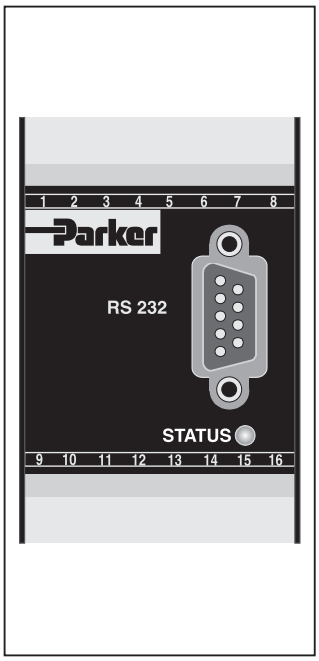
Parker Series PWDXXA-40 E-Module for Proportional Directional Control Valves Service Manual

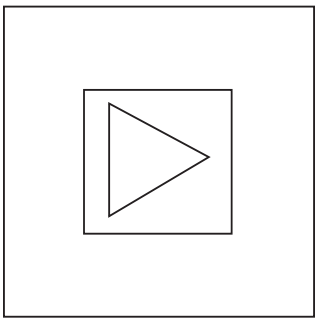
Technical Information

General Description

Series PWDXXA-40* electronic module for driving proportional valves with spool position feedback is compact and easy to install with DIN rail mounting and plug-in terminals. The digital design allows for programmable parameters such as solenoid drive current, mins, maxs, ramps and a range of position feedback signals. The module provides flexibility and repeatability from unit to unit. The module parameters are programmed with an RS-232 interface and user friendly software (ProPxD) with default values for standard valves.

The PWDXXA-40* module contains the functions required by typical internal closed loop proportional valve applications (series D*FC, D*1FS, RLL*R, WLL*R and TEL valves).





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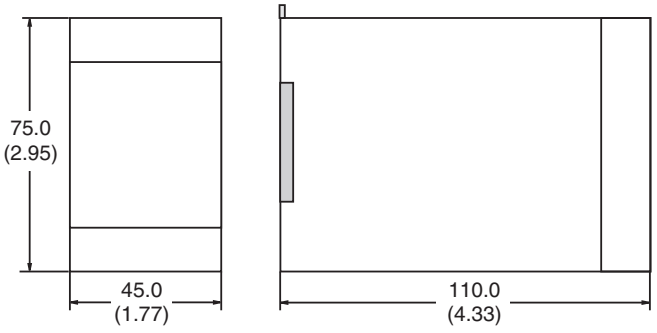
Features

- Interface and tuning for spool position feedback.
- Programmable parameters.
- ±10V, ± 20 mA, 4-20 mA position transducer input.
- RS-232 Interface.
- User friendly programming software.
- Plug-in terminals.
- Four independent ramps.
- Input Enable with Status indicator.
- Differential command input.
- Compliant with European EMC Standards.

Dimensions

Inch equivalents for millimeter dimensions are shown in (**)



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Parker Hannifin Corporation
Hydraulic Valve Division
Elyria, Ohio, USA

Ordering Information

PWD — Electronic Module DC Valve

XX — Position Control Universal

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40 — Module Type

Code	Description
40	Amplifier, MIN/MAX adjustment, UP/DOWN ramps, Command input

Technology Function

Code	Description
0	Standard
1	Linearization Option

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Design Series

NOTE: Not required when ordering.

Weight: 160g (.35 lbs.)

