wiring' principle simplifies the structuring and saves installation time. Thanks to the high granularity of the modules, your solution can be implemented cost-efficiently and you only have to pay for the functions which you actually require.



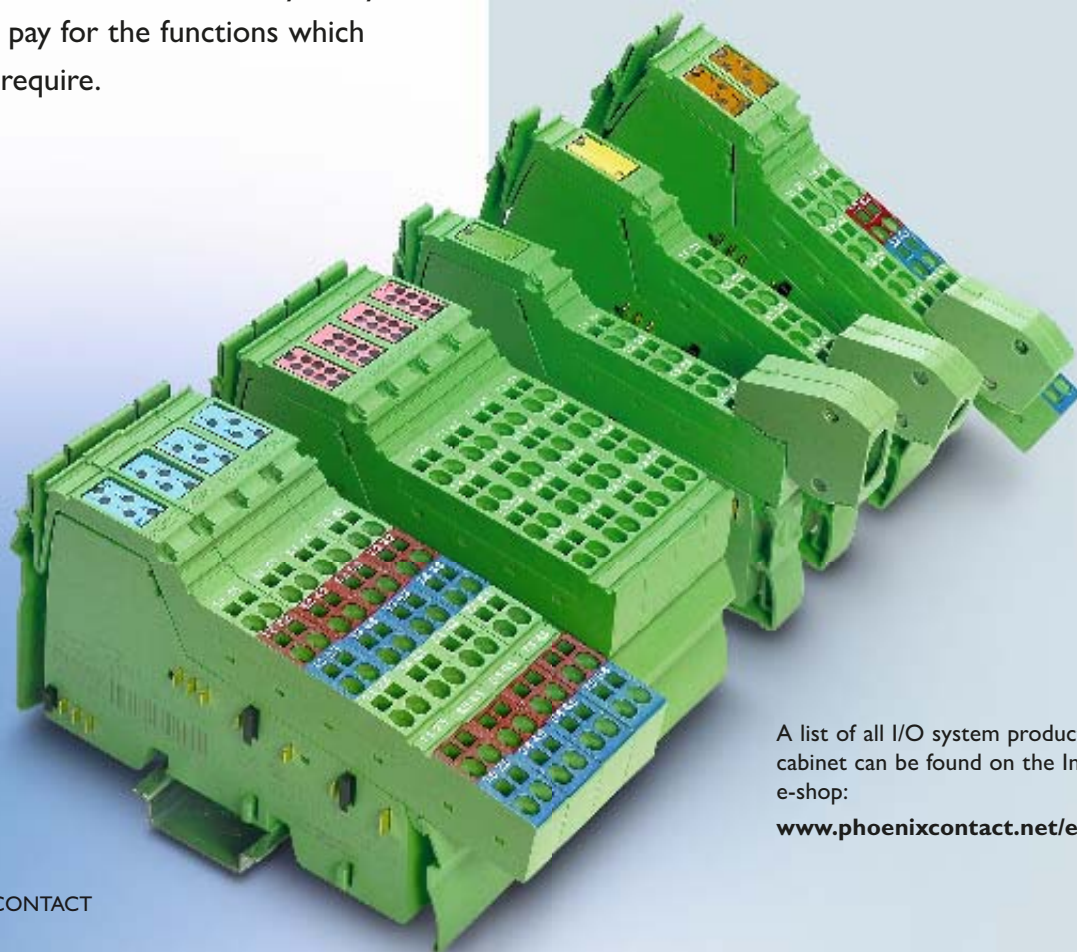
Project+

I/O planner

Project+

Order No.: 2988667

- Free software for planning the I/O configuration
- Automatic structuring of Inline (IP20) and Fieldline (IP65/67) I/O stations
- Automatic selection of accessories
- Representation of the planned station configuration
- Automatic creation of parts lists
- Calculation of currents and consideration of system guidelines
- Export to ClipProject and PC Worx
- Project report with MS Word
- Phoenix Contact catalog as an accessory



A list of all I/O system products for the control cabinet can be found on the Internet in our e-shop:

www.phoenixcontact.net/eshop



Digital input/output

IB IL 24 D...PAC

- Signal level: 24 V DC or 120/230 V AC
- PNP as well as NPN inputs/outputs
- 1 to 32 channels

Inputs:

- Standard inputs as per EN 61131-2/ type 1 and type 2
- 1 to 4-wire termination
- Sensor supply with extended diagnostics
- Inputs as per Desina specification

Outputs:

- 500 mA outputs/2 A outputs
- Relay output, PDT, 5 to 50 V DC, 5 to 253 V AC, 2 A



Analog input/output

IB IL A...PAC

- Voltage and current signals
0 to 20 mA/4 to 20 mA
0 to 10 V/-10 V to +10 V
- Resolution: 12 to 16 bits
- 1 to 8 channels
- Integrated sensor supply
- With Hart protocol



Temperature control

IB IL TEMP...PAC

- Temperature control for resistance sensor
- For thermocouples, types K, J, E, R, S, T, B, N, U, L, C, W, HK
- Resolution: 16 bits
- 1 to 8 channels
- Evaluation of motor PTC thermistors
- Autonomous PID controller independent from the PLC cycle
- Heating/cooling
- Integrated self-optimization
- Incl. user-friendly operating software



 IO-Link

IO link master

IB IL 24 IOL 4 DI 12-PAC

Order No.: 2692717

- 4 IO link ports for the transmission of process and service data. The IO link ports can also be used as 24 V input or output in the SIO mode
- 12 additional digital inputs, 24 V DC as per EN 61131-2/type 3
- 2 or 3-wire termination

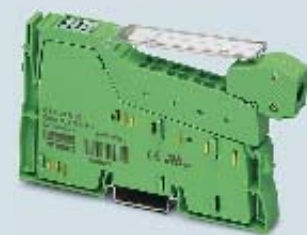


Serial communication

IB IL RS 485/422-PAC

Order No.: 2861933

- Serial interface
- Coupling of scanners, barcode reading devices, scales, printers
- Baud rate < 38,400 baud
- 3964R protocol
- XON/XOFF protocol
- Modbus/RTU(ASCII)



INTERBUS remote bus

IBS IL 24 RB-T-PAC

Order No.: 2861441

- Branch terminal for INTERBUS remote bus
- For bypassing the distances between control cabinets up to 400 m
- Not for ILC 130 ETH

Optional:

- 2 Mbaud for INTERBUS
- Allows structuring of other remote Inline stations

Functional I/O modules – Easy integration

Numerous standard I/O modules are available for the structuring of an automation solution on the basis of our compact controllers. High-performance machine applications also require an extremely precise acquisition of positions, material lengths, temperatures or quantities. In addition, information about flow rates, levels or weights must be available. Phoenix Contact offers a comprehensive range of special function modules for this. Thanks to free blocks and drivers, all modules can be easily integrated into the control program of the small PLC.



Expanding I/O stations without bus couplers

If your I/O station has to be larger than that allowed by the control cabinet width, you can expand your station to more DIN rails with an Inline local bus extension terminal. With this, you can avoid the use of bus couplers.

The following modules allow line skipping:

Output:

IB IL 24 FLM-PAC

Order No.: 2736903

Supply:

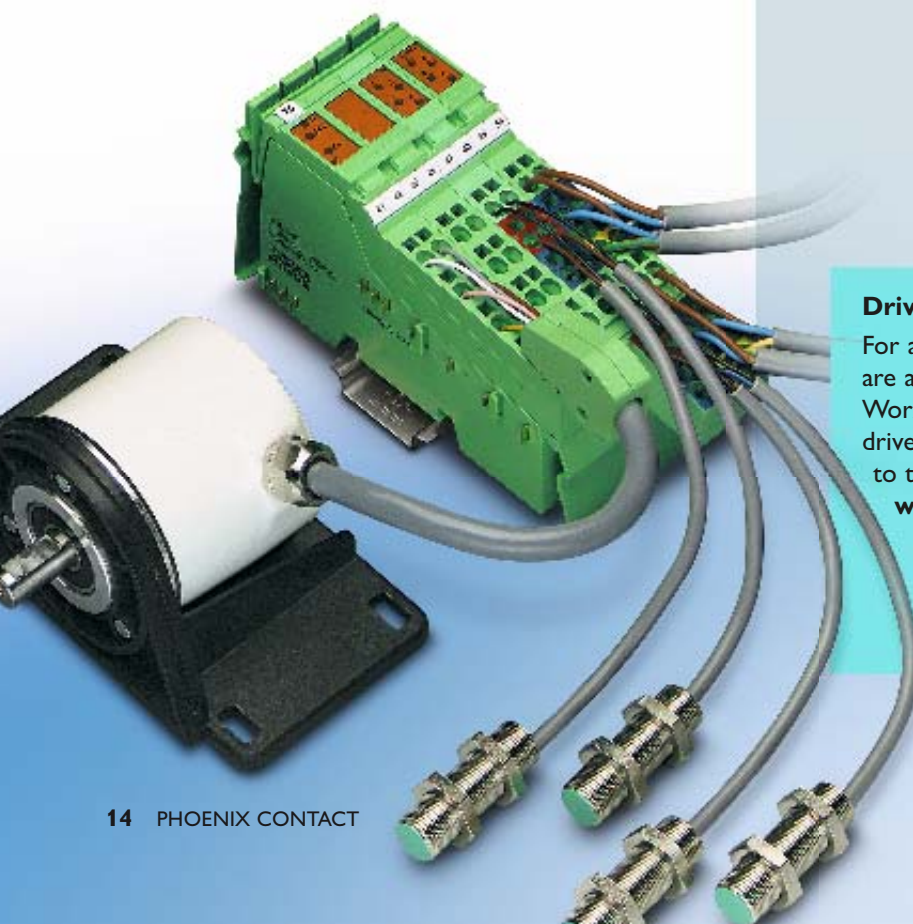
IB IL 24 LSKIP-PAC

Order No.: 2897457

Drivers for functional I/O modules

For all special function modules, free drivers are available for download in the form of PC Worx function blocks. You can find these drivers on the Internet in our e-shop allocated to the corresponding I/O module:

www.phoenixcontact.net/eshop





Motor starter

IB IL 400...

Available in 3 versions:

- Electronic on/off
Up to 1.5 KW/400 V AC, three-phase
- Electronic forward/off/backward
Up to 1.5 KW/400 V AC, three-phase
- Electromechanical on/off
Up to 3.7 KW/400 V AC, three-phase



Strain gauges

IB IL SGI...PAC

- Connection of load cells, force and mass pressure transducers
- Connection of the strain gauges (DMS) with 6 and 4-wire technology
- Measuring Wheatstone bridges
- Sensitivity: 1 mV/V to 4 mV/V
- Version that can be calibrated is available
- Adding up of the measured values for parallel connection of the DMS (SGI)
- 2 channels



Position detection

IB IL...PAC

- For incremental encoder/absolute encoder
- Symmetrical/asymmetrical signals
- Referencing function
- Touch probe function
- Supports linear encoders/encoders
- Potentiometer encoder up to 10 kOhm
- Magnetostrictive encoders



Proportional valves

IB IL PWM/2/CC-3A-PAC Order No.: 2692953

Power amplifier for the control of proportional valves

- Hydraulic or pneumatic
- For 2 two-position/4 single-position magnetic valves, 0 to 3 A
- Supply voltage 24 V/48 V
- Integrated coil current control
- Incl. dither function

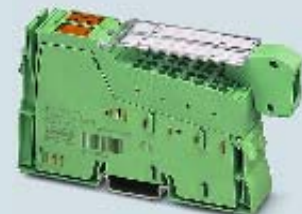


Signal counter/signal generator

IB IL CNT-PAC

Order No.: 2861852

- Signal level 5 V/24 V
- Pulse counting up to $f < 100$ kHz (24 bits)
- Frequency/speed measurement up to $f < 100$ kHz (24 bits)
- Time/interval measurement up to 16 bits
- Additional control input (gate)



Step motor control

IB IL PWM/2-PAC

Order No.: 2861632

- Signal level 5 V/24 V
- Generates square-wave impulses
 - with controllable pulse/pause ratio
 - with controllable frequency
- For step motor control (Pulse/direction signal)
- Integrated positioning function
- Ramp generator available as function block

I/O systems in the field – Connection close to the process

In addition to I/O systems in the control cabinet, many applications also require I/O devices with higher degrees of protection for signal transmission close to the process. The Fieldline Modular devices with the IP65/67 degree of protection are available for networking of sensors and actuators in the field.

In addition to M12 components, the Fieldline Modular range also offers M8 devices. Their compact housing dimensions allow compact structuring of machines and systems.



Connection of IP20 and IP67

IB IL 24 FLM-PAC Order No.: 2736903

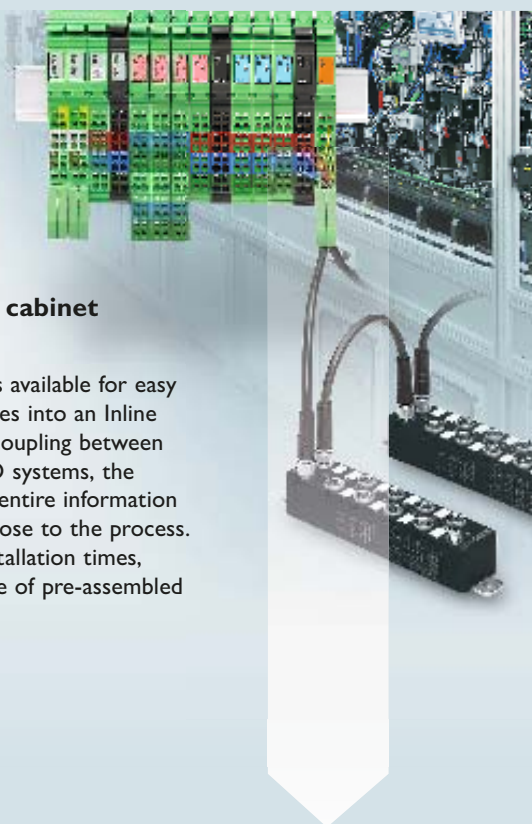
- Inline branch terminal
- Interface for the connection of field devices with an Inline station
- Connection of M8 digital input and output devices to the controllers in the 100th class
- Connection of M12 digital or analog input and output devices to the controllers in the 100th class
- An adapter is available for the transition from M12 to M8



M8 digital input/output

FLM...M8

- Digital IP67 signals
- Signal level: 24 V DC
- Standard inputs as per EN 61131-2/type 1
- 2 or 3-wire termination
- Sensor supply with overload protection
- 500 mA/2 A outputs
- 8 digital inputs
- 4/8 digital outputs
- 4 digital inputs and 4 digital outputs or outputs



Connection of control cabinet and field

The Inline branch terminal is available for easy integration of Fieldline devices into an Inline I/O station. Thanks to this coupling between IP65/67 devices and IP20 I/O systems, the controller also receives the entire information about the signals acquired close to the process. In order to optimize the installation times, you can choose from a range of pre-assembled cables.



M12/M8 bus adapter

FLM ADAP

Order No.: 2736961

- Adapter piece for the connection of Fieldline Modular M8 devices to a Fieldline Modular M12 local bus



M12 digital input/output

FLM...M12

- Digital IP67 signals
- Signal level: 24 V DC
- Standard inputs as per EN 61131-2/type 1
- 2 or 3-wire termination
- Sensor supply with overload protection
- 500 mA/2 A outputs
- 8 or 16 digital inputs
- 8 digital outputs
- 4 digital inputs and 4 digital outputs
- 8 digital inputs and 8 digital outputs



 IO-Link

M12 IO link master

FLM IOL 4 DI 4 M12 Order No.: 2736990

- 4 IO link ports for the transmission of process and service data. The IO link ports can also be used as 24 V input or output in the SIO mode
- 4 additional inputs, 24 V DC
- 2 or 3-wire termination



M12 analog input/output

FLM...M12

- Analog IP67 signals
- 4 channels
- Voltage and current signals
0 to 20 mA/4 to 20 mA
0 to 10 V/-10 V to +10 V
- Resolution: 15 bits
- For resistance sensors
e.g. Pt 100, Pt 1000, Ni 1000, KTY 81 and KTY 84

Solution for operation and monitoring – Overview throughout

You want to constantly keep an eye on your application and be able to intervene in and control the process? Then simply extend your smart 100 series automation system by adding operation and monitoring functions. As every compact controller has an integrated web server, you can use our software WebVisit to develop your user interfaces in a user-friendly way.

Our web panels with 4 or 6 inch touch display are ideal for inexpensive visualization. With modems and our remote control technology, you can easily integrate distributed system parts into your system by yourself and review them.

Our web-based solution:

Simply brilliant!

Including web server

As every controller has an integrated web server, visualization pages can be created inexpensively on the basis of our WebVisit software and stored in the controller. Equipped with a standard browser, a PC or an inexpensive web panel with touch operation can be used for machine and system monitoring or for remote control.

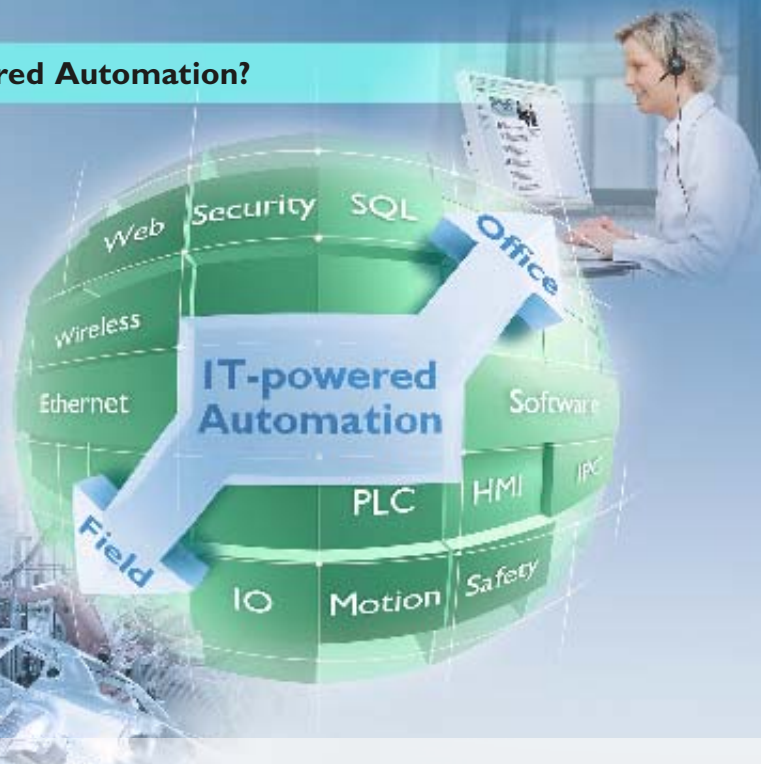


WebVisit



What are the advantages of IT-powered Automation?

The compact controllers in the 100th class are excellently incorporated in the IT-powered Automation concept from Phoenix Contact. IT-powered Automation helps you increase the productivity of your machine or system. Easy integration of all components of the relevant system in one network leads to a quick and seamless flow of information: right from production to the office world. Important data is available at the right time and right place. You can avoid errors and take competent decisions faster – more communication for more productivity.



