

ACN MPU3 motion controller processor module

ACN MPU3 is a fast, Coldfire™ architecture based processor module for ACN motion control systems. It's an ideal choice for synchronization, position profiling and path control of electrical drives or hydraulics. ACN MPU3 provides one of the most flexible concepts in motion control for automation of machinery and production lines on the market today by combining CNC, PLC and computer functions into a single, high-level programmable system. Support for most popular fieldbuses further simplifies applications with compatible drives and controllers

- Motion control for up to 100 servo axes with a single MPU module
- Servo connections over EtherCat or McWay
- Connect directly to EtherCat servo drives
- Powerful McBasic 4.0 programming language
- Master/slave operation capability with several MPU modules
- Low power consumption
- 2 standard ethernet ports with EtherCat real time fieldbus master protocol and Modbus fieldbus support
- Optional fieldbus slave connection for popular fieldbuses
- I/O using ACN McWay or EtherCat modules or third party EtherCat or ModBus devices
- Compatible with legacy Arlacon MC400 systems

Technical data

Construction	ACN processor module
Installation	ACN motion control system
Dimensions	Module 190 x 125 x 50 mm, front panel 190 x 50 mm
Environment	Storage temp. -10 ... +65 °C
	Operating temp. 0 ... +40 °C
	Humidity <95% RH, non-condensing
Supply voltage	20-28 VDC, max. 200 mA

CPU

Processor	Coldfire 200 MHz
System memory	64 Mbytes SDRAM
Mass memory	2 Gbyte system FLASH, 2 Gbyte user FLASH, 1 x external SDHC card slot
Real time clock	yymmddhhmmss, lithium battery



I/O

Serial ports	2 x (6 x) RS232/RS422/RS485 134 bit/s ... 460 kbit/s, xon/xoff handshake
McWay I/O loops	4 x RS485 1016 bit 1,25 Mbit/s master/slave via twister pair of optical fibre with MPU-OCB modules. Optionally each port can be configured as a serial port
Ethernet	2 x RJ45 10/100 BaseT full/half duplex, autonegotiate, autopolarity, TCP/IP data transfer, NetBios client for Windows
Fieldbus support (standard)	Modbus (RTU/TCP/UDP) master and slave, EtherCat master
Fieldbus slave support (optional)	Profibus DP, Profinet, EtherCat
USB	1 x USB 2.0 for programming/monitoring

Software

Operating system	McDos
Programming language	McBasic 4.0
PC tools	McBench programming environment for Windows XP, Vista, 7

POWER led:
Green: Power on

RUN led:
Green (blink) Program running
Red (blink) Program stopped by error in program execution
RESET button: System reset

2x8 character LCD display for status and parameter information

Arrow keys for navigating in menus and changing parameter values

SD card r/w activity leds

External SD card slot SD1

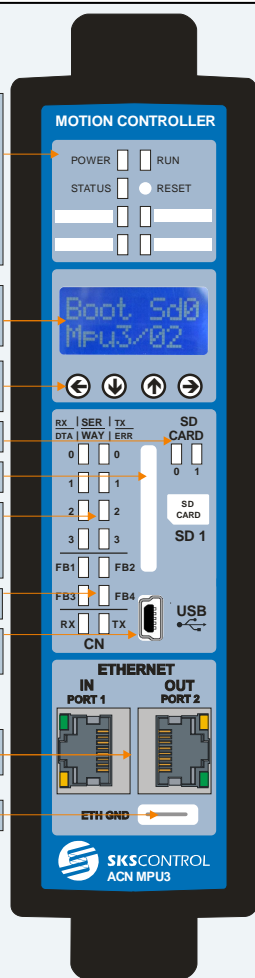
Serial/McWay ports S/W0...3 leds:
- DTA/RX GREEN: incoming data OK
- DTA/RX RED: error in incoming data
- ERR/TX GREEN: outgoing data sent

Fieldbus option module activity LEDs

USB 2.0 programming/monitoring port CN with RX/TX receive/transmit leds

RJ-45 ethernet connectors
GREEN led: link, YELLOW led: activity

Ethernet ground connector



MPU3 front view

Serial port CN:
(console)

OUTB2
OUTA2
GND
INB2
INA2

OCB-C
RS422/485
connection option

Serial port S1 or
McWay I/O loop W1

OUTB1
OUTA1
GND
INB1
INA1

K4 Power supply input
and emergency stop
connector

+24V
GND
EMRG

K10 Serial port LP:
RS422/485 connector

Serial port S2 or
McWay I/O loop W2

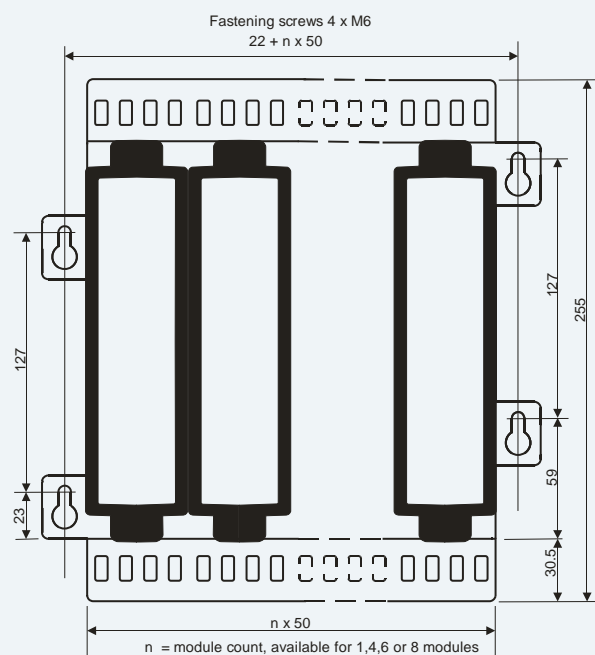
OUT2
IN2

Serial port S3 or
McWay I/O loop W3

OUT1
IN1

OCB-F
Optical fibre
connection option

MPU3 connection
board for base plate



ACN system assembly on base plate

Ethernet based (RJ-45):
EtherCAT,
Modbus TCP,
Profinet I/O

D-sub 9:
Profibus DP,
Modbus RTU

Fieldbus slave options (module bottom side)

Order codes:

code	product
1231175	ACN MPU3 processor module
1197094	ACN MPU-SCB base connection board for MPU
1197097	ACN MPU-OCB C 2x RS-422/485 tranceiver option
1197096	ACN MPU-OCB F 2x optical fibre tranceiver option
1201383	ACN BASE 1 base plate for 1 module
1197078	ACN BASE 4 base plate for 4 modules
1197088	ACN BASE 6 base plate for 6 modules
1197089	ACN BASE 8 base plate for 8 modules
1197090	ACN BASE10 base plate for 10 modules