 Capabilities of CODESYS 3.5 in Weintek cMT Series Panels

For Weintek products

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Modern automation systems require a combination of **logic control**, **flexible visualization**, and **network integration**. The **Weintek cMT series operator panels**, combined with the **CODESYS 3.5 environment**, provide a unique opportunity to implement all these tasks in a single device. In many cases, this allows replacing a separate PLC, reducing both the cost and complexity of the project.

Technical Integration Features

Weintek cMT Hardware Platform

- Powerful multi-core ARM Cortex processors with high performance.
- Support for **Ethernet, RS-485, RS-232, CAN** for connection to industrial equipment.
- Modern touch displays with resolutions up to Full HD.
- Parallel operation of **EasyBuilder Pro** (classic HMI projects) and **CODESYS Control Runtime**.

CODESYS 3.5 Platform

- Compliance with the **IEC 61131-3** international standard (programming languages: LD, FBD, ST, IL, SFC, CFC).
- Support for distributed control systems.
- Execution of control logic directly on the panel without additional controllers.

Functional Capabilities

Logic Control

- Implementation of process control programs directly on the HMI.
- Use of libraries, function blocks, and code reuse.
- Support for **PLCopen Motion Control** for drive control.

Industrial Protocols

- **EtherCAT Master** for high-speed systems with servo drives and I/O modules.
- **Modbus RTU/TCP** for instruments and controllers.
- **OPC UA and MQTT** for integration with SCADA, MES, and cloud IoT services.

Visualization

- Use of **CODESYS Visualization** to create interactive mimic diagrams.
- Built-in **WebVisu** — access to HMI via browser from PC or smartphone.
- Ability to combine with **EasyBuilder Pro**, providing dual tools for graphical interface design.

Motion Control

- Software control of multiple axes (up to CNC level).
- Support for **CiA 402** for working with modern drives.

Archiving and Diagnostics

- Logging events and data in **CSV/Excel** formats on USB/SD storage.
- Keeping logs of alarms and technical notifications.
- Automatic data transfer to **FTP, e-mail, or cloud services**.

Application Examples

- **Automation of local production areas** — the panel replaces both PLC and SCADA simultaneously.
- **Energy monitoring and dispatching** with analytics and archiving.
- **Mechanical engineering and robotics** with drive control via EtherCAT.
- **Building automation** (HVAC, lighting, access systems).
- **Mobile machinery and transport** with remote monitoring.

Conclusion

Using **CODESYS 3.5 in Weintek cMT panels** transforms the HMI into a **universal multifunctional controller** with support for modern industrial protocols, flexible visualization, and IoT integration capabilities.

This solution provides:

- reduced hardware costs;
- simplified system architecture;
- improved reliability and faster integration.

Thanks to this combination, **Weintek + CODESYS** becomes an effective tool for creating modern automation systems of any complexity.

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