Bulletin for users of Teco controllers

March 2014

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TECO Info

Growing trend confirmed

General manager opening

Year 2013 has been for our company Teco, a. s., a really successful one. Again, we have increased sales and as in 2012, we have reached 8% increase of sales. We have reached the highest sales in our long history under Teco brand and also the best economy results. These successful results are the fruits of continuous development of Tecomat control systems for general purpose in many fields of industry automation on domestic and foreign markets.
Our products have been applied in traditional fields from machinery, chemistry, petro chemistry, food industry, transportation, energetic and also building management systems and building automation. As well in photovoltaic, changing traffic signs or mobile devices e.g. fire brigade trucks in the Netherlands. Our control system Tecomat Foxtrot has been chosen by some customers as a base of their own solution, distributed on selected markets under their own brand and sales strategy. Its quality and features are appreciated by customers – system integrators and end user customers, as well as professional public. We really appreciate Grand Prix

Content

2013 Award we received at the international building trade fair For Arch in Prague (Czech Republic).
In 2013 we have exhibited at many international trade fairs. Let´s mention Amper and PragoSmart in Czech Republic, Elo Sys in Slovak republic or Elektronika and Energetika or Energoprom in Ukraine.
We work in branch, where not only a perfect product, but perfect technical support is a must. So we are still developing it. Let´s mention service TecoRoute for remote control and access to our control systems, which brings costs savings while implementing and maintaining for system integrators and comfort for end users.
An intensive contact with customers is for us an important feedback for next development and for our customers a guaranty, that with our support they are able to solve the most sophisticated tasks and applications. A part of technical support is also the intensive training of customers, which is provided regularly for both domestic and foreign customers. Last year we have started on-line training via internet, what gives us possibility to fully support foreign customers immediately.
In 2013 we have launched many new hardware modules and software services and functions and also about them you may read in this magazine. We wish you a pleasant reading! *Ing. Jiří Kovářík* ■

Grand Prix Award at trade fair For Arch 2013
for system Tecomat Foxtrot of the Czech company Teco, a. s.

The International Building Trade Fair **For Arch 2013** took place in Prague (Czech Republic) from 17th to 21st September 2013. As every year, a jury of professionals has awarded GRAND PRIX Award. The awarded product was control system **Tecomat Foxtrot** from Czech company Teco, a. s.
Czech company Teco, a. s., is systematically developing and manufacturing control systems for control of machines, processes, technologies, transport, buildings and houses for **38 years**. In the beginning as a part of company Tesla Kolin and from 1993 as an independent company Teco. High level of technical solution and operation quality of Teco systems are appreciated by customers in domestic market and abroad in more than 30 countries. Quality, innovative functions and advantages of continual development of Teco products has been awarded last year by **Innovation of Year 2012 Award**. This year, the professional jury has awarded system Tecomat Foxtrot by **GRAND PRIX Award at** 24th International Building Trade Fair **For Arch 2013**. A popularity of system Foxtrot in home & building automation applications is indicated by more than **100% annual increase of sales** in this market and dominant share on Czech market. ■

GRAND PRIX Award, during ceremonial in the National House in Prague, have received representatives of Teco company – Mr. Petr Ovcaček and Mr. Jaromir Klaban.

Teco trainings for customers

Training of customers we see a basic brick of our customers´ success, because well trained and educated system integrators can make with our control systems the unbelievable applications, what we see daily at our customers' references. That´s why we pay a big attention to customer's trainings. We are organizing few kinds of trainings from basic introduction trainings for hardware and software to advanced trainings for Tecomat Foxtrot and Tecomat TC700 up to specialized 5 days trainings of programming in Mosaic software. Apart of this, we are providing special customer tailored trainings according to our customers' needs.
Last year we have started a new service, which is making the training for foreign customers more effective – on-lime training via internet. In the beginning we have used this way of training to introduce hardware and software possibilities of system Tecomat Foxtrot and later on, according to customer's interests, we have organized individual trainings. This year we are going to continue in this trend and we intend to organize on-line trainings focusing on partial topics, which may be trained more in details.
We are sure that customers appreciate a possibility to have recorded the trainings, so this gives them a practical guide for their future work.
The list of trainings you may find at our website www.tecomat.com. For individual terms and topics of trainings, please contact Mr. Urban – urban@tecomat.cz. ■

System Foxtrot showrooms are on the increase

Control system Tecomat Foxtrot, used as a home automation system, has become the most commonly used system in the Czech Republic and number one on the Czech market. At this time, customers in Czech may chose the supplier of our system from tens of reliable companies, with experience in many nice references. The list of Czech integrators you may find at www.controlyourhosue.com (chose Czech language) under the link „Where to buy". Many of them have own showroom, where the end user may try and test in real life, how Foxtrot works. Let´s mention some showrooms in the Czech Republic:

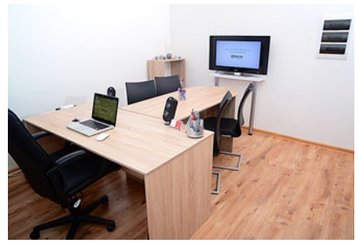

Stakohome Network, s. r. o. | Aloisovská 934/8, 198 00 Praha 9 Hloubětín

ELPRAMO, s. r. o. | Nademlejnská 600/1, 198 00 Praha 9


SUP-TECHNIK, spol. s r.o. | K Libuši 4/24, Praha 4-Kunratice

Training center in Slovak Republic

In the beginning of 2014, our Slovak distributor company iQ House has opened a modern training centre for system Tecomat Foxtrot. This training centre is prepared for everybody interested in Foxtrot as building management system and home automation system. Customers and partners – system integrators, project designers, etc. – may here pass the regular trainings. Participants will get a certificate of authorised partner, enabling installation of Tecomat Foxtrot. The training centre is preparing them not only at theoretical knowledge level, but they are practising their knowledge at a real installation. After paging the course, participants are able to design projects of home automation and building management systems with Foxtrot, to make a switching/control cabinet and program it. ■



Looking back to 2013 exhibitions

As every year, we have participated in 2013 at many professional trade fairs. The most important trade fair for professionals in the Czech Republic we still see Amper. For end users, interested in smart houses or home automation is the best one Prague´s trade fair For Arch, so we couldn´t missed it. There we have presented a structure of system Foxtrot and possibilities and advantages, which Foxtrot brings to home and building automation. As well we have presented few final solutions of home automation including visualization. At For Arch trade fair we have received Grand Prix Award, what made us really happy. The third domestic trade fair we have exhibited at, was PragoSmart, what is a part of trade fair Prago-Alarm. The topic of the fair is clear right from its name – this exhibition is focused on professionals from field of security systems. Tecomat Foxtrot is integrated with security systems and in smart homes Foxtrot uses data from security systems for controlling the whole house.
In Slovak republic we have together with our local distributor company Slovteco exhibited at trade fair
Elo Sys. The eastern way we may mention two exhibitions at Ukraine: „Elektronika and energetika" in Odessa and „Energoprom" in Dnepropetrovsk. Even these foreign trade fairs are helping us to increase sales of our control systems. ■

Teco at Integrated Systems Europe 2014

In Amsterdam, the Netherland, within 4th to 6th February 2014 took place he biggest European trade fair for A/V systems and system integration – Integrated Systems Europe (ISE). Because our system Tecomat Foxtrot is a perfect tool for home and building automation, we couldn´t miss such important exhibition. We have participated on this show by common stand with our customer, company Haidy, who presented world´s premiere of interesting home automation solution based on our control system Tecomat Foxtrot. In this solution, the integrator or installation company does not need programming knowledge, because the whole system to be parameterized via website on tablet. Another advantage is easy scene creation and time programs by end users.
Our part of the stand has presented possibilities of Foxtrot in home and building automation for integrators, especially its openness, flexibility and free programming according to international standards for PLC programming. The integrators are getting by Foxtrot a system with possibilities to create any control logic, visualization and functions for both standardized and tailor made solutions of home and building automation, and more of that – possibility to connect other systems like multimedia systems (Control4, Bang&Olufsen, AMX, Crestron, Cue), security systems (Paradox, Galaxy, DSC, Jablotron, ...), air-conditioning units (Samsung, LG, Daikin, ...), Lutron system, household device Miele or any device of KNX standard and many more.
Our stand has been visited during three exhibiting days by few hundreds customers and partners, who has been impressed by possibilites Foxtrot gives them. Thanks to the interest of foreign customers, on-line trainings to be prepared to train hardware structure and programming tools.
Especially for domestic (Holland) visitors, it was interesting to see nice references of system Foxtrot on Holland market: yacht control, fire brigade trucks in Amsterdam, trucks for precious horses transport or multimedia systems for churches.
And let us mention the next interesting project, controlled by Foxtrot, which is at this moment in preparation and it is control system for a Police Academy Shooting Range. ■

News in CFox, RFox Design Manual

For better orderliness and easy using we have merge two present manuals for Foxtrot project designing and CFox and RFox into one complete manual „Project designing Foxtrot, CFox and RFox". Czech version has been just launched and the English version will follow.
System Tecomat Foxtrot and its modules are still expanding. In last time we have included following news to the manuals:

- information for central modules including CP-1003,
- information and connection diagrams to communication modules SC-1101 and SC-1102,
- added information to module UC-1203, which is used for connection of servo drives on bus MP-Bus,
- information and examples of connection for lights control via bus DSI,
- information and connection examples of three point control of servodrives,
- information of RFox sock adapter R-OR-0001W,
- recommended examples of connection for valves and other devices for irrigation systems,
- examples of connection and other information for pump control with EC motors,
- information and connection example for KNX devices integration. ■

News in central and communication modules

CP-1001 – Expansion of Foxtrot central modules

The family of Foxtrot central modules has been expanded by the eleventh ones. What is the same and where is a difference? Project designer, who is counting number of inputs and outputs of number of CIB buses cannot see the difference from CP-1000. But programmer is getting with CP-1001 much better possibilities. The main difference is in larger memory for user program and higher number of registers. Memory size is expanded to 392 kB. Number of addressable registers has grown from 64 kB to 192 kB.

What´s the reason for a larger memory? There are more and more programmers, who create a sophisticated settings dialogs via internal web pages. And here the larger memory and more registers is a huge help which enlarge their possibilities.

