DATA DIGGER EQUIPMENT

DATA SHEET

IPI DATA ACQUISATION SYSTEM

MODEL DDBS-7K

Introduction

Data Digger Equipment The IPI (Intelligent Process Instrumentation) Data Acquisition System is a sophisticated system designed to collect, process, and analyze data from various sensors and instruments used in industrial and scientific applications. It plays a crucial role in monitoring real-time parameters such as pressure, temperature, flow, and humidity. The system integrates multiple sensors into a centralized network, allowing for seamless data collection across various points in a process or environment. Data from these sensors is then transmitted to a processing unit, which processes and stores the information for analysis. The IPI Data Acquisition System is often equipped with advanced features like remote monitoring, alarm systems, and data logging for historical analysis. It provides high accuracy and reliability, making it suitable for industries such as manufacturing, energy, and environmental monitoring. The system's user-friendly interface allows operators to visualize data trends and take corrective actions as necessary. It also facilitates integration with existing control systems for automated operations. IPI systems are known for their scalability, enabling easy expansion to accommodate additional sensors and devices. With real-time data processing capabilities, it enhances decision-making and improves operational efficiency. The system is essential for ensuring safety, compliance, and optimal performance in various industrial applications. By reducing human error and providing continuous data insights, it helps organizations maintain process control and minimize downtime.

Features

- Provides accurate, real-time monitoring and processing of data from multiple sensors, enhancing decision-making.
- Allows remote access to data and sends alerts for abnormal conditions, ensuring timely responses.
- Easily integrates with other systems and supports the addition of more sensors as the system expands.
- Offers historical data logging and intuitive visualization tools for efficient analysis and process optimization.

Application

- Monitors and optimizes parameters like temperature, pressure, and flow in manufacturing and production environments.
- Collects data on air quality, water quality, and other environmental factors for compliance and sustainability.
- Tracks energy consumption and efficiency across industrial plants, helping to reduce costs and improve sustainability.
- Used in civil engineering to monitor the health of bridges, dams, and buildings, detecting potential structural issues.

Overview

The IPI Data Acquisition System is an advanced solution designed for collecting, processing, and analysing data from various sensors and instruments across different industrial, scientific, and environmental applications. This system enables real-time monitoring of critical parameters like pressure, temperature, humidity, and flow. It integrates multiple sensors into a centralized platform, allowing seamless data collection and transmission for analysis. The system provides high accuracy, reliability, and scalability, making it ideal for industries such as manufacturing, energy, and environmental monitoring. With capabilities like remote access, data logging, and alarm notifications, the IPI Data Acquisition System helps improve operational efficiency, reduce downtime, and ensure safety. Its user-friendly interface allows easy visualization of data, while its flexibility ensures compatibility with existing control systems. The system is built to operate in harsh environments, ensuring long-term performance and providing valuable insights for better decision-making and process optimization.

Description

The **DDBS-7K** by **Data Digger** is a high-performance **data acquisition system** designed to meet the needs of industrial, scientific, and research applications requiring real-time monitoring and precise data collection. This system supports **multichannel data acquisition**, allowing it to collect data from multiple sensors simultaneously, making it ideal for complex monitoring setups. With **signal conditioning** capabilities built-in, it ensures accurate signal conversion from sensors for precise measurements. The system offers **high sampling rates** to capture fast-moving data, ensuring real-time analysis. It accommodates a wide **input range** of sensor signals, including temperature, pressure, and voltage, enabling versatile use across various industries. The **DDBS-7K** is compatible with both **digital and analog inputs**, offering flexibility in sensor integration. A key feature is its **data logging** capability, which stores historical data for future analysis. The system also supports **remote monitoring**, allowing users to access data from anywhere. Its **modular design** provides easy expansion, and **real-time data visualization** ensures immediate insights into the data. The **DDBS-7K** uses multiple communication protocols, such as **Ethernet, USB**, and **serial communication**, for seamless data transmission. The system includes user-friendly software for data analysis, reporting, and visualization. It is built with durability to withstand harsh industrial conditions and offers **calibration support** to maintain measurement accuracy over time. Additionally, the system can operate within a wide **temperature range** and supports various **power supply options** for installation flexibility. Its compact design allows easy integration into existing setups, while **alarming** and **alerting** features notify users of abnormal conditions. The **DDBS-7K** is ideal for applications in industrial automation, research, environmental monitoring, and structural health monitoring.

Connections

1. **Multiple Input Channels**: The system supports various input channels, allowing users to connect sensors measuring parameters like pressure, temperature, humidity, and flow.
2. **Analog and Digital Inputs**: It offers flexibility by supporting both analog and digital inputs, making it compatible with different sensor types.
3. **Signal Conditioning**: Built-in signal conditioning converts sensor signals into usable data for processing.
4. **Communication Ports**: The DDBS-7K includes **Ethernet, USB, and serial communication** ports for seamless integration with control systems or external data servers.
5. **Remote Monitoring**: The system can be connected to remote monitoring stations via network connections, providing real-time data access from any location.
6. **Wireless Communication**: In certain configurations, wireless communication options are available for mobile or hard-to-wire installations.
7. **Multiple Output Options**: It offers various output options, such as **digital readouts** or **data logs**, to monitor or store acquired data.
8. **Daisy-Chaining Capability**: The system allows for daisy-chaining multiple units, enabling the expansion of sensor networks and acquisition systems.
9. **Software Platform Compatibility**: The system is compatible with various software platforms for data visualization, analysis, and reporting, connected via **USB** or **local network**.
10. **Alarm Relay Connections**: The DDBS-7K offers **alarm relay connections** to trigger notifications in case of abnormal sensor readings, improving system safety.
11. **Flexible Power Supply**: The system can operate with different input voltages, allowing integration into existing power setups without major infrastructure changes.
12. **Scalable and Adaptable**: The DDBS-7K provides flexible and scalable connections, making it adaptable to a wide range of industrial, scientific, and automation applications.

TECHINCAL SPECIFICATIONS:

WIRELESS IN-PLACE INCLINOMETER

IPI DAS	DDBS-7K
Inputs (VW sensor)	Excitation wave: 6 V Frequency measurement range:450 – 6000 Hz Frequency resolution: 0.01 Hz Frequency accuracy: ±0.033% FS DDBS-7K - 1 VW sensor
Accuracy	± 0.1% F.S
Temperature Range	-20°C to 60°C
Internal memory	NIL
Supply Voltage	6.5V to 8.4V
Internal non- rechargeable batteries	D-Cell Li-SOCl2 3.6 V Nominal Voltage, 14 Ah batteries 2 nos. in model DDBS-7K node

RADIO FREQUENCY

Radio bands	Sub-868 MHz band – complies with unlicensed ISM band specifications in most countries.
Link data Speed	625 bps – 2.5 kbps variable bitrate
Data security	AES 128 encrypted end to end data