



## COMPONENTS FOR PROFINET AND INDUSTRIAL NETWORKS

Industrial Remote Solutions | Industrial Ethernet | Fieldbus applications | Distributed fieldbus I/O system

## INDUSTRIAL REMOTE SOLUTIONS



REX 100, Ethernet router  
WAN | 3G | LTE | WiFi



REX 200/250, Ethernet router  
PROFIBUS | serielle Schnittstelle |  
WAN | 3G | LTE | WiFi



myREX24 V2 Portal – secure IOT remote maintenance access  
Remote maintenance | Visualization | Alarming | Logging

## INFRASTRUCTURE/SECURITY



WALLIE, Industrial NAT gateway/firewall  
Secure communication and simple addressing



Ethernet switch, 5/8/16-port, unmanaged  
Industrial Ethernet smart networked

## FIELDBUS APPLICATIONS | PROFINET



PROFINET connector, RJ45  
180° | 90°



PROFIBUS/PROFINET coupler  
Connection of PROFIBUS and  
PROFINET networks



PROFINET/PROFINET coupler  
Connection of PROFINET networks



PROFINET/Modbus TCP coupler  
Connection of PROFINET and  
Modbus networks



PROFINET switch, 4/8/16-Port, managed  
Network Automation Innovatively



PROFINET switch, 8-port, IP67  
Also available as unmanaged switch



FLEXTra® PROFINET switch, 16-port  
Also available as unmanaged switch

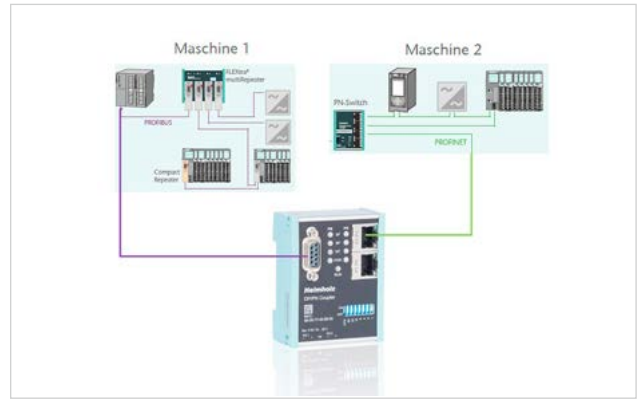
## FIELD BUS APPLICATIONS | PROFINET



**PROFINET/PROFINET coupler**  
Connecting PROFINET networks with one another



**PROFIBUS/PROFINET coupler**  
Connect PROFIBUS and PROFINET networks



**PROFINET/Modbus TCP coupler**  
Connect PROFINET and Modbus networks



**PROFINET/EthernetIP coupler**  
Connect PROFINET and EthernetIP networks



**PROFINET/MQTT coupler**  
Connect PROFINET and MQTT networks



**PROFINET connector, RJ45**  
90° | 145° | 180°



**PROFINET switch, 4/8/16-port, managed**  
Innovatively networking automation



**PROFINET switch 8-port, managed, IP67**  
Also available as Ethernet Switch, 8-port, unmanaged

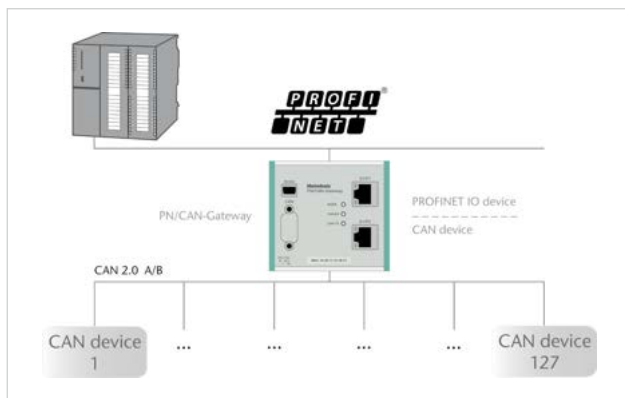


**FLEXtra® PROFINET switch, 16-port**  
Also available as unmanaged switch

## FIELD BUS APPLICATIONS | CAN BUS



**PROFINET/CAN gateway**  
PROFINET/CANopen® | PROFINET/CANopen® Slave | PROFINET/CAN Layer 2 | PROFINET/CAN SAE J1939



**CAN bus plug**  
90° | axial

## FIELD BUS APPLICATIONS | PROFIBUS



**PROFIBUS connectors**  
Screw terminal | EasyConnect® | 90° | 35° | Axial | angled |  
With diagnostic LEDs | With and without PG socket available



**FLEXtra® PROFIBUS repeater 2/4/6 way**  
System expansion by up to six segments with one device



**PROFIBUS compact repeater**  
Bus extension without additional  
space required in the control cabinet



**NETlink®, PROFIBUS Ethernet gateways**  
Programming | Visualization | Teleservice  
PRO Compact | PRO PoE | USB compact



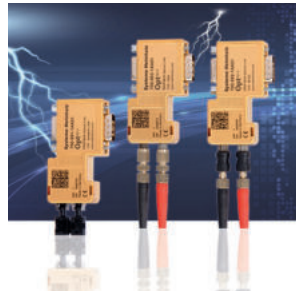
**PROFIBUS/PROFINET coupler**  
Connection of PROFIBUS and  
PROFINET networks



**DP/DP coupler**  
Connection of PROFIBUS-DP  
networks



**DP/CAN coupler**  
PROFIBUS-DP/CANopen® |  
PROFIBUS-DP/CAN Layer 2

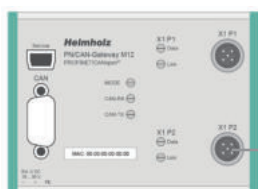


**OPTopus, PROFIBUS optical link**  
PROFIBUS-FO Converter

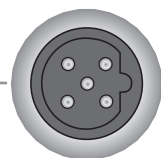


**FLEXtra® profiPoint**  
Active termination and measuring  
point

## SECURE M12 CONNECTION | SOON AVAILABLE!



COMING  
**SOON**



- PROFINET/CAN gateway
- REX 100, Ethernet router
- WALLIE, Industrial Ethernet bridge/firewall
- PROFINET switch, 4/8-Port, managed

## FIELD BUS APPLICATIONS | CAN-BUS



**PROFINET/CAN gateway**  
PROFINET/CANopen® | PROFINET/CANopen® Slave | PROFINET/CAN Layer 2



**CAN bridge**  
Connecting CAN networks



**DP/CAN coupler**  
PROFIBUS-DP/CANopen® | PROFIBUS-DP/CAN Layer 2



**CAN 300 PRO**  
Communication module

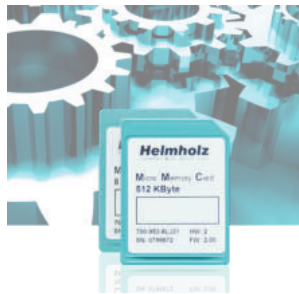


**CAN bus connector**  
90° | Axial

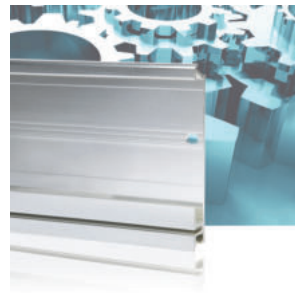
## COMPONENTS FOR THE S7



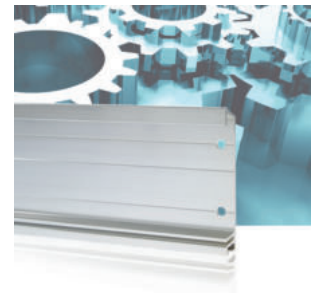
**Memory cards**  
for the 1200/1500 series



**Micro memory cards**  
for the 300 series



**Mounting rail**  
for the 1500 series  
from 70 mm to 2000 mm



**Mounting rail**  
for the 300 series  
from 160 mm to 2000 mm



**Front connector**  
Screw contacts | Spring-type terminal | EasyConnect | 20 or 40 pin

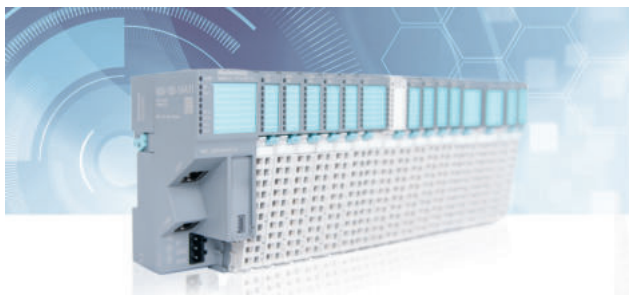


**Input/Output Modules**  
Digital | Analog



**Serial communication modules**  
with 1 or 2 interfaces

## DISTRIBUTED FIELDBUS I/O SYSTEM



**TB20**  
The I/O system for a variety of application areas – irrespective of the fieldbus and proven in practice!



Three-component modular design | Freely definable auxiliary contact (auxiliary terminal) | Up to 1024 inputs/outputs possible per installation | Modules that are hot-swappable



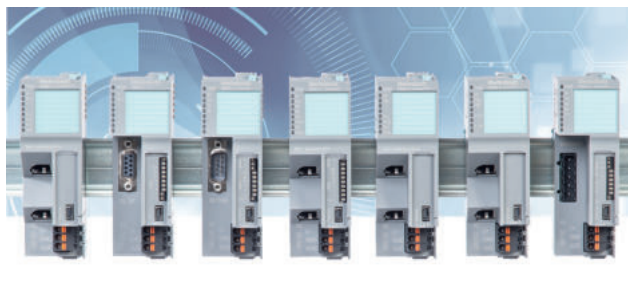
2-, 3-, 4-, 6-, 8-channel modules for digital and analog signals | 16-channel modules with a narrow installation width



Counter modules | SSI encoder interface | Serial communication | Energy meter | Highfeature modules | Digital Mix modules | Strain gauge weighing module




**TB20-ToolBox**  
Software for: Smart planning and configuration | Real-time diagnosis | Importing/exporting symbols | Simulation (I/O check)



I/O modules powered directly, power module already integrated | Each I/O module can be used on all bus couplers without restriction | Up to 64 modules per bus coupler

THE FOLLOWING FIELDBUSES ARE CURRENTLY SUPPORTED:



The background features a dark blue gradient with several interlocking gears of varying sizes. In the foreground, a glowing network globe is composed of white lines connecting various nodes, some of which are highlighted with bright blue and white lights. The overall theme is industrial technology and connectivity.

myREX24  
V2

REX 100

REX 200  
REX 250

A white silhouette of a factory with a tall chimney, positioned to the right of the Industry 4.0 text box.

