



MB CONNECT LINE
remote maintenance solutions

Universal products for the worldwide remote maintenance of machines and equipment



SPECIAL EDITION
SPS IPC DRIVES 2014





fast

Machines and production lines of your customers are only a mouse click away.

secure

Dial-ups only towards the portal, never the other way round.

versatile

Monitoring of utilization and material consumption for condition-based maintenance.

Ideas and solutions for remote maintenance – Made in Germany



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PRODUCT OVERVIEW

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COMPANY PROFILE

MB CONNECT LINE GMBH



As technology leader MB Connect Line is the pace maker in the industrial data communication and the remote maintenance of machines and production lines via the internet. Independent and competent we consequently focus on transforming the technically feasible into practical and economical solutions. Always with an eye on the benefit for you as user.

The MB Connect Line GmbH offers universal solutions for world-wide remote maintenance of machines and equipment. The company was founded in 1997 by Werner Belle and Siegfried Müller and set value on "Made in Germany" from the beginning. The Headquarters including Sales is located in Ilsfeld. Technical Development and Production are located in Dineklsbühl.

The industrial-router mbNET are available in the second generation. They feature an integrated 4-Port-Switch. S7-controls can be connected directly via the MPI/Profibus-interface. Furthermore over 90 different drivers from different manufacturers are available for the serial access to controls, operator panels, frequency converters and drives.

The mbSPIDER is a programmable data modem with alarm feature and web visualization. It serves for the collection of consumption and measurement data as well as for the continuous monitoring of equipment and objects.

The new remote-service-platform mbCONNECT24 offers you as mechanical engineer or operator of a plant a broad solution for remote maintenance, collection of data and M2M-communication.

All necessary services and functions are integrated centrally on a web-based platform. It is suitable for production lines and the maintenance infrastructure, as well as for the facility sector and mobile work machines. Besides the classic remote maintenance, the monitoring and alerting in the case of faults is also possible. Operating data can be recorded and visualized easily via tablet or smartphone.

With the mbSECBOX a security solution is available for the S7-300 and S7-400 controls from Siemens. It offers a permanent backup as well as the immediate detection of viruses and malware, such as Stuxnet on S7-controls – and alerts the operator before damage is being caused.

The specialists at MB Connect Line have years of experience and extensive know-how. No matter if packaging machines, production lines, solar power plants, printing units or biogas plants – MB Connect Line has the suitable remote maintenance solution that turns your service department into a profit center.

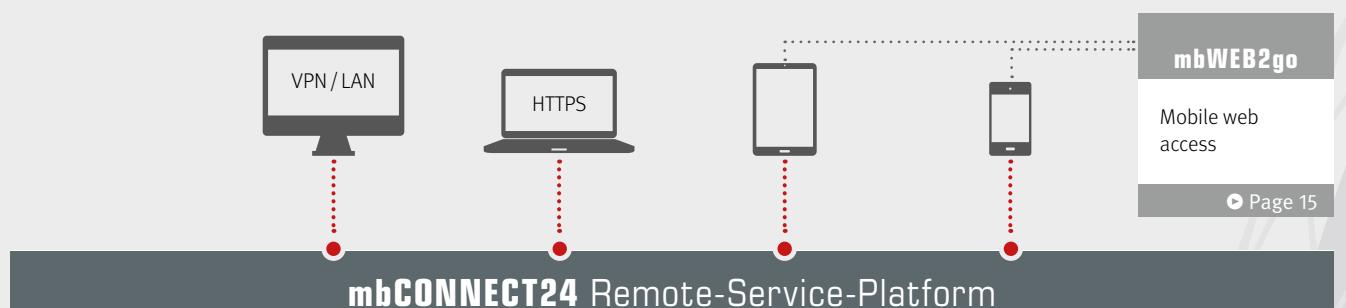
MADE IN GERMANY

Our products are being produced solely in Germany, guarantee highest quality and ensure jobs in Europe.

MORE THAN REMOTE MAINTENANCE

THE MB PRINCIPLE

The remote-service-platform mbCONNECT24 offers a comprehensive solution for remote maintenance, data recording and M2M-communication. Together with the industrial routers mbNET and the data modems mbSPIDER you receive a ready to use kit that supports the systems of more than 90 well-known automation manufacturers.



mbCONNECT24 offers you a central management all users, lines and end devices in a practical project structure. Start-up within a few steps without specific IT-knowledge. A sophisticated security concept ensures the authenticity, integrity and confidentiality of your data.



Ideal for getting started:
mbCONNECT24

- ✓ central web-portal
- ✓ as service on public server
- ✓ practical project structure

For maximal independence:
mymbCONNECT24 and Server-Hardware

- ✓ pre-installed complete system
- ✓ for individual service portal on site
- ✓ no external endpoint of the VPN-tunnel



Highest availability:
mymbCONNECT24.hosted

- ✓ dedicated server
- ✓ accessible via a personal IP-address
- ✓ almost unlimited scalability

▶ More information from **page 10**

mbNET Industrial router

A secure and reliable connection of machines and equipment via the internet. The perfect system for remote maintenance of various control systems



- ✓ secure
- ✓ reliable
- ✓ space-saving
- ✓ available for every infrastructure

▶ More information from **page 16**

mbNET.toolbox

Software enhancement



▶ Page 21

mbNET.mini

The compact solution



▶ Page 20

mbSPIDER Data modem

Professional analyzing and monitoring via the internet. Continuous recording of counter readings, measurements, logic states and analog values

- ✓ alarm function
- ✓ web visualization
- ✓ free programmable



▶ More information from **page 22**

SOME APPLICATION EXAMPLES FROM REAL LIFE:

Monitoring of solar power systems

Failure of photovoltaik systems are hardly visible with the naked eye. The operator can detect damages caused by strong wind or thunderbolt only through continuous monitoring.

- system often hidden from view
- no failure remains unnoticed
- alarm service technician and
- avoid profit cuts
- automatic informing



Remote maintenance of cranes

Enlarging ships have to be loaded and unloaded. The port crane must not fail. But in case of a failure, it can be eliminated quickly with the support of remote maintenance.

- access to all parameters
- support of the maintainer
- connection via mobile telephone system
- recording of overload



Monitoring via Smartphone

Approx. 40% of the primary energy consumption in Europe can be accounted for the facility sector. With the help of continuously recorded consumption data the user can max out the possible savings.

- instead of annual statement
- visualization via smartphone
- fast detection of failures
- lowers operating costs



Remote maintenance for packaging machines

Packaging machines are characterized by a high degree of automation. Therefore it is important to get quick support from the manufacturer in case of a failure.

- support from the manufacturer
- online within minutes
- short down times
- no delivery delays



Remote maintenance of production lines

Today the operator of production- and process-orientated lines expects an individual service during the complete life cycle. Economically this is feasible only with remote maintenance.

