domat

MEMBER OF CEZ ESCO

NEWS LETTER

Summer 2021

Energy under control

Dear business friends,

summer is back and our country is starting to breathe slowly again. For most of us, this means an opportunity to relax and extra time to go through some news and interesting contributions from the field of control and measurement. That is why we are now bringing you this summer newsletter, where we have traditionally summarized the most important information of the past half-year.

Speaking of holidays, it will be worth mentioning the most interesting reference from sunny Croatia - the project of the hotel resort Costabella, which you can read about below.

The last newsletter was intersected by a big topic: cyber security, which was also reflected in this edition in the article Control and measurement operation in terms of safety. In addition to it, we also focused on a two-pipe connection with a change-over function.

The novelty will be two podcasts with our sales director on another much-discussed topic: energy management.

In the end, be sure to go through the training that we have announced for you this time in the holiday months. We firmly hope that the situation will remain favorable and that we will not have to cancel the autumn deadlines again.
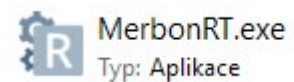
We wish you a great summer! :)

Domat Control System team

NEW products

Merbon Windows Runtime

With version Merbon IDE 2.4.0.17, which will be released during the summer of 2021, comes the long-awaited Merbon Runtime for Windows. It is part of the IDE installer and requires Windows 8.1 or 10 or higher to run.

MerbonRT.exe
Typ: Aplikace

Merbon Runtime is not limited in terms of the number of data points. The maximum number of physical data points, channels and variables is determined by the capabilities of the hardware on which the runtime runs. Memory size in particular is crucial. When deployed on commonly used platforms, such as an office personal computer, we can count on tens of thousands of variables. Merbon RT offers all the functions we know from the powerful markMX or mark320 platforms, ie writing data to the Merbon DB database, local storage of history, communication with a proxy server, etc.

The runtime supports the same set of communication drivers as PLCs with Linux OS. It can therefore communicate by BACnet TCP, Modbus TCP/RTU, M-bus, OPC, IEC 62056-21 and SSCP protocols via TCP or serial line. It can be used as a powerful „software PLC" or as protocol converter over which visualization - Merbon SCADA - or OPC server for integration into third-party systems run.

Merbon Windows Runtime can run in two modes: as a program or as a service.

Starting the program is easier and makes sense if, for example, we want to test the function of the project on a laptop before uploading it to the PLC. Just start the runtime by double-clicking on the icon as with any other program. However, running the program is not very suitable for continuous reliable operation, because the user can easily close the program window by mistake. In addition, to run the program (even automatically at startup), the user must be logged in to Windows.
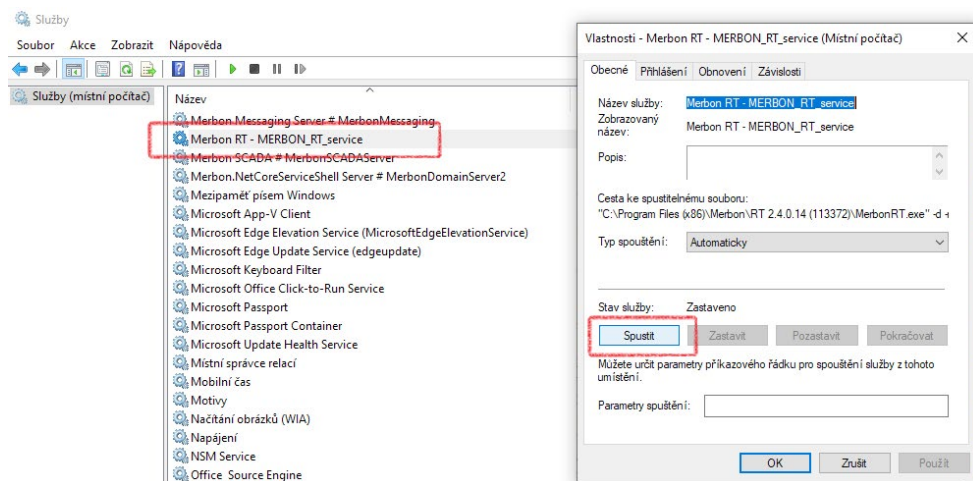
In contrast, the service can be started automatically when the operating system starts and the user does not have to be logged in to run it. At first glance, it is not at all visible that the service is running, so it is not easy to stop it by mistake or intentionally. It is therefore a more reliable and durable variant of running the runtime.

The service must be installed before it can start. This is done by executing the command:

MerbonRT.exe -i -d -n „MERBON_RT_service"

in the Windows command prompt in the directory where the MerbonRT.exe file is located (eg. C:\Program Files (x86)\Merbon\RT version_number (build_number)). Please note that the command line must be run with administrator rights, otherwise the service will not be installed.

