



perma STAR PRODUCT LINE

The Expert in Lubrication Solutions

perma

perma STAR PRODUCT LINE

Electromechanical single-point lubrication systems

MADE IN **GERMANY**

PROUDLY ASSEMBLED
IN THE USA

With the introduction of the perma STAR VARIO, perma set a milestone in the field of electromechanical lubrication systems. Ever since, the system has been continuously refined for maximum reliability, a long service life and proven quality you can depend on for decades.

The perma STAR product line is specifically designed for single-point lubrication and offers a precise lubricant metering for a wide range of applications. Typical applications include conveyors, pumps, blowers/fans and electric motors. Potential machine elements include rolling and sliding bearings, sliding guides, open gears, gear racks, spindles, shaft seals and chains.

Key features of perma STAR VARIO



perma STAR VARIO

- + LCD display with push button displays discharge period, LC size and operating status
- + Easy to handle
- + Manual additional discharge via button on display (purge)
- + One drive for all LC sizes
- + Electromechanical reusable drive
- + Suitable for greases up to NLGI 2 | oils
- + LED (green | red) visible all round signals functioning and any errors
- + Pressure build-up to 109 psi | 7.5 bar allows remote mounting up to 16 ft | 5 m
- + Lubrication system operates reliably from -40 °F to +140 °F | -40 °C to +60 °C

Advanced product characteristics of the different perma STAR versions



perma STAR VARIO BLUETOOTH

- + Easy handling via perma CONNECT
- + Compatible with Gateway BLUETOOTH
- + Bluetooth function
- + Illuminated LCD display



perma STAR VARIO LONG RANGE

- + Easy handling via perma CONNECT
- + Long range thanks to LoRa® WAN technology
- + Certification for potentially explosive atmospheres (Class I, II, III, Division 2, Groups C, D, F, G)
- + Gateway solution for up to 2,000 lubrication points within a range of 1.2 miles | 2 km
- + Illuminated LCD display



perma STAR CONTROL

- + Electromechanical drive with external power supply
- + PLC connection for transmission and evaluation of the operating status

TECHNICAL INFORMATION

All perma STAR lubrication systems at a glance

	perma STAR VARIO	perma STAR VARIO BLUETOOTH	perma STAR VARIO LONG RANGE	perma STAR CONTROL
				
	Drive reusable			
	-40 °F to +140 °F -40 °C to +60 °C			
	109 psi 7,5 bar			
	2.03, 4.06, 8.45 & 16.91 fl.oz. 60, 120, 250 & 500 cm ³			
	Greases up to NLGI 2 oils			
	Battery pack STAR VARIO (alkaline) or Battery pack STAR VARIO low temperature (lithium)			External power supply 9-30 V DC
	Discharge period can be altered at any time system can be shut down			
	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			1, 2, 3 ... 12 months 1, 2, 3 ... 26 weeks STAR LC 60: + 15, 18, 21 & 24 months STAR LC 500: max. 6 months
	-			0.1-9.5 cm ³ per pulse regardless of operating temperature and counter pressure
	IP 67 IP 65			IP 65
	 	 	    	
	Operating conditions			
	Minor to heavy vibration			
	We recommend remote mounting with a tube if there are vibrations at the lubrication point			
	< 16 ft 5 m of hose			



perma CONNECT

The application for digital lubrication point management



perma CONNECT

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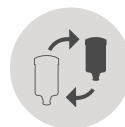
SURVEY

+

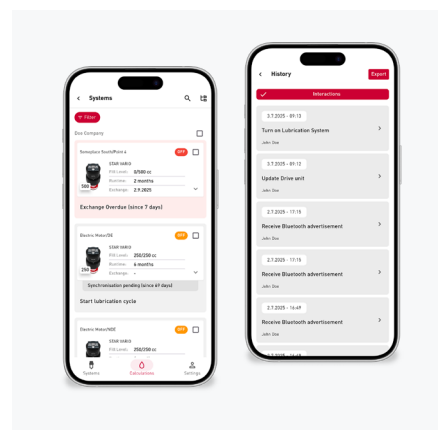
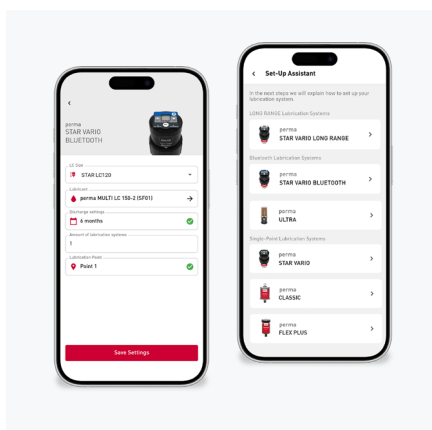
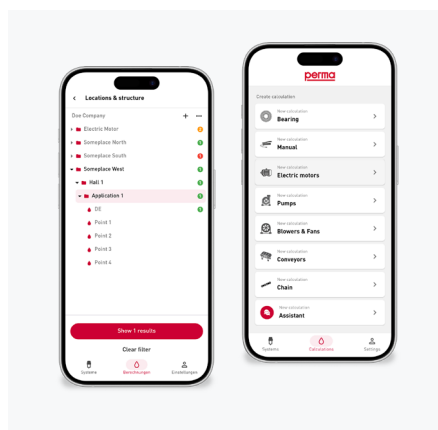