- protociling of relevant parameter
- maintenance according to the actual state
- optimized service costs
- regulation via maintenance agreement



PRODUCT OVERVIEW

MB CONNECT LINE GMBH





**PRODUCT PROGRAM
ON THE FOLLOWING
PAGES:**

- mbCONNECT24
- mbWEB2go
- mbNET Industrial router
- mbNET.mini
- mbNET.toolbox
- mbSPIDER
- Global SIM
- mbPOINT
- mbSECBOX
- Accessories
- Model overview

**SYMBOL KEY
CONNECTIONS:**

	WAN
	LAN
	RS 232/485
	MPI/PROFIBUS
	mbNET.toolbox
	mobile telephone sys.
	Wi-Fi

mbCONNECT24

SECURE REMOTE

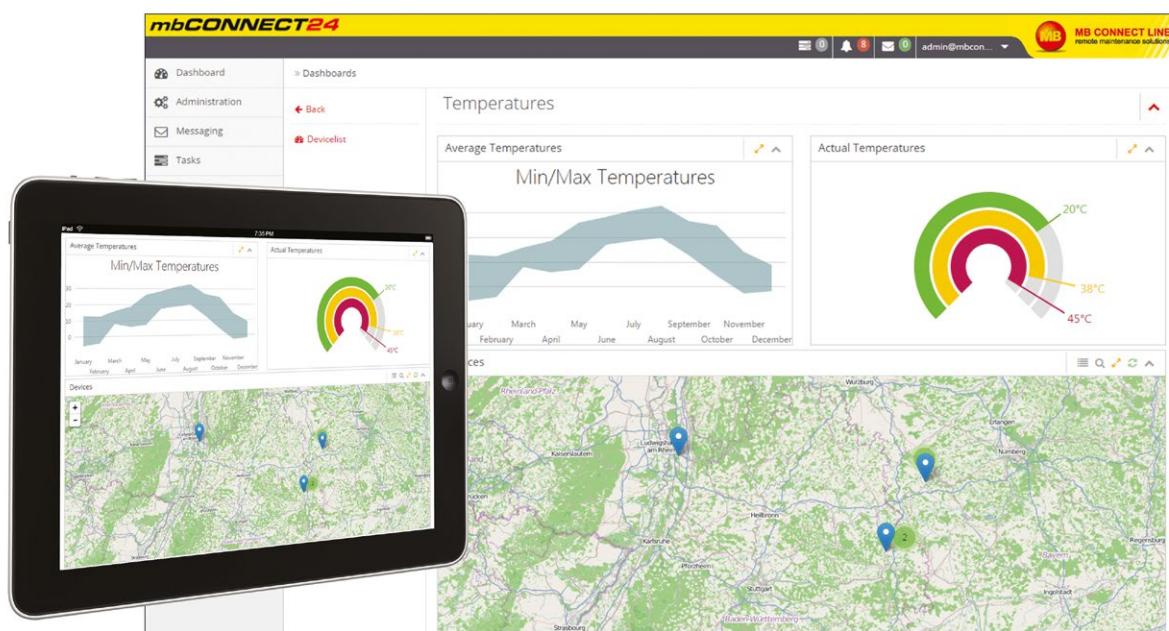
MAINTENANCE

REMOTE SERVICE PORTAL

The remote service platform mbCONNECT24 offers you a comprehensive, centralized solution for industrial VPN infrastructure. With the new remote service platform you will turn your service department into a profit center. Offer your customers a comprehensive solution for the collection and visualization of operating data. Monitor and send alerts, when there are malfunctions. Perform remote diagnosis and remote maintenance quickly and securely over the internet.



- ✓ secure IP-communication via fully transparent VPN-tunnel
- ✓ central management of all users, lines and end devices on the platform
- ✓ ready to use kit with service platform, industrial router and data modem
- ✓ start-up within a few steps, no specific IT-knowledge required
- ✓ no problems with IP-sub-nets and IP-address-ranges



Protocolling and analyzing

Log your operating-data, measured-values, and meter-readings directly on the remote service platform. Record worldwide production figures for management, track consumption statistics for billing, as well as wear and tear statistics to allow for the most efficient maintenance schedules.

Your benefits:

- ✓ configuration, analysis, and evaluation using a standard browser
- ✓ schedule maintenance tasks according to actual wear and tear
- ✓ real time updates on down time and production figures

Web-based visualization

Check the operating data of your systems with any web browser, directly with your smartphone or tablet, no need to download an app or other additional software. MBconnect offers barrier free access to the remote service platform allowing you to take a direct look at your systems with any mobile device, you don't need an app nor a special client, your preferred browser is enough.

- ✓ configurable dashboard with individual widgets for graphical display of specific data sets
- ✓ graphical elements, such as pointers and bar graphs, are included for free
- ✓ secure and mobile web access via HTTPS, supported on smartphones and tablets as well as PC
- ✓ simple registration using private user ID and password
- ✓ supports RDP and VNC via web browser

Monitoring and alerting

When it comes to shortage of material, malfunctions or other incidents, let the personnel in charge be informed immediately via SMS or E-mail. You can monitor everything that is available as an external signal or as a value in a controller. – e.g. The temperature of a cold storage container, the output of a production line, the operational status of a heater, the fill level of a building-material silo, the temperature of hydraulic oil, the water levels of rivers and the pressure of the water supply.

- ✓ define specific value limits and monitor in real time
- ✓ create alerts when there are malfunctions or specific incidents
- ✓ alerts through SMS, E-Mail and/or through the integrated information system
- ✓ create customizable, adjustable alert profiles automated to run on any schedule you desire (Example: Every day at 2 pm)

Remote maintenance

With remote diagnosis and remote programming you guarantee your customers the shortest possible down times and therefore the best possible operational availability during the entire life cycle of the plant. The different versions of the industrial routers mbNET offers provide support for many different interfaces and protocols. With MBconnect you have a centralized system for universal access to operation controls, panels, drives and controllers of different manufacturers.

- ✓ diagnosis, configuration and programming over the internet
- ✓ worldwide expert support for your customers within minutes
- ✓ additional revenue generation through service and maintenance contracts
- ✓ saves travel time and costs dramatically
- ✓ experts are able to support several customers simultaneously

M2M-communication

M2M communication, short for “machine to machine communication”, is the direct and automatic exchange of data between machines and equipment without the need to involve operating personnel.

