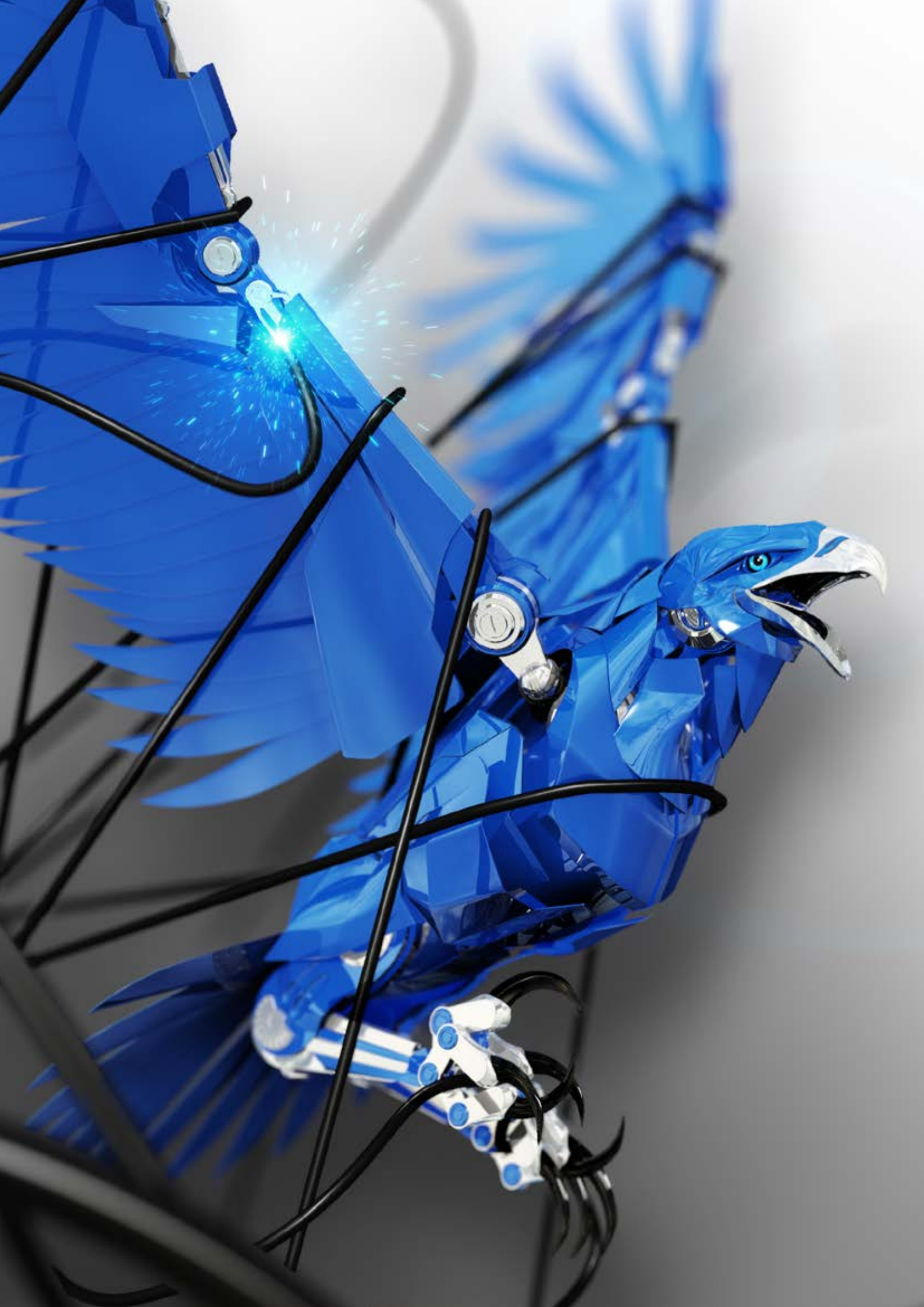
SCHILDKNECHT

SMART DATA COMMUNICATION

Catalog 2.1



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Liberty is wireless

SCHILDKNECHT
SMART DATA COMMUNICATION

FOREWORD
Liberty via technology

In 1981, 30 years ago, I founded a hardware and software engineering company in order to meet customer demand for microelectronics and microprocessors. During that time, we have developed products successfully for many large companies and deliver to some even to this day. I was developing peripheral devices for the first programmable logic controllers and was able to learn intensely about the upcoming communication protocols and fieldbus systems.

In 1995, we decided to strengthen the implementation of our own product ideas and offer them on the market under our own name. We have stablished ourselves successfully under the brand name DATAEAGLE ® in the area of wireless automation with radio communication solutions for highly reliable machines and system networks. Our radio communication solutions prove themselves in many thousands of applications on a daily basis. Often, the security of people, machines and productivity of our customers depends on an error-free radio transmission. We achieve this, among others, with a patented procedure which my co-workers from design have developed successfully and integrated it in our products. Aside from radio transmission technologies such as WLAN, Bluetooth, Zigbee, etc., there is another main pillar of systems with mobile transmission connection for machines. There is a lot of movement and interest in this young M2M (machine to machine) and IoT (internet of things) market, caused by policy defined industrial future vision 4.0. We have positioned ourselves here as a solution provider, by offering initial consultation, devices, SIM cards with (global connectivity) a portal and the development of business models together with the end customer from a single source. In order to ensure long-term continuation of the business development, in 2009 we turned into a public company which continues to be privately held and owner-managed.

Our goal is not to achieve short-term yields, instead we are oriented towards customer benefit and long-term business development. Let us codetermine this technically very exciting time actively through intelligent solutions.

DIPL. ING. THOMAS SCHILDKNECHT
CEO SCHILDKNECHT AG

HISTORY
Over 30 years experience

Thomas Schildknecht, a graduate engineer, established Schildknecht Industrielektronik (industry electronics) in 1981 as an engineering company, which celebrated it's 30th company anniversary in 2011. Schildknecht AG (AG - public company) was established in January of 2009.
The company Thomas Schildknecht Industrielektronik was fused together with Schildknecht AG during 2009, overtaking the business operations with all rights and responsibilities. Schildknecht AG is owner-run.

The founder Thomas Schildknecht is the head of the board of directors. Permanent investment in new technology, optimally educated associates and a network of reliable business partners make up the backbone of this public company, which enjoys an excellent reputation around the globe. Constant developments of innovative products and progressive radio data transmission systems led to a complete program of products, which is unsurpassed in terms of quality and performance.

PHILOSOPHY
Simple and reliable

To win over our customers every day anew: This is the goal before our eyes, in order to guarantee a successful and lasting collaboration. How do we achieve this?

With service-oriented, creative minds and innovative products, which always have been bringing the company forward. Our joint goal is to make the everyday work of our customers simpler and more secure, overcoming the technical obstacles together. Our high technical expertise regarding hardware and software continue to convince our customers over 3 decades. This gives us the confirmation on the first class work of our associates and spurs us on every day to find new solutions in order to walk the joint path. The philosophy of our products is to implement the technically highest possible operational availability of a radio transmission path. In order to achieve this, we carry out the highest operational standard in development efforts. We make the claim to have the best product on the market.

Thousands of devices prove this every day in the harshest industrial environment. We don't see ourselves only as product supplier, but also as solutions provider and partner. Make use of our wings.


ANT
DATAEAGLE
INDUSTRIAL RADIO SYSTEMS
Schildknecht AG

DATAEAGLE PRODUCT LINE

The radio transmission system of Schildknecht AG

We started with the development of DATAEAGLE wireless radio data transmission systems already in 1993. This radio transmission system is modular and comprises of ca. 40 types of devices and family lines. Hereby we enable radio transmission of field bus systems such as Profibus and Profisafe, Profinet, Modbus, CAN and Ethernet. These radio systems are deployed in the automation with diverse radio technologies and frequencies. The radio data transmission system DATAEAGLE operates independently of the kind of radio transmission technologies, such a WiFi, Bluetooth, DECT, ZigBee and the used radio frequency.

The radio transmission through DATAEAGLE allows for the mobile machines and compositions to be tied in. The specialty of DATAEAGLE is that it carries out pre-processing in cyclical field busses already in the radio transceiver.

The device family DATAEAGLE 3000 behaves as a PROFIBUS cable. DATAEAGLE 4000 is a device series optimal for PROFINET, DATAEAGLE 6000 supports CAN bus.

In regards to PLC the radio link is perceived as a cable. Due to the high reliability of radio transmission, the failsafe applications such as emergency

stop through wireless connection by PROFISAFE via PROFIBUS have been successfully used over the years.

Our goal is to offer you a system for data transmission with DATAEAGLE which has the highest reliability of wireless connection as it is possible with a cable. With the wireless PROFIBUS through DATAEAGLE the radio link solution is an alternative technology to conductor lines, cable chains and optical data transmission systems. The wireless connection via radio with DATAEAGLE is reliable and secure. In other models of the DATAEAGLE family further interfaces have been created which are needed for the corresponding PLCs.

We are happy to present to you DATAEAGLE in person and answer all the questions you may have on the topic of radio data transmission. We are sure that our radio data transmission system can successfully operate in your company in the area of automation and control technology. Of course, we can also advise you on which radio technology is most appropriate for your undertaking. Herein, we can provide independent and competent consultations.

Liberty is wireless.


NATIONAL SECURITY SERVICE
SPEZIAL AGENT
OUR DATA TRANSMISSION IS
SAFE

SECURITY IN DATA TRANSMISSION

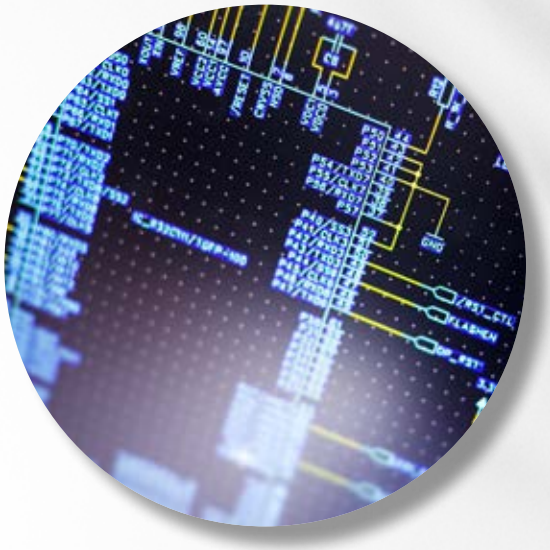
Encryption, hacking and the NSA

Already in ancient times, the people used secret codes in order to make important messages unreadable for third persons. Today, highly productive cryptography procedures protect the company data or confidential information exchanged on the internet from unauthorized access. Even though M2M solutions are attractive for the practical use, in regards to adequate availability and data security, they still come across justified scepticism.