INSTALLATION

+



MAINTENANCE & EXCHANGE



SURVEY

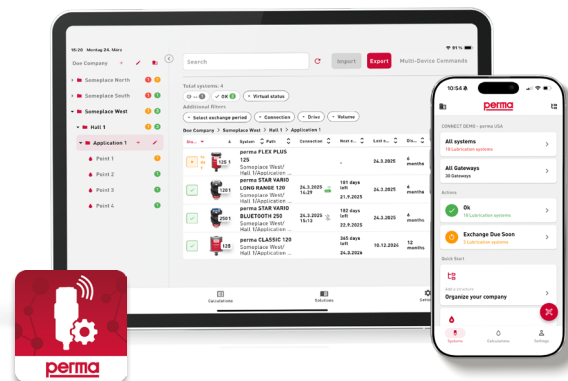
- + Precise calculation of the relubrication amount
- + Reliable determination of the discharge period
- + Helpful suggestions for the installation
- + Simple creation of the organizational structure

INSTALLATION

- + Convenient configuration and remote control via the applications
- + Flexible assignment of user roles
- + Easy digitalization

MAINTENANCE & EXCHANGE

- + Comprehensive overview of all lubrication points
- + Proactive notifications for required actions
- + Efficient creation of material lists
- + Automatic documentation



To quickly get started with perma CONNECT, a range of step-by-step tutorial videos are available. Click here to visit the perma USA YouTube channel!

Get perma CONNECT now!
Download it to your smartphone | tablet or open web application under: <https://perma-connect.com>



CONNECTED SOLUTIONS

BLUETOOTH vs. LONG RANGE



Bluetooth-enabled perma lubrication systems + Gateway BLUETOOTH

Gateway BLUETOOTH as an add-on for (existing) Bluetooth-enabled perma lubrication systems

Gateway BLUETOOTH records data from Bluetooth-enabled perma lubrication systems within a radius of approx. 100 ft | 30 m.

Transmission of system data to perma CONNECT in real time

LoRa®

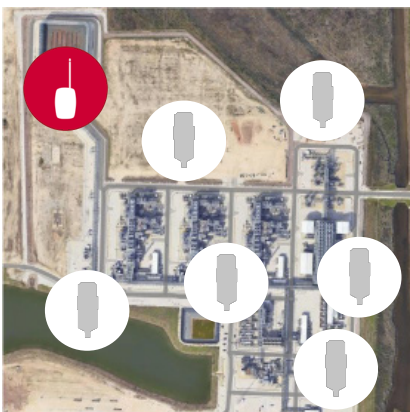
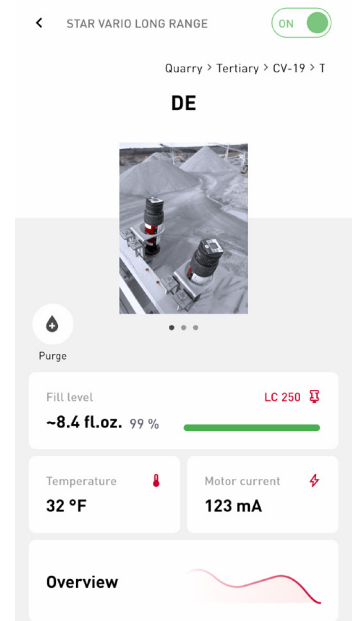
perma STAR VARIO LONG RANGE + Gateway LONG RANGE

Gateway LONG RANGE records data from perma STAR VARIO LONG RANGE lubrication systems within a radius of up to 1.2 miles | 2 km.

