

PULSE® VARIABLE SPEED DRIVES

ESP & HPS Control



Proven Controls & Automation to Keep Operations Running Smoothly

Deployment of surface technology to monitor, control, and automate artificial lift systems is one of the most far-reaching and financially beneficial investments made during the production life of a well. Application of variable speed drives becomes more critical as downhole conditions become more challenging.

Payoff in the form of increased fluid recovery, extended run life, deferred or eliminated replacement expenses, and reductions in the daily cost of production can be enhanced through the utilization of integral automation capabilities and remote monitoring software.

Valiant Artificial Lift Solutions offers Pulse® Variable Speed Drives for ESP and HPS applications. Available in ratings from 48 to 1,121 kVA, these drives include application-specific software, expandable communications capabilities, and an easy-to-use graphical interface which enable users to control:

- Motor speed, current, and load settings
- Controlled starts and auto restarts
- Restart delays and restart retries

Features

- › Full integration of monitoring technologies to optimize production
- › 6/12/18 Pulse input options
- › Weather-rated color touchscreen human-machine interface
- › Customizable programming
- › Proprietary gas-lock mitigation software for ESP production
- › Sinewave filter as standard harmonics output modifier

Set, Control, and Automate in Fewer Keystrokes with the PHAZER® HMI

- › Minimize eye strain with high resolution Liquid Crystal Display
- › Designed with real observations from the field
- › Save time on-screen for more efficient servicing



Motor Controller Specifications

Model	HMI Motor Controller
Display	High-clarity 7" Color Touchscreen Display; 800 x 480 Pixels
Pilot Lights	Run/Fault/Off
Control Devices	Emergency Stop Switch
Digital Input/Output	16 Inputs, 9 Outputs
Analog Input	7 Milliamp Inputs
Analog Output	2 Voltage Outputs
Communications Ports	1 RS485, 2 RS232, 2 USB, 1 LAN Ethernet
Modbus	Modbus® RTU
Memory	256MB On-board, SD Slot Expansion To 2GB
Data/Alarm Trending	Time Stamped Data and Fault Log; 16-Channel Time Stamped Trending with Programmable Sample Rate Download Data/Fault Logs via USB or SD Card
Ground Fault Monitoring	Motor controller can receive input from various manufacturers Ground Fault Monitoring for Drive Output is Standard

Enclosure & Environmental Specifications

Enclosure Rating	ESP Drives: NEMA 4; HPS Drives: NEMA 4 (Std.), NEMA 1 (Opt.)
Max Elevation	1,000 m [3,000 ft.]
Max Operating Temp	NEMA 4: 50°C [122°F]; NEMA 1: 40°C [104°F]
Max Humidity	95%, Non-condensing
SWF Enclosure	ESP Drive: Rear Hood
Enclosure Base	NEMA 4: 4" or 6" Free Standing C-Channel
Cooling	NEMA 4: External Heat Sink with 2 Fans; NEMA 1: External Heat Sink with Shroud, Optional Wall Exhaust
Heating	NEMA 4: Air-to-Air Heat Exchanger with 2 Fans
Power Connection	NEMA 4: Junction Box, Bottom Aluminum Gland Plate (in/out); NEMA 1: Aluminum gland plate (in/out)

If you need help with:

- VSD programming to reduce cycling and lower electricity costs
- Power quality issues and maintaining IEEE-519 compliance
- Owned-inventory management

make Valiant your first call.



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