Specifications

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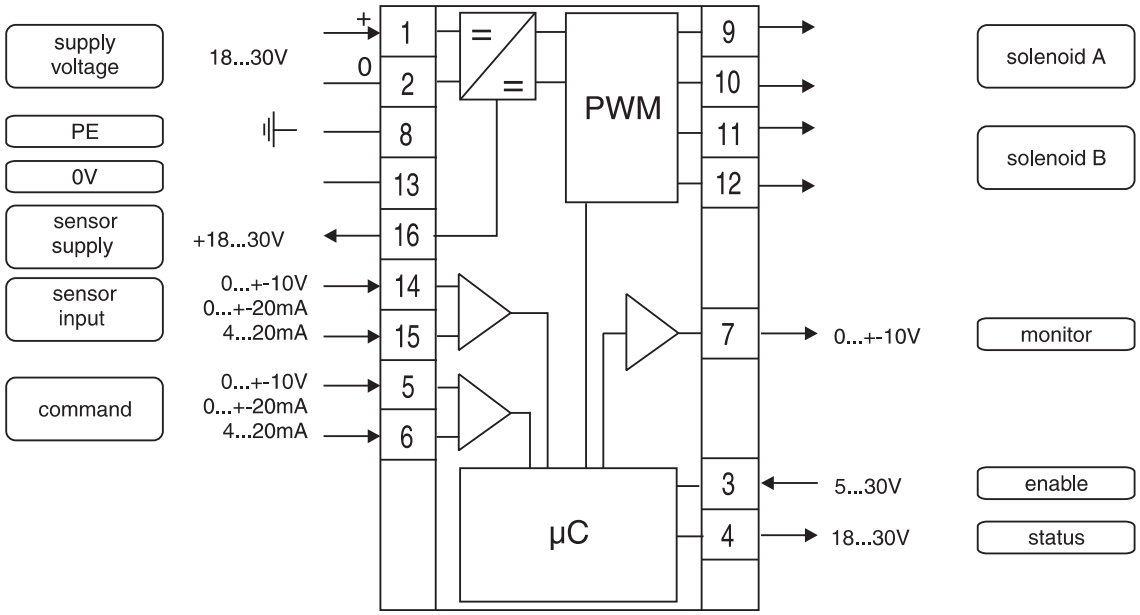
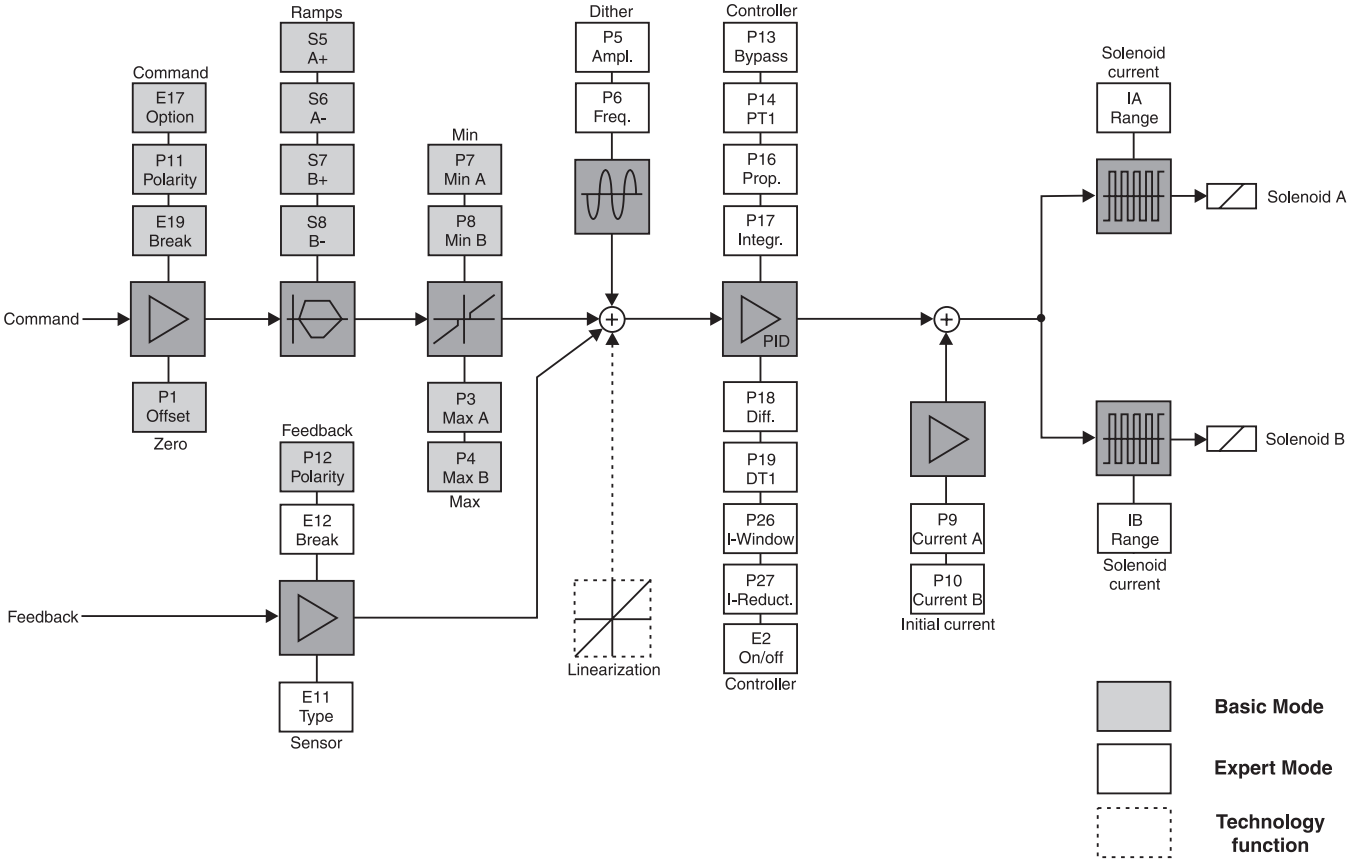
General			
Model	Module package for snap-on mounting on EN 50022 rail	**Mounting Position**	Any
Package Material	Polycarbonate	**Ambient Temperature Range**	-20°C to +60°C (-4°F to +140°F)
Inflammability Class	V2 to V0 acc. UL 94	**Protection Class**	IP 20 acc. DIN 40050
Electrical			
Duty Ratio	100%	**Status Signal**	Off – 0 to 0.5 VDC; On – Supply Voltage; rated max. 15 mA
Supply Voltage	18 VDC to 30 VDC, ripple < 5% eff., surge free	**Monitor Signal**	+10 to 0 to -10 VDC, rated max. 5 mA, signal resolution 0.4%
Switch-on Current Typ.	22A for 0.2 mS	**Adjustment Ranges**	Minimum 0 to 50% Maximum 50 to 100% Ramp Time 0 to 32.5 s Zero Offset +100 to -100% Current 1.3/2.7/3.5 A Initial Current 0 to 25%
Current Consumption Max.	2.0A		
Pre-fusing	2.5A medium lag		
Command Signal	+10 to 0 to -10 VDC, ripple < 0.01 % eff., surge free, Ri = 100K ohm +20 to 0 to -20 mA, ripple < 0.01 % eff., surge free, Ri = 200 Ohm 4 to 12 to 20 mA, ripple < 0.01 % eff., surge free, Ri = 200 Ohm < 3.6 mA = solenoid output off, > 3.8 mA = solenoid output on (acc. NAMUR NE43)	**Interface**	RS 232C, DSub 9p. male for null modem cable
		EMC	EN 50081-2, EN 50082-2
Input Signal Resolution	0.025%	**Connection**	Screw terminals 0.2 to 2.5 mm², plug-in
