Partner Product

EBG 222-EN

CODESYS

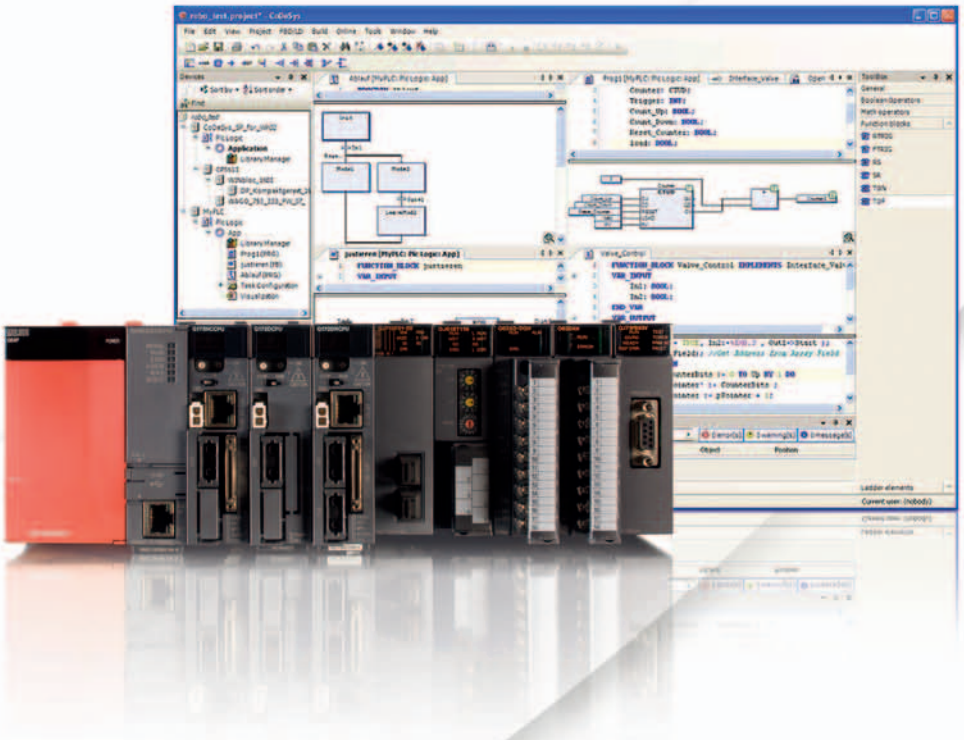
MITSUBISHI ELECTRIC
FACTORY AUTOMATION

Open PAC Control

C Controller

Popular open-standard programming

with PLC reliability



e-F@ctory Partner Product

FULL INTEGRATION

PAC control utilising popular IEC61131-3 programming platform for optimum control

MORE FLEXIBILITY

Five IEC programming languages included as standard

INTELLIGENT DESIGN

PAC environment utilises proven PLC hardware platform for increased reliability

Powerful software, strong hardware

Flexible production can benefit from flexible automation

CODESYS simplifies automation tasks

Mitsubishi Electric and e-F@ctory partner 3S-Smart Software Solutions have been working together to deliver open programming control in to a new dimension.

The target has been to deploy the popular CODESYS programming environment on to Mitsubishi's C Controller to offer customers a truly industrial PAC based solution.

Proven and popular

CODESYS was developed by the German software company 3S-Smart Software Solutions. It is a leading hardware-independent IEC 61131-3 development tool, and provides a simple and highly accessible option for controller and PLC programming.

It is especially popular with companies who use multi platform control technologies but who want to have a common programming concept to reduce their overheads, software maintenance and rework.

Mitsubishi Electric is a well known provider of automation hardware which has a reputation built on quality and reliability.

Through this collaboration Mitsubishi Electric and 3S are bringing a new dimension to open control by deploying the open and popular CODESYS IEC61131-3 programming environment on to proven industrial control environment to create an open PAC controller with all the benefits from two leading automation specialists.

Now Mitsubishi Electric is providing support for the CODESYS controller development system as an option on its C Controller, a powerful CPU for industrial environments. The C Controller brings powerful PC style functionality to the System Q automation platform. The rack-based controller can be used as a stand alone controller or in conjunction with any other System Q CPU to create a multi-disciplinary automation platform.

Easy to develop

The IEC61131-3 programming standard is an important programming tool for a huge number of automation engineers.

