

## Flexibility and security for the future

New modular plug-in cards for MRX series routers



**Free combination  
of functions**



**Saving costs of  
external devices**



**Simple addition  
of interfaces**



**Ready for future  
technologies**

# The new MRcards in operation

## Typical applications and highlights

### MRcard PLS



### MRcard Fiber



#### Redundant Internet connection in a solar park

Every minute counts. For operators of solar parks, highly available Internet connections are vital because any interruption to the connection results in expensive loss of earnings.

Operators are on the safe side with the MRcard PLS, because it enables them to combine DSL and LTE in an MRX router to create the necessary redundancy.

An additional benefit for you is that the RS232 interface of the card allows you to connect to existing devices. Via the digital output external devices can be activated or alarms can be signalled if required - and all of this without additional hardware.



#### Wind farms networked using fibre-optic technology

A wind turbine project planner wants to connect several wind farms up to 10 kilometres apart using a central router. An Ethernet connection is not possible here due to the maximum cable range of 500 metres.

The MRX with two MRcards Fiber solves the problem: the wind farms are connected with high availability using fibre-optic technology.

Another advantage over metal connecting cables is that lightning strikes on wind turbines do not cause faults or damage to the electronics.

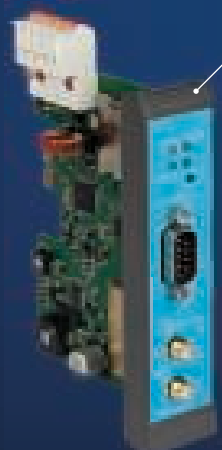
#### Industries

Mechanical engineering, water management, energy management (renewable energies, electrical networks)

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### MRcard PLS



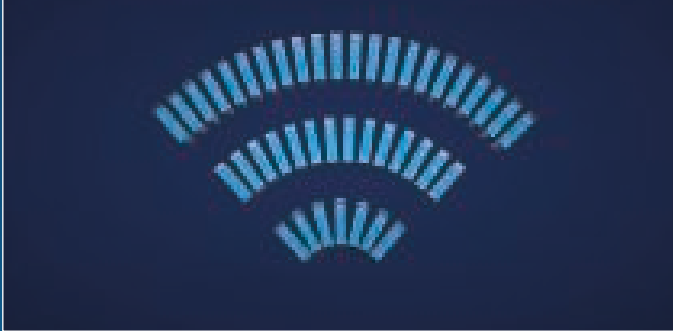
- Mobile communication
- incl. US variant
- RS232
- 2 digital inputs
- 1 digital output

### MRcard Fiber



- 2x Gigabit SFP
- 2x Gigabit Ethernet (switch)

## MRcard WLAN



## MRcard I/O



### Cable-free commissioning, maintenance and optimisation

A mechanical engineering company wishes to maintain its large, difficult to access 10 x 15 m special machines remotely and administer operations wirelessly.

With an MRX and the MRcard WLAN access point, both set-up and troubleshooting are faster and easier.

System optimisation is also more convenient, as the status values on the dashboard can be accessed wirelessly by tablet or smartphone. On site, at the prescribed distance this is even possible for persons without appropriate protective clothing or access rights.



### Intelligent water level monitoring

Sewer operators need to monitor water levels to the centimetre and transmit the data regularly. Therefore a water drain can be opened if necessary. If an error occurs, a message has to be sent to the control centre and a visual alarm needs to be triggered at the monitoring stations.

The MRX router implements these electronic functions with just one additional MRcard IO - via its analogue and digital inputs and outputs. Software in the router manages the measurement data and status indicators centrally. With this solution the operator saves additional controls and can administer the entire application centrally in a single device.

#### Industries

Mechanical engineering

#### Industries

Mechanical engineering, water management, energy management (renewable energies, electrical, gas and oil networks)

### MRcard WLAN



- WLAN access point and client
- 2.4 GHz and 5 GHz

### MRcard I/O



- 3 analogue inputs
- 1 analogue output
- 4 digital inputs
- 4 digital outputs (relay)

**We'll be happy to advise you.**



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