

# perma STAR CONTROL

Installation Guide





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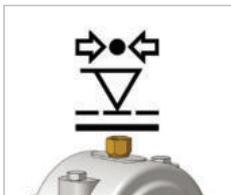
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This installation guide provides instructions for the installation of perma STAR CONTROL and helps in preventing basic mounting errors. The guide should be used with the operating instructions.

Drawings are only examples. There are many other possibilities for mounting, depending on local conditions.

Disclaimers of corresponding operating instructions apply.

Installation guides do not affect validation of the operating instructions.

## Basic guidelines

- perma STAR CONTROL is a single-point lubrication system. You must use a separate lubrication system for each lubrication point.
- The connection thread of perma STAR CONTROL is BSP R $\frac{1}{4}$  male thread.
- Replace the application's grease fitting with a suitable reducer. perma offers a wide assortment of reducers, extensions, tubes, brackets and other accessories.
- Ensure that the lube point is prefilled with fresh lubricant before installation. perma offers all of its lubricants in 400 g cartridges for grease guns.
- Select the right lubricant for your application. perma offers a wide variety of standard lubricants for different applications.
- All metal to metal connections must be glued together with Loctite® 243™.
- Fill grease lines and accessories with the same lubricant that is contained in the lubrication system.
- For managing several lubrication points we recommend the use of a lubrication maintenance plan. You can use the free perma CONNECT software for online administration.
- Information about the selection of suitable lubricants can be found in our product catalogue. Selection is also possible via the perma SELECT APP. This free software helps you find the most suitable lubrication system, the ideal lubricant and the right discharge period.

Visit our webpage [www.perma-tec.com](http://www.perma-tec.com) for further information about perma products



## Mounting types

### Direct mounting

Direct mounting should be preferred for all lubrication points, to protect the lubrication system against high pressure.



Please use Support flange STAR G1/4 male x G1/4 female (109420) for all angled or horizontal installations

Reducer for thread connection

Installation of perma STAR CONTROL is possible in all directions (indoors and outdoors).



Protection cap can only be used for vertical installations (outlet at the bottom) or horizontal installations!



#### ATTENTION



In connection with a STAR LC 500, only remote, vertical mounting (outlet at the bottom) is permissible. Required accessories:

- » Support flange STAR Heavy Duty (110757)
- » Suitable mounting bracket STAR

When using oil filled LCs, mounting angle may not exceed 45°.



## Remote mounting with tube

Remote mounting is recommended if

- the ambient temperature of the lubrication point is permanently higher than +60 °C
- the lubrication point is exposed to high vibrations
- no direct access to lubrication point is possible due to safety issues (e. g. removal of protective screens, safety walls or cages)
- it is difficult or dangerous to access the lubrication point
- the lubrication system is exposed to mechanical forces (e. g. falling rocks)
- STAR LC 500 is used

Keep connection lines as short as possible and use tubes with an inside diameter of at least 6 mm. Keep in mind that tube length and bore diameter of bearing housings affect pressure. For installation of perma STAR CONTROL use Mounting bracket STAR. Secure tubes with suitable fastenings (brackets, cable ties) to protect against damage and tearing. Depending on lubricant and ambient temperature, different tube lengths are possible, e. g.

→ perma MULTI LC 150-2 (SF01): 5 m (+20 °C)

→ perma MULTI 100 (SO32): 5 m (+20 °C)



All metal to metal connections must be glued together with Loctite® 243™



Visit our website [www.perma-tec.com](http://www.perma-tec.com) for detailed information about perma ACCESSORY KITS and INSTALLATION KITS STAR.



## Mounting of oil filled units



All metal to metal connections must be glued together with Loctite® 243™

### Direct mounting

All oil-filled perma STAR LCs come with an integrated oil retaining valve. They can be installed directly to an lubrication brush without the need for an additional oil retaining valve.



