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Bulletin MSG-3258-INST/UK

# Installation and setup manual for proportional pressure relief valve with onboard electronic

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Effective: August, 2023



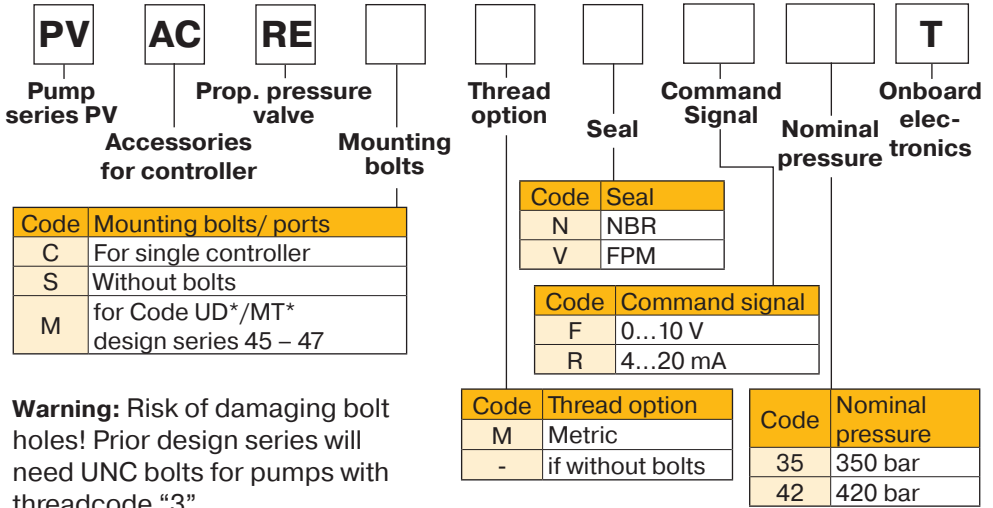
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Product Catalogue  
Series PVplus  
MSG30-3245/UK

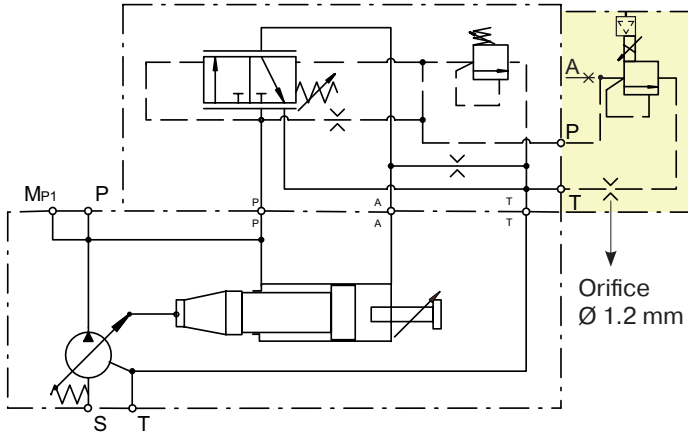
## Ordering code proportional pressure relief valve