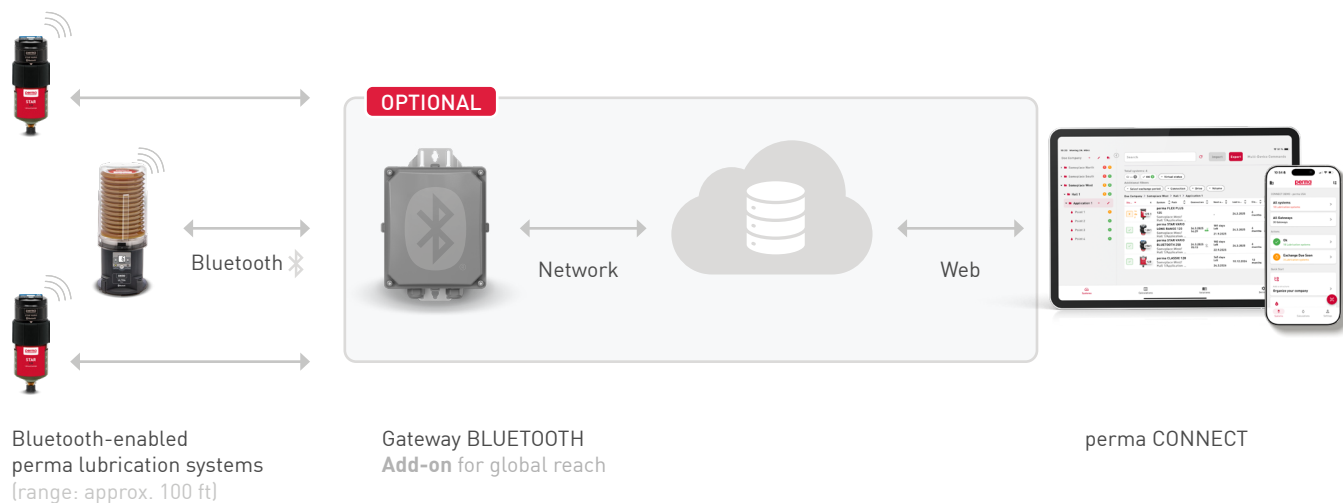
Regular transmission of system data to perma CONNECT

Integration into company-internal IT infrastructure possible

perma STAR VARIO LONG RANGE - Built for large, remote & demanding sites



perma BLUETOOTH ARCHITECTURE



How does it work?

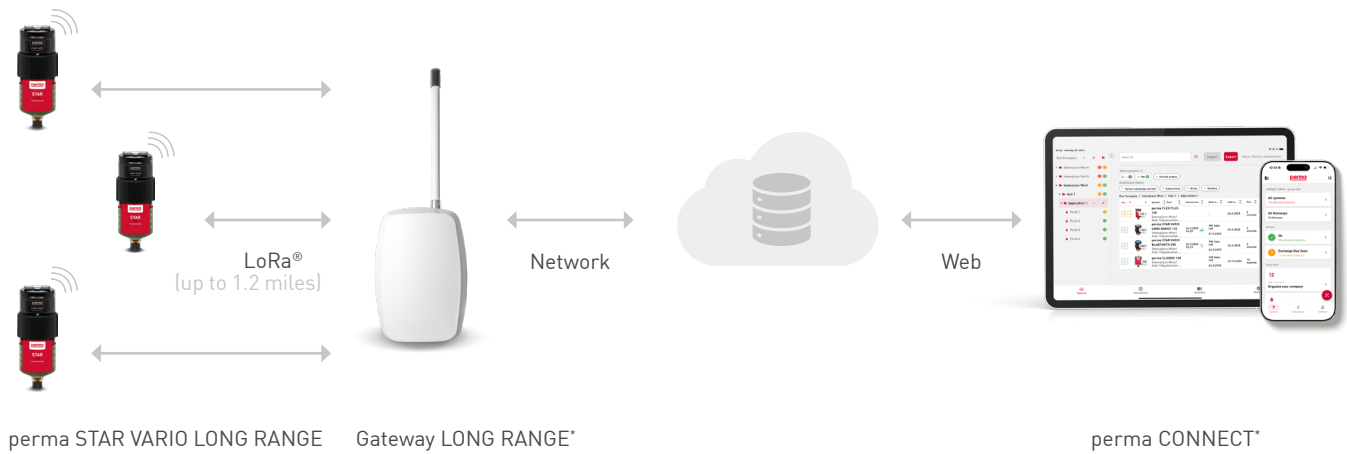
- » Bluetooth-enabled perma lubrication systems send status messages in real time to perma CONNECT via the Gateway BLUETOOTH
- » Bluetooth-enabled perma lubrication systems can receive commands from perma CONNECT via the Gateway BLUETOOTH

Gateway BLUETOOTH specifications

Dimensions	7.1 in x 10.3 in x 3.6 in 18.4 cm x 26.1 cm x 9.2 cm
Weight	30.9 oz 875 g
Operating temperature	- 11.2 °F to +149 °F -24 °C to 65 °C
Range	Approx. 100 ft 30 m
Power supply (PoE)	24 V ~ 1 A
Power supply (DC)	24 V ~ 1 A
Protection class	IP66, IP67



perma LONG RANGE ARCHITECTURE



*Tailored customer solutions on request

How does it work?

