ESTUN

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, becoming one of the China's leading enterprises in the industry of the automation control components for high-end mechanical equipments.

The company had been focusing on 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 include HMI, PLC, industrial safety control products and ESMotion series motion controller. This manual focuses on general automation products and solutions.

ESTUN AUTOMATION CO.,LTD
ESTUN AUTOMATION TECHNOLOGY CO.,LTD

Overview

General Automation Product

Product Family

- F1000 HMI Series (Size 7" 10")
- EP1000 PLC Series (Up to 256 Local DI / DO, PLC with 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
- Based on hardware and software platform, HMI, PLC, MC integration together perfectly
- Modular hardware design and field bus Connection
- Software design tends to flexible, user-friendly, 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 standerd products, but also customize products
- Better understanding of customer needs, know how to increase the value of your project

Service

- Having a number of offices and service outlets home and abroad to provide fast response to customers' needs
- 24-hour technical service hotline
- Genius service

Typical Application

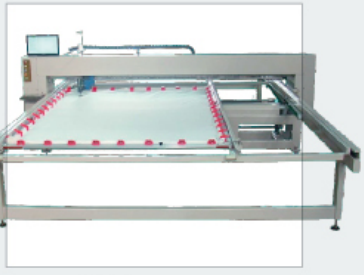
Provide total solution for varies applications

