SDAQ-204-DPM

Dry Pump Monitoring Solution Pack



Features

- Standalone Ethernet DAQ enabling edge computing
- Supports up to 2 dry pumps, 4 sensors
- Plug-and-play, tailor-made algorithms for different types of dry pumps
- Easy maintenance with remote deployment
- Fit for different types and brands of dry pumps (mainly rotary and claw type)

Introduction

ADLINK's SDAQ-204-DPM is an edge computing device designed for dry pump monitoring. It can help process pump information and provide data analysis teams the ability to analyze dry pump data directly from the field to reduce the risk of product damage, increase yield and further improve productivity.

The SDAQ-204-DPM, with high-frequency and high-resolution analog input, is best fit for vibration monitoring applications, including a preprogrammed dry pump health analysis algorithm allowing it to function as a standalone device without a host PC, making it perfect for 24-hour dry pump monitoring.

As diagnostic data is acquired by sensors in a raw format that must be filtered and converted into usable data such as FFT, voltage, g-type array, or OA values, the SDAQ-204-DPM standalone DAQ system can be deployed in the field and perform filtering on raw data that was traditionally done by an embedded system. Most importantly, with the SDAQ-204-DPM data output, users can focus on process optimization directly without the need for an additional dry pump monitoring algorithm.

Key benefits

- C-level executives: reduced Operational Expenditure (**Opex**) and increased Overall Equipment Effectiveness (**OEE**)
- Operational technology (OT): reduced machine **down time** and increased **efficiency**
- Information technology (IT): lower **bandwidth** and **data storage** requirements
- Data analysis/Process teams: increased **yield rate** and **efficiency**

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Ordering Information

Type	Edge Device	Sensor
Standard	SDAQ-204-DPM x1	ICP Accelerometer x4

Accessories

- **AC-DC ADAPTER 40W**
  MEANWELL, GST40A24-AD, Input: 90-264 V AC/40 W, Output: 24 V DC/1.67 A
- **ICP Accelerometer IMI_603C01**
  ICP Accelerometer IMI_603C01, 100 mV/g, 0.5 to 10 kHz, 2-pin connector w/ 10-ft. cable and magnetic mount

Specifications

Model Name	SDAQ-204-DPM
System Specification	
Ethernet (1Gb)	2x RJ45 Ethernet ports (1 IP, Ethernet cascade supported)
MCU	ARM Cortex A9 1.0 GHz
NAND Flash (eMMC)	4 GB
Memory	DDR3 RAM 1GB
USB	2x USB 2.0 (for WiFi dongle only)
Power Supply	9 to 30 V DC power input
Power Consumption	Max. 8.8 W
Isolation	1.5 kV
Communication Interface	Web Console / RESTful API / Streaming SDK / TCP Socket (client mode)
Digital Temperature Sensor	-50°C to 150°C (with 3 meter cable)
Software Features	
Dry Pump Type	Rotary and claw type
Output Index	Health, Early detection, Balance, Looseness, Motor misalignment, Pump misalignment
Max monitored pump	2
Analog Input	
Number of Channels	4 (simultaneous, BNC type)
Resolution	24-bit
Maximum Sampling Rate	Up to 128 kS/s
Input Range (Voltage)	±10 V, ±1.25 V
Isolated Digital I/O	
Number of I/O	4-channel DI/O (configurable)
Digital Type	TTL input: 0-5 V for DI / Open drain for DO
Input Logic Level	Logic low: VIL = 0.8 V max. / IIL = 0.2 mA max. / Logic high: VIH = 2.0 V min. / IIH = 0.2 mA max.
Overvoltage Protection	±50 V
Mechanical	
Dimensions	110.5 (L) x 40 (W) x 126.5 (H) mm
Connectors	4x BNC + 2x 6-pin spring-type terminal block
Housing	Metal, IP30
Mounting	DIN rail kit (wall mount kit optional)

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Specifications

Model Name	SDAQ-204-DPM
Environmental	
Operating Temperature	0°C to 50°C (32˚F to 122˚F)
Storage Temperature	-20°C to 70°C (-4˚F to 158˚F)
Humidity	approx. 95% @ 40°C (non-condensing)
Vibration	Operating: 5 Grms, 5-500 Hz, 3 axes
Shock	Operating: 100 G, half sine 11 ms duration
EMC	EN61000-6-4/EN61000-6-2
EMI	FCC Part 15B Class A, CISPR 32
EMS	IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1.0 GHz, 10 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal 2 kV IEC 61000-4-5 Surge: Power 0.5 kV; Signal 1 kV IEC 61000-4-6 CS: 0.15 MHz to 80 MHz, 10 V IEC 61000-4-8 PFMF

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