Motion control

EtherCAT MDPLC controller

Optimize your device development

With the rise of Industry 4.0 and real-time control RTOS concept, the development trend of motion control system is easy to use miniaturization, cost-effective and other characteristics, MADECOTECH launched a new generation of MDPLC-T10 series motion controllers.Combined with CODESYS software platform motion control technology and information technology are integrated to better serve non-standard automation, 3C, photovoltaic, logistics, lithium……

T10 series motion controller

Cortex-A7 Dual-Core CPU

With high computing power, rich fieldbus, expansion ability, powerful motion control function



High computing power:

- **Choose international famous brand high-end processor, 1G main frequency, dual-core processor.**

Rich fieldbus:

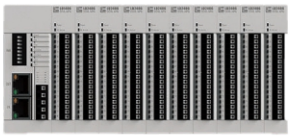
- **EtherCAT/EtherNetIP/OPC UA_Server/ is supported**
- **ModbusTCP/Modbus Serial port protocol**

Expansion capability:

- **Expand MDIO series IO module locally or remotely**
- **Expanded MDIO series and MDIO series control modules.**
- **Powerful motion control functions:**
- **G code execution with CNC functions such as linear/circular/spiral interpolation;**
  Electronic gear and electronic CAM multi-axis linkage;
  Basic single-axis motion standard function block.

Technical specification







MDPLC-T101 Series product specifications		
System	Processor	Cortex-A7 Dual core main frequency 1G
	Memory	DDR3L 1GB
	Hard disk storage	8 GB
	Operating system	Linux
	Power down hold space	512KB
	User program storage space	8MB
	User data storage space	16MB
Interface	network	LAN1 1000Mbps LAN2/LAN3 100Mbps 2×Ethernet, 1×EtherCAT
	serial port	2× RS485;1×RS232,
	USB	1x USB HOST 2.0
	TF	USB
	LED	POWER、SYS、RUN、ERR、IO
	IO	16x DI ;16x DO
	button	KEY- Run/Stop;KEY-RST
	RTC	support
	Extend interface	The local I/ O expansion interface expands the LD1100 series DI/DO and AI/AO module
Motion control	control axis	8axes、16axes、32axes
	EC synchronization jitter	+/-50μs
	EC DC method	Servo DC-Distributed clock
	EC transmission distance	<100m
	EC transmission speed	100Mbit/s
	EC synchronization period	500μs (1ms 8axis 2ms16axis 4ms 32axis)
	Dual master station function	unsupport
	power	24V DC(±20 %) 1A
Power	size	192 x 90 x 71(mm^3)
Mechanical	operating temperature	0…+50°C
Ambient temperature	storage temperature	-40...+75°C
	relative humidity	95%
	environmental suitability	IEC 61131-2
Others	EMC	IEC 61131-2/GB 4824
	Class	IP 20

Intelligent control type
EtherCAT bus + pluse Motion controller

Optimize your device development



High performance

informatization

Strong operation control

Flexible and convenient

In view of the serious market volume of traditional industries, such as automation upgrade, digital transformation, crack repetitive low-value programming, slow delivery and other problems, MADECOTECH takes root in the market side and in-depth exchanges with users, analyzes user needs, and defines innovative products under the requirements of information transformation trends: A cost-effective, controllable and digitalized new generation MDPLC-T151 series EtherCAT bus MDPLC was launched.