2D / 3D machine

CNC engraving
and milling machine

Wood engraving and
machining centers

Spring machine

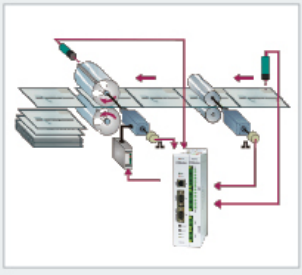


Quilting machine
Sewing machine

Packing machine

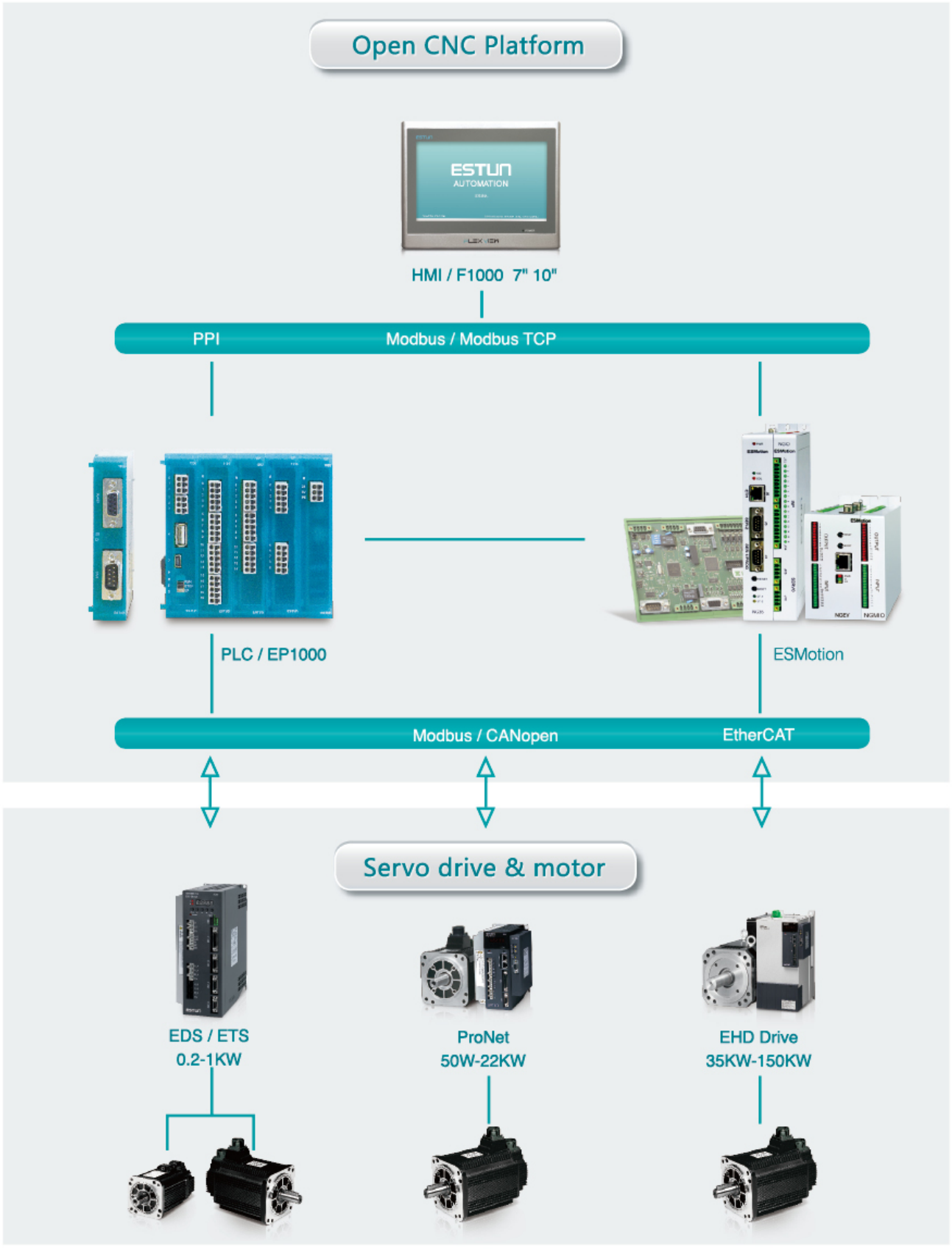
Scara robot

Punching manipulator



Rotary shear / fly cutting

Solution Topology



Products

HMI F1000 Series

Feature

- Compact flat seal panel
- ETH / RS232 / RS485 port
- Support single to multi, multi to single, multi direct connection
- Open SCADA software,WinCE6.0 or WinXP operating system, runing based on XP/Vista/Win7
- Free software development Tools, support Chinese and English language
- Support many communication protocols such as PPI / Modbus / ModbusTCP
- Support various PLC communication such as, MITSUBISHI/omron/ Siemens / Estun EP1000
- CE Certified

Product Model

F1100 – B 1 00

F1100	B	1	00
F1000 Serial Touch Panel	OS	SCADA	Reserved, user-defined

Mark
F1070
F1100

Mark	Indicating
A	WinCE for CN
B	WinCE for EN

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

Application

Mainly used for machine tools, textiles, packaging and other industries. Products customization is available upon your request.

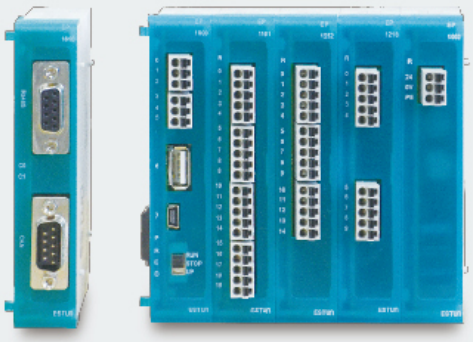
HMI－F1000 Series

Specification

Model		F1070	F1100
Order info		F1070-XXXX	F1100-XXXX
Screen	LCD screen	TFT LCD	TFT LCD
	Size	7"	10.2"
	Resolution	800×480	800×480
	Max color	16bit	16bit
	Luminance	300 cd/m^2	300 cd/m^2
	Contrast Ratio	500:1	500:1
CPU		ARM9 400M	ARM9 400M
RAM		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°C	
Storage temperature		-10~55°C	
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
Net Weight		0.9kg	1.3kg

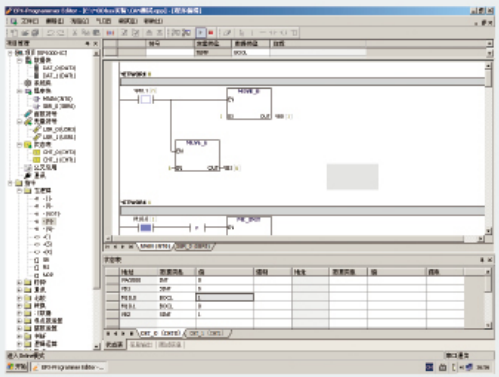
PLC – EP1000 Series

Technical Feature



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

EXP-programmer



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

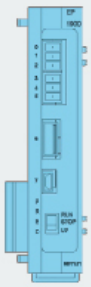
Application

- Punching machine
- Grinding machine
- Printing machine
- Lift machine
- Woodworking machine
- Packaging machine
- Genaral motion system
- Central air conditioner

EP1000 Series PLC Products

Specification

EP1900 CPU Module



- 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 depands on Rechargeable battery
- Analog input ×2 ±10V 12bit (EP1900)
  or encoder input ×1 100K (EP1901)
- RS232×1 Max baut rate 115200bps
- USB-Host / USB-device
- Operating Current < 300mA

