

# Wireless Profibus & Profisafe



## Wireless Profibus like a cable!

DATAEAGLE 3000 family is a real transparent Profibus DP radiolink. This concept is also modular, so you may use different device types with different used frequencies and for short or longer distances. But all DATAEAGLE works like a profibus cable without any changes in your plc software project or in the hardware configuration of your PLC. DP Master and DP Slaves doesn't see the radiolink.

## The right choice for each application

DATAEAGLE 3000 family can be used for point-to-point connection also for point-to-multipoint. For cost sensitiv application we offer a limited system with 187,5 kbit maximum profibus speed up to a high end system for 1.5 Mbit busspeed and the possibility of building a network with up to 7 radio DP receivers or DP Slaves behind the radiolink. DATAEAGLE 3x02 category supports also Profisafe on profibus base for fail-safe connections also via a radiolink.

For connecting Profibus Masters behind the radioside we use DATAEAGLE

3x02-A versions, so you can use also operator-panels, other plc or a programming devices without limitations of the functionality compared to a cable.

## Highest availability for industrial applications

The most important thing by radio communication ist the availability of the radiolink. DATAEAGLE was developed for supporting the most exceeding demands for a radiolink like interference compression in industrial enviroments. We define our work as worldwide technology leader and DATAEAGLE provides objective evidence day-by-day in thousands of working industrial radio applications.

## Profibus & Profisafe via differend standard radio technologies

Inside DATAEAGLE we use standard technologies like Bluetooth, WLAN, DECT, Zigbee in licencefree frequencies 868 Mhz, 1.9 GHz, 2.4 GHz und 5 GHz. So we tunnel Profibus & Profisafe really transparent via all this frequencies. The decision which frequency is the best are based on the request of data throughput, distance and environment.

## "do you request more than standard?"

Not always standard technologies are the best solution. We also use proprietary radio technologies for the highest demands. This proprietary technology in DE 3002/3003 is based on WLAN 802.11, but we change a lot of radio parameters to increase the robustness and distance. This was necessary because WLAN 802.11 was originally designed for only short distances of some meters with high data throughput, but in industrial application the focus is on robustness and highest availability also in a industrial hall with may be 100 ms.

**Support and products  
on world leading position**

**Schildknecht**  
*Die intelligente Lösung*

Dear customers,  
if you have any questions about the data radio transmission – so about the general way or concerning a specific problem – don't hesitate to call us.

It will be a pleasure for us to find the most optimized solution for your problem.



Thomas Schildknecht  
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where products made  
by Schildknecht will be  
used for years and this  
very successful:**

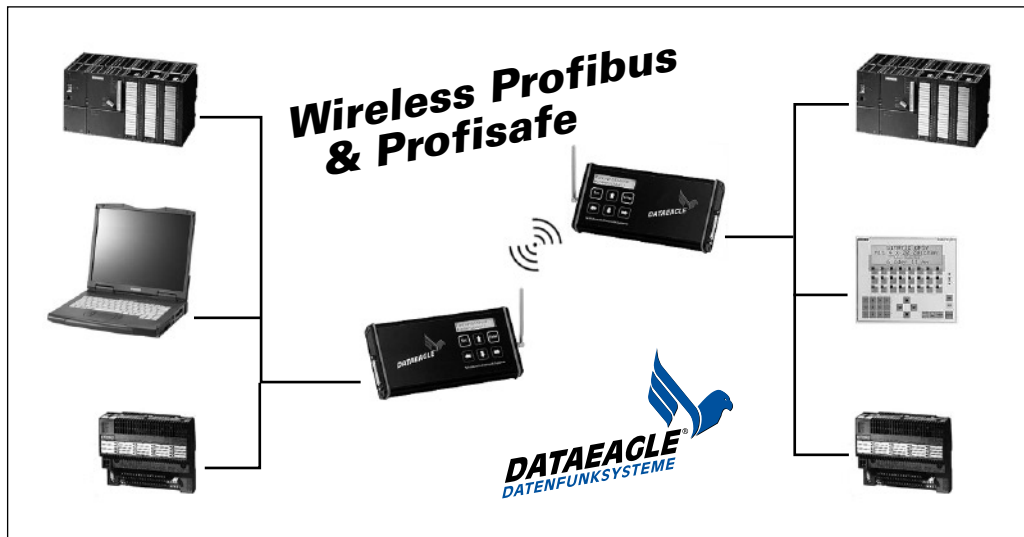
*mechanical engineering,  
mining, plant manufacturing,  
robotics, chemicals industry,  
packaging machines, production  
data acquisition, restricted  
access control, parking meters,  
cash counter machines, railroad,  
automotive industry, shipbuilding,  
printing machines, industrial  
washer, medical engineering  
and much more fields!*