ACCESSORY KIT STAR Chains (117982)

Bracket (104864)

Oil retaining valve G1/4 male x G1/4 female up to +60 °C (104862)

Oil brush foam up to +80 °C 40 x 30 mm G1/4i female thread on top + lateral thread (117435)

### Remote mounting

Remote installations of oil-filled perma STAR CONTROL require an oil retaining valve at the lowest point of the application. This will prevent oil leakage from the lubrication system.



INSTALLATION KIT STAR Chains (117983)

Bracket (104864)

Tube connector G1/4 male for tube oØ 8 mm straight (101496)

Oil retaining valve G1/4 male x G1/4 female up to +60 °C (104862)

Oil brush foam up to +80 °C 40 x 30 mm G1/4i female thread on top + lateral thread (117435)

## Mounting with protection cap and adapter cable

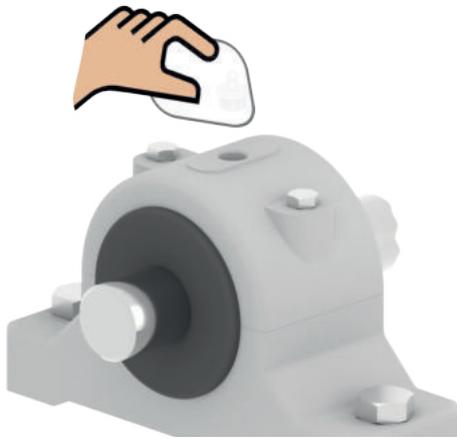
Installations with protection caps require an adapter cable to facilitate downward cable routing.

- Adapter cable STAR CONTROL 50 cm (115505)
- Protection cap STAR VARIO Standard Duty 60 / 120 (109520)
- Protection cap STAR VARIO Standard Duty 250 (109519)
- Protection cap STAR Heavy Duty 250 (109999)

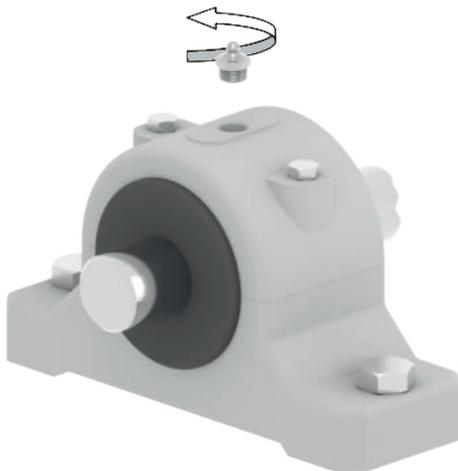


## Preparation of lubrication point

1. Prior to installation, lubrication point must be cleaned to protect against contamination.



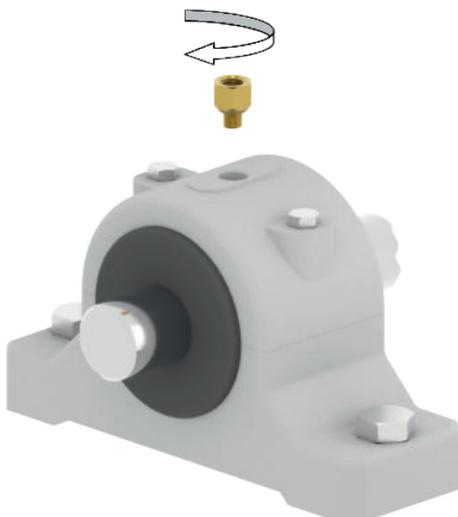
2. Remove grease nipple or plug screw of connecting thread and check thread size.



Determine thread size at the lubrication point with perma fitting thread tester (110374).