**INDUSTRY 4.0**  
PREDICTIVE MAINTENANCE  
INDUSTRIAL INTERNET OF THINGS  
**DIGITAL FACTORY**

## SECURE IOT REMOTE MAINTENANCE ACCESS

Remote maintenance | Visualization | Alarming | Logging

# THE RIGHT SOLUTION FOR EACH SECTOR



## Mechanical and plant engineering

REX industrial routers enable manufacturers of machines to directly access the network of their customers' systems in a secure and flexible manner.

In this way the technicians at the headquarters remain connected with the machines for maintenance and service in spite of worldwide deployment of the machines.

The extensive monitoring and alarm functions of the myREX24 V2 portal enable quick reaction to problems in the systems and help to minimize machine downtimes. Predictive maintenance is thus possible for any systems manufacturer and mechanical engineer.



## Energy and environment

Wind energy is a participant in the generation of renewable energy that is more important than any other renewable energy source. But wind turbines are technically complex systems that are exposed to very high loads during operation.

Regular review of their condition and maintenance of safe operation is therefore essential. However, this is difficult because wind turbines are often erected in hard-to-reach areas or in the ocean.

The solution is a connection to the myREX24 V2 portal, which ensures a flexible and reliable connection with the control center, thus enabling permanent monitoring. Alarm functions triggered at an early point in time can prevent damage to expensive systems in critical situations.



## Water supply/infrastructure

Networking of pumping stations or remote monitoring of water treatment plants can be implemented easily and safely with the modern industrial router system REX. In this way it is possible to monitor data in real time and facilitate easier resolution of problems in case of operational disturbances or deviations in the parameters.

Likewise, it is also possible to connect distributed stations to a higher-level system.

Alarm functions and extensive visualizations over the cell phone or the tablet enable uninterrupted and secure operation even with large and decentralized systems.



## Building automation

In modern industrial and office buildings, many activities now run automatically, such as switching on of lights and controlling the heating and ventilation system as required and on a schedule. An intelligent control system that regulates everything saves energy, protects the environment, and conserves resources.

The industrial routers of the REX family can be used together with the myREX24 V2 portal to monitor the control system at any time and take corrective action when necessary. With the Ethernet routers it is possible to access building automation conveniently from your desk or on a mobile basis with tablet PC or smartphone.



## REX 100, ETHERNET ROUTER

 SOON ALSO AVAILABLE WITH  
SECURE M12 CONNECTION!

- Secure OpenVPN remote maintenance access via myREX24 V2 portal
- Integrated 3 or 4-port LAN switch
- WAN, 3G, LTE or WiFi variants available
- Digital inputs for establishing a connection and issuing alarms
- Integrated firewall
- Space-saving compact size
- Supports all of the usual mobile communications standards and is downwards-compatible where network coverage isn't present
- USB-over-IP

Ethernet participants, such as PLC control systems, can be reached with the REX 100 industrial routers, irrespective of the manufacturer.

The REX 100 routers are systematically designed to operate in conjunction with the myREX24 portal: All programming and remote maintenance is carried out exclusively through the portal. Data transmission takes place via an encrypted VPN tunnel on the basis of the secure OpenVPN protocol.

With the digital inputs, alarms can be sent via the myREX24 V2 portal as SMS and e-mail.

The USB host port present in all devices enables the connection of USB devices (e.g. programming port of a motor) via the remote maintenance tunnel (USB-over-IP).



## REX 200/250, ETHERNET ROUTER

- Secure OpenVPN remote maintenance access via myREX24 V2 portal
- Remote maintenance of PROFIBUS (RS232/RS485) and Ethernet-compatible devices (PROFINET-compatible)
- Integrated 4-port LAN switch
- Additional WAN interface also as a fallback for 3G, LTE, and WiFi devices
- WAN, 3G, LTE or WiFi variants available
- Data server for data access to SPS via RFC1006 (ISO on TCP), MPI, PROFIBUS, Modbus TCP/RTU, Allen Bradley, etc.
- Directly connect S7-MPI/PROFIBUS devices
- S7-MPI/PROFIBUS driver included
- Integrated firewall
- Serial-over-IP and USB-over-IP

The compact REX 200/250 Ethernet routers are specially designed for use in an industrial environment. They enable reliable and secure Internet remote maintenance of machines and systems. Thanks to the integrated Firewall, remote access is allowed only for authenticated users.

The routers are also characterized by an integrated 4-port switch, as well as by additional interfaces, such as serial, PROFIBUS, and USB. The WAN interface also integrated as a standard enables a fallback connection for 3G, LTE, and WiFi devices.

The REX 250 routers make it possible to incorporate serial devices into your remote maintenance (Serial-over-IP). The USB host port present in all devices enables the connection of USB devices (e.g. programming port of a motor) via the remote maintenance tunnel (USB-over-IP).

In combination with the myREX24 V2 portal, the complete scope of performance of industrial routers with the functions of remote maintenance, visualization, WEB2go, alarm and logging of the PLC data is possible.



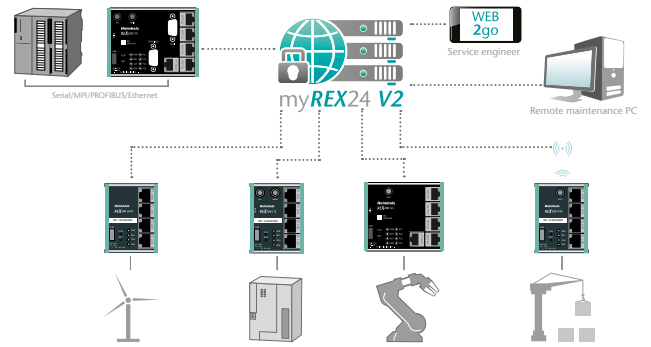
# MYREX24 V2 PORTAL

The myREX24 V2 portal is a coherent system for access to the components of your machine or system, for remote maintenance and remote diagnostics.

Check the data of your system via web browser – directly with your smartphone or tablet.

All data and statuses available to you as an external signal or as a value in a control system can be evaluated and monitored with the myREX24 V2 portal.

Protocol operating data directly in the myREX24 V2 portal and create your own reports.



## Remote maintenance

- Diagnosis, configuration and programming of the machine via the Internet
- Worldwide end customer support from your experts
- Quick availability of service
- Income through new service offerings and maintenance agreements
- Saving of travel costs, reduction of personal absence
- Secure encoding through OpenVPN
- Standard OpenVPN clients also accessible through the portal
- Several simultaneous connections to one system



## Logging

- Protocols and reporting of PLC data
- Configuration, analysis, and evaluation via standard browser
- Planning of maintenance measures in keeping with actual usage of the system
- Continuous information on down times and production figures
- Connection of self-hosted databases
- External access to protocol data via WEB-API
- Automatic sending of reports (HTML, PDF, CSV)



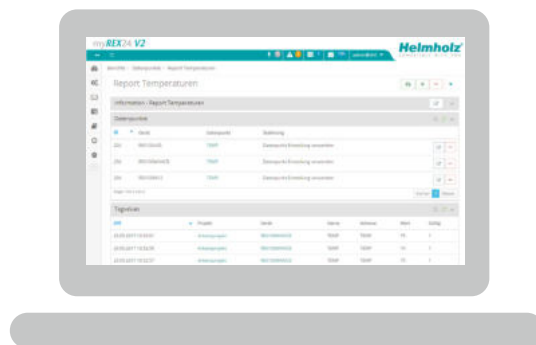
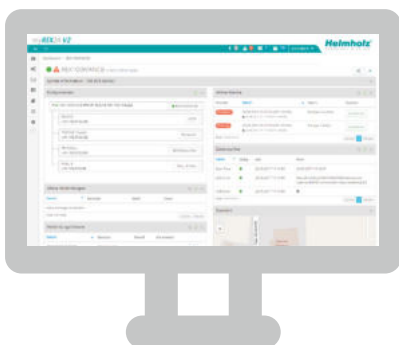
## Alarming

- Monitoring of limit values and error incidents
- Flexible alarm messages, also with acknowledgment
- Alarm messages via SMS, e-mail, voice call or via the integrated message system
- User-dependent reporting profiles
- Calendar function for taking personnel deployment times into account



## Visualization

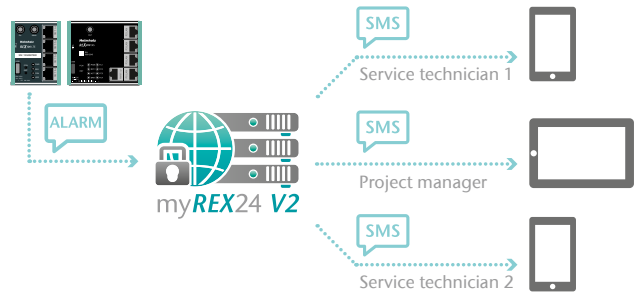
- Freely configurable dashboards for the individual representation of the PLC data
- Extensive library of display elements, for example, pointer instruments and bar graphs
- Mobile and secure web access via HTTPS, also for smartphones and tablets
- Display of live and protocol data
- Easy login with user ID and password





## shSMS

- Sending of SMS messages directly from the portal
- Sending of alarm SMS from devices without mobile connectivity
- Activating connections from myREX24 V2
- Simple cost control



## Security

- Regular security updates
- Separate VPN channels
- High password security/2-factor authentication
- Extensive access management
- Separate database (optional)
- Own server (optional)



## WEB2go

- Easy access through an HTML5-enabled web browser
- Access to websites (HTTP/HTTPS), RDP, VNC, SSH, Telnet clients
- HTTPS encryption
- No additional software or app needed
- Ideal for mobile remote diagnostics via smartphone or tablet computers
- Monitoring and visualization



## Flexible administration

- Project administration, also suitable for large projects
- Flexible user management with access rights
- Client administration
- Internal messaging system
- Task management

## MYREX24 V2 VIRTUAL

- Can be installed in your own server infrastructure
- Completely autonomous server management
- Front end in own design possible
- All data in your hand
- Maximum performance
- Scalable system that grows flexibly with your requirements
- M2M possible
- Permanent VPN access to all routers

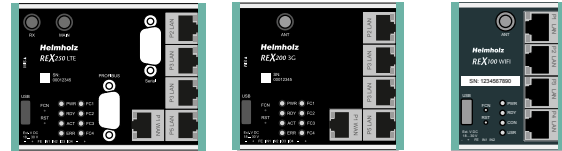


## myREX24 V2 virtual

For complete independence and maximum performance, we recommend using the myREX24 V2 portal as a virtual server. The virtual server can be configured individually and grows in a linear progression along with your requirements. We would be happy to create an offer for you.



