The *Motion Coordinator* system is extremely modular, allowing the user to tailor the controller to their specific applications, this also allows the flexibility to incorporate new modules if the need should change, making the system "future proof". Systems may be used with a stand alone program or alternatively commands can be sent from an external computer.
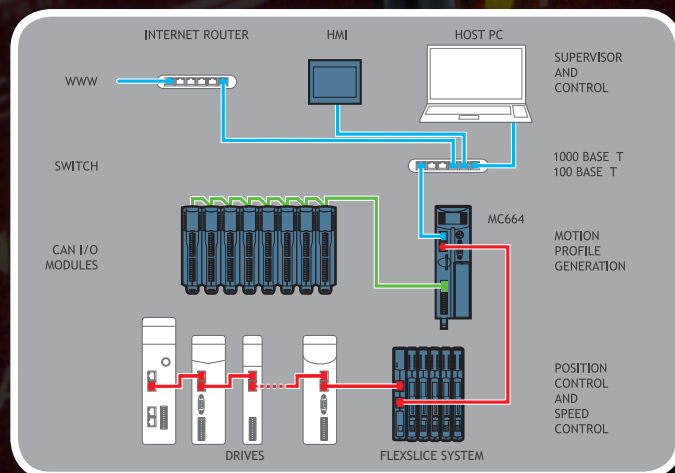
All *Motion Coordinators*, whether panel mount, rack mount, DIN-rail mount or a custom design format, allow digital or analogue I/O expansion with Trio's I/O modules. Special I/O requirements can also be accommodated using the CANopen protocol to control third party I/O modules. The Flexslice System offers fast high performance EtherCAT devices for Trio's range of EtherCAT *Motion Coordinators*.

Trio's UNIPLAY range of operator interfaces provide a robust and functional HMI using the Ethernet network. Third party HMI products, touchscreens, etc. can communicate to the *Motion Coordinator* via the Modbus-RTU serial protocol.
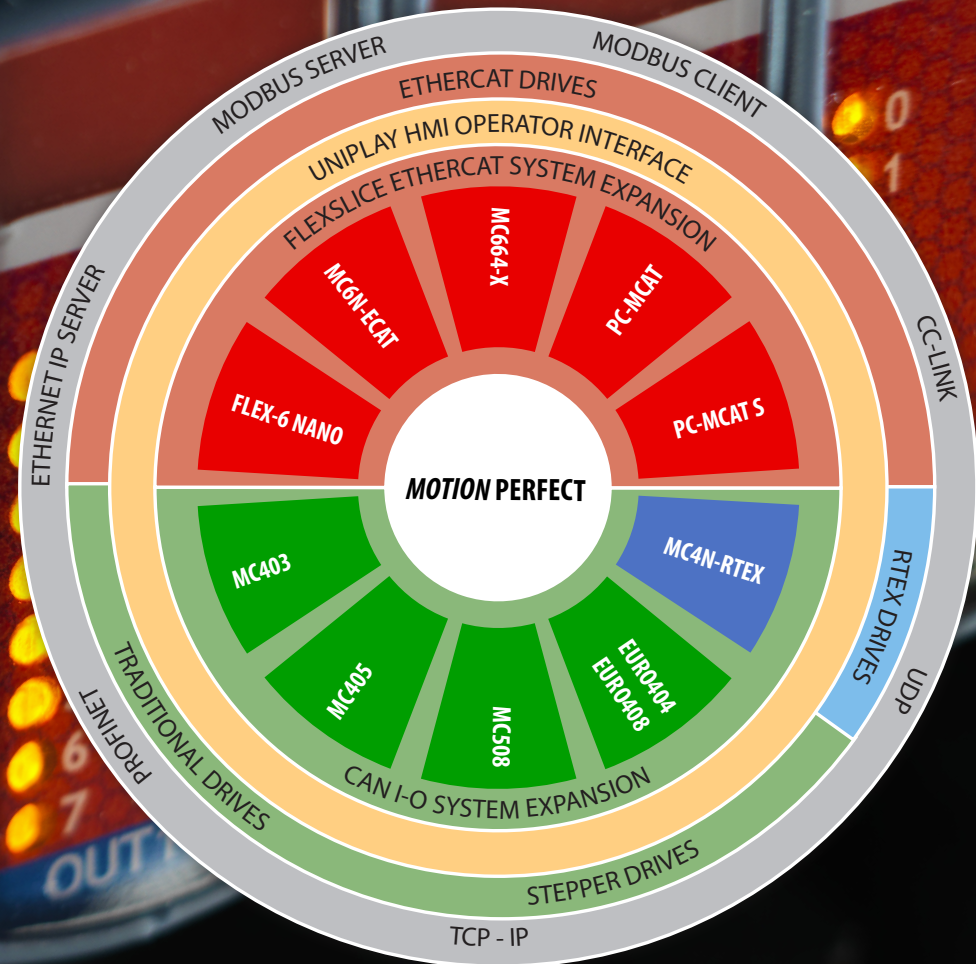
System Set-Up

