



HMI & PLC & CNC General Automation Products

In 1993, Estun Automation was established in Nanjing, the ancient capital of Six Dynasties of China. Under the background of open market policy environment and with the business philosophy of concentration and integrity, the company develops step by step, and becomes one of the China's leading enterprises in the industry of the automation control components for high-end mechanical equipments.

The company has been focusing in the global resources integration and the technology development of core automation components for mechanical equipment industry since its initial stage and achieved a fast development in the past 10 years. At present, it has three wholly-owned subsidiary companies (Alpha Electro-Hydraulic Technology, Estun Automation Technology and Estun(HK) international) and one holding subsidiary company (Estun Robotics).

Estun general automation products includes HMI, PLC, industrial safety control products, ESMotion series motion controller, this manual focuses on general automation products and solutions.

ESTUN AUTOMATION CO.,LTD

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07 Products

- HMI F1000
- PLC EP1000
- Motion ESMotion
- Servo ProNet



Overview

General Automation Product

Product Family

- F1000 HMI Series (Size 7" 10")
- EP1000 PLC Series (Up to 256 Local DI/DO, PLCwith network)
- ESMotion MC Series (Programmable, Modular structure motion controller)
- Open CNC composed by F1000 & ESMotion & EP1000 Freely

Technical Feature

- Desined by Embedded systems, open architecture, modular concept
- Standard field bus, Modbus TCP, CANopen, EtherCAT
- On hardware and software platform, HMI, PLC, MC integration together perfectly
- Modular hardware design and field bus Connection
- Software is designed as a flexible and easy to use, easy to secondary development and powerful encryption

Design Value

- 20 years of professional design of automatic control systems, commissioning experience
- Not only provide a single product, but also specializes in providing total solutions
- Not only design, but can custom product according to your requirement
- More understanding customer needs, know how to increase the value of your project

Service

- We have a number of offices and service outlets in the country and the globe, you can quickly Response to your needs
- 24-hour technical service hotline
- Genius service

