

7.6 | External Proportional Solenoid Valves — Direct PWM Coil Drive

Applicable to: External proportional valves with solenoid coils driven directly by COMMAND's PWM outputs. For valves fitted with Danfoss PVE electronic actuators, refer to the Danfoss PVE installation section.

IMPORTANT: Confirm that the external valve's electrical requirements are compatible with **COMMAND**. The ECU supports a maximum coil current of **2 A**. If a coil would draw more than 2 A at full output (100% PWM), reduce the corresponding **Max %** setting in **Level COMMAND** before operating the valve. This limits the maximum output to prevent an overcurrent fault.

Connection Method

COMMAND directly controls the valve solenoids using current-controlled PWM outputs. The **T3H-V002** valve extension connects to the **T3H-C002** ECU breakout harness and provides a 6 m extension to the implement-mounted valves.

The **T3H-V003 — Valve Adapter - Prop. Solenoid (2-way DT)** connects the extension to valves fitted with compatible 2-pin Deutsch connections.

NOTE: For valves using other connector types, such as Hirschmann, the dealer or installer must provide a suitable adapter. T3RRA currently supplies the 2-pin Deutsch valve adapter only. Any alternative adapter must maintain the correct circuit connections and comply with the valve manufacturer's polarity requirements.

Installation Steps

1. Complete the machine preparation steps in **Section 5.1** and isolate the tractor electrical supply.
2. Connect the **T3H-V002** valve extension to the valve output connector on the **T3H-C002** ECU breakout harness.



3. Route the extension to the external valve block. Allow sufficient slack for tractor articulation and implement movement, and secure the harness clear of moving parts, hot surfaces and pinch points.
4. Connect the **T3H-V003** valve adapter, or suitable alternative adapter, to the implement end of the **T3H-V002** extension.



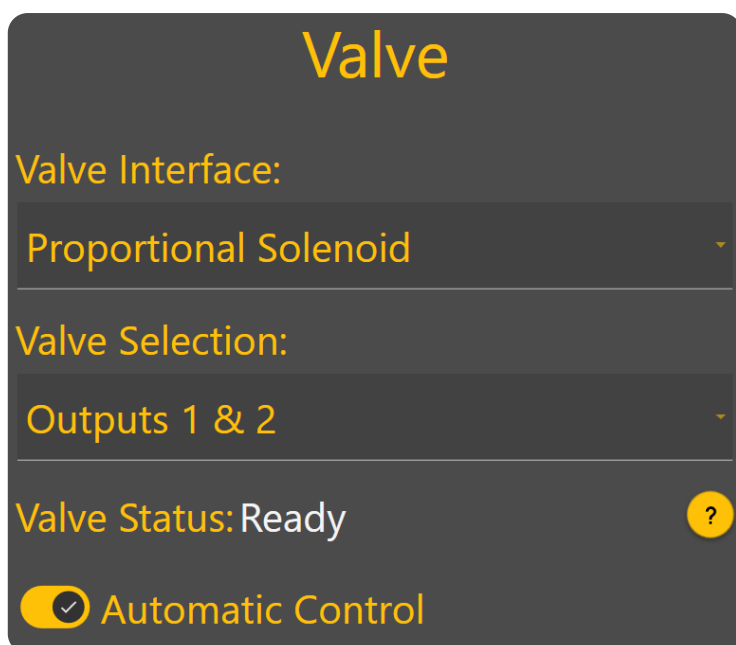
5. Connect the adapter's solenoid plugs to the appropriate valve coils for each controlled function, such as height and cross-slope. Identify the raise/lower or tilt directions for verification during

setup.

6. Secure the connections and protect any unused connectors against moisture and dirt.
7. Keep **COMMAND** disarmed and restore the electrical supply.

Valve Configuration

Confirm that the valve's electrical requirements are compatible with **COMMAND** before operating the outputs. Refer to **Section 2.4** for proportional solenoid compatibility.



The screenshot shows a dark-themed configuration window titled "Valve" in yellow. It contains three sections: "Valve Interface:" with a dropdown menu set to "Proportional Solenoid"; "Valve Selection:" with a dropdown menu set to "Outputs 1 & 2"; and "Valve Status: Ready" with a yellow question mark icon. At the bottom, there is a toggle switch for "Automatic Control" which is turned on, indicated by a yellow checkmark icon.

In **Level COMMAND**:

1. Select **Proportional Solenoid** as the valve interface.
2. Assign the required valve outputs to each controlled function.
3. Verify that each function moves in the intended direction, then complete valve threshold and cylinder calibration.

For detailed configuration and calibration instructions, refer to the **Level COMMAND Manual**.

NOTE: The external valve block must have the hydraulic supply and return connections required by the implement manufacturer. Configure any tractor remote supplying the valve block according to those instructions.

Operation Notes

NOTE: If manual control is not already provided, install a compatible joystick as described in **Section 6.3**.

COMMAND must be armed for a connected joystick to operate the valve outputs. Use the **COMMAND Arm/Engage switch** to arm the system and engage automatic control.

Joystick movement can disengage automatic control or temporarily override it, depending on the selected joystick configuration. Confirm the configured behaviour during commissioning and demonstrate it to the operator.

IMPORTANT: To stop automatic control, press the momentary side of the **COMMAND Arm/Engage switch**. Move the switch to **OFF** to disarm **COMMAND** and disable its hydraulic control outputs. Disarming also disables valve operation from a **COMMAND**-connected joystick.