The question is always, how to run a communication connection over multiple levels and global distances without failure and to protect it from unauthorized access. Clear identification of the participants, high-resilient network connections and most of all the security of the data processing centre are at the forefront of user demands. The radio module can offer a number of effective contributions towards security and availability, also in regards to storage in the data processing centre:

It can limit the function basically just for exchange of variable data. A further transparent access to the machines and systems through updates or program changes for example can be prohibited. Moreover, each participant must identify himself on a number of levels, which protects the system from unauthorized use: a personal authorization must be done for each access to the module; the same should apply for the access via mobile radio to the cloud storage, for the reading and writing of data as well as by the acceptance of data through the application.

The input data from sensor system and/or PLC may be secured with mechanisms, as they are used in banking through smart phones. Similar is valid for the access to the cloud server with the help of the pre-set software driver in the device, keeping the access codes secure even if the device is stolen. In addition, the obligatory use of a high-performance data processing centre offers the highest possible protection for the handling of stored data. This is valid for the access control mechanisms as well as for the encryption of data or a possible logging of data queries.



CUSTOMER STATEMENT

Everything is possible

- Airbus, Hamburg
- Bayer AG, Leverkusen
- Bentley Greve, UK
- BOSCH GMBH, Plochingen
- Continental AG, Korbach
- Daimler AG, Stuttgart/Hamburg
- Demag Cranes Wetter
- Doppelmayr, Österreich
- Heidelberg Cement, Hannover
- John Deere, Mannheim
- Paulaner Brauerei, München
- Salzgitter AG
- Scheffer Krantechnik, Sassenberg
- Südwestdeutsche Salz AG, Heilbronn
- ThyssenKrupp, Duisburg
- Vattenfall, Jänschwalde
- Vetter Pharma, Ravensburg
- Wella AG, Kassel

VERSATILE

USE IN CABLE CARS

DATAEAGLE 3702A ensures smooth transport

The Roosevelt Island Tramway is an aerial railway in New York City (USA) and connects Roosevelt Island with Manhattan. It is one of the oldest of the original three (nowadays only two) city aerial railways in North America used for the public mass passenger transport. The cable car was built in 1976 by the Swiss company Von Roll.

In 2010, it was replaced through a completely new aerial railway system built by Pomagalski. The terminal in Manhattan is located on the intersection of 2nd Avenue/E 60th street and is directly off shore of Queensboro Bridge Plaza. The aerial railway is 945 m long, comprised of three up to 76 m high pillars, which bring it up to the required height, in order to cross over the ship traffic on the East River and the traffic on an exit lane of the Queensboro Bridge. Since the terminal in Manhattan is by the E 60th Street, but the aerial railway has to use the airspace above this street, it cannot run parallel but only in a very acute angle towards the Queensboro Bridge. Due to the low space availability, the first pillar in Manhattan is covering a part of a lane on the E 60th Street, the middle pillar is standing in an asymmetric structure above this street. These framework conditions are a challenge for any transmission path. A composition equipped with Safety PLC should not cause disturbances at any time. The radio system DATAEAGLE 3702A was tested successfully and put in use.

Despite thousands of connections in the radio range around the aerial railway, the devices function without technical failure.

The DATAEAGLE Cassic 3702A operating the Roosevelt Island Tramway.

The DATAEAGLE Cassic 3702A within the protected control cabinet of the Roosevelt Island Tramway.

Roosevelt Island Tramway
New York / USA

„We are proud that our products – such as the aerial railway in New York – contribute towards safety in the transport of passengers."

DIDIER KÄRST
Technical Sales Manager Schildknecht AG

"... 100% RELIABILITY..."

Thomas Schildknecht
CEO Schildknecht AG

RADIO DATA TRANSMISSION IN CRUDE OIL PRODUKTION

DATAEAGLE on an oil drillshipp

Seadrill Limited is a company from Norway, with company headquarters in Hamilton, Bermuda. The company is on the Oslo stock exchange listed in the OBX index. Seadrill is in the oil production sector operating the Jack-up, semi-submersible drilling rigs and drill ships for oil and gas.

The company is represented in Brunei, Congo, India, Indonesia, Malaysia, Nigeria, Norway, Thailand and in the U.K. The 253 m long drillship West Navigator of the Norwegian company Seadrill relies on DATAEAGLE. A wireless PROFIBUS and PROFISAFE radio connection is set up to the drill on the ship. The drill is a fully automated machine unit, which holds together the 750 tonnes heavy drill rods. The challenge was to set up the most reliable radio link, in order to replace the very susceptible cable connection.

One day of malfunction caused up to 600.000 € expenses. Based on a very sophisticated application DATAEAGLE 3000 was built in an ATEX Ex protected housing.

DATAEAGLE was in the 2 year test successfully assertive in comparison to other similar products on the market.

DATAEAGLE on the fixed side in the Ex protective housing.

DATAEAGLE on the mobile installation side mounting the drilling rods.

SHAFT INSPECTION ENCLOSURES

DATAEAGLE for safety in case of emergency

The Pfänder tunnel had the highest traffic as a single tube highway tunnel in Austria, and was known as a special bottleneck with a traffic load of 23.000 motor vehicles in 2002. In order to improve the situation as well as traffic safety, the tunnel was expanded to two tubes. After the renovation works were completed on the original tube, it became operational as a two-tube tunnel in 2013.

In 2020, it is expected that there will be 46.000 motor vehicles per 24 hours. Also the heavy traffic will double, according to ASFINAG, there will be 4.350 trucks per 24 hours.

In the pit, which is there to test the supply air and ventilation shafts inside Pfänder tunnel, as well as to serve as a rescue route in case of emergency, one relies on the proven technology of Schildknecht AG. The particular challenge was to have on a 320 m distance implementation of a secure radio transmission through the travelling shaft into the moving cabin.

After the installation of the DATAEAGLE 3000 systems, the operation of the elevator unit started with the special functions such as access control and the smooth hooking on and off of the cabin.

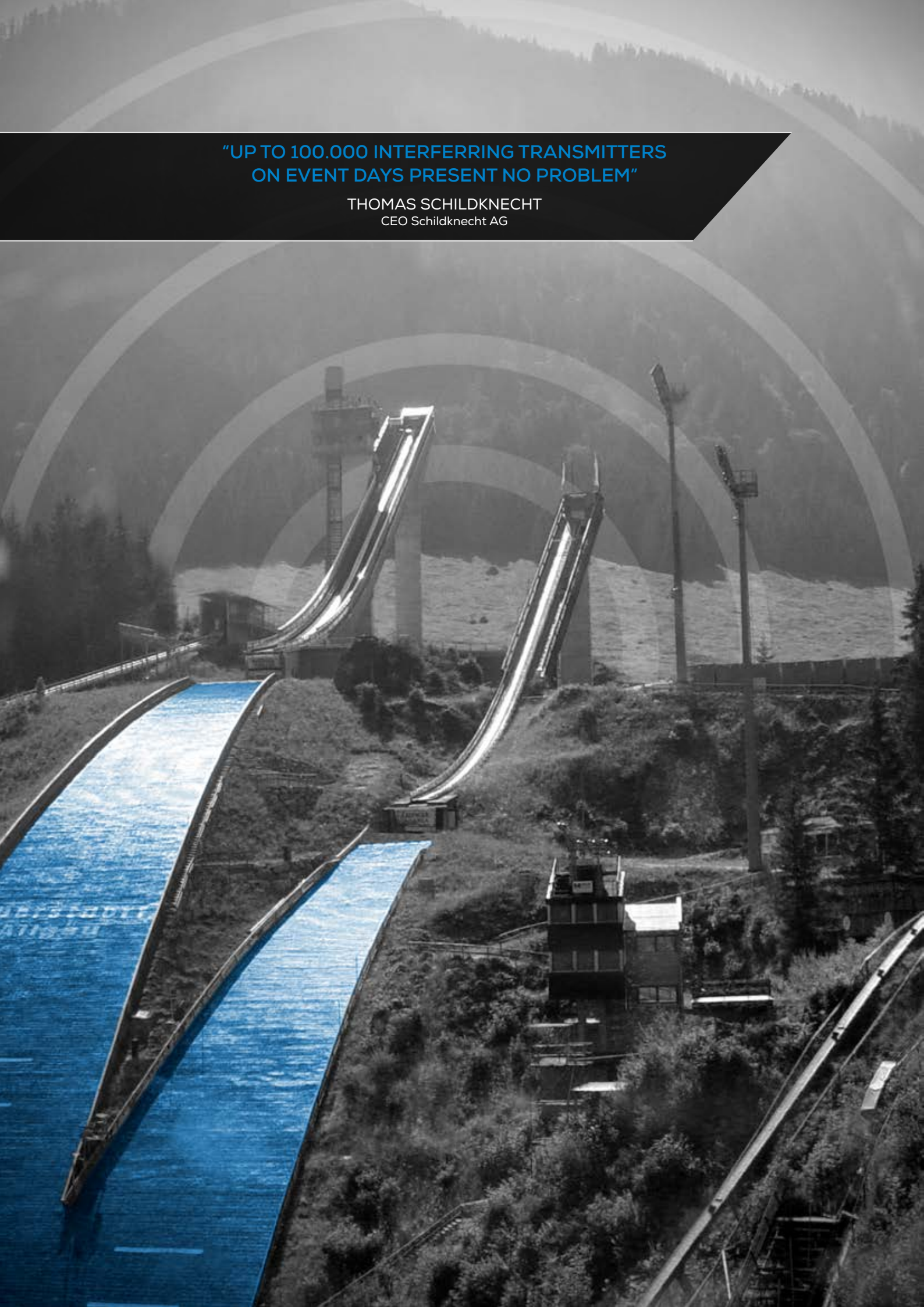
The access to the incoming air shaft.

The DATAEAGLE Classic 3000 in use.

"IT WORKS."

Alfred Beck

Geschäftsführer STB Beck Gmbh Egg, Österreich



"UP TO 100.000 INTERFERRING TRANSMITTERS
ON EVENT DAYS PRESENT NO PROBLEM"

THOMAS SCHILDKNECHT
CEO Schildknecht AG

DATAEAGLE LET´S THE EAGLES FLY

DATAEAGLE creates movement in the Erdinger Arena

The Erdinger Arena is directly under the Schattenberg mountain and comprises of five jumps. These are as follows: two large HS 137 and HS 106 and three small jumps. The opening of the Four Hills Ski Jumping Tournament are held every year in December. The competition was held within the framework of the FIS Nordic Ski World Championships on Schattenberg mountain in February 2005. Also, in the summer many events are held, such as FIS Summer Grand Prix and the Nordic Combinations. The built-in inclined elevator with automatic levelling control, which was put to use in Germany in accordance with the European guideline for elevators 95/16EG, is controlled via radio module. In November 2011, the controls were completely reconstructed. Built-in radio modules were removed, due to high interference, and replaced with DATAEAGLE 3000. The particular challenge was to have no line of sight on a driving distance of ca. 300 m of the inclined elevator.