## Technical data

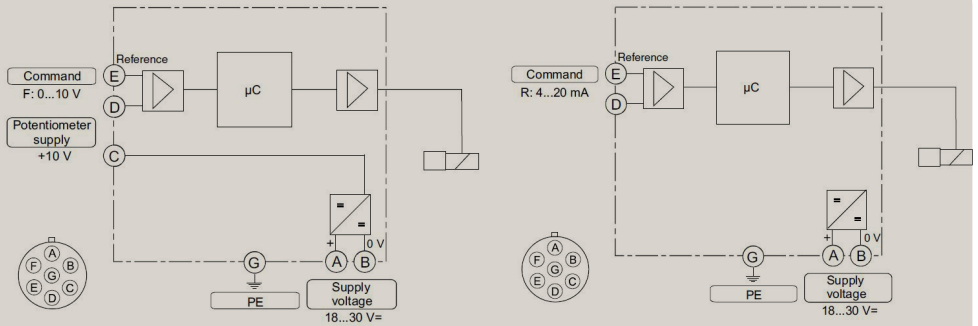
General		
Nominal size		DIN NG06 / CETOP03 / NFPA D03
Mounting position		as desired, horizontal mounting preferred
Ambient temperature	[°C]	-20 ... +70
Weight	[kg]	2.2
Hydraulic		
Max. operating pressure	[bar]	Port P up to 420; port T up to 30
Pressure stages	[bar]	350, 420
Fluid		Hydraulic oil as per DIN 51524 part 2 & 3
Viscosity, recommended permitted	[cSt]/[mm <sup>2</sup> /s]	30 ... 80
	[cSt]/[mm <sup>2</sup> /s]	12 ... 380
Fluid temperature	[°C]	-20 ... +60
Filtration		ISO 4406 (1999), 18/16/13
Linearity	[%]	±4
Repeatability	[%]	±2
Hysteresis	[%]	±4.5 von p <sub>max</sub>
Electrical		
Duty ratio	[%]	100 ED
Protection class		IP 65 in accordance with EN 60529 (plugged and mounted)
Nominal voltage	[V]	18 ... 30 (2 A for nominal pressure))
Coil resistance	[Ohm]	4.4 at 20°C
Solenoid connection		6 + PE nach EN 175201-804

**Circuit diagram**



*Circuit diagram shows base pump with valve.*

**Pin assignment 6+PE - EN 175201-804**



*Setpoint specification: Voltage Typ F*

*Setpoint specification: Current Typ R*

## Parameter

Current parameter sets are pre-installed on the valve. The following parameters are available through ProPxD. The connection

to the valve can be made using an RS232 cable (Parker order number: 40982923).

Parameter	Factory setting	Unit	Description
E19	1	mA	Setpoint cable break monitoring
E25	0	0,01 %	response threshold, related to setpoint
S5	500	ms	ramp UP A-Channel
S6	500	ms	ramp DOWN A-Channel
P3	-	%	MAX A-Channel, related to maximum setpoint specification
P5	0,4	%	Dither amplitude
P6	60	Hz	Dither frequency
P7	0	%	MIN A-Channel, related to maximum setpoint specification

### E19 (Cable break monitoring)

The parameter for cable break monitoring is only available in the variant with current signal setpoint specification.

### (MIN response threshold)

Parameter E25 affects the response behavior when the signal changes.

### S5/S6 (Pressure control ramp times)

- S5 sets the ramp time for increasing pressure setpoints in ms
- S6 sets the ramp time for decreasing pressure setpoints in ms

### NOTE

For sustainable system stability, the ramp time can be adjusted. The ramp times always refer to setpoint jumps of 100% and define the ramp slope. That is, for lower setpoint jumps, the ramp times behave proportionally. The optimal setting of the ramp time for pressure control and regulation is highly dependent on the system, particularly on hydraulic capacities and different operating points.

Tuning to the specific system can help with optimization.

### P3 (Max A-channel)

Parameter for fine-tuning the maximum pressure. Due to electrical and mechanical tolerances, the specified maximum pressure may be exceeded when the maximum setpoint is specified. This parameter varies between individual valves.

### P5 (Dither amplitude) & P6 (Dither frequency)

The dither amplitude and dither frequency parameters can be used to adjust the valve's dynamics.

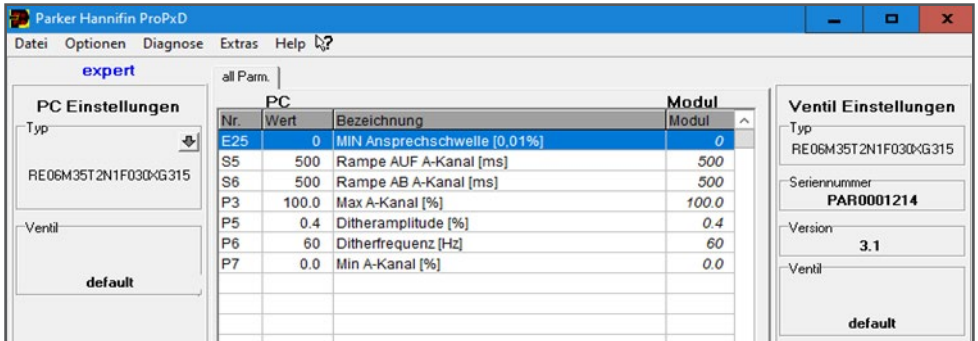
### P7 (Min A-channel)