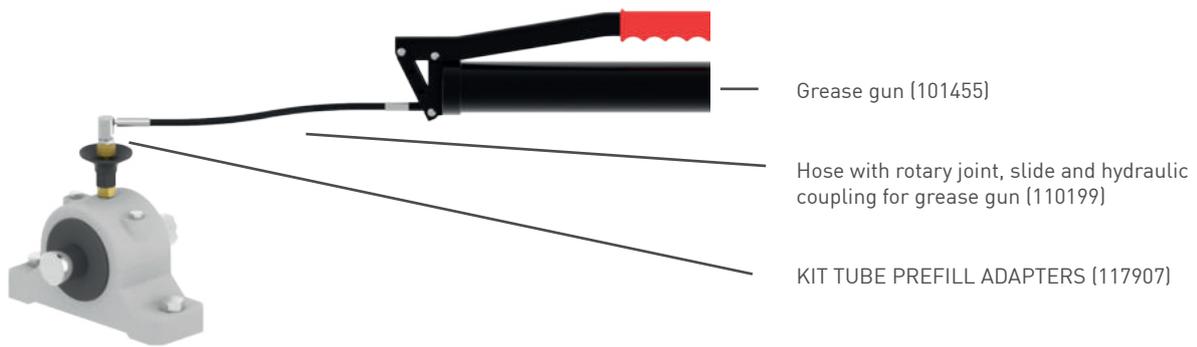


3. Insert reducer and install tube / hose and necessary accessory parts.



All metal to metal connections must be glued together with Loctite® 243™

4. Lubrication point, accessory parts and tubes | hoses must be pre-filled with lubricant.  
This enables the lubricant to immediately reach the lubrication point.