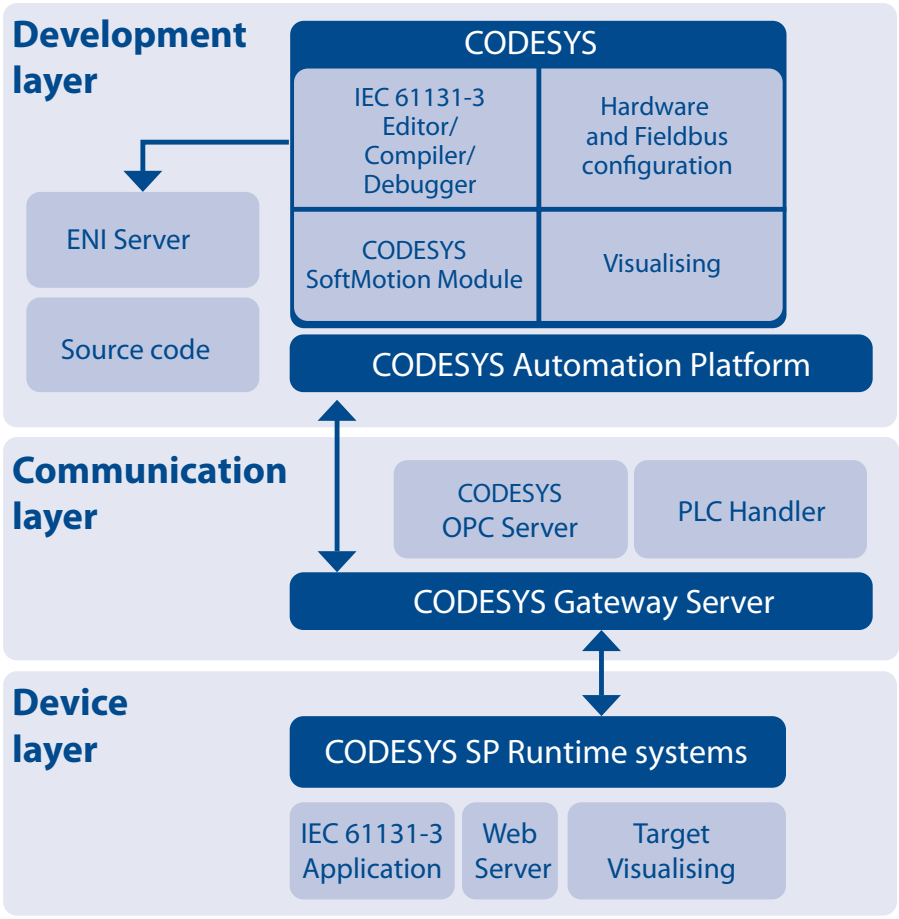
Mitsubishi Electric was an early adopter of the standard as well as an active promoter of IEC61131-3 programming with its own GX IEC Developer.

But recognising that some system integrators and OEMs want to have the flexibility to run programs written in their standard programming packages on standard industrial hardware resulted in the powerful collaboration with 3S's CODESYS programming environment.

The CODESYS tool consists of two parts; the programming system CODESYS and the runtime system CODESYS SP. The runtime turns any device into an IEC 61131-3 controller programmable with CODESYS. Integrated compliers make sure that the program is processed at optimal speed.

Key Benefits

- By using Mitsubishi's C Controller on the iQ Automation Platform all of the existing and well proven I/O, analog, motion control, positioning and communication cards are available with no compromise on quality and reliability.
- The VxWorks realtime operating system enables CODESYS to be running at the same time as other application programs, whilst making complex tasks, communication and protocols very easy.
- Mitsubishi's C Controller is based on the VxWorks embedded operating system and is therefore less prone to virus attack that is seen with more widely available technologies used in PCs. Additionally, it also negates the need for frequent version up of the embedded Operating System, reducing the pressure on maintenance teams and increasing uptime.
- Two built in Ethernet ports on the front of the C Controller give users wider flexibility in system design and use.



CODESYS structure

Flexibility without compromise

Mitsubishi Electric is building solutions for its customers that are designed to fit the way they work. The e-F@ctory is one example of how solutions can be built combining the skills and products of best in class suppliers.

In the case of IEC programming and control solutions the collaboration with 3S delivers an advanced open PAC concept. But for users who would like to continue using Mitsubishi's high performance PLC CPUs, GX IEC Developer can also offer IEC61131-3 programming with the full 5 language support.

But for bigger and more advanced systems Mitsubishi can also offer its latest iQ Works programming suite where a simple graphical navigator tool can manage and co-ordinate all of the programming tasks associated with a complex machine including network configuration, PLC programming, HMI programming, Motion system programming, CNC, Robot and Inverter configuration ... all from one point.

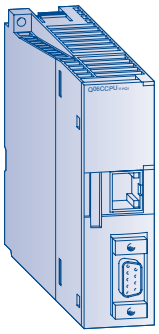
So when you work with Mitsubishi and its e-F@ctory partners you benefit from choice and increased flexibility ... no compromises.

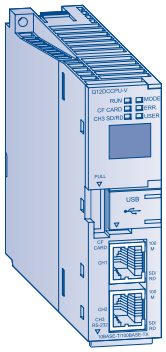
Simple graphical navigation tool

e-F@ctory

Support for CODESYS is just one of the many solutions provided by Mitsubishi's innovative e-F@ctory automation concept. e-F@ctory has been designed to help manufacturers maximize output, reduce operating costs and seamlessly integrate with products and systems throughout the manufacturing enterprise.

Specifications ///





Specifications		Q06CCPU-V-H01	Q12DCCPU-V *NEW*
Memory		Standard ROM: 16 MB (user area: 6MB); Work RAM: 32MB (user area: 14MB); Battery-backed-up RAM: 128 kB	Standard RAM: 3MB; Work RAM: 128MB; Battery-backed-up RAM: 128 kB
Operating system		VxWorks Version 5.4	VxWorks Version 6.4 (preinstalled)
Programming language		C or C++, CODESYS	
Development tool		Tornado 2.1 (OS license must be obtained separately from Wind River Systems Alameda, CA, USA), CoDeSys	Workbench 2.6.1
Communication interfaces		RS232 (1 ch.), 10BASE-T/100BASE-TX (1 ch.)	RS232 (1 ch.), 10BASE-T/100BASE-TX (2 ch.), USB (1 ch.)
CF card I/F		1 slot for a TYPE I card (Max. 1 GB CF card is supported)	1 slot for a TYPE I card (Max. 8 GB CF card is supported)
Number of I/O points		4096 (X/Y0 to X/YFFF)	
5 V DC internal current consumption	A	0.71	0.93
Dimensions (WxHxD)	mm	27.4x98x89.3 (Standard CPU size)	27.4x98x115
Order information	Art. no	165353	221925

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