„MERBON_RT_service" is the name of the service as it will appear in the list of Windows services. This name is freely definable.


In the properties of the service, check that the service will be started automatically (at the start of the operating system) and we can immediately start it with the Start button. The runtime can be detected in the Merbon IDE as a regular PLC and can also be assigned to a project. There should be no problems when detecting with Merbon IDE running on the same computer where Merbon RT is installed. If Merbon RT is running on a computer other than the Merbon IDE, you may need to allow inbound connections to UDP port 8010 on its firewall.

Note that a running service does not necessarily mean that the runtime is running and executing a loaded application program. Starting and stopping the application is controlled from Merbon IDE as well as with hardware PLCs: after loading the program, the program starts with a cold or warm start, it is possible to use the recovery mode, etc.

For continuous running it is necessary to license the runtime. This is done in three simple steps in the Merbon IDE context menu of the assigned PLC, Operations with PLC, Licensing:
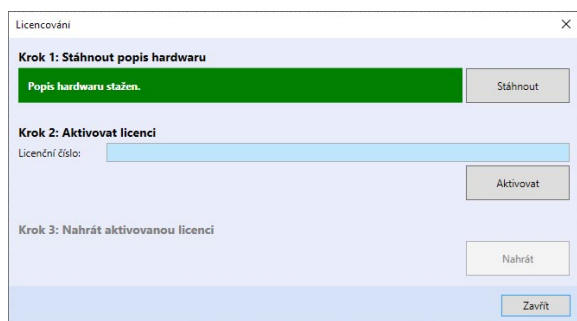
We obtain the license number by purchasing it as a product, it is in the price list under the name Merbon Runtime. Your computer must be connected to the Internet when licensing. For current price please contact our sales department at **product@domat.cz**.

Without proper licensing, the runtime communicates for only a few tens of minutes after starting the program, then communication on all channels stops. Richly enough to test the program and communications.

We will use the command for possible uninstallation:

sc delete „Merbon RT - MERBON_RT_service"

where „Merbon RT - MERBON_RT_service" is the full name as we see it in the list of services. Uninstalling the service does not release the license. If the license is to be transferred to another computer, eg in the event of a failure or upgrade of the machine, contact **support@domat.cz** and state the license number. Activation will be added to the license, so the license number can be reused on new hardware.

mark130 and HT104

The same, and yet different. These are our two new products from this March, which differ from their previous versions by an improved design and slightly larger dimensions. However, their technical features remain the same, so you can easily replace their predecessors with them.

And what products are they?

The first of them is the DDC controller mark130 – a freely programmable controller with an ARM Cortex M4 processor and OS FreeRTOS and serves as a replacement for mark125. It is suitable for controlling smaller applications or as a terminal for displaying values from other mark process controllers with Merbon runtime. It contains 1x Ethernet port, 1x RS485 interface, 1x RS232 interface and external 8 MB RAM.

mark130

HT104

HT104 user terminal is an interface for controlling and monitoring DDC mark/wall controllers with the Merbon runtime, which replaces former HT102. It is equipped with an Ethernet interface. It is controlled by six buttons and a backlit LCD display of 4 × 20 characters. Ethernet can be used to communicate with the controllers. The PWR LED is used to indicate power supply and the RUN LED to indicate program run. DIP switch 3 in the ON position at start sets the default IP address and does not start recording the menu configuration, thus enabling service access to the terminal in the event of a damaged menu file (so-called INIT status). Switch 4 in the ON position at startup blocks web and FTP access. This feature can be used for higher network security.

R080 –USB–RS485 converter

It is a USB service converter on the RS485 interface. Used to connect RS485 devices or a network of these devices to a computer. It is a service tool, so it is not intended for permanent connection of the bus to a PC via a USB port. It serves as a replacement for the M080 converter.

Its data sheet could be donwloaded here:

domat-r080-cz.pdf

Newly updated catalog sheets

For designers and service technicians, the basic tool is the product catalog sheets with detailed technical data, dimensions, marking and connection of terminals, etc. All catalog sheets and their updated versions can be downloaded **HERE**.

If you do not find the required document, please send a message to **support@domat.cz**.