The MC4/5/6 range includes advanced networking technology for connection to Digital Servos, CANbus and Factory Networks. Access to all parts of the system by network connections allows reduced down-time with automated fault reporting and analysis.

With a MC664 *Motion Coordinator*, it is possible to control a machine with up to 128 axes (64 stepper/servo and 64 virtual), 1024 digital inputs, 1024 digital outputs, 32 analogue inputs and 16 analogue outputs.
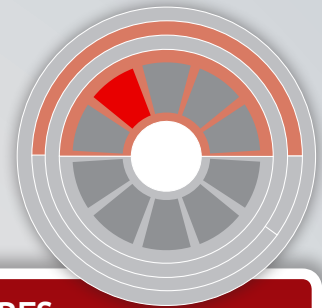

INTERNET ROUTER   HMI   HOST PC

WWW

SWITCH

CAN I/O MODULES

DRIVES   FLEXSLICE SYSTEM

SUPERVISOR AND CONTROL

1000 BASE T
100 BASE T

MC664

MOTION PROFILE GENERATION

POSITION CONTROL AND SPEED CONTROL

Preliminary specifications may change without notice

MODBUS SERVER · ETHERCAT DRIVES · MODBUS CLIENT
UNIPLAY HMI OPERATOR INTERFACE
FLEXSLICE ETHERCAT SYSTEM EXPANSION
ETHERNET IP SERVER
CC-LINK

MC6N-ECAT
MC664-X
PC-MCAT
MC664-X
FLEX-6 NANO
PC-MCAT S

MOTION PERFECT

MC403
MC4N-RTEX
MC405
MC508
EURO404 EURO408

RTEX DRIVES
UDP

PROFINET
TRADITIONAL DRIVES
CAN I-O SYSTEM EXPANSION
STEPPER DRIVES
TCP - IP

UK | USA | CHINA | INDIA | WWW.TRIOMOTION.COM

TRIO
MOTION TECHNOLOGY

MC6N-ECAT

EtherCAT *Motion Coordinator*

The MC6N is a high performance *Motion Coordinator* which is able to run up to 64 remote servo and stepper drives via the EtherCAT real time bus. It runs a 1GHz Dual Core processor making it ideal for high axis count machines or robotic applications.

The MC6N-ECAT supports up to 64 axes of motion with 64 bit integer position registers for ultra precise axis resolution. EtherCAT slave drives and I/O can be connected and run in cyclic synchronous position, speed or torque modes provided these are supported by the drive. Programming the MC6N is identical to using traditional analogue axes with the addition of being able to set up drives and process alarms over the EtherCAT bus. Trio's Flexslice EtherCAT I/O system is an ideal addition for expanding your system. With everything programmed from one place within *Motion* Perfect, machine control has never been so easy.

Callouts (left):

- CAN BUS
- SD CARD
- ETHERNET PROGRAMMING PLC/HMI FIELDBUS, TRIO ACTIVEX, UNIPLAY HMI
- RS232 / RS485 MODBUS-RTU, HOSTLINK OR USER PROGRAMMABLE
- BACKLIT STATUS DISPLAY
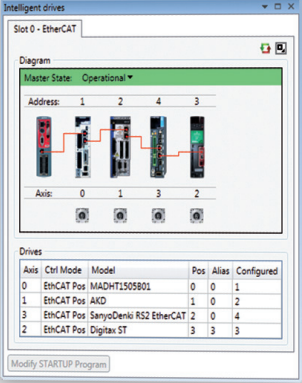- FLEXIBLE AXIS PORT: ENCODER +STEPPER+ABSOLUTE
- STATUS LEDS
- EtherCAT PORT
- 8 INPUTS AND 8 BI-DIRECTIONAL I/O, WDOG
- POWER 24V DC

Intelligent drives panel:

