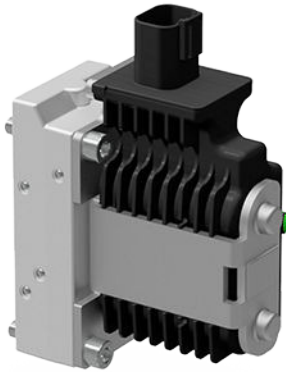


PVEO

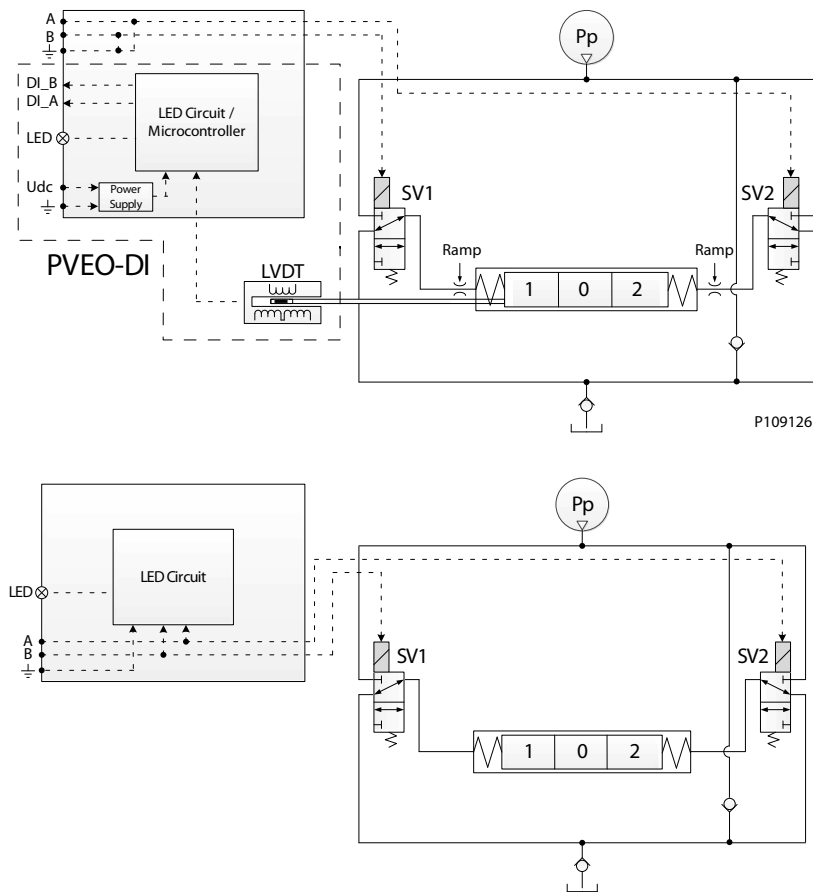
The PVEO actuator is a non-proportional ON/OFF control actuator with open-loop spool control primarily used to control simple ON/OFF work functions where a proportional control of speed or oil flow is not a requirement

The PVEO is available in two different performance variants, the standard PVEO and the PVEO-R with ramp.

PVEO



PVEO functionality



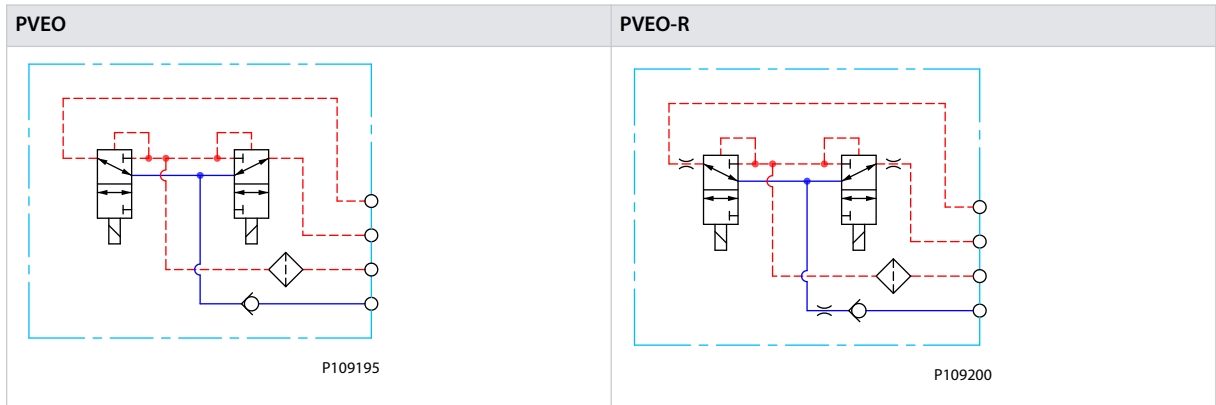
The standard PVEO functionality includes the simplest electric circuit of the PVE Series 7 actuator program, using a fixed 12 Vdc or 24 Vdc supply voltage or signal voltage and a simple LED circuit to control the LED light indicating Power ON/OFF.