Typical Application

Provide total solution for all applications



2D/3D machine



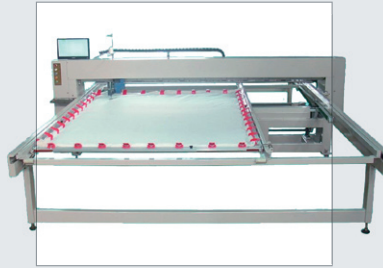
CNC engraving
and milling machine



Wood engraving and
machining centers



Spring machine



Quilting machine
Sewing machine



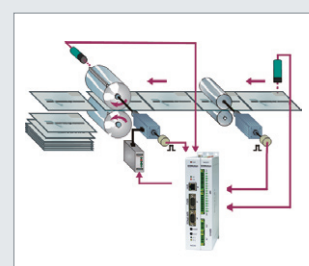
Packing machine



Scara robot

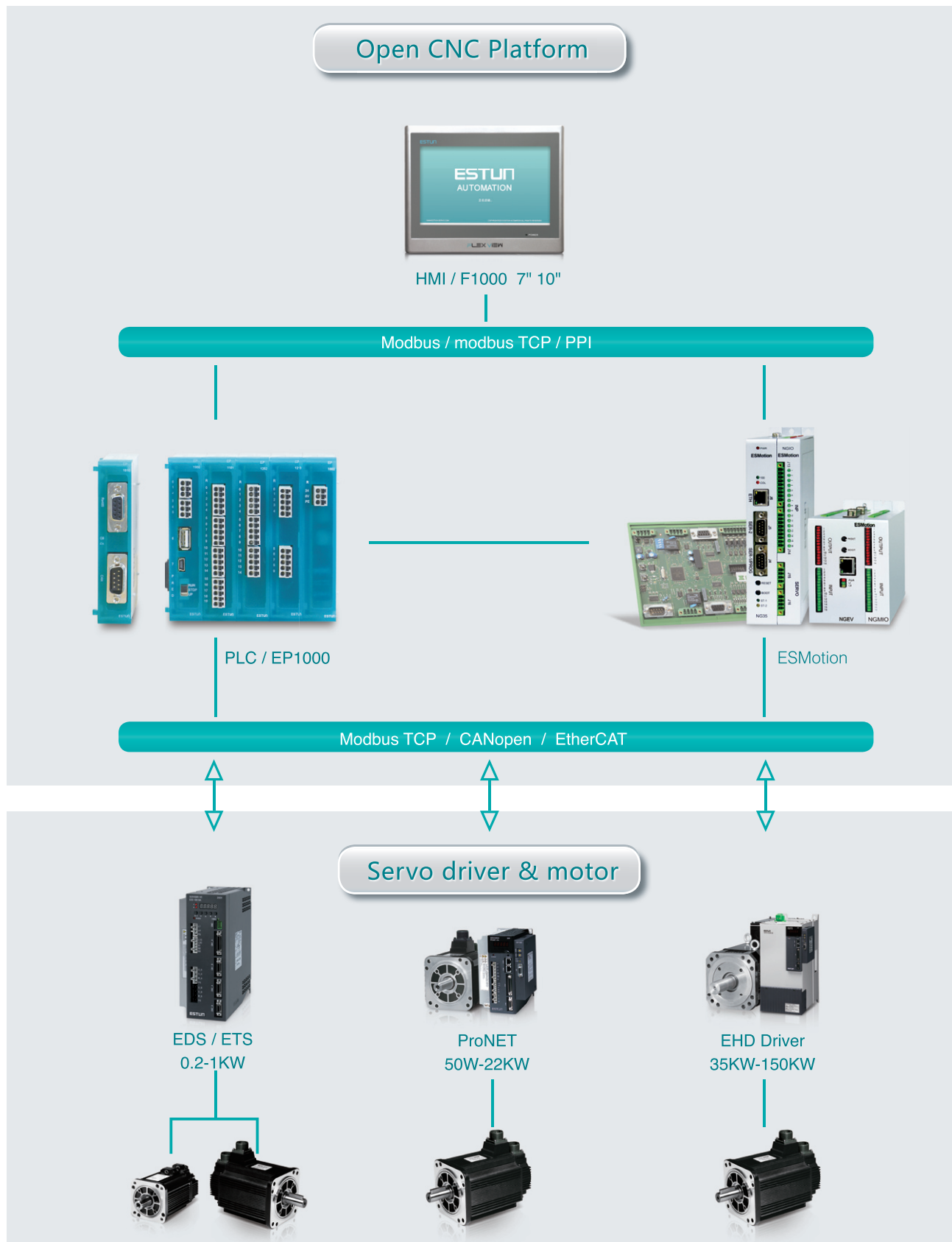


Punching manipulator



Rotary shear/ fly cutting

Solution Topology



Productions

Product HMI F1000 Series



Feature

- Compact flat seal panel
- ETH / RS232 / RS485 port
- Support single to multi, multi to single, multi direct connect
- Open SCADA software, WinCE6.0 or WinXP operating system, running based on XP/Vista/Win7
- Free software development Tools, support Chinese and English language
- Support many communication protocol such as PPI / Modbus / ModbusTCP
- Support various PLC communication such as, MITSUBISHI/OMRON / Siemens/ESTUN EP1000
- Approve of CE certification

Product model

F1100 – A 2 00

F1000 Serial Touch Panel

OS

SCADA

Reserved, user-defined

Mark
F1070
F1100
F1150

Mark	Indicating
A	WinCE for CN
B	WinCE for EN
C	WinXP for CN
D	WinXP for EN

Mark	Indicating
0	No SCADA
1	With SCADA EN
2	With SCADA CN

Application Guide

Mainly used for machine tools, textiles, packaging and other industries, we can provide you open solution

Product HMI – F1000 Series

Specification



Model		F1070	F1100
Ordering info		F1070-XXXX	F1100-XXXX
Screen	Type	TFT LCD	TFT LCD
	Size	7"	10.2"
	Resolution	800 × 480	800 × 480
	Max colors	16bit	16bit
	Luminance	300 cd/m ²	300 cd/m ²
	Contrast	500:1	500:1
CPU		ARM9 400M	ARM9 400M
DRAM		DDR2 400M 1Gb	DDR2 400M 1Gb
Flash		Nandflash 1G	Nandflash 1G
OS		WinCE 6.0	WinCE 6.0
SCADA		Flexview V1.0	Flexview V1.0
Touch Sreen Type		4-wire, analog resistive	4-wire, analog resistive
Communication port		RS232 × 2	RS232 × 2
		RS485 × 1	RS485 × 1
		USB host × 1	USB host × 1
		USB device × 1	USB device × 1
		ETH × 1	ETH × 1
		CAN × 1(Optional)	CAN × 1(Optional)
Power		DC24V ± 10% 1A	DC24V ± 10% 1.2A
Clock		Internal System clock	
Operation temperature		0~40℃	
Storage temperature		-10~55℃	
EMI		Complies with FCC class A	
IP		IP54 Front panel (O-ring) IP20 Cover	
Operation humidity		10%~95%RH (Non-condensing)	
Dimension		202 × 148 × 43 mm	270.5 × 212.5 × 52 mm
Cabinet hole size		192 × 138 mm	259 × 201 mm
weight		0.9kg	1.3kg