5. Prefill lubrication point and all grease lines for remote installation.

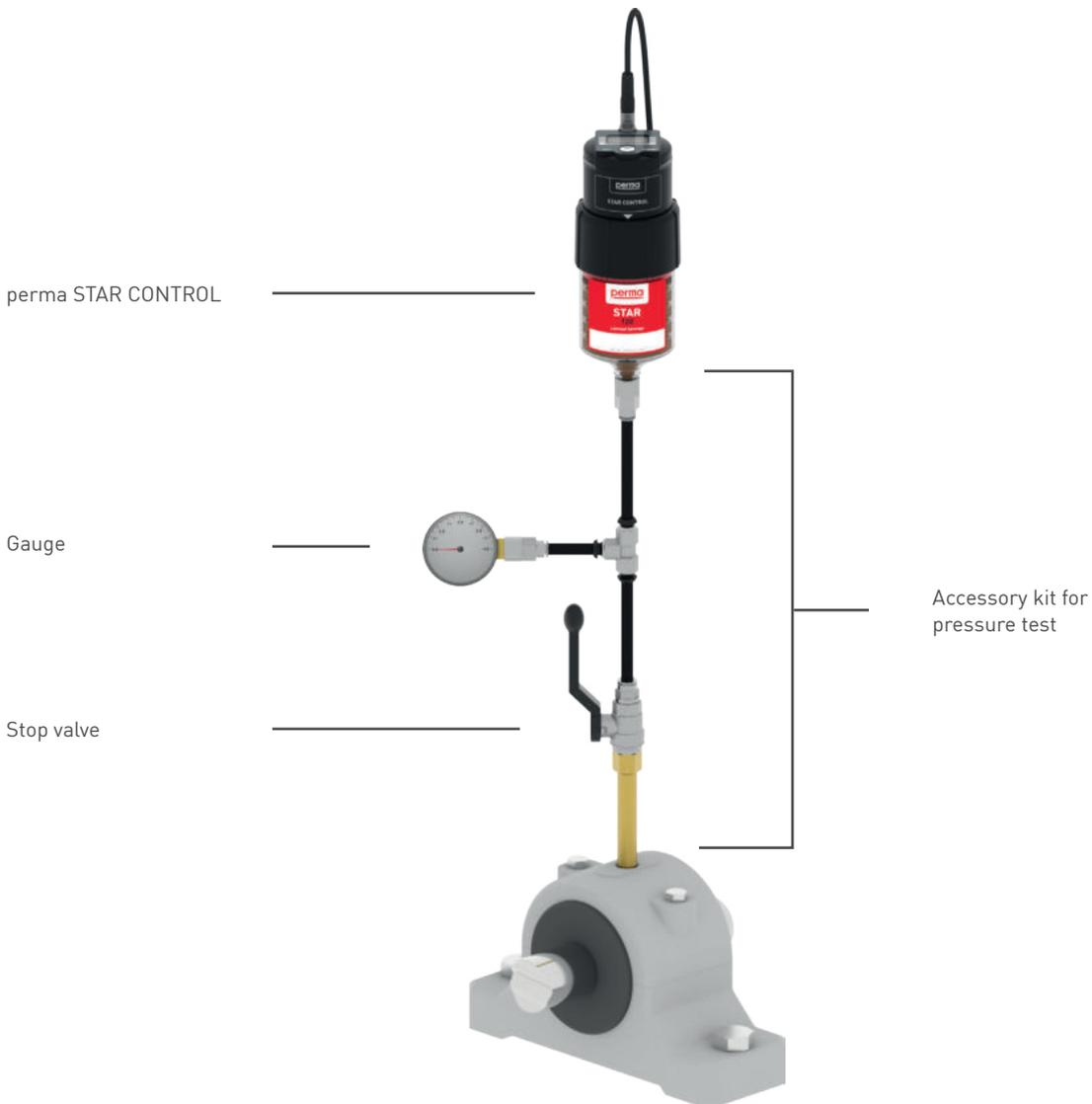


6. Use a tube prefill adapter to prefill lubrication point and grease lines:  
KIT TUBE PREFILL ADAPTERS (117907)



## Pressure testing

Check counter pressure at lubrication point before installing the lubrication system to guarantee correct function. Most bearings require 0.5 - 2 bar pressure (without extension tubes / hoses). perma STAR CONTROL can be used for these lubrication points.



For pressure testing please use perma STAR CONTROL with Accessory kit for pressure test (101480).

Be sure to use the same lubricant for both, prefilling and LC of perma STAR CONTROL.



Accessory kit for pressure test (101480)  
(order lubrication system separately)

## Pressure test procedure

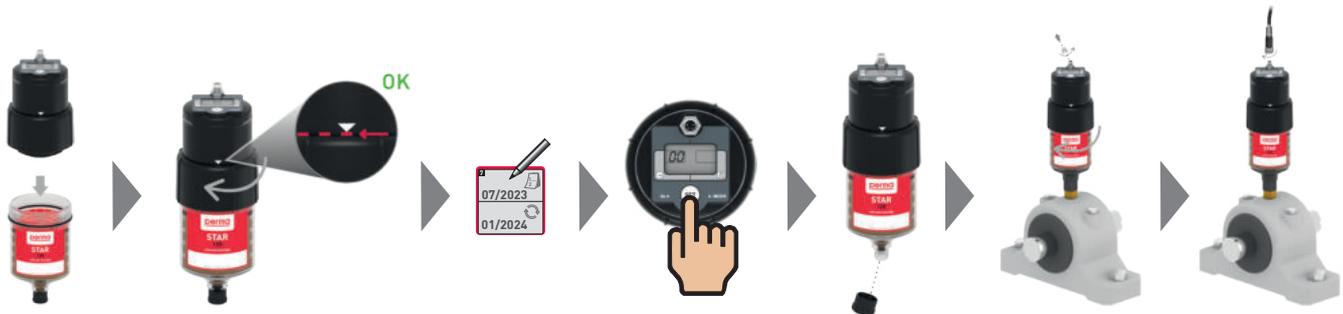
1. Remove grease nipple.
2. Screw reducer onto lube point and connect pressure testing kit.
3. Connect perma STAR CONTROL to the open outlet.
4. Turn machines on to ensure that lube point is in use and measuring of corresponding counter pressure is possible (Caution: Observe accident prevention regulations).
5. Open stop valve.
6. Push SET button on perma STAR CONTROL for approx. 10 seconds until PU lights up on display to trigger an additional discharge / purge.
7. Watch the pressure on the gauge during the additional discharge. If pressure exceeds 7.5 bar the lubrication system will shut off automatically.
8. If pressure doesn't rise any more during the additional discharge, max injection pressure has been reached. In order to find out the required system pressure you must wait another 5 minutes. The gauge will then show the system pressure.
9. If system pressure exceeds 2 bar you need to „purge“ the lube point by using a mechanical grease gun. Proceed with steps 6 and 7.
10. If counter pressure doesn't decrease you need to either select a different lubricant or a different lubrication system. Please ask perma-tec to assist you in this matter.