- ✓ alerts for consumption data and automatic billing
- ✓ continuous adjustment of production to meet current consumption
- ✓ better planning of maintenance made possible by real time monitoring of actual conditions
- ✓ real time tracking of wear and tear to allow timely orders for spare parts
- ✓ fully automated communication without operating personnel

mbCONNECT24

Functional overview

mbCONNECT24	Basic	Remote PRO	Data PRO	Individual
Number of accounts	1	1	1	1
Number of devices and projects	50	250	250	250
Number of standard vpn clients	-	-	-	0 (max. 250) ¹
Number of active connections	1	3	1	1 (max. 5) ¹
Concurrent active connections	-	✓	-	✓
Number of mbWeb2Go connections	2	50	50	50
Number of M2M connectiongroups	-	-	-	-
mbSMS Welcome package	✓	✓	✓	✓
Traffic volume of active connections, mbWeb2Go, M2M and API requests incl. per month	2 GB	6 GB (max. 12 GB) ¹	6 GB (max. 12 GB) ¹	2 GB (max. 12 GB) ¹
Guaranteed bandwidth	-	1 Mbit/s	1 Mbit/s	1 Mbit/s
Number of Users	unlimited	unlimited	unlimited	unlimited
Number of Usergroups	5	250	250	250
Number of Clients	1	250	250	250
User/Client component setting (Firewall behind device)	-	✓	✓	✓
Reporting of connections	view	edit + export	edit + export	edit + export
Customizing Basic (Frontend Logo only)	-	-	-	✓
Customizing Advanced (Product logo, color, mbDIALUP, mbCHECK, etc.)	-	-	-	-
Customizing Brand FREE	-	-	-	-
Customer Data API	-	✓	✓	License ¹
Security Updates	✓	✓	✓	✓
Portal Upgrades	✓	✓	✓	✓
Datalogging & Monitoring	Basic	Remote PRO	Data PRO	Individual
Number of Datapoints per device	10	10	250	250
Number of Datastoragepoints	50 k	50 k	5 M	50k (max. 5M) or ext. storage ¹
Number of Dashboards	10	10	250	10 (max. 250) ¹
Number of Alarmingevents	10	10	250	10 (max. 250) ¹
External Storage for Datalogging	-	-	-	License ¹

¹ expandable by license

mymbCONNECT24

Functional overview



mymbCONNECT24	.mini	.midi	.maxi
Number of accounts	1	1 (max. 5) ¹	1 (max. 25) ¹
Number of devices and projects	10 (max. 110) ¹	10 (max. 260) ¹	10 (max. 1010) ¹
Number of standard vpn clients	-	-	-
Number of active connections	5	50	150
Concurrent active connections	✓	✓	✓
Number of mbWeb2Go connections	25	100	300
Number of M2M connectiongroups	5	50	150
mbSMS Welcome package	-	-	-
Traffic volume of active connections, mbWeb2Go, M2M and API requests incl. (max) per month	limited by customer environment	limited by customer environment	limited by customer environment
Guaranteed bandwith	limited by customer environment	limited by customer environment	limited by customer environment
Number of Users	unlimited	unlimited	unlimited
Number of Usergroups	250	250	250
Number of Clients	1000	1000	1000
User/Client component setting (Firewall behind device)	✓	✓	✓
Reporting of connections	edit + export	edit + export	edit + export
Customizing Basic (Frontend Logo only)	✓	✓	✓
Customizing Advanced (Product logo, color, mbDIALUP, mbCHECK, etc.)	License ¹	License ¹	License ¹
Customizing Brand FREE	License ¹	License ¹	License ¹
Customer Data API	License ¹	License ¹	License ¹
Security Updates	✓	✓	✓
Portal Upgrades	License ¹	License ¹	License ¹

Datalogging & Monitoring	.mini	.midi	.maxi
Number of Datapoints per device	250	250	250
Number of Datastoragepoints	5 M or ext. storage ¹	5M or ext. storage ¹	5M or ext. storage ¹
Number of Dashboards	250 (max. 250)	250 (max. 1000) ¹	250 (max. 5000) ¹
Number of Alarmingevents	250 (max. 250)	250 (max. 1000) ¹	250 (max. 5000) ¹
External Storage for Datalogging	License ¹	License ¹	License ¹

mymbCONNECT24.hosted

Functional overview

mymbCONNECT24.hosted	XS	S	M	L	XL	OEM
Number of accounts	1 (max. 5) ¹	1 (max. 5) ¹	1 (max. 5) ¹	1 (max. 5) ¹	1 (max. 5) ¹	1 (max. 5) ¹
Number of devices and projects	250	1000	2500	5000	10000	20000
Number of standard vpn clients	0 (max. 250) ¹	0 (max. 1000) ¹	0 (max. 2500) ¹	0 (max. 5000) ¹	0 (max. 10000) ¹	0 (max. 20000) ¹
Number of active connections incl. (max)	25	50	75	100	150	250
Concurrent active connections	✓	✓	✓	✓	✓	✓
Number of mbWeb2Go connections	50	100	150	200	300	500
Number of M2M connectiongroups	1 (max. 25) ¹	1 (max. 50) ¹	1 (max. 75) ¹	1 (max. 100) ¹	1 (max. 150) ¹	1 (max. 250) ¹
mbSMS Welcome package	✓	✓	✓	✓	✓	✓
Traffic volume of active connections, mbWeb2Go, M2M and API requests incl. per month	20 GB	50 GB	100 GB	200 GB	400 GB	1000 GB
Guaranteed bandwith	10 Mbit/s	20 Mbit/s	100 Mbit/s	100 Mbit/s	1 Gbit/s	1 Gbit/s
Number of Users	unlimited	unlimited	unlimited	unlimited	unlimited	unlimited
Number of Usergroups	250	250	250	250	250	250
Number of Clients	1000	1000	1000	1000	1000	1000
User/Client component setting (Firewall behind device)	✓	✓	✓	✓	✓	✓
Reporting of connections	edit + export	edit + export	edit + export	edit + export	edit + export	edit + export
Customizing Basic (Frontend Logo only)	✓	✓	✓	✓	✓	✓
Customizing Advanced (Product logo, color, mbDIALUP, mbCHECK, etc.)	License ¹	License ¹	License ¹	License ¹	License ¹	License ¹
Customizing Brand FREE	License ¹	License ¹	License ¹	License ¹	License ¹	License ¹
Customer Data API	License ¹	License ¹	License ¹	License ¹	License ¹	License ¹
Security Updates	✓	✓	✓	✓	✓	✓
Portal Upgrades	✓	✓	✓	✓	✓	✓

Datalogging & Monitoring	XS	S	M	L	XL	OEM
Number of Datapoints per device	250	250	250	250	250	250
Number of Datastoragepoints	5 M or ext. storage ¹					
Number of Dashboards	250 (max. 1000) ¹	250 (max. 2500) ¹	250 (max. 5000) ¹	250 (max. 7500) ¹	250 (max. 10000) ¹	250 (max. 20000) ¹
Number of Alarmingevents	250 (max. 1000) ¹	250 (max. 2500) ¹	250 (max. 5000) ¹	250 (max. 7500) ¹	250 (max. 10000) ¹	250 (max. 20000) ¹
External Storage for Datalogging	License ¹					

¹ expandable by license

mbWEB2go®

SYSTEM MONITORING 2GO

With mbWEB2go machines and lines can be monitored independent from stationary PCs. This easy and mobile web access allows the operator to call up the most important data on the move via smartphone or tablet PC.

