

PROPORTIONAL VALVE TESTER

PVT-02
with 12 Pin Connectors

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DESCRIPTION

The Proportional Valve Tester (PVT-02) is an inline electrical monitor for proportional hydraulic valves with on-board electronics. It is designed to monitor those voltages which can affect the control of proportional hydraulic valves in a hydraulic system. Configured for industry standard proportional valves (Bosch, Rexroth) operating on 24VDC, a ± 10 VDC command signal, and utilizing hydraulic industry standard 12-pin connectors. Users are cautioned that some valves use non-standard supply and command voltages. Users must check the pin out provided in this manual against the pin out of the valve to be tested. *Failure to do so could result in damage to the valve.*

FEATURES

Monitoring of power, LVDT feedback, and command signal voltages are displayed on three voltmeters. A three position selector switch provides for selecting the source of the command signal sent to the valve. Users can select OFF, EXTERNAL (command signal from the control system) or INTERNAL (a manual command signal adjusted by the drive potentiometer). Power for the tester is provided by the control system. Figure 1 shows the control layout of the Proportional Valve Tester.

OPERATION

WARNING * * * WARNING
OBSERVE ALL LOCAL LOCKOUT AND SAFETY PROCEDURES!

1. Turn off motion system power and control power to hydraulics.
 - **FOLLOW ALL LOCK OUT PROCEDURES!!!**
2. Disconnect the control cable from the valve.
3. Connect the control system cable to JP2 on the valve tester.
4. Connect JP1 connector to the valve.

Note: Check the pin out provided in Figures 2 & 3 against the pin out of the valve to be tested.
Failure to do so could result in damage to the valve.

For EXTERNAL Command signal operation:

5. Place the **EXTERNAL/INTERNAL** selector switch to **EXTERNAL**. (This places the motion control system in control of the valve. *The DRIVE potentiometer and the PUSH-TO-ENABLE button have no effect when EXTERNAL is selected*).
6. Power may now be re-applied to the motion control system.
7. Turn on hydraulics power.
8. Proceed with operation / testing of the valve.

For INTERNAL operation:

5. Place the **EXTERNAL/INTERNAL** selector switch to **INTERNAL**. (This places the Proportional Valve Tester in control of the valve).
6. Power may now be re-applied to the motion control system.
7. Adjust the **DRIVE** potentiometer to read 0 (No drive).

Note: The accuracy of the panel voltmeters is $\pm 1.1\%$. The command signal voltmeter has been calibrated for 10VDC.

SOME MOVEMENT OF THE HYDRAULICS CYLINDER MAY OCCUR WHEN HYDRAULIC POWER IS APPLIED. ENSURE ALL LOCAL SAFETY PROCEDURES ARE FOLLOWED TO PREVENT INJURY BY MOVING MACHINERY.

8. Turn on hydraulic power.
9. Push and hold the PUSH-TO-ENABLE button to send the internal command signal to the valve.
10. Proceed with operation / testing of the proportional valve.

SPECIFICATIONS

Operating voltage:

Nominal: 24.0VDC @ 160ma

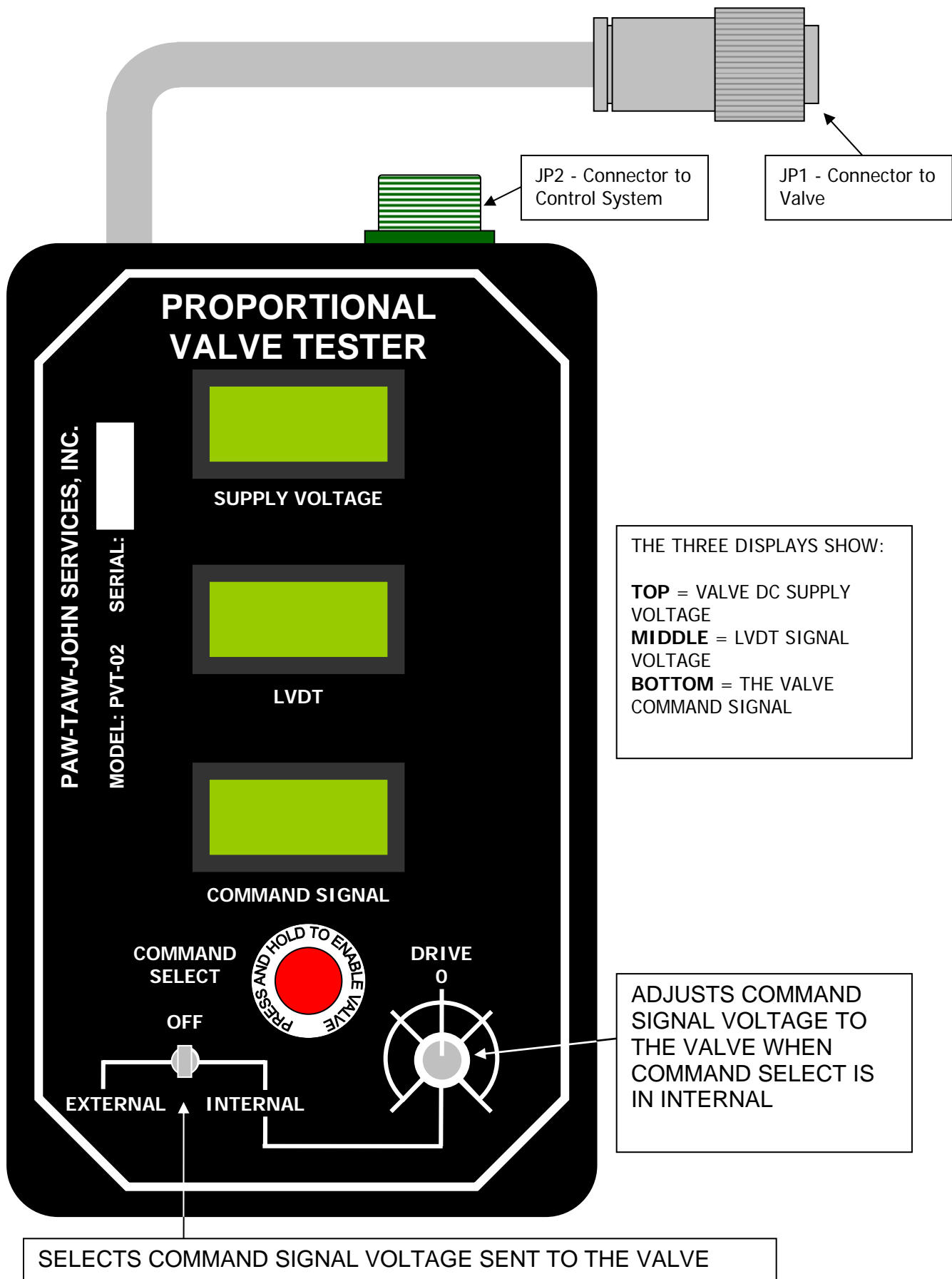
Maximum: 21.6VDC to 26.4VDC

Meter Accuracy: $\pm 1.1\%$

.88VDC at full scale (calibrated)

.55VDC at 0VDC

DRIVE output: ± 10 VDC @ 90ma (**INTERNAL** selected)



WARNING *** WARNING

Improper use of the proportional valve tester can result in damage to the valve, hydraulics and/or control system

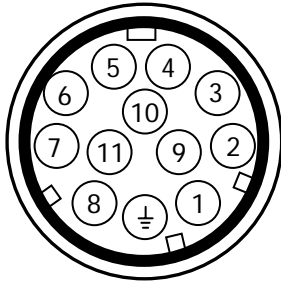


Figure 2
Pinout looking at connector
end

Pin	Meaning
1	+24VDC
2	24VDC RET
3	VALVE ENABLE INPUT
4	COMMAND +
5	COMMAND -
6	LVDT
7	LVDT RET
8	ENABLE OK OUTPUT
9	+24VDC ELECTRONICS
10	+24VDC ELECTRONICS RET
11	NO FAIL OUTPUT
12	EARTH GROUND

Figure 3
JP1 & JP2 Pinouts

This cable is wired as shown above. Please check your valve pin out before using this cable.
If your valve pin out is different DO NOT USE this cable as damage to the valve may occur.