Product configuration

Product model			MDLC-1514-CPU20TN	MDLC-1518-CPU20TN	MDLC-1516-CPU20TN	MDLC1532-CPU20TN
Input power supply			DC 24V±10%, 1A, support short circuit/reverse protection			
COCM I/O			8 input (source/drain), 16 output (drain)			
Data/program storage IOcity			40M program capacity, 20M data capacity (512K Byte power down hold space)			
Instruction processing speed	Bit processing instruction		9.9ns			
	Word processing instruction		14.3ns			
	Integer four-rule operation		16.2ns			
	RJ45 port	EtherNet	EtherNet*2（Dual IP, independent network end）			
		EtherCAT	EtherCAT*1			
	Serial port number		RS485*2(This machine comes with 2 routes)/RS232*1(This machine comes with 1 road)			
EtherCAT Bus specification	EtherCAT Number of axes		4-axes(Excluding pulse axes and virtual axis)	8 axes (excluding pulse axes and virtual axis)	16 axes (excluding pulse axes and virtual axis)	32 axes (excluding pulse axes and virtual axis)
	EtherCAT slave station		A maximum of 127 EtherCAT slave stations are supported500us			
	Typical value of communication cycle		Cycle 4 axis /1ms cycle 32 axis synchronization			
High speed IO	High speed input		Support pulse input, maximum 5 channels: 4 200K single-end input, support AB phase, pulse + direction, single-phase addition and subtraction counting/two-phase two input1 differential input (3.2M after 4x).			
	High speed output		Support pulse output, maximum 4 axis (pulse axis, unified command with bus shaft)/8 channel 200K, support AB phase, pulse + direction, support PWM pulse width modulation (4 channels).			
	Other functions		Equidistant position comparison trigger/Preset position comparison trigger/position latch/pulse width measurement			
Expansion capability	Extended IO module		The ontology supports 8 LD series I/O modules			
	Expansion card		Support SD card download applications			
	Other interface		Host power supply/firmware debugging			
	Engineering configuration software		Codesys V3.5 SP18(Standard IEC 61131-3)			



Intelligent control type
EtherCAT Motion controller

High performance | informatization | Strong operation control | Flexible and convenient

Optimize your device development

Nowadays, the demand for intelligent manufacturing is changing rapidly, and the manufacturing site has increasingly high requirements for production efficiency, data acquisition, cross-platform, and motion control responsiveness to ensure that all processes on the site are efficient and stable.

The MDLC201 series Intelligent Control motion controller is an x86 IPC form product that combines the Codesys automation software platform and real time motion control soft core to turn the IPC form product into a real time motion controller with control, information and efficiency to help accelerate the efficiency and stability of the manufacturing site.



MDPLC-T20 series intellingent mechanical controller

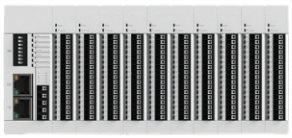
Intel J6413 4 Cores CPU

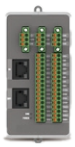
Dual EtherCAT master station design, information, digital super simple, up to 128 axes, 1ms synchronization cycle 32 axes

- Built-in UPS design, no external connection, save UPS cost
- Provides easy-to-use EtherCAT control + driver complete solution and application
  Point and CAM and other scenarios of programming template program.
- The minimum EtherCAT cycle can be set to 500us(different drives vary),
  32 axes synchronization period 1ms.
- Three-port design (EtherNet +2*EtherCAT)
  Network connection based on EtherNet/IP and OPC UA, that is, compatible with traditional
- Too network, but also support industrial control of high real-time transmission, easy to build production line level network
  Network communication

Technical parameter







MDPLC201 series product specifications		
System	processor	The Intel Celeron J6413 is 1.8GB
	Internal memory	DDR4-4G
	store	SSD128G
	Power down hold space	5MB
	User program storage space	128MB
	Storage space for user data	128MB
	Operating system	Linux
Port	Net interface	1×EtherNet/2×EtherCAT
	Serial port	RS232 ×1; RS485× 1
	USB	2×USB3.0; 2×USB2.0
	LED	SYS, HDD, RUN, ERR
	key	Power button, RST reset button
	RTC	Yes
	IO extension interface	Non-natively extensible
Motion control	Number of axes	16 axes, 32 axes, 48 axes, 64 axes, 128 axes
	EtherCAT Maximum synchronization jitter	+ / - 50 ms
	EtherCAT Indicates the synchronization mode	Servo DC- Distributed clock
	EtherCAT transmission distance	The distance between two nodes is less than 100 M
	EtherCAT Transmission rate	100Mbit/s
	EtherCAT Minimum synchronization period	500 mu s
	Dual master station function	support
	Ring network function	Only EthereCAT coupling modules are supported
Power source	Power source	9-36V DC
Machine	dimension	Machine size: 170mm*120mm*62.5mm
Ambient temperature	Operating temperature	0... + 50 °C
	Storage temperature	- 40... + 75 °C
	Relative humidity	95%, no condensation
Other	Environmental adaptability	Comply with IEC 61131-2 standard
	EMC performance	Comply with IEC 61131-2/GB 4824 standard
	Class of protection	IP 20



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