- » perma STAR VARIO LONG RANGE regularly sends status messages to perma CONNECT via the Gateway LONG RANGE
- » perma STAR VARIO LONG RANGE can receive commands from perma CONNECT via the Gateway LONG RANGE

Gateway LONG RANGE specifications

Dimensions	10.4 in x 6.5 in x 3.9 in 26.5 cm x 16.5 cm x 10.0 cm
Weight	49.4 oz 1,400 g
Operating temperature	-40 °F to +140 °F -40 °C to 60 °C
Range	Up to 1.2 miles 2 km
Power supply (PoE)	Included
Power supply (DC)	48 V
Protection class	IP67



perma STAR components

Complete your solution with the following components

+ Battery pack | cable

Battery pack STAR VARIO
[alkaline] Part. no. 101351



Battery pack STAR VARIO
low temperature (lithium)
Part. no. 116901



STAR CONTROL cable
16 ft | 5 m Part. no. 108432
[standard],
other lengths on request



perma STAR VARIO Drive
Part. no. 117222



perma STAR VARIO
BLUETOOTH Drive
Part. no. 117223



+ Gateway

Gateway BLUETOOTH*
Part. No. available on request



✓
(OPTIONAL)

Gateway LONG RANGE
Part. No. available on request



+ LC

perma STAR LC
2.03, 4.06, 8.45 & 16.91 fl.oz.
60, 120, 250 & 500 cm³



✓

✓

+ MOUNTING SOLUTION

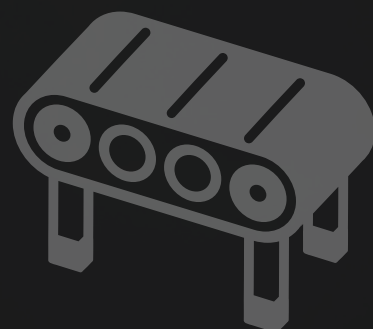
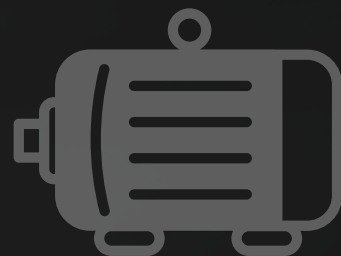
STAR Accessories or STAR INSTALLATION KIT (see page 14)



**perma STAR VARIO
LONG RANGE Drive**
Part. no. on request



perma STAR CONTROL Drive
Part. no. 118216



MOUNTING

Decision Making for Best Practice

For many lubrication points, it is advantageous to assemble the lubrication system with a grease line in a location that is safely accessible during plant operation.

Determine the size of the connecting thread at the lubrication point: perma thread gauge
Art. no. 110374



DECIDE WHAT MOUNTING TYPE IS SUITABLE FOR YOU...

→ If you answer yes to one of the questions, we recommend that you use indirect I remote mounting.

YES NO
☐ ☐ Is it necessary to remove protective guards or safety cages to access the lubrication point?

YES NO
☐ ☐ Is it difficult or unsafe to access the lubrication point while equipment is running?

YES NO
☐ ☐ Is the lubrication point subject to severe vibration or high temperatures which may damage the lubrication system?

YES NO
☐ ☐ Is it necessary to get permits to access lubrication points when in confined spaces or fall protection is required?

YES NO
☐ ☐ Is the lubrication point exposed to excessive amounts of water, processed materials, or impact from solid material?

YES TO ONE: REMOTE MOUNTING

BENEFITS I REMOTE MOUNTING

- » Relocate lubrication point to a safe area
- » Vibrations at the lubrication point can be disregarded
- » Automatic lubrication systems can be exchanged while the machine is in operation



NO TO ALL: DIRECT MOUNTING

BENEFITS I DIRECT MOUNTING

- » Immediate supply of lubrication points with fresh lubricant
- » Grease has the shortest supply path, meaning it does not age before entering the bearing
- » Lowest cost, quickest, and most simple installation method



INSTALLATION KITS STAR

Remote Mounting | Standard and Heavy Duty

INSTALLATION KITS contain all necessary parts for complete mounting of the lubrication system to the lubrication point: mounting bracket with mounting support, support flange, hose connectors, reducers and Heavy Duty hose.



