



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, an LC (Lubricant Canister) with 60, 120, 250 or 500 cm³ of lubricant and a battery pack. perma STAR VARIO LONG RANGE provides pressure build-up of 109 psi | 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, e.g. in the mining and paper industry. With its extremely precise lubricant metering, it is ideal for lubricating electric motors with specified lubricant quantities. Thanks to LoRa® wireless technology, up to 2,000 lubrication systems in a facility can be conveniently managed via perma CONNECT over a distance of up to 1.2 miles | 2 km, using the Gateway LONG RANGE.

More about our perma products can be found on our website www.permausa.com



MADE IN GERMANY

**PROUDLY ASSEMBLED
IN THE USA**



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

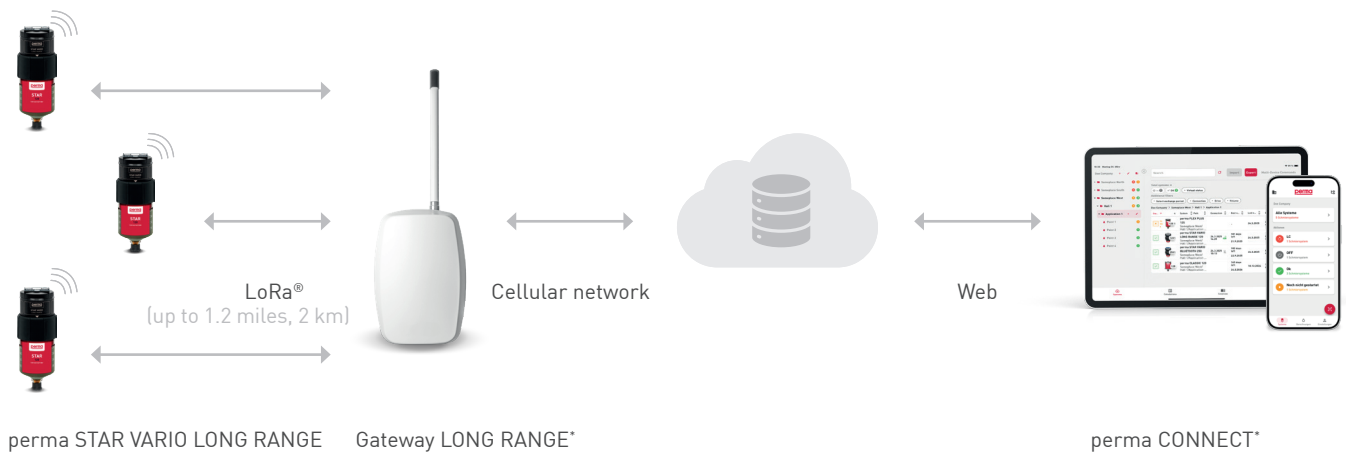
CML 25ATEX2358X
IECEx CML 25.0080X



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 features
 - Compatible with all STAR LC sizes (60, 120, 250 & 500 cm³)

YOUR BENEFITS



Remote control | remote maintenance

With a range of up to 1.2 miles | 2 km, the system provides detailed information on lubrication system status without requiring machinery shutdown or observing access restrictions.



Centralized 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.



Complete Service Solution

No customer resources are tied up. Easy registration of lubrication systems helps to save time.



Standard technology

Standard radio communication technology ensures trouble-free operation.



Time saving

All of your perma STAR VARIO LONG RANGE lubrication systems can be easily and reliably monitored via perma CONNECT. This allows you to increase efficiency, save valuable time and boosts the productivity of your business.



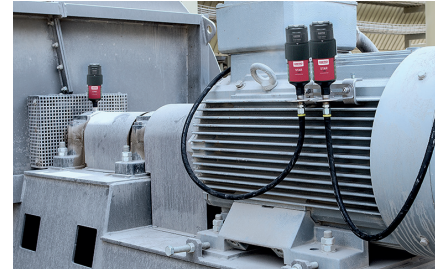
Workplace safety

Increased workplace safety as configuration, control and maintenance can be done from a distance at a safe spot.



CONNECTING BEYOND BOUNDARIES





PRODUCT CHARACTERISTICS



LONG RANGE FUNCTION

Each gateway can receive data from 8 lubricators simultaneously and support up to a total of 2000 lubricators.

Gateways relay status updates and control commands to and from lubricators up to a 1.2 miles 2 km radius*.

Utilizes 5G cellular network via the provided data SIM card.