# FUNCTION OVERVIEW OF ROUTER PORTFOLIO



## PORT FUNCTIONS ON THE ROUTER

	REX 250	REX 200	REX 100
LAN	4x	4x	4x REX 100 3G/LTE/WiFi 3x REX 100 WAN
WAN (ext. router)	✓	✓	✓*
UMTS/HSDPA (3G)/LTE (4G)	✓*	✓*	✓*
WiFi	✓*	✓*	✓*
MPI/PROFIBUS (up to 12 Mbps)	✓	—	—
Serial port RS232/RS485 (serial-over-IP)	✓	—	—
USB host (USB-over-IP)	✓	✓	✓
Digital In	4	4	2
Digital Out	2	2	1

## SOFTWARE FEATURES IN THE ROUTER

	REX 250	REX 200	REX 100
WAN (connection via external router)	✓	✓	✓*
PPPoE/PPTP WAN (connection via external DSL modem)	✓	✓	—
OpenVPN connection with myREX24 V2 portal	✓	✓	✓
DHCP server LAN	✓	✓	—
DHCP server WAN	✓	✓	—
DHCP client WAN	✓	✓	✓
SMTP client (mail)	✓	✓	✓
Dyn DNS	✓	✓	—
DNS server	✓	✓	—
NTP client	✓	✓	✓
Firewall with IP filter, NAT and port forwarding	✓	✓	✓
Simple NAT	✓	✓	—
Simatic <sup>1</sup> /SCADA access via RFC1006	✓	✓	—
Simatic <sup>1</sup> /SCADA access via MPI/PROFIBUS	✓	—	—
Modbus TCP client over LAN	✓	✓	—
Access to Allen Bradley CPUs	✓	✓	—
Modbus RTU via serial connection	✓	—	—
Virtual COM-port	✓	—	—
Virtual USB interface	✓	✓	✓
WEB2go	✓	✓	✓
Triggering of VPN connection to the portal (via digital input, dial-out button, shSMS)	✓	✓	✓
Routing WAN<->LAN, VPN<->LAN	✓	✓	✓
Extended Routing	✓	✓	—
Execution of LUA-scripts	✓	✓	—
Protocolling Syslog/USB-Stick	✓	✓	✓

<sup>1</sup> Simatic is a registered trademark of the Siemens AG

\* depends on the specific model

# FUNCTION OVERVIEW OF MYREX24 V2

## ROUTER FUNCTIONS WITH MYREX24 V2

	REX 250	REX 200	REX 100
Secure encoding with OpenVPN	✓	✓	✓
Router configuration in the portal	✓	✓	✓
Routed VPN connection (with shDIALUP)	✓	✓	✓
Connection reports	✓	✓	✓
Data server for PLC connection	✓	✓	–
Data protocolling	✓	✓	Only digital inputs
Alarm incidents	✓	✓	Only digital inputs
Visualization/monitoring	✓	✓	Only digital inputs
WEB2go (HTTP/HTTPS/RDP/VNC/SSH/Telnet)	✓	✓	✓
shSMS (wakeup SMS)	✓	✓	✓
Several active connections on one device	✓	✓	✓
Access restriction for components	✓	✓	✓
Firmware update via portal	✓	✓	✓
Serial-over-IP	✓	–	–
USB-over-IP	✓	✓	✓
Search-over-IP	✓	✓	✓

## ACCOUNT OVERVIEW

	FREE ACCOUNT	OPTIONS	ORDER NO.
Number of accounts	1	–	–
Number of devices	Unlimited	–	–
Active simultaneous VPN connections	1	Up to 250	800-874-ACT01
Active Web2Go connections:	5	Unlimited	800-874-WEB01
Number of users	Unlimited	–	–
Number of user groups	5	250	
Number of clients	1	250	800-874-USR01
Access restriction for components	–	Bookable one time	
Dashboards	10	Up to 260	800-874-DSH50
Alarms	10	260	800-874-ALM25
Tasks for scheduler	1	6	800-874-TSK05
Data points per device	250	–	–
Data point memory	50 k	Up to 5 M	800-874-DPS01
Standard VPN clients (incorporation of OpenVPN routers)	0	Up to 50	800-874-VPN10
Own front logo possible	–	Bookable one time	800-874-CMB01
Complete individualization (colors + logo)	–	Bookable one time	800-874-CMA01
Access to data point memory via WEB-API	–	Bookable one time	800-874-API01
External data point memory (own SQL database)	–	Bookable one time	800-874-EXT01
SMS	10	Unlimited	800-872-SMS25
Telephone calls	10	Unlimited	800-872-CAL25

# ORDERING DATA

## ORDERING DATA FOR REX 100

### ORDER NO.

REX 100 WAN, 3 x LAN (switch)/1 x WAN port*	700-875-WAN01
REX 100 3G, 4 x LAN (switch)/1 x 3G modem (UMTS)*	700-875-UMT01
REX 100 LTE, 4 x LAN (switch)/1 x LTE modem (EU- & Asia Version)*	700-875-LTE01
REX 100 LTE, 3 x LAN (switch)/1 x WAN/1 x LTE-Modem (EU- & Asia-Version)*	700-875-LTE51
REX 100 LTE, 4 x LAN (switch)/1 x LTE modem (North America Version / "NAG")*	700-875-LTE11
REX 100 WiFi, 4 x LAN (switch)/1 x WiFi*	700-875-WIF01
REX 100 WiFi, 3 x LAN (switch)/1 x WAN/1 x WiFi interface*	700-875-WIF51
REX 100 M12 WAN, 3 x LAN (switch)/1 x WAN port*	700-876-WAN01

## ORDERING DATA FOR REX 200

### ORDER NO.

REX 200 WAN, 4 x LAN (switch)/1 x WAN port*	700-877-WAN01
REX 200 3G, 4 x LAN (switch)/ 1 x WAN / 1 x 3G modem (UMTS)*	700-877-UMT01
REX 200 LTE, 4 x LAN (switch) / 1 x LTE modem*	700-877-LTE01
REX 200 WiFi, 4 x LAN (switch) / 1 x WAN / 1x WiFi*	700-877-WIF01

## ORDERING DATA FOR REX 250

### ORDER NO.

REX 250 WAN, 4 x LAN (switch)/1 x WAN, 1 x PROFIBUS, 1x serial interface*	700-878-WAN01
REX 250 3G, 4 x LAN (switch), 1 x WAN, 1 x 3G modem (UMTS), 1x PROFIBUS, 1x serial interface*	700-878-UMT01
REX 250 LTE, 4 x LAN (switch), 1x LTE modem, 1x PROFIBUS, 1x serial interface*	700-878-LTE01
REX 250 WiFi, 4 x LAN (switch), 1x WAN, 1x WiFi, 1x PROFIBUS, 1x serial interface*	700-878-WIF01

\* To get started easily with our REX routers, you can find the comprehensive **Quick Start Guides** on the individual product pages of our website – [www.helmholz.com](http://www.helmholz.com) – under the tab "DOCUMENTATION" ready for download in PDF format.

Depending on the device, antennas and antenna cables might be required. The appropriate accessories, specifications and order data can be found on our website as well. We will be glad to assist you personally, please dial +49 9135 7380-0.

## OPTIONS AND ORDERING DATA FOR MYREX24 V2

### ORDER NO.

<b>Free account</b>	–
Free account for the myREX24 V2 portal	
Annual license for an additional active VPN connection	800-874-ACT01
Annual license for unlimited Web2Go connections	800-874-WEB01
Annual license for 50 additional dashboards	800-874-DSH50
Annual license for 250 alarms	800-874-ALM25
Annual license for 5 additional tasks for the task scheduler	800-874-TSK05
Annual license for expanded user access control (250 user groups, 250 clients, access restriction for components)	800-874-USR01
Annual license for 1 M additional data points in the myREX24 V2 data point memory	800-874-DPS01
Annual license for provision of a WEB-API	800-874-API01
Annual license for external database memory	800-874-EXT01
Annual license for standard VPN clients + 10 units	800-874-VPN10
Annual license for own front logo	800-874-CMB01
Annual license for complete individualization (colors + logo)	800-874-CMA01
Provision of 250 additional SMS	800-872-SMS25
Provision of 250 additional voice calls	800-872-CAL25

The licenses for the service myREX24 V2 have a minimum term of 12 months. Billing takes place in January for one year. When acquiring a license during the current year, the fee will be charged in monthly rates for the rest of the year.

The term extends automatically for another 12 months when no cancellation in writing is submitted by September 30th.



## myREX24 V2 virtual

Machine access and data sovereignty in your hands

[www.helmholz.com](http://www.helmholz.com)

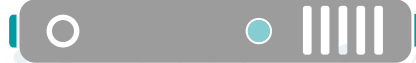
**Helmholz**<sup>®</sup>  
COMPATIBLE WITH YOU

Paves the way for the digital transformation

Ideal for IT and automation

Setup of M2M applications

vm vm



myREX24 V2 virtual

Data sovereignty in your hands

Own server management

Grows flexibly with your requirements

Can be installed on own infrastructure

## USER-FRIENDLY – SCALABLE – COMPLETE DATA SOVEREIGNTY

More than just remote maintenance! With an own myREX24 V2 server and the appropriate REX routers, you can already pave the way for your digitalization strategy today. Easy to operate for the automation technology, as well as flexible and scalable for IT. The myREX24 V2 closes the gap of both worlds. In addition to classic remote maintenance, permanent VPN access on connected routers can be realized. You can permanently operate Machine-to-Machine (M2M) networks. The portal presents itself in your desired outfit – complete individualization possible (own company logo, colors, etc.). Your in-house solution – tailored to your needs.