Slot 0 - EtherCAT

Diagram

Master State: Operational

Address: 1 2 4 3

Axis: 0 1 3 2

Drives

Axis	Ctrl Mode	Model	Pos	Alias	Configured
0	EthCAT Pos	MADHT1505B01	0	0	1
1	EthCAT Pos	AKD	1	0	2
3	EthCAT Pos	SanyoDenki RS2 EtherCAT	2	0	4
2	EthCAT Pos	Digitax ST	3	3	3

Modify STARTUP Program

FEATURES

- ✴ Up to 64 EtherCAT Digital Drive Axes
- ✴ EtherCAT Cycle Times Down to 125 μsec
- ✴ 1 GHz i.MX7 Dual ARM Cortex A7 Core Processor
- ✴ 128 Mbyte DDR3 Memory
- ✴ 128 Mbyte Fast Serial NOR Flash
- ✴ Real Time Clock
- ✴ Up to 1024 EtherCAT I/O
- ✴ 8 Digital IN (inc 4x fast reg inputs)
- ✴ 8 Digital Bi-directional I/O
- ✴ Ethernet Port Supports Ethernet IP, Profinet, MODBUS, LAN and WAN
- ✴ RS485 and RS232 Port
- ✴ Supports Position, Speed and Torque Drive Modes
- ✴ Biss, EnDAT and SSI Absolute Encoder Supported
- ✴ Flexible CAM shapes, Linked Motion
- ✴ Hardware Linked Output for Camera / Laser Control
- ✴ Isolated Stepper/Encoder Port
- ✴ SD Memory Card Slot
- ✴ CANopen I/O Expansion
- ✴ Backlit LCD Display
- ✴ RoHS 2 and CE Approved

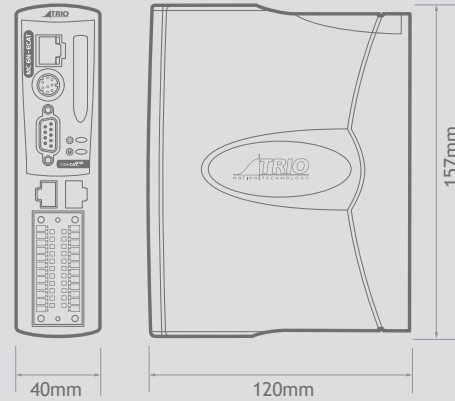**EtherCAT®**

TRIO MOTION TECHNOLOGY

The built-in Ethernet port allows programming and connection of common PLC and HMI protocols, including the Trio UNIPLAY range of HMIs, directly to the MC6N. User programs can be written in Trio's established multi-tasking TrioBASIC language using the powerful *Motion* Perfect v4 application development software making complex motion easy. The industry standard IEC 61131-3 languages are available as an option, allowing a fully functional PLC programming system.

Every axis can be programmed to move using linear, circular, or helical or spherical interpolation, electronic cams, linked axes and gearboxes. The power of the controller allows for multiple robotic transformations to run simultaneously.

A bright easy to read backlit display enables the controller status to be easily determined, whilst the single piece metal cast backplate provides an integrated earth chassis to improve noise rejection in the industrial environment.
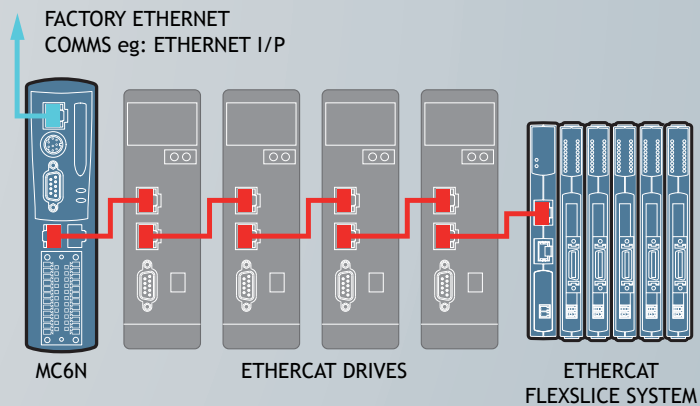
OVERALL DIMENSIONS:

157mm
40mm   120mm

ACCESSORIES:

P366 - P379	EtherCAT Flexslice System
P317 - P327	CAN I/O Modules
P750	Kinematic Runtime FEC
P843 - P844	UNIPLAY 7" & 10" HMI's

PRODUCT CODES:

P960	MC6N-ECAT	2 Axis
P961	MC6N-ECAT	4 Axis
P962	MC6N-ECAT	8 Axis
P963	MC6N-ECAT	16 Axis
P964	MC6N-ECAT	32 Axis
P965	MC6N-ECAT	64 Axis

FACