# PROCENTEC

## The PROFIBUS and PROFINET Company

# COMbricks

# 1. Networking

PROFI BUS

PROFI NET

# COMbricks

**COMbricks™ - The first PROFIBUS and PROFINET-based automation system that unites network components, permanent monitoring with ProfiTrace and remote I/O.**
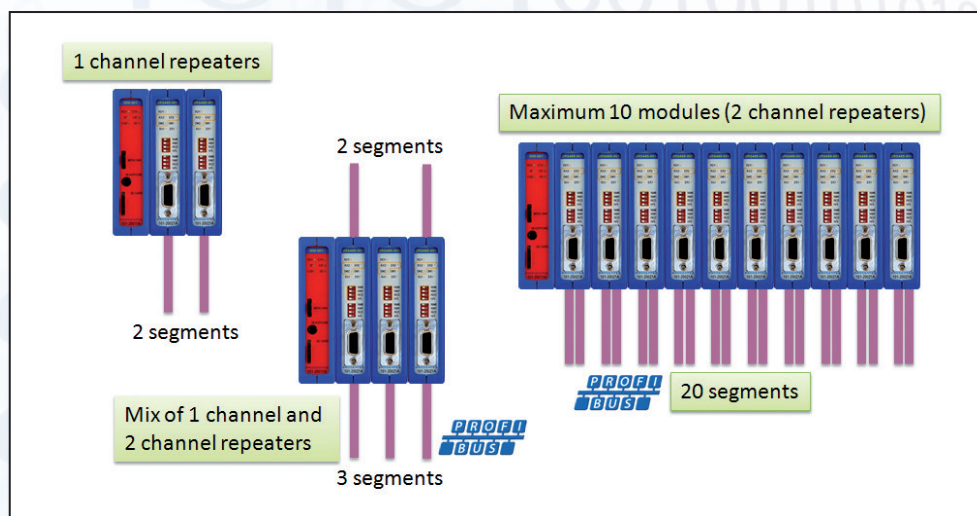
**COMbricks is a modular system that allows a mix of automation components on a backplane. Repeater modules can be inserted next to a PROFIBUS slave and at the same time, in a webbrowser over Ethernet, the condition of the installation can be remotely inspected with ProfiTrace OE.**

## Modular repeaters

The current trend with PROFIBUS projects is to use segmentation with repeaters, fibre optic and ProfiHubs to bridge the common faults of the end-user concerning his cabling difficulties. COMbricks adds another important element; the creation of modular and random repeater hubs that can be maintained remotely with a permanent internal ProfiTrace.

➜ The connection of the bus cable allows for a high degree of flexibility as the repeater modules contain both a 9-pin and screw connector.

➜ It is possible to dynamically exchange equipment during operation. COMbricks is ideal for flow meters, pH analysers, actuators, drives and especially motor control centres that make use of drawer systems.
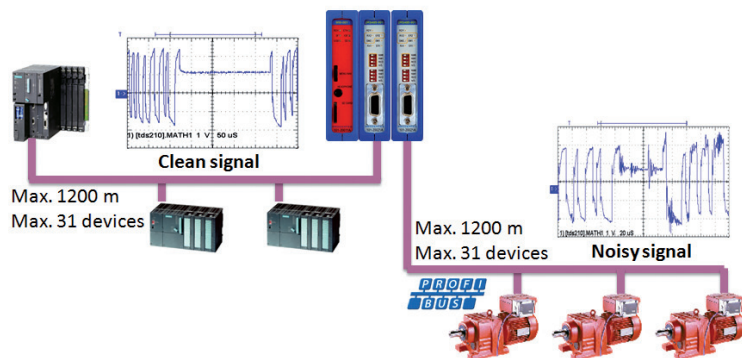


➜ COMbricks is based on a backplane into which 10 hot swap repeater modules with 2 channels each can be inserted (20 galvanic isolated transparent segments). Every channel can handle 31 devices and maximum 1200 metres cable length (depends on the baudrate).

