



# perma STAR VARIO LONG RANGE

The new generation with long range wireless connection

## Convenient operation via perma CONNECT

perma STAR VARIO LONG RANGE operates fully automatically, independent of temperature and pressure with a very precise discharge. The system consists of an electromechanical drive, a LC (Lubricant Cartridge) with 60, 120, 250 or 500 cm<sup>3</sup> lubricant and a battery pack. perma STAR VARIO LONG RANGE provides pressure build-up of 7.5 bar. The lubrication system is used for single-point lubrication of roller and sliding bearings, sliding guides, open gears, gear racks, spindles, shaft seals and chains and is ideal for lubricating electric motors with specified lubricant quantities thanks to extremely precise lubricant metering. Thanks to LoRa<sup>®</sup> wireless technology, up to 2,000 lubrication systems in a facility can be conveniently managed via perma CONNECT over a distance of up to 2 km, using the Gateway LONG RANGE.

More about our perma products can be found on our website [www.perma-tec.com](http://www.perma-tec.com)



**MADE IN GERMANY**



II 3G Ex ic IIB T6 Gc  
II 3D Ex ic IIIC T85°C Dc

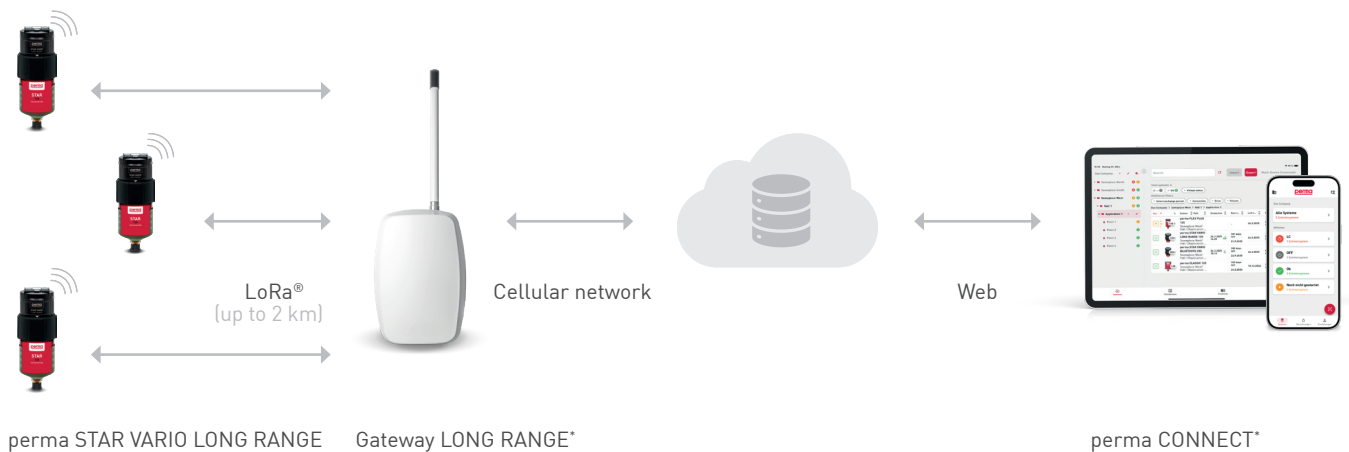
CML 25ATEX2358X  
IECEx CML 25.0080X



Intrinsically safe / Sécurité intrinsèque  
Class I, Division 2, Groups C, D, T6  
Class II/III, Division 2, Groups F, G, T85°C  
Class I, Zone 2, AEx ic IIB T6 Gc  
Zone 22, AEx ic IIIB T85°C Dc

Ex ic IIB T6 Gc  
Ex ic IIIB T85°C Dc

# perma ARCHITECTURE



\*Custom solutions available upon request

## perma STAR VARIO LONG RANGE & Gateway LONG RANGE

### What does it do?

- » perma STAR VARIO LONG RANGE sends status messages periodically to perma CONNECT via the Gateway LONG RANGE
  - Messages include information such as status, timestamp / date, ambient temperature, fill level (%)
  - Message is sent on every status change
- » perma STAR VARIO LONG RANGE can receive messages from perma CONNECT via the Gateway LONG RANGE
  - Receives messages after a signal is sent and checks for new commands at least once an hour
  - Messages include actions like turning devices on / off, changing settings, running purge cycles
- » perma STAR VARIO LONG RANGE provides same functionality as standard perma STAR VARIO drive unit, with added LoRa®WAN communication module
  - Compatible with all STAR LC sizes (60, 120, 250 & 500 cm³)

## YOUR BENEFITS



### Remote control | remote maintenance

With a range of up to 2 km, the system provides detailed information on lubrication system status without requiring machinery shutdown or observing access restrictions.