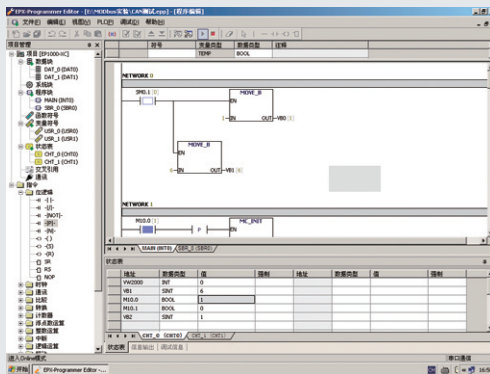
Product PLC – EP1000 Series

Technical Features



- EP1000 Series PLC based on network
- Modular structure, Free combination
- Up to 256 local digital Input and digital output
- Powerful communications capabilities: support for multiple communication with USB / RS232 / RS485 / CAN / EtherNet
- Free protocol / Modbus / Modbus TCP / PPI / CANOpen
- Easy to be connected with master like the touch screen, PC etc.
- Motion control, such as P to P position: Speed control ramp function, Homing etc.
- Customized for special function modules
- Up to eight non-interpolated axis control via CANOpen

EXP-programmer



- Easy to learn and use the programming Instruction
- Support PID, floating-point arithmetic
- Specific instruction can be developed
- Multi-level password management, to protect the user program
- Support LD-ladder diagram, IL-Instruction List
- Download user program via USB Device

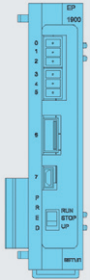
Application Guide

- Typical application
- Punching machines, grinders
- Printing machine
- Lift machine
- Woodworking machine
- Packaging machine
- General motion system
- Central air condition

Product PLC – EP1000 Series

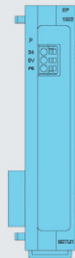
Specifications

CPU EP1900



- Program memory 128K bytes
- Data memory 11296 bytes (Non-Volatile memory)
- Up to 256 Local digital Input / Output
- Up to 32 Local Analog Input / Output
- UP to Max 16 expansion Unit
- Real-time clock depends on Rechargeable battery
- Analog Input $\times 2$ $\pm 10V$ 12bit (EP1900)
or Encode Input $\times 1$ 100K (EP1901)
- RS232 $\times 1$ Max baud rate 115200bps
- USB-Host / USB-device
- Operating Current < 300mA

Power supply EP1002



- Power input anti-reverse
- Input Voltage: 24VDC $\pm 10\%$
- Input Current: <1.5A
- This module must be used

COMM EP1800



- Ethernet $\times 1$
- CAN $\times 1$
- ETH - MODBUS TCP
- CANopen - Up to 1Mbps
- Operating Current < 300mA

COMM EP1810



- RS485 $\times 1$
- CAN $\times 1$
- RS485- MODBUS-Marser / SLAVE (RTU),
PPI, FreePort
- CANopen - Up to 1Mbps
- Operating Current < 300mA

Digital input EP112



- 8 $\times$ DI, Bipolar input
- Input voltage 24VDC
- Input Current 5mA@24V DC
- "1" Signal voltage 15~30VDC
- "0" signal voltage 0~5VDC
- Operating current: < 200mA

Digital input EP1161



- 16 $\times$ DI, Bipolar input
- Input voltage 24VDC
- Input Current 5mA@24V DC
- "1" Signal voltage 15~30VDC
- "0" signal voltage 0~5VDC
- Operating current: < 200mA

Digital output EP1213



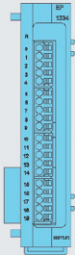
- 4 $\times$ DO
- MOS transistor drain output
- Output voltage 24VDC
- Rated output current 5A
- Short circuit protection
- Operating current < 200mA