Latest automation and IT interfaces integrated

DHCP

The DHCP client adopts automatic network settings from a DHCP server.

DNS

The DNS function reads the relevant IP address for a known host name.

FTP server

(File Transfer Protocol) The FTP server of the class 100 controllers enables storing or uploading of any files in the flash file system of the PLC. It is thus possible to exchange parameterization and log files as well as recipes and to store the current source code of the PLC program for servicing.

GSM/GPRS interface

The class 100 controllers communicate, e.g. with PCs, by transmitting data through the mobile phone network. They can therefore be easily integrated into available network structures at places, where telephone or data lines are not available. Production data and error messages are thus forwarded to the control center or to the mobile phone of the maintenance personnel using mobile phone technology.

OPC server

For conventional visualization programs such as Visu+, the OPC server provides the data from the PLC program. The OPC server runs in the control panel or on a PC and can thus call any relevant information from the production process at any location.

SMS

The class 100 controllers can send and receive short messages through the mobile phone network.

SMTP

SMTP makes it possible to send e-mails directly from the PLC program. A function block from the IT library, which must be purchased, sends e-mails using the SMTP function.

SNMP

The SNMP services can be used to integrate the compact controllers into the management of Ethernet networks.

SNTP

The integrated SNTP service allows synchronization of the realtime clock of the compact controllers with a time server.

SQL

Special function blocks facilitate data exchange between the PLC program and an MS-SQL/mySQL database.

TCP/IP

Makes it possible to connect the PLC program with programs of other Ethernet devices. PLC programming function blocks such as IP-Connect and IP-Send are available for this purpose.

UDP

Wireless messages (broadcasts) can be received from other Ethernet devices in the PLC program with UDP. This is done with the same function blocks as with TCP/IP.

Web server

The web server provides a home page on the class 100 controllers for free. Their pages can be drawn using the WebVisit software and linked to the PLC program through data. Our web panels with an integrated browser display these pages and thus enable visualization without Java knowledge.

Compact controllers in the 100th class – Smart control

Core elements of our smart automation solution are the class 100 controllers that can be extended by connecting IP20 Inline I/O modules and thus allow the use of all sensors and actuators that are relevant in the industry. All communication paths that are at present offered by Ethernet, mobile and landline networks are supported, in addition to high-performance control functions.

An integrated web server is available on all controllers for competitively priced visualization. Programming the controller with PC Worx Express is free-of-charge and child's play.



Pre-assembled test system

ILC 130 STARTER KIT Order No.: 2988515

The pre-assembled test system includes all components that are required for the operation:

- ILC 130 ETH compact controller
- 2-channel analog input washer
- A potentiometer for analog value definition
- An 8-fold switch panel for defining digital signals
- A CAT-5 Ethernet cable
- A power supply unit
- CDs with example projects and documentation

The small PLCs convince with:

- Very good price/performance ratio
- High flexibility thanks to the modular extendibility with various standard and function terminals of the Inline I/O system
- Easy integration into existing networks based on international standards such as INTERBUS, Ethernet and optionally GSM/GPRS
- Seamless data exchange by integrating IT standards such as HTTP, FTP, SNMP, SQL and OPC
- Intuitive programming as per IEC 61131 using the automation software PC Worx/ PC Worx Express

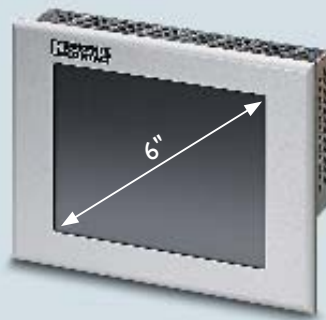


Web panel

WP 04 T

Order No.: 2913632

- Brilliant 3.5" TFT touch display
- Max. 65536 colors can be displayed with 320x240 pixels
- Proven 200 MHz RISC ARM9 processor
- 32 MB SDRAM main memory
- High-quality IP65 aluminum housing
- 0°C – 50°C and 10% – 95% humidity
- Versatile communication through 10/100 Mbit Ethernet and 2x USB 2.0 interfaces
- Windows CE and MicroBrowser incl.

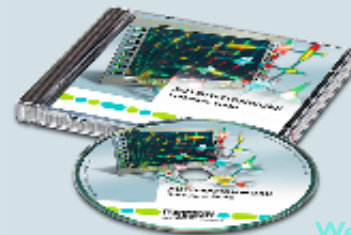


Web panel

WP 06 T

Order No.: 2913645

- Brilliant 6" TFT touch display
- Max. 65536 colors can be displayed with 320x240 pixels
- Proven 200 MHz RISC ARM9 processor
- 32 MB SDRAM main memory
- High-quality IP65 aluminum housing
- 0°C – 50°C and 10% – 95% humidity
- Versatile communication through 10/100 Mbit Ethernet and 2x USB 2.0 interfaces
- Windows CE and MicroBrowser incl.



