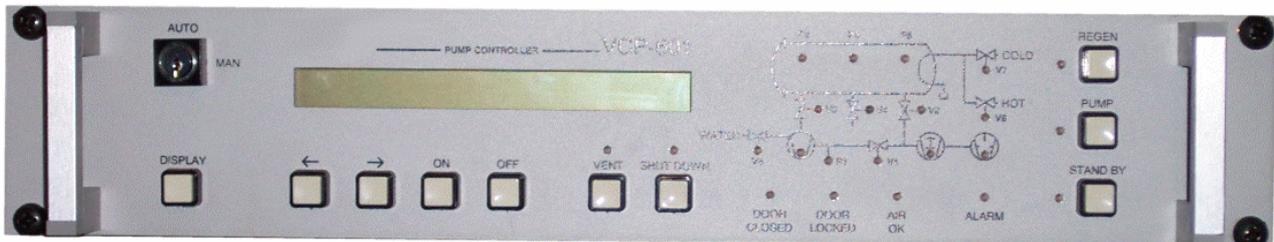


Technology • Process • Design • Outsourcing • Training

PSC-601 Pump Station Controller

The PSC-601 is a unit designed to perform the automatic sequencing of pumps and valves typically found on vacuum coating plants. Pumps controlled can be Cryogenic [including regen]; Oil Diffusion; Roots; Rotary Vane or Turbo molecular, depending on the software installed. This includes use with Polycold or equivalent Meissner/ baffle cryo-coolers.



The PCS-601 is designed to provide the complete control of a vacuum coating plant pumping system. It is based on the proven design of the PCS-600 but has the following advanced features:

1. Direct interface to analogue gauges. Each input is opto-isolated from the internal MPU supply. The software currently supports a wide range of gauges (additional gauges may be added by simple software modification). Individual relay associated with each analogue gauge allows gauge enable function to be easily implemented.
2. Standard RJ/45 (FCC-68) connectors allow gauges to be connected using standard cables.
3. Direct interface to RS232 serial output gauge. The RS232 port is opto-isolated from the internal MPU supply. The software is configurable to support a wide range of gauge.
4. Display of measured vacuums in mB on PCS-601 LCD display. These are also available externally using standard external control commands.
5. Eight vacuum set points are available (P0 to P7). According to the vacuum configuration selected these may be used by external control software or may be automatically assigned to PCS-601 control functions. This allows complete free standing operation of the pumping system to be achieved. (No system computer required)
6. Independent vacuum relay control of ion gauge enable. Certain vacuum configurations assign a vacuum relay specifically to the ion gauge enable. This allows convenient setting of the vacuum level at which the ion gauge first attempts to strike and allows monitoring of the chamber vacuum during standby (chamber isolated) conditions.
7. External communications achieved using standard fibre optic connections for improved noise immunity.
8. Display of door closed and door locked status on PCS-601 LED mimic display.

9. LCD indication is provided if pump down is attempted with the door either open or unlocked.
10. LCD indication is provided if venting is attempted whilst the external control system has disabled vent (typically due to PolyCold still being cool).
11. Increased flexibility of water control provided as standard.
12. External digital i/o connectors are standard sub-min 'D' type with screw locks to ensure mechanical reliability.
13. External +24Vdc supply connection is via a latching connector. (Mating connector is supplied with each VCP-601).
14. Additional 'Regen' button allows more convenient support of Cryo pump systems.
15. Two modes of manual control (configurable using an external command). One has no interlocks and is ideal for initial system commissioning. The other mode maintains some fundamental system interlocks to make manual control of pumping operations more secure.
16. New external command allows the down loading of status and fault display text. This makes upgrading of external control interface *d//* unnecessary for most PCS-601 software modifications.

Front Panel Indicators and LED Status

LED	STATUS	DESCRIPTION
Alarm	●	An error condition is active
P1	●	Backing pressure low
	●	Backing pressure high
P2	●	Rough pumping complete, plate valve open
	●	Chamber pressure above high vacuum changeover point
P4, P5	●	Vacuum relay pressure below set-point
	●	Vacuum relay pressure above set-point
 V1 to V8	●	Valve open
	●	Valve closed
 Rotary Pump	●	Rotary pump on
	●	Rotary pump off
 Booster Pump	●	Booster pump on (If fitted)
	●	Booster pump off (If fitted)
 High Vacuum Pump	●	High vacuum pump running.
	☀	High vacuum pump not ready
	●	High vacuum pump off