Reference

Hotel resort Costabella, Croatia
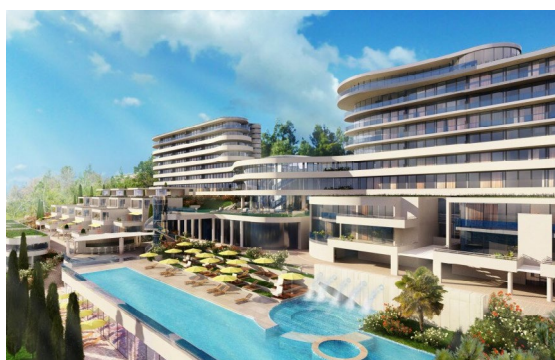
The Costabella resort complex is located on the Adriatic coast, between the seaside towns of Opatija and Rijeka. It is surrounded by the Risnjak National Park and the Učka Nature Park. In addition to accommodation, it offers two swimming pools, six restaurants and a full-service spa.

In 2020, our company created a measurement and regulation project for the construction of a building control system, which solves the automatic operation of ventilation, heating and air conditioning technology of this area.

Read more

Articles

Zone control with change-over function

For fancoils or cooling beams, the so-called two-pipe connection with change-over (C/O) function is sometimes used. This feature ensures that the common register heats, cools or shuts down the room according to the energy needs of the room and the available medium in the piping. The main advantage of a two-pipe connection is the saving of investment costs: instead of separate pipes for heating and cooling water, there are only one pipes in the building that distribute either hot or cold water, and there is only one exchanger or other heat exchange surface in the rooms. However, the system has several limitations that can fundamentally affect the comfort of the building. In addition, there is a risk that, if incorrectly designed or installed, the entire system will be functional only to a limited extent and will become a source of annoyance and disputes between professions.

Read more

Control and measurement operation in terms of safety

Although the cyber security of the building management system must be addressed long before the start of operation, ie during design, installation and revitalization, the entity that bears the effects of all problems is ultimately the operator. In the following text, we will show how to minimize operational problems and the resulting risks and damages.

Read more

New website

This year in March, we launched the new website, which is part of the company's updated visual style.

You may have already noticed a revision of our logo, which is now unified into a unified design together with other ČEZ ESCO subsidiaries.

When working on the new website, we used the original version, which we tried to make as clear as possible. At the same time, we didn't want to unnecessarily complicate your orientation on the site, which many of you, our customers, are already used to. We also technically responded to the growing traffic from mobile devices.

For better help in solving technical problems, we have created **FAQ and technical support** page in the Products section. There, you will find sorted articles, instructions

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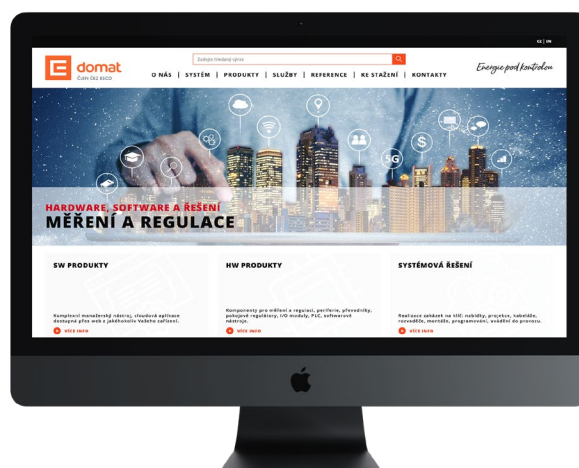
and frequently asked questions that we received from you in the discussion forum. This will be replaced by the contact form, through which you will be able to continue to contact our technical support.

Cooperation with schools

The Třebíč Industrial School is an important center of technical education, which has always emphasized the connection between theory and practice. Due to the offered energetic course, its cooperation with the Dukovany nuclear power plant is important, and thanks to another unique course – Industrial Automation – Domat could also contribute to the development of much-appreciated practice for its students and supp-ort PLC teaching, programming and commissioning.

<kbd>Read more</kbd>

Training

Fortunately, the situation is favorable again, which is why we have announced the dates of our regular trai-nings for you:

15. 7. Advanced Merbon IDE training, Pardubice

5. 8. Merbon SCADA, Prague

2. 9. Merbon IDE for beginners, Pardubice

7. 10. Training of BMS designers, Prague

If you have not found a training in the calendar of events that would suit you either in terms of content, lan-guage or deadline, we will be happy to prepare tailor-made training for you.

Contact us at skoleni@domat.cz, where we will agree on training, which can take place either in the classic form with the program, or we can individually agree on any content of the training so that we meet your requirements as much as possible.

We would like to remind you that you can use **the recordings and tutorials** we have on our Youtube.

In conclusion

We would like to offer you the sending of our company newsletters with regular information about our most important product news, trainings, events and other updates.

To subscribe, please send a request to the e-mail **aneta.cerna@domat.cz** together with information on which types of newsletters you are most interested in:

• technical details,

• invitations to SW training,

• invitations to designers training,

• product price list,

• business information.

We believe that our content will be useful and that you will know in time about everything that might be of interest to you.

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