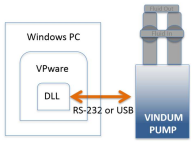
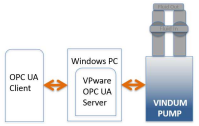
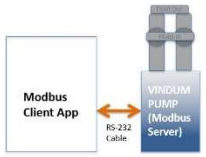
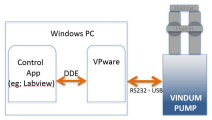
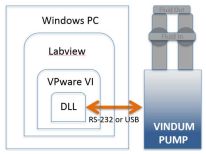
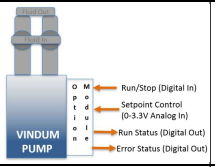
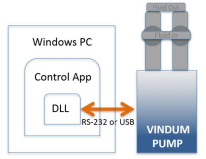
Vindum Pump Control Options

Pump Control System	Description	Control Platform	Pump Control Capabilities	Access to Pump Data	Example Applications	Connection Type
VPware	Proprietary pump-control application developed by Vindum. Free to Vindum pump customers.		Full Pump Control, graphing, advanced features, and error/warning notices.	Real-time graphing and/or save to CSV file for later analysis.	VPware is capable of controlling 16 pumps from one computer.	• RS232–USB • USB-USB • RS232-RS232 • RS232-Ethernet
OPC UA	VPware acts as an OPC UA server that allows OPC UA client applications to access pump data and pump commands.		Full library of pump commands.	OPC UA Client can request full pump data.	Any OPC UA client application	• same as above
Modbus RTU	Direct control of Vindum pumps (without computer) by Modbus RTU client		Library of common pump commands added to pump firmware	Full suite of data from the pump.	Applications with Modbus Client capability	• RS232-RS232
DDE	VPware acts as “server” to a DDE “client” application.		Full library of pump commands.	Full pump data is available.	LabVIEW or other applications with DDE client capability	• same as above
LabVIEW DRIVER	Driver includes two pre-built pump control examples for users to add to their LabVIEW control systems.		LabVIEW driver accesses full functionality of .NET DLL.	Pump events are registered directly in LabVIEW Event Structure. Full pump data.	LabVIEW 2013+	• same as above
Pump Option Module Port	15-pin connector on pump uses digital signals for Run/Stop and status & analog voltage input to set pressure/rate.		Wiring can be configured to meet various control requirements.	VPware can be used to capture pump data (pressure, rate, etc.).	Remote control of pump requiring limited control functionality.	DBHD15 port for Option Module.
HMS Anybus®Communicator™	Protocol converter gateway enables Vindum Pumps to interface with major fieldbus or Industrial Ethernet networks.	All major Fieldbus/ IE systems: Profibus, Profinet, Modbus Ethernet/IP, etc.	Pump commands and status are translated by the Anybus® Configuration Manager for access by the PLC.	Pump data stored in device memory buffer then intelligently uploaded to network.	All major fieldbus or Industrial Ethernet networks.	RS232 connection to HMS Anybus® Communicator™
.NET DLL	.NET assembly DLL, handles low-level COM to Vindum Pump. The API to the DLL provides simple interface with custom control apps.		Full library of pump commands, status & errors, communication status, etc.	Full pump data is available.	Python, MATLAB	• same as above