

Electric actuator type PVEB for PVG 32 proportional valves

DKMH.PN.570.Q1.02 is new

Introduction

Danfoss is introducing an electric actuator, PVEB, as part of a new series PVE series 3 - for PVG 32 proportional valves.

Characteristically the of PVEB is that it incorporates:

- Newly developed electronics based on hybrid technology.

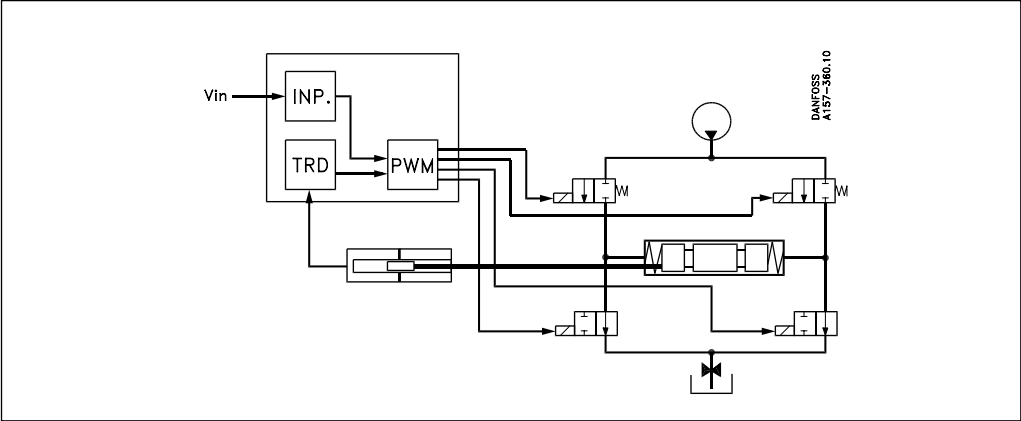
- Standard AMP socket (IP 66).

PVEB fulfils demands for the precise control of highly dynamic systems and is an optimum and competitive alternative to the present PVEH.

Versions and code numbers

Version	Description	Code number	
		12 Volt	24 Volt
	PVEB	157B4921	157B4922

PVEB operating principle



PVEB is built up of both new and existing components:

- Newly developed electronics based on hybrid technology.
- Same inductive LVDT transducer as PVE series 2.
- Same hydraulic bridge as PVE series 2.

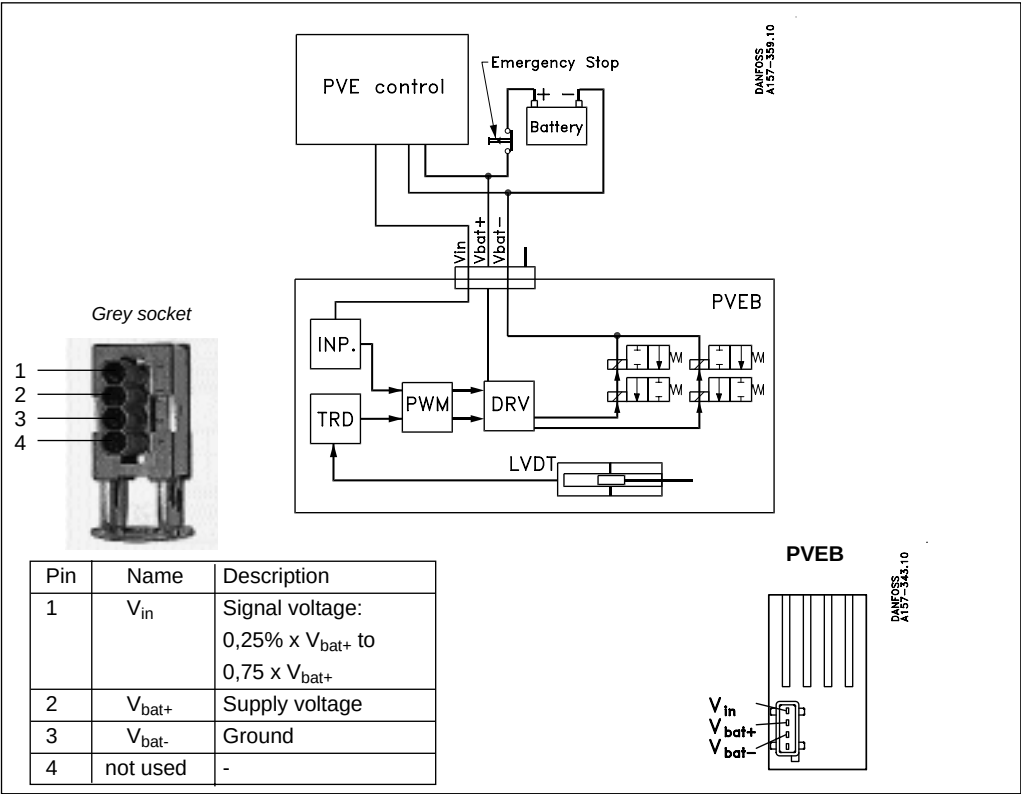
- Low hysteresis
- Fast reaction time

and differs on the following points:

- No active/passive fault monitoring
- No fault output (pin 3)

Compared with PVEH series 2, PVEB shares the following common features:

PVEB connections



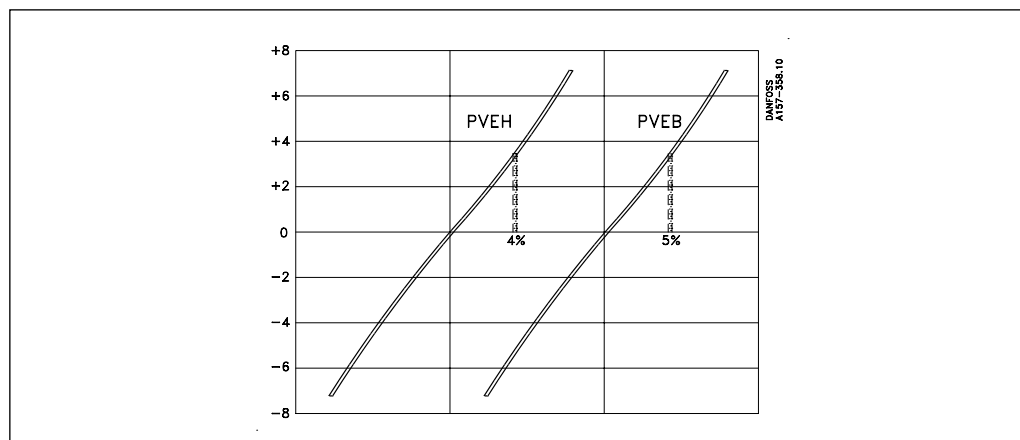
Technical data

The unit is for use with mineral oil with a viscosity of 21 mm²/s at a temperature of 50°C.

Reaction time and hysteresis

Function	Voltage	Min.	Nominal	Max.
Reaction time from neutral position to max. spool travel	V _{bat} OFF (Neutr. switch)	120 ms	150 ms	230 ms
Reaction time from max. spool travel to neutral position	V _{bat} OFF (Neutr. switch)	65 ms	90 ms	175 ms
Reaction time from neutral position to max. spool travel	V _{bat} ON	50 ms	120 ms	200 ms
Reaction time from max. spool travel to neutral position	V _{bat} ON	65 ms	90 ms	100 ms
Hysteresis (frequency = 0.02 Hz)			5%	

Comparison of hysteresis, PVEH and PVEB



Pilot oil consumption

	Voltage	Oil flow
Pilot oil flow per PVEB	Off	0 l/min
Pilot oil flow per PVEB in locked position	On	0,1 l/min
Pilot oil flow per PVEB on one full movement	On	1,1 l/min

Electrical specification

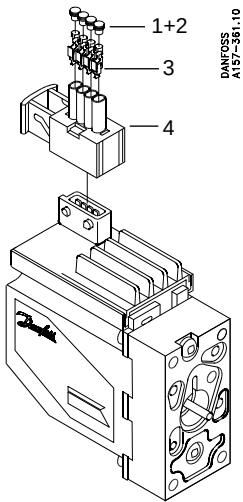
Rated voltage	12 V _{DC}	24 V _{DC}
Supply voltage (U _{DC}) range	11 - 15 V	22 - 30 V
Supply voltage (U _{DC}) max. ripple	5%	
Supply voltage (U _{DC}) overvoltage (max. 5 min)	18 V	36 V
Current consumption (operation)	650 mA	330 mA
Signal voltage in neutral	0,5 x U _{DC}	
Signal voltage in regulating range	0,25 x U _{DC}	to 0,75 x U _{DC}
Signal current	0,25 mA	0,5 mA
Input impedance at 0,5 x U _{DC}	12 kΩ	
Power consumption	8 W	

Degree of protection and socket

IEC 529 classification	IP 66
PVEB socket	4-pole AMP

AMP JPT socket

AMP socket for PVE series 3



Pos.	Description	Qty	AMP . code number	Danfoss code number	Danfoss code number with 4 m cable
1	Cable gland for 1,2 - 2,1 mm cable diameter (blue)	4*	828904-1	157B4992 (Fixed size of order: 100 off)	157B4994 (Fixed size of order: 50 off)
2	Blanking plug (transparent)	1	828922-1		
3	JPT contact	4*	929930-1		
4	JPT housing (grey)	1	2-967059-1		

*At present only 3 are used - in the future there will be a 4-cable connection possibility.

Standard AMP tool	539635-1
Jaw for JPT kontakt 929930-1	539737-2

The AMP socket (Junior Power Timer) has been developed especially for the automotive industry where high reliability and safety are critical. Similar requirements also apply within mobile hydraulics equipment. Typical applications in vehicles are lambda probes, anti-theft alarms, ventilation, lighting, sensors, fuel pumps, etc.

- The features which make the AMP socket ideal are:
- Separate insulation of each lead ensures minimum risk of short-circuiting between leads.
 - Safe JPT locking.
 - Safe housing lock.
 - Mechanical coding of housing.
 - IP 66

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