

## 2-AXIS ANALOG EXPANSION

FEATURES	DESCRIPTION	NOTES
Analog reference	± 10Volt	12-bit resolution
Encoder counting	400 kHz, 32 bit	Multiplied by 4 internally
Encoder interface	Push Pull, Line Driver, 5Vdc	Jumper-selectable
Digital user inputs	2 24 Vdc PNP inputs	Protection equivalent to opto-isolation Can also be used for position capture by means of interrupt
Axis monitoring	Watchdog End-of-stroke	Axes disabled in the event of alarm Hardware & Software
Motion control	PID or Feed-Forward	Available via Software
Axis performance	Automatic offset calibration Positioning Linear interpolation S-ramp Rotary axis control Electric axis	
	Circular interpolation Electronic cam Circle arc blending NURBS Spline Optimized blending Self-learning and re-running	With DSP expansion
Assembly	On dedicated position 4 slot	

ARTECO MOTION TECH reserves the right to change the physical hardware and or software specifications without notice

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## SU112

MultiAxis Controller with included PLC, up to 5 Axis, 48 digital in, 48 digital out, LCD and 40 keys membrane keyboard



SU112 is the low cost Axis Controller with included PLC made by Arteco Motion Tech.

Minimum configuration: 2 interpolated axis with included sensors, 16 in, 16 out, 2 analog input and 1 serial port RS232/485.

Thanks to the slots located in the back side of the multiaxis controller, SU112 can be configured depending on the user's needs. There are 4 slots available. Each slot can receive the available expansions boards as the 8 digital input + 8 digital output, the 1 axis expansion, 2 axis expansion, the 8 digital input + 8 digital output + canbus port.

So, the maximum configuration can reach 5 interpolated axis with included sensors, 32 in, 32 out, 2 analog input, 2 serial ports RS232/485, 1 CANbus port to connect the controller to other Axis and I/O expansion modules for distributed I/O and Axis.

Each state of the I/O is shown by LEDs located near each terminal block.

SU112 provides the 8 rows x 20 characters LCD display with backlight feature. The display and the keyboard can be controlled using the implemented functions and instructions of the PLC.

A rich set of graphics and text commands allows the user to make his HMI, 100% according to his needs.

SU112 can be programmed using a rich set of Motion Control Functions: Simple positioning, Linear interpolation, Electronic cam, Boolean cam, Optimized trajectories generating starting from a points series, Rotative Axis, Control of Pick and Place machines, Circular interpolation, Self-learning and its execution.

Other important features: remote programming like debug, service and upgrade using the low cost WEB interface, built in modbus RTU protocol for connecting the Axis controller to SCADA and other common HMIs.