➜ Each channel has a fail safe which ensures that the remainder of the PROFIBUS network continues to operate correctly and that the availability of the installation remains optimal.
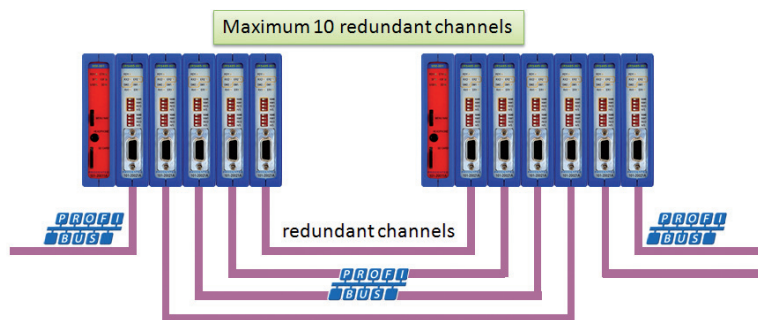
## Applications

■ **Repeaters with a permanent ProfiTrace**

■ **Star, tree and bus structured networks**

■ **Redundancy for high availability**

■ **Long spur lines**

■ **Removable drives and motors**

■ **Motor control centres (drawers)**

■ **EMC vulnerable applications**

■ **Isolator for sensitive equipment**

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# Networking - Monitoring - Control

Clean signal
Max. 1200 m
Max. 31 devices
Max. 1200 m
Max. 31 devices
Noisy signal

## Barrier and telegram recovery

The galvanic isolation separates any bus interference from the other segments. COMbricks restores glitches in the bits. This ensures that the content of the telegrams remains recognisable for the remainder of the network. COMbricks is therefore also a perfect infrastructure component to act as an electrical barrier in unstable networks.
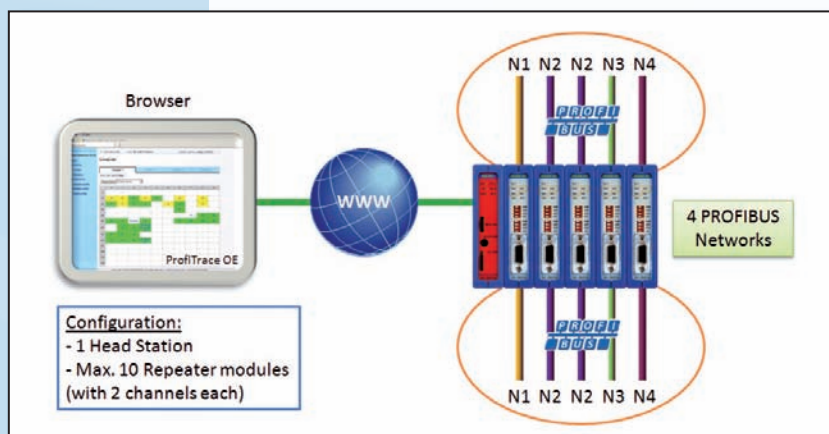
## Bus redundancy

The bus redundancy technology of the repeater modules is very advanced. A redundant system can be built using 10 parallel cables. This architecture provides extremely high availability. Most suppliers only allow 2 cables.


Maximum 10 redundant channels
redundant channels

## Repeater features

- Enhanced RS 485 signal
- 31 devices per segment
- 1200 m cable length (baudrate dependent)
- Transparent to PROFIBUS DP protocols
- 9.6 Kbps - 12 Mbps (automatic detection)
- No address required
- No cascade limit
- Integrated terminators
- Diagnostic LEDs for bus status
- Screw terminals and DB9 connector

## Product features

- Wide range of modules available
- 32 modules (10 high-speed modules)
- ProfiTrace OE for 4 networks
- Hotswap and extendible
- DIN-rail mounting
- IP 20

## ProfiTrace permanently available

Simultaneous monitoring of 4 PROFIBUS networks is a perfect innovation of COMbricks. The user can simply connect surrounding PROFIBUS networks and every network can be set at a unique baudrate.

Using DIP switches or the web server, repeater modules can be assigned to a network group, which ensures isolated communication from the repeaters that are assigned to different networks.


