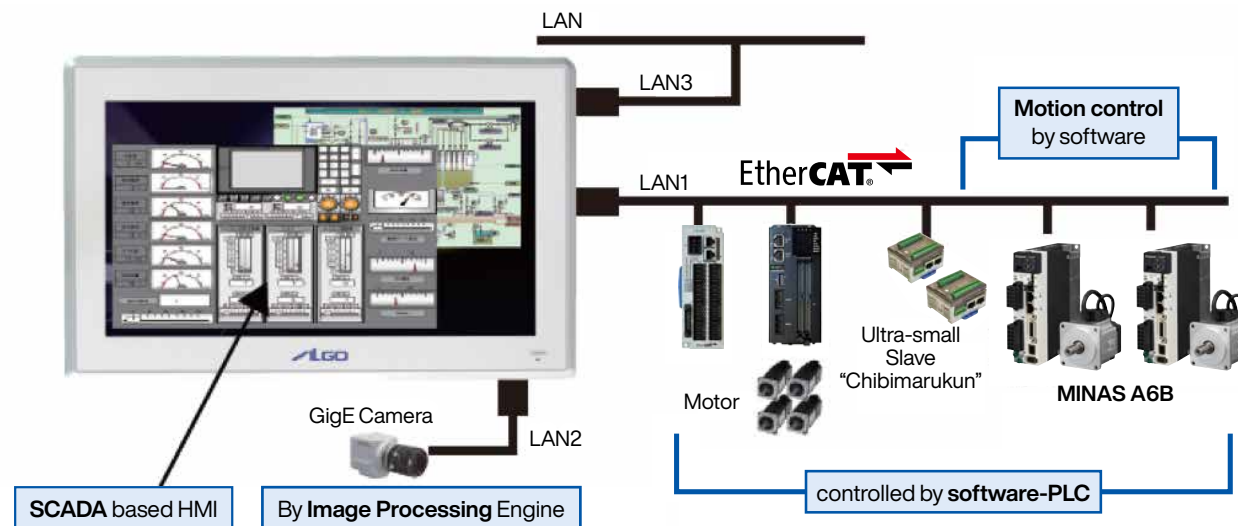# EtherCAT master

"All-in-one Controller", based on the Industrial PC equipped with EtherCAT master stack

Features

All-in-one controller can execute SCADA, synchronous motion control and image processing just by itself.

● International standard (IEC 61131-3) compliant software PLC
● PLCopen compliant positioning/synchronous motion control software
● OpenCV, OpenVX compliant image processing engine (option)
● SCADA-based HMI software

LAN
LAN3
Motion control by software
LAN1
EtherCAT®
LAN2
Ultra-small Slave "Chibimarukun"
Motor
MINAS A6B
GigE Camera
SCADA based HMI
By **Image Processing** Engine
controlled by **software-PLC**

Specification

● Intel® high-performance processor, Atom E3845 Quad Core 1.91GHz
● Real time OS (INtime). High-speed 28000 steps/50 μs processing.
● Windows10 IoT Enterprise allows effective utilization of various software
● Top-class ultra-thin compact design and lower power consumption allow for installing in small space for new, expanded use. Free switch off. Multi-touch panel. Multilingual
● Fanless, diskless, completely spindleless. 2 storage, mini m-SATA, slots. support.

UPS equipped standardly	GPIO, 6 IN / 4 OUT, equipped standardly
LTE equipped, can access directly to Cloud	Suitable for dedicated controller

Application Sample

ALGOSYSTEM's All-in-one Controller had replaced PLC and has been adopted as de facto standard controller of the minimalfab for processing a half-inch wafer to make semiconductors in high-mix low-volume production. Minimalfab is the national project carried out by the National Institute of Advanced Industrial Science and Technology (AIST). The key to adoption of the All-in-one Controller is its high performance and space saving, it can support multi-vendors' products and encrypt, it can be programmed by either C or software PLC compliant to IEC61131-3 Standard which provides 5 languages: LD, FBD, IL, ST and SFC.

EtherCAT slaves

Features

Digital input/output (NPN/PNP)
● 16-point input unit
● 16-point output unit
● 32-point input unit
● 32-point output unit
● 16-point input/16-point output unit

<"Chibimarukun" series>

e-CON connector
● 8-point input unit
● 8-point output unit
● 4-point input/4-point output unit

MIL connector terminal block
● 16-point input unit
● 16-point output unit
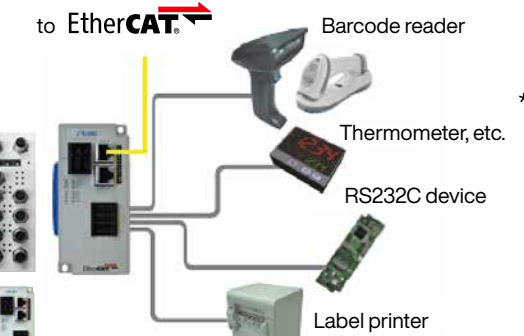● 8-point input/8-point output unit

Relay output (terminal block)
● 4-point relay output unit

Analog input/output
● 4ch analog input unit
● 4ch analog output unit

IO-Link, Modbus, 4ch SIO Gateway
to EtherCAT
Barcode reader
Thermometer, etc.
RS232C device
Label printer

* IO-Link, Modbus, Serially controlled devices such as RS-232C and RS-485 devices are converted to EtherCAT. EtherCAT can be installed without putting old assets to waste.

Motion controller
● Up to 4-axis control
Execute from high-order PC, etc.
via restricted EtherCAT connection

Encoder input
● Line receiver input
● Open collector input

Contract-based Development

Interface board example

Sales area
● **Japan**   ● **United States of America**
● **Korea**   ● **China**

Language
● **Japanese**   ● **English**

For more information

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