The PVEO-DI variant includes an LVDT spool position monitor and a more advanced electric circuit with an embedded micro-controller and separate power supply to handle the Direction Indication functionality.

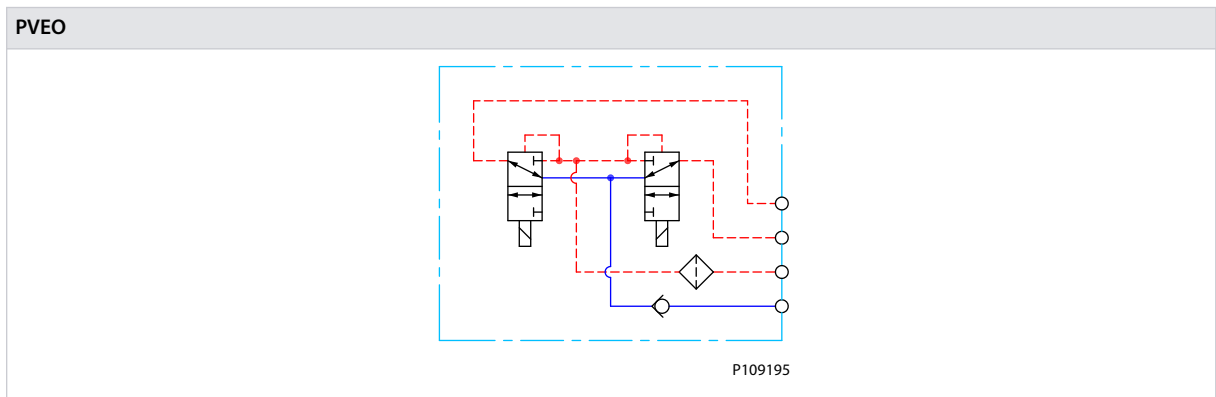
An energization of solenoid valve SV1 and a simultaneous de-energization of SV2 will cause the main spool to move to the right direction and vice versa. If both SV1 and SV2 are energized or de-energized simultaneously, the main spool stays locked in its neutral position.

PVEO Schematics and Dimensions

Schematics



PVEO schematics



Dimensions

PVEO	Connector height
<p style="text-align: center;">P109127</p>	DEU = 24 mm [0.94 in] DIN = 13 mm [0.51 in]
Weight: 2 kg [4.4 lbs]	
<p style="text-align: center;">P109231</p>	

PVEO Technical Data

Control Specification

Description	Type	Value	
Supply Voltage (Udc)	Rated	12 Vdc	24 Vdc
	Range	11 to 15 Vdc	22 to 30 Vdc
	Max. ripple	5%	
<i>Current Consumption</i>	Typical	708 mA	361 mA
	Minimum	430 mA	220 mA
	Maximum	944 mA	482 mA

Operating Conditions

Description	Type	Value	
Pilot Pressure	Nominal	13.5 bar	[196 psi]
	Minimum	10.0 bar	[145 psi]
	Maximum	15.0 bar	[218 psi]
<i>Oil Consumption</i>	Neutral	0.0 l/min	[0.0 gal/min]
	Locked position	0.0 l/min	[0.0 gal/min]
	Actuating	0.9 l/min	[0.24 gal/min]
	Actuating (PVEO-R)	0.3 l/min	[0.08 gal/min]
Max T-port pressure	Static	25 bar	[365 psi]

Operating Conditions (continued)