### The right one for me?

- For “self-hosts”: Legal security through the purchase of software, protection of own data
- For in-house or host operation
- Up to 20,000 devices, VPN clients, dashboard, and alarms possible
- Up to 250 active connections and 500 Web2Go connections can be realized simultaneously
- Log and visualize machine data and access
- Problem-free connection of a SQL database
- M2M networks can be realized

### I need that!

- VMWare ESXi server (as of V5.0.0) or vSphere
- min. 2 vCPUs, 2 GB RAM
- min. 20 GB storage
- “root” access to the ESXi server
- Internet connection
- A fixed, public IP address
- Public DNS name
- Own e-mail account for the portal (“vpn-portal@firma.com”)
- SSL web certificate for the DNS name (certificate and key)



The background features a complex network diagram with various nodes and connecting lines. The nodes are represented by circles of different sizes and colors, including light grey, dark grey, and teal. The lines are thin and light grey, creating a web-like structure. A large, light grey diagonal shape is also present, partially overlapping the network diagram.

## myREX24 V2 virtual

With the myREX24 V2 virtual server, you incorporate the proven myREX24 technology into your own network.

The myREX24 V2 virtual server grows flexibly with your requirements. The server can be installed and operated both in your own computer center and with a host of your choice. You have all of your IoT data in your own access area.

You want your own server, but don't want to take care of the administration? No problem! **We are glad to host your myREX24 V2 virtual server.**

# SECURE MACHINE ACCESS AND IOT FUNCTIONS



## Logging

- Planning of upkeep measures
- Monitoring of machine data



## Remote maintenance

- Worldwide machine access on OpenVPN basis
- Savings on travel costs



## Security

- Regular security updates
- 2-factor authentication possible



## Flexible administration

- Flexible user management
- Task planner



## shSMS

- SMS messages directly from the portal
- Complete cost control



## Visualization

- Display of live and protocol data
- Mobile and secure web access per HTTPS



## Alarm

- Monitoring of limit values
- Alarm messages per SMS, e-mail, or Voice-Call



## WEB2go

- Access to end devices via VNC, RDP, SSH, etc.
- No additional software or app needed



## Machine-to-Machine (M2M)

- Linking of spatially separate machines
- Quick setup through project-oriented M2M groups

Would you like to test the myREX24 V2 portal without any commitment? Request your free access directly under [www.myREX24.net](http://www.myREX24.net) or call us at the telephone number +49 9135 7380-0. The myREX24 V2 virtual server is also available as a demo variant. Send us an e-mail at [info@helmholz.de](mailto:info@helmholz.de).

# HERE IS HOW IT WORKS – NETWORKED IN 3 EASY STEPS

**1. Connectivity:** Simply select the appropriate router.



- Remote maintenance



- Remote maintenance  
- Gathering data



- Remote maintenance  
- Gathering data  
- MPI/Profibus/Serial

**2. Easy-to-use:** Set the router configuration in the portal and transfer to the device.



Set configuration file



Transfer the configuration



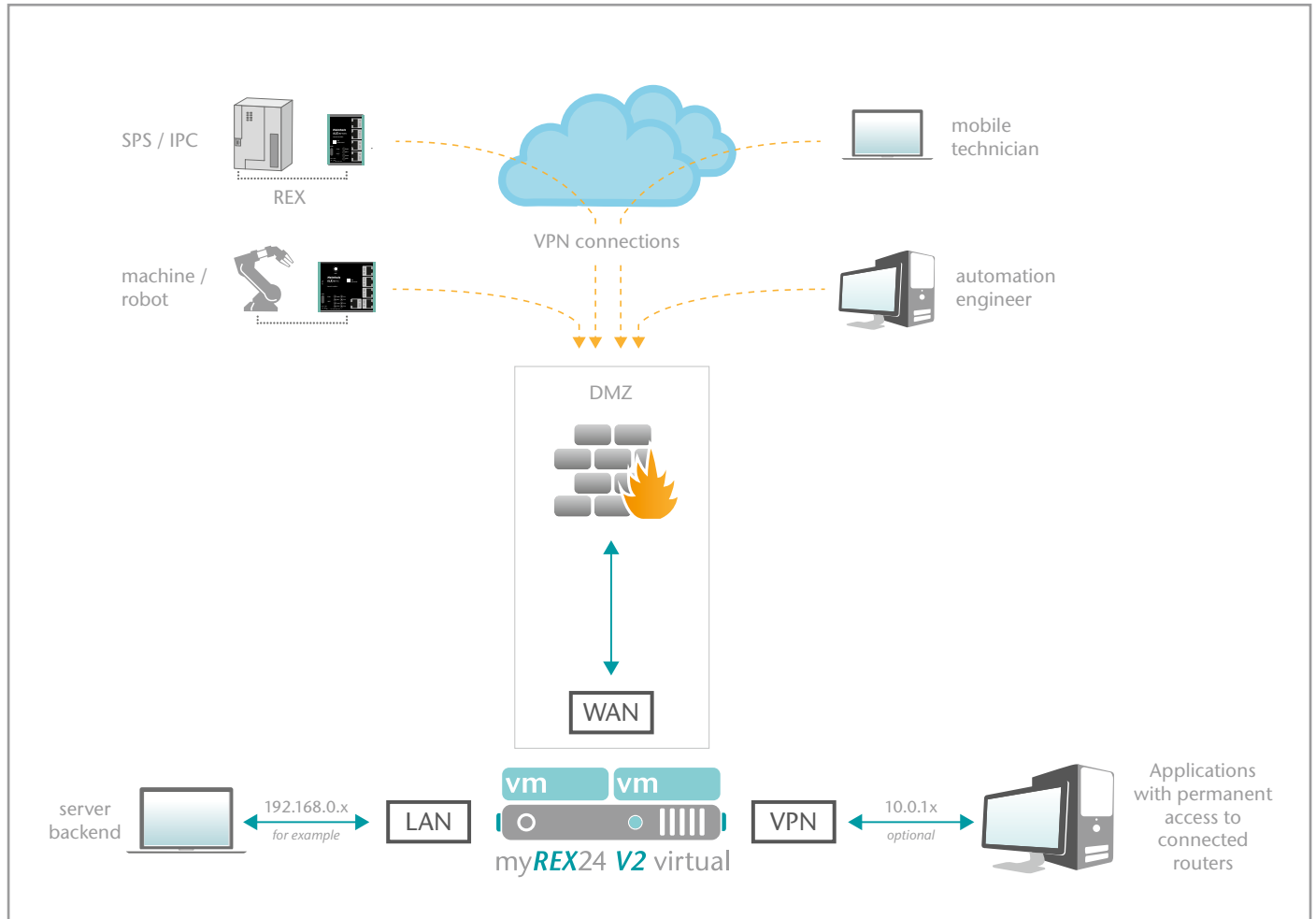
**3. One-click connection:** Click directly on connect ...and off we go!



myREX24 V2 quick start

<https://youtu.be/8a1Xnu9lJ4g>  
Video tutorial (3:22 min.)

# COMMUNICATIONS CHANNELS





## SECURE COMMUNICATION AND SIMPLE ADDRESSING

WALL IE – Industrial NAT gateway / firewall

# WALLIE – INDUSTRIAL NAT GATEWAY / FIREWALL



- Easy IP integration into higher level networks (NAT)
- Integration of series machines with the same IP addresses into the production network
- NAT (SNAT, Basic NAT, NATPT and port forwarding)
- Access restriction through packet filters: IPV4 addresses, protocol (TCP/UDP), ports, MAC addresses
- Reduction of network load through the filtering of broadcasts and multi-casts
- Quick and easy configuration via a responsive web interface
- Easily integrate the same IP subnetworks through port forwarding (NAPT)
- Reduced to the essential functional
- Import and export of the configuration
- DHCP-Server (LAN) / DHCP-Client (WAN)
- User administration
- Space-saving, industry-compatible design for the DIN rail

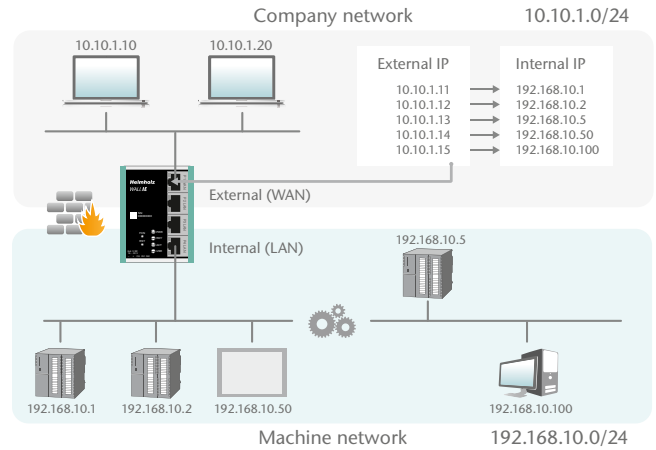
WALL IE securely protects your automation network against unauthorized access. Thanks to individual configuration, the firewall can be easily adapted to the requirements of the respective machine network. If identical IP address ranges are to be realized, WALL IE functions as a bridge.

 SOON ALSO AVAILABLE WITH SECURE M12 CONNECTION!

## NAT operating mode (Basic NAT)

The NAT operating mode serves the forwarding of data traffic between various IPv4 networks (Layer 3). It enables the address translation via NAT and uses packet filters for the limitation of access to the automation network located behind.

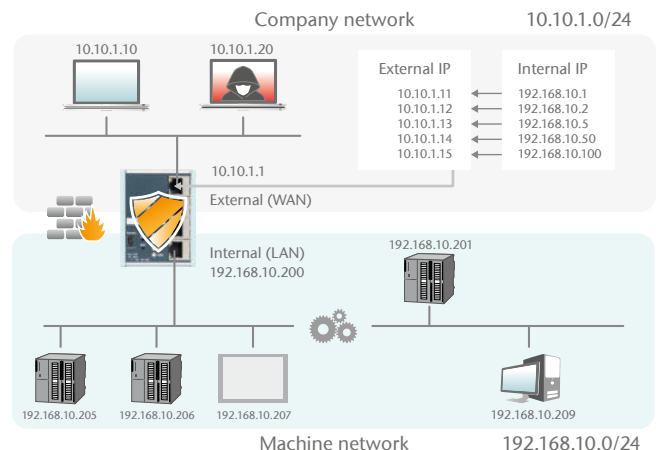
Basic NAT, also known as “1:1 NAT” or “Static NAT”, is the translation of individual IP addresses or of complete address ranges. The translation takes place exclusively at the IP level, which means that all ports can be addressed without explicit forwarding.