### Centralised management of all lubrication points

A dashboard provides a quick overview and detailed information on the lubrication system status, enabling the management of numerous lubrication systems.



### Easy-to-use | perma full service promise

No specific customer know-how is necessary, no customer resources are tied up, and easy registration of lubrication systems helps to save time.



### Common technology

Standard radio communication technology ensures trouble-free operation.



### Cost control

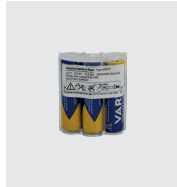
One-time acquisition costs for the whole network (incl. data volume for a defined time).

## COMPONENTS

Complete your solution with the following components



perma STAR VARIO LONG RANGE Drive

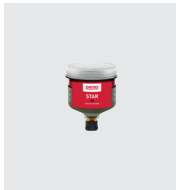


Battery pack STAR VARIO  
(Alkaline)

or



Battery pack STAR VARIO  
low temperature  
(Lithium)



perma STAR LC 60 cm<sup>3</sup>

or



perma STAR LC 120 cm<sup>3</sup>

or



perma STAR LC 250 cm<sup>3</sup>

or



perma STAR LC 500 cm<sup>3</sup>

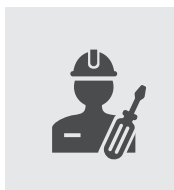


Gateway LONG RANGE

and



Data traffic (optional)



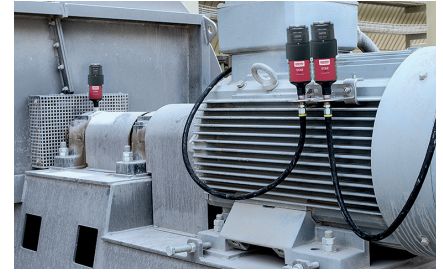
Service offer

You can find out more about perma accessories  
on our website at [www.perma-tec.com](http://www.perma-tec.com)



# CONNECTING BEYOND BOUNDARIES





## PRODUCT CHARACTERISTICS



### LONG RANGE FUNCTION

Configuration, control and maintenance from a distance of up to 2 km  
 Management of up to 2,000 lubrication points via Gateway LONG RANGE  
 Simple operation via perma CONNECT



### EX-PROOF CERTIFICATION ZONE 2 | ZONE 22

Automatic lubricant supply for lubrication points in potentially explosive areas (Zone 2 | Zone 22)



### PRESSURE BUILD-UP OF 7.5 BAR ALLOWS REMOTE MOUNTING UP TO 5 M

Mounting outside of dangerous areas  
 Higher equipment availability  
 Universal use

## TECHNICAL DATA

### Drive - reusable

Electromechanical drive with Battery pack STAR VARIO (Alkaline) or with Battery pack STAR VARIO low temperature (Lithium)

### Discharge period

1, 2, 3 ... 12 months | 1, 2, 3 ... 52 weeks  
 STAR LC 60: + 15, 18, 21, 24 months  
 STAR LC 500: max. 6 months | max. 26 weeks

### Lubricant volume

60, 120, 250, 500 cm<sup>3</sup> | 2.03, 4.06, 8.45, 16.91 fl.oz.