The data is being provided via the integrated webserver of the mbNET router as web visualization. The web pages can also be loaded from other ethernet devices of the line that can be accessed via mbNET. The access to the web visualization works with every HTML5 compatible browser.

No additional software, no special client and also no extra app have to be installed. The users can log-in via the remote-maintenance-portal simply via user identification and password.

- ✓ easy and mobile web access
- ✓ monitoring and visualization independent from stationary PCs
- ✓ display of websites of the integrated webserver of the mbNET router or other ethernet device of the line
- ✓ easy log-in via user identification and password
- ✓ secure access via HTTPS protocol via the service portal mbCONNECT24
- ✓ works with every HTML5 capable browser, without VPN client, additional software or extra app
- ✓ support of VNC and RDP via webbrowser





INDUSTRIAL ROUTER DESIGNED FOR INDUSTRIAL USE

The industrial router mbNET is specifically designed for industrial use. It enables a secure and reliable connection between computers and equipment over the internet. It supports various security protocols so it's universally compatible. But the routers full performance is achieved when it is connected to the remote-service-platform mbCONNECT24. The integrated firewall ensures maximum security by allowing remote access only to identified and authenticated users.

Through its variety of interfaces and drivers the industrial router mbNET offers tremendous flexibility to remote maintenance of various control systems, drives, control panels, frequency converters and other components.

- ✓ integrated 4-Port-Switch (4 x Ethernet 100 MBit)
- ✓ secure connection via VPN (PPTP, IPSec, L2TP, OpenVPN)
- ✓ internet-connection via ethernet, WAN-interface or modem (analog, ISDN, GSM, 3G or 4G)
- ✓ 2 x RS-232/485 interface selectable onboard, **optional:** 1 x MPI/PROFIBUS to 12 Mbit/s, 1 x RS-232/485 switchable
- ✓ over 90 drivers for various control types
- ✓ 2 SIM-card-slots provide redundancy for maximum reliability (GSM-, 3G- and 4G-version)
- ✓ 4 digital inputs, 2 digital outputs
- ✓ with the SMS-control function the network connections can be initiated from anywhere (GSM-, 3G- and 4G-version)
- ✓ slim metal case with IP20 for DIN rail mounting

Access to the internet can be made through the intranet (corporate network), through the integrated modem (ANALOG, ISDN, GSM, 3G or 4G) or through a broadband connection (DSL).

For almost every local infrastructure a suitable industrial mbNET router is available.



mbNET mini

The compact solution

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Antennas

Hardware enhancement

Software enhancement

► Page 29

► Page 21

The mbNET industrial router from MB Connect line has the largest range of performance and features. The different models: mbNET.easy, mbNET.basic and mbNET.mini are optimized for diverse applications and provide a budget friendly solution when the mbNET's full scope of performance and features is not required. All models offer secure VPN-encryption.

mbNET with two serial interfaces



PRODUCT VERSIONS:

Name	Modem	RS232/485	MPI / Profibus	Ethernet 100 MBit	WAN	VPN**
MDH810	Analog	2x	-	4x	1x	✓
MDH812	ISDN	2x	-	4x	1x	✓
MDH814	3G	2x	-	4x	1x	✓
MDH850	4G*	2x	-	4x	1x	✓
MDH811	Wi-Fi	2x	-	4x	1x	✓

mbNET with serial and MPI/Profibus-interface



PRODUCT VERSIONS:

Name	Modem	RS232/485	MPI / Profibus	Ethernet 100 MBit	WAN	VPN**
MDH830	Analog	1x	1x	4x	1x	✓
MDH832	ISDN	1x	1x	4x	1x	✓
MDH834	3G	1x	1x	4x	1x	✓
MDH855	4G*	1x	1x	4x	1x	✓
MDH831	Wi-Fi	1x	1x	4x	1x	✓

mbNET.basic

The entry-level model mbNET.basic is used for the remote maintenance of Ethernet devices or networks. The units have a LAN interface as well as a USB port for configuration. Depending on the model version an additional WAN interface is available for access to your company's intranet or an integrated modem (analog, ISDN, GSM, 3G, 4G) is available for access from anywhere you have an internet connection.

Applications range from connection to simple machines, to complete packaging and production lines even up to mobile transport systems. mbNET.basic 4G provides data rates up to 100 Mbit/s download and 50 Mbit/s upload capable of supporting large amounts of data allowing high-resolution video streams to be transferred reliably.

Your benefits:

- ✓ easy dial-in router
- ✓ integrated 4-Port-Switch (4 x Ethernet 100 MBit)
- ✓ Firewall, DynDNS, DHCP, Internet-call-back, OpenVPN
- ✓ 2 SIM-card-slots with Failover-functionality (GSM-, 3G- and 4G-version)
- ✓ 4 digital inputs, 2 digital outputs
- ✓ with the SMS-control function the network connections can be initiated from anywhere (GSM-, 3G- and 4G-version)
- ✓ slim metal case in IP20 for DIN rail mounting

mbNET with LAN and WAN



PRODUCT VERSIONS:

Name	Modem	RS232/485	MPI / Profibus	Ethernet 100 MBit	WAN	OpenVPN
MDH816	-	-	-	4x	1x	✓
MDH849	3G	-	-	4x	1x	✓
MDH859	4G*	-	-	4x	1x	✓
MDH841	Wi-Fi	-	-	4x	1x	✓

mbNET with LAN



PRODUCT VERSIONS:

Name	Modem	RS232/485	MPI / Profibus	Ethernet 100 MBit	WAN	OpenVPN
MDH815	Analog	-	-	4x	-	✓
MDH817	ISDN	-	-	4x	-	✓
MDH819	3G	-	-	4x	-	✓
MDH858	4G*	-	-	4x	-	✓

mbNET.easy

The functionality of the industrial routers mbNET.easy intentionally focusses on the essentials: IP-based communication, access protection and data security. With this the users receive an economically attractive and easy to use solution for remote maintenance, data recording and networking via internet.

The connection takes place through the remote-service-platform mbCONNECT24. Through a variety of interfaces and device drivers, the mbNET.easy fulfills all requirements for access to remote maintenance. Connection to the S7-world is possible as well as access to over 90 controls, drives and other components of various manufacturers.

The industrial router mbNET.easy is also available as a starter kit. In addition to the router the user receives two network cables, a MPI/Profinet cable, an A/C power adapter, the USB-stick mbMEM with the software mbCHECK and mbDIALUP, as well as a demo version of the mbNET S7 driver.