Made in **ITALY**

## SU112

FEATURES	DESCRIPTION	NOTES
<b>POWER SUPPLY REQUIREMENTS</b>		
POWER SUPPLY VOLTAGE	24 Vdc ±20%	
ABSORPTION	1.5 Amps max	
BUFFER BATTERY	CR2032 -3.0Volts	
VOLTAGE MONITORING	24Vdc, 5 Vdc, 12 Vdc, -12 Vdc	LEDs lit indicate correct voltage level
<b>CONFIGURATION</b>		
"Blind" with operator interface	"Blind" for control panel mounting	
<b>Operator interface</b>		
Display	STN 128x64 Graphic	Controllable via application software
Keyboard	40-key keyboard: 25 controls, 7 functions, 8 configurable	3 unit diagnosis LEDs 8 keys with associated LEDs, controllable via application software
<b>CPU</b>		
Microprocessor	RISC 40MHz 16 bit	
Available working memory	RAM 600Kbyte	Buffered, writing protected for power down and reset
External memory	1 Megabyte Sim Card	For upload / download of firmware and/or application software
Monitoring functions	Card OK PLC active Application software active	LED lit for unit running 24 Vdc output LED flashing for PLC running LED flashing for application software running
<b>Interfaces</b>		
Asynchronous serial basic	1 RS232/RS485 line	Both available
<b>Inputs &amp; Outputs</b>		
On-board digital user inputs	16 24 Vdc PNP inputs	Protection equivalent to opto-isolation
On-board digital user outputs	16 24 Vdc PNP outputs 1.8 Amp/output, Max 4.4 Amps on each group of 4 outputs	Protection equivalent to opto-isolation Protected against short-circuits, over-current, over-heating, over-voltage, power voltage inversion
On-board analog user inputs	1 0-10Volt analog input	10-bit resolution, protected against over-voltage
<b>Axis control</b>		
Number of axes	5 analog axes	
Analog reference	± 10Volt	12-bit resolution
Encoder counting	400 kHz, 32 bit	Multiplied by 4 internally
Encoder interface	Push Pull, Line Driver, 5Vdc	Jumper-selectable
Axis monitoring	Watchdog End-of-stroke	Axes disabled in the event of alarm Hardware & Software
Scanning time	8 msec for 5 axes	Modifiable via application software
Motion control	PID or Feed-Forward	Available via software
Multi-axis performance	Automatic positioning offset calibration Linear interpolation S-ramp Rotary axis control Electric axis	
	Circular interpolation Electronic cam (also Boolean) Circle arc blending NURBS Spline Optimized blending Self-learning and re-running	With DSP expansion
<b>Expansions</b>		
Expansion slots	4 slots available	
<b>Development tools</b>		
Development environment	ISaGRAF®	Compliant with IEC 61131-3
Languages available	SFC, FDB, LD, ST, IL, FC	
Advanced performance	Function blocks for axis control	Over and above IEC 61131-3 standard
	Function blocks for advanced control of variables	Over and above IEC 61131-3 standard
	Block for controlling user keyboard, display and LEDs	Over and above IEC 61131-3 standard
	Modbus	
<b>General Features</b>		
Field connections	Via separable terminal strip 9-pole Cannon Sub-D connector	
Case	Screened	Dimensions in mm.: 207 x 182 x 87 (analog axis version) Dimensions in mm.: 207 x 182 x 118 (internal drive version)
Assembly	Panel mounted	
Conformity	CE EN 50081/2, EN50082/2	Self-certified

## 8 IN 8 OUT EXPANSION

FEATURES	DESCRIPTION	NOTES
On-board digital user inputs	8 24 Vdc PNP inputs	Protection equivalent to opto-isolation
Digital user outputs	8 24 Vdc PNP outputs 1.8 Amp/output, Max 4.4 Amps on each group of 4 outputs	Protection equivalent to opto-isolation Protected against short-circuits, over-current, over-heating and over-voltage, power voltage inversion
Assembly	On any expansion slot	

## 8 IN 8 OUT SERIAL CAN EXPANSION

FEATURES	DESCRIPTION	NOTES
Digital user inputs	8 24 Vdc PNP inputs	Protection equivalent to opto-isolation
Digital user outputs	8 24 Vdc PNP outputs 1.8 Amp/output, Max 4.4 Amps on each group of 4 outputs	Protection equivalent to opto-isolation Protected against short-circuits, over-current, over-heating and over-voltage, power voltage inversion
Asynchronous serial basic	1 RS232/RS485 line	Both available, jumper-selectable
Fieldbus	CANOpen	Master Mode
Assembly	On dedicated position 1 slot	

## 1-AXIS ANALOG EXPANSION

FEATURES	DESCRIPTION	NOTES
Analog reference	± 10Volt	12-bit resolution
Encoder counting	400 kHz, 32 bit	Multiplied by 4 internally
Encoder interface	Push Pull, Line Driver, 5Vdc	Jumper-selectable
Axis monitoring	Watchdog End-of-stroke	Axes disabled in the event of alarm Hardware & Software
Motion control	PID or Feed-Forward	Available via Software
Axis performance	Automatic offset calibration Positioning Linear interpolation S-ramp Rotary axis control Electric axis	
	Circular interpolation Electronic cam (Boolean too) Circle arc blending NURBS Spline Optimized blending Self-learning and re-running	With DSP expansion
Assembly	On dedicated position 2 slot	