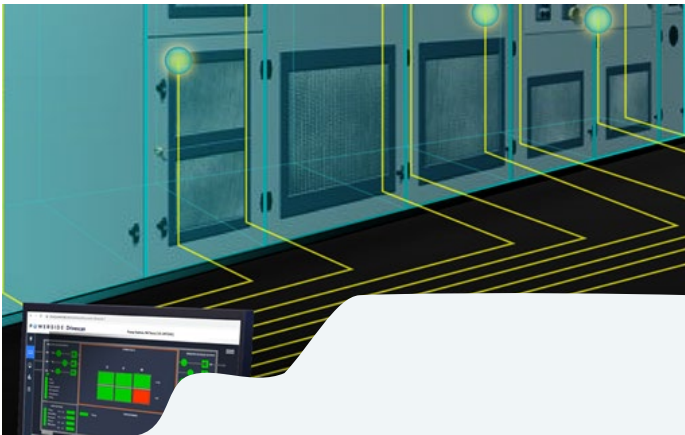


## DriveScan

### Continuous Remote Monitoring for Medium Voltage Drives



#### Overview

DriveScan is the premiere system and service for real-time remote monitoring of medium-voltage (MV) drives. It continuously captures critical drive and facility health indicators for faster detection and recovery of adverse events. DriveScan's comprehensive and modular sensor suite is integrated into each drive enabling safe detection of intermittent and evolving faults.

Its powerful cloud-based software and intelligent fleet management dashboard help identify potential problems early, allowing a proactive vs reactive response. Its dashboard synthesizes data across all drives to display an intuitive health overview and enables single-drive drill-down for detailed troubleshooting.

Using DriveScan will:

Increase drive uptime through data-driven failure prediction

Reduce operation and service costs through remote analytics and avoided service calls

#### Features

- Monitored subsystems
  - Input & Output Current, Voltage
  - Power Module DC bus
  - Low voltage power supplies
  - Internal temperature and humidity
- Fully synchronized data and reports across all channels provide event sequences, root cause analysis, and trend tracking
- Single drive dashboard drill-down
- Traffic-light indicators and alarms to convey issue type and severity
- Secure cloud-based hosting and data storage
- Support from global MV VFD experts EMA

#### Application

- Compatibility: Most MV voltage-source drives with 6-15 power modules
- Use cases:
  - Remote operational oversight
  - Fault avoidance, detection, isolation, and accelerated recovery
  - Energy management & metering
  - Facility monitoring
- Typical applications sectors
  - Pipeline, Water Treatment, Industrial

# Technical Specifications

## Line Monitoring

<b>Drive Input</b>	2000 to 12,470 Vac. 50/60Hz. Measured via existing PT's or Voltage Dividers. Typ. Accuracy $\pm 0.01\%$
<b>Power Quality</b>	Voltage Magnitude, Unbalance, THD, Harmonics to 50th rank (IEC 61000-4-30 Class A Ed 3)
<b>Current Measurements</b>	Unbalance, TDD (via CT's. Typ. Magnitude Accuracy $\pm 1\%$ .)
<b>Power</b>	VA, kW, VAR, 4 quadrant PF
<b>Power Quality Disturbances</b>	Sags/Swells/Interruptions, RVC, HF impulses (4MHz sampling)

## Motor Monitoring

<b>Drive Output</b>	Voltage and Current average, Waveform
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## DC Bus Monitoring

<b>Sensing isolation</b>	Proprietary optically isolated MV sensors
<b>Magnitude and ripple</b>	DC bus voltage: 400 to 2000 Vdc

## Low Voltage Power Supply Monitoring

<b>Number of channels</b>	8 channels, 0 to 60 Vdc
<b>Control power supply monitoring</b>	Typ. 5 Vdc, +/-15 Vdc, 24 Vdc

## Environmental Monitoring

<b>Connection</b>	ENV2 probe connected via USB. Functional electrical isolation.
<b>Sampling rates</b>	1 sample per second typical for temperature, humidity, barometric pressure. 8, 16, 32 samples per second, user selected for acceleration recording.
<b>Temperature</b>	-20 to 80 °C (-4 to 176 °F)
<b>Humidity</b>	0 % to 100 %RH (useful range: 20 % to 80 %RH)
<b>Barometric Pressure</b>	Indicative measurements, resolution better than 0.001 hPa

## Limits

<b>Ambient Temperature</b>	0 to 40 °C (32 to 104 °F)
<b>Humidity</b>	0 to 95% RH

## Certifications

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 MVM-1000 is tested at 1000 VDC and MVM-2000 is tested at 1500 VDC per UL and IEC limits
Powerside does not represent or warrant that drive or installation certifications will be unaffected by DriveScan installation



# A detailed view of Medium Voltage Drive health

DriveScan modular sensors are fully integrated with the drives, allowing intermittent and evolving faults to be safely detected.

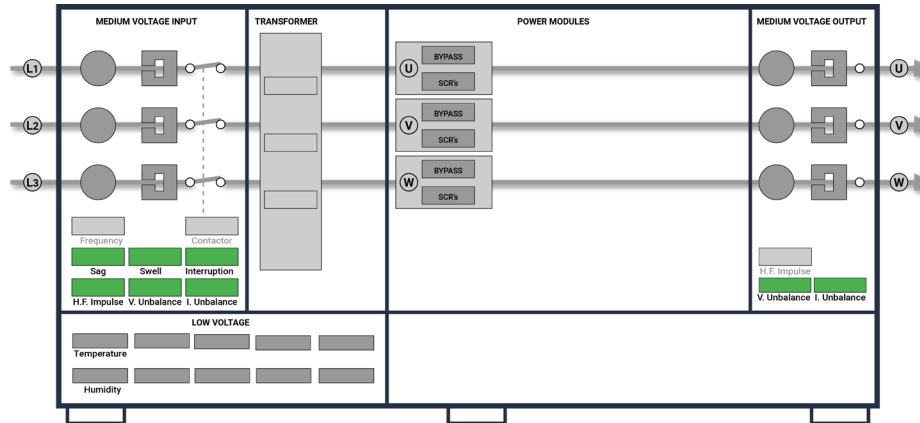


Figure 1: Screen representation of the drive



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