

domat
CONTROL SYSTEM



NEWS LETTER

Summer 2019

Energy under control

Dear business friends,

this time just a brief note: we wish you a nice summer and peaceful holidays. Together with expanding of the range of Domat products and services, our staff also has been reinforced by several new members whom you will meet in the logistics, development, and service departments. We know how important it is to share with them not only the technical know-how, but also the company spirit - the way how to approach customers, which is one of the company's fundamental values. We appreciate when our subcontractors face problems actively and straightly, and we aim to do so also in relationships with you. The commonplace slogan „your success is our success“ has been always important, and so it will be in the future.

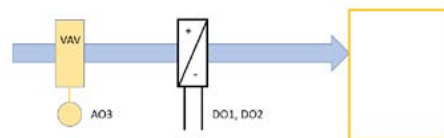
Your Domat Control System team

NEW products

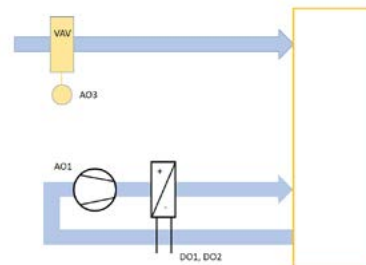
FCR015 - new firmware

The FCR015 room controller for heating, cooling and air quality control comes with new firmware. Its main feature is more flexible manual override of outputs. However, very interesting is free assignment of the physical outputs (analogue 0...10 V and triacs with PWM signal) to the heating, cooling, and air quality PI output sequences and their combinations. With a single controller it is possible to control technologies which have been appearing in both office and residential buildings lately:

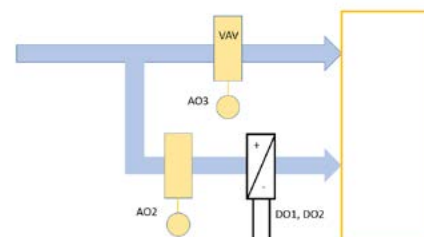
VAV damper, heating/cooling (typical assignment for most air quality control systems):



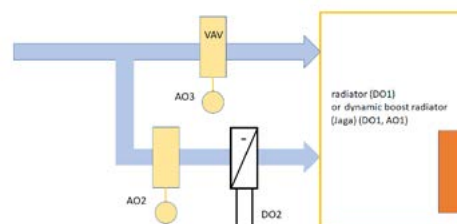
VAV damper for CO₂ control, circulating FCU for heating / cooling (the fan is controlled according to heating / cooling demand):



VAV damper for CO₂ control, DID* system for heating / cooling (AO2 opens fully on heating / cooling demand which provides full functionality to the DID system):



VAV damper for CO₂ control, active cooling beams, heating with radiator / dynamic boost radiator (AO2 opens fully on cooling demand. If the radiator features a 0...10 V fan, it can be modulated using AO1):



See details in the updated Modbus table and FCR015 datasheet.

*DID = Deckeninduktionsdurchlass, Active Chilled Beams

NEW products

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Replacement of MCIO2 to RCIO



Market introduction of the RCIO I/O module finishes the process of replacement of the old I/O modules (M...) by new ones (R...). The RCIO only brings redesign of the cover. It is fully compatible with MCIO2 regarding mechanical properties, hardware, and software (except for its new firmware ID). By refreshing the range we were able to reduce prices for some of the modules, thanks to using our own plastic parts and new, future-proof components (namely processors) - see the 2019 price list.

Replacement of the budget sets

As the purchasing prices of components for production of IPLC201 and IPLC301 have been increasing, we are sorry to cancel the budget sets C/IPLC201+MCIO2, C/IPLC301+MCIO2. These sets are not available anymore in the 2019 price list. Instead, there are new Merbon sets C/mark125+MCIO2 (or RCIO), C/mark320+MCIO2 (or RCIO), which are also listed in the current price list.

The Wall process stations

Part of the new Merbon IDE version, which is to be released by the end of August, is also full support of the Wall process stations, based on the Wago 750... hardware. The major advantages are slim form factor saving panel space, and free expandability by standard I/O cards.

The controllers will also be available as budget sets:

wMX - PLC plus 16 AI, 8AO, 32DI, 32DO (I/O mix same as markMX)

wCIO - PLC plus 8AI, 8AO, 8 DI, 8DO (I/O mix similar to ICIO205)

Find more details in the respective data sheets, which will be published on our web together with the new Merbon IDE release.



NEW products

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Converter R065 (Modbus TCP to DMX) now with two DMX lines



The R065, a new version of the Modbus TCP to DMX converter, features two independent DMX512 buses. This means that by writing into Modbus tables it is possible to control up to 1024 addressable lights. The converter is unique by its web interface, which can be used for convenient DMX light control even if the application software in a PLC has not been engineered yet. Users can easily define RGB or RGBW lights and set them up over the converter web page. The Modbus table contents is available at the same time, so that it is easy to check what a Modbus TCP client is writing to the converter.

A very special feature is the Sniffer mode. It makes simple bus diagnostics easy, or accepts commands from a DMX master (light control panel) and brings them to PLC, which can control e.g. sport hall or theatre auditorium interior lights. This application was used at the pilot site, winter stadium in Pardubice.

Online demo Merbon SCADA

Online demo of Merbon SCADA is available at <https://merbonscada.domat.cz/> Please use the following credentials:

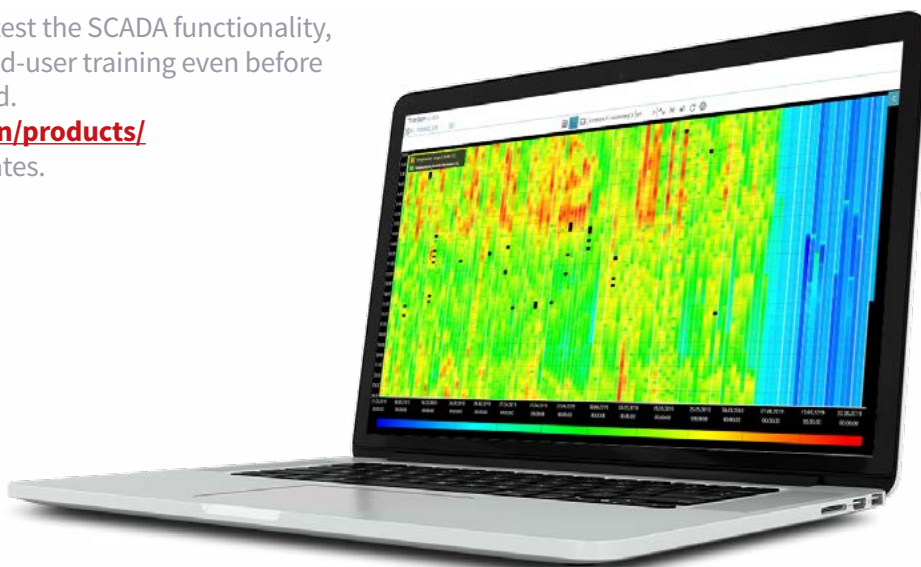
User: Domat

Password: demo

Even if the plant schematics does not fully comply with the real plant from which the values are read, many values are attached to functional sensors. It is possible to see e.g. morning heating periods in spring time or termination of the heating season in the hot water carpet plot:

The demo access can be used to test the SCADA functionality, for customer presentations, or end-user training even before your system is fully commissioned.

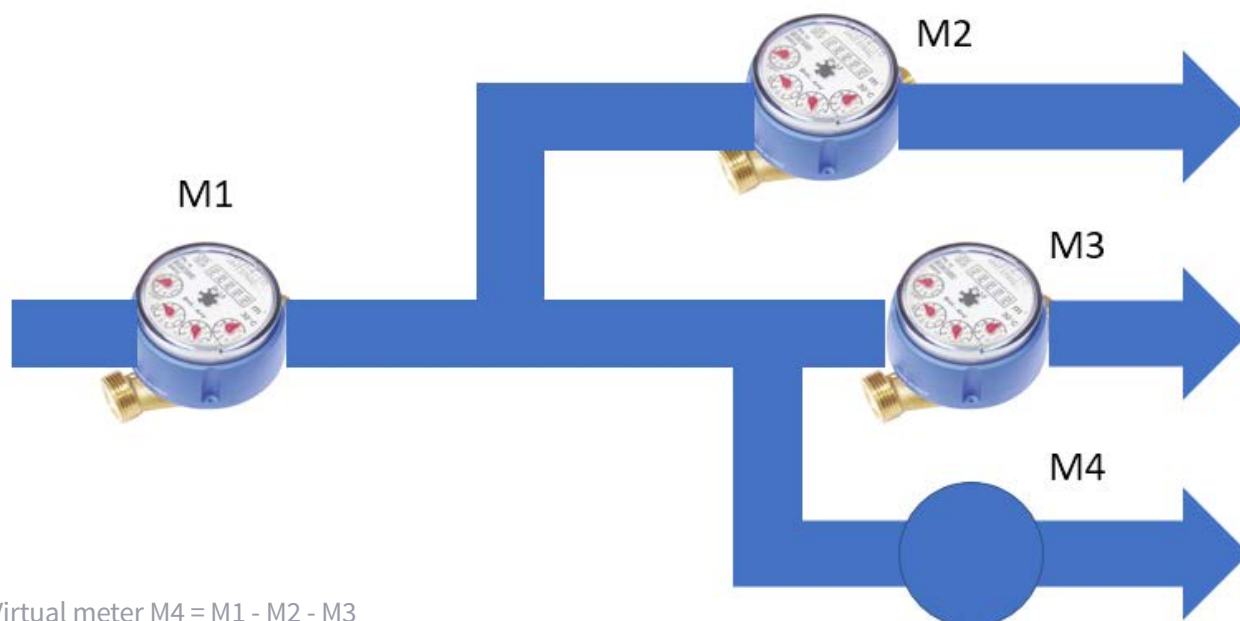
Follow <https://domat-int.com/en/products/product-news> for the latest updates.



Topic of the issue

Air conditioning and energy metering

Energy metering is the topic of the day for all trades, including air conditioning. This task is mainly assigned to the building management system (BMS) supplier. In the following article, the main principles used in energy data acquisition are described, and we focus on the cooperation between the air conditioning supplier and the BMS supplier.



Virtual meter $M4 = M1 - M2 - M3$

Why measure?

Before the data acquisition system specification starts, we should know what will the measured values be used for. It may be e.g. energy costs allocation at office and residential buildings. If there is a single building user, such as at a production plant, the data may be useful for management accounting (variable costs calculation) or for identification of weak points and reducing of the overall energy consumption of the plant. The meter readings may also be a major data source for operator who uses them for EPC (Energy Performance Contracting) projects.

Depending on the purpose of use of the measured data, the measuring points (places where the meters are installed) must be specified. Some of the nodes may not be populated by meters at all, and their consumptions may be acquired using virtual meters, or calculations using other physical meters. Usually, various auxiliary or less important consumptions are measured like this.

When deploying virtual meters, transport losses must be taken into account (especially at heat meters) as well as inaccuracy of physical meters. If the physical meters entering the calculation are of different ranges, the resulting virtual meter may not „work“ correctly. Note that for cumulated values (kWh, m³, ...) the measuring error also cumulates, and in the course of time the virtual meters may show surprisingly erroneous values.

Read the rest of the article at <https://domat-int.com/en/products/online-documentation/air-conditioning-energy-metering>

Trainings

Merbon SCADA

New visualisation system Merbon SCADA – basics, installation, project editing, configuration of environment and users, RcWare Vision compatibility, user settings, operation, work with alarms, trends, and events. Previous RcWare Vision experience is an advantage. The training is mainly focused on engineers who will commission projects and train end users.

Building control system designers training

For designers of control systems with Domat components. Impact will be put on the most frequent mistakes, grounding, overvoltage protection, power supply connection etc. We will discuss also communication over RS485, 3rd party integration regarding old building control systems and investment protection, network topologies, data storage in databases, and other topics which bring along most of the questionmarks when designing a control system.

Communication over Modbus

This training aims both at PLC and SCADA engineers, and for those who are interested in integrated systems using Modbus RTU and TCP. The participants will be able to select, design and commission the communication between a 3rd party Modbus device and PLC or SCADA. Hands-on sessions included.

Programming in Merbon IDE

New – Functions, programming, and configuration of PLCs in the new software Merbon IDE. Overview of PLC controllers mark and their features. Programming in FUPLA and ST, customized blocks and libraries, commissioning, debugging. Web server, configuration of web pages, upload to PLC. Previous experience with SoftPLC IDE is welcome. The training is held in Czech language.

Merbon IDE Advanced course

A follow-on training to Programming in Merbon IDE. Advanced system features, more ST (Structured Text) programming, custom devices and blocks, more space for questions regarding particular projects. Efficient work with more PLCs, tasks, assignment of programs to tasks. Communication drivers and their properties.

Save the date

8. 8. 2019	Communication over Modbus, Pardubice
15. 8. 2019	Programming in Merbon IDE, Brno
29. 8. 2019	Merbon SCADA, Bratislava
5. 9. 2019	Building control system designers training, Klecany
12. 9. 2019	Merbon SCADA, Brno
19. 9. 2019	Programming in Merbon IDE, Klecany
26. 9. 2019	Merbon IDE Advanced course, Bratislava
3. 10. 2019	Merbon SCADA, Pardubice
10. 10. 2019	Communication over Modbus, Pardubice
24. 10. 2019	Programming in Merbon IDE, Pardubice
31. 10. 2019	Merbon IDE Advanced course, Pardubice
7. 11. 2019	Building control system designers training, Klecany
14. 11. 2019	Merbon SCADA, Klecany
21. 11. 2019	Programming in Merbon IDE, Bratislava
28. 11. 2019	Merbon IDE Advanced course, Brno
5. 12. 2019	Building control system designers training, Pardubice
12. 12. 2019	Merbon IDE Advanced course, Klecany

Trainings

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All trainings are held in Czech language. English trainings on demand. More trainings will be held in September to December, please keep up-to-date at www.domat.cz. Popular videotutorials are also recommended which can be found at <http://domat-int.com/en/products/online-documentation>. Do not miss also more articles on third-party integration, commissioning, solution of the most common problems, etc. in this section.

On demand: SoftPLC for software engineers

Basic introduction into SoftPLC IDE for process station programming, function blocks, communication with I/O modules, program upload, remote debugging, LCD menu design, and web access. For those who want to start programming the favourite MiniPLC controllers. Within a single day, you will see values from your own program on the MiniPLC's embedded web server.

The training is held in Czech language and on demand only, please contact your distributor or sales@domat.cz for trainings in other languages.



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