The composition was running immediately error free and without malfunction in the radio link.

The inclined elevator of the Erdinger Arena.

The DATAEAGLE 3000 is functioning reliably to this day.

DATAEAGLE®
INDUSTRIAL RADIO SYSTEMS

PROFIBUS® PROFINET®

THE SPECIALIST

Classic

Suitable for central control cabinet installation. The integrated display and control panel provide Configurations and diagnosis options.

THE STANDARD

Compact

Suitable for central control cabinet installations. Little space required – due to the compact design.

THE ROBUST

X-treme

Suitable for installations inside and outside. High protection classes allows operations under extreme conditions.

THE DATAEAGLE 3000 SERIES
General information

- The DATAEAGLE 3000-A series was developed especially for the transparent transmission of PROFIBUS DP by utilization of various radio technologies.
- Supported bus speed is up to 1,5 Mbit/s.
- The use of our patented filter technology guarantees a highly
- reliable and error-free radio link.
- All devices which have a PROFIBUS DP interface, can be tied in by radio link.
- No device configuration necessary – Plug&Play.
- With the DATAEAGLE 3002-A Series the security oriented devices
- are supported by PROFIsafe for PROFIBUS DP.
- The range depends on the radio technology used as well as on the surrounding conditions. The typical parameters include a range of
- 100m - 300m (3700-A Series) or 1km - 3km (3300-A Series).
- Thousands of applications are already successfully in use. You can find the references on our website www.schildknecht.ag

HIGHLY VERSATILE
Application examples

- Replacement of conductor lines
- Replacement of trailing cable / cable chains
- Replacement of optical coupler
- Cranes / crane systems
- Storage systems
- Transport vehicles
- Water, sewage and raw materials management
- Machine construction
- Lifts / Elevators
- Automotive industry

DATAEAGLE CLASSIC 3702-A

Technical data

GENERAL

Operating voltage	24 V DC
Power supply connection	Screw terminal block
Current consumption	100 mA
Mounting method	DIN rail mounting
Protection class	IP20
Temperature range	-20...+60 °C
Conformity	CE, FCC
Weight	650 g
Width	233 mm
Height	106 mm
Depth	39 mm
Color	Black

RADIO TECHNOLOGY

Frequency	2,4 GHz Bluetooth
Output power	100 mW (EIRP)
Max. radio slaves	3
Typical range indoor	100 m
Typical range outdoor	300 m
Antenna Connector	SMA connector - 50 Ohm

INTERFACE

Max. PROFIBUS DP speed	1.5 MBit/s
PROFIBUS DP connection	9 pol. SUB-D
Max. DP slaves	8
PROFIsafe	On request

REFERENCE

Master	10887
Slave	10888

DATAEAGLE CLASSIC 3715-A

Technical data

GENERAL

Operating voltage	24 V DC
Power supply connection	Screw terminal block
Current consumption	100 mA
Mounting method	DIN rail mounting
Protection class	IP20
Temperature range	-20...+60 °C
Conformity	CE, FCC
Weight	650 g
Width	233 mm
Height	106 mm
Depth	39 mm
Color	Black

RADIO TECHNOLOGY

Frequency	2,4 GHz Bluetooth
Output power	100 mW (EIRP)
Max. radio slaves	1
Typical range indoor	100 m
Typical range outdoor	300 m
Antenna Connector	SMA connector - 50 Ohm

INTERFACE

Max. PROFIBUS DP speed	1.5 MBit/s
PROFIBUS DP connection	9 pol. SUB-D
Max. DP slaves	4
PROFIsafe	-

REFERENCE

Master	11150
Slave	11151

DATAEAGLE CLASSIC 3703-A

Technical data

GENERAL

Operating voltage	24 V DC
Power supply connection	Screw terminal block
Current consumption	100 mA
Mounting method	DIN rail mounting
Protection class	IP20
Temperature range	-20...+60 °C
Conformity	CE, FCC
Weight	650 g
Width	233 mm
Height	106 mm
Depth	39 mm
Color	Black

RADIO TECHNOLOGY

Frequency	2,4 GHz Bluetooth
Output power	100 mW (EIRP)
Max. radio slaves	1
Typical range indoor	100 m
Typical range outdoor	300 m
Antenna Connector	SMA connector - 50 Ohm

INTERFACE

Max. PROFIBUS DP speed	1.5 MBit/s
PROFIBUS DP connection	9 pol. SUB-D
Max. DP slaves	4
PROFIsafe	-

REFERENCE

Master	10918
Slave	10919

DATAEAGLE COMPACT 3702

Technical data

GENERAL

Operating voltage	24 V DC
Power supply connection	Screw terminal block
Current consumption	100 mA
Mounting method	DIN rail mounting
Protection class	IP20
Temperature range	-20...+60 °C
Conformity	CE, FCC
Weight	130 g
Width	22,5 mm
Height	99 mm
Depth	114,5 mm
Color	Black

RADIO TECHNOLOGY

Frequency	2,4 GHz Bluetooth
Output power	100 mW (EIRP)
Max. radio slaves	3
Typical range indoor	100 m
Typical range outdoor	300 m
Antenna Connector	SMA connector - 50 Ohm

INTERFACE

Max. PROFIBUS DP speed	1.5 MBit/s
PROFIBUS DP connection	9 pol. SUB-D
Max. DP slaves	8
PROFIsafe	On request

REFERENCE

Master	11000
Slave	11001

DATAEAGLE COMPACT 3703-A

Technical data

GENERAL

Operating voltage	24 V DC
Power supply connection	Screw terminal block
Current consumption	100 mA
Mounting method	DIN rail mounting
Protection class	IP20
Temperature range	-20...+60 °C
Conformity	CE, FCC
Weight	130 g
Width	22,5 mm
Height	99 mm
Depth	114,5 mm
Color	Black

RADIO TECHNOLOGY

Frequency	2,4 GHz Bluetooth
Output power	100 mW (EIRP)
Max. radio slaves	3
Typical range indoor	100 m
Typical range outdoor	300 m
Antenna Connector	SMA connector - 50 Ohm

INTERFACE

Max. PROFIBUS DP speed	1.5 MBit/s
PROFIBUS DP connection	9 pol. SUB-D
Max. DP slaves	4
PROFIsafe	-

REFERENCE

Master	10991
Slave	10992

DATAEAGLE COMPACT 3715-A

Technical data

GENERAL

Operating voltage	24 V DC
Power supply connection	Screw terminal block
Current consumption	100 mA
Mounting method	DIN rail mounting
Protection class	IP20
Temperature range	-20...+60 °C
Conformity	CE, FCC
Weight	130 g
Width	22,5 mm
Height	99 mm
Depth	114,5 mm
Color	Black

RADIO TECHNOLOGY

Frequency	2,4 GHz Bluetooth
Output power	100 mW (EIRP)
Max. radio slaves	1
Typical range indoor	100 m
Typical range outdoor	300 m
Antenna Connector	SMA connector - 50 Ohm

INTERFACE

Max. PROFIBUS DP speed	1,5 MBit/s
PROFIBUS DP connection	9 pol. SUB-D
Max. DP slaves	4
PROFIsafe	-

REFERENCE

Master	11160
Slave	11161

DATAEAGLE COMPACT 3705-A

Technical data

GENERAL

Operating voltage	24 V DC
Power supply connection	Screw terminal block
Current consumption	100 mA
Mounting method	DIN rail mounting
Protection class	IP20
Temperature range	-20...+60 °C
Conformity	CE, FCC
Weight	130 g
Width	22,5 mm
Height	99 mm
Depth	114,5 mm
Color	Black

RADIO TECHNOLOGY

Frequency	2,4 GHz Bluetooth
Output power	100 mW (EIRP)
Max. radio slaves	1
Typical range indoor	100 m
Typical range outdoor	300 m
Antenna Connector	SMA connector - 50 Ohm

INTERFACE

Max. PROFIBUS DP speed	187,5 kBit/s
PROFIBUS DP connection	9 pol. SUB-D
Max. DP slaves	4
PROFIsafe	-

REFERENCE

Master	10993
Slave	10994

DATAEAGLE X-TREME 3702-A

Technical data

GENERAL

Operating voltage	24 V DC
Power supply connection	M12, A-coded
Current consumption	100 mA
Mounting method	4 hole screw mounting
Protection class	IP65
Temperature range	-20...+60 °C
Conformity	CE, (FCC in preparation)
Weight	280 g
Width	88 mm
Height	120 mm
Depth	42 mm
Color	Black

RADIO TECHNOLOGY

Frequency	2,4 GHz Bluetooth
Output power	100 mW (EIRP)
Max. radio slaves	3
Typical range indoor	100 m
Typical range outdoor	300 m
Antenna Connector	SMA connector - 50 Ohm

INTERFACE

Max. PROFIBUS DP speed	1.5 MBit/s
PROFIBUS DP connection	M12, B-coded
Max. DP slaves	8
PROFIsafe	On request

REFERENCE

Master	11300
Slave	11301

DATAEAGLE X-TREME 3703-A

Technical data

GENERAL

Operating voltage	24 V DC
Power supply connection	M12, A-coded
Current consumption	100 mA
Mounting method	4 hole screw mounting
Protection class	IP65
Temperature range	-20...+60 °C
Conformity	CE, (FCC in preparation)
Weight	280 g
Width	88 mm
Height	120 mm
Depth	42 mm
Color	Black

RADIO TECHNOLOGY

Frequency	2,4 GHz Bluetooth
Output power	100 mW (EIRP)
Max. radio slaves	3
Typical range indoor	100 m
Typical range outdoor	300 m
Antenna Connector	SMA connector - 50 Ohm

INTERFACE

Max. PROFIBUS DP speed	1.5 MBit/s
PROFIBUS DP connection	M12, B-coded
Max. DP slaves	4
PROFIsafe	-

REFERENCE

Master	11302
Slave	11303

DATAEAGLE X-TREME 3715-A

Technical data

GENERAL

Operating voltage	24 V DC
Power supply connection	M12, A-coded
Current consumption	100 mA
Mounting method	4 hole screw mounting
Protection class	IP65
Temperature range	-20...+60 °C
Conformity	CE, (FCC in preparation)
Weight	280 g
Width	88 mm
Height	120 mm
Depth	42 mm
Color	Black

RADIO TECHNOLOGY

Frequency	2,4 GHz Bluetooth
Output power	100 mW (EIRP)
Max. radio slaves	1
Typical range indoor	100 m
Typical range outdoor	300 m
Antenna Connector	SMA connector - 50 Ohm

INTERFACE

Max. PROFIBUS DP speed	1,5 MBit/s
PROFIBUS DP connection	M12, B-coded
Max. DP slaves	4
PROFIsafe	-

REFERENCE

Master	11320
Slave	11321

DATAEAGLE X-TREME 3705-A

Technical data

GENERAL

Operating voltage	24 V DC
Power supply connection	M12, A-coded
Current consumption	100 mA
Mounting method	4 hole screw mounting
Protection class	IP65
Temperature range	-20...+60 °C
Conformity	CE, (FCC in preparation)
Weight	280 g
Width	88 mm
Height	120 mm
Depth	42 mm
Color	Black

RADIO TECHNOLOGY

Frequency	2,4 GHz Bluetooth
Output power	100 mW (EIRP)
Max. radio slaves	1
Typical range indoor	100 m
Typical range outdoor	300 m
Antenna Connector	SMA connector - 50 Ohm

INTERFACE

Max. PROFIBUS DP speed	1,5 MBit/s
PROFIBUS DP connection	M12, B-coded
Max. DP slaves	4
PROFIsafe	-

REFERENCE

Master	11304
Slave	11305

DATAEAGLE CLASSIC 3323-A

Technical data

GENERAL

Operating voltage	24 V DC
Power supply connection	Screw terminal block
Current consumption	200 mA
Mounting method	DIN rail mounting
Protection class	IP20
Temperature range	-20...+60 °C
Conformity	CE
Weight	800 g
Width	233 mm
Height	106 mm
Depth	39 mm
Color	Black

RADIO TECHNOLOGY

Frequency	869 MHz
Output power	500 mW (EIRP)
Max. radio slaves	3
Typical range indoor	300 m
Typical range outdoor	1 -3 km
Antenna Connector	SMA connector - 50 Ohm

INTERFACE

Max. PROFIBUS DP speed	1.5 MBit/s
PROFIBUS DP connection	9 pol. SUB-D
Max. DP slaves	4
PROFIsafe	-

REFERENCE

Master	10949
Slave	10950

DATAEAGLE COMPACT 3323-A

Technical data

GENERAL

Operating voltage	24 V DC
Power supply connection	Screw terminal block
Current consumption	200 mA
Mounting method	DIN rail mounting
Protection class	IP20
Temperature range	-20...+60 °C
Conformity	CE
Weight	160 g
Width	22,5 mm
Height	99 mm
Depth	114,5 mm
Color	Black

RADIO TECHNOLOGY

Frequency	869 MHz
Output power	500 mW (EIRP)
Max. radio slaves	3
Typical range indoor	300 m
Typical range outdoor	1 -3 km
Antenna Connector	SMA connector - 50 Ohm

INTERFACE

Max. PROFIBUS DP speed	1.5 MBit/s
PROFIBUS DP connection	9 pol. SUB-D
Max. DP slaves	4
PROFIsafe	-

REFERENCE

Master	10998
Slave	10999

DATAEAGLE X-TREME 3323-A

Technical data

GENERAL

Operating voltage	24 V DC
Power supply connection	M12, A-coded
Current consumption	200 mA
Mounting method	4 hole screw mounting
Protection class	IP65
Temperature range	-20...+60 °C
Conformity	CE
Weight	300 g
Width	88 mm
Height	120 mm
Depth	42 mm
Color	Black

RADIO TECHNOLOGY

Frequency	869 MHz
Output power	500 mW (EIRP)
Max. radio slaves	3
Typical range indoor	300 m
Typical range outdoor	1 -3 km
Antenna Connector	SMA connector - 50 Ohm

INTERFACE

Max. PROFIBUS DP speed	1.5 MBit/s
PROFIBUS DP connection	M12, B-coded
Max. DP slaves	4
PROFIsafe	-

REFERENCE

Master	11308
Slave	11309

DATAEAGLE®
INDUSTRIAL RADIO SYSTEMS

THE DATAEAGLE 4000 SERIES
General information

- The DATAEAGLE 4000 series was developed especially for the transparent transmission of PROFINET IO by utilization of diverse radio technologies
- The use of our patented filter technology guarantees a highly reliable and error-free radio link.
- All devices with a PROFINET IO interface can be connected via radio.
- No device configuration necessary – Plug&Play.
- Safety related devices are supported with the DATAEAGLE 4002 Series through PROFIsafe for PROFINET IO.
- The range depends on the radio technology used and the conditions of the surroundings. Typical parameters include a range of 100m - 300m (47xx) or 1km - 3km (43xx).
- Thousands of applications are already successfully in use. References can be found on our website www.schildknecht.ag

HIGHLY VERSATILE
Application examples

- Replacement of conductor lines
- Replacement of trailing cable / cable chains
- Replacement of optical coupler
- Cranes / crane systems
- Storage systems
- Transport vehicles
- Water, sewage and raw materials management
- Machine construction
- Lifts / Elevators
- Automotive industry

DATAEAGLE COMPACT 4702

Technical data

GENERAL

Operating voltage	24 V DC
Power supply connection	Screw terminal block
Current consumption	150 mA
Mounting method	DIN rail mounting
Protection class	IP20
Temperature range	-20...+60 °C
Conformity	CE (FCC in preparation)
Weight	130 g
Width	22,5 mm
Height	99 mm
Depth	114,5 mm
Color	Black

RADIO TECHNOLOGY

Frequency	2,4 GHz Bluetooth
Output power	100 mW (EIRP)
Max. radio slaves	3
Typical range indoor	100 m
Typical range outdoor	300 m
Antenna Connector	SMA connector - 50 Ohm

INTERFACE

Max. PROFINET speed	100 Mbit
2-port switch	Included
PROFINET connection	RJ 45
Max. PROFINET Devices	6
PROFIsafe	On request

REFERENCE

11098

DATAEAGLE COMPACT 4715

Technical data

GENERAL

Operating voltage	24 V DC
Power supply connection	Screw terminal block
Current consumption	150 mA
Mounting method	DIN rail mounting
Protection class	IP20
Temperature range	-20...+60 °C
Conformity	CE (FCC in preparation)
Weight	130 g
Width	22,5 mm
Height	99 mm
Depth	114,5 mm
Color	Black

RADIO TECHNOLOGY

Frequency	2,4 GHz Bluetooth
Output power	100 mW (EIRP)
Max. radio slaves	1
Typical range indoor	100 m
Typical range outdoor	300 m
Antenna Connector	SMA connector - 50 Ohm

INTERFACE

Max. PROFINET speed	100 Mbit
2-port switch	Included
PROFINET connection	RJ 45
Max. PROFINET Devices	4
PROFIsafe	-

REFERENCE

11170

DATAEAGLE COMPACT 4703

Technical data

GENERAL

Operating voltage	24 V DC
Power supply connection	Screw terminal block
Current consumption	150 mA
Mounting method	DIN rail mounting
Protection class	IP20
Temperature range	-20...+60 °C
Conformity	CE (FCC in preparation)
Weight	130 g
Width	22,5 mm
Height	99 mm
Depth	114,5 mm
Color	Black

RADIO TECHNOLOGY

Frequency	2,4 GHz Bluetooth
Output power	100 mW (EIRP)
Max. radio slaves	3
Typical range indoor	100 m
Typical range outdoor	300 m
Antenna Connector	SMA connector - 50 Ohm

INTERFACE

Max. PROFINET speed	100 Mbit
2-port switch	Included
PROFINET connection	RJ 45
Max. PROFINET Devices	4
PROFIsafe	-

REFERENCE

11175

DATAEAGLE X-TREME 4702

Technical data

GENERAL

Operating voltage	24 V DC
Power supply connection	M12, A-coded
Current consumption	150 mA
Mounting method	4 hole screw mounting
Protection class	IP65
Temperature range	-20...+60 °C
Conformity	CE (FCC in preparation)
Weight	280 g
Width	88 mm
Height	120 mm
Depth	42 mm
Color	Black

RADIO TECHNOLOGY

Frequency	2,4 GHz Bluetooth
Output power	100 mW (EIRP)
Max. radio slaves	3
Typical range indoor	100 m
Typical range outdoor	300 m
Antenna Connector	SMA connector - 50 Ohm

INTERFACE

Max. PROFINET speed	100 Mbit
2-port switch	-
PROFINET connection	M12, D-coded
Max. PROFINET Devices	6
PROFIsafe	On request

REFERENCE

11400

DATAEAGLE X-TREME 4715

Technical data

GENERAL

Operating voltage	24 V DC
Power supply connection	M12
Current consumption	150 mA
Mounting method	4 hole screw mounting
Protection class	IP65
Temperature range	-20...+60 °C
Conformity	CE (FCC in preparation)
Weight	280 g
Width	88 mm
Height	120 mm
Depth	42 mm
Color	Black

RADIO TECHNOLOGY

Frequency	2,4 GHz Bluetooth
Output power	100 mW (EIRP)
Max. radio slaves	1.
Typical range indoor	100 m
Typical range outdoor	300 m
Antenna Connector	SMA connector - 50 Ohm

INTERFACE

Max. PROFINET speed	100 Mbit
2-port switch	-
PROFINET connection	M12, D-coded
Max. PROFINET Devices	4
PROFIsafe	-

REFERENCE

11420

DATAEAGLE X-TREME 4703

Technical data

GENERAL

Operating voltage	24 V DC
Power supply connection	M12
Current consumption	150 mA
Mounting method	4 hole screw mounting
Protection class	IP65
Temperature range	-20...+60 °C
Conformity	CE (FCC in preparation)
Weight	280 g
Width	88 mm
Height	120 mm
Depth	42 mm
Color	Black

RADIO TECHNOLOGY

Frequency	2,4 GHz Bluetooth
Output power	100 mW (EIRP)
Max. radio slaves	3
Typical range indoor	100 m
Typical range outdoor	300 m
Antenna Connector	SMA connector - 50 Ohm

INTERFACE

Max. PROFINET speed	100 Mbit
2-port switch	-
PROFINET connection	M12, D-coded
Max. PROFINET Devices	4
PROFIsafe	-

REFERENCE

11401

DATAEAGLE COMPACT 4323

Technical data

GENERAL

Operating voltage	24 V DC
Power supply connection	Screw terminal block
Current consumption	250 mA
Mounting method	DIN rail mounting
Protection class	IP20
Temperature range	-20...+60 °C
Conformity	CE
Weight	160 g
Width	22,5 mm
Height	99 mm
Depth	114,5 mm
Color	Black

RADIO TECHNOLOGY

Frequency	869 MHz
Output power	500 mW (EIRP)
Max. radio slaves	3
Typical range indoor	300 m
Typical range outdoor	1 -3 km
Antenna Connector	SMA connector - 50 Ohm

INTERFACE

Max. PROFINET speed	100 Mbit
2-port switch	Included
PROFINET connection	RJ 45
Max. PROFINET Devices	4
PROFIsafe	-

REFERENCE

11074

DATAEAGLE X-TREME 4323

Technical data

GENERAL

Operating voltage	24 V DC
Power supply connection	M12, A-coded
Current consumption	250 mA
Mounting method	4 hole screw mounting
Protection class	IP65
Temperature range	-20...+60 °C
Conformity	CE
Weight	300 g
Width	88 mm
Height	120 mm
Depth	42 mm
Color	Black

RADIO TECHNOLOGY

Frequency	869 MHz
Output power	500 mW (EIRP)
Max. radio slaves	3
Typical range indoor	300 m
Typical range outdoor	1 -3 km
Antenna Connector	SMA connector - 50 Ohm

INTERFACE

Max. PROFINET speed	100 Mbit
2-port switch	-
PROFINET connection	M12, D-coded
Max. PROFINET Devices	4
PROFIsafe	-

REFERENCE

11403

THE DATAEAGLE 7000 SERIES

Cost-efficient and safe with global mobile radio connectivity for a flat rate

The „Internet of things" always leads to new expectations and developments in the area of maintenance and further on in regards to all surveillance tasks.

