

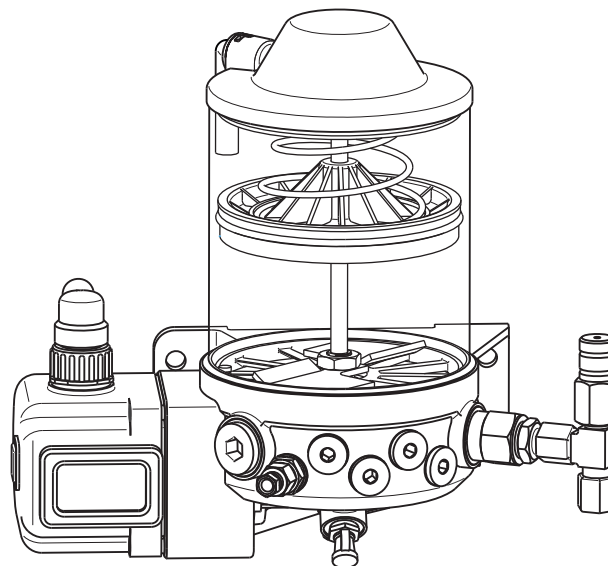
## Integrated electronic controller

### Type PICO-tronic T1

with bayonet connector

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Electronic pump PICO with integrated controller  
 PICO-tronic T1:



#### 1. General information:

The integrated control device PICO-tronic T1 is used for the time-dependent control of the central lubrication pump EP-1 in progressive devices, particularly for vehicles without continuous operating voltage connection such as e. g. trailers or semi/trailers.

#### Installation dimensions:

The installation dimensions of the central lubrication pump PICO with integrated controller PICO-tronic T1 correspond to the installation dimensions of a central lubrication pump without controller (see description PICO).



## PICO-tronic T1

### 2. Function sequence

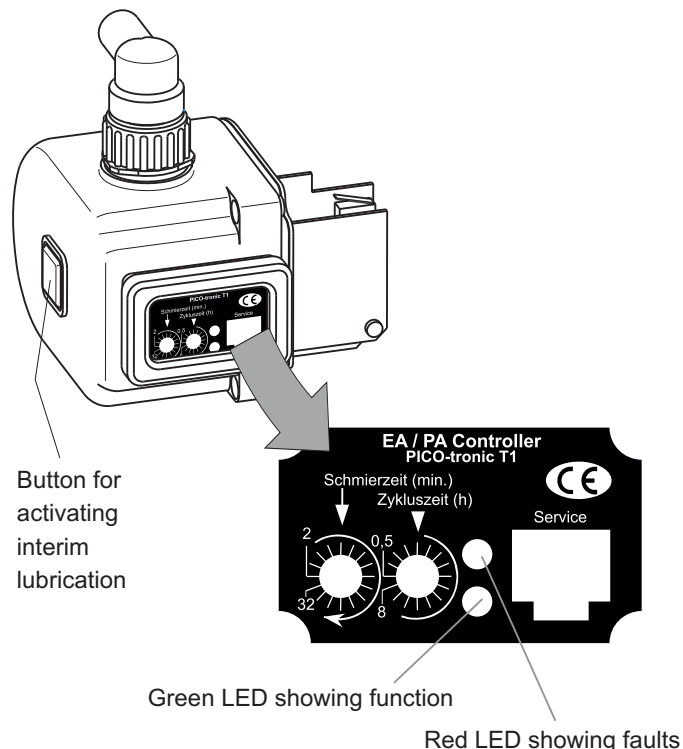
After connecting the power supply, the green and the red LEDs light up for approx. 1.5 sec., thus indicating that the controller is operative (activation control).

Every time the controller is activated for the first time, a lubrication progress begins. The green LED in the control half shell is lit during the entire lubrication procedure.

The integrated electronic controller PICO-tronic T1 is equipped with a data memory which serves, amongst other things, to record the elapsed times. If the voltage supply is interrupted during a lubrication or a cycle, time is stopped and recorded. Once the power supply is switched on again, the remaining lubrication or cycle time is read from the memory, and the function sequence will be resumed from where it was interrupted.

