Industry: Automation / Plastics Manufacturing
Products Used: Compact Controllers

Reliable Mixing and Metering

The mixing and metering systems used in extrusion plants assemble the ingredients prescribed by the recipe and then meter them into a weighing container. After this the mix is discharged, mixed again and then transferred to the extrusion machine. At Forum Plast a system like this is used to manufacture stretch covers and it can mix and meter up to eight different materials per extruder. Developed by GF-I, it is fitted with compact FX controllers from Mitsubishi Electric, which control everything from the recipe management and weighing to the accounting and routing.

The FX series is one of the highest-selling controllers in the world. It can process 32-bit numeric data and can be customised for any application by connecting up to eight special-function modules to its system bus. With a processing cycle period of just 0.08µs per logical instruction, it is also one of the fastest compact PLC systems on the market. The new FX3U is even faster – 0.065µs per instruction. In addition to this, the FX2N models have up to 256 inputs and outputs and support connection to Profibus, CC-Link, Ethernet, AS-Interface, CANopen and DeviceNet.

Mitsubishi Electric's new FX3U controller series goes one step further. In addition to the system bus that current FX controllers use for standard expansion modules, the new series features a second bus system known as the "adapter bus". This can be used to connect up to ten additional adapter modules, which have direct and thus very fast access to the controller's processor. The FX3U has been designed to handle complex positioning tasks; it can control up to 16 axes at a speed of 50Mbps on a servo system with bus support.

With this system too, Mitsubishi remains true to its compatibility principle, just as with the earlier FX2N: The modules of existing FX series can be connected to the system bus of the new FX3U, and users can also continue to use their existing tools. There is a new version of the GX IEC package with some new functions, but it is also possible to program these new third-generation controllers with the existing GX Developer package.

> **"**
> **What really sets Mitsubishi Electric apart from the crowd is the fact that users can program every controller with their existing programming software – no matter whether it is a newer or an older version.**
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> Marcus Gut, CEO of GF-I
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