

SPiiPlusNTM



EtherCAT[®] Motion and Machine Master Controller

The Most Powerful Motion Controller & EtherCAT Master

- Up to 64 fully synchronized axes
- Open Architecture - ACS' and third party EtherCAT devices, drives and I/O
- A rich set of tools for application development, set up, tuning and diagnostics
- Powerful ACSPL+ multitasking motion programming language
- Supports all capabilities and features of the field proven SPiiPlus line of high performance controllers

ACS' SPiiPlusNTM is a state of the art EtherCAT network-based, multi-axis machine and motion line of controllers. It is specifically designed to extend the capabilities of the SPiiPlus line of controllers, to address the needs of modern machinery for an economical high performance multi-axis, scalable and distributed control of motion centric applications. The SPiiPlusNTM open architecture operates in conjunction with ACS' line of EtherCAT servo and step motor drives and I/Os modules, as well as with any certified third party EtherCAT module that complies with CAN over EtherCAT (CoE) protocol, providing a comprehensive and cost effective control solution for demanding motion centric machinery. The SPiiPlusNTM generates the motion profile for all axes. The drives executes the real time control of the axes. The whole network scanning rate is up to 2 or 5kHz (see ordering options). All ACS made drives are executing the control algorithms at a 20kHz rate using a distributed clock with accuracy better than 0.1 microsecond.

The SPiiPlusNTM is fully supported by the SPiiPlus suite of software tools that are designed to minimize time to market while providing the flexibility to meet the specific machine requirements throughout its complete life cycle. It provides extraordinarily easy setup, fast host and embedded application development, and quick diagnostics. Set up of third party drives are done using by the third party tuning tools. Once connected to the EtherCAT network, real time variables, such as position, position error, velocity and others can be viewed, monitored and recorded with ACS' tools. All tools include a built-in simulator, powerful remote access and diagnostics, and fast error recovery, thus reducing training effort and costs.

CE

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Number of Axes

Up to 64 - with the high processing power MPU (H)
Up to 32 - with the standard MPU (S)

MPU/EtherCAT Cycle Rate

5kHz (up to 4 axis) - with the high processing power MPU (H)
2kHz - with the standard MPU (S)

Supported EtherCAT Slaved Modules

All ACS EtherCAT network modules Refer to ACS web site for an updated list of modules.

Third party Modules

ACS qualifies drives and I/O modules made by other vendors. Refer to ACS web site for an updated list of third party supported modules.

Communication Channels

Serial: two RS-232. Up to 115,200bps.
Ethernet: one, TCP/IP, 10/100 Mbits/sec.
Simultaneous communication through all channels is fully supported. Modbus protocol as master or slave is supported via all channels.
EtherCAT: One, 100 Mbit/sec, supporting CoE and FoE protocols

MPU

RAM

1Gb - with the high processing power MPU (H)
128Mb - with the standard MPU (S)

Flash NV memory

1Gb - with the high processing power MPU (H)
128Mb - with the standard MPU (S)

Power Supply

24Vdc ± 10%, 1A

Standards & Environment

Operating Temperature: 0°C to 55°C
Storage Temperature: -20°C to 85°C
Humidity: 90%RH, non-condensing
CE (EMC) certified and RoHS compliant

Dimensions

175 x 124 x 45.5 mm³
Panel or DIN rail mounted

Ordering Options

Ordering options	Selection By User	Example	Available Ordering Option Values
Maximum number of axes	32	32	2,4,8,16,32,64
ECAT 3rd party Servo Drive	06	06	Up to the maximum number of axes
ECAT 3rd party Step motor Drive (open & closed loop)	10	10	Up to the maximum number of axes
ECAT 3rd party IO EtherCAT node	04	04	4 (included automatically, FOC), 8, 16, 32, 64
PLC (IEC-61131-3), G-Code, or both	None	N	N- None, Y- PLC only, G-code only, B- Both
ServoBoost, number of axes supported	4	4	0,4,8,...,64
Input shaping	Y	Y	Y- Yes, N- No
Standard MPU (S) or high processing power (H)*	H	H	S,H
Maximum MPU cycle rate (kHz)	5	5	2,5* (see comments below)

* H version supports also MPU cycles of 4kHz, 5kHz. For MPU cycle rate greater than 2kHz the 5kHz option should be selected. With 4kHz, max. no. of axes is 8. With 5kHz, max. no. of axes is 4. Selecting the default value, there is no impact on the PN. When selecting 5kHz, it affects the PN.

Example: SPiiPlusNTM-32061004N4YH5

Field	1	2	3	4	5	6	7	8	9
PN SPiiPlusNTM	32	06	10	04	N	4	Y	H	5

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