## Packet filter functionality

The packet filter enables the limitation of access between the production network and the automation cell. For example, it can be configured that only certain participants from the production network may exchange data with defined participants from the automation cell.

The following filter criteria on layers 3 and 4 are available: IPV4 addresses, protocol (TCP/UDP), ports, MAC addresses.



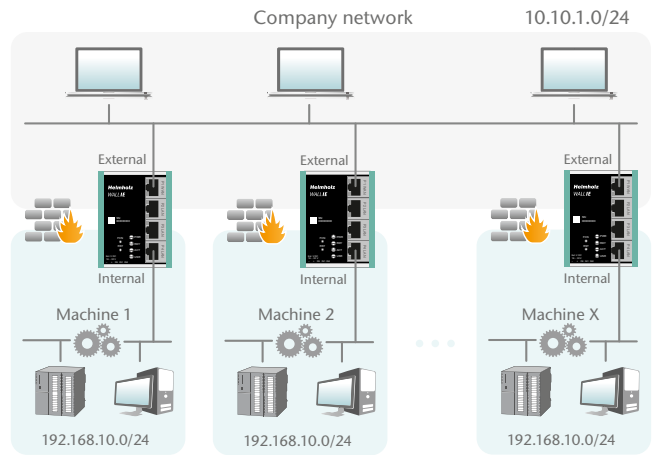


## NAT application

When several automation cells with the same address range are to be incorporated into a production network, this can result in collisions, as the addresses in the entire network are not unambiguous.

Using Network Address Translation (NAT), WALL IE makes it possible to incorporate several automation cells into the production network.

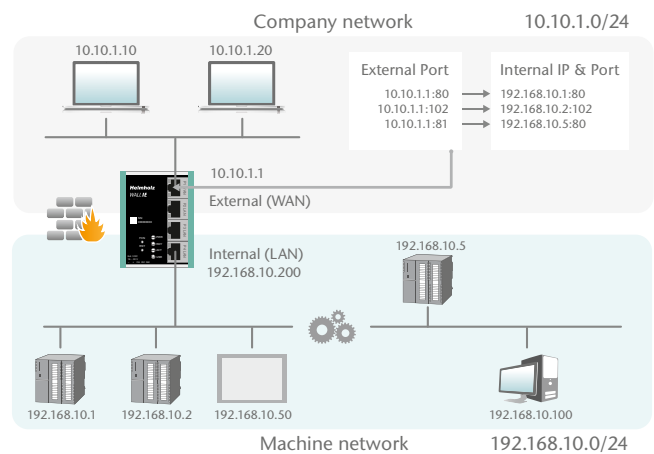
Static routes are used for communication with other automation cells. To this purpose, the network and the address of the router responsible for this ("Next Hop") must be configured.



## NAPT: Network Address and Port Translation

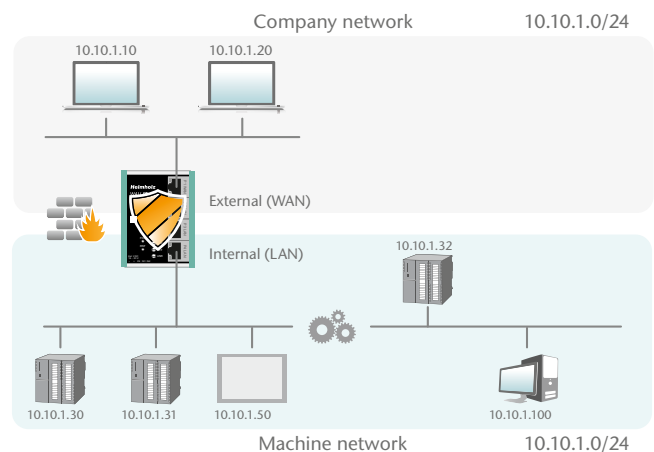
NAPT, also known as "1:N NAT" or "Masquerading", is the translation of all addresses of the automation cell into a single address of the production network. The sender addresses of packages from the automation cell are replaced by these.

With the help of port forwarding, it can be configured that packets at a certain TCP/UDP port of this address can be forwarded to a participant in the automation cell (e.g. 10.10.1.1:81 to 192.168.10.5:80).



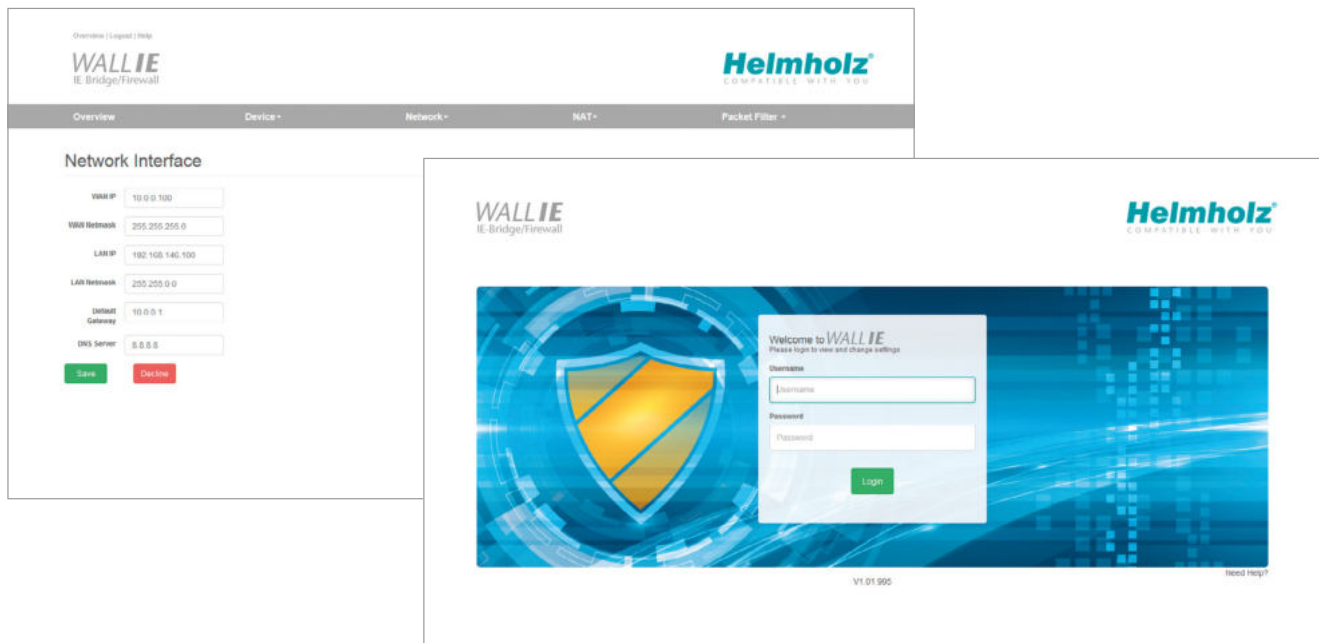
## Bridge operating mode

In the bridge operating mode, WALL IE behaves like a layer 2 switch between the automation cell and the production network. The packet filter can nonetheless be used to limit access between the two areas. This enables the separation of a part of the production network without using different networks.



# WALLIE – WEB INTERFACE

The configuration of the WALL IE can be carried out easily and in a well-structured fashion with the integrated website. The website, which is accessible via HTTPS, is password-protected and supports three different user levels (administrator, IT admin and machine user) with different access rights. For the purposes of protecting access to the website, an own HTTPS certificate can then be adopted into the device. Once set, the configuration can be exported and imported in a readable and editable format. WALL IE devices can thus also be configured once and reproduced. For expanded operating diagnosis and usage monitoring, WALL IE supports a Syslog server.



## TECHNICAL DATA/OTDER DATA

<b>WALL IE, Industrial NAT gateway / firewall</b> (incl. Quick Start Guide)	<b>700-860-WAL01</b>
Dimensions (D x W x H)	32.5 x 58.5 x 76.5 mm
Weight	Approx. 130 g
Interfaces	1x WAN 10/100 Mbps 3x LAN 10/100 Mbps, switch
Operating modes	Bridge, NAT (Basic NAT, NAPT)
Packet filter	IPv4 addresses Protocol (TCP/UDP) Ports: "WAN to LAN" and "LAN to WAN" separated MAC addresses (black & whitelisting)
Status indicator	4 LEDs
Voltage supply	DC 24 V (18 ... 30 V DC)
Current draw	Max. 250 mA with DC 24 V
Number of inputs switching point	2/DC 24 V as per DIN EN 61131-2 Type 2 (in progress)
Permissible ambient temperature	-40 °C ... +75 °C
Transport and storage temperature	-40 °C ... +80 °C
Protection rating	IP20
Certifications	CE
<b>UL</b>	UL 61010-1/ UL 61010-2-201
- Voltage supply	DC 24 V (18 ... 30 V DC, SELV and limited energy circuit)
- Pollution degree	2
- Altitude	Up to 2000 m
- Temperature cable rating	87 °C
<b>WALL IE M12, Industrial NAT gateway / firewall</b> (incl. Quick Start Guide)	<b>700-861-WAL01</b> (available upon request)





Ethernet

PROFINET

IP67J  
waterproof

# INNOVATIVELY NETWORKING AUTOMATION

with the Helmholtz PROFINET and Ethernet switches

# ETHERNET SWITCH, 5/8/16-PORT, UNMANAGED, 10/100/1000 MBPS

Thanks to their **very compact design**, the new Helmholtz unmanaged Ethernet switches can be used for a variety of industrial applications. The light and yet robust industrial design is suitable for installation on the DIN rail and can be very easily integrated into the network. Once plugged in, they are immediately ready for operation with the simple plug&play solution. The tool-free push-in connection for the power supply supports installation.

With the Industrial Ethernet switches from Helmholtz, you can **connect up to 16 Ethernet participants without additional configuration**. Secure **maximum speed** for your production and process industry.



## Product highlights:

- Simple plug & play solution
- Simple network integration
- Pluggable push-in terminal
- Flat, robust design for DIN rail mounting
- Available in 5/8/16-port, unmanaged



*Ethernet switch  
5/8/16-port*

## ORDERING DATA

	Ethernet switch, 5-port, unmanaged	Ethernet switch, 8-port, unmanaged	Ethernet switch, 16-port, unmanaged
Variants up to 1000 Mbps (1GB)	700-841-5ES01	700-841-8ES01	700-841-16S01
Variants up to 100 Mbps	700-840-5ES01	700-840-8ES01	700-840-16S01

# PROFINET SWITCH, 8-PORT, MANAGED, IP67

**Failsafe data communication under rough use conditions** – Equipped through IP67 protection, the Ethernet switch has a robust, dust-proof and water-resistant housing and is exceptionally well-suited for rough industrial environments.



## Product highlights:

- 8 M12 connectors (d-coded)
- Water-resistant and dust-proof
- Broad temperature range (-40 °C ... +75 °C)
- Store-and-forward architecture
- LLDP & PTCP Delay Traffic blocking (for PROFINET networks)
- Protection class IP67
- Installation without control cabinet possible



*PROFINET switch  
8-port, IP67*

## ORDERING DATA

PROFINET switch, 8-port, managed, IP67 *	700-857-8PS01
--	---------------

\* also available as Ethernet variant

# PROFINET SWITCH, 4/8/16-PORT, MANAGED

Connect up to sixteen network participants to save time and costs with the managed PROFINET switch. It supports PROFINET according to **Conformance Class B** and offers transmission security through ring redundancy as an MRP client.

One of the most important functions of a PROFINET switch is the prioritizing of the PROFINET frame traffic in the machine network. The switch can differentiate whether the frame is a web query, an FTP file transmission, a media stream, or a PROFINET frame. In the case of a high transmission load, the important PROFINET frames can thus be prioritized in order to prevent frame losses.

With a GSDML file you can integrate the switch into your automation environment in the usual way. The supported PROFINET protocols, such as LLPD, DCP, or even diagnosis alarms, can be easily configured and administered.



## Product highlights:

- PROFINET Conformance Class B
- Managed switch with 4/8/16 x 100 Mbps RJ45 ports
- Integration into the automation network with GSDML file
- Quick, simple configuration and diagnosis via PROFINET and web interface
- LLPD, DCP, SNMP, diagnosis alarms
- Media redundancy: MRP client
- Port mirroring
- Network statistics (frames and errors)

## ORDERING DATA

PROFINET switch, 4-port, managed	700-850-4PS01
PROFINET switch, 8-port, managed	700-850-8PS01
PROFINET switch, 16-port, managed	700-850-16PS01



PROFINET switch  
5/8/16-port

# FLEXTRA PROFINET SWITCH, 16-PORT, MANAGED, 10/100/1000 MBPS

The new FLEXtra PROFINET switch offers **maximum flexibility** for every application through **freely configurable ports**. Network both PROFINET components with 100 Mbps and Ethernet participants with up to 1000 Mbps.

▷ **One switch** – conceived of for seamless communication between the top level and the machine.



## Product highlights:

- PROFINET ports freely configurable
- Failure safety through redundant power supply
- Optimal cable management through stage design
- Simple diagnosis through easily visible LED layout on the top
- Quick commissioning with GSDML file

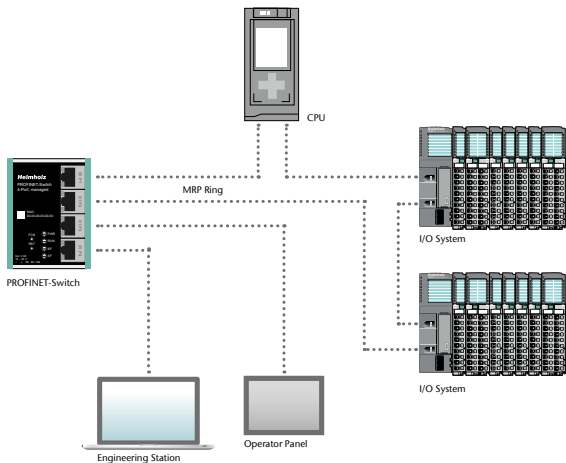
## ORDERING DATA

FLEXtra PROFINET switch, 16-port, managed, 10/100/1000 Mbps	700-855-16P01
---	---------------



FLEXtra  
PROFINET switch  
16-port, managed  
10/100/1000 Mbps

# Technical advantages when using a PROFINET switch



- Prioritizing of PROFINET frames
- Assignment of a configuration via the device name
- Neighborhood detection
- Device exchange without programming device
- Ring redundancy
- Each port can be activated or deactivated
- Diagnostic messages for network problems
- Identification and maintenance data

## Also interesting

### PROFINET CONNECTOR, RJ45, EASYCONNECT®

The **industrial-grade metal housing** provides the necessary robustness, so that the connection can be used in many industrial areas. To save the user time in wiring, the RJ45 connectors can be assembled in a single work step using the **fast connection technology EasyConnect®**.



#### Product highlights:

- Color-coded connector contact elements help to prevent connection errors
- Transmission rates up to 100 Mbps
- No loose individual parts
- Tool-free installation
- EasyConnect® RJ45 connection (IDC) for industrial applications
- For PROFINET, Modbus, and EtherCAT
- Available in 180°, 90°, and 145°



*Product info*  
*PROFINET connector*

## Find your appropriate switch!

Regardless of whether Ethernet, PROFINET, managed, unmanaged, or IP67 – secure your customized network solution for permanent access to machines and systems.

Please request an individual quote at:

Phone +49 9135 7380-0 | E-mail [vertrieb@helmholz.de](mailto:vertrieb@helmholz.de)



*Discover switches now!*



## EASY CONNECTION OF FIELDBUS NETWORKS with Helmholz PROFINET gateways

With our PROFINET gateways, we make it possible for you to link machines with one another directly at the I/O level. Achieve a seamless data flow between systems from various manufacturers, irrespective of the PLC used.

- ✓ Easy commissioning – no programming required
- ✓ Configuration only with GSDML/GSD files
- ✓ Compact design for installation on DIN rails

## PN/EtherNetIP Coupler



### Features

- Simple configuration and clearly structured monitoring
- High degree of safety through electrical isolation
- MQTT publisher on both network sides



Product information  
at a glance!

PN/EtherNetIP Coupler

### ORDERING DATA

PN/EtherNetIP Coupler

### ORDER NO.

700-160-3EN02

## DP/PN Coupler V2



### Features

- PROFIBUS up to 12 Mbps
- PROFINET transmission rates of 100 Mbps
- Setting of the PROFIBUS addresses using DIP switches or software



Product information  
at a glance!

DP/PN Coupler V2

### ORDERING DATA

DP/PN Coupler V2

### ORDER NO.

700-158-3DP02

## PN/PN Coupler V2



### Features

- Galvanic separation of the networks
- PROFINET transmission rates of 100 Mbps
- No influencing of the opposite side in the event of bus system failure



Product information  
at a glance!

PN/PN Coupler V2

### ORDERING DATA

PN/PN Coupler V2

### ORDER NO.

700-158-3PN02

## PN/ModbusTCP Coupler



### Features

- 300 configurable slots for PROFINET IO data
- Supports the full ModbusTCP address range with free assignment of IO data



Product information  
at a glance!

PN/ModbusTCP Coupler

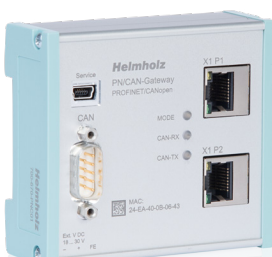
### ORDERING DATA

PN/ModbusTCP Coupler

### ORDER NO.

700-159-3MB01

## PN/CAN gateway



### Features

- Transmission objects can also be transmitted cyclically
- Automatic and controlled reception and transmission objects for CAN frames with project-compatible identifiers



Product information  
at a glance!

PN/CAN gateway

### ORDERING DATA

PN/CAN gateway, PROFINET/CANopen

### ORDER NO.

700-670-PNC01

PLEASE REQUEST AN INDIVIDUAL QUOTE AT:

Phone 09135 7380-0 | E-mail [vertrieb@helmholz.de](mailto:vertrieb@helmholz.de)



## S7 COMPONENTS FROM HELMHOLZ

The clever alternatives

## S7 MEMORY MODULES

### S7 memory cards for the 1200/1500 series

ORDERING DATA	ORDER NO.
Memory card, 4 MB	700-954-8LC03
Memory card, 12 MB	700-954-8LE03
Memory card, 24 MB	700-954-8LF03
Memory card, 256 MB	700-954-8LL03
Memory card, 2 GB	700-954-8LP03

### S7 micro memory cards for the 300 series

ORDERING DATA	ORDER NO.
Micro memory card, 64 kByte	700-953-8LF31
Micro memory card, 128 kByte	700-953-8LG31
Micro memory card, 256 kByte	700-953-8LH31
Micro memory card, 512 kByte	700-953-8LJ31
Micro memory card, 1 MB	700-953-8LK31
Micro memory card, 2 MB	700-953-8LL31
Micro memory card, 4 MB	700-953-8LM31
Micro memory card, 8 MB	700-953-8LP31

### Flash EPROM card for the 400 series

ORDERING DATA	ORDER NO.
Flash EPROM card, long, 256 kByte	700-952-0KH00
Flash EPROM card, long, 2 MB	700-952-1KL00

### RAM card for the 400 series

ORDERING DATA	ORDER NO.
RAM card, long, 64 kByte	700-952-0AF00
RAM card, long, 256 kByte	700-952-1AH00
RAM card, long, 1 MB	700-952-1AK00



Product info  
Memory  
modules

## INPUT/OUTPUT MODULES

### Digital input modules

ORDERING DATA	ORDER NO.
DEA 300, 24 V DC, 16 inputs	700-321-1BH02
DEA 300, 24 V DC, 32 inputs	700-321-1BL00
DEA 300, 120 V AC, 32 inputs	700-321-1EL00

### Digital output modules

ORDERING DATA	ORDER NO.
DEA 300, DC 24 V, 0.5 A, 16 outputs	700-322-1BH01
DEA 300, DC 24 V, 0.5 A, 32 outputs	700-322-1BL00
DEA 300, DC 24 V, 2 A, 8 outputs	700-322-1BF01
DEA 300, relay, 2 A, 8 outputs	700-322-1HF01
DEA 300, relay, 5 A, quenching circuit, 8 outputs	700-322-1HF20