Foxtrot is expanding the number of serial ports! (RS-232/RS-484 and CAN)

Serial ports with interface RS-232 or RS-485 are the most often interface of various independently controlled equipment of houses with own logic. Because the number of such devices, which is useful to connect with Foxtrot, is increasing, there is also increasing the number of serial ports working at the same time. We have met this demand with modules SC-1101 with parallely connected interfaces RS-232 and RS-485. We have also expanded the range by module SC-1102 with CAN bus interface. These modules to be connected via system bus TCL2 and we may connect up to 6 such modules. Each port is working as another system port and to be configured in Mosaic as a part of central module. So by this way we may connect more security systems, rating pumps, air-conditioning units, frequency converters, solar converters etc. ■

New modules for CIB Common Installation Bus®

A line of Tecomat Foxtrot dimmers is complete! New C-DM-0402M-RLC

Direct dimming control

New double dimmer C-DM-0402M--RLC for a phase control of two independent loads up to 500 W for both 230 V AC/50 Hz or 110 V AC/60 Hz is the last brick to mosaic covering dimming of all present light sources. Beside of dimmers C-DM-0006M in versions ULED for direct voltage control of up to 6 independent LED lines and ILED for direct current control of power LED chips, the new dimmer is designated for dimmable LED bulbs and dimmable CFL (Compaq fluorescent lamps) and of course also a standard bulbs or „heating balls". These acts like a capacitive loads and that´s why we may set them to mode, when dimmer is switching on while main voltage is crossing zero and switching of in the middle of the half wave proportionally to setting of the dimming level.
On the contrary, inductive loads – e.g. halogen bulbs with common transformer – are switched on in the middle of the half wave and switched of while the main voltage crosses the zero. This feature is involved in the name of the dimmer – RLC. This characteristic may be controlled by setting in program.
Another feature, which may be set, is a minimal level when dimmable LED or CFL are not flashing. We may set the inclination and disinclination ramp. So the smooth inclination of the light is not operated by a program, but it is realized inside the module.
Another unique feature of the dimmer is a possibility of parallel operation of both channels, so we may control the load up to 1 kW. This power may be doubled up to 2 kW by parallel connection of all four channels of two connected and synchronic controlled modules C-DM-0402M-RLC. A specific care has been dedicated to immunity against interference from mass remote control via main. The module contains even 4 universal inputs for contacts or temperature meters.

Indirect dimming control

For indirect diming control, so via various ballasts, system Foxtrot has modules with analogue outputs 1-10 V. An example is module C-IR-0203M, which has beside of two 16 A relay one analogue output configurable to PWM output. This way we may control especially ballasts of standard fluorescent lamps. In parallel we may dime more lamps at the same time. It is easy, but sometimes we may see a disadvantage of such solution what is decrease of voltage on long wire, what may cause unequal dimming of more lights.
Another way of smooth dimming control is one of digital methods. The first one is DMX512. Two independent channels of DMX interface are implemented in library fiction and uses communication sub module MR-0114 direct in basic module.
For sophisticated control of more circuits at the same time has been developed system DALI (Digital Addressable Lighting Interface). It is two wires bus, which may content up to 64 ballasts. These may be grouped to 16 groups, each of them may be dimmed independently on others. For this way of control system Foxtrot has in its product range a module C-DM-0012S for 12 ballasts and module C-DM-0064M on DIN rail for full fitting by 64 ballasts.

DALI modules communicates also with DSI protocols

Company Tridonic – a popular manufacturer of ballasts and light systems, has launched in 1991 its own protocol and interface, marked as DSI – Digital Serial Interface. In the beginning of this year we have implemented this protocol as an optional interface to both modules C-DM-0064M and C-DM-0012S designated firstly only to DALI protocol. Upgrade to this feature is possible even at already manufactured and installed modules. For firmware update we may easy use the Firmware Updater utility.

Two new modules for lights switching control C-OR-0011M-800, C-LC-0202B

It is really strange, how many technical problems we have to solve, as we could use compact bulbs with low energy consumption or LED lights against the old common bulbs. During purchasing them we have to pay attention whether they have warm or cold white colour, whether they are dimmable and even the common switch on/off cannot be operand by any relay contact. Even in steady situation these light sources consume a minimal current, at switching on there is noticed high inrush current, which may reach up to tens of amperes and common relays are not designated for such peak. That´s why we have launched at the end of the last year new module on DIN rail C-OR-0011M-800, which contains in 6 modules box 11 switching relays with resistance to inrush current up to 800 A.
Built-in module in plastic box designated for direct light control has type name C-LC-0202B. It is a modification of module C-OR-0202B, but on the contrary it has a feature that in case of communication failure on CIB bus or central module, this module automatically changes to mode, when outputs are following the status of inputs, where are connected common wall switches. So the result is that in such situation it works as an emergency manual light control.