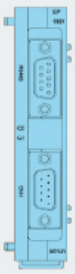
EP1002 Power Module

- Power input anti-reverse
- Input voltage: 24VDC ±10%
- Input current: <1.5A
- This module must be equiped

EP1800 Communication Module

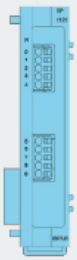
- Ethernet ×1
- CAN ×1
- ETH - Modbus TCP
- CANopen - up to 1Mbps
- Operating current < 300mA

EP1810 Communication Module



- RS485×1
- CAN ×1
- RS485- Modbus-Marser / Slave (RTU), PPI, FreePort
- CANopen - up to 1Mbps
- Operating current < 300mA

EP1121 Digital Input Module



- 8 × DI, bipolar input
- Input voltage 24VDC
- Input current 5mA@24VDC
- "1" Signal voltage 15~30VDC
- "0" signal voltage 0~5VDC
- Operating current: < 200mA

EP1161 Digital Input Module

- 16 × DI, bipolar input
- Input voltage 24VDC
- Input current 5mA@24VDC
- "1" Signal voltage 15~30VDC
- "0" signal voltage 0~5VDC
- Operating current: < 200mA

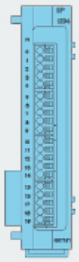
EP1213 Digital Output Module

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

EP1231 Digital Output Module

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

EP1234 Digital Output Module



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

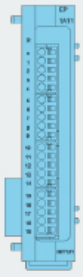
EP1252 Digital Output Module

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

EP1222 Digital Output Module

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

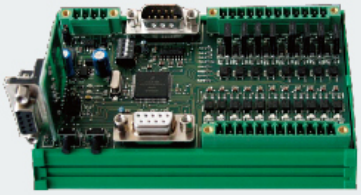
EP1A11 Analog Output Module



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

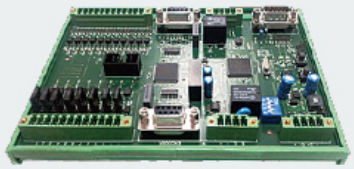
ESMotion Series Motion Controller

ESMotion-NGQ



- 4 Axes CANopen Position Mode
- 4 Axes PULSE/DIR Position Mode
- 3 Axes PULSE/DIR Interpolation Mode
- 2 RS232(1 RS485 Option)
- 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 +/-10V

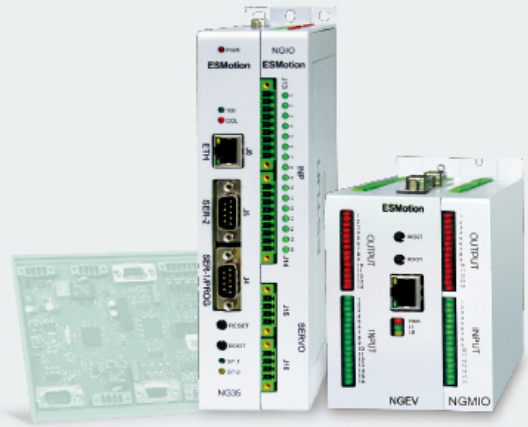
ESMotion-NGQx



- 4 Axes CANopen Position Mode
- 2 Axes +/-10V Position-Interpolation Mode
- 2 RS232(1 RS485 Option)
- 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 +/-10V
- 2 Relay Outputs 1A

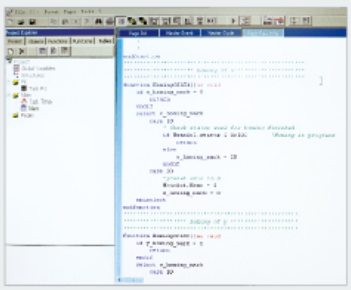
ESMotion Overview

ESMotion Feature



- Multi-axis motion controller applied for complex objects
- Four sorts of CPU can meet varies application requests
- Based on integrated EtherCAT, CANopen
- Variety of communication ports - 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, Ecam multi-axis speed control, tracking control, flying shear control etc
- 9 Axes with MULTIPROCESS
- Interpolation including Linear-Circular-Helical-Gear-Ecam-Interpolation MULTIPROCESS