While the voltage supply is connected, an interim lubrication can be triggered by actuating the button which is installed laterally on the pump's motor casing. In this case, the pump immediately starts a lubrication cycle; the lubrication or cycle time which has elapsed so far or which has been recorded is reset, and starts anew.

PICO-tronic T1 integrated electronic controller:



**Technical data for the controller:**

Operating voltage:	10 to 60 V DC
Maximum current load:	I = 6,0 A
Fuse (not included in device):	F 6,3 A (5x20) slow-blow fuse
Temperature range:	-35°C to +75°C
Degree of protection:	IP 65

**Before the electrical connection:**

**Observe the voltage of the pump motor.**



## PICO-tronic T1

### 3. Method of operation

When the central lubrication processor is time controlled, the cycle duration and the lubrication time can be adjusted. Cycle duration means the period from the beginning of one lubrication process to the beginning of another lubrication process.

The control has five voltage inputs, whereas three inputs (rear light, brake light and any circulating blinker lights) are used for the voltage supply of the pump. Each of the five voltage inputs is also used for detection of vehicle movements.

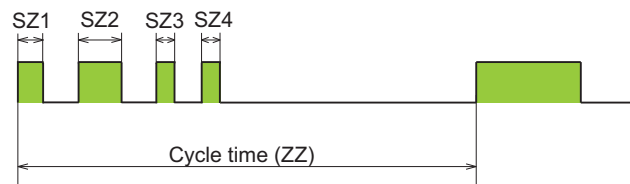
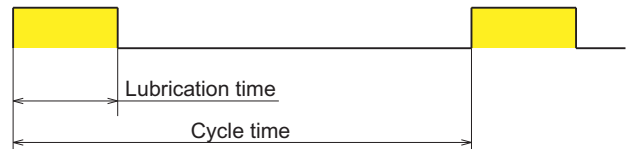
The central lubrication pump can only prime lubricant, when one of the three inputs (brake light, rear light or any circulating blinker lights) is supplied with power.

Because the voltage supply is not permanently available, the total lubricant time set-up may consist of several short lubrication periods.

If a cycle time elapses before the complete run of the lubrication time, the remaining time will be carried forward to the next lubrication cycle. The lubrication time can at the most be doubled.

If within half an hour, no voltage is detected on any of the five voltage inputs, the cycle time is stopped. The controller assumes that the vehicle is no longer in motion.

Diagram of cycle sequence:



$$SZ1 + SZ2 + SZ3 + SZ4 = \text{set-up lubrication time}$$

## PICO-tronic T1

### 4. Adjusting the parameters

The cycle time or lubrication time can be set by means of graduating switches in the controller's sight glass.

To adjust the time setting, remove the red frame on the pump's motor housing using a flat screwdriver, loosen the four Phillips screws and remove the transparent protective cover.

The cycle during or lubrication time can be adjusted using a flat screwdriver.

If the cover plate is not replaced properly, water may enter the controller and damage it. In this case, the guarantee is no longer valid.

The adjusting ranges can be changed over by means of the diagnostic software BEKA-DiSys, even on site if the controller has already been operated before at the customer's.

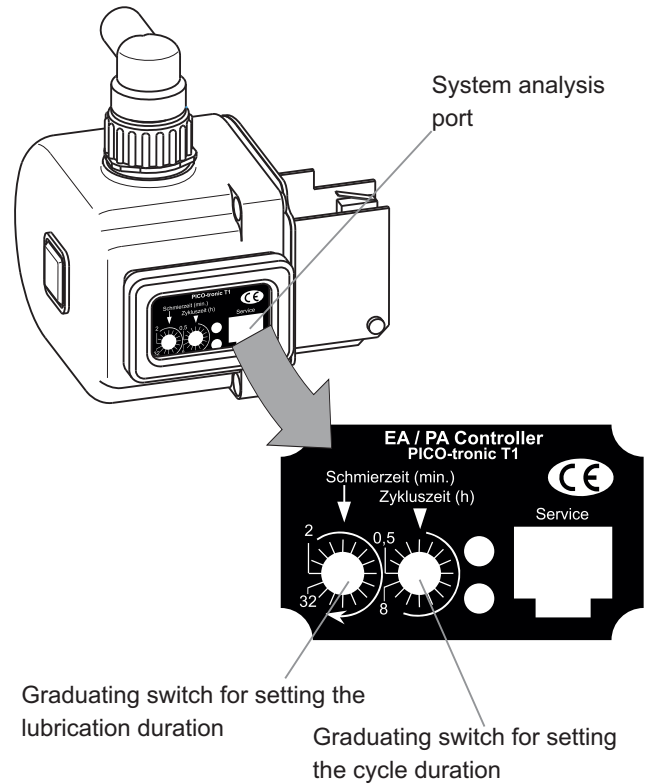
All adjusting ranges for the lubrication period and all cycle time ranges can be combined at random.