### Digital input/output modules

ORDERING DATA	ORDER NO.
DEA 300, 8 inputs (DC 24 V) / 8 outputs (DC 24 V, 0.5 A)	700-323-1BH01
DEA 300, 16 inputs (DC 24 V) / 16 outputs (DC 24 V, 0.5 A)	700-323-1BL00

### Analog input modules

ORDERING DATA	ORDER NO.
AEA 300, 8 inputs, for connection of current, voltage transmitters, resistors	700-331-1KF01
AEA 300, 8 voltage inputs, for connecting voltage transmitters, 0 – 10 V	700-331-0V010
AEA 300, 4 inputs, Pt100/Ni100 for connecting resistance thermometers	700-331-PT100

### Analog output modules

ORDERING DATA	ORDER NO.
AEA 300, 0 – 10 V / 4 – 20 mA, 2-channel, 2 outputs for connection to actors	700-332-5HB01
AEA 300, 0 – 10 V / 4 – 20 mA, 4 channel, 4 outputs for connection to actors	700-332-5HD01



Product info  
Input/output  
modules



## COMMUNICATION MODULES

### SAS 340

ORDERING DATA	ORDER NO.
SAS 340-1, 1 x RS422/RS485, incl. CD with handling blocks and manual	700-340-1CH02
SAS 340-2, 2 x RS422/RS485, incl. CD with handling blocks and manual	700-340-2CH02



### SAS 341

ORDERING DATA	ORDER NO.
SAS 341-2, 2 x RS232, 2 x USB, incl. CD with handling blocks and manual	700-341-2AH02
SAS 341-1, 1 x RS422/RS485, incl. CD with handling blocks and manual	700-341-1CH02
SAS 341-2, 2 x RS422/RS485, incl. CD with handling blocks and manual	700-341-2CH02

### Driver

ORDERING DATA	ORDER NO.
Modbus master/slave driver for SAS 341-1 on micro memory card	800-341-MOD01



**Product info**  
Communication modules

## FRONT CONNECTOR FOR DEA/AEA

### for DEA/AEA 300 without cables

ORDERING DATA	ORDER NO.
Front connector without cables, EasyConnect®, 40-pin	700-392-1AM10
Front connector without cables, spring type terminal, 20-pin	700-392-1BJ01
Front connector without cables, spring type terminal, 40-pin	700-392-1BM01
Front connector without cables, screw contacts, 20-pin	700-392-1AJ10
Front connector without cables, screw contacts, 40-pin	700-392-1AM01

### for DEA/AEA 300 with cables

ORDERING DATA	ORDER NO.
Front connector with cables, EasyConnect®, 40-pin, 2 m	700-392-1AM10A
Front connector with cables, EasyConnect®, 40-pin, 3 m	700-392-1AM10B
Front connector with cables, EasyConnect®, 40-pin, 5 m	700-392-1AM10C
Front connector with cables, spring type terminal, 40-pin, 2 m	700-392-1BM01A
Front connector with cables, spring type terminal, 40-pin, 3 m	700-392-1BM01B
Front connector with cables, spring type terminal, 40-pin, 5 m	700-392-1BM01C
Front connector with cables, screw contacts, 20-pin, 2 m	700-392-1AJ10A
Front connector with cables, screw contacts, 20-pin, 3 m	700-392-1AJ10B



**Product info**  
Front connectors

## MOUNTING RAILS

### Mounting rails for 1500 series

ORDERING DATA	ORDER NO.
Mounting rails, 70 mm	700-590-1AA07
Mounting rails, 160 mm	700-590-1AB60
Mounting rails, 245 mm	700-590-1AC40
Mounting rails, 315 mm	700-590-1AD15
Mounting rails, 385 mm	700-590-1AG85
Mounting rails, 455 mm	700-590-1AH55
Mounting rails, 482 mm	700-590-1AE80
Mounting rails, 530 mm	700-590-1AF30
Mounting rails, 830 mm	700-590-1AJ30
Mounting rails, 805 mm	700-590-1AI05
Mounting rails, 2000 mm	700-590-1BC00

### Mounting rails for 300 series

ORDERING DATA	ORDER NO.
Mounting rails, 160 mm	700-390-1AB60
Mounting rails, 320 mm	700-390-1SO01
Mounting rails, 482 mm	700-390-1AE80
Mounting rails, 530 mm	700-390-1AF30
Mounting rails, 2000 mm	700-390-1BC00



**Product info**  
Mounting rails

PROFI  
BUS

EtherNet/IP™

PROFI  
NET

DeviceNet™

Modbus

CANopen®

EtherCAT.↗



## TB20. DISTRIBUTED FIELDBUS I/O SYSTEM

With the TB20 I/O system you generate efficient and functional added value for a variety of application areas – irrespective of the fieldbus and proven in practice!



## Energy efficiency and condition monitoring

Of course, excessive energy consumption in your systems results in costs, but is also often a sign of a defect or of maintenance work being due. The energy meter assists you in precisely analyzing and evaluating the operating data of the relevant energy consumer. With the findings gained here, you can initiate targeted measures that can increase the energy efficiency, failure security, and not least the profitability of your systems.



## Retrofit versus new investment

Large machines are generally long-term investment items and can often be used mechanically long beyond the service life of individual control system components. However, in order to also be able to continue using these, adaptations to new bus systems and current standards usually need to be made.

System integrators that have to unite machines of all kinds to form a functioning production line also face similar problems. With the GND reading digital input modules of the TB20 I/O system it is possible to update many existing machines to the latest standard at an optimized price and prepare them for international use. Labor-intensive rewiring is dispensed with in the process.



### Mobility with a future

Energy storage is a central theme, especially in the field of renewable energy. Measurement and information systems, such as those used in the electromobility sector and for generating energy, often require precise parameters with regard to the voltage of the batteries used.

With the ISO analog input modules you measure these values reliably and securely: The individual channels are isolated from one another. With an expanded voltage range of up to 100 V, our modules are now also available for even more applications.



### That's cool

Production materials often need to be stored under stable environmental conditions prior to further processing. Even minor fluctuations of temperature and air humidity can then have a decisive impact on the quality of the final product.

Even in office buildings, precise control is often absolutely necessary in order to prevent damage to the substance of a building and to ensure a pleasant climate.

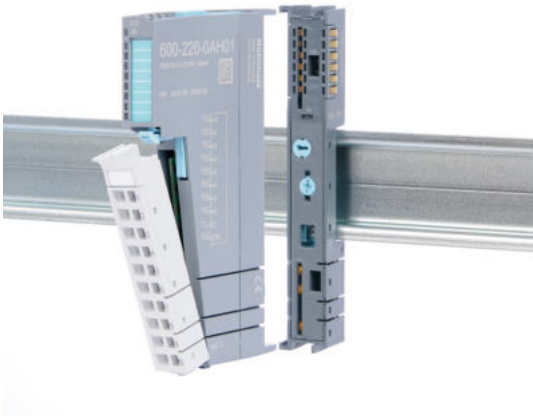
With the PT100/climate module you can evaluate these critical values to two decimal places and counter them in a timely fashion before damage occurs. And the energy meter module helps you control the energy consumption of the climate control system.



### The right mixture is key

Strict quantity limits often need to be absolutely observed in your dispensing and filling system. Just a little bit too much can make the finished product unusable for the consumer, and even dangerous in the worst case.

The strain gauge module assists you in monitoring the defined filling quantities and in reliably observing the limit values. The module offers you the optimal solution for all applications in which strain gauge sensors are used, regardless of whether you want to measure weight, force, or torque.

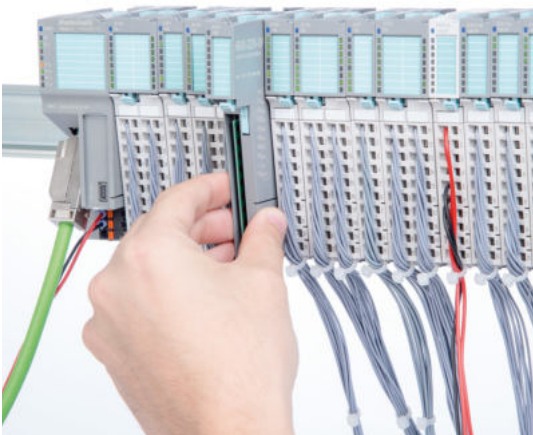


### Three-component module design

TB20 I/O modules have three components: a separate front connector, an electronic module, and a base module. A locking mechanism ensures that all modules can be quickly mounted and securely attached on DIN rails while guaranteeing a reliable electrical connection. Likewise, all modules can be easily and quickly removed for maintenance and/or system expansions.

Modules are delivered as complete assembled units (i.e., as a single assembly) and can be installed immediately.

This makes keeping expensive special parts in stock obsolete.



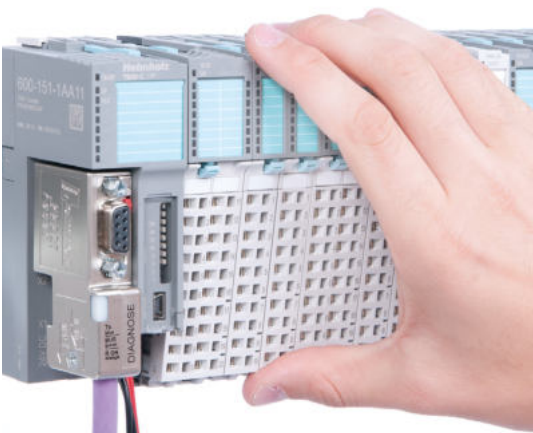
### Hot-swap capability

Individual modules can be replaced quickly and easily while the rest of the system keeps running. The hot-swap-compatible electronic module helps keep downtimes to a minimum.



### Clear, unique labels

The system's design ensures that each channel will be labeled clearly and uniquely, in a way that can be easily read during operation. This allows direct allocation of the terminal to the respective LED display. The labeling strips are suitable for laser printers.