Browser
ProfiTrace OE
www
N1 N2 N2 N3 N4
4 PROFIBUS Networks
N1 N2 N2 N3 N4
Configuration:
- 1 Head Station
- Max. 10 Repeater modules
(with 2 channels each)

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## Networking - Monitoring - Control

## Built for the future

COMbricks allows you to remotely monitor your PROFIBUS installations from anywhere in the world and will alert you if any faults arise or are likely to arise. It is a brand new method of diagnosing and designing networks in an era where there is a shortage of (qualified) technical staff and a huge amount of pressure on system availability.
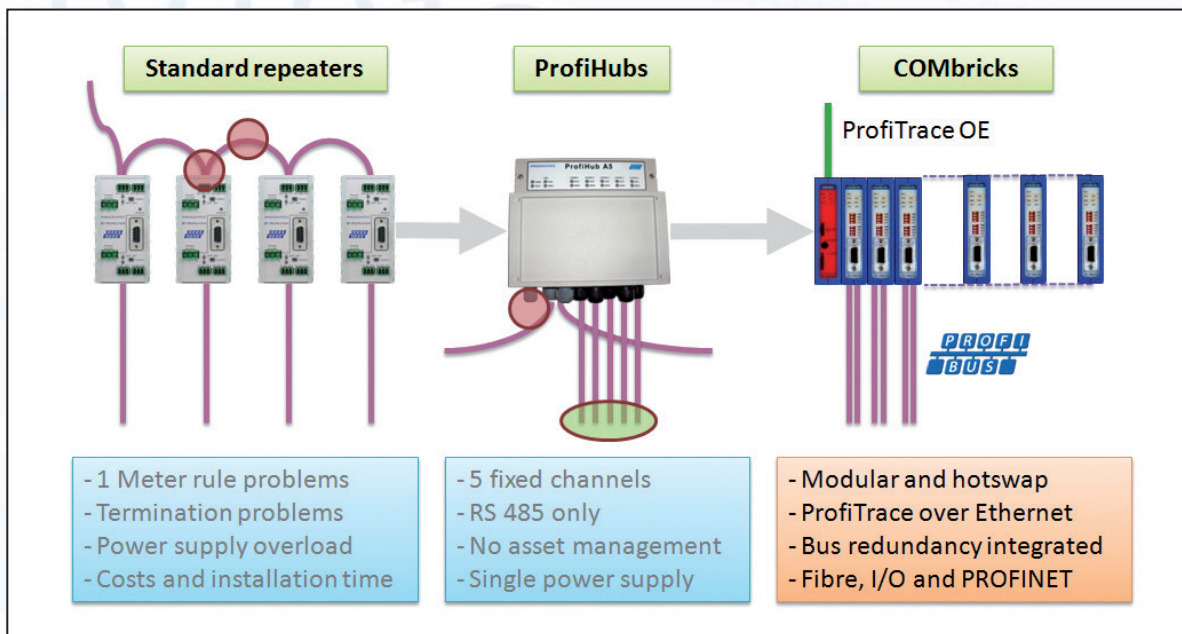
The combination of network components and monitoring makes this product an ideal choice for organisations where asset management is paramount. It will also raise awareness amongst technical staff because the installation becomes understandable and predictable.

## And much more.....

Apart from the repeater modules there is also a fibre optic module and currently under development is an RS 485-IS, a wireless and powerpack module for standalone and UPS functionality.

COMbricks can also handle PROFIBUS and PROFINET slave modules that control output modules or read sensors from input modules. The I/O and slave modules can be mixed with the repeater modules on the backplane.

The creation of stable automation hubs that can be used to compile a user defined functionality is the future of industrial automation.



**Standard repeaters**
- 1 Meter rule problems
- Termination problems
- Power supply overload
- Costs and installation time

**ProfiHubs**
- 5 fixed channels
- RS 485 only
- No asset management
- Single power supply

**COMbricks** — ProfiTrace OE
- Modular and hotswap
- ProfiTrace over Ethernet
- Bus redundancy integrated
- Fibre, I/O and PROFINET

## Networking, Monitoring and Control

# COMbricks

**Networking - Monitoring - Control**