

Drivescan

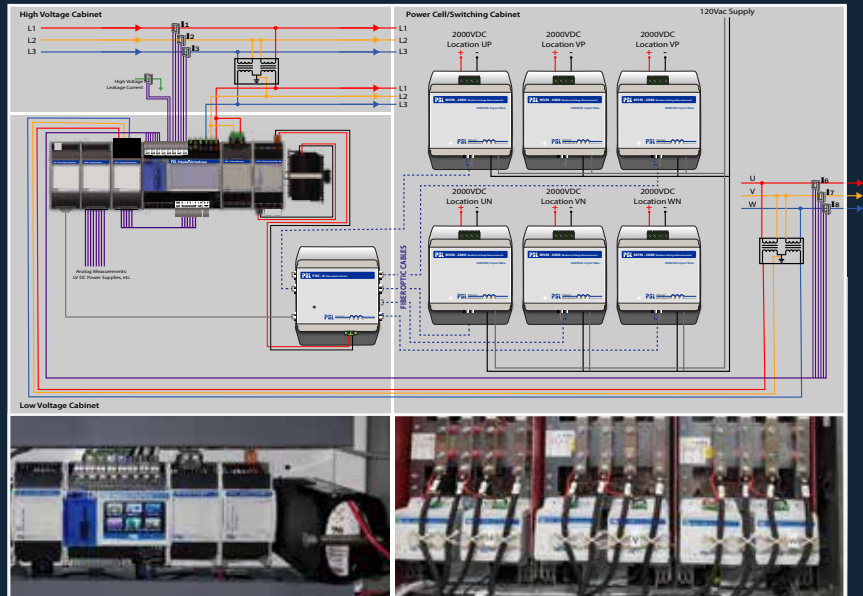
Continuous Comprehensive Monitoring for Medium Voltage Drives

OPTIMIZED MV DRIVE MANAGEMENT

- Unprecedented Drive Health monitoring
 - Predictive versus Reactive actions
 - Increased Drive Uptime
- Reduced Operation and Service Costs
- Smarter, less frequent Preventative Maintenance shutdowns
- Expert Drive and Power Quality remote monitoring, analysis and support

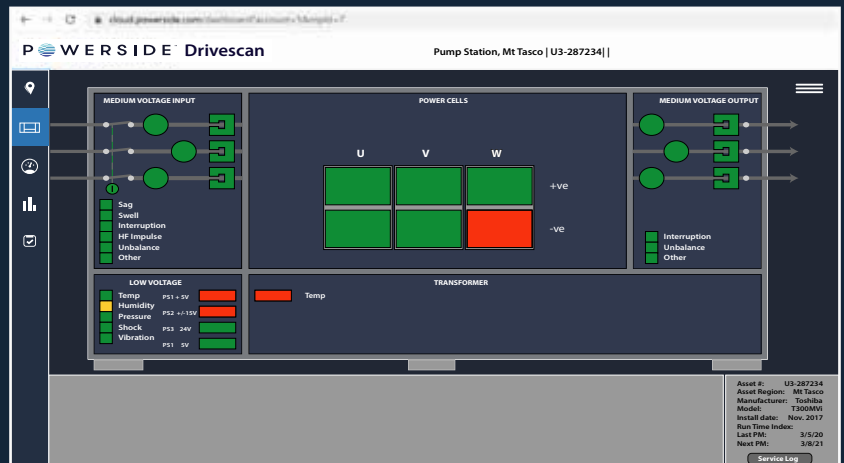
1. MODULAR OPTICALLY-ISOLATED SENSING

- Line-side voltage and current
- Motor-side voltage and current
- DC Bus Capacitor condition (Patent Pending)
- Power Supply output monitoring
- Temperature, Humidity, Shock/Vibration
- Fully Synchronized Data
- Easy 1-day installation and commissioning



2. SMART FLEET MANAGEMENT

- Instant health overview of all drives
- Traffic-light indicators show issue severity
- Single drive dashboard drill-down
- Detailed data viewing for root cause analysis
- Important Drive Baseline evaluation
- Trend tracking for predictive maintenance
- Secure cloud-based hosting and data storage



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3. EXPERT REMOTE MONITORING AND SUPPORT

- Decades of utility/facility power quality consulting
- Expertise from troubleshooting thousands of MV Drives
- Ongoing development of automated analytics
- Reports on drive health and service recommendations
- Optional preventative maintenance and service contracts



SPECIFICATIONS

Applicable Drives	Most Medium Voltage, voltage-source drives, 6-15 power modules
Line Monitoring	Drive Input: 2000 ~ 12,470 VAC. 50/60Hz. Measured via existing PT's or Voltage Dividers. Typ. Accuracy $\pm 0.01\%$
	Power Quality: Voltage Magnitude, Unbalance, THD, Harmonics to 50 th . (Class A)
	Current Measurements: Unbalance, TDD (via CT's. Typ. Magnitude Accuracy $\pm 1\%$.)
	Power : VA, KW, VAR, PF
Motor Monitoring	Power Quality Disturbances: Sags/Swells/Interruptions, RVC, HF impulses (4MHz sampling)
	Motor Voltage and Current waveforms, THDv
DC Bus Monitoring	Output waveforms for IGBT failure detection
	400 ~ 2000 VDC; Ripple
Low Voltage Power Supply Monitoring	Isolation: Fiber Optic
	8 LV channels, 0 ~ 60 VDC
Environmental Monitoring	Control power supply monitoring (Typ. 5 VDC, +/-15 VDC, 24 VDC)
	Connection: ENV2 probe connected via USB. Functional electrical isolation
	Sampling rates: 1 sample per second typical for temperature, humidity, barometric pressure. 8, 16, 32 samples per second, user selected for acceleration
	Temperature: Range: -20 C to +80 C (-4 F to 176 F)
	Humidity: Range: 0 %RH ~ 100 %RH (useful range: 20 %RH ~ 80 %RH)
Communications	Barometric Pressure: Indicative measurements, resolution better than 0.001 hPa
	Acceleration: Full-scale acceleration $\pm 2g$, $\pm 4g$, $\pm 8g$, user selected. Trigger on mechanical shock/vibration, seismic motion, or tilt
Testing/Certification	10/100 Ethernet port (RJ-45) (optional wireless and cell modem), TCP/IP, Modbus, BACnet, DNP3, Email
	IEC 61010; IEC 61000-4-30; IEC 61000-4-7; IEC 61000-4-15; TUV Type-B pending. (Drivescan components are tested by Underwriters Laboratory (UL) to meet the requirements of IEC 61010-2-30. (pending, final report due August 2020)).
	MVM-1000 is tested at 1000 VDC and MVM-2000 is tested at 1500 VDC per UL and IEC limits.
	Drivescan Medium Voltage components are designed, manufactured, and factory tested to meet the relevant requirements of UL347 and UL347A for Medium Voltage Power Conversion Equipment.
Environmental Limits	Powerside does not represent or warrant that drive or installation Certifications will be unaffected by Drivescan installation
	Ambient Temperature: 0 ~ 40 C
	Humidity: 0 ~ 95% RH
For more detailed information and specifications on PQube3 power monitoring, go to: https://powerside.com/products/monitoring-and-analysis/pqube-3-power-analyzer/	