## Activation and installation

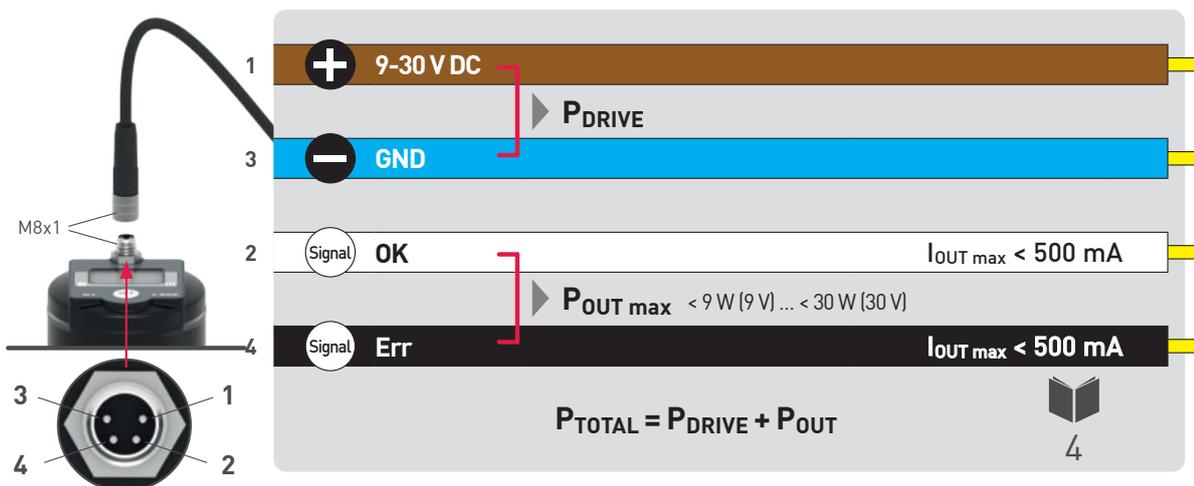
Start up as following [also refer to operating instructions]:

1. Assemble all components (drive, LC)
2. Turn the threaded ring on the LC unit until the small white arrow mark is fully visible
3. Select operating mode, LC size, discharge period / discharge quantity (see pages 14 and 15)
4. Remove plug and screw lubricator into lubrication point
5. Connect STAR CONTROL cable (see „Electrical connection“)



