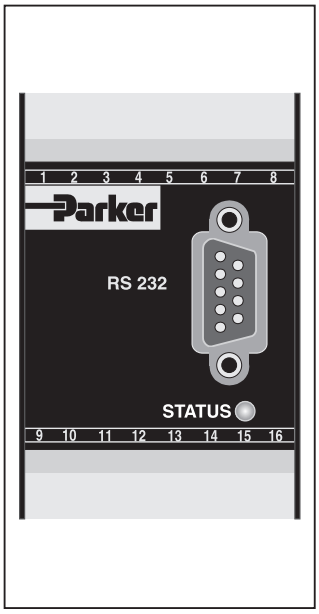
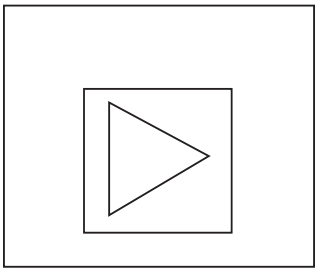
Parker Series PWD00A-400 E-Module for Proportional Directional Control Valves Service Manual

General Description

Series PWD00A-400 electronic module for driving open loop proportional valves 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 and maxs, and ramps. Profiles controlled by on-off logic signals can be configured through internal velocity setpoints and ramps. The module provides flexibility for different applications 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 the standard valves.

The PWD00A-400 module contains the functions required by typical open loop proportional valve applica - tions (series D*FB, D*FW, D*1FW, WLL, RLL valves).





Features

- Programmable parameters.
- Analog or Profile Capability.
- RS-232 Interface.
- User friendly programming software.
- Four independent ramps.
- Input Enable with Status indicator.
- Differential input on analog command.
- Compliant with European EMC Standards.

Specifications

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%	**Channel Recall Signal**	Off – 0 to 5.0 VDC; On – 8.5 to 30 VDC; Ri = 30K ohm
Supply Voltage	18 VDC to 30 VDC, ripple < 5% eff., surge free (29 VDC to 30 VDC for 24V coils)	**Status Signal**	Off – 0 to 0.5 VDC; On – Supply Voltage; rated max. 15 mA
Switch-on Current Typ.	22A for 0.2 mS	**Adjustment Ranges** Minimum Maximum Ramp Time Zero Offset Current	**preset** 0 to 50% 0 to 1000 50 to 100% 0 to 1000 0 to 32.5 s 0 to 32.5 +75 to -75% +1000 to -1000 0.8/3.5/2.7/1.8/1.3 A 0/1/2/3/4/5
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 = 150K ohm **Do not input a command greater than ±10 VDC.**	**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 Maximum	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 5.0 VDC On – 8.5 to 30 VDC; Ri = 30K ohm	**Cable Length**	50m (164 ft.)

⚠ **WARNING:** This product can expose you to chemicals including Lead, Nickel (Metallic), or 1,3-Butadiene which are known to the State of California to cause cancer, and Lead or 1,3-Butadiene which is known to the State of California to cause birth defects and other reproductive harm. For more information go to www.P65Warnings.ca.gov.

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Parker Hannifin Corporation
Hydraulic Valve Division
Elyria, Ohio, USA

Ordering Information

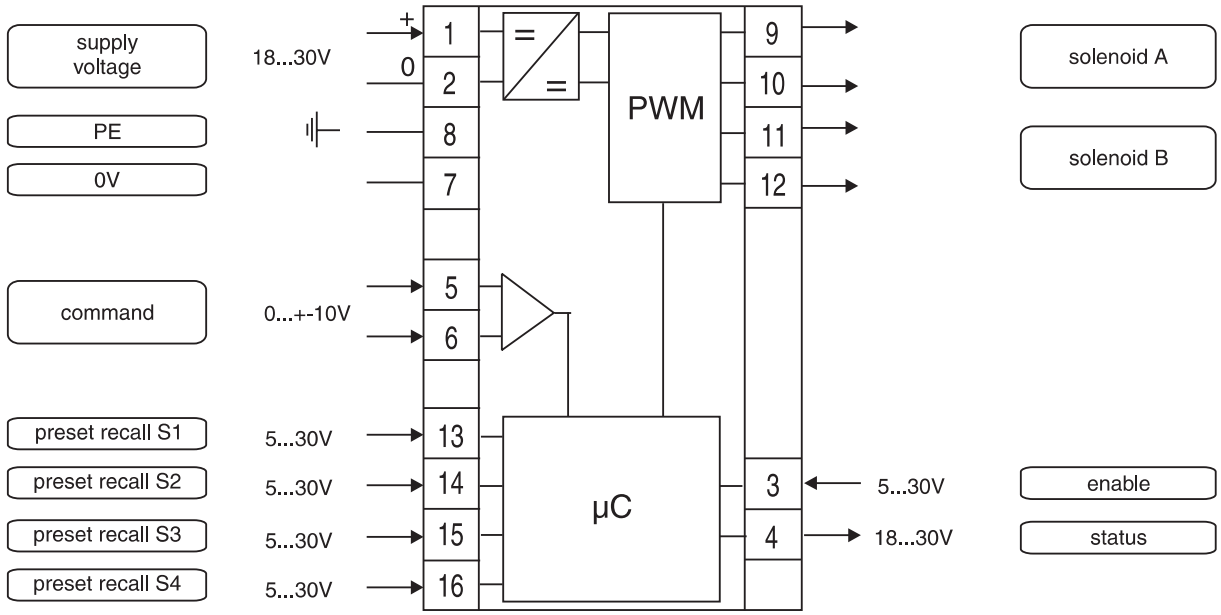
PWD	00	A	—	400	—	[ ]
Electronic Module DC Valve	Position Control Universal			Module Type		Design Series

NOTE: Not required when ordering.

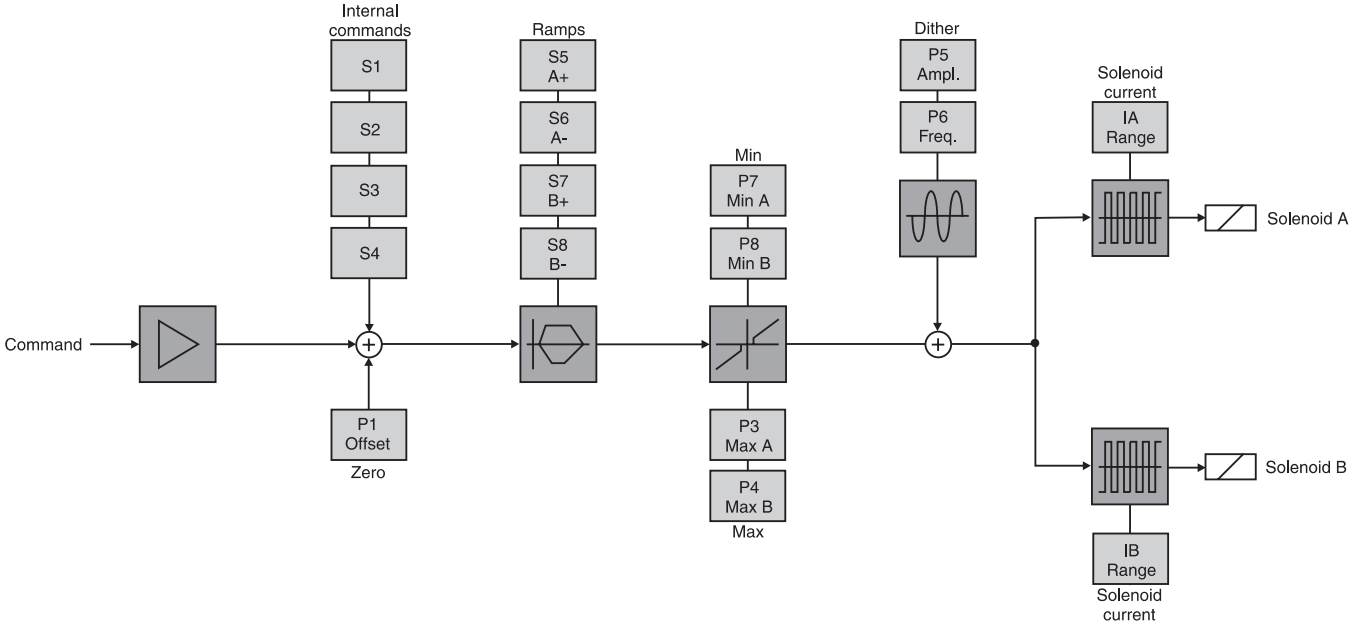
Code	Description
400	Amplifier, MIN/MAX adjustable, UP/DOWN ramps, Command inputs

Weight: 160 g (0.35 lbs.)