Gateways with globally operational SIM cards play an important role in operations control and maintenance of installed machines around the world forming a basis of new business models. Based on concrete user requests the intensively further developed gateway DATAEAGLE 7000 of the Schildknecht AG can transfer signals in adjustable time cycles around the globe from all kinds of data sources such as diagnostic messages of large machines or gauge heights of waters through mobile radio link or Ethernet onto the own portal.

The data is available for the authorized user on demand via identically constructed gateways or directly through enabled ready devices or it can be sent automatically to an established circle of recipients. The devices are available in IP 20 and IP 65 protection class as well as in an Ex version. As of now this is valid for the devices of the standard series DATAEAGLE 3000 and DATAEAGLE 4000. The data transfer with the DATAEAGLE 7000 is very secure, since it operates with AES (Advances Encryption Standard) and RSA (Rivest, Shamir und Adleman) cryptographic technique, and a professionally secured server is being used. Since no other explanatory information is given with the transferred measured data, only the authorized recipient is offered a concrete message.

There are two special features related to the new DATAEAGLE 7000. The device contains a SIM card which offers global connectivity to all mobile networks with fixed and calculable flat rates. Under the term SPOC (Single Point of Contact) Schildknecht AG offers as a system integrator all the required components and services for a integrated solution from a single source, including advising and planning in regards to hardware, software and SIM card.

THE ADVANTAGES

DATAEAGLE 7000ER SERIES

- Integration of specifically developed system for internationally deployed M2M applications
- Minimizing of development costs, time expenditure and risk
- Efficient data processing and transmission
- Applications independent of hardware
- Fast development of proof of concept (POC) to provide immediate market entry
- Quick entry into M2M business and positioning in a strongly growing market
- Additional revenue through resale of server licences and services
- Effective acquisitions for small and large B2B customers with minimal costs
- Generating of additional distribution channels and turnovers
- Development of new business models
- Appreciation in value of your services and increase of margins
- Access to M2M expert knowledge of Schildknecht AG

PORTAL.DATAEAGLE.DE
THE WORLD IS WIRELESS

PORTAL.DATAEAGLE.DE

GENERAL

- Dashboard
- Graphicals User Interface
- Alerting
- Firmware update over-the-air (OTA)
- Device management
- User administration
- User rights administration (IT policies)
- User statistics (User & Browser)
- Templates for device configuration
- Virtual devices
- Visualisation
- Dynamic map display
- Pdf report
- DATAEAGLE Portal PLC
- Labelling
- Alarm notification through HTTP Push

GRAPHIC INTERFACE

- Via the graphical user interface you can set up and pull out simple reports and summaries, as well as the current data in the CMS system
- The deposition of pictures and positioning of measured values is possible
- Any number of analyses can be conducted
- Management of reports and views

ALERTING

- Set up of alert plans
- Alarm archive (history on alarm generating, reaction time, alarm removal, user)
- Confirmation of alarm with filing of user
- Parallel and sequential alarm chains
- Reminder function
- Automatic and manual alarm confirmation
- Notification through Priority SMS, E-mail, Voice Call
- Sender and recipient confirmation via SMS
- Recognition of availability of the mobile radio participant in the alarm chain
- Repetition function for voice call (up to 3 times)

DEVICE MANAGEMENT

- Setting up of devices and modules
- Display of the communication status (Online, Offline, Wake up)
- Display of the available data time frame
- Display of the last connection
- Display of field strength of the current data connection
- Display of field strength and provider of the surrounding basis stations
- User data SMS, Wake up, Voice and SIM volume
- Pool for devices
- Display of device logs
- Display of device specific settings, such as calibrated data, servicing time, etc.

DYNAMIC MAP DISPLAY

- Display of the measurement location on Open Street Map Zoom option
- The number of measurement locations visible in marker
- Status symbol for display of alarms
- Direct link for the different analysis by clicking on the measurement location

PDF PRINTING FUNCTION

- Creates a pdf document out of a report
- Automatic sending of reports in adjustable intervals


DATAEAGLE
Hilfe Menü
Tendenz
DATAEAGLE 7011 - Murr
74,4
1.035
59
3,0
22,1
1 Tag
Grafik
Start:
29.9.2014 00:00:0
Temperatur
DATAEAGLE 7011 - Murr
Feuchte
DATAEAGLE 7011 - Murr
Druck
DATAEAGLE 7011 - Murr
35,0°C
100,0%
25,0°C
60,0%

PROGRESS FOR THE INDUSTRY

DATAEAGLE 7000 reduces the costs up to 300%

Revenues in the range of billions are forecasted for the global M2M market. Use our know-how in regards to connectivity, in order to position yourself as provider of M2M solutions in this intensely growing market.

Schildknecht AG environment supports you with tools such as a platform for the simple management of SIM cards, applications and users. We offer for example to customers from areas such as engineering, Smart Home, logistics or industry in general internationally deployable M2M solutions and generate revenue streams. Schildknecht AG supports you with the cumulative M2M know-how. As a systems integrator, we create successful M2M solutions out of your ideas.

Hardware, software and international data transmission for a flat rate supports you in overcoming the challenge of international M2M solutions.

FLEXIBLE
DATAEAGLE 7000 SERIES

The DATAEAGLE 7000 series with the integrated Schildknecht AG SIM-card. Globally deployable. Available with different types of protection, classes, protocols and design.

VISIBILITY
PORTAL.DATAEAGLE.DE

The DATAEAGLE PORTAL provides you with global access to your machines. You have simple and fast control of your plant in a secure and encrypted manner.

STANDARD
GLOBALLY CONNECTED

International flat rate allows calculating costs ahead of time.


Extension Module

DATAEAGLE 7010 SERIES
Description

The DATAEAGLE 7010 series is the ideal multi-function tool for measurement and control tasks. The universal inputs gather data from sensors and signal transmitters. The RS232 and RS485 interfaces allow communication with the neighbouring machines or control units. Relay and mA outputs are available for the actuator control. The PAWN script engine of the device allows for own applications to be set up. This makes it possible to conduct complex calculation and control tasks.

DATAEAGLE 7010 series also has an integrated buffer battery, which enables sending of a notification in case of supply voltage failure. In order to conduct the highly critical measurement and control tasks in a secure manner, DATAEAGLE 7010 offers with the LAN interface an additional back up connection. In case the preferred connection (LAN or GSM – option) fails, it switches automatically to the second connection, and the functionality of the application remains intact.

The universal inputs of the DATAEAGLE 7010 can be expanded simply and cost-efficient with the DATAEAGLE 7010 expansion module. The expansion module has 8 universal inputs, 6 relay outputs, 2 mA outputs and a PT100/PT1000 sensor input. Up to 3 expansion modules can be hooked on DATAEAGLE 7010. The display expansion is an intelligent graphics display, which can be directly connected with the interface of DATAEAGLE 7010/7011.

HIGHLY VERSATILE
Application examples

- Alerting
- Direct signal detection of sensors and further processing in the device
- Actuator control
- System control
- Pump control
- Flow calculation
- Communication with machine interfaces via RS485 and RS232 connectors

DATAEAGLE 7010
Technical data

GENERAL	
Operating voltage	12 V... 30 V DC
Power supply connection	Screw terminal block
Current consumption	Typ. 1 W, max. 3 W
Mounting method	DIN rail mounting
Protection class	IP20
Temperature range	-20...+60 °C
Conformity	CE
Weight	320 g
Width	157 mm
Height	86 mm
Depth	64 mm
Color	Grey
RADIO TECHNOLOGY	
Frequency	GSM/GPRS Quad-Band
SIM	Integrated SIM-Chip
Antenna Connector	SMA connector - 50 Ohm
INTERFACE	
Inputs	8 x analog or digital
	0... 20 mA, 4... 20 mA
	0... 2 V, 0... 10 V
	PWM
	Frequency
	Digital
	Day / interval counter
Ext. Temperature sensor	1 PT1000/1000
Modbus	2 x RS485 (switchable Master/ Slave)
	Modi: RTU, ASCII
	64 inputs, 64 output channels
Serial interface	1 x RS232 for connecting a digital sensor
	Modi: ASCII
Outputs	64 inputs, 64 output channels
	6 x Relais (2 groups)
	2 x analog output
ACCESSORIES	DATAEAGLE 7010 expansion Module
	Display
REFERENCE	17010

DATAEAGLE 7010 EXPANSION MODULE

Technical data

GENERAL

Operating voltage	12 V... 30 V DC
Power supply connection	Screw terminal block
Current consumption	-
Mounting method	DIN rail mounting
Protection class	IP20
Temperature range	-20...+60 °C
Conformity	CE
Weight	320 g
Width	157 mm
Height	86 mm
Depth	64 mm
Color	Grey

RADIO TECHNOLOGY

Frequency	-
SIM	-
Antenna Connector	-

INTERFACE

Inputs	8 x analog or digital
	0... 20 mA, 4... 20 mA
	0... 2 V, 0... 10 V
	PWM
	Frequency
	Digital
	Day / interval counter
Ext. Temperature sensor	2 PT1000/1000
Modbus	-
Serial interface	-
Outputs	6 x Relais (2 groups)
	2 x analog output