Differential Input Voltage Max.	30V for terminals 5 and 6 against PE (terminal 8)	**Cable Specification**	16 AWG overall braid shield for supply voltage and solenoids 20 AWG overall braid shield for sensor and signal
Enable Signal	Off – 0 to 2.5 VDC On – 5 to 30 VDC; Ri = 30K ohm	**Cable Length**	50m (164 ft.)
Options			
Technology Function	Code 1 – Software adjustable transfer function with 10 compensation points for linearization of valve behavior.		

Block Diagram — Wiring



Signal Flow Diagram



ProPxD Interface Program

The new ProPxD software permits comfortable parameter setting for the electronic module series PCD, PWD, PZD and PID.

Via the clearly arranged entry mask the parameters can be noticed and modified. Storage of complete parameter sets to floppy or hard disk is possible as well as printout or record as a text file for further documentation. Stored parameter sets may be loaded anytime and transmitted to the electronic module in the same manner as the basic parameters which are available for all usable valve series. Inside the electronic a nonvolatile memory stores the data with the option for recalling or modification.

Features

- User-friendly editing of all parameters.
- Storage and loading of optimized parameter adjustments.
- Executable with all Windows® operating systems from Windows® 95 upwards.
- Communication between PC and electronic via serial interface RS-232 and null modem cable.
- Simple to use interface program. Download free of charge **www.parker.com/euro_hcd → Services → downloads**

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