Block Diagram — Wiring



Signal Flow Diagram



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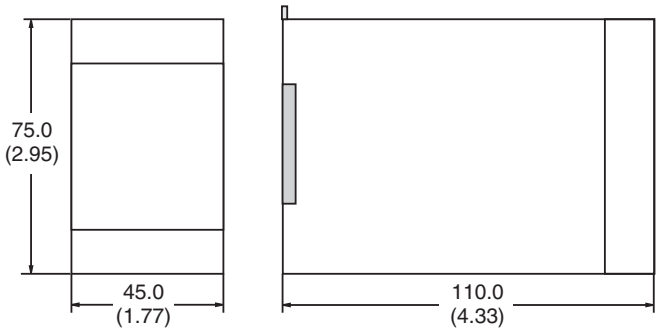
Dimensions

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



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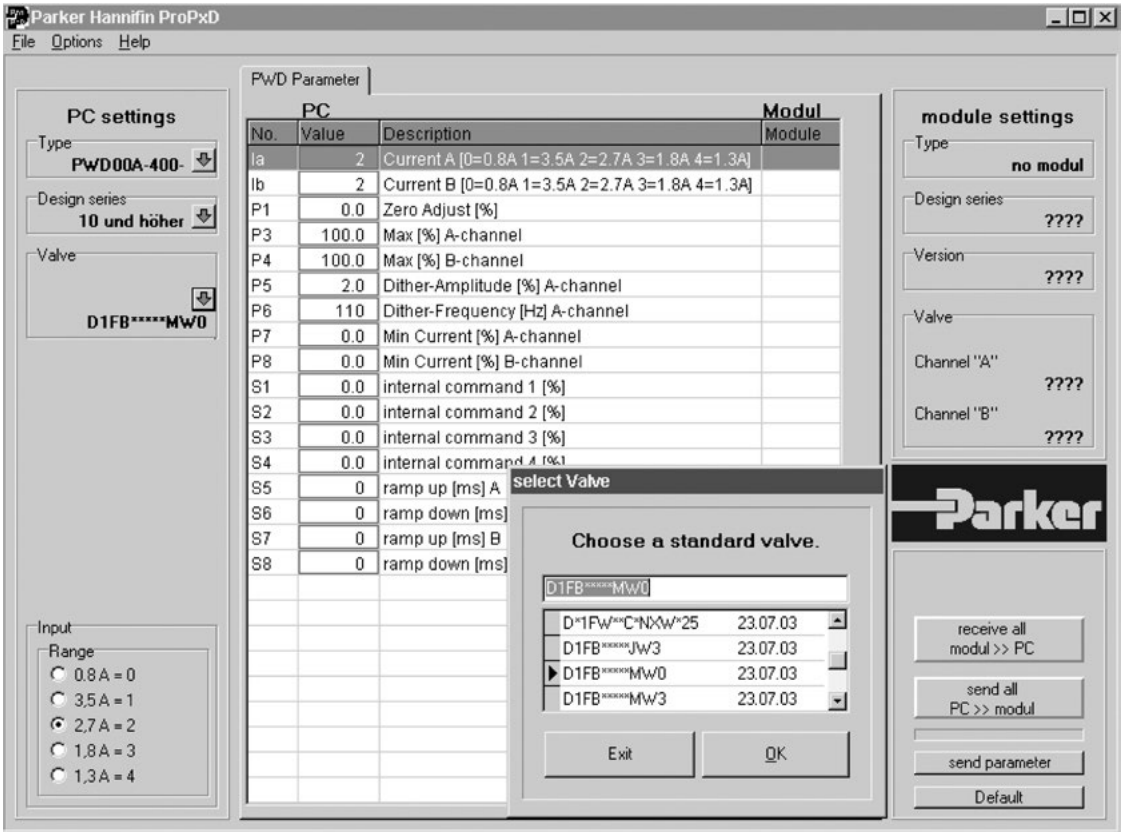
ProPxD Interface Program

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**