Your benefits:

- ✓ integrated 4-Port-Switch (4 x Ethernet 100 MBit)
- ✓ 1 x WAN-interface
- ✓ 1 x MPI/PROFIBUS to 12 Mbit/s, 1 x RS-232/485 switchable
- ✓ 4 digital inputs, 2 digital outputs
- ✓ secure connection to the remote-service-platform mbCONNECT24, mymbCONNECT24.hosted, .midi, .maxi

mbNET.easy with LAN and WAN



PRODUCT VERSIONS:

Name	Modem	RS232/485	MPI / Profibus	Ethernet 100 MBit	WAN	OpenVPN
MDH835*	-	1x	1x	4x	1x	✓

mbNET.mini

SMALL ROUTER GREAT PERFORMANCE

The mbNET.mini is a very compact industrial router for DIN-rail mounting. It offers secure IP-based access to Ethernet-devices and networks through the remote service platform mbCONNECT24. Therefore it is not only suitable for remote maintenance applications but also for tasks such as data collection, visualization, alerts and M2M-communication.

- ✓ integrated Ethernet-Switch (3-Port with LAN/WAN, 4-Port with 3G)
- ✓ 1x WAN or 1x 3G-modem
- ✓ 3G-version supports GPRS, EDGE, 3G and HSPA+
- ✓ 2 digital inputs for connection to the remote service platform or for sending alerts via SMS or E-Mail
- ✓ Open-VPN security protocol
- ✓ ideal for M2M-applications
- ✓ solid metal case for top hat rail mounting

The industrial router mbNET.mini is available in two versions. The LAN/WAN version uses the existing network or a broadband connection (DSL) to connect to the internet and offers a 3-Port-Switch. The 3G version allows connection over a cellular network and includes a 4-Port-Switch.



Enhancement for
3G networks

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mbNET.mini



PRODUCT VERSIONS:

Name	Modem	RS232/485	MPI / Profibus	Ethernet 100 MBit	WAN	OpenVPN
MDH860*	-	-	-	3x	1x	✓
MDH861*	3G	-	-	4x	-	✓

mbNET.toolbox



SOFTWARE ENHANCEMENT

The mbNET.toolbox offers a number of software enhancements for the mbNET Industrial router. It contains a web visualization system, an easy to use scripting language, a database and FTP-server/client functionality. The data modems mbSPIDER are standardly equipped with the functions of mbNET.toolbox.

The mbNET.toolbox offers several software enhancement for the industrial router mbNET:

- ✓ access to router interface and protocols
- ✓ communication of the user programs via TCP/IP, ModbusTCP and S7 ISOTCP or via the switchable serial RS 232/485 interface
- ✓ the supplied widgets for the visualization system (display and control elements) are linked with an integrated database
- ✓ easy to structure visualizations, without HTML or any extensive programming knowledge
- ✓ web visualization optimized for smartphones and tablet PCs, works with any standard browser without special client software or additional extra-app
- ✓ convenient mbWEB2.go tuning

Connection to:

M-Bus (Meter-Bus) via M-Bus gateway
KNX (EIB) via KNXnet/IP-Gateway



Canned templates for

- SMS fault indicator
- energy consumption
- power gain
- filling level control
- temperature monitoring

WebVisu
Screens ▾
Favorites ▾
Administration ▾
Language ▾
admin ▾

Temperature Monitoring

Minimum temperature
14,00 °C

 Set Value

Maximum temperature
45,00 °C

 Set Value

Temperature

SMS notification
1

Yes

E-mail notification
0

No

Telephone number for SMS notification
0049170306243

 Set Value

E-mail address for notification
j.doe@doefactory.com

 Set Value

Seconds until reminder notification
600

 Set Value

Warning text if minimum value is below
WARNING! Temperature is too low

 Set Value

Warning text on exceeding the maximum value
WARNING! Temperature is too high

 Set Value

mbSPIDER®

DATA MANAGEMENT REMOTE MAINTENANCE AND WEB VISUALIZATION

The mbSPIDER is a programmable data modem for the continuous logging of counter readings, measurements, logic states and analog values. The visualization of the logged values happens via the integrated webserver or via the remote-service-platform mbCONNECT24 - barrier free via smartphone or standard browser

The programming of the mbSPIDER is being made with a free script language. Together with a data base, FTP-server/client functionality as well as a web visualization, the user is able to collect, evaluate and visualize any data. Also the sending of messages and alarm indication via SMS and E-Mail are possible.

- ✓ 1 Ethernetport 100 Mbit/s usable as LAN and WAN
- ✓ communication via TCP/IP, ModbusTCP and S7 ISOTCP
- ✓ 1 RS232/485 switchable interface
- ✓ 2 digital and 2 analog inputs, 1 relay output
- ✓ optional with modem GPRS or 3G/HSPA+
- ✓ secure connection to remote-service-platform mbCONNECT24

The user links the supplied widgets (display and control elements) with the data base. HTML or any extensive programming knowledge are not necessary. The web visualization is optimized for smartphones and tablet PCs and presentable with any standard browser. The waiving of special clients or apps is intentional.



Enhancement for
3G networks

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mbSPIDER with serial interface, LAN and WAN**PRODUCT VERSIONS:**

Name	Modem	Case	RS232/485	Ethernet / WAN	USB	OpenVPN
MDH 900	-	Plastic	1x	1x	1x	✓
MDH 910	-	Metal	1x	1x	1x	✓
MDH 905	2G	Plastic	1x	1x	1x	✓
MDH 915	2G	Metal	1x	1x	1x	✓
MDH 906	3G	Plastic	1x	1x	1x	✓
MDH 916	3G	Metal	1x	1x	1x	✓
MDH 901	Wi-Fi	Plastic	1x	1x	1x	✓
MDH 911	Wi-Fi	Metal	1x	1x	1x	✓
MDH 908	CDMA*	Plastic	1x	1x	1x	✓
MDH 918	CDMA*	Metal	1x	1x	1x	✓

* USA Verizon

GLOBAL SIM

WORLDWIDE INDEPENDENCE

With the Prepaid Global SIM the user isn't bound to a particular network provider. On site the SIM-card uses the network with the best coverage. The global SIM-card serves as a worldwide connection to allow the industrial router mbNET, and the data modem mbSPIDER to connect to the remote service platform mbCONNECT24 – for data recording, visualization, alerts, remote maintenance, and direct M2M-communication.

Two versions cover all applications: European economic area and worldwide. The high roaming costs are eliminated as well as the enormous administration efforts, which normally go along with having multiple independent network providers in different countries.

The management of SIM-cards can be carried out easily through the web-based MyM2M-portal. Here the user can activate the

SIM-cards and set a cost and volume threshold, receiving automatic alerts when those values are met.

**Your benefits:**

- ✓ 2 variants: EU/EAA (European economic area) and worldwide
- ✓ always have the best network with worldwide coverage
- ✓ no minimum contract period, no long-term contract commitment
- ✓ full support for GSM-services (data, SMS, CSD)
- ✓ simple administration of all SIM-cards via professional MyM2M-portal
- ✓ clear prepaid-rate-model protects from unforeseen costs

mbPOINT®

REMOTE MAINTENANCE VIA TELEPHONE NETWORK

With the mbPOINT devices, remote maintenance is carried out via direct point-to-point connections. An analog, ISDN or GSM module is available as a modem interface connection. Such dial-in connections via the global telephone network are the simplest form of remote connection. The system only requires a telephone connection. The automatic recall and password protection ensure security.