Digital output EP1231



- 16 $\times$ DO
- Transistor output(NPN)
- Output voltage 24VDC
- Rated output current 0.7A
- Short circuit protection
- Operating current < 200mA

Digital Output EP1234



- 16 × DO
- Transistor output(PNP)
- Output voltage 24VDC
- Rated output current 0.7A
- Short circuit protection
- Operating current < 200mA

Digital Output EP1252



- 12 × DO
- Relay Output
- Output voltage 30VDC/5A / 250VAC/5A
- Coil Operating voltage 24VDC
- Operating current < 200mA

Digital Output EP1222



- 8 × DO
- Relay Output
- Output voltage 30VDC/5A / 250VAC/5A
- Coil Operating voltage 24VDC
- Operating current < 200mA

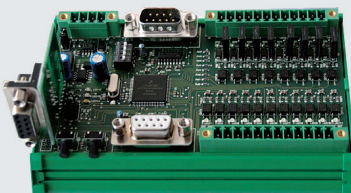
Analog Output EP1A11



- 2 × AI / 2 × AO
- Analog input $\pm 10V$, Resolution 12bit, or Input Current $\pm 20mA$, Resolution 11 bit (with sign bit)
- Analog output, output voltage $\pm 10V$, resolution 12bit, or output current 0~20mA
- Operating current < 200mA

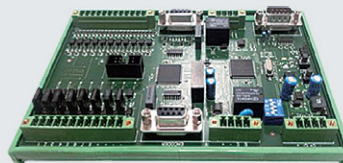
ESMotion Series

ESMotion-NGQ



- 4 Axes Can Open Position Mode
- 4 Axes PULSE/DIR Position Mode
- 3 Axes PULSE/DIR Interpolation Mode
- 2 RS232 - 1 RS485 / modbus RTU
- 1 CanOpen Master/Slave
- 11 Digital Inputs PNP 24 Vdc Opto
- 8 Digital Outputs 1,2 A 24 Vdc Opto
- 4 Analog Inputs 12 Bit
- 2 Analog Outputs $\pm 10V$

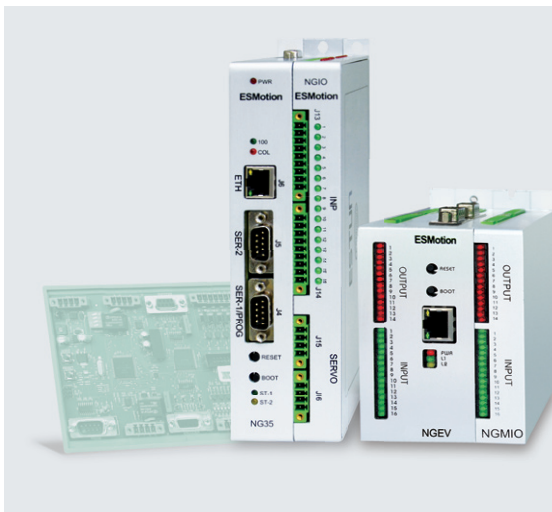
ESMotion-NGQx



- 4 Axes Can Open Position Mode
- 2 Axes $\pm 10V$ Position-Interpolation Mode
- 2 RS232 - 1 RS485 / Modbus RTU
- 1 CanOpen Master/Slave
- 11 Digital Inputs PNP 24 Vdc Opto
- 8 Digital Outputs 1,2 A 24 Vdc Opto
- 2 Encoder Inputs Line Drive 400Khz
- 1 Analog Input 12 Bit
- 2 Analog Outputs $\pm 10V$
- 2 Relay Outputs 1A

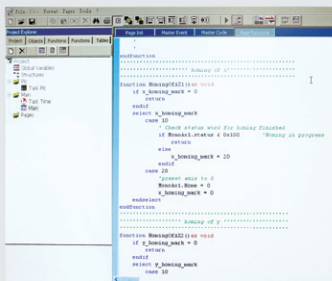
ESMotion Overview

ESMotion Brief



- Multi-axis motion controller, Using for complex objects
- Three sorts of CPU can meet different user requirements
- Based on Ethernet, CANopen bus integration
- Variety of communication port - RS232 / RS 485 / ETH / CAN
- Analog +/-10V up to 16 axes
CANopen up to 64 axes
EtherCAT up to 64 axes
STEP / DIR up to 32 freq Max 25Mhz
- Integrated PLC, multi-axis interpolation function, electronic gear, cam, multi-axis speed control, tracking control, flying shear control etc
- 9 Axes with Multiprocess
- Interpolation, include Linear-Circular-Helical-Gear-Ecam-Interpolation MULTIPROCESS

