



ZMP-SynqNet-LT Motion Controller

Hardware Specification



Helping you build a better machine, faster.

ZMP-SynqNet-LT

Hardware Specification



SynqNet®



Key Benefits

- Increased Throughput**
 Shared memory map architecture results in minimized controller latency for the fastest possible motion response and maximized machine throughput. On-the-fly motion and gain set modifications improve machine throughput by minimizing cycle and settling times.
- Reduced System Costs**
 Real-time operating system support reduces overall system cost by enabling deterministic usage of host processor for optimized machine design.
- Reduced Development Costs**
 Tight coordination between motion and I/O via the SynqNet network reduces machine development costs by providing real-time system visibility and motion optimization.

High-Value Performance SynqNet Motion Controller

The ZMP-SynqNet-LT is a variant of the ZMP series controller that provides machine builders with mid-level performance motion control. Designed as an upgrade solution for the successful XMP series controller, the ZMP-LT provides value and performance by utilizing a 266MHz MPC8245 PowerPC processor for optimum flexibility and speed. With an increase in processing power, the ZMP-LT controller is optimized to work with MechaWare™ for the ultimate in precision control schemes. Available in PCI form factor.

The ZMP-SynqNet-LT offers servo update rates up to 24kHz, allowing optimum control of machines requiring high levels of coordination and synchronization between axes.

Develop motion applications for the ZMP family of controllers with either the MPI programming library for C/C++, MPX programming library for Visual Basic .NET and C# or the MPS BASIC-like programming library now available for Kollmorgen controllers.

SynqNet Platform Overview

Launched in 2001, SynqNet is a digital machine control network specifically designed to meet the flexibility, performance, and safety requirements of today's demanding machine control applications. Built on the 100BT physical layer, SynqNet provides a synchronous real-time connection between motion controllers, servo drives, stepper drives, I/O modules, and custom devices.

FAST

- Network bandwidth for servo updates up to 24 kHz
- Supports up to 32 nodes with 32 axes
- Over 16,000 bits of digital I/O and 1,000 points of analog I/O
- Real-time diagnostics over SynqNet

SAFE

- "Self-Healing" fault tolerant operation using ring topology
- "HotReplace" allowing replacement of node without network shutdown

PROVEN

- Over 350,000 motion axes installed worldwide
- Multi-vendor interoperable network

SynqNet®
www.synqnet.org



**Motion
Controllers**



**Drives and
Motors**

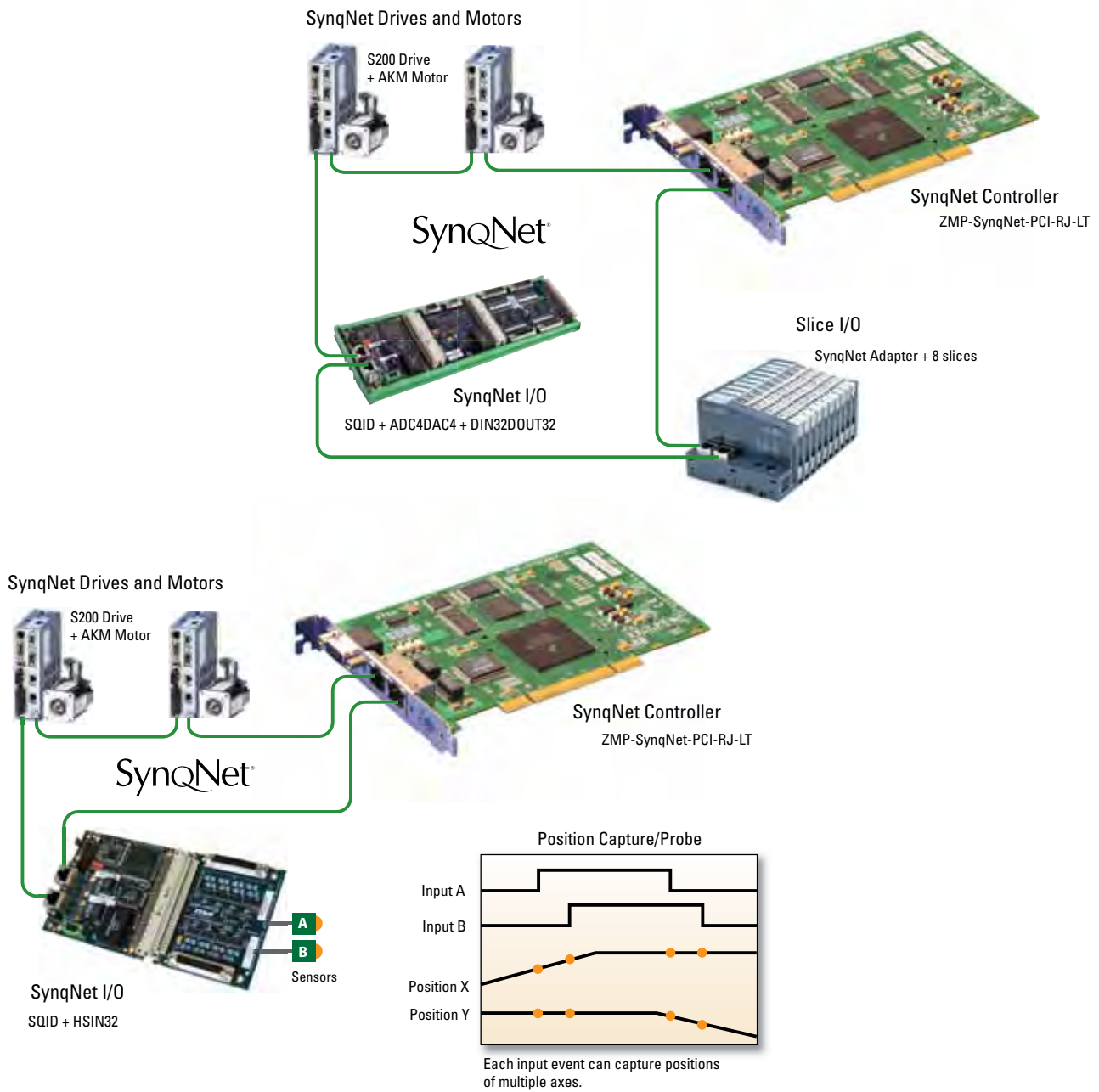


I/O



**Custom
Nodes**

SynqNet Connectivity Diagram



Part Numbers

Part Number	Description
T115-0005	ZMP-SynqNet-PCI-RJ-LT

ZMP-SynqNet-LT



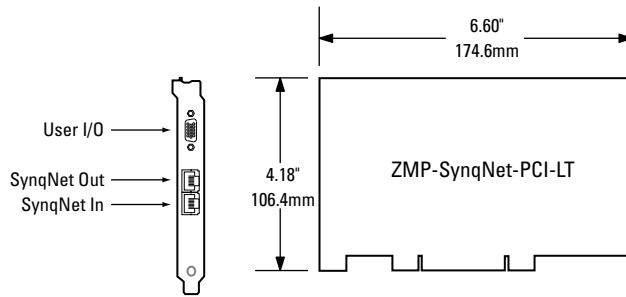
T115-0005
ZMP-SynqNet-PCI-RJ-LT

Specifications

Function	Parameter	Specification
Processor	CPU	PowerPC 64-bit floating point, 266MHz
	Memory	16MB SDRAM/133MHz
Servo Loop	Update Rate	User programmable
	4 Axes Update Rate	Max: 23 kHz
	8 Axes Update Rate	Max: 9 kHz
Board Interface	Connectors	SynqNet Interface: RJ45 User I/O: Standard DE (15-pin)
	Form Factor	Standard PCI
	Host Bus	32-bit Universal PCI
	PCI Bus Speed	25 - 66MHz
	Memory Interface	32-bit direct memory map
	Power	Typ. 5V @ 2.2A
User I/O	Lines	3 Inputs; 3 Outputs, 1 ESTOP Input
	Output Low Voltage	Max. 1.0V @ I _{OUT} = 50mA
	Input High Voltage (ON)	Min. 4.0V Max. 28.8V
	Input Low Voltage (OFF)	Max 0.8V
Kinematic Ranges	Position, Velocity, Acceleration, Jerk	64 & 32-bit floating point*
Environment	Operating Temperature	0 - 50° C
	Storage Temperature	0 - 85° C
	Humidity	20 - 90% RH, non-condensing
	Air Flow	0 lfm

* 32-bit for backwards compatibility.

Dimensions



Pinouts and Connector Information

RJ45 SynqNet Connector

AMP Connectors
Mfg P/N 1116353-1

SynqNet IN	Pin	Signal
	1	Transmit +
	2	Transmit -
	3	Receive +
	4	Unused 1+
	5	Unused 1-
	6	Receive -
	7	Unused 2+
	8	Unused 2-

RJ45 Mating Connector

AMP Connectors
Mfg P/N 5-557315
Shielded RJ45 recommended

SynqNet OUT	Pin	Signal
	1	Receive +
	2	Receive -
	3	Transmit +
	4	Unused 1+
	5	Unused 1-
	6	Transmit -
	7	Unused 2+
	8	Unused 2-

For more information:
www.amp.com

User I/O Connector

Female High Density D-15

User I/O Mating Connector

Male High Density D-15

User I/O Connector	Pin	Signal
	1	OPTO_A (OUT)
	2	OPTO_B_RTN (OUT)
	3	OPTO_D (IN)
	4	OPTO_E_RTN (IN)
	5	XESTOP
	6	A_RTN (OUT)
	7	OPTO_C (OUT)
	8	OPTO_D_RTN (IN)
	9	OPTO_F (IN)
	10	XESTOP_RTN
	11	OPTO_B (OUT)
	12	OPTO_C_RTN (OUT)
	13	OPTO_E (IN)
	14	OPTO_F_RTN (IN)
	15	GND

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