- ✓ connection to over 60 different control systems
- ✓ analog, ISDN or GSM modem
- ✓ password protection and automatic recall
- ✓ DIN rail assembly, 10-30VDC

The Modcom configuration software allows the user the simple operation and use of devices. The software lists the connection data of all the system components that are to be reached by remote maintenance. The connection is set up by clicking the mouse.



mbPOINT with two serial interfaces



The software-based RS interface is configurable to RS232 or RS485. In this way, up to two control systems can be connected simultaneously between which one can switch to online mode during remote maintenance.

PRODUCT VERSIONS:

Name	Modem	RS232/485	MPI 187,5 Kbit/s	MPI/Profibus 12 Mbit/s	Ethernet 100 MBit
MDH500	Analog	1x	-	-	-
MDH502	ISDN	1x	-	-	-
MDH503	2G	1x	-	-	-
MDH504	Analog	2x	-	-	-
MDH506	ISDN	2x	-	-	-
MDH507	2G	2x	-	-	-

mbPOINT with serial and MPI/Profibus-interface



The MPI/PROFIBUS variants have a fully adequate programming adapter for the Siemens S7-300 and S7-400 PLCs. According to the variant, the devices are equipped with different interfaces such as RS232/485, MPI bus, MPI/Profibus, LAN or Wi-Fi.

The MPI/PROFIBUS interface supports baud rates up to 12 Mbit/s. According to the set operating mode, the devices can also be used as a PC or TS adapter.

PRODUCT VERSIONS:

Name	Modem	RS232/485	MPI 187,5 Kbit/s	MPI/Profibus 12 Mbit/s	Ethernet 100 MBit
MDH500	Analog	1x	-	-	-
MDH502	ISDN	1x	-	-	-
MDH503	2G	1x	-	-	-
MDH504	Analog	2x	-	-	-
MDH506	ISDN	2x	-	-	-
MDH507	2G	2x	-	-	-
MDH510	Analog	1x	1x	-	-
MDH512	ISDN	1x	1x	-	-
MDH513	2G	1x	1x	-	-
MDH540	Analog	1x	-	1x	-
MDH542	ISDN	1x	-	1x	-
MDH543	2G	1x	-	1x	-
MDH550	Analog	-	-	1x	1x
MDH552	ISDN	-	-	1x	1x
MDH553	2G	-	-	1x	1x

mbPOINT Ethernet



All mbPOINT devices with an ETHERNET or Wi-Fi interface possess a so-called router functionality. Remote data transmission clients can dial in via an integrated PPP server and access the remote network. According to the set operating mode, a further control system can be connected to the serial interface which can also receive remote maintenance.

PRODUCT VERSIONS:

Name	Modem	RS232/485	MPI 187,5 Kbit/s	MPI/Profibus 12 Mbit/s	Ethernet 100 MBit
MDH530	Analog	1x	-	-	1x
MDH532	ISDN	1x	-	-	1x
MDH533	2G	1x	-	-	1x



PLC-BACKUP AND VIRUS DETECTION

The mbSECBOX is a Siemens* security solution for S7-300 and S7-400 Programmable Logic Controllers which was specially developed for virus detection and data backup at PLC level. The mbSECBOX immediately detects malware such as Stuxnet and other attacks on S7 PLCs by alerting the operator before any damage is done.

- ✓ permanent backup of dynamic PLC data such as recipe settings, setpoints, etc. (DB)
- ✓ detection of tampering in OB, FC, FB, SFC, SFB, SDB
- ✓ alert by text message or email if there are changes in the blocks
- ✓ simple restoration of saved data without the manufacturer's software
- ✓ 2 digital outputs for status signaling
- ✓ 4 digital inputs for operating functions

The first step saves the complete program memory (OB, FC, FB, DB, SFC, SFB, SDB), the order number and the serial number in a reference backup. On the basis of this reference data, the device continuously monitors the static memory area of S7-300 and S7-400 PLCs. Dynamic PLC values and recipe data or control parameters can be recovered at any time.



PRODUCT VERSIONS:

Name	Modem	RS232/485	MPI / Profibus	Ethernet 100 MBit	WAN
MDH874	3G	1x	1x	4x	1x

ACCESSORIES

Serial connection cables



Part no.	Brief description
8200	KS 2.5/9 Allen SLC
8201	KS 2.5/9 Allen PLC
8202	KS 2.5/9 AMK
8203	KS 2.5/9 ASB (Eurotherm)
8204	KS 2.5/9 B&R 2000
8205	KS 2.5/9 B&R Britgr.
8206	KS 2.5/9 B&R mini
8207	KS 2.5/9 Bosch
8208	KS 2.5/9 Danfoss VLT 2000
8209	KS 2.5/9 EPIS
8210	KS 2.5/9 IQ 2000
8211	KS 2.5/9 KEB
8212	KS 2.5/9 KEBA
8213	KS 2.5/9 Kuhnke
8214	KS 2.5/9 Lauer
8215	KS 2.5/9 Lenze
8216	KS 2.5/9 Locon
8217	KS 2.5/9 Npos
8218	KS 2.5/9 Omron
8219	KS 2.5/9 PcA
8220	KS 2.5/9 PLC Direkt
8221	KS 2.5/9 Primo
8222	KS 2.5/9 Proline
8223	KS 2.5/9 Promicon
8224	KS 2.5/9 SEW 232 M
8225	KTTY 2.5/9 Siem_S5
8226	KS 2.5/9 Siem_S7
8227	KS 2.5/9 Stöber FDS
8228	KS 2.5/9 Stromag
8229	KS 2.5/9 Sütron
8230	KS 2.5/9 TSX 37 / TSX57
8231	KS 2.5/9 TSX47_1
8232	KS 2.5/9 GE_Fanuc
8233	KS 2.5/9 Mitsubishi FRE
8234	KS 2.5/9 Elau
8235	KS 2.5/9 Siem OP7/17
8236	KS 2.5/9 Indramat CLC
8237	KS 2.5/9 Indramat DKC/PPC