Programing Tools : VTB



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

HMI Interface

- Supports ISO standard G code via U disk and communications import
- 3D graphics preview, Convenient to check for errors before processing, Support multi work origin stored and called
- Automatic calculating the best speed of contour, automatic optimizing work cycle
- Programming Tools support circular statement, conditional statements, mathematics, identifier jump, function calls, complex M function and so on, flexible plug-in technology
- Support tool compensation, Automatic Tool Change
- Support simulation processing by handwheel, reverse direction processing, To start to process from any code segment

Application

Based on the open motion control platform, based on this platform, It can develop a variety of CNC, such as engraving and milling machine, woodworking machining and CNC machine center, 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 CANopen or EtherCAT
- RAM 16 Mb, FLASH 4 Mb, 32Kb battery
- Flash Disk 64 Mb with Fat 16
- EtherNet 10/100 TCP/IP
- 1 RS232-1 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(mm)

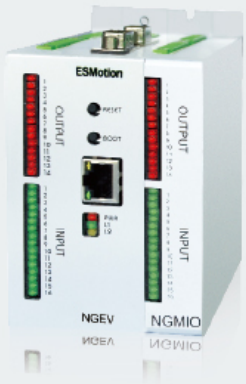
ESMotion-NG35 Local Bus Expansion		
ESMotion-NGIO	16-Digital Input PNP 24V VDC Opto 2-Encoder Input Line Drive 5 V freq Max 1 MHz 2-Relay out Max 35V-1A	14-Digital output 24 VDC opto 1.2A 2-Analog out +/-10V 12 bit
ESMotion-NGPP	16-Digital Input PNP 24 VDC Opto 4-Axes STEP/DIR line drive freq Max 25 MHz 1-Analog Out 0-10V 12 bit	14-Digital output 24 VDC opto 1.2A 4-Fast interrupt Input

Product Model

ESMotion - NG35 - A 0 0 0

NG35 Motion controller	Analog Input	Serial Ports	FLASH	Reserve
	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	

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

Specification

ESMotion-NGEV Main Module	
CPU	MCF52259 Coldfire 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	-20°C to +70°C
IP level	IP20
Dimension(mm)	50×102×120

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 Input 500KHz

Product Model

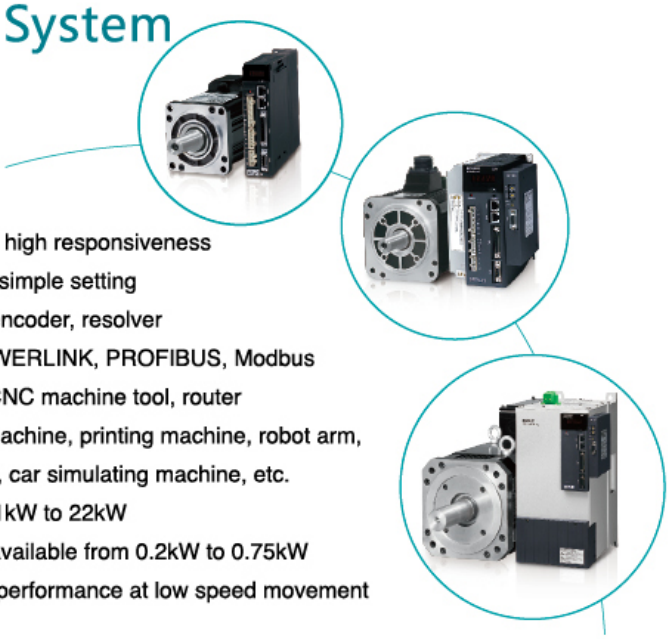
ESMotion-NGEV- 2 1 1 B O

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

NGMX- 2 0 0

NGMX	STEP/DIR	Encode in	Analog Output
	1 1–Axes STEP/DIR Line Drive 2 2–Axes STEP/DIR2 Line Drive	0 Without Encode Input 2 2–Encode Input	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	200	EMJ-A5A		ProNet-A5A				ProNet-E-A5A		
		0.1	200	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	
		1.0	200	EMJ-10A			ProNet-10A				ProNet-E-10A	
	EMG 2000r/min	1.0	200	EMG-10A			ProNet-10A				ProNet-E-10A	
			400	EMG-10D				ProNet-10D				ProNet-E-10D
		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				
		15	400	EMB-1ED				ProNet-1ED				
		22	400	EMB-2BD				ProNet-2BD				
Low-Inertia	EMB 1800r/min	10.8	400	EMB-1ZD				ProNet-1AD				
		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								

Drive
Your Success

Mission — We are offering Accuracy & Efficiency!

Vision — Enjoy your life from Automation!

Values — Focus, Integrity, Growing together!

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