WebVisit

Visualization editor

WebVisit Basic

Order No.: 2985990

WebVisit Pro

Order No.: 2988890

WebVisit is a software tool specially adapted to the web servers of the Phoenix Contact controllers for easy creation of visualization pages.

WebVisit Pro offers extended functionalities in addition to the scope of functions of the standard version (WebVisit Basic). These, for instance, include ready-to-use macros for multi-lingual visualization, display of trends and alarms as well as access management.



GSM/GPRS modem

PSI-GPRS/GSM-MODEM/RS232-QB

Order No.: 2313106

- GSM and GPRS: 850 + 900 + 1800 + 1900 MHz
- 50 Ω impedance SMA antenna socket
- SIM interface: 1.8 V and 3 V SIM card
- RS-232 interface: 300 to 115200 bps

Interfaces:

FL COM SERVER RS232 Order No.: 2744490



Analog Ethernet modem

PSI-MODEM/ETH

Order No.: 2313300

- For dialed operation in Europe, USA and Canada
- Dialing procedure: Multiple frequency/pulse dialing
- Transmission speed: 300 baud to 56 kbaud
- Ethernet interface, 10/100 BASE-T(X) according to IEEE 802.3u



Tailor-made network technology – Industrial communication

During system operation, the relevant information should always be available everywhere. This requires functional data communication based on reliable network components. Phoenix Contact offers a complete range of hardware and software components as well as accessories for the structuring of industrial Ethernet networks. The selected switches of the Factory Line series are especially suitable for inexpensive networking of the compact controller system.

Operating temperature: 0°C to 55°C

Devices with an extended temperature range are also available. A list of all products for network technology can be found in our e-shop:

www.phoenixcontact.net/eshop

Security frames or elements are available to prevent connections from being disconnected by unauthorized persons. Unintentional disconnection of Ethernet cables of the switches can also be prevented in such a manner. The protected connection between a switch and a cable can be easily disconnected only with a key. This protection increases the availability of the network and enables continuous system operation.



INFRASTRUCTURE



Standard switches

FL SWITCH SFN 5TX Order No.: 2891152

- 5 RJ45 ports

FL SWITCH SFN 8TX Order No.: 2891929

- 8 RJ45 ports

- Plug and play unmanaged switch
- Quality of Service (realtime), Suitable for Ethernet/IP



Standard switches FO

FL SWITCH SFN 4TX/FX Order No.: 2891851

- 4 RJ45 ports/1 SC multimode port

FL SWITCH SFN 6TX/2FX Order No.: 2891314

- 6 RJ45 ports/2 SC multimode ports

- Plug and play unmanaged switch
- Quality of Service (realtime), Suitable for Ethernet/IP
- Glass fiber uplink



Security frame

FL PLUG GUARD GN Order No.: 2891615

- Green

FL PLUG GUARD RD Order No.: 2891712

- Red

FL PLUG GUARD WH Order No.: 2891819

- White

FL PLUG GUARD Order No.: 2891220

- Locking element

FL PLUG GUARD KEY Order No.: 2891327

- Key

- For SFN switches and patch fields incl. key



Lean managed switches

FL SWITCH LM 5TX Order No.: 2989527

- 5 RJ45 ports

FL SWITCH LM 8TX Order No.: 2832632

- 8 RJ45 ports

- Web server for easy configuration and diagnostics
- Port mirroring for mains analysis
- Redundant networks with fast switch-over
- Quality of Service (realtime)
- IGMP snooping for Ethernet/IP
- Operating temperature -40°C to 70°C



Lean managed switches FO

FL SWITCH LM 4TX/1FX Order No.: 2989624

- 4 RJ45 ports/1 SC multimode port

FL SWITCH LM 4TX/2FX Order No.: 2832658

- 4 RJ45 ports/2 SC multimode ports

- Web server for easy configuration and diagnostics
- Port mirroring for mains analysis
- Redundant networks with fast switch-over
- Quality of Service (realtime)
- IGMP snooping for Ethernet/IP
- Operating temperature -40°C to 70°C
- Glass fiber uplink



Security elements

FL PATCH SAFE CLIP Order No.: 2891246

FL PATCH GUARD Order No.: 2891424

- Lockable element

FL PATCH GUARD KEY Order No.: 2891521

- Key

- Security elements for the assembly on FL PATCH cables
- Protection against disconnection of Ethernet connections (cable switch)
- Can be used for all Phoenix Contact switches

Function-specific software – Quick programming

Software solutions from Phoenix Contact accompany you over the entire value creation chain of your automation solution – from the planning phase up to the system service.

A large range of complete libraries is available for sector- and function-specific requirements. The use of these function blocks reduces programming and costs as well as saves time. All the existing modules are tested comprehensively. Use our products to prevent programming errors and increase the operational reliability of your automation solution.



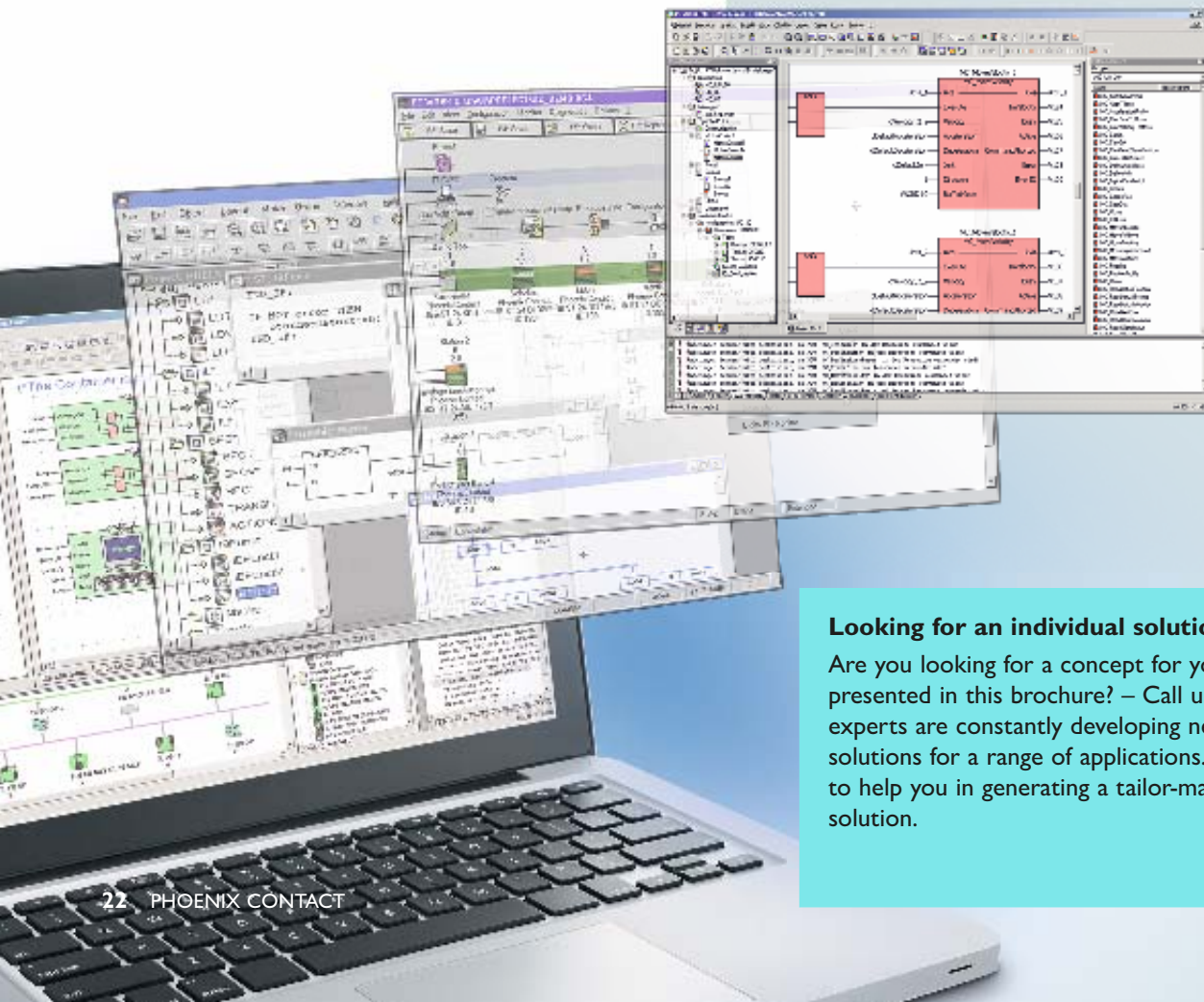
Building automation

UM DE BACL

Order No.: 2910686

The free Building Automation Control Library (BACL) contains ready, tested and documented function blocks for

- heating, ventilation and climate control as well as single room control
- lighting control
- Free software on CD
- German manual incl.
- Interface for visualization software



Looking for an individual solution?

Are you looking for a concept for your application not presented in this brochure? – Call us! Our application experts are constantly developing new and profitable solutions for a range of applications. We would be happy to help you in generating a tailor-made automation solution.



Remote control technology

RESY-DATA-A LIC Order No.: 2876847

The function module library Resy+ enables the structuring of a modern remote control technology.

- License for remote systems (Resy+)
- Ideal for use in infrastructure applications
- Integrates remote system parts easily into the control system
- Seamless control of all processes
- Overview over the entire system
- Easy to integrate in existing systems
- Communication as per remote technology standard (IEC 60870-5-101/104)



Machine automation

PLAST-MAX UB on request

The free Plast-Max software library provides flexible solutions for machines.

