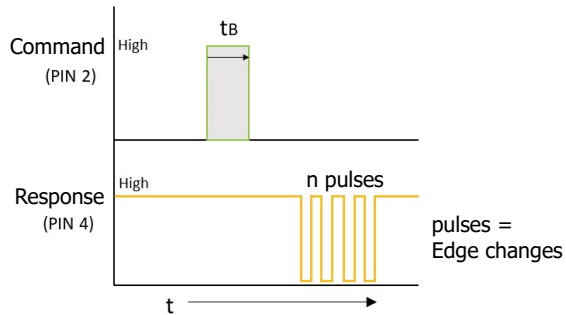


## 7. Control

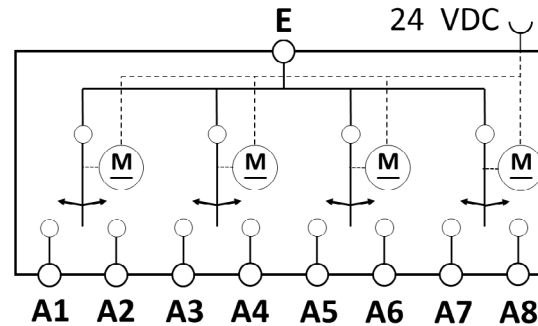
The communication between a PLC / controller and the PRV-PLC is realised by a simple digital protocol. The name of this communication protocol is B10 and is also compatible with Lubricus lubrication systems. A small number of commands can be transmitted to the PRV-PLC (see table), the PRV-PLC responds immediately with a defined number of high pulses. The pulses have a precisely defined duration of 100 milliseconds, with the pause times also being 100 milliseconds. By counting the high edges, the PLC can immediately register the corresponding response.



Command	Pulse length	Response	Pulses
Open outlet 1	100 ms	Outlet 1 open	1
Open outlet 2	200 ms	Outlet 2 open	2
Open outlet 3	300 ms	Outlet 3 open	3
Open outlet 4	400 ms	Outlet 4 open	4
Open outlet 5	500 ms	Outlet 5 open	5
Open outlet 6	600 ms	Outlet 6 open	6
Open outlet 7	700 ms	Outlet 7 open	7
Open outlet 8	800 ms	Outlet 8 open	8
Open outlet 9	900 ms	Outlet 9 open	9
Open outlet 10	1000 ms	Outlet 10 open	10
Open outlet 11	1100 ms	Outlet 11 open	11
Open outlet 12	1200 ms	Outlet 12 open	12
Close	1300 ms	All outlets closed	21
Identification	1400 ms	PRV-4-PLC	18
		PRV-8-PLC	19
		PRV-12-PLC	20
Test run	1500 ms	OK, done	13
PING	1600 ms	Last commnad	changing
Acknowledge error	1700 ms	OK	17

Error messages	Pulses
Overvoltage / undervoltage error	14
PRV-PLC error (mechanical or electronic)	15
Invalid / undefined command	16
No communication possible	22

## 8. Block diagram



Block diagram of PRV-8-PLC

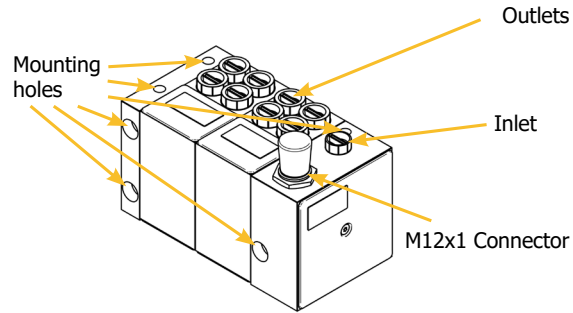
# PLC controlled distributor

## User manual

PRV-4-PLC, PRV-8-PLC, PRV-12-PLC



## 1. Overview PRV-PLC



The PRV-PLC electromechanical distributor distributes lubricant from one inlet to four, eight or twelve independently selectable outlets. The electronics ensure that only one outlet is open at a time. The PRV-PLC is operated by a 24 VDC supply.

## 2. Technical data

Housing			
Dimensions	PRV-4-PLC	80 x 83 x 62	mm
	PRV-8-PLC	115 x 83 x 62	mm
	PRV-12-PLC	151 x 83 x 62	mm
Mounting position	any		
Weight	PRV-4	~ 954	g
	PRV-8	~ 1470	g
	PRV-12	~ 1990	g
Operating temperature	-15 to +70	°C	
Lubricant and hydraulic			
Number of inlets	1		
Lubricant inlets	thread M6		
Number of outlets	4 / 8 / 12		
Lubricant outlets	M10x1		
Lubricating medium	Oil	up to 30.000 (40 °C)	cSt
	Grease	up to NLGI 2	
Max. operating pressure	200 (2.900)	bar (psi)	
Electrics			
Operating voltage (DC)	24	V	
Max. volume flow rate	60	cm³/min	
Max. current consumption	0,2	A	
Protection class	IP54		

## 3. Product description

The PRV-PLC electromechanical distributor offers maximum flexibility in lubricant distribution.

The lubricant is conveyed to the inlet of the PRV-PLC and from there to any outlet.

The built-in control allows the pistons at the individual outlets to be opened and closed mechanically independently of each other. As a result, all connected lubrication points are supplied as needed. Built-in non-return valves in the outlets prevent the distributor from being influenced by counter-pressure from the lubrication point. This enables high precision in individual dosage.

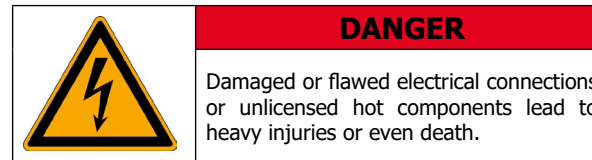
The PRV-PLC is thus an electronically controlled and monitored valve terminal for grease and oil, which is particularly reliable compared to other progressive distributors. The lubricant itself is only directed through open channels and is not used as a pressure medium. This protects the lubricant and prevents premature bleeding.

The flow to the individual lubrication points can be controlled completely freely by the electronics and can be changed flexibly at any time.

The power supply (24 VDC) and the operation of the electronics built into the PRV-PLC are controlled from a PLC. An easy-to-program command and response protocol handles the communication between the distributor and the PLC.

## 4. Important note

To ensure fault-free operation of the PRV-PLC, the original accessories should always be used. Due to the high pressures that may occur when grease is conveyed through the PRV-PLC, special attention must be paid to the pressure resistance of the hose connectors and hoses.



## 5. Commissioning

### Mechanical fastening

Mechanical fastening of the PRV-PLC is possible by means of the mounting holes on all four sides of the housing. Fasten the distributor with three M5 screws, one for the initial element and two for the end element.

### Hydraulic connection

Connect the supply line of the lubricator to the input connection „LUB IN“. The outlets are marked with numbers. Connect them to the respective lubrication points and make sure they are correctly assigned.

### Electrical connection

A 4-pole, unshielded cable with M12x1 socket is required for the electrical connection of the distributor. Screw the socket onto the corresponding plug of the distributor. The pin assignment is A-coded.

PIN assignment		
	PIN 1	Input voltage +24 VDC +/-10%
	PIN 2	Control of the distributor (HIGH +24 VDC)
	PIN 3	Ground (GND)
	PIN 4	Output signal 24 VDC, short-circuit proof max. current carrying capacity 0.1 A, no inductive load

## 6. LED signals

The PRV-PLC signals the respective operating status with LEDs through the side housing cover.

LED	Meaning
off	Device off
green	Device on - status OK   flashing: change is being executed
blue	Communication with PLC
red	Error