# Full Profibus DP functionality, like a cable connection, without any changes in plc project or hardware parametration.

**Device option 3xxx-A**  
can be use to connect Profibus  
Masters behind the radiolink  
without limitations of the cable  
functionality.

Profibus Masters are PLC,  
Operator Panel (OP) or  
programming devices.

Profibus busspeed is for the  
3xxx-A version identical on  
both sides of the radio  
with up to 1.5Mbit.



## DATAEAGLE device matrix

Profibus Interface	2,4 GHz 802.11	2,4 GHz 802.11b	1,9 GHz DECT	868 MHz	459 MHz	2,4 GHz Bluetooth	5 GHz 802.11a
<b>Profisafe 1,5 Mbit</b> Diagnosticslave, 7 DP Slaves or 7 DE Slaves	3002		3102	X	X	3702	3802
<b>Profibus 1,5 Mbit</b> Diagnosticslave 3 DP Slaves or 3 DE Slaves	3003	3013	3103	3303	3403	3703	3803
<b>Profibus 500 kbit</b> Diagnosticslave 3 DP Slaves or 3 DE Slaves	3004	3014	3104	3304	3404	3704	3804
<b>Profibus 187,5 kbit</b> , Diagnostic- slave, limitation point-to-point			3105		X	3705	

**Airbus Industries**  
uses DATAEAGLE radio  
communication since years  
in a lot of applications.



One is for the transportation of the  
A319 body and uses failsafe via  
profisafe and data communication  
via Profibus on Siemens Simatic  
315F-PLC. It is prove on value on  
24 hours a day since years.

## Technical data DATAEAGLE (DE)

### Profibus Masterside

<b>Profibus speed:</b>	<b>Device type DE:</b>
1,5 Mbit	3002, 3012, 3702, 3102, 3003, 3013, 3703, 3103, 3303, 3403
500 kbit	3004, 3014, 3704, 3104, 3304, 3404
187,5 kbit	3705, 3105

**Interface:** RS485 Profibus conform DPV0 + DPV1

### Signal delay on the radioside:

DE 3002 / 3003	25 ms (8 Byte read/write)
DE 3702	25 ms (8 Byte read/write)
DE 3102	50 ms (8 Byte read/write)
DE 3303	100 ms (8 Byte read/write)

**Diagnostic:** Built in diagnostic profibus slave  
with own DP address allows online  
access of the plc to radiovariables  
inside the DATAEAGLE

### Profibus slaveside

<b>Profibus speed:</b>	<b>Device type DE:</b>
7 supported DP devices:	3002, 3012, 3102, 3702,
3 supported DP devices:	3102, 3003, 3013, 3703, 3103, 3303, 3403, 3004, 3014, 3704, 3104, 3304, 3404
3 supported DP devices (point-to-point):	3705, 3105

**Interface:** RS485 Profibus conform DPV0 and DPV1

### Profibus-Busspeed:

Devicetype	<b>DE 3xxx:</b>	Fix 93,5 kbit/s
Devicetype	<b>DE 3xxx-A:</b>	up to 1,5 Mbit/s like masterside

### Supported fuctions:

Devicetype	<b>DE 3xxx:</b>	all DP slaves
Devicetype	<b>DE 3xxx-A:</b>	all Profibus DP Master

**Profibus DP addresses:** Used DP addresses have to be parametrised in DE masterside menu.