

## Explore the LIN thanks to Wilo

Wilo provides you tools and documentation available on our OEM website to help you understand the benefits of LIN and use it :

### → Wilo LIN Communication Evaluation Kit

It is a “plug and play” solution which will help you implement the Bus in your application and includes :

- 1 pump
- 1 specific cable
- 1 SW interface

→ **LIN Technical Guide** to go further in understanding the LIN communication Bus and help you with its integration

→ **LIN Frame Translate** dedicated to support technical teams in their daily LIN development activities

## Wilo-OEM Solutions

Let's move. Together.



With OEM Solutions, what is visionary is just a step away from reality. As the leading original equipment manufacturer, we see ourselves as part of your business and we know exactly how crucial your processes are. We work with you to develop customized innovative solutions making you a pioneer in your market. We produce these solutions for you at the time you choose, to sustainable, top quality. This will benefit your entire business. From senior management to purchasing. From logistics to research and development. Thanks to highly committed teamwork for your success.

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### Wilo-OEM Solutions

## LIN in a nutshell

# lin



Wilo Group  
Strategic Business Unit OEM

Wilo Intec  
50 av. Eugène Casella  
F - 18700 Aubigny sur Nère  
T +33 2 48 81 62 62  
oem@wilo.com



Pioneering for You

www.wilo-oem.com

## Why is LIN the solution for your applications?

### What are the benefits of this Bus?

- Standard and compact solution (same space envelope additional feature)
- Cost effective solution
- Proved technology from automotive industry

### Which data can be transferred to the controller?

- Volume flow (Q)
- Delivery head (H)
- Power consumption (P)
- Current speed (N)
- Energy consumption (E)
- Temperature (T) – (available only for Para range)
- Pump Status, Error-Information, Current operating mode

### Which control modes can be supported by the pump?

- SPEED\_CONTROL
- CONSTANT\_FLOW /  $\Delta p-v$  (on demand)
- CONSTANT\_HEAD /  $\Delta p-c$  (on demand)
- $\Delta$ Temperature

### Is there a HW compatibility with existing iPWM solution?

- Adaptation to be done on controller
- Same cable as the iPWM (3 wires)

### Is the controller SW compatible with Local Interconnect Network (LIN) Bus?

- New LIN software to be developed by taking into consideration the VDMA specification

### Can different data be transferred at the same time?

- **Yes**, LIN is a structured communication Bus with a pre-defined number of frames that include all identified customer needs

### May I select specific data?

- **No**, just ignore what you do not need from the standard data package
- Because Wilo is customer oriented, some "optional data" is already part of LIN and can be activated on demand

### What are the benefits of LIN for my application?

Some examples:



#### Easier product management

- Securing Traceability of components in your assembly line
- Secure genuine spare parts business
- Simplify electronic architecture of the system

#### Support for Maintenance

- Prevent failures with self diagnostic, remote setting and remote monitoring
- No failure found reduction
- Reduction of maintenance costs
- Improvement of maintenance effectiveness
- Possibility to implement predictive maintenance

#### Temperature Sensor

- Available with the LIN advanced solution

#### Better diagnostic

- Possibility to get more detailed information access for service people
- Easier commissioning
- Quick problem identification

#### Energy count

- Indication about Energy consumption

#### Improved reliability

- Secure the reliability of your appliance

#### Appliance control and performance

- Increase your system performances and control modes
- Better comfort
- Better system knowledge
- Medium temperature access

### What about the reliability of the LIN Bus?

- LIN Bus is an advanced, robust, well established in industry and reliable solution
- The reliability of communication is automatically guaranteed by the Bus itself (parity, CRC, diagnostic frames)

### What about the behaviour of the LIN Bus if the cable is cut or unplugged?

- LIN Bus activates a customizable alternative backup mode
- This mode allows you to set a specific configuration in order to prevent damage and will be the best solution to cover the diversity and specificities of your application portfolio
- It can be adjusted on your assembly line and later when connected to the appliance (through the LIN communication)

## Why is LIN the new standard of communication for OEM HVAC market?

Because :

- It is a Standard solution
- It is a Robust and Reliable Bus (parity, CRC, diagnostic frames)
- It is a Cost Effective solution (automotive solution)
- It is a Compact solution (HW interface and only 1 cable for Data /Power Supply)
- It allows up to 15 slave devices on the same network / installation
- Best reactive product behaviour on the market
- Integrated optimized sleep mode function for energy efficiency solution
- It is prepared for late customization and interaction with several pumps in a network (auto synchro. for slave devices)
- Although it perfectly fulfills standard VDMA specifications, more particular adjustments requested by the customer are possible, allowing flexibility