REFERENCE

17100

DATAEAGLE 7011
Technical data

GENERAL	
Operating voltage	12 V... 30 V DC
Power supply connection	Screw terminal block
Current consumption	Typ. 1 W, max. 3 W
Mounting method	DIN rail mounting
Protection class	IP20
Temperature range	-20...+60 °C
Conformity	CE
Weight	160 g
Width	104 mm
Height	85 mm
Depth	32 mm
Color	Grey
RADIO TECHNOLOGY	
Frequency	GSM/GPRS Quad-Band
SIM	Integrated SIM-Chip
Antenna Connector	SMA connector - 50 Ohm
INTERFACE	
Inputs	3 x analog oder digital
	0... 20 mA, 4... 20 mA
	0... 2 V, 0... 10 V
	PWM
	Frequency
	Digital
	Day / interval counter
Ext. Temperature sensor	-
Modbus	1 x RS485 (switchable Master/ Slave)
	Modi: RTU, ASCII
	64 inputs, 64 output channels
Serial interface	1 x RS232 for connecting a digital sensor
	Modi: ASCII
Outputs	64 inputs, 64 output channels
	1 x potential free switching contact
	1 x analog output (no electrical isolation)
ACCESSORIES	Display
REFERENCE	17011

DATAEAGLE 7012
Technical data

GENERAL

Operating voltage	12 V... 30 V DC
Power supply connection	Screw terminal block
Current consumption	Typ. 1 W, max. 3 W
Mounting method	DIN rail mounting
Protection class	IP20
Temperature range	-20...+60 °C
Conformity	CE
Weight	160 g
Width	104 mm
Height	85 mm
Depth	32 mm
Color	Grey

RADIO TECHNOLOGY

Frequency	GSM/GPRS Quad-Band
SIM	Integrated SIM-Chip
Antenna Connector	SMA connector - 50 Ohm

INTERFACE

Inputs	3 x analog or digital
	0... 20 mA, 4... 20 mA
	0... 2 V, 0... 10 V
	PWM
	Frequency
	Digital
	Tages- / IntervallzählerDay / interval counter
Ext. Temperature sensor	-
Modbus	-
Serial interface	-
Outputs	1 x potential free switching contact
	1 x analog output (no electrical isolation)

REFERENCE

	17012

DATAEAGLE 7020 SERIES
Description

The DATAEAGLE 7020 series consists of compact transmission devices for the direct connection of sensors. There are 4 free configurable analogue or digital inputs and two outputs.

The integrated SIM chip promises simple operation and is optimal for long term usage. Having the supply of the devices be by battery or rechargeable battery is optional. The charge control for the rechargeable battery is integrated, and is also applicable for the connection to the solar panels. The hooked up sensor or measurement electronics can be activated and supplied with a switchable voltage output.

Devices with serial interface (RS485/RS232) are the available models .With it parameters can be read/written through Modbus or ASCII.

HIGHLY VERSATILE
Application examples

- Alerting
- Direct signal detection of sensors
- Pump monitoring
- Flow measurement
- Temperature monitoring
- Probe measurement transmission
- Remote metering
- Data logger

DATAEAGLE 7020
Technical data

GENERAL	
Supply	Battery or accumulator
Power supply	7 V... 30 V DC (type. 170 mA... 12 V)
Protection class	IP66
Temperature range	-20...+60 °C
Conformity	CE
Weight (without battery)	400 g
Width	86 mm
Height	165 mm
Depth	64 mm
Color	Blue
RADIO TECHNOLOGY	
Frequency	GSM/GPRS Quad-Band
SIM	Integrated SIM-Chip
Antenna Connector	FME
INTERFACE	
Inputs	4 x analog or digital
	0... 20 mA, 4... 20 mA
	0... 2 V, 0... 10 V
	PWM
	Frequency
	Digital
	Day / interval counter
Modbus	1 x RS485 / RS232 (depending on order option)
	Modi: RTU, ASCII
	64 inputs, 64 output channels
Serial interface	-
Outputs	1 x switchable sensor supply:
	15 V... 19,5 V DC, max. 66 mA
	1 x potential free switching contact
ACCESSORIES	DIN rail mounting set
	Universal bracket
	Pipe mounting set
	Battery 26 Ah
	Accumulator 2,5 Ah
	Accumulator 13,6 Ah
	Charging device
REFERENCE	17020

DATAEAGLE 7021
Technical data

GENERAL	
Supply	Battery or accumulator
Power supply	7 V... 30 V DC (type. 170 mA... 12 V)
Protection class	IP66
Temperature range	-20...+60 °C
Conformity	CE
Weight (without battery)	400 g
Width	86 mm
Height	165 mm
Depth	64 mm
Color	Blue
RADIO TECHNOLOGY	
Frequency	GSM/GPRS Quad-Band
SIM	integrated SIM-Chip
Antenna Connector	FME
INTERFACE	
Inputs	4 x analog or digital
	0... 20 mA, 4... 20 mA
	0... 2 V, 0... 10 V
	PWM
	Frequency
	Digital
	Day / interval counter
Modbus	1 x RS485 / RS232 (depending on order option)
	Modi: RTU, ASCII
	64 inputs, 32 output channels
Serial interface	-
Outputs	1 x switchable sensor supply:
	24 V DC, max. 41 mA
	1 x potential free switching contact
ACCESSORIES	DIN rail mounting set
	Universal bracket
	Pipe mounting set
	Battery 26 Ah
	Accumulator 2,5 Ah
	Accumulator 13,6 Ah
	Charging device
REFERENCE	17021

DATAEAGLE 7022

Technical data

GENERAL

Supply	Battery or accumulator
Power supply	7 V... 30 V DC (type. 170 mA... 12 V)
Protection class	IP66
Temperature range	-20...+60 °C
Conformity	CE
Weight (without accumulator)	400 g
Width	86 mm
Height	165 mm
Depth	64 mm
Color	Blue

RADIO TECHNOLOGY

Frequency	GSM/GPRS Quad-Band
SIM	Integrated SIM-Chip
Antenna Connector	FME

INTERFACE

Inputs	4 x analog or digital
	0... 20 mA, 4... 20 mA
	0... 2 V, 0... 10 V
	PWM
	Frequency
	Digital
	Day / interval counter
Modbus	-
Serial interface	-
Outputs	1 x switchable sensor supply:
	15...19,5 V DC, max. 66 mA
	1 x potential free switching contact

ACCESSORIES

	DIN rail mounting set
	Universal bracket
	Pipe mounting set
	Battery 26 Ah
	Accumulator 2,5 Ah
	Accumulator 13,6 Ah
	Charging device

REFERENCE

	17022

DATAEAGLE 7023
Technical data

GENERAL	
Supply	Battery or accumulator
Power supply	7 V... 30 V DC (type. 170 mA... 12 V)
Protection class	IP66
Temperature range	-20...+60 °C
Conformity	CE
Weight (without accumulator)	400 g
Width	86 mm
Height	165 mm
Depth	64 mm
Color	Blue
RADIO TECHNOLOGY	
Frequency	GSM/GPRS Quad-Band
SIM	Integrated SIM-Chip
Antenna Connector	FME
INTERFACE	
Inputs	4 x analog or digital
	0... 20 mA, 4... 20 mA
	0... 2 V, 0... 10 V
	PWM
	Frequency
	Digital
	Day / interval counter
Modbus	-
Serial interface	-
Outputs	1 x switchable sensor supply:
	24 V DC, max. 41 mA
	1 x potential free switching contact
ACCESSORIES	
	DIN rail mounting set
	Universal bracket
	Pipe mounting set
	Battery 26 Ah
	Accumulator 2,5 Ah
	Accumulator 13,6 Ah
	Charging device
REFERENCE	17023

DATAEAGLE 7024
Technical data

GENERAL	
Supply	Battery or accumulator
Power supply	7 V... 30 V DC (type. 170 mA... 12 V)
Protection class	IP66
Temperature range	-20...+60 °C
Conformity	CE
Weight (without accumulator)	400 g
Width	86 mm
Height	165 mm
Depth	64 mm
Color	Blue
RADIO TECHNOLOGY	
Frequency	GSM/GPRS Quad-Band
SIM	Integrated SIM-Chip
Antenna Connector	FME
INTERFACE	
Inputs	4 x analog or digital
	0... 20 mA, 4... 20 mA
	0... 2 V, 0... 10 V
	PWM
	Frequency
	Digital
	Day / interval counter
Modbus	-
Serial interface	1 x RS485 / RS232 (depending on order option)
Outputs	1 x switchable sensor supply:
	15 V... 19,5 V DC, max. 66 mA
	1 x potential free switching contact
ACCESSORIES	DIN rail mounting set
	Universal bracket
	Pipe mounting set
	Battery 26 Ah
	Accumulator 2,5 Ah
	Accumulator 13,6 Ah
	Charging device
REFERENCE	17024


WARNING

DATAEAGLE 7030 SERIES
Specification

The DATAEAGLE 7030 is one of the most mobile data acquisition devices of its kind and is suitable for the measuring and transmission of digital and analogue data.

Aside from the internal measurement functions like GSM signal strength and battery voltage, DATAEAGLE 7030 offers many external ones as well. With it temperature measurement, pressure measurement, tension gauge, current measurement and impulse counter become a children's game. You only need to hook up your application-specific external sensor, and you can start measuring.

The battery life span can be up to 5 years.

HIGHLY VERSATILE
application examples

- Alerting
- Direct signal reception by sensors
- Pump monitoring
- Flow measurement
- Temperature monitoring
- Probe measurement transmission
- Remote meter reading

DATAEAGLE 7030
Technical data

GENERAL

Supply	Battery
Protection class	IP68
Temperature range	-10...+50 °C
Conformity	CE
Weight (without accumulator)	510 g
Width	86 mm
Height	165 mm
Depth	64 mm
Color	Blue

RADIO TECHNOLOGY

Frequency	GSM/GPRS Quad-Band
SIM	Integrated SIM-Chip
Antenna Connector	TNC-F

INTERFACE

Inputs	5 x analog or digital
	0... 20 mA, 4... 20 mA
	0... 2 V, 0... 10 V
	PWM
	Frequency
	Digital
	Day / interval counter
Output	1 x switchable sensor supply:
	3 V DC, max. 290 mA
Sensor connection	15 pol. socket

ACCESSORIES

	DIN rail mounting set
	Universal bracket
	Pipe mounting set
	Cable connector 15 pol.
	Cable set 15 pol.
	Clamping pressure equalization pipe with
	1 x 4... 20 mA, 24 V DC

REFERENCE

17030

ALARM ANNUNCIATOR

Description of function

The application alarm annunciator offers to provider and system integrators a complete solution for efficient detection and transmission of alarms. The field device takes on the data from sensors and signal transmitters. Local program sequence allows for complex calculation and control tasks. Communication occurs with the neighbouring machines or control units via machine interfaces. The wireless data transmission onto the server is a fixed component of Schildknecht AG Managed Service. The server processes extensive alarm chains, and prompts a fast alerting of the user via e-mail, SMS or voice call. Portal DATAEAGLE facilitates a simple set up of alert plans.