Simple operation via perma CONNECT

*LoRa® communication up to 1.2 miles | 2 km line-of-sight. Dependant on a number of factors, including signal interference and density of obstructions/structures between the gateways and lubricators



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 cc | 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

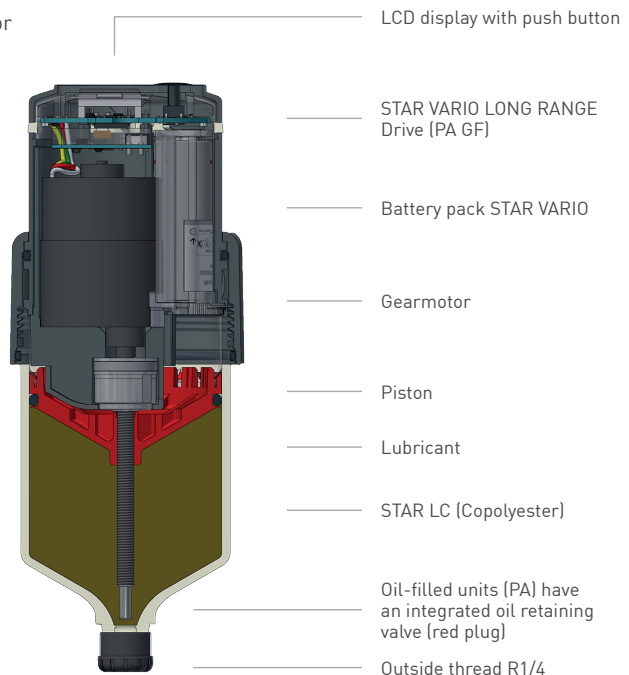
IP 67 | IP 65

Standard & special lubricants

Greases up to NLGI 2 | Oils

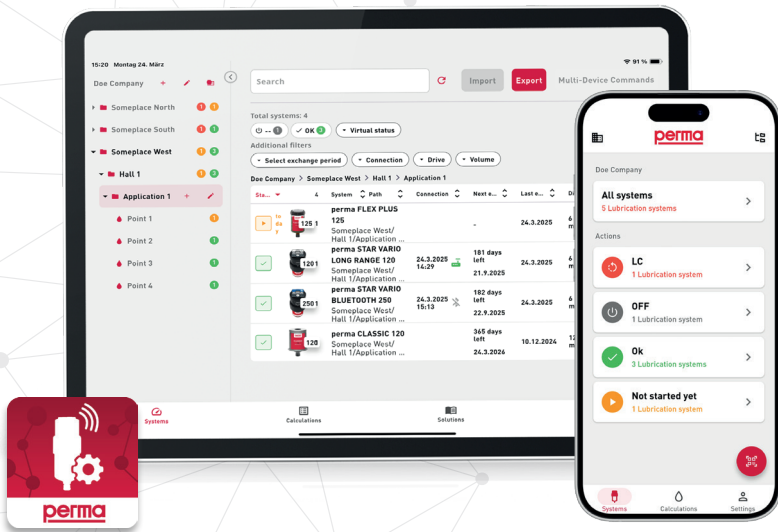
Dimensions

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 available to help you find the right lubrication solution.



Technical Plant Survey

perma conducts a survey on lubrication systems, evaluates the location for the Gateway LONG RANGE network 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 unlimited data capacity. Gateway comes preconfigured with SIM Card to provide data service.



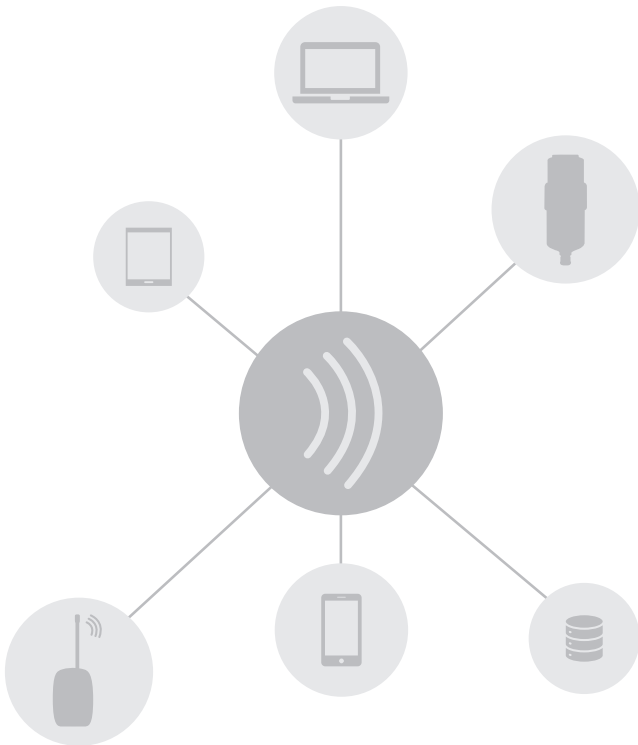
Installation, Comissioning & Handover to customer

Turnkey installation including system mounting, drive onboarding, training of perma CONNECT and lubricator maintenance.



perma CONNECT

Dashboard can be configured and customized to visualize your plant assets with its lubrication points.



More about our perma products can be found on our website www.permausa.com





H-T-L perma USA LP
10333 Westlake Drive
CHARLOTTE, NC 28273
USA

Tel.: +1 704 377 3100
800 997 3762 FREE
info@permausa.com
www.permausa.com