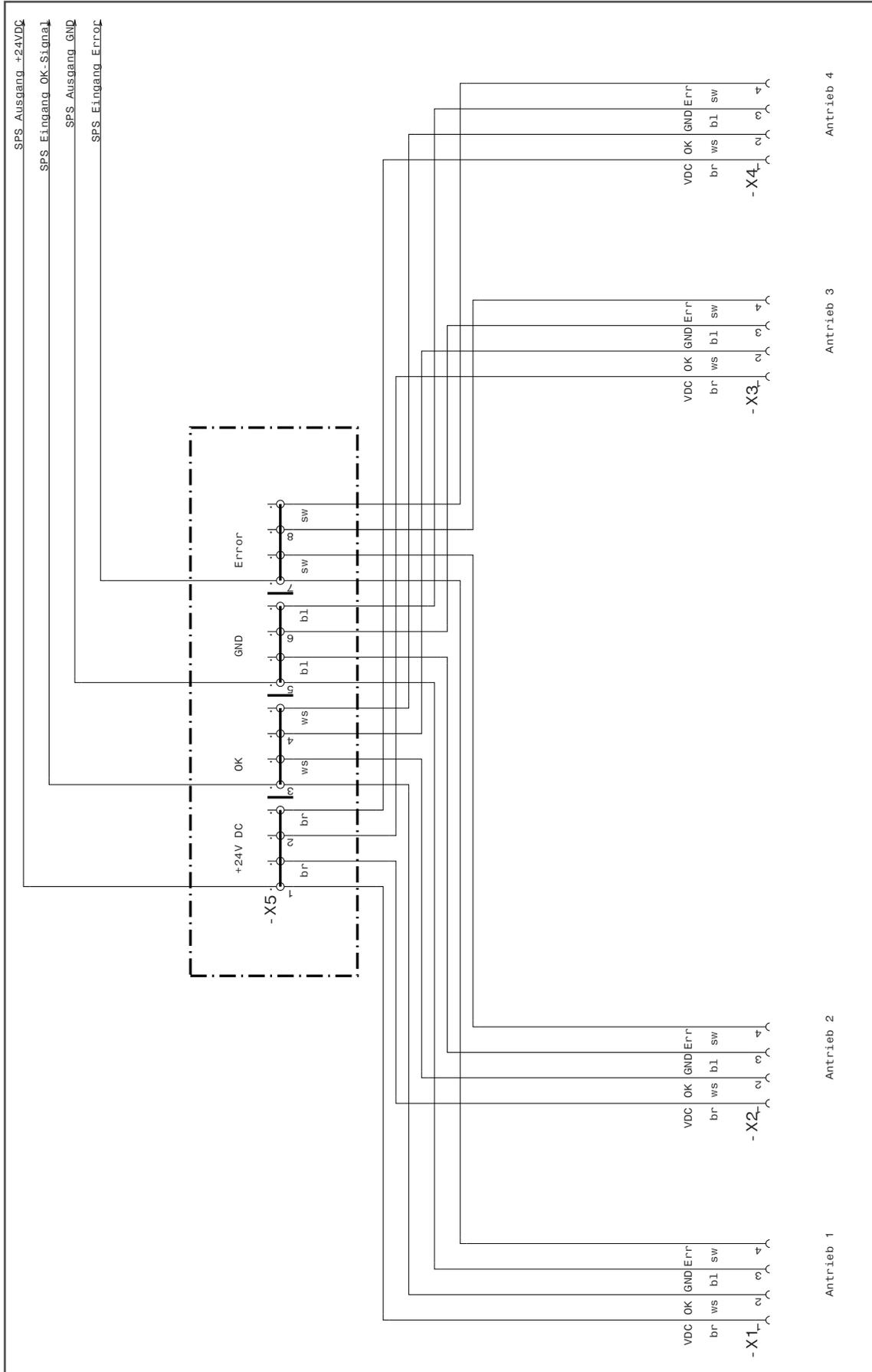
## Electrical connection

- For connecting the perma STAR CONTROL, connecting cables are available in lengths of 5 m (108432), 10 m (108431), and 20 m (110512)
- The plug has an M8x1 thread
- This cable consists of 4 wires
- Power supply through connection of brown wire (pin 1; power supply +V DC) and blue wire (pin 3, power supply GND)
- The operating mode of perma STAR CONTROL is displayed via the white wire (pin 2 - OK signalled / discharging) or the black wire (pin 4 - faults signalled)
- An empty STAR LC is signalled by the white wire (pin 2) and the black wire (pin 4) at the same time



