

► Kontron Solutions@Work

We create digital brains for a more intelligent world

ThinkIO in action:

► Industrial Automation

Mercury, a Russian company (www.asu-direct.ru), which provides services on technological and management processes automation, successfully uses ThinkIO controllers in ASU-direct APCS (Automated Process and Control System). The system accurately calculates technical parameters of cement, water and admixtures feeding and is in operation at many enterprises producing building materials (concrete, reinforced concrete, asphalt and concrete plants and dry mix plants).

Using ASU-direct, a technologist can calculate material quantity for each recipe, change parameter values (agitation times, cement supply delay, water and admixtures supply delay etc.) and apply them for each recipe. The system provides for significant improvement of concrete mix preparation quality and equipment performance.

Lower level of APCS acquires and analyses data from actuators realizes logic of the technological process and send control commands to actuators. Upper level displays main technological parameters (state of actuators, material weight etc.), archives all production process parameters, sends commands to change external action parameters, and is used for recipe development and storage.



A software and hardware APCS complex is based on software and hardware open architectures. ThinkIO controllers, InTouch SCADA system, CoDeSys and ISaGRAF programming environments are used.

Level interaction is realized using a communication subsystem. Network interaction includes data exchange using TCP/IP, ModBus-RTU and Ethernet protocols.

OPC server developed by RTSoft provides interaction of the lower and upper levels.

ThinkIO-Classic controllers are used as a controller component. ThinkIO-C software includes CoDeSys package, which contains program modules for PLC hardware support.

The main purpose of application software is initial data processing, program realization of control laws and execution of technological equipment control algorithms, and realization

of ModBus-RTU communication protocol for remote equipment control.

Use of ThinkIO-C controllers in this project once again showed competitive advantages of such systems: high performance, compact size, possibility to use a large number of WAGO I/O modules, ease of supported interfaces number increase by extension modules installation, ease of setup (there are keyboard, monitor and Ethernet interfaces by default), Linux OS and IEC 61131-3 programming tools support.

Mercury continues development works in the field of multi-component mixture preparation automation using various dosing equipment. With successful results, ThinkIO controllers will find their way to other enterprises, automated by the company.

ThinkIO controllers can be used in mining, oil-refining food industries and other industries, where formula observance and component dosing accuracy are of high importance.

About Kontron

Kontron is a worldwide leading manufacturer of Embedded Computer Technology and robust mobile solutions. They supply leading OEMs, system integrators and application providers in the most varied market segments such as data and telecommunication, automation technology, metrology and control engineering, transportation, gaming and entertainment, medical and military technology, as well as aeronautical engineering and energy. Our objective is to enable customers to significantly reduce their time-to-market and to provide them with clear competitive advantages with products such as high-performance open computer platforms and systems, single board computers, HMIs and mobile, rugged computers. Kontron employs over 2,300 employees worldwide, with production plants in Europe, North America and the Asia-Pacific region. The company is listed in the German TecDAX 30 under stock exchange code "KBC". Kontron is a member of the Intel® Communications Alliance and therefore receives early access to leading Intel technologies and preferential engineering support. For more detailed information on Kontron, please visit the company website: www.kontron.com

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