Part no.	Brief description
8238	KS 2.5/9 SCS Automata
8239	KS 2.5/9 Atlas Copco
8240	KS 2.5/9 Ebelt Best 2xx
8241	KS 2.5/9 LenzeCAN
8242	KS 2.5/9 LenzeCAN-PC-drive
8243	KS 2.5/9-Emotron
8244	KS 2.5/9 DanfV5
8245	KS 2.5/9 Hitachi
8246	KS 2.5/9-Galileo
8247	KS 2.5/9-TSX47_2
8248	KS 4.0/9-Control Techniques
8249	KS 2.5/9 Kollmorgen-Seidel Servostar 600
8250	KS 2.5/9 Siem S7
8251	KS 2.5/9 Siem OP7-17
8252	KS 2.5/9 Vectron VCB
8253	KS 10/9 Pca (special length 10m)
8254	KTTY 2.5/9 Siem_S5
8255	KS 2.5/9 -CompaxSL Hauser
8256	KS 2.5/9 AIOVision
8257	KS 2./9-25 Sütron
8258	KS 2.5/9 Mitsubishi SPS Melsec
8259	KS 2.5/9 Bosch Rho
8260	KS 2.5/9 Bosch CL 400
8261	KS 2.5/9 Phönix IBS
8262	KS 2.5/9 Siemens HMI serial
8263	KS 2.5/9 Keyence SPS
8264	KS 1.2/9 MPI
8265	KS 2.5/9 Motoman
8266	KS 2.5/9 Baumüller
8267	KS 2.5/9 Indramat Indradrive
8268	KS 2.5/9-M-PPI
8269	KS 3.0/9 MPI (special length 3m)
8270	KS 10.0/9 Compax SL Hauser
8271	KS 2.5/9 SEW X-Terminal
8272	KS 7,0/9 MPI (special length 7m)
8273	KS 2.5/9 Pilz PSS
8274	KS 0.25/9 mbSPIDER Y-Kabel RS232/485

USB Stick



Part no.	Brief description
5104	mbMEM 4 GB, MLC Flash, 0°C – +60°C
A008045	mbMEM Industrial Grade 2 GB, SLC Flash, -40°C – +85°C

Wi-Fi and mobile communication antennas



	Frequency	Transfer method**	Thermal endurance	Connection	Cable length	Amplification factor	Mounting
A001006	824-900 / 1800-2100 MHz	GSM, 2G, 3G	-40°C bis +85°C	SMA-Male	250 cm	2,2 dBi Max	Magnet foot
A001007	900 / 1800-2100 MHz	GSM, 2G, 3G	-40°C bis +85°C	SMA-Male	500 cm	5 dBi	Magnet foot
A001008	900 / 1800-2100 MHz	GSM, 2G, 3G	-40°C bis +85°C	SMA-Male	1250 cm	-16 dBi mit 12 m Kabel	Magnet foot
A001010	824-900 / 1800-2100 MHz	GSM, 3G, 4G, AT&T	-40°C bis +85°C	SMA-Male	305 cm	1,5 dBi bis 3,12 dBi	Magnet foot
A001013	700-960 / 1710-2700 MHz	GSM 2G, 3G, 4G MIMO*	-40°C bis +80°C	2x SMA-Male	2x 500 cm	2 dBi bis 4 dBi	Wall mounting, mast mounting
A001014	700-960 / 1710-2700 MHz	GSM 2G, 3G, 4G MIMO*	-40°C bis +80°C	2x SMA-Male	2x 200 cm	2,5 dBi bis 4 dBi	Wall mounting & Screenclip
A001017	650- 960 / 1710-2170 / 2500-2700 MHz	GSM 2G, 3G, 4G MIMO*	-20°C bis +70°C	2x SMA-Male	2x 500 cm	8,2 dBi bis 9,3 dBi	Wall mounting
A001374	2,4 GHz / 5,1-5,9 GHz	WIFI	-40°C bis +85°C	SMA-Female	250 cm	2,4 GHz: 2 dBi / 5 GHz: 5 dBi	Magnet & Patch mounting
A001373	824-894 / 1800-2100 / 2400 / 5100-5900 MHz	WIFI	-40°C bis +85°C	SMA-Female	500 cm	2,4 GHz: 5 dBi	Magnet foot
A001015	Extension cable for mobile communication antennas (GSM, 2G, 3G, 4G) 5000 cm						
A001016	Extension cable for mobile communication antennas (GSM, 2G, 3G, 4G) 10000 cm						

Further antennas and lengthenings available on request.

* MIMO (Multiple Input Multiple Output) bezeichnet die Nutzung mehrerer Sende- und Empfangsantennen zur Verbesserung der Qualität und Datenrate

** Please refer to the respective provider for information about the transmission frequency

MODEL OVERVIEW

SOFTWARE FUNCTIONS

Modem type	Model	openVPN	VPN-IPsec	VPN-L2PT	VPN-PPTP	Toolbox	Design	Syslogclient	FTP/SFTP Server	
mbNET® 	MDH815	✓	-	-	-	✓	Metal	✓	-	
	ANALOG	MDH810	✓	✓	✓	✓	Metal	✓	-	
	MDH830	✓	✓	✓	✓	✓	Metal	✓	-	
	ISDN	MDH817	✓	-	-	✓	Metal	✓	-	
		MDH812	✓	✓	✓	✓	Metal	✓	-	
		MDH832	✓	✓	✓	✓	Metal	✓	-	
	3G	MDH819	✓	-	-	✓	Metal	✓	-	
		MDH849	✓	-	-	✓	Metal	✓	-	
		MDH814	✓	✓	✓	✓	Metal	✓	-	
		MDH834	✓	✓	✓	✓	Metal	✓	-	
	4G	MDH858	✓	-	-	✓	Metal	✓	-	
		MDH859	✓	-	-	✓	Metal	✓	-	
		MDH850	✓	✓	✓	✓	Metal	✓	-	
		MDH855	✓	✓	✓	✓	Metal	✓	-	
	Wi-Fi	MDH811	✓	✓	✓	✓	Metal	✓	-	
		MDH831	✓	✓	✓	✓	Metal	✓	-	
		MDH841	✓	-	-	✓	Metal	✓	-	
	WITHOUT	MDH816	✓	-	-	✓	Metal	✓	-	
		MDH835	only portal	-	-	-	Metal	✓	-	
mbNET.mini 	3G	MDH861	only portal	-	-	-	Metal	✓	-	
	WITHOUT	MDH860	only portal	-	-	-	Metal	✓	-	
mbSPIDER® 	2G	MDH905	only portal	-	-	-	integrated	Plastic	✓	✓
	MDH915	only portal	-	-	-	-	integrated	Metal	✓	✓
	3G	MDH906	only portal	-	-	-	integrated	Plastic	✓	✓
	MDH916	only portal	-	-	-	-	integrated	Metal	✓	✓
	WITHOUT	MDH900	only portal	-	-	-	integrated	Plastic	✓	✓
	MDH910	only portal	-	-	-	-	integrated	Metal	✓	✓
	Wi-Fi	MDH901	only portal	-	-	-	integrated	Plastic	✓	✓
	MDH911	only portal	-	-	-	-	integrated	Metal	✓	✓
	CDMA*	MDH908	only portal	-	-	-	integrated	Plastic	✓	✓
	MDH918	only portal	-	-	-	-	integrated	Metal	✓	✓

