



motion control technologies

## CND51

5 Axis Controller with included PLC including 24 digital inputs and 16 digital outputs.



CND51 is the high-end multi-axis controller with included PLC made by Arteco Motion Tech. It is programmable according to the standard IEC 61131-3 programming languages. It provides 24 digital inputs and 16 digital outputs but it can be expanded mounting the available expansion boards. The multiaxis controller CND51 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.

CHARACTERISTICS	DESCRIPTION	NOTES
<b>POWER SUPPLY REQUIREMENTS</b>		
Power supply voltage	24 Vdc $\pm$ 20%	Protected by electronic fuse, isolated, readable via software
Absorption	1.5 Amps	
Buffer battery	Inorganic Lithium – AA, 3.6Volts	Off-the-shelf battery – replaceable by the operator.
Voltage monitoring	24 Vdc, 5 Vdc, 12 Vdc, -12 Vdc Buffer battery	LEDs lit indicate correct voltage level LED lit for insufficient level readable via software
<b>CPU</b>		
Microprocessor	SAB167CR, 20 MHz, 16 bit	
DSP	TMC320C32, 40 MHz	256 Kbytes Ram
Available working memory	RAM 600Kbyte	Buffered, writing protected for power down and reset
External memory	Sim Card - 1 Megabyte	For upload / download of firmware and/or application software
Monitoring functions	Watch Dog on CPU PLC running Watchdog on PLC	LEDs lit indicate unit running LED lit for PLC running LED lit for PLC running 24 Vdc output
<b>INTERFACES</b>		
Asynchronous serial lines	3 RS232/RS485 serial lines	Opto-isolated, both available, jumper-selectable
Fieldbus	Profibus slave DP CANOpen 2.0 b Modbus	32In / 32Out with optional additional module Master Mode, opto-isolated. Standard and ISaGRAF® mode on board
Connection to operator interface (keyboard / display)	Via RS232 / RS485 serial port with Modbus protocol	Fully compatible with numerous terminals on the market
Modem connection	Via dedicated RS232 port	Tele-assistance with remote PC via telephone
<b>INPUTS &amp; OUTPUTS</b>		
On-board digital user inputs	24 24 Vdc PNP opto-isolated inputs	
On-board digital user outputs	16 24 Vdc PNP opto-isolated outputs 1.8 Amp/output, Max 4.4 Amps on each group of 4 outputs	Protected against short-circuits, over-current, over-heating and over-voltage, power voltage inversion
On-board analogue user inputs	4 analogue inputs $\pm$ 10Volt	10-bit resolution, 3 modes, protected against over-voltage
On-board analogue user outputs	1 $\pm$ 10Volt analogue inputs	12-bit resolution
<b>AXIS CONTROL</b>		
Number of axes	5 axes on board	
Encoder counter	1 MHz, 32 bit	Multiplied by 4 internally
Encoder interface	5/12 Vdc Line Driver / Push Pull	Opto-isolated
Axis monitoring	Watchdog End-of-stroke	Axes disabled in the event of alarm Hardware & Software
Motion control	PID or Feed-Forward Automatic offset calibration	Available via software Available via software
Performance	Positioning – Linear and circular Interpolation - Electronic cam – Circle arc blending - NURBS – Spline – Optimized blending – S-ramps – Self-learning and re-run – Control f rotary axis – Electric axis	
<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 Function blocks for advanced control of variables Part-Program, proprietary language	Over and above IEC 61131-3 standard Over and above IEC 61131-3 standard For high-level programming control
<b>GENERAL FEATURES</b>		
Field connections	Via separable terminal strip	
Case	Screened	Dimensions in mm.: 295 x 240 x 175
Assembly	Panel-mounted	
Conformity	CE EN 50081/2, EN50082/2	Self-certified

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

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