Programing Platforms : VTB



- VTB is an integrated development environment for object-oriented
- The environment contains within it all the tools required for developing applications in a simple and intuitive
- Development that allows rapid application development by writing a small amount of code due to a huge library of objects and functions available technologies
- BraekPoint, Code Step By Step, Read and write SCOPE 3 Ch

HMI Interface



- Supports ISO standard G code via U disk and communications import
- 9 Axes with Multiprocess
- Linear-Circular-Helical Interpolation
- Tangential Axis for Cut Machines
- Preview 3D
- AFC - Adaptive Feed Control
- Filter N.U.R.B.S. - NOISE - RLS - SMOOTHING
- LOOP - IF, Mathematical
- RETRACE and RESTART from block
- PLUG IN

Application Guide

As an open platform for motion control, based on this platform, It can develop a variety of CNC immediately, such as engraving and milling machine, woodworking machining centers, quilting machine, two-dimensional cutting equipment, three-dimensional motion control such as robots, other multi-axis machining equipment, such as marble processing

ESMotion - NG35



- 16 axes+/-10V-32 axes STEP/DIR
- 64 axes Can Open or Ethercat
- RAM 16 Mb, FLASH 4 Mb, 32Kb battery
- Flash Dish 64 Mb with Fat 16
- Ethernet 10/100 TCP/IP
- 1 RS132-1 RS232/485
- Up to 128 Local Input PNP 24 Vdc Opto
- Up to 112 Local Out 1,2 A 24 Vdc Opto
- 8 Analog Input 10 Bit
- PLC Cycle
- Linear Interpolation, Circular, Elicoidal
- TCP/IP Modbus
- Component Framework.NET
- Gear and Ecam
- VTB language

Specification

ESMotion-NG35

CPU	MFC 5235 Cold Fire 32Bits, 150MHz, 150Mips
RAM	16Mb ram-4Mb flash code-32Kb ram clock witj battery 64Mb flash Disk
RS232	2-RS232 1/485 with MODBUS RTU master/slave
Ethernet	1-RJ45 10-100 Mb: TCP/IP -MODBUS TCP/IP - WEB SERVER - RPC(remote prodedure call) - DEBUG
EtherCAT	1-Master 100 Mb/sec Coe Can Over EtherCAT
CANopen	2-Master/Slave DS301-DS401-DS402 baud da 10Kb/sec a 1Mb/sec
Interpolation	Linear-Ciraular-Elicoidal-Linear fast-Gear-Ecam-Interpolation MULTIPROCESS
Axes	Up to 16 +/-10V with encoder(max 1 MHz) Up to 64 CANopen or EtherCAT Up to 32 STEP-DIR LINE DRIVE Freq max 25MHz
Analog input	8 10 bit 4-20 Ma or 0-10V
Power supply	18-35Vdc-2.6W max ONLY CPU
Temperature	From -20°C to 70°C
IP level	IP20
Dimension(mm)	W 29.5, H190, D110

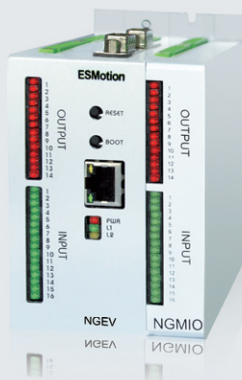
ESMotion-NG35 Local Bus Expansion

ESMotion-NGIO	16-Digital Input PNP 24V VDC Opto Encoder Input Line Drive 5 V freq Max 1 MHz 2-Relay out Max 35V-1A	14-Digital output 24 VDC opto 1.2A 2-Analog out +/-10V 12 bit
ESMotion-NGPP	16-Digital Input PNP 24 VDC Opto 4-Axes STEP/DIR line drive freq Max 25 MHz 1-Analog Out 0-10V 12 bit	14-Digital output 24 VDC opto 1.2A 4-Fast interrupt Input