#### Adjusting the parameters:

##### Lubrication times:

- 1 to 16 min. (16 grades every 1 min.)
- 2 to 32 min. (16 grades every 2 min.)
- 2 to 32 sec. (16 grades every 2 sec.)

PICO-tronic T1 integrated electronic controller:



Graduating switch for setting the lubrication duration

Graduating switch for setting the cycle duration

##### Cycle duration:

- 0.5 to 8 h (16 grades every 0.5 h)
- 2 to 32 min. (16 grades every 2 min.)
- 2 to 32 h (16 grades every 2 h)

**When changing the adjusting ranges, the label in the controller window must be replaced.**

Labels can be ordered in German language with various lubrication and cycle time combinations (refer to table below); other languages are available on request.

Lubrication time	Cycle time		
	0.5 h to 8 h	2 min. to 32 min.	2 h to 32 h
I 1 min. bis 16 min.	0490030238	0490030245	0490030248
II 2 min. bis 32 min.	0490030243	0490030246	0490030249
III 2 sec. bis 32 sec.	0490030244	0490030247	0490030250

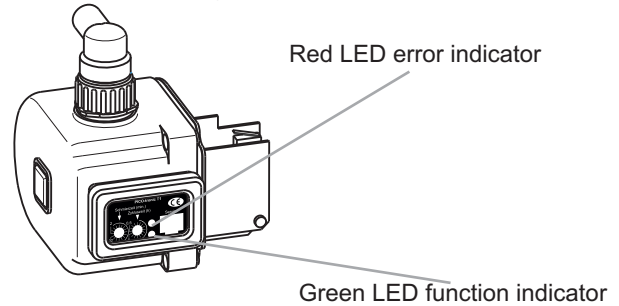
## PICO-tronic T1

### Summary of Signal indicators and Terminal diagram

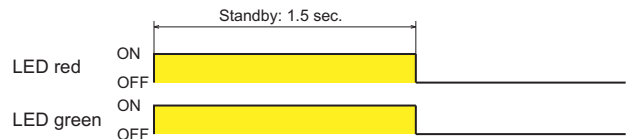
#### 5. Summary of Signal indicators:

The pump's functions are indicated via two control LEDs (green / red) in the display on the pump's motor casing, where the red LED always indicates an error in the program sequence.

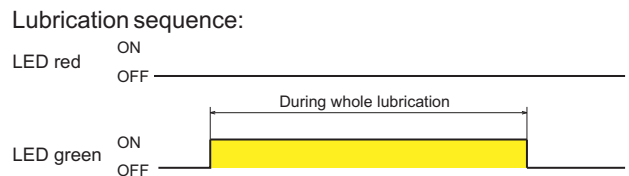
PICO-tronic T1 integrated electronic controller:



a) Standby:

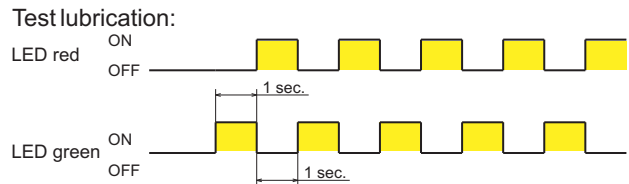


b) Lubrication activated:

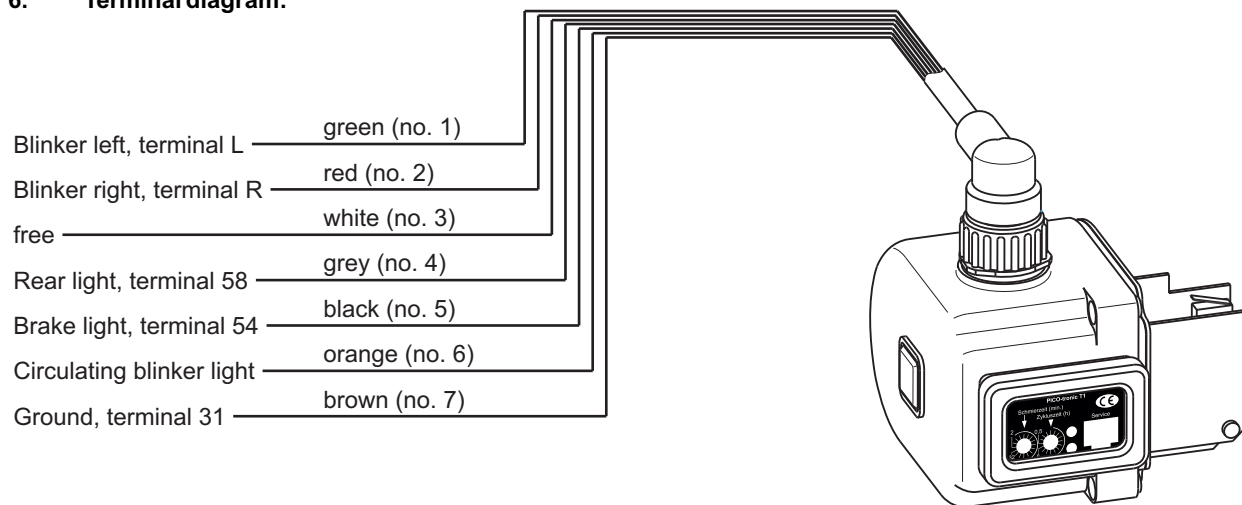


g) Test lubrication (constant lubrication):

To adjust the time controlling to continual lubrication for servicing purposes, the lubrication time must be set to a higher value than the cycle duration.



#### 6. Terminal diagram:



## PICO-tronic T1

### 7. Ordering key for PICO with integrated controller

<b>Construction type:</b>		<b>2185 . 3 . 1 . 1 . 3 . A . 0000</b>		
with bayonet connector				
Motor voltage	12 V	24 V		
Code	3	4		
Pump elements	Outlet-no.			
	4	10	4+10	without
PE-120 F	1	2	3	
PE-120 FV	4	5	6	
PE-120 F + PE-120 FV	X	X	7	0
PE-120 F + PE-120 FV	X	X	8	
Size of reservoir	1.2 kg			
Code	1			
Controller	PICO-tronic T1			
Code	3			
Integrated electronic controller PICO-tronic T1				
Lubrication time	Cycle time			
		0.5 h to 8 h	2 min. to 32 min.	2h to 32h
I	1 min. to 16 min.	1	A	J
II	2 min. to 32 min.	2	B	K
III	2 sec. to 32 sec.	3	C	L
Special types	0000			

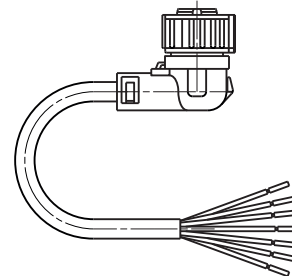
## PICO-tronic T1 Retrofitting and Ordering key for integrated controller

### 8. Retrofitting:

The integrated controller PICO-tronic T1 can be retrofitted to the electric pump PICO, i. e. to pumps which have been delivered without controller and to replace existing controllers.

Controllers delivered for retrofitting or replacement are not provided with connection cable, as this is normally available. If the controller is to be installed in a pump which has not been equipped with a controller so far, or to be replaced by a controller with another connector, the connecting cable must be ordered separately.

7-wire connecting cable, length 10 m, with bayonet connector:



Order-no.: FAZ02499-21

### 9. Ordering key for integrated controller, installed in motor protection housing:

<b>Construction type</b>	2185 . 901 . 3 . A . 0000			
Controller	PICO-tronic T1			
Code	3			
Integrated electronic controller PICO-tronic T1				
Lubrication time		Cycle time		
		0.5 h to 8 h	2 min. to 32 min.	2h to 32h
I	1 min. to 16 min.	1	A	J
II	2 min. to 32 min.	2	B	K
III	2 sec. to 32 sec.	3	C	L
Special types	0000			