Monitored unit

DATAEAGLE 7011
DATAEAGLE 7012

Managed Service

Portal DATAEAGLE

User

ALARM ANNUNCIATOR
Application sheet

GENERAL	Outage alerting via e-mail, SMS or voice call
	Short alarm reaction time
	Group or chain notification
	Extensive alert plans
	Warning and alarm threshold
	Logged alarm archive
STANDARDS	Disturbance notification of plants and machines
	Alarming of maintenance staff
	Simple preparation of alarm chains
	and alert plans
	Simple set up of threshold
	and message texts
	Notifications available in German
	and English
	Measurement and control tasks
KEY FUNCTIONS	Outage alerting
	Group or chain notification
	Selection of types of notifications
	(e-mail, SMS, voice call)
	2 level alerting
	(warning and alarm threshold)
	Extensive alert plans
	Short alarm reaction time
	Logged alarm archives
	Communication with machine interfaces
	RS232 and RS485
	Programmable for calculation and control tasks
AREA OF APPLICATION	Pump station
	Industry and public utility use
	Complex machines with maintenance needs
	Machine alerting
	Alerting device for disturbance notifications

CONDTION MONITORING

Description of function

The wireless data acquisition technology of the Schildknecht AG offers to system integrators and users an efficient solution for monitoring of machine parameters. With DATAEAGLE 7010 and DATAEAGLE 7011 series various machine generations can be monitored with the same concept. The device takes in machine data in regular intervals and transmits them automatically to the server onto which the data is saved, displayed and made available for further analyses.

The data transmission is a fixed component of the Schildknecht Managed Service. Interfaces enable connection to your business processes.

CONDTION MONITORING
Application sheet

STANDARDS	Protocols of operating hours
	Monitoring of idle times
	Avoidance of runtime error
	Compliance and management of maintenance intervals
	Energy monitoring
KEY FUNCTIONS	Connection of different machine generations
	through universal interfaces
	No violation of IT policies
	Set up of maintenance intervals
	Prognosis calculation
	Alerting of runtime error
	Archived status protocols
	Archived maintenance protocols
AREA OF APPLICATION	Machine tools
	Nip and press roll
	Hydraulic power unit
	Waste press
	Amplifier

REMOTE METERING

Description of function

The wireless data acquisition technology of the Schildknecht AG offers for system integrators and users an efficient solution for monitoring of meters. With DATAEAGLE one can expand water, gas and energy meters on the spot. The device records the meters in regular intervals and transmits them automatically to the central server, where the data is saved and displayed.

The data transmission is a fixed part of the Schildknecht Managed Service. The interfaces enable connection to your business processes.

Monitored unit | DATAEAGLE | Managed Service | Portal DATAEAGLE | User

REMOTE METERING
Application sheet

STANDARDS	Remote metering for end-user tally
	Compliance with legal provisions
	Battery life span up to 5 years
	Wireless data transmission to a central server
	Storage and display of meter readings in the central server
KEY FUNCTIONS	Automatic remote metering
	Maintenance and start-up application for smartphones
	Web App shows the nearest meter
	Automatically chooses strongest GSM network
	Load profile definable (min/max)
	Load profile with timetable
	Load profile alerting
	District monitoring
	Time synchronisation to the split second for all meters
	IP68 protection class
AREA OF APPLICATION	Water volume measuring trade, industry and private homes
	Water consumption notification of car wash
	District heating quantity meters
	Electricity meters
	Gas volume meters
	Monitoring for cement mixing wagons

TEMPERATURE

Description of function

Monitoring of temperature implemented with the wireless end-to-end solution of the Schildknecht AG. The data logger DATAEAGLE 7022 or DATAEAGLE 7023 records the temperature in regular intervals. If the temperature goes over or under a limit, the maintenance staff is notified immediately by e-mail, SMS or voice call.

Schildknecht Managed Service includes among others data transmission to the DATAEAGLE-Server. The temperature measurment is stored on the central web server and complied into reports and statistics. The recorded data and reports are integrated into your business processes through interfaces.

Monitored unit | DATAEAGLE 722 DATAEAGLE 7023 | Managed Service | Portal DATAEAGLE | User

TEMPERATURE
Application sheet

STANDARDS	Temperature recording of air, gas and liquids
	Permanent access to measured data, in spite of
	Limited access to the point of measurement
	Central storage and display of data on
	Web interface
	Wireless transmission of data to a central server
	Alarm in case of critical values
	Simple creation of reports and statistics of
	Historical data
KEY FUNCTIONS	Proof of an uninterrupted cooling chain
	Abiding a defined temperature area
	Fulfilling of obligation for temperature recording
	Creation of reports and sending via
	Email or viewing directly on the web server
	with different user levels
	Instant alerting if value exceedes or falls below threshold
	Visualisation of data and statistics
	2-level alerting (warning, alarm) via
	Email, SMS or voice call
	Permanent overview over numerous metering
	points via the central web server
	Analysis of temperature profiles
	Alarm chains for notification of maintenance staff
AREA OF APPLICATION	Frost alarm in uninhabited buildings and holiday homes
	Ice alarm for streets and bridges
	Monitoring of blood bottles
	Monitoring of deep cooling racks, foods
	and transport routes
	Monitoring of temperature on the machines
	Temperature control in refrigerating rooms, data
	processing service centres, server rooms

PUMP CONTROL

Description of function

Pumps are usually positioned on places which are hard to reach. Therefore, often a multitude of decentralized pumps must be monitored. With the technology of Schildknecht AG remote control and remote monitoring of pumps is possible. The data of the individual stations are processed centrally and displayed in real time on a server interface. If there is outage or damage, the maintenance staff is alerted immediately. In this way, damage can be noticed and fixed in time. Aside from disturbance monitoring, it is possible to monitor the measurement of each pump system. It is possible for example to have long term performance monitoring in order to optimize pump output. An optimal pump system means vast savings on costs and increases the life span of the pumps. The field devices of the Schildknecht AG, which collect the data and transmit it to the server, are specially designed for the operation in rough surroundings.

Monitored unit

DATAEAGLE 7010
DATAEAGLE 7011

Managed Service

Portal DATAEAGLE

User

PUMP CONTROL
Application sheet

STANDARDS	Remote control of pumps
	Remote monitoring of pumps
	Minimizing outage time
	Installation in control cabinet
	Documentation
KEY FUNCTIONS	Secure data transmission via GPRS
	Permanent overview over a multitude of pumps
	Alarms via email, SMS or voice message
	Prognosis calculation for maintenance needs
	Optimizing of energy efficiency through performance monitoring
	Early defect detection through monitoring of decline in output
	Monitoring of inefficient working conditions
	(for example blockades, false runs, cavitation)
AREA OF APPLICATION	Pump stations
	Drainage plants
	Water draining machines and wells
	Waste water treatment plants

LEVEL MEASUREMENT

Description of function

Equipping level measurement probes with M2M technology makes it possible to analyse and document the changes in ground water short- and long term. This way, the gathering and collection of data from the measurement locations which are hard to reach, becomes essentially easier and more efficient. The data acquisition is automated and the wireless transmission of data is carried out to the central server, where the data can be viewed and further processed at any time.

Monitored unit

DATAEAGLE 7022
DATAEAGLE 7023

Managed Service

Portal DATAEAGLE

User

LEVEL MEASUREMENT
Application sheet

STANDARDS	Monitoring of ground water levels
	Display of measured data on a map
	Documentation of ground water conditions for construction projects
	Alarming by a level exceedance
	Geological long term analysis
	Permanent overview of a multitude of measuring points
	Self-sufficient operation on inaccessible measurement points
KEY FUNCTIONS	Continuous monitoring of ground water level
	Wireless data transmission
	Self-sufficient operation possible through solar panel
	Alarm notification when defined limit levels are reached
	Graphic display of levels
	Integratation of data into own web site
AREA OF APPLICATION	Long term analysis of ground water changes
	Ground water level measurement for construction projects
	Alarm by exceedance of levels
TARGET CUSTOMERS	Manufacturer of well or level probes
	Companies in the area of geology and hydrology

LIQUID LEVEL MEASUREMENT

Description of function

For the measurement and monitoring of liquid levels and tank levels Schildknecht AG offers an enhancement for efficient, secure and wireless data acquisition and transmission. The 2-level alarm provides an immediate notification in case of exceedance of a threshold. Due to the permanent access via the central web server it is not necessary anymore to search for measurement points for data readout through personnel. The wireless data transmission from field device to the web server is a fixed component of the Schildknecht Managed Service. The data is integrated into your business processes through the creation of reports and the available interfaces.

Monitored unit

DATAEAGLE 7022
DATAEAGLE 7023

Managed Service

Portal DATAEAGLE

User

LIQUID LEVEL MEASUREMENT
Application sheet

STANDARDS	Monitoring of liquid levels and tank levels
	Transmission of data to a central web server
	Display of the measured data on a central web surface
	Simple creation of reports and statistics of historical data
	Automatic sending of reports and analyses
	Immediate alarm in case of critical measured data
	Alarm for different user groups
	Notification on changes in the tank level for the
	Optimisation of logistics
	Inquiry of user profiles
KEY FUNCTIONS	Immediate alarm if liquid level or tank level is
	exceeded or falls below
	Permanent monitoring of liquid level via web browser
	2-level alarm (warning and alarm threshold)
	Reduction in maintenance costs through overview of the
	decentralised measurement points on the central server
	Continuous measurement of liquid level
	Visualisation of data in reports and statistics
	Remote monitoring of liquid levels
	Forecasts for refilling or depletion of tanks
AREA OF APPLICATION	Measurement in pools, silos and tanks
	Notification on water penetration in building pits
	Elevated tanks for water supply
	Liquid level measurement for bulk freight
	Rain water collection basin and overflow basin for rain water
	Overfill safety
	Ground water and well measurements
	Fuel and oil tanks
	Tanks and containers for precursor in the food industry
	Tanks and collection containers for dosage in the
	Chemical industry

FLOW RATE MEASUREMENT

Description of function

The efficient and wireless data transmission technology of Schildknecht AG offers a simple possibility for monitoring and visualising the flow rate. The field device gathers the flow rate data and transmits it wirelessly to the central web server. The transmission of the data is a fixed component of the Schildknecht Managed Service.

The continuous measurements and permanent access to the data on the web interface make the manual analysis of the measurement point obsolete. The data can be directly integrated into your GIS or ERP system and your business processes through the available interfaces.

