Fig.: EZRack—Your Gateway To IIoT-Applications With Premium-Class PLC Included

Features

- **IIoT/I4.0 Ready CPU With Built-in MQTT Protocol**
- **Wireless Monitoring Via Smartphone Or Tablet PC**
- **Several Digital And Analog I/O Modules Plus Various Special Modules**
- **Programming In Simple Ladder Logic**
- **Advanced Function Blocks**
- **Offline Programme Simulator Creates A Virtual PLC**
- **Programming Software For Free!**

Once Upon A Time…

There was a time when **PLC systems** were solely used for classic control tasks. However, the **demands** on the functionality of control components in production companies have become **more diverse**. The **EZRack** (iːzɪ ræk) was developed for all those **companies** who want to **keep pace** with this development.

Fig.: Wifi Access Via WLAN

Why Is Industry 4.0 On Everyone‘s Mind?

The aim of this „Fourth Industrial Revolution“ is to provide, analyze and use relevant data from a wide range of internal and external sources to optimize one‘s own production. A broad, permanently updated database ensures that further production processes can be carried out even better and with a higher degree of automation. But not only that, because in a next step, the focus is not just about the so-called "shop floor", but the optimization of all processes in the entire value chain.

Fig.: Status Information & Program Changes Via WiFi

Best Of Both Worlds

As an edge gateway, EZRack provides immediate access to the industrial Internet of Things (IIoT) / Industry 4.0 in proven industrial quality. In addition, it can also take on classic control tasks - at an unbeatable price!

Online Access On Site

Thanks to the suitable EZWifi module, you can not only monitor the EZRack via smartphone or tablet PC, but also carry out program changes. And this works even without additional, own WLAN infrastructure, secured via WPA2!

Take A Closer Look...

Application: Predictive Maintenance

With **EZRack**, we have developed a system that allows you to enter quickly and reliably into **condition-based maintenance**. This means you can now, for example, issue status messages of your system and use them wherever this information is needed.

To do this, the **decisive data** from your production is transferred to the **EZRack**, which acts as an **edge gateway** and forwards the **relevant** information to the respective **target groups** (for example: customers or service employees) to the appropriate instances. You can now provide specific information about the **system status**, the necessary replacement of particular components or recommended **service assignments**. In addition, this information can also be used in other places, for example, to initiate all necessary **processes** for **ordering** a **replacement part**.

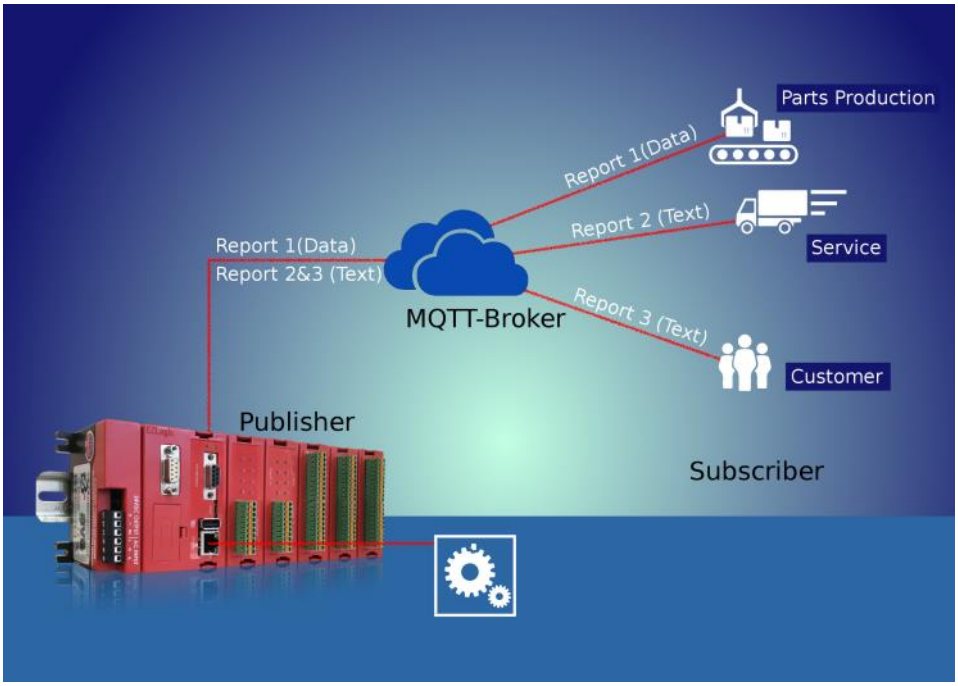


Fig.: With Integrated MQTT Protocol Ready For Condition-Based Maintenance Concepts

