



DR- 7208

IOT/IFD (INTELLIGENT FIELD DEVICE) FOR IR-NIYANTRAC APPLICATION

Image shown is a representation only

INTRODUCTION

The DR7208 IoT gateway serves as a comprehensive solution for field and industrial serial data transmission through various channels such as Ethernet, RS485 remote control, and monitoring IO. This product integrates multiple hardware interfaces, including Ethernet port, RS485, 8 digital inputs, 4-way Analog input, and 8-channel digital output. Built on the FreeRTOS operating system, it incorporates essential components like webpages, IOTService, TCP/IP protocol stack, Modbus TCP, and Modbus RTU protocol. With its feature-rich design, the DR7208 facilitates remote data acquisition and monitoring.

Our IoT gateway enhances field data acquisition and analytics capabilities, empowering users to make informed decisions. The user-friendly dashboard, equipped with report generation and data filtering, simplifies the management of various electrical parameters. The bidirectional communication between the device and the Niyantrac application, along with data scan configuration capabilities, ensures seamless connectivity with sensors, actuators, and IFDs through wired or wireless connections.

The security of the DR7208 IoT Gateway is paramount, offering protection against cyber attacks, unauthorized access, and firmware vulnerabilities. Adhering to TEC code practices, we prioritize consumer data protection in the expansive realm of the Internet of Things (IoT).

APPLICATION

- FRTU (Field Remote Terminal Unit): Facilitating remote monitoring and control of field devices.
- Machine Vision: Enabling advanced visual perception systems in industrial settings.
- DCU (Data Concentrator Unit): Serving as a central hub for aggregating and transmitting data from multiple sources.
- Street Light Monitoring: Enabling remote monitoring and control of street lighting infrastructure.
- Energy Monitoring: Optimized for applications focused on monitoring and managing energy consumption.
- IoT Applications: Supporting a wide range of IoT applications, ensuring connectivity and data management.

By incorporating the DR7208 IoT Gateway, users can streamline equipment data monitoring across diverse applications, making it a versatile and efficient solution in the fields of smart grids, energy monitoring, and industrial automation.

FEATURES

- Dual mode Quad-SPI memory interface running up to 133 MHz
- Up to 2M bytes of flash memory, 1Mbyte of RAM
- cryptography hardware acceleration algorithms
- On board RTC and 8KB, EEROM
- Support 2X RS485 transmission Use Modbus protocol to control 8 Dis, 8 AI interfaces and control 8 Dos Support STA/AP/AP+STA Mode
- Support Modbus RTU and Modbus TCP protocol / MQTT
- Support web page, PC software IOT Service configuration
- Support web OTA wireless upgrade
- Wide voltage 12-24 V DC power supply

DR- 7208 IOT GATEWAY SPECIFICATIONS



System Information

| | |
|---------------------|---|
| Processor/Frequency | 32-bit Arm® 32-bit Cortex®-M4 core with FPU, (ART Accelerator) for ° internal flash memory and external memories, frequency up to 240 MHz, MPU. |
| Operating System | Free RTOS, Azure RTOS e Energy Monitoring |

System Information

| | |
|--------------------|---|
| Port Number | 1RJ45 10/100 Mbps |
| Interface Standard | 10/100M Base-T Auto-Negotiation |
| Protection | Electrostatic: 8KV contact discharge, 15KV air discharge Surge: Differential Mode 4KV, Common Mode 6KV |
| Transformer | Integrated |
| Network Protocol | IP, TCP, DHCP, DNS, ARP BOOTP, Auto IP, ICMP, Telnet, uPNP, NTP |
| Security Protocol | TLS v1.2, AES 128Bit DES3, ROP, PC-ROP, active tamper |

Wi-Fi Interface

| | |
|--------------|--|
| Standard | 802.11 b/g/n |
| Frequency | 2.412GHz-2.484GHz |
| Security | WEP/WPAPSK/WPA2PSK |
| Encryption | WEP64/WEP128/TKIP/ AES |
| Tx Power | 802.11b: +20dBm (Max.) 802.11g: +18dBm (Max.) 802.11n: +15dBm (Max.) |
| Antenna | External: 3dBi antenna |
| Rx Sensitive | 802.11b: -89dBm 802.11g: -81dBm 802.11n: -71dBm |
| Antenna | External: 3dBi antenna |

4G LTE modem (Optional)

| | |
|-------------------|---|
| Band | LTE FDD bands -1/3/5/8 and LTE TDD bands 38 / 40 / 41 and Dual Band GSM 900 MHz and 1800 MH |
| Radio Sensitivity | For LTE (-101dBm) and for GSM/GPRS (-109dBm) |
| Power | Maximum Output Power For LTE (23dBm+2dB) and for GSM / GPRS (33dBm+2dB) |

LCD Display (Optional)

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|-----------------|--------------------------------------|
| Type of Display | 2.5", 4.3", 5".7" RGBTTL or MIPI LCD |
|-----------------|--------------------------------------|

SD Card

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|--------------|--------------------------|
| Data Storage | 32GB on External SD card |
|--------------|--------------------------|

Serial Port

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|--------------------|---|
| Port Number | 2 |
| Interface Standard | RS485 isolated |
| Data Bits | 8 |
| Check Bit | None |
| Baud Rate | 9600bps |
| Flow Control | No flow control |
| Protocol | Electrostatic: 8KV contact discharge, 15KV air discharge Surge:Differential Mode 4 KV,Common Mode 6KV |

DR- 7208 IOT GATEWAY SPECIFICATIONS



I/O Technical Parameters

| | |
|-------------------------------------|-------------------------------------|
| Number of digital input | 8 Nos. |
| I/O mode | DI |
| Isolation protection | 6KVrms |
| Counter frequency | 1000Hz, Power-off storage |
| Digital Output, Relay output routes | 8 Nos. |
| Relay type | Normally open NO, Normally close NC |
| Contact resistance load | 10A@28VDC\30VDC\1Z5VAC\250VAC |
| Initial insulation resistance | 1000 m ohms (min.) @ 500 VDC |
| Contact resistance | 100 m ohms (max.) |
| Pulse output | 1 Hz at rated load |
| Analog input number of ways | 4 Nos. |
| Resolution | 16 bit Resolutions |
| Input mode | Voltage and current |
| Enter the range | 0-10V,4-20 mA |
| Analog Output | 1 Nos. |
| Output mode | 4-20ma DAC 12 Bit |
| Accuracy | +0.1% FSR |

Software

| | |
|------------------|--|
| Web Pages | Http Web Configuration Customization of HTTP Web Pages |
| Configuration | Web, XML, Telnet, IOT Service |
| Firmware Upgrade | Web, OTA |

Basic Parameter

| | |
|-----------------|--|
| Size | 225 mm X 100 mm X 35 mm |
| Operating Temp | -40 " 85°C |
| Storage Temp | -45% 105°C, 5%" 95% RH (no condensation) |
| Input Voltage | 5-40 VDC, Anti-reverse power protection |
| Working Current | -20mA@10V |

ABOUT US

Digital Reach enables the IoT devices to interconnect the embedded systems to the internet. The IoT devices are fully programmable as per customer requirements and it can be deployed in nearly all the areas like Manufacturing, Energy & Utility, Health Care, Home Automation, Retail etc. With our expertise in embedded hardware development, embedded software development, system integration, and project execution, we bring in our experience, commitment and team work to exceed our customer expectation in every customer engagement.

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