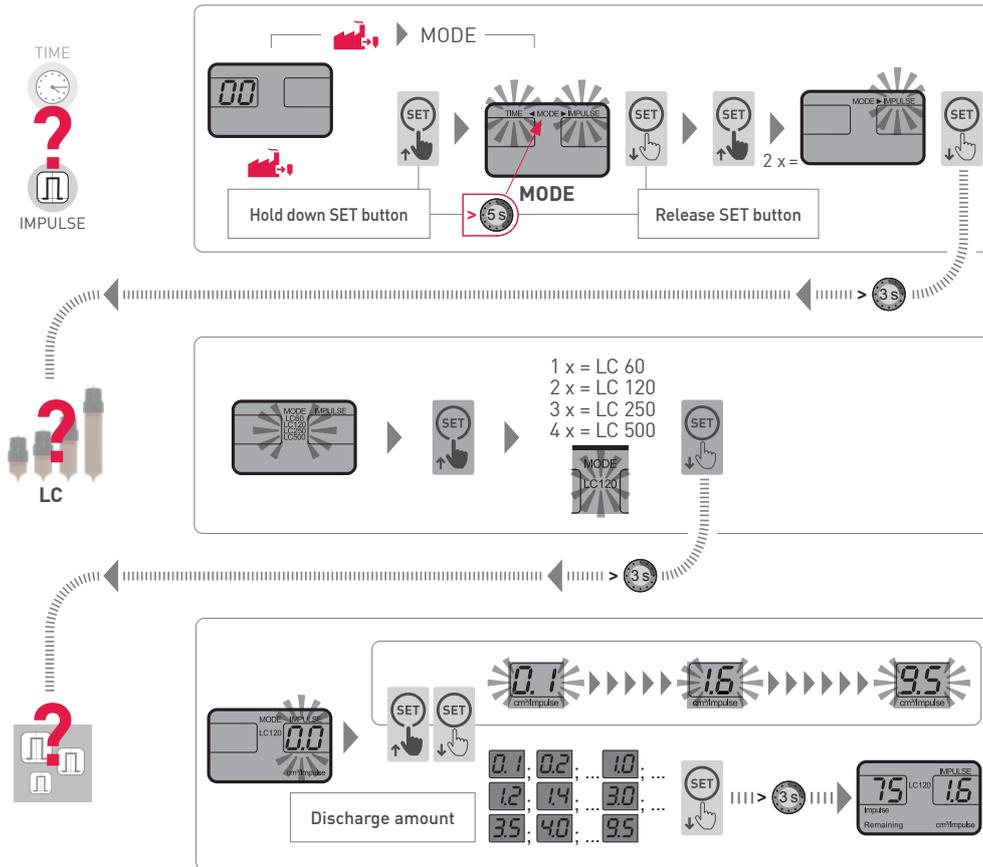
There is no need to use extra blocking diodes at the outputs if the drives are connected in parallel.

The example shows a wiring diagram of a parallel circuit of 4 perma STAR CONTROL:





## Configuration IMPULSE



### Setting the mode

- Hold down SET button for 5 s
- The mode "TIME" | "IMPULSE" will flash in the menu line
- Select "IMPULSE" by pressing the SET button once
- The change is applied after 3 s (without pressing the SET button)

### Setting LC size

- Once the LC sizes are flashing you can set them
- Set the LC size by pressing the SET button:  
1 x = LC 60    3 x = LC 250  
2 x = LC 120    4 x = LC 500
- The change is applied after 3 s (without pressing the SET button)

### Setting the discharge volume per impulse

- Once the numbers in the right section are flashing you can set it
- Set the discharge volume per impulse by pressing the SET button:  
1 x = 0.1 cm<sup>3</sup> / Impulse  
2 x = 0.2 cm<sup>3</sup> / Impulse, etc
- The change is applied after 3 s (without pressing the SET button)

## Identification of lubrication system

The label of the lubrication system shows article number, product-code, manufacturing date, internal number and lubricant code.



Installation date and exchange date  
(to be added by operator)

Art. No. | Serial number  
(product designation - year / week of  
manufacture - internal no.)  
Lubricant designation









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