The operating principle is based on the triangle

1. **Publisher** (= news publisher - in this case the EZRack system)
2. **MQTT Broker** (= news submitter - provider of corresponding internet services) and
3. **Subscriber** (= message recipient - ie customers, suppliers, employees, but also machines or other systems).

As a **publisher**, the **EZRack** generates one or more **messages** for the different target groups in the event of a fault, a critical condition, etc. This information is then **stored at an MQTT broker**, which is subsequently **taken** from previously registered **subscribers**.

All this happens **encrypted** and, if desired, also via corresponding **SSL certificates**, which identify the individual subscribers.

This procedure will provide all affected **entities** with the **information they need**, in the **form** they **are used to**, and at the **level of security** that appears **appropriate** for their data.

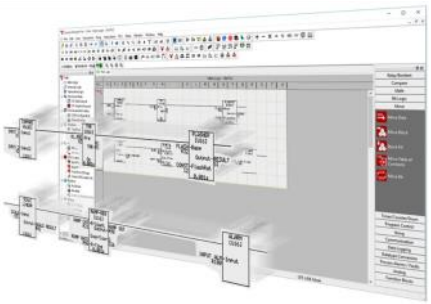
Adjustable service levels (QoS) allow to precisely **specify** the delivery of a message to each individual subscriber. The type or form of the individual message is freely selectable and may consist of **simple texts** as well as of extensive, **machine-readable data**.

With the **EZRack** Edge Gateway you can now easily and reliably realize these and other **IIoT applications** in your company at a particularly **attractive price**: the system doesn't cost more than an average compact plc and the necessary **software** is even available for **free**.

And if that's not enough: A **4-years warranty** is also included!

Programming Today Is That EZ (ˈiːzɪ)!

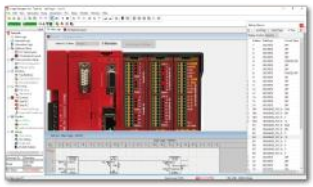
1 Comprehensive Instruction Set



We have supplemented the programming in **Ladder Diagram** with such useful things as **Boolean logic**, advanced **mathematical instructions**, and **complex algorithms**, so that you can realize even demanding projects **easily and clearly**.
In addition, you always have all the **essential information** about the PLC status, function blocks, data connections, debugging mode etc. **in view**.

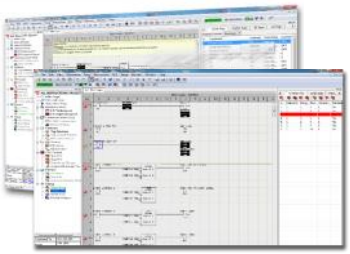
2 Advanced Function Blocks

This is something you'd usually expect from **premium-class PLCs** only: EZRack **support of function blocks** simplify programming operations such as timers, counters, break points, compare functions, averaging, min/max, scaling etc. They also make it easier for end-users to follow with a graphical language in case they are not as familiar with typical ladder wiring diagrams. Everything **included** with us - just to make **programming easier** for you.



3 Integrated Simulator

The built-in simulator creates a **virtual PLC** so you can **test** your **ladder logic** without any PLC hardware present.
And if you eventually connect your EZRack, the I/O **modules** will be **automatically detected** and the respective tag address range will be assigned correspondingly.



4 Powerful Debugging Tools

Break Point Debugging and Forced In-/Output will help you troubleshoot your program: In the first case, set breakpoints at different positions in your program, then look at the values in the respective variables when stopping, to find fault causes. In the second case, you specifically set inputs/ outputs (if necessary, to a certain value), so that you can obtain the required results in the corresponding section of the program. This will then enable you to see where the potential bug in the ladder logic code resides.