- Integrated process regulation for production machines
- Status machine with integrated diagnostics
- Regulates hydraulic movements
- Regulates electrical axes
- The user interface is available in Visu+



SQL/SMS/controller

CF FLASH 256MB APPLIC A

Order No.: 2988793

SD FLASH 256MB APPLIC A

Order No.: 2988816

Flash memory card with license key for the function module libraries. Enables the following applications:

- Basic control functions for PID controller with delay time constant in the D share
- Data transfer between the controller and the SQL database with event-controlled access to tables via SQL communication and Data Manipulation Language (DML)
- IT library for sending e-mails with the SMTP function, with DHCP client, DNS and an FTP client function

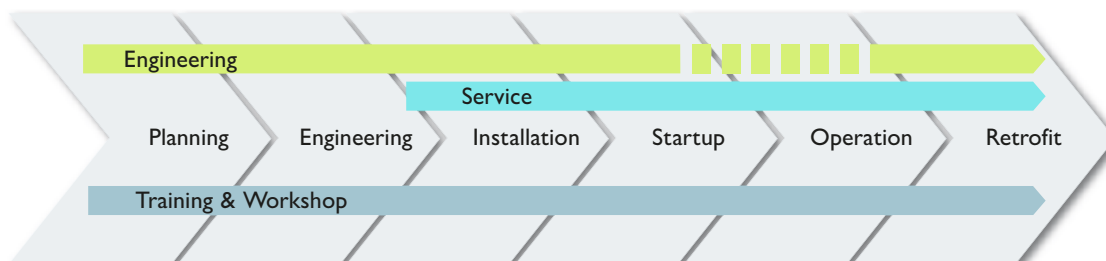
Service & Support – Help throughout

You obtain professional support over all the project phases for the automation with the control system of the 100th class. With engineering, service and training, we accompany you throughout the complete lifecycle of your application – from the initial system planning phase to system modernization.

We are at your disposal for any questions that may arise during operation every day, all year round via our free 24-hour Hotline.



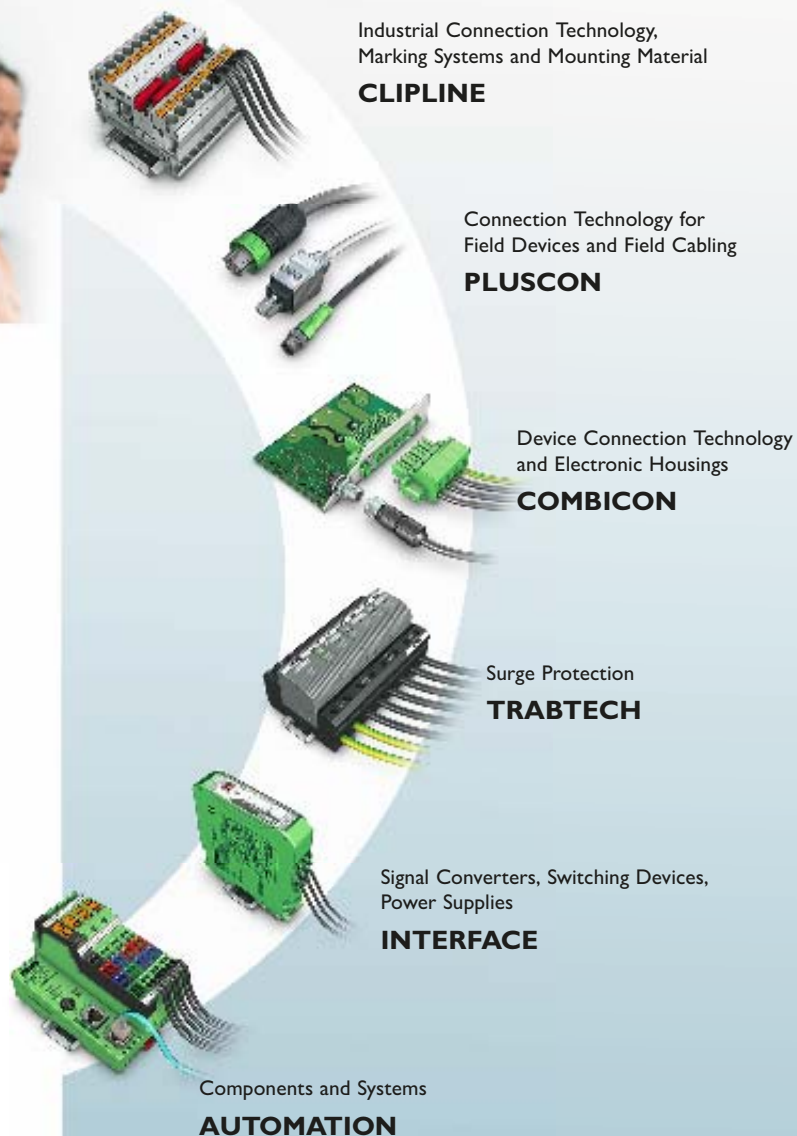
Free 24-hour Hotline:
+49 (0) 52 81-946 28 88



Further information on the products
presented here and on the world of solutions
from Phoenix Contact can be found at
www.phoenixcontact.net/catalog



Or contact us directly.



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