Two new modules for jalousie control – C-JC-0006M, C-JC-0201B

Even for jalousie control we may use universal relay modules C-OR-0008M on DIN rail with 8 relays with switching over contacts or built-in module C-OR-0202B with a pair of relays after connecting the relevant relay contacts, we have launched two modules with internal connection of contacts of a pair of relays, which we call as jalousie actuator. It brings control voltage on one or the other output (control signals up or down) or both outputs stay unconnected (signal stop). Connection of hardware exclude connecting of control voltage to both outputs at the same time, even when some relay has been damaged and glued. This would damage relevant motor.
Because jalousie motors do not cause such inrush current like ballasts of fluorescent lamps and LED bulbs, there may be used smaller relays. That´s why there are 12 relays in one 4 modules box on DIN rail, who creates 6 independent jalousie actuators. Control of each relay in manual mode at from panel of the module is it's another advantage.
Similar jalousie actuator we are bringing in built-in design – C-JC-0201B. The numbers in type name of module telling us that the module has 1 jalousie actuator containing two connected relays and has two inputs. In the case when there is no communication on CIB bus, the module is automatically change to mode when outputs are following the status of buttons on inputs, what works as an emergency manual jalousie control. ■

News in Foxtrot communication possibilities

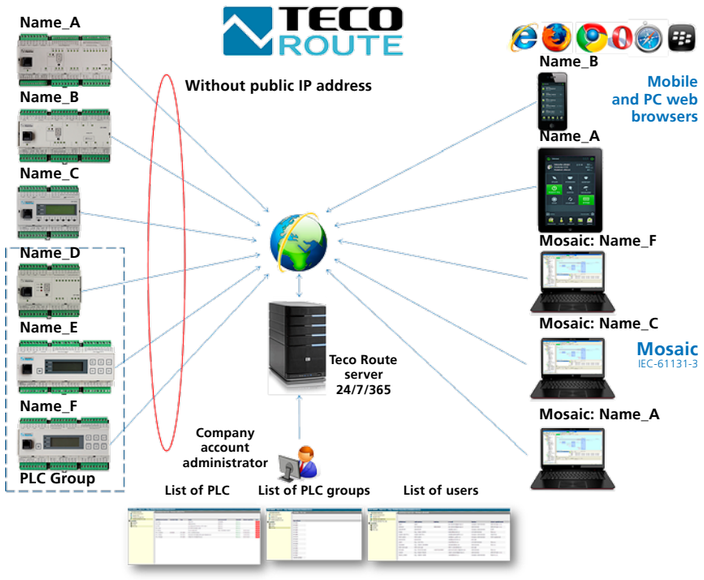
TecoRoute – With Tecomat systems we may connect via internet without public address and without any additional hardware

Before Christmas 2013 we have launched a service TecoRoute, which makes easy connection of all Tecomat TC700 and Foxtrots via internet. This service holds permanent connection with central unit even without public IP address (no matter whether static or dynamic). This connection doesn´t need any additional hardware module and its setting, what is usual at similar connections of VPN type. The connection is immune against changing of internet providers. This is especially advantageous at projects, when integrator use Foxtrot OR TC700 to solutions abroad, when technology changes the owner or is moving etc. Integrators still see inside the system remotely under its unique name and password. Of course, in the case that central module can find a gateway to internet, for instance by DHCP service.

In this case, when PLC Tecomat does not require fixed IP address and in not visible from outsider, its connection and authorization to a company network is much easier.

This service enables direct connection by Mosaic for maintenance and changes in programs. As well this enables maintenance staff or end users access via any WEB browser. In preparation is in these days service Firmware Updater.

Till the end of March 2014 the TecoRoute service is free of charge in trial period. Then

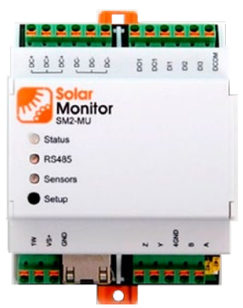


it will be a charged service. A company or an individual end user may create in TecoRoute their own account and connect to this account any number of PLC with name and passwords. They may be arranged into groups. They may create also create any number of persons (also with own name and passwords) and match one or more PLC to each person.

The more central modules we connect to one account, the better price for this service per one central module you pay. The maximal price per central module per months is 2 EUR. ■

Foxtrot opens communication possibilities with photovoltaic converters from 30 manufacturers

In November 2013 we have introduced new library SolarMonitorLib. This significantly expands the possibilities of Foxtrot to integrate into home and building automation almost any photovoltaic converter from established manufacturers. It is an important brick to mosaic, helping us to create hybrid (semi-island) energy system or autonomous (island) energy system



of residential house. For connection of these converters we have to connect via Ethernet basic module „Solar-Monitor" who may hold one or two converters of following brands. Basic module Solar Monitor in parallel operates its original function – monitoring of photovoltaic power plant according to valid legislative and operation rules. ■

- AEG – PowerSolutions
- Carlo Gavazzi
- Danfoss
- Delta
- Diehl
- Fronius
- Kaco
- Kostal
- Mastervolt
- Morningstar
- Omron
- Pairan
- Power One
- Riello
- Electronica Santerno
- Schneider Electric
- IBC Solar
- Siemens
- Siliken
- SMA
- SolarMax
- Studer
- Sungrow
- Sunville
- Vacon
- Xantrex
- Context
- SolRefu

Communication with security systems Jablotron

In the beginning of 2014, company Jablotron has presented its first communication module JA-121T for its system of line 100. Together with this step Jablotron brings support for connection of security system Jablotron 100 with library JablotronLib with a function block, through which it is possible to load all data, provided by Jablotron central module. As well there is possibility to secure or insecure each sections of the security system.

Communication runs via serial port RS-485 and in our system Foxtrot we may use for connection some sub-module from line MR-01xx with interface RS-485 placed into central module or external serial port SC-1101, mentioned in this magazine too. ■

JABLOTRON CREATING ALARMS

Popular player XBMC connected to Foxtrot

Multimedia content may be played from program and from web pages

In last period we have learned Foxtrot to control open source multimedia player XBMC. It runs on many platforms – MS Windows, Linux, Android, OSX, iOS, ATV (Apple). It has its own API interface, through which it may be control from outsider. This feature uses also library XBMCLib for Mosaic and it´s fiction block. In application program of Foxtrot we may give player address of any video, audio, picture file at any storage for playing OR displaying. Playing may be on, stop, off or sett playing from specified time inside the movie or song.

We may let run more instances of this, so we may control even more players at the same time and control more sophisticated multimedia presentations e.g. on exhibitions, in museums etc.

XBMC player still has possibility of local control by its own remote controller via its own user interface.

Company Teco has decided to distribute the easiest hardware with pre-installed XBMC player together with running server PLCComS. It is useful for connection of superior systems like for instance Control4 or selected applications for mobile phones and tablets. It also significantly increases number of connected device at the same time up to 32. Among such connected device we may use also wall touch displays ID-18 or ID-28 from our product line. ■

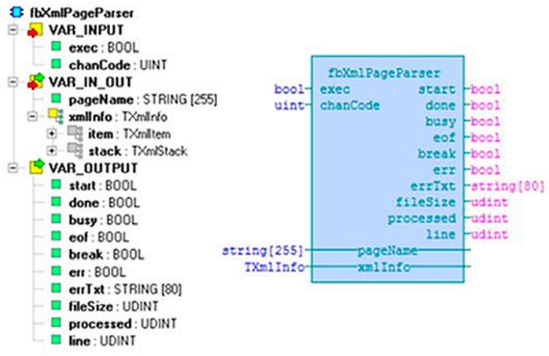
Even your application may speak with Foxtrot by XML language

XML is a short for Extensible Markup Language. Although this language has been initially dedicated for separated description of file format and content and has been based on requirement of readability both for human and computer, later on this language made popular as an universal platform for sparing and transfer of structured data from device to device. Very often it is used for web services e.g. for data distributor via web pages and servers. One of examples of data transmitted in XML format are servers with weather forecast. The family of Foxtrot programmers is so wide, that they may find many other useful information sources from XML channels and use them in their solutions. What about to program reading of the data for weather forecast from more servers and then compare which one is for this place the most successful?

For programmers there is available second generation of XmlLibEx library, who is decreasing requirements for memory and time (comparing with the first generation of the library) by sophisticated processing (parsing) of XML tags. It uses support of functions optimized in firmware. Let´s mention from the library a functions of parsing, which transfer item of XML text to value in Foxtrot data structure, and on the other side functions, who write value to XML texts. The other fiction block may only specify the way to XML file, which may be as the whole transferred to data structure and specify to the last function block an address of web page, where it finds XML data. ■

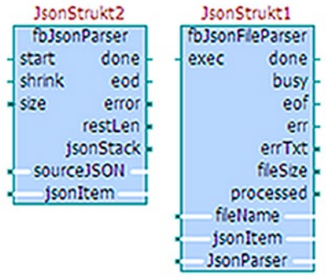
6.5 Function block fbXmlPagePArser

Library: ***XmlLibEx***



Structure of variables and symbol sign of function block for WEB page parsing

Foxtrot speaks even via JSON protocol



Programmer with knowledge of present web services may be looking at support of the other popular way of data writing what is JSON (Java Script Object Notation). Its final dedication is the same as XML – data transfer in pairs attribute-value, which is readable both for people and computers. JSON is more data saving and as well as XML it is not dependent on computer platform. On internet today exists a lot of servers providing the data in JSON format.

In Mosaic there is available library JsonLibEx. It contains two fiction blocks: fbJsonParser for transfer of one item to data structure of Foxtrot and fbJson-FileParser for transfer (parsing) of the whole file at once.

Both libraries XmlLibEx and JsonLibEx are a practical example of the total openness of system Foxtrot, when the user is supported by Tecomat system as he may create and modify the program according to modern standards. ■

Another simplification of connection KNX network with Foxtrot

Distributed system KNX, based on exchanging of telegrams on two wires bus among the peripherals without need of central processing has been grown as a standard since 20 years. During that time we saw a huge progress in world of information technologies, telecommunications and in power of processors and memory capacities. Computers have entered to common households. The break point of mass expansion of home automation systems has been launching smart phones and tablets on the market and their mass expansion. They require centralized functions for monitoring of the house and its control via touch screen of the mobile phone remotely even in distributed installations.

At the end of 2012 we have introduced the first step of connection these two worlds – KNX and Foxtrot, SO Foxtrot may operate all centralized functions for KNX network. Via KNX certified gateway BAOS 772 (Bus
Access and Object Server), Foxtrot exchange on LAN network both directions data and commands with all connected KNX modules in the network, configured by software ETS4.

For easy implementation there is available fiction block and library KnxLib for Mosaic, who supports communication with BAOS server and both direction data exchange. Software ETS4 can generate csv file with description of BAOS module configuration.

In this description there are available all necessary settings of group addresses in KNX installation.

In the beginning of this year we have add to Mosaic a new utility (see menu Tools | Import KNX), which can read this description and according to this description prepares a complete program for communication with BAOS server, so the programmer only reads variables from communication or writes to them. This feature significantly simplifies connection of Foxtrot with KNX installation.

KNX and Foxtrot then do not stand next to each other, but may complete each other and offer customers even more complex solutions. ■

Control system of combustion power plant steam boiler – Kolin, Czech Republic

Project of oil seed press plant with following combustion power plant in Kolín, Czech Republic, has been implemented by company BIOENERGO – KOMPLEX, s. r. o., with cooperation of company Kolínský ISOL, s. r. o., The project uses spaces in Kolín industrial zone, which are for a long time unutilized. Connection of technologies enables using pressed pieces as a fuel in combustion power plant as well as a fodder. The strategic focus on the project is using of renewable energy sources. It solves complex use of plants in energetic and food industry.

As the general contractor of combustion energy plant has been chosen the company SEA CZ, which has used for a control of steam boiler in the plant our control systems Tecomat TC700 and Tecomat Foxtrot with SCADA Software Reliance v4.

Liberty Technology Park Cluj – Romani

Liberty Technology Park in Cluj in Romania is the first technology park to be built in Romania. At an area of 47,000 square meters here arise 8 modern buildings, where headquarters of R&D and IT companies and technical brains concentrates. The first part of the project has already been opened and the next ones are under construction.

System Tecomat Foxtrot has been implemented in this nice project to control light systems in large area office spaces. Light control is operated from touch panels ID-18. The basic fiction is automated light control according to the light intensity read by light intensity sensor C-RI-0401R. Foxtrot control lights to a constant value of the luminosity, which is determined by a standard. All lights are controlled by DALI bus. An area of each office space is divided into few sectors and the lights above each sector are controlled independently from touch panel. So a group of the lights above not used office space sector may be switched off.

Foxtrot here monitors heating system as well. Thermostats for local control for this moment are connected via Modbus RTU. Another part of the project is monitoring of electric energy consumption. Controlled by Foxtrot, of course.

The project has been implemented by our distributor in Romania, company BMS Automatizări Clădiri SRL.

Shopping mall Šantovka – Olomouc, Czech Republic

A multifunctional project Šantovka is growing at the place of former factory MILO Olomouc and presents the total revitalization of spaces next to the city center. At the area of 11 hectares is here continuously growing modern city quarter with buildings for residents, business, administrative and shopping. The first part of the project is shopping mall „Gallery Šantovka“, which offers today more than 45,000 m² of spaces for rent with about 180 sales units and 1,000 parking lots. Visitors may find here tens of shops with fashion brands, sport shops, cosy coffee bars, premium restaurants, large hypermarket, services for public, multi-cinema with 8 halls and bowling hall with 18 lanes.

Control system Tecomat Foxtrot controls in the shopping gallery a centralised preparation and distribution of hot water for the whole complex from hot water pipeline in the main exchanger. The heating of all unit sis controlled locally.

The project has been implemented by czech integrator company MaR Trade s. r. o.

Fire brigade trucks "Port of Rotterdam" – The Netherlands

An interesting reference has been implemented thanks to our distributor in the Netherlands, company B&R design BV. Together with company Cosmo Truck they have created a solution for control and monitoring of new commander trucks for Fire Brigade „Port of Rotterdam“. They deliver them three special DAF trucks, two of them equipped by all necessary communication technologies and the third one equipped by device for meeting of all security and risqué section commanders. These trucks to be used in the case of emergency in area of large Port of Rotterdam and provides the base with all communication and technology services for Fire brigade, Police, Medical services and Port operation services. This mobile commander center enables centralization and control of all risqué operations.

In each truck there is used 42 sensors, who Foxtrot uses for monitoring of truck status or better say – all moving antennas, satellite antennas, doors, stairs, storage spaces. Only when all the sensors

are in the required position, the commander truck is ready to action. Besides monitoring Foxtrot here controls climate, back-up power Victron UPS, generator Fischer Panda and access control with IP cameras and fuel tank monitoring.

Mining machine control at Mine Staric – Czech Republic

Our big modular system Tecomat TC 700 has been used by company INCO engineering as control system of mining machine. It is two cylinders machine with possibility of disconnecting cylinders. One cylinder is winding wire rope from the upper side, the second one from lower side. That´s why one container is moving in one direction and the other one in opposite direction. After cylinders disconnecting the containers distance may be changed, what means from which floor to which the containers can move.
Control system Tecomat TC700 controls all mining machine. It controls even brake system – operation brake and accident brake. There is another independent control system, which provides operation control and meets mining regulations, performing all machine operations. It contains control of temperature statuses, pressure statuses of used mediums, speed statuses and safety requirements. Power of mining machine is 3500 kW. Current of motor is 4200 A at 900 V. Container may load 10 t weight. Deep of mine, where machine operates, is 900 meters. Servo drive is DC, thyristor, 12-pulse in serial connection. Reversing of drive is made in anchor circuit of mining motor.
This interesting project has been implemented by company INCO engineering s. r. o.

Control system for HVAC technologies in manufacturing plant Smith Medical – Hranice, Czech Republic

During 2013, in industrial zone CTPark in Hranice na Morave, it has entered a significant manufacturer of precise medical device, company Smith Medical, which has constructed here a new manufacturing plant with about 300 employees. Control system of HVAC technologies for a clean spaces has been implemented by companies EV COMP and GEOVAP, who used our control system Tecomat Foxtrot.

System Foxtrot is placed in 11 switching cabinets, placed in technical mezzanine floor. In total, there are 11 central modules Foxtrot CP-1016 and peripheral modules on TCL2 bus and on CIB – Common Installation Bus.
Control system Tecomat Foxtrot controls here following:

- 14 air-conditioning units
- heating technology
- cooling technology
- boiler room technology
- air-conditioning units DAIKIN in administrative spaces via communication protocol Modbus

Data from control system are transferred to dispatching computer, where is installed module SCADA Reliance Control Server.
This project has been implemented by companies EV COMP, s. r. o. and GEOVAP, spol. s r. o.

Foxtrot as standard equipment of smart houses in France

Control system Tecomat Foxtrot has been implemented since 2012 as standard equipment of houses delivered by company Ecomodula within France. System Foxtrot is here a base of standardized solution of home automation intelioBox, made by Czech company SUP-Technik. And only in France they have delivered few tens of smart houses.
Regarding functions, system here controls lights, heating with recuperation, jalousies and blinds, security system, cameras and connection to weather station (meteo). System intelioBox is a house switching cabinet for home automation, delivered pre-programmed, so just after switching the wires you may begin to control your home from tablets, computers or smart phones. Installation company do not need programming knowledge and nevertheless they may deliver smart installation and home automation system with control from tablets and smart phones.

Foxtrot attracts developers

Our control system Tecomat Foxtrot has been used as a core of standardized solution of home automation system HAIDY Home, to be delivered without any programming knowledge. Implementation of the system is easy even for a common electricians with short training course, because the whole implementation means setting of parameters at user web page. End user is getting by this solution a wide range of setting and customizing the automation functions with independency on supplier of the solution. And because of the standardization for an affordable price.
In the Czech Republic we may mention a lot of projects, where this interesting solution has been implemented. For instance developer company KONHEFR has equipped all 28 flats in its project Residence Klanovice by system Foxtrot in HAIDY Home solution as a standard equipment of the flats. Each owner of the flat is getting possibility to control heating, recuperation and security system. More information about this developer project is at www.rezidenceklanovice.eu. The other projects, where we may find the same solution are block of flats complex at „Na Dlouhe“ in city Olomouc (developer company GEMO) and „Na Hradisku“ (developer company Simplon Power). Also mountains apartments Razula in Velke Karlovice are one of the reference of this solution.

Residence Fastrova – A prestigious living in Prague: with Foxtrot, of course

Walking to Petrin, cycling to Wild Sarka and for a while to Hradcany in Prague? That´s new coming intimate project of seven luxury flats „Residence Fastrova 7“ in one of the most prestigious Prague´s quarter Brevnov, who combines advantages of living in city center with a wide range of free-time activities just around the corner.
All seven flats of this luxury residence have been in standard equipped by our system Foxtrot thanks to our customer company En-Tech. In each flat, Tecomat Foxtrot controls heating system including fan-coils, jalousies, security system, cameras and energy metering. Central control and visualization is on a tablet built-in on the wall in each flat. Each resident may also control the house from any mobile device like smart phone computer or tablet.

Metering, regulaltion and control of HVAC for an administrative building with roof residential flat – Pardubice, Czech Republic

In 2013, there has been implemented control system Tecomat Foxtrot to a new built administrative building. Implementation has been done by system integrator company Tecont. System Foxtrot here controls energy metering, heating system, air-conditioning and ventilation.

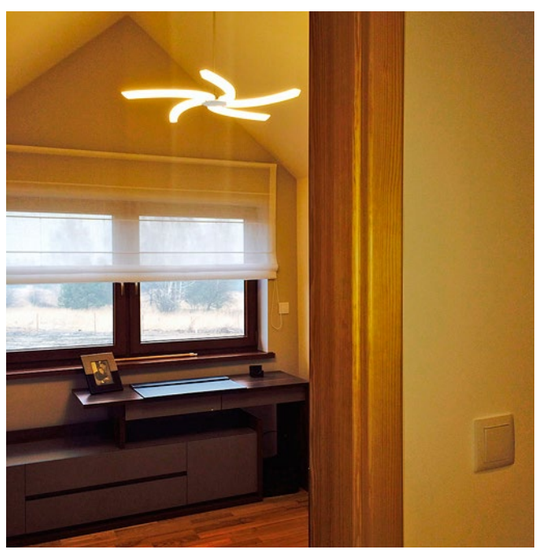
Controlled technologies and devices:

- ventilation system with recuperation and water heating of the air
- branches of equitherm heating
- IRC with heating units in combination with VRV units DAIKIN in administrative part
- IRC with floor heating and floor convectors in combination with VRV units DAIKIN in residential part
- connection to EPS

Control:
A complex user control of all technologies runs on web interface. User here may find optional parameters for operation of ventilation, heating system and air-conditioning for all rooms and spaces. A setting contains modes of operation, setting of heat comfort and time programs. There are available graphs of temperature for each rooms and spaces with a history. Temperature data to be stored to csv file.
Parameters for maintenance are available also from web page after login with password. Control unit is connected to internal Ethernet network, so all technologies may be controlled from any computers inside and outside.

Technologies:
As a central module has been chosen CP-1003 from system Foxtrot. There are 2 expansion modules connected via TCL2 speed bus to central module, which creates 4 CIB buses. At total there are connected 90 CIB peripheral modules in the system. User control to be operated by room modules RCM2-1, modules C-RC-0003R and via web interface.
For the air exchange in the whole administrative part (office spaces, meeting halls) there is used ventilation with recuperation and water heating of the air. The power of ventilation is controlled by frequency convertors on inlet and outlet ventilator to reach the most efficient features of outside air in combination with required parameters of supplied air. As a heating source there is hot water pipeline from CZT EOP. Supplied hot water is divided to 4 independent heating branches; each one is independently regulated according to equitherm curve by mixing valves.
The project has been implemented by company Tecont s. r. o.

Smart house parameterized by software FoxTool – Jaworzno, Poland



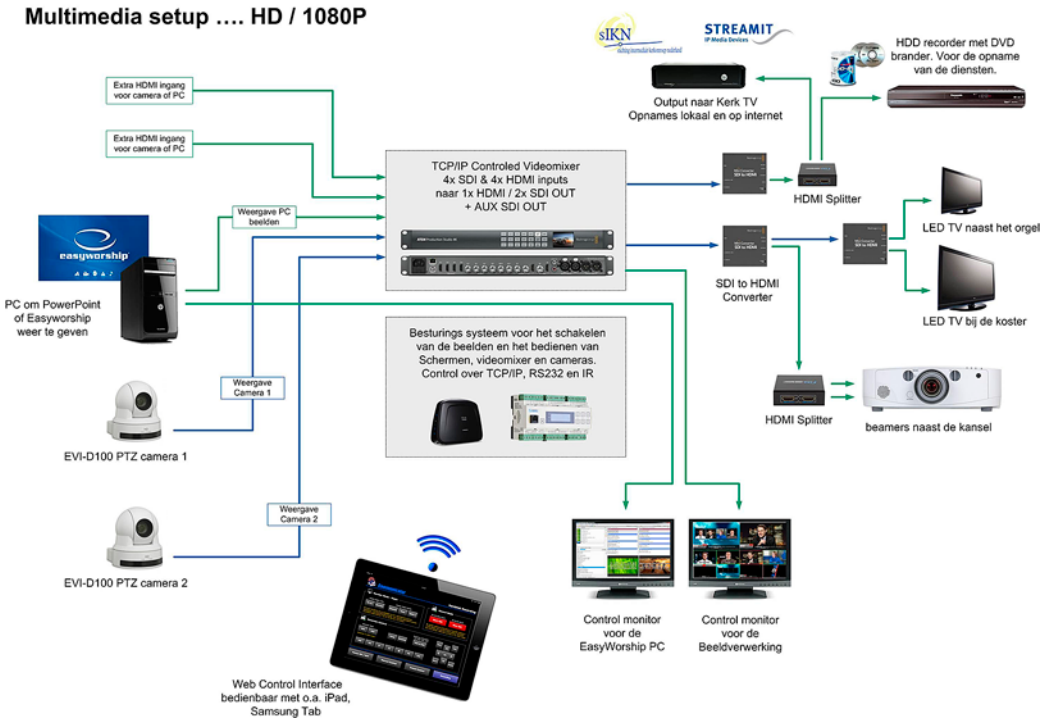
Many interesting references has our control system Foxtrot in Poland. Let us mention a smart house in city Jaworzno in Poland. System has been implemented by our authorized distributor in Poland, company iQ BMS and its system integrator. For control of the house there are used common bus wall switches C-WS-0400R-LOGUS in design of Portuguese manufacturer Efapel (design line LOGUS90), connected to CIB bus as well as modern control by iPad, iPhone and wall touch panel with visualization tool FoxTool.
System Tecomat Foxtrot with central module CP-1000 controls in the house following technologies, whose are also controlled via web pages:

- Lights – individually, in groups, light scenes, on/off, time program, diming, light intensity according to outside light
- Ventilation and recuperation
- Swimming pool
- Heating system (floor)
- Lights in the garden
- Gates and garage doors
- Presence simulation
- Remote control by SMS message via GSM gateway (alarm, heating)
- Security system – alarm functions

Audio/Video systems control in churches – The Netherlands

Control system Tecomat Foxtrot conquers churches in Holland. In hands of our distributor in the Netherlands, there has been done an interesting solution, where Foxtrot is a base of the platform for complex control of audio and video systems with user friendly web interface. By this way there is wireless controlled a lot of devices without need of expensive wireless controllers.
TCP/IP and RS232 ports of Foxtrot controls LED televisions, PTZ cameras, audio and video mixers and other devices. For control of wireless devices Global Cache iTach it is advantageous connection to TCP/IP port, where they may send commands from three various outputs.

This interesting solution gets uses in the Netherlands in churches, where are systems with HD video mixers, PTZ HD cameras, LED screens a cameras. All these devices need extremely easy control, because they are operates by volunteers. For creating of such system it is good to use central module Foxtrot CP-1016.
All songs, Bible verses, songs, presentation and live cameras are broadcasted to internet. Technically explained – cameras are connected to HD video mixer and after processing the image is transmitted to displays and other devices.
Application contains master control web page for on/off of all devices by the only click thanks to internal macro function. For control of cameras and video mixer we have possibility of manual or semi-automated control. Application controlled by web page runs at iPad and iPad mini and may be controlled by volunteers at any position in the church.
System has been implemented in the Netherlands in many churches, let´s mention churches in cities Vriezenveen, Gramsbergen, Piershil. And there are others under preparation. We are sure that this interesting solution will succeed at another fields.
This interesting solution with Foxtrot has been created by our Netherland distributor company B&R Design B. V. ■



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