Specification

ESMotion - NG35 - A	0	0	0
NG35 Motion controller	Analog Input	Serial Ports	FLASH
A 4 in 0-10v 4 in 4-20mA B 8 in 0-10V		0 2×RS232 1 1×RS485 1×RS232	0 No 1 Yes
			Reserve

ESMotion-NGEV



- 32 Axes CANopen Position Mode
- 6 Axes PULSE/DIR Position-Interpolation Mode
- 2 RS232-1 RS485 Ports
- Max 128 Digital Inputs PNP 24 Vdc Local Bus
- Max 112 Digital Outputs up to 1 A 24 Vdc Local Bus
- 8 Analog Input 12 Bit
- 1 Analog Output 0-10V
- 6 Analog Outputs +/-10V on NGMX
- 6 Encoder Inputs Line Drive 500 Khz on NGMX
- PLC Cycle
- NGMX Expansion Board on Local Bus
- Modbus RTU/Modbus TCP/IP
- Component for Framework.NET
- Gear and eCAM
- VTB Language

Specifications

ESMotion-NGEV主模块

CPU	MCF52259 Cold Fire 32 bit, 80Mips
RAM	32Kb System RAM-192Kb FLASH code-16/32Kb Frame
RS232	2-RS232, 1RS485, with MODBUS RTU master/slave
Ethernet	1-Ethernet 10/100 Mb on RJ45 with TCP/IP Modbus
CANopen	1-Master/Slave DS301, DS401, DS402
Digital Input / Digital Output	16 Digital Input PNP / 14 Digital Output PNP
Analog Inputs	8-12 bit 4-20 Ma or 0-10V(Each analog input configured, eliminates a digital input)
Analog Outputs	1-0-10V(The Analog Output configuration, eliminates the digital output 1)
Interpolation	Linear-Circular-Helical-GEAR-ECAM
Power supply	18-35 Vdc 3W only CPU(excluded expansions boards)
Temperature	From -20°C to +70°C
IP level	IP20
Dimension(mm)	L50, H102, P120

Local Bus Expansions NGEV

ESMotion-NGMIO	16-Digital Inputs PNP 24Vdc Opto 14-Digital Outputs PNP 24Vdc Opto up to 1, 2A
ESMotion-NGMX	2-Channels PULSE/DIR 500KHz LineDrive(position, interpolation) 2-Analog Outputs 12 Bit +/-10V 2-Channels Encoder Line Drive 500KHz

Product Model

ESMotion-NGEV- 2 1 1 B O

NGEV Motion controller STEP/DIR

Ethernet

Serial Ports

Analog in

Analog out

0 Without STEP/DIR
1 4- STEP/DIR Open Collector
2 4- STEP/DIR Line Driver

0 Without Ethernet Port
1 Ethernet Port 10/100M

0 Without RS485
1 1 RS485

B Analog Input 0-10V
C Analog Input 4-20mA

0 Without Analog PWM out 0-10V
1 1xAnalog PWM out 0-10V

NGMX-

NGMX

2

STEP/DIR

1 1-Axes STEP/DIR Line Drive
2 2-Axes STEP/DIR2 Line Drive

1

Encode in

0 Without Encode Input
2 2-Encode Input

1

Analog Output

0 Without Analog output
1 Analog output +/-10V

ProNet Series AC Servo System

Features

- Wide range, various models : 0.05kW ~ 22kW
- Current forward feedback control, acceleration forward-feed : high responsiveness
- Auto tuning function, online real time load inertia inspecting : simple setting
- Multiple feedback options : 17bits serials encoder, 2500P/R encoder, resolver
- Various communication protocols : CANopen, EtherCAT, POWERLINK, PROFIBUS, Modbus
- Universal servo : widely used in various industries covering CNC machine tool, router machine, wood making machine, packing machine, textile machine, printing machine, robot arm, medical machine, jewelry making machine, 3D cinema chair, car simulating machine, etc.
- Three phase 400V power supply models are available from 1kW to 22kW
- Single phase /Three phase 100V power supply models are available from 0.2kW to 0.75kW
- Low frequency vibration suppression function,with excellent performance at low speed movement
- Dynamic electronic gear ratio switching function