Shifts the dead zone in the lower range of the setpoint specification where signal changes have no effect on the system pressure.

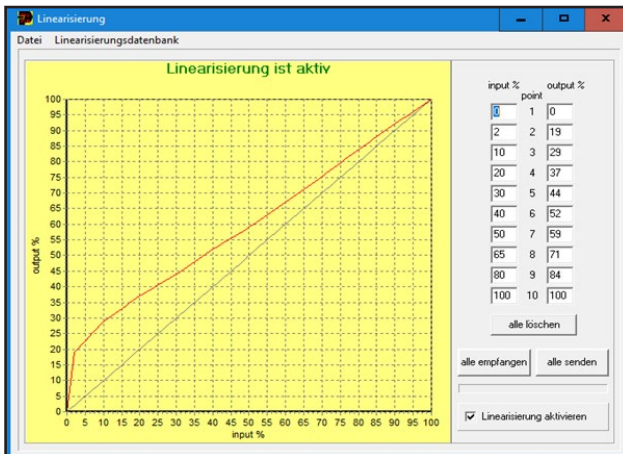
## Adjustment of Linearization

For fine-tuning the pressure relief valve with onboard electronics, it may be necessary to adjust the linearization. The adjustment is made using the Parker Hannifin ProPxD soft-

ware while the valve is connected. To do this, first press the “Extras” button, and then select the “Linearization” button. This will open the window for adjusting the linearization.



**WARNING:** Before adjusting the linearization, the initial values should be secured by an appropriate measure.



**WARNING:** Filling the input-output table with zero values deactivates the linearization. The input is defined as the percentage value of the setpoint specification, and the output

value is defined as the percentage value of the maximum pressure. If the maximum pressure is to be limited, it is recommended to adjust parameter P3.

## Troubleshooting

### Pump does not build up pressure, but delivers full flow at low pressure

reason  
 solution Standard pressure compensator is set to minimum pressure.  
*Adjust compensator setting to desired pressure.*

reason  
 solution Multiple pressure pilot selector valve is not energized; Pump works in stand-by.  
*Energize directional valve solenoid.*

reason  
 solution Differential pressure at compensator is adjusted too low.  
*Check differential pressure adjustment and correct if necessary.*

reason  
 solution pressure relief valve with onboard electronic incorrectly connected.  
*Check wiring diagram, correct connection.*

### Pump does not compensate

reason  
 solution No pressure pilot valve connected to compensator or valve is blocked.  
*Connect pressure pilot valve to compensator, make sure valve opens as required.*

reason  
 solution No or too low pressure at pump outlet port.  
*Pump outlet pressure must be at least 15 bar, because otherwise the bias spring in the pump cannot be compressed.*

### Pump does not upstroke, sticks at zero displacement.

reason  
 solution Compensator is blocked due to contamination.  
*Clean hydraulic fluid, clean compensator valve.*

reason  
 solution Cable to proportional solenoid is interrupted.  
*Check wiring and make sure cable is ok. Replace if necessary.*

### Compensator is unstable

reason  
 solution Compensator spool is sticking due to contamination of hydraulic fluid.  
*Clean hydraulic system, clean compensator valve.*

reason  
 solution Compensator differential pressure changed (too low or too high)  
*Adjust compensator differential pressure to required setting.*

reason  
 solution Air in the system  
*Bleed the valve*

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- ISO 13849-1:2015
- SS-EN ISO 4413:2010

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### Christian Jäger

General Manger

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