SMTP Client	DNS Server	NTP Client	DHCP Server LAN	DHCP Server WAN	DHCP Client WAN	SMB für USB Port	FTP/SFTP Server for USB Port	Firewall with IP-Filter 1:1 NAT u. Portforwarding	PPP Modem (Analog/ISDN/Mobilfunk)	PPoE/PPTP WAN
✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓
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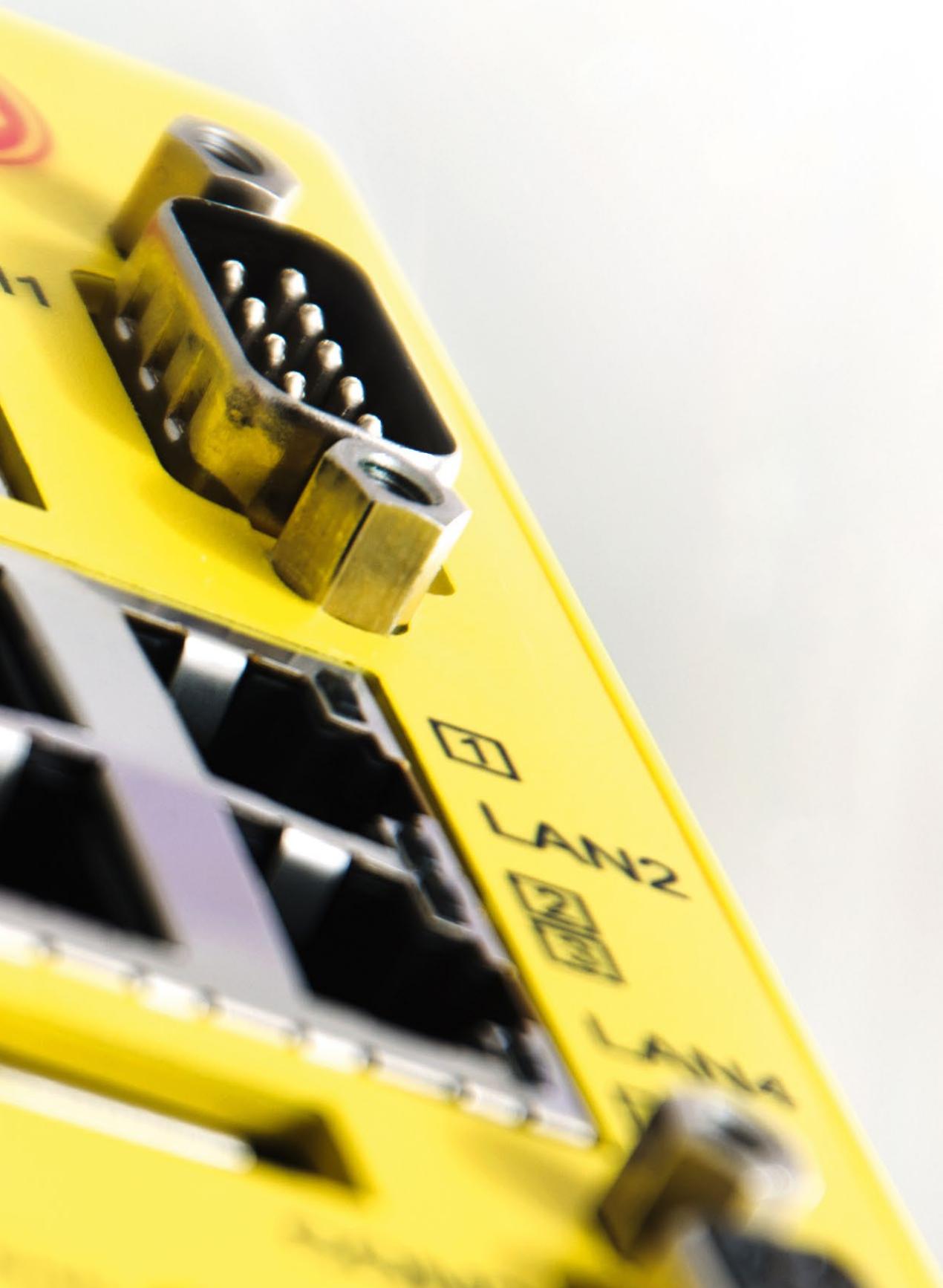


Modem type	Model	DynDNS	mbNETdns	mbNETmail	Alarm management E-Mail, SMS	Alarm management E-Mail, SMS (Multiplex inputs)	I/O Manager	LUA Interpreter	Routing WAN-LAN, VPN-LAN
mbNET®									
ANALOG	MDH815	✓	✓	✓	✓	✓	✓	✓	✓
	MDH810	✓	✓	✓	✓	✓	✓	✓	✓
	MDH830	✓	✓	✓	✓	✓	✓	✓	✓
ISDN	MDH817	✓	✓	✓	✓	✓	✓	✓	✓
	MDH812	✓	✓	✓	✓	✓	✓	✓	✓
	MDH832	✓	✓	✓	✓	✓	✓	✓	✓
3G	MDH819	✓	✓	✓	✓	✓	✓	✓	✓
	MDH849	✓	✓	✓	✓	✓	✓	✓	✓
	MDH814	✓	✓	✓	✓	✓	✓	✓	✓
	MDH834	✓	✓	✓	✓	✓	✓	✓	✓
4G	MDH858	✓	✓	✓	✓	✓	✓	✓	✓
	MDH859	✓	✓	✓	✓	✓	✓	✓	✓
	MDH850	✓	✓	✓	✓	✓	✓	✓	✓
	MDH855	✓	✓	✓	✓	✓	✓	✓	✓
Wi-Fi	MDH811	✓	✓	✓	✓	✓	✓	✓	✓
	MDH831	✓	✓	✓	✓	✓	✓	✓	✓
	MDH841	✓	✓	✓	✓	✓	✓	✓	✓
WITHOUT	MDH816	✓	✓	✓	✓	✓	✓	✓	✓
	MDH835	✓	✓	✓	✓	✓	✓	-	✓
mbNET.mini	3G	MDH861	-	✓	✓	✓	-	-	✓
	WITHOUT	MDH860	-	✓	✓	✓	-	-	✓
	2G	MDH905 MDH915	- -	- -	✓ ✓	✓ ✓	- -	- -	✓ ✓
mbSPIDER®	3G	MDH906 MDH916	- -	- -	✓ ✓	✓ ✓	- -	- -	✓ ✓
	WITHOUT	MDH900 MDH910	- -	- -	✓ ✓	✓ ✓	- -	- -	✓ ✓
	Wi-Fi	MDH901 MDH911	- -	- -	✓ ✓	✓ ✓	- -	- -	✓ ✓
	CDMA*	MDH908 MDH918	- -	- -	✓ ✓	✓ ✓	- -	- -	✓ ✓

* USA Verizon



Ideas and solutions for remote maintenance – Made in Germany





MB CONNECT LINE

remote maintenance solutions

The MB Connect Line GmbH offers universal solutions for the worldwide remote maintenance of machines and equipment. The specialists at MB Connect Line GmbH have years of experience and extensive know-how.

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