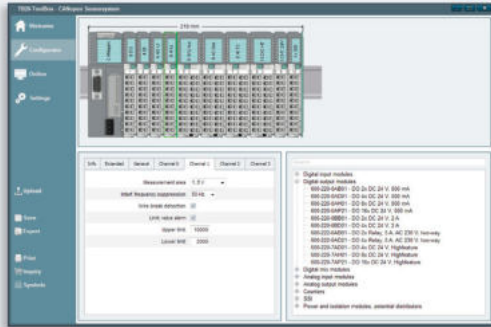


### Ideal handling, achieved with a compact design

The system's ergonomic design makes it easy to handle. Moreover, the space-saving compact dimensions behind it do not take away from the system components' heavy-duty sturdiness and reliable electrical contacts for industrial applications, which are further complemented by an IP20 protection rating.

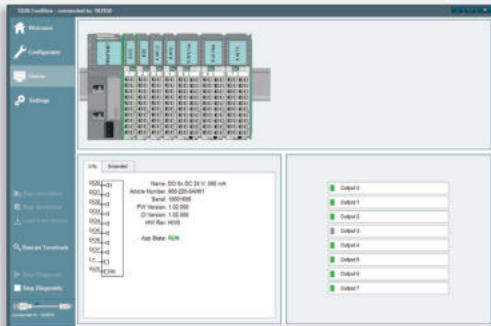
An optimal systems engineering breadth can be achieved through the use of modules with up to 16 digital or 8 analog channels and digital mix in/out modules.

# TB20-TOOLBOX



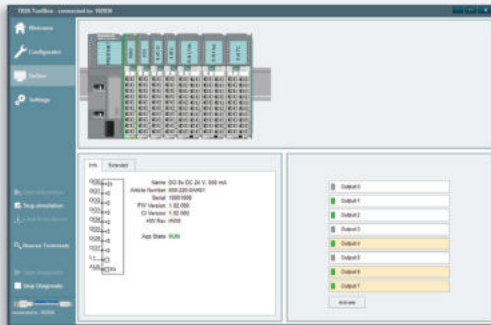
## Smart design and configuration

TB20 ToolBox makes it easy to methodically design TB20 systems. From selecting and positioning components and configuring their parameters to printing label strips and documentation for projects, every single step is combined into one single intuitive software package. Integrated terminal mapping, system width calculations, and current-carrying capacity monitoring all make it possible to quickly design systems without making any mistakes.



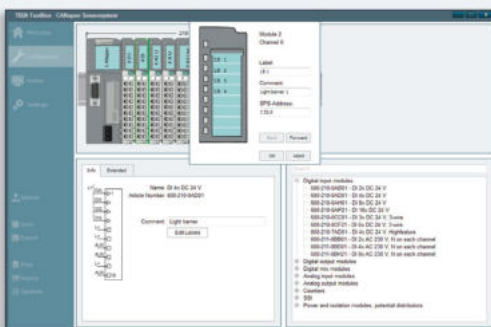
## Real-time diagnostics

TB20 ToolBox is a practical setup and servicing tool used to import configurations, display a system's current status, and analyze configuration and setup errors. An I/O map, the current parameter configuration, and diagnostic messages can all be displayed in real-time.



## Simulation operation (I/O check)

The option of setting up the TB20 I/O system without a higher-level controller by directly reading and writing to inputs and outputs and configuring parameters for functionality testing purposes makes it easier to check the system's wiring and entire design. This way, you can rest assured knowing that your TB20 I/O system is ideally configured and ready for use before your machine is delivered.



## Import/Export ensures seamless cooperation

With the TB20-ToolBox, the labeling, a symbol description, and the PLC address is defined, exported, and imported for each channel. In combination with the TB20 CANopen coupler, the relevant SDOs can be seamlessly exported as an EDS file into the engineering tool of the CANopen master. Even the concrete configuration of a TB20 CANopen slave can be issued as a DCF file including node ID and Baud rate. With PDO mapping in combination with the TB20 CANopen coupler you also have the possibility to flexibly adapt the configuration for any application.



## TB20 Toolbox training

Learn about and how to use our ToolBox in only a few minutes.

<https://www.youtube.com/watch?v=1IAyW1TtHLM>

# MODULE RANGE

## Bus Coupler

TB20-C, Bus Coupler PROFINET IO	600-180-1AA11
TB20-C, Bus Coupler PROFIBUS-DP Slave	600-151-1AA11
TB20-C, Bus Coupler CANopen® Slave	600-160-1AA11
TB20-C, Bus Coupler DeviceNet Slave	600-165-1AA11
TB20-C, Bus Coupler ModbusTCP	600-170-1AA11
TB20-C, Bus Coupler EtherNet/IP	600-175-1AA11
TB20-C, Bus Coupler EtherCAT	600-185-1AA11

## Digital Input Modules

DI 2x DC 24 V	600-210-0AB01
DI 4 x DC 24 V	600-210-0AD01
DI 8 x DC 24 V	600-210-0AH01
DI 16 x DC 24 V	600-210-0AP21
DI 8 x DC 24 V, GND reading	600-210-0DH01
DI 16 x DC 24 V, GND reading	600-210-0DP21
DI 3 x DC 24 V, 3-wire	600-210-0CC01
DI 6 x DC 24 V, 3-wire	600-210-0CF21
DI 2 x AC 230 V, per channel N, type 1	600-211-0BB01
DI 4 x AC 230 V, per channel N, type 1	600-211-0BD01
DI 8 x AC 230 V, per channel N, type 1	600-211-0BH21

## Digital Output Modules

DO 2 x DC 24 V, 500 mA	600-220-0AB01
DO 4 x DC 24 V, 500 mA	600-220-0AD01
DO 8 x DC 24 V, 500 mA	600-220-0AH01
DO 16 x DC 24 V, 500 mA	600-220-0AP21
DO 8 x DC 24 V, 300 mA, sink	600-220-0DH01
DO 16 x DC 24 V, 300 mA, sink	600-220-0DP21
DO 4 x DC 24 V, 700 mA, High Feature	600-220-7AD01
DO 8 x DC 24 V, 700 mA, High Feature	600-220-7AH01
DO 16 x DC 24 V, 700 mA, High Feature	600-220-7AP21
DO 2 x DC 24 V, 2 A	600-220-0BB01
DO 4 x DC 24 V, 2 A	600-220-0BD01
DO 2 x relays, 5 A, AC 230 V, change-over	600-222-0AB01
DO 4 x relays, 5 A, AC 230 V, change-over	600-222-0AD21

## Digital Mix Modules

DIO 2 x In/2 x Out DC 24 V, 500 mA	600-230-0AD01
DIO 4 x In/4 x Out DC 24 V, 500 mA	600-230-0AH01
DIO 8 x Out/8 x In DC 24 V, 500 mA	600-230-0AP21

## Order no.

## Analog Input Modules

AI 2 x I, 0/4–20 mA, ±20 mA, 12 Bit	600-250-4AB01
AI 4 x I, 0/4–20 mA, ±20 mA, 12 Bit	600-250-4AD01
AI 2 x I, 0/4–20 mA, ±20 mA, Iso., 16 Bit	600-250-7BB01
AI 4 x I, 0/4–20 mA, ±20 mA, Iso., 16 Bit	600-250-7BD01
AI 8 x I, 0/4–20 mA, ±20 mA, Iso., 16 Bit	600-250-7BH21
AI 2 x U, ±10 V, 0–10 V, 1–5 V, 12 Bit	600-252-4AB01
AI 4 x U, ±10 V, 0–10 V, 1–5 V, 12 Bit	600-252-4AD01
AI 2 x U, ±10 V, 0–10 V, 1–5 V, Iso., 16 Bit	600-252-7BB01
AI 4 x U, ±10 V, 0–10 V, 1–5 V, Iso., 16 Bit	600-252-7BD01
AI 8 x U, ±10 V, 0–10 V, 1–5 V, Iso., 16 Bit	600-252-7BH21
AI 2 x U, ±24 V, 0–24 V, 12 Bit	600-252-4CB01
AI 4 x U, ±24 V, 0–24 V, 12 Bit	600-252-4CD01
AI 4 x U, ±100V, 0–100 V, Iso., 16 Bit	600-252-7DD01
AI 8 x U, ±100V, 0–100 V, Iso., 16 Bit	600-252-7DH21
AI 1/2 x R, RTD, 16 Bit, 2/3/4-Draht	600-253-4AB01
AI 2/4 x R, RTD, 16 Bit, 2/3/4-Draht	600-253-4AD01
AI 2 x TC, 16 Bit	600-254-4AB01
AI 4 x TC, 16 Bit	600-254-4AD01
AI 2 x TC, Iso., 16 Bit	600-254-4AB02
AI 4 x TC, Iso., 16 Bit	600-254-4AD02
AI 8 x TC, Iso., 16 Bit	600-254-4AH22

## Order no.

## Analog Output Modules

AO 2 x I, 0/4–20 mA, 12 Bit	600-260-4AB01
AO 4 x I, 0/4–20 mA, 12 Bit	600-260-4AD01
AO 2 x U, ±10 V, 0–10 V, 1–5 V, 12 Bit	600-261-4AB01
AO 4 x U, ±10 V, 0–10 V, 1–5 V, 12 Bit	600-261-4AD01

## Order no.

## Function Modules

1 x counter 24 V, 500 kHz, 32 Bit	600-300-7AA01
1 x counter 5 V (RS422), 4 MHz, 32 Bit	600-310-7AA01
1 x SSI encoder interface	600-320-7AA01
2 x Counter Economy 24 V, 1 KHz, 32 Bit	600-300-1AB01
4 x Counter Economy 24 V, 1 KHz, 32 Bit	600-300-1AD01
Energy meter, 1 A	600-255-7AA21
Energy meter, 5 A	600-255-7BA21
Strain gauge weighing module	600-256-7AA01

## Order no.

## Communication Modules

1SI serial port	600-400-7BA31
-----------------	---------------

## Order no.

## System Modules

Power and isolation Module DC 24 V, 8 A	600-710-0AA01
Potential Distributor 4 x DC 24 V, High Feature	600-730-4AD01
Potential Distributor 9 x DC 24 V	600-720-0AH01
Potential Distributor 9 x GND	600-720-0BH01
Potential Distributor 10 x AUX	600-720-0CH01
Potential Distributor 4 x DC 24 V + 4 x GND	600-720-0DH01
Potential Distributor 9 x free Pot.	600-720-0XH01
Power Module DC 24 V	600-700-0AA01

## Order no.

## FOLLOW US ON