Monitored unit

DATAEAGLE 7040er
DATAEAGLE 7022
DATAEAGLE 7023

Managed Service

Portal DATAEAGLE

User

FLOW RATE MEASUREMENT
Application sheet

STANDARDS	Creation of drain profiles (wetted perimeters)
	Flow rate measurement of gases and liquids
	Measurement of wastewater consumption
	Wireless transmission to the central web server
	Cost allocation according to consumption
	Logging of measured data
	Creation of analyses for different user levels
	Flow rate measurements in ATEX- zone 1
KEY FUNCTIONS	Securing of measurement operation
	Constant overview of the right data acquisition via web interface
	Control of the flawless device functioning through the central web server
	Integration of data into the GIS or ERP system
	Cost division by wastewater cooperatives
	Monitoring of threshold values
	No on-site manual data readout of the measurement points necessary
	Fulfilling the recording requirement of the flow rate
	Visualising of a multitude of measurement devices via the central web server
AREA OF APPLICATION	Detection of degree of capacity utilization in the duct system
	Detection of infiltration water in the duct
	Evaluation of the duct system
	Cost division
	Detection of water loss due to infiltration and Evaporation between measurement points

PRESSURE MEASUREMENT

Description of function

The Schildknecht AG, with the wireless data transmission technology, offers an efficient enhancement for pressure measurements.

The field device gathers the pressure data through the hooked on sensors. If there is a decrease or exceedance in pressure, an alarm notification is sent immediately to the maintenance staff via email, SMS or voice call. The data transmission is wireless and it is a fixed component of the Schildknecht Managed Service. Statistics and reports are created with the historical data in the central web server, and are sent via email automatically. Your data can be integrated into your business processes through the various interfaces on the web server.

Monitored unit

DATAEAGLE 7022
DATAEAGLE 7023

Managed Service

Portal DATAEAGLE

User

PRESSURE MEASUREMENT
Application sheet

STANDARDS	Pressure measurement on pipelines, power units & high pressure cylinders
	Battery powered data acquisition devices, 5 years run time
	Central storage and display of data
	Alarm in case of critical pressure values
	Creation of reports and statistics of historical data
	Integration of the pressure values into SCADA systems
	Transmission of the measured values to a central control centre
KEY FUNCTIONS	Immediate alarm by decrease or accumulation of pressure
	Notification of maintenance staff
	Notification type can be chosen (email, SMS, voice call)
	Calculation of liquid levels and early prediction of maintenance intervals
	Interface to SCADA systems
	Measurements of low or high pressure
	Density measurements
	Relative and absolute pressure measurements
AREA OF APPLICATION	Measurements on hydraulic power units
	Pressure monitoring in pipelines
	Pressure measurement of process gas in high pressure cylinders
	Pressure monitoring in the pneumatic system
	Power units for the industry and railway
	Measurement of pressure differential

THE DEVELOPMENT CENTRE

Always keeping pace with the time

No company can exist in competition today or tomorrow without research and development. That is why the development centre of Schildknecht AG is choice number one for you. We bring in the whole potential and knowledge of our engineers, in order to accompany you towards economic success with a tailor-made solution. Since its establishment, Schildknecht AG takes on a central role in the innovation process of radio technology, through the development of key technologies for the usefulness in economy and industry.Constant development and creation of product families count as benchmarks for the high standards of our development.

The fast flexibility of the team is valuable for a wide spectrum of businesses. We create tailor-made special-purpose solutions and software applications in close cooperation with our customers, from the planning phase up to the testing under production onditions. In the past few years, hundreds of customer specific solutions have been developed and built in this way, fulfilling optimally the set conditions of the customer. In doing so, products with outstanding market position are developed. The results of the joint work with our customers are products and performance, which distinguish themselves through an optimal adjustment to the specific industry branches. It is our goal to develop an optimal product, which will then create an advantage for our partners.

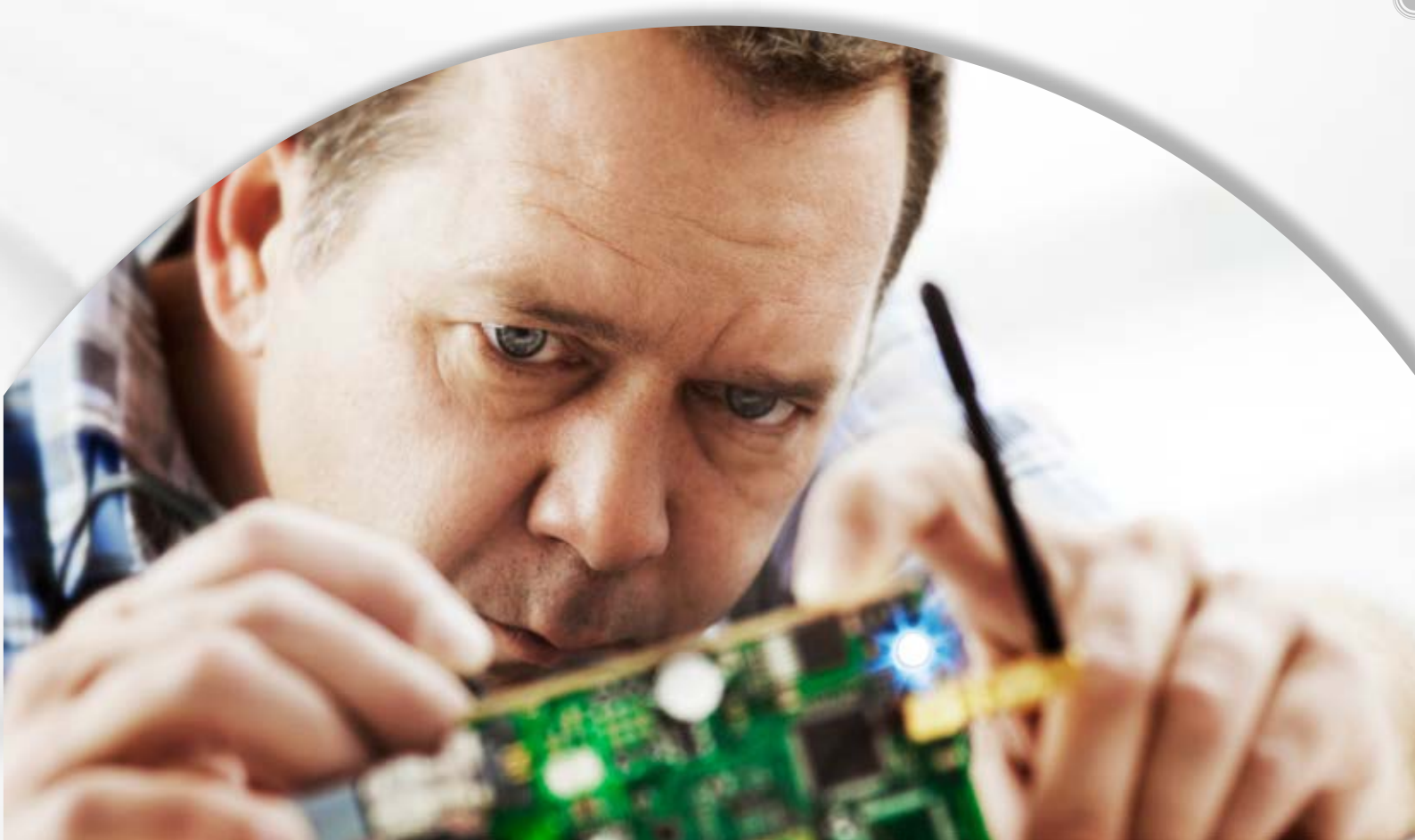
A large number or our customers are small and medium-sized businesses. Therefore, we offer a wide and solid assortment of radio technologies, which can be altered for your individual utilization. Our experienced development team for new projects is available as partner on your side for the more complex solutions. For the new ground-breaking products, hardware and software must be developed together. The Schildknecht AG is best equipped with the use and knowledge of the newest technologies.

FOCUS ON RESEARCH

Products with potential

The close contact to our customers has been a distinguishing characteristic of the development work of the Schildknecht AG for years. The therefrom derived information we can include in the formation phase, and bring it in accordance with our ideas and technical feasibility, in order to develop a product which is really needed on the market. Design Thinking as an impulse for development is not only empty words for Schildknecht AG, but a living reality. The in-house flat hierarchy with a close contact to management, sales and marketing, support and manufacturing give the developers the necessary feedback which they can use, for the development of a highly market-ready product which is constantly improved. Timely and financial efforts are certainly high for this, however, the large number of satisfied customers shows that in doing so we are on the right path.

Our experience of many years in the development of hardware and software build the base for reacting fast and flexible to new demands. Using the newest technologies allows for the development of innovative products, and we are convinced of their quality. We look at technical difficulties not as a barrier but as a challenge, in order to "make the impossible possible" with our creativity. Test us.



SERVICE AND ADVISING

We stand behind our prodcuts

The Schildknecht AG is developing customer specific system solutions since 1981. We advise our customers in an extensive and competent manner in regards to all questions about radio data transmission in all areas.

Our guiding idea: solution oriented thinking leads faster to the goal. Schildknecht AG develops and produces the DATAEAGLE systems. We deploy radio transmission technologies of specialists in the respective fields, for example OEM module with WLAN, Bluetooth, DECT, ZigBee, 868MHz and proprietary radio transmission technologies. Therefore, we are able to advise you independently and in a competent manner in regards to the different radio technologies. Based on our know how we offer product development and consulting services.

Advising and services are interlocked and present from the first customer contact through the after care operations. Win-win situations arise only based on the "together". Personal customer contact is of great value to us. During an individual and customer specific system consultation, the problem is analysed exactly and a tailor-made system solution is designed.

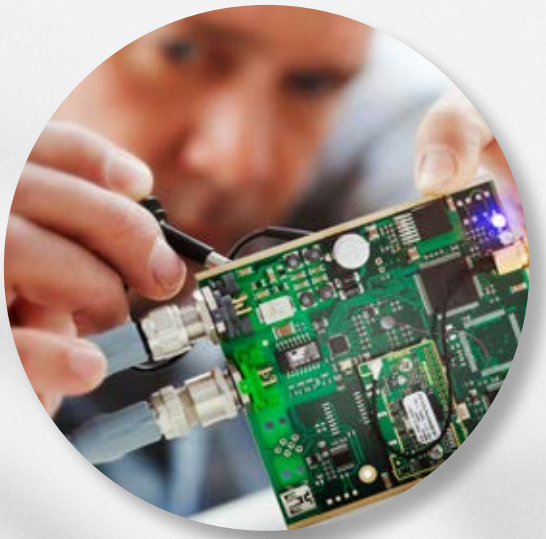
Our goal: Outstanding customer satisfaction.

QUALIFIED EMPLOYEES

100%

SERVICE

Our qualified service staff
is available to you at any time.



BRILLIANT RESERCHERS

100%

DEVELOPMENT

All your questions in regards to the topic of radio transmission technology, software updates and development can be answered by our associates in the development centre.

WORKS LIKE A CABLE

100%

SAFETY

All your questions in regards to the topic of security can be answered by our associates in the development centre.

CONTACT

Liberty is wireless

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