### Operating temperature\*

-40 °C\*\* to +60 °C | -40 °F\*\* to +140 °F

### Pressure build-up

7.5 bar | 109 psi

### Protection class

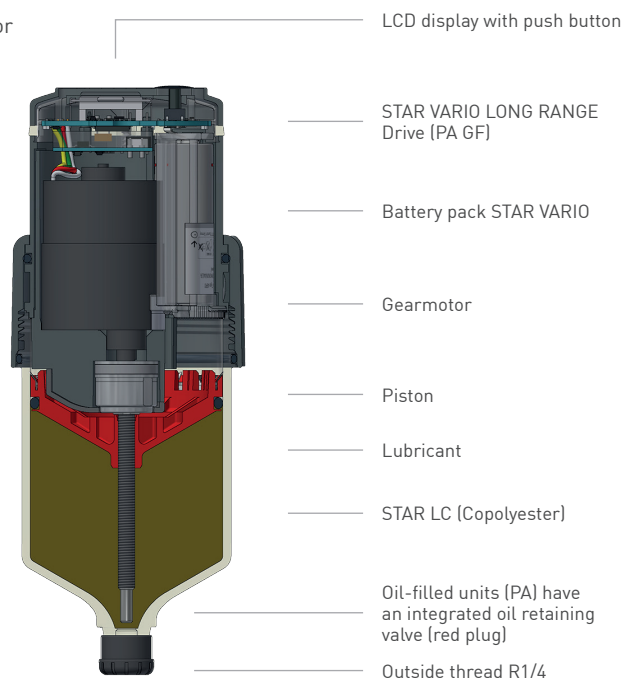
IP 67 | IP 65

### Standard & special lubricants

Greases up to NLGI 2 | Oils

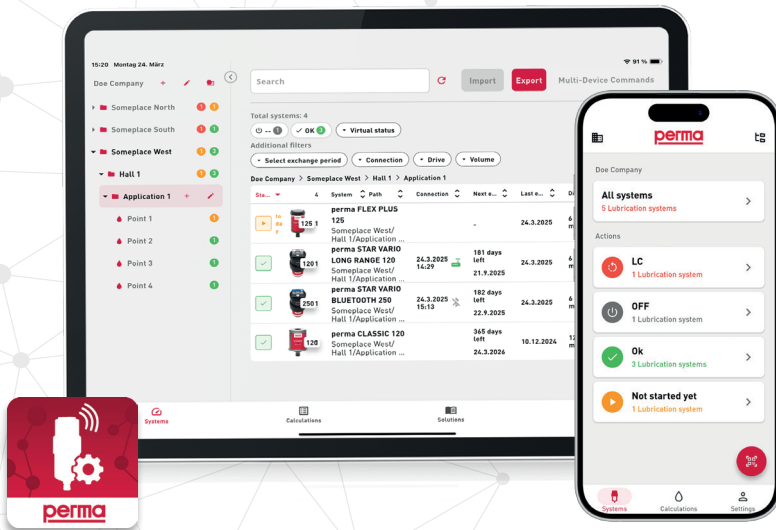
### Dimensions

LC 60: Ø 75 x 155 mm | LC 120: Ø 75 x 178 mm  
 LC 250: Ø 75 x 228 mm | LC 500: Ø 75 x 324 mm



\*To achieve functionality below -20° C | -4° F, Battery pack STAR VARIO low temperature (Lithium) must be used.  
 \*\*Only use with suitable low temperature lubricants!

# EASY. SMART. CONNECTED.



With perma CONNECT, you can easily and reliably monitor and manage your perma lubrication systems in hard-to-reach work areas and danger zones remotely. This allows you to increase efficiency, saves valuable time and boosts the productivity of your business. perma CONNECT lets you design your own network and provides access to information about your lubrication points from the comfort of your workstation.

**perma will show you how it works!**

# SERVICE PORTFOLIO

## perma SERVICES

The perma SERVICES team is made up of highly qualified professionals who are on hand to help you find the right lubrication solution.



### Technical survey & offer

perma conducts a survey on lubrication systems, evaluates the location for the Gateway LONG RANGE and checks the net coverage. The offer includes lubrication systems, accessories, the Gateway LONG RANGE with its location and power source specified. Additionally, it covers the installation of all components.



### Setup Gateway LONG RANGE

Gateway LONG RANGE is shipped preconfigured and ready for use. Full flexibility regarding data volume. Choose between a perma SIM card (with a defined data volume) and your own SIM card.



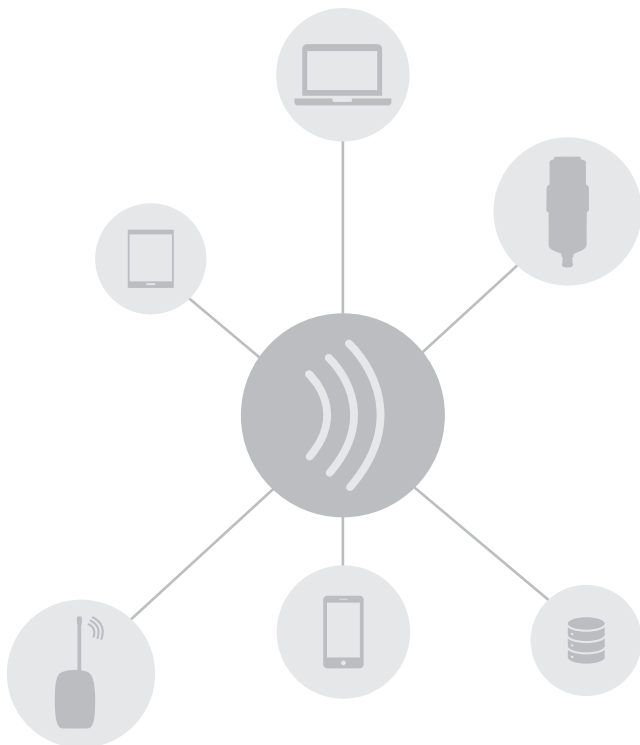
### Installation & handover to customer

The service encompasses system mounting, perma STAR VARIO LONG RANGE drive onboarding, provision of instructions and training for perma CONNECT, and comprehensive training on handling the entire system.



### Preparation perma CONNECT

Company structure | lubrication points can be created in advance.



More about our perma products can be found on our website [www.perma-tec.com](http://www.perma-tec.com)





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