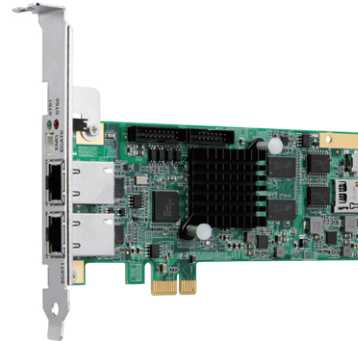


PCIe-8332/PCIe-8334/PCIe-8338

16/32/64-axis PCIe EtherCAT MainDevice Motion Controller

Features

- PCI Express® x 1 compliant
- Up to 64-axis motion control & 10,000 I/O point control via EtherCAT
- EtherCAT cycle times up to 250µs
- Broad range of compatible EtherCAT SubDevice
- Dedicated emergency stop input
- 4CH isolated digital input/4CH isolated digital output
- 1CH pulsar input
- Point-table functions for contouring application
- Support for up to 16D linear interpolation, 3D circular and 3D spiral interpolation
- 8 program tasks downloadable for standalone application
- Card ID selection



Introduction

ADLINK PCIe-8332/PCIe-8334/PCIe-8338 is a hardware-based EtherCAT motion controller able to support up to 64 synchronized axes and over 10,000 points simultaneously. The PCIe-8332/PCIe-8334/PCIe-8338 features dedicated isolated emergency stop input (EMG), and configurable isolated high-speed digital input as not only generic sensor input but also pulsar input, with up to 1MHz input frequency.

Optimum jitter control is provided in minimal cycles of 250µs to optimize synchronous I/O performance for vertical automation applications in semiconductor, electronic manufacturing, and others.

The PCIe-8332/PCIe-8334/PCIe-8338 provides an out-of-shell application-ready (APS) function library to generate multi-dimensional, highly synchronized, time-deterministic event-triggered motion & I/O control. A wide range of compatible 3rd party SubDevice are easily designed with ADLINK's APS function library. ADLINK's MotionCreatorPro 2™ utility is fully compliant with the Microsoft® Windows™ environment, that allows complete EtherCAT motion and I/O configuration and function evaluation as well as compiling program download functions.

Software Support

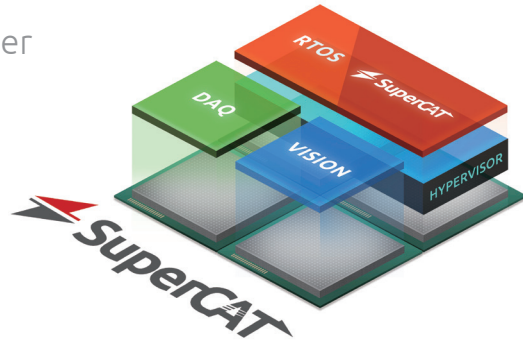
- **OS Information**
Windows 7/10 32/64-bit
- **Library**
 - APS function library for Motion & I/O Control
 - VS C#, VS VB.NET, and VS C++ compatible
- **Utility**
MotionCreatorPro 2™

Ordering Information

- **PCIe-8332**
16-axis PCIe EtherCAT MainDevice Motion Controller
- **PCIe-8334**
32-axis PCIe EtherCAT MainDevice Motion Controller
- **PCIe-8338**
64-axis PCIe EtherCAT MainDevice Motion Controller

SuperCAT v1.3

Super-performance Soft EtherCAT Controller



Highlights

- Super-performance Soft EtherCAT Controller, powered by RTOS
- RTOS-based real-time control architecture ensures low-latency and high-performance motion execution
- Supports 125µs EtherCAT control cycle, up to 128-axis synchronous motion control
- Real-time performance guaranteed with verification by ADLINK computing platforms
- User-defined motion process execution in SuperCAT RTOS by User Task framework

Key Features

- EtherCAT Cyclic Synchronous Mode supported: CSP / CSV / CST
- Point-table for continuous move (contouring) applications
- Programmable interrupt control: Axes & System factors
- EtherCAT utility supported: ECAT-Configurator & Third-party IO Mapping
- EtherCAT diagnostic tools supported: Frame loss, Bus loading and Slave device alive check
- ADLINK APS-SDK supported, for machine automation, compatible with ADLINK motion controller products
- Stable execution and lower jitter Environments by fine-tuning SuperCAT

Introduction

ADLINK SuperCAT is a Super-performance Soft EtherCAT Controller capable of supporting up to 128 synchronized axes and over 10,000 points. SuperCAT fully supports ADLINK EtherCAT subdevices for high-speed trigger, latch, I/O, and pulse train motion control, designed for laser and semiconductor applications. It features a built-in software trigger and latch function operating at up to 4 kHz for applications such as AOI, dispensing, and EMS manufacturing. Optimal jitter control is achieved with minimal cycles of 125µs, enhancing synchronous I/O performance for vertical automation applications in the semiconductor and electronics manufacturing industries, among others.

SuperCAT provides an off-the-shelf application-ready (APS) function library to generate multi-dimensional, highly synchronized, time-deterministic event-triggered motion and I/O control. A wide range of compatible third-party subdevices can be easily controlled using ADLINK's APS function library. ADLINK's Motion Creator Pro 2™ utility is fully compliant with the Microsoft® Windows™ environment, allowing comprehensive EtherCAT motion and I/O configuration, function evaluation, and process download functions.

System Requirements

- Operating System: Windows 10/11 32/64-bit
- Processor: x86 Atom, Core i, or Xeon
- Network Interface: 100/1000BASE-T Ethernet port

Ordering Information

- **EM-xP00D**
SuperCAT dongle license for Classic version
- **EM-xC00D**
SuperCAT dongle license for Premium version
- **EM-xA00D**
SuperCAT dongle license for Ultimate version

Note:
x = 2: supports 16 axes motion control x = 8: supports 64 axes motion control
x = 4: supports 32 axes motion control x = F: supports 128 axes motion control

The SuperCAT are available for different platforms.
The SuperCAT performance is dependent on the configuration and the technical data of the ADLINK IPC (including the processor).
125us EtherACT control cycle only guaranteed with ADLINK-specific platforms.

Specifications

		Classic	Premium	Ultimate
Control Mode	CSP (Cyclic Synchronous Position)	V	V	V
	CSV (Cyclic Synchronous Velocity)	-	V	V
	CST (Cyclic Synchronous Torque)	-	V	V
	HM (Homing Mode)	V	V	V
Motion	Speed & Position Override	V	V	V
	Linear / Circular / Helical Interpolation	V	V	V
	E-Gear / Gantry	V	V	V
	Point-table for Continuous Move	-	V	V
	Contouring Synchronized DO Control	-	V	V
	Position Comparion Trigger Output	V	V	V
	Position Latch Function	V	V	V
	Linear & Rotary Coordinates Supported	V	V	V
	PT / PVT Motion Mode	-	V	V
Function	User RTOS Application Dev. Environment	-	-	V
	User Task Framework (by API supported)	V	V	V
	Interrupt Control	V	V	V
	Sampling Function	V	V	V
	API & RTOS Log and Viewer	V	V	V
	Backlash & Pitch Error Compensator	V	V	V
	2D Position Error Compensation	-	V	V
	2D / 3D Dynamic Error Compensation	-	-	V
	EtherCAT Diagnostic Tools	V	V	V
	Simulation Axis and IO	V	V	V
	Master Jitter Measurement Tools	V	V	V

Specifications

	PCIe-8332	PCIe-8334	PCIe-8338
EtherCAT Communication			
EtherCAT Cycle Time	1CH @ 250μs / 500μs / 1000μs / 2000μs		
Max. Number of Axes	16	32	64
Motion I/O Interface Signals			
Emergency Stop In	1CH		
Isolated I/O Signals			
Digital Input	4CH (2CH configured as Pulsar Input)		
Pulsar Input Mode	CW/CCW; 1x/2x/4x AB Phases		
Pulsar Input Frequency	Up to 1MHz		
Digital Input Voltage	24Vdc (typ.) / 5Vdc for pulsar connection		
Digital Input Type	Sourcing type		
Digital Output	4CH, Isolated		
Digital Output Voltage	24V (typ.)		
Digital Output Type	90mA, NPN sinking type		
General Specification			
Operating Temp	0°C to +60°C (32°F to 140°F)		
Humidity	5% to 95%, non-condensing		
Environmental Specification			
Safety compliance	CE/FCC, RoHS		