5 Data Logging Via USB

Good to know what's going on in the plant. With the Data Logger, you can easily store critical variables that you want to keep in mind at predefined time intervals or in certain states on a USB stick. In this way, you keep track of your processes and can observe parameter changes or possible causes of errors in a long-term check. Furthermore, you may also stay connected via IIoT/MQTT protocol for data transfer.

6 Special Price: 0.– Euro

And what should all this cost? Less than you think, because the **software** is available **for free** with the scope of service described here! Including simulator, debugging tools and function blocks, which are regularly supplemented on the basis of user requirements.

Simply download your own copy at: virtualclients.de/EZRack

System Overview

What Is EZRack?

The EZRack was primarily designed as an **edge gateway** for entry into **Industry 4.0 applications**. Hence, this system enables you to implement e.g. **condition-based maintenance** concepts quickly and easily.

At the same time, the EZRack is a **fully modular PLC system** for industrial use with features that are otherwise only found in premium-class controllers. In contrast, the price is at the level of compact controllers.

What Are The Features?

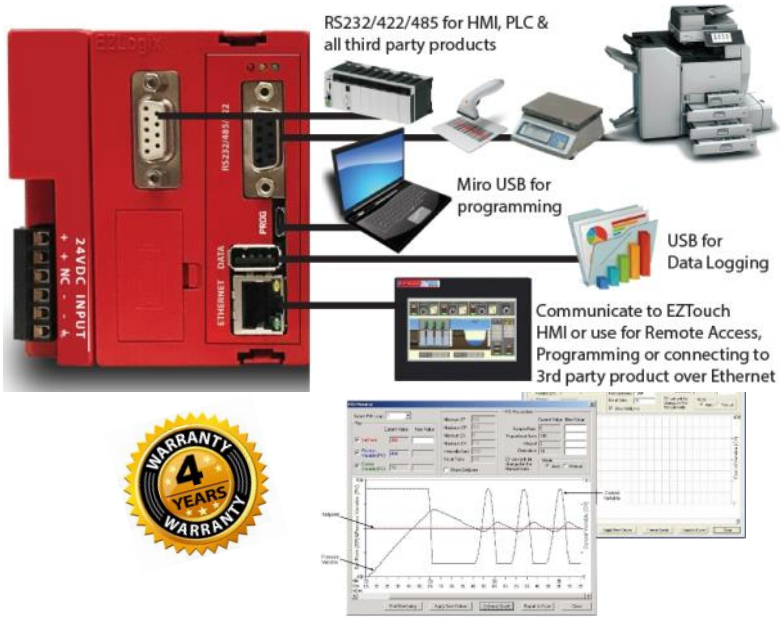
EZRack is available in versions with **3, 5 or 7 slots** including power supply module. The CPU is equipped with **2 serial ports, Ethernet port** and **USB** port as well as Micro USB port. To complete the system, it can be equipped with several digital and analog I/O modules plus various special modules (e.g. high speed counters, thermocouples, etc.).

And these are the specs:

- 2,4 ms Scantime Per 1k Instructions
- 1 MB User Retentive Memory, 500K Instruction Words, 16K Registers
- Hot-Swappable I/O Modules
- Auto-Tuned PID Control (8 Loops)

The Software offers:

- IIoT/I4.0 Ready CPU With Built-in MQTT Protocol
- Auto Tag Name Addressing / Progr.
- Programming in Simple Ladder Logic
- Rich Instruction Sets
- Advanced Function Blocks
- USB Data Logging up to 64 GB
- Offline Program Simulator



Who Will Enjoy This System?

Due to its **robust** construction, the **I4.0 capabilities**, the expansion possibility up to **2048 I/Os**, the comfortable **programming**, which is nevertheless **easy to learn** and the integrated functional diversity, the EZRack is especially designed for companies that …

- want to quickly and inexpensively **supplement** their **existing automation environment** with the new possibilities of **Industry 4.0/IIoT**, e.g. in the area of condition-based maintenance.
- are looking for a **simple**, **comfortable** and in particular **inexpensive PLC system** for applications from 50 to **2048 I/Os**, which keeps up in **tough industrial conditions**.
- are **annoyed** about having to pay **high licensing fees** for every minimal software update.
- want to design their **own, proprietary solution** for their **standard machines**.

EZRack—Just Right For You! **Read more at: virtualclients.de/EZRack**