STANDARD DUTY KIT | L-BRACKET

These kits are very versatile and can be used in areas with normal ambient conditions. The kits contain all necessary parts, including a reducer 1/8" NPT, 1/4" NPT, and 1/4 - 28 UNF per lubrication point.



HEAVY DUTY KIT | C-BRACKET

Heavy Duty kits have been specifically designed for use in operational areas with harsh ambient conditions which are subject to regular washdown and water impact, such as the conditions found in coal handling preparation plants.



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



STAR INSTALLATION KITS

Standard Duty

The STAR Standard Duty INSTALLATION KITS are intended for use in environments with regular conditions. The kits each contain the necessary mounting material and one STAR heavy-duty protection cap, one purge connection with manual valve and a reducer 1/8" NPT, 1/4" NPT, and 1/4 - 28 UNF per lubrication point.

Mounting with beam clamp



STAR INSTALLATION KIT
Standard duty
1-point 65 mm beam clamp
with 10ft hose
Art. no. 902203



STAR INSTALLATION KIT
Standard duty
2-point 65 mm beam clamp
with 20ft hose
Art. no. 902205

Cage hanger mounting



STAR INSTALLATION KIT
Standard duty
1-point cage hanger
with 10ft hose
Art. no. 902218



STAR INSTALLATION KIT
Standard duty
2-point cage hanger
with 20ft hose
Art. no. 902219

STAR INSTALLATION KITS

Heavy Duty

The STAR Heavy Duty INSTALLATION KITS are intended for use in harsh environments. The kits each contain the necessary mounting material and one STAR heavy-duty protection cap, one purge connection with manual valve and a reducer 1/8" NPT, 1/4" NPT, and 1/4 - 28 UNF per lubrication point.

All KITS are also available
for STAR LC 500.



Mounting with beam clamp



STAR INSTALLATION KIT
Heavy duty
1-point 65 mm beam clamp
with 10ft hose
Art. no. 902211



STAR INSTALLATION KIT
Heavy duty
2-point 65 mm beam clamp
with 20ft hose
Art. no. 902213

Cage hanger mounting



STAR INSTALLATION KIT
Heavy duty
1-point cage hanger
with 10ft hose
Art. no. 902222



STAR INSTALLATION KIT
Heavy duty
2-point cage hanger
with 20ft hose
Art. no. 902223

TURNKEY SERVICES

The perma SERVICE team are highly qualified professionals that are on hand to help you find the right lubrication solution.



Pre-sales service

Optimum lubrication solutions

With support from perma, you can equip your plants with optimal lubrication solutions to ensure high equipment availability.

- » perma ACADEMY
- » Survey
- » Technical support



After-sales service

Extension of service life

Extend your equipment's service life with lubrication solutions and all-round service from perma.

- » Installation
- » Instruction
- » Commissioning
- » Inspection
- » Exchange
- » Digital lubrication and maintenance plan via perma CONNECT
- » Technical support



Reactive service

Fast and competent support

Take advantage of the longstanding experience of the perma SERVICE team for your questions on all things lubrication.

- » Lubricant tests
- » Technical support

FIND OUT MORE

Visit our website for all the information on our products and the latest news.



permausa.com

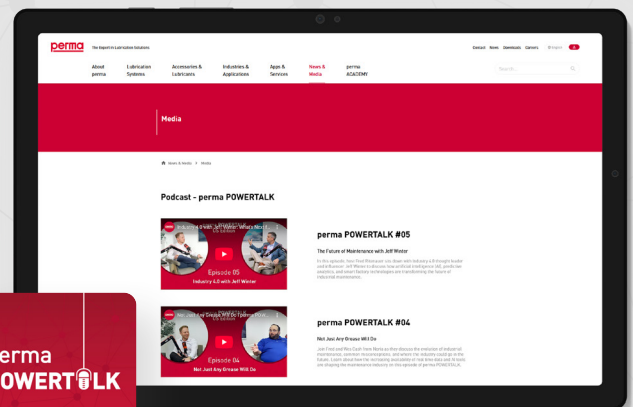
NEW! perma POWERTALK US Edition

The podcast for the maintenance industry – featuring expert insights on automatic lubrication, digital lubrication solutions, and the latest innovations from perma.



You can find all the episodes on our perma YouTube channel!

More information:
<https://www.permausa.com/news-media/podcast>





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