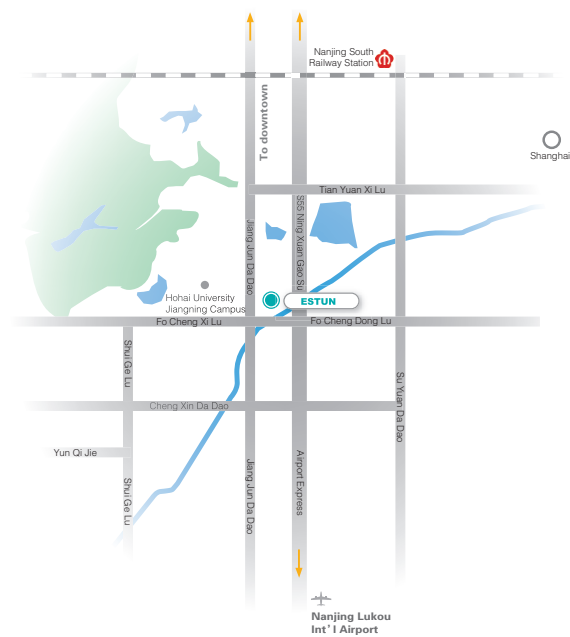
Servo Motor				Servo Drive (ProNet)				Servo Drive(ProNet-E)			
Series	Power (kW)	Voltage (VAC)	Model	Single-phase 100VAC	Single-phase 200VAC	Three-phase 200VAC	Three-phase 400VAC	Single-phase 100VAC	Single-phase 200VAC	Three-phase 200VAC	Three-phase 400VAC
Mid-Inertia	EMJ 3000r/min	0.05	EMJ-A5A		ProNet-A5A				ProNet-E-A5A		
		0.1	EMJ-01A		ProNet-01A				ProNet-E-01A		
		0.2	100 EMJ-02B	ProNet-02B				ProNet-E-02B			
			200 EMJ-02A		ProNet-02A				ProNet-E-02A		
		0.4	100 EMJ-04B	ProNet-04B				ProNet-E-04B			
			200 EMJ-04A		ProNet-04A				ProNet-E-04A		
		0.75	100 EMJ-08B	ProNet-08B				ProNet-E-08B			
			200 EMJ-08A			ProNet-08A				ProNet-E-08A	
	EMG 2000r/min	1.0	200 EMJ-10A			ProNet-10A				ProNet-E-10A	
			400 EMG-10D			ProNet-10A				ProNet-E-10A	
		1.5	200 EMG-15A			ProNet-15A				ProNet-E-15A	
			400 EMG-15D				ProNet-15D				ProNet-E-15D
		2.0	200 EMG-20A			ProNet-20A				ProNet-E-20A	
			400 EMG-20D				ProNet-20D				ProNet-E-20D
		3.0	200 EMG-30A			ProNet-30A				ProNet-E-30A	
			400 EMG-30D				ProNet-30D				ProNet-E-30D
		5.0	200 EMG-50A			ProNet-50A				ProNet-E-50A	
			400 EMG-50D				ProNet-50D				ProNet-E-50D
	EML 1000r/min	1.0	200 EML-10A			ProNet-10A				ProNet-E-10A	
			400 EML-10D				ProNet-10D				ProNet-E-10D
		2.0	200 EML-20A			ProNet-20A				ProNet-E-20A	
			400 EML-20D				ProNet-20D				ProNet-E-20D
		3.0	200 EML-30A			ProNet-30A				ProNet-E-30A	
			400 EML-30D				ProNet-30D				ProNet-E-30D
		4.0	200 EML-40A			ProNet-50A				ProNet-E-50A	
			400 EML-40D				ProNet-50D				ProNet-E-50D
	EMB 1500r/min	7.5	400 EMB-75D				ProNet-70D				
							ProNet-75D				
		11	400 EMB-1AD				ProNet-1AD				
							ProNet-1ED				
		15	400 EMB-1ED				ProNet-1ED				
							ProNet-2BD				
		22	400 EMB-2BD				ProNet-2BD				
							ProNet-1AD				
Low-Inertia	EMB 1800r/min	10.8	400 EMB-1ZD				ProNet-1ED				
		13.2	400 EMB-1CD				ProNet-1ED				
		16.7	400 EMB-1FD				ProNet-1ED				
		21.4	400 EMB-2AD				ProNet-2BD				
		26.9	400 EMB-2FD								
		33	400 EMB-3CD								



Mission — We are offering Accuracy & Efficiency!

Vision — Enjoy your life from Automation!

Values — Focus, Integrity, Growing together!



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