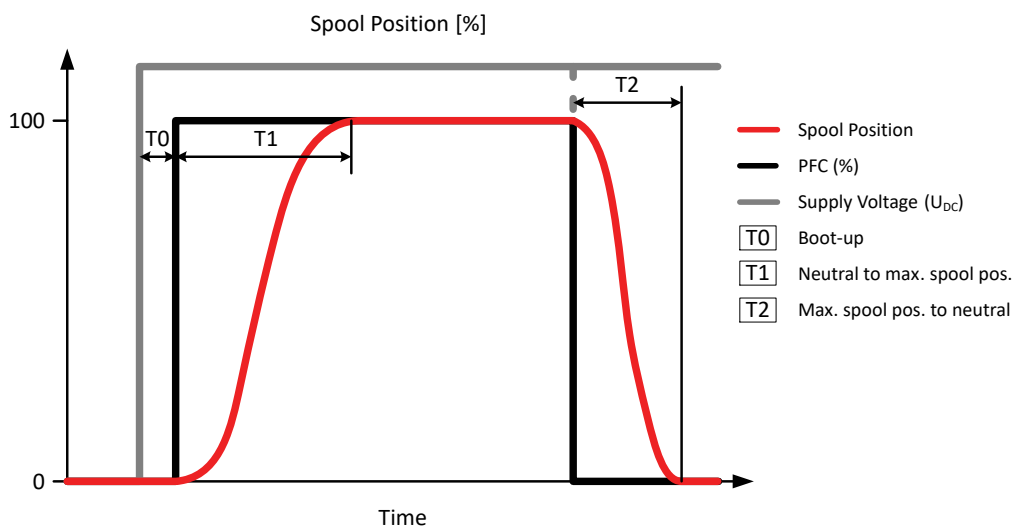
Description	Type	Value	
Max T-port pressure	Intermittent	40 bar	[580 psi]
Storage Temperature	Ambient	-50 to +90°C	[-58 to +194°F]
Operating Temperature	Ambient	-40 to +90°C	[-40 to +194°F]
Oil Viscosity	Operating range	12 to 75 cSt	[65 to 347 SUS]
	Minimum	4 cSt	[39 SUS]
	Maximum	460 cSt	[2128 SUS]
Oil Cleanliness	Maximum	18/16/13 (according to ISO 4406)	

LED characteristic

Color	LED characteristic	Description
Green constant		Power ON

PVEO Reaction Times

Reaction times



Definition of Step Response

Reaction	PVG 32		PVG 128/256	
	PVEO PVEO-DI	PVEO-R	A port	B port
T0 – Boot-up	0	0	0	0
T1 – Neutral to max. spool stroke @ Power ON/ @ Constant U_{DC}	110 ms	325 ms	375 ms	520 ms
T2 – Max. spool stroke to neutral @ Power OFF/ @ Constant U_{DC}	110 ms	340 ms	350 ms	600 ms

PVEO Variants for PVG

PVG 32/100 Variants

Part number	Type	Connector	IP	Udc	Functionality
11166843	PVEO	1x4 DEU	67	12 Vdc	Standard
11166838	PVEO	1x4 DEU	67	24 Vdc	Standard

PVG 32/100 Variants (continued)

Part number	Type	Connector	IP	Udc	Functionality
11166866	PVEO	1x4 AMP	66	12 Vdc	Standard
11166837	PVEO	1x4 AMP	66	24 Vdc	Standard
11166836	PVEO	1x4 DIN	65	12 Vdc	Standard
11166743	PVEO	1x4 DIN	65	24 Vdc	Standard
11166753	PVEO-R	1x4 DEU	67	12 Vdc	Ramp
11166754	PVEO-R	1x4 DEU	67	24 Vdc	Ramp
11166867	PVEO-R	1x4 AMP	66	12 Vdc	Ramp
11166776	PVEO-R	1x4 AMP	66	24 Vdc	Ramp
11166831	PVEO-R	1x4 DIN	65	12 Vdc	Ramp
11166908	PVEO-R	1x4 DIN	65	24 Vdc	Ramp
11168740 ¹	PVEO-DI	2x4 AMP	66	12 Vdc	Standard
11166869 ¹	PVEO-DI	2x4 AMP	66	24 Vdc	Standard

¹ Includes *Direction Indication* special feature

PVG 120 Variants

Part number	Type	Connector	IP	Udc	Functionality
11166755	PVEO	1x4 DEU	67	12 Vdc	Standard
11166757	PVEO	1x4 DEU	67	24 Vdc	Standard
11166815	PVEO	1x4 AMP	66	12 Vdc	Standard
11166816	PVEO	1x4 AMP	66	24 Vdc	Standard
11166822	PVEO	1x4 DIN	65	12 Vdc	Standard
11166744	PVEO	1x4 DIN	65	24 Vdc	Standard
11166882	PVEO-R	1x4 AMP	66	24 Vdc	Ramp
11166909	PVEO-R	1x4 DIN	65	24 Vdc	Ramp

PVG 128/256 Variants

Part number	Type	Connector	IP	Udc	Functionality
11186328	PVEO	1x4 DEU	67	12 Vdc	Standard
11186330	PVEO	1x4 DEU	67	24 Vdc	Standard
11186331	PVEO	1x4 DIN	65	12 Vdc	Standard
11186342	PVEO	1x4 DIN	65	24 Vdc	Standard

PVG 60 Variants

Part number	Type	Connector	IP	Udc	Functionality
11166939	PVEO	1x4 DIN	65	12 Vdc	Standard
11166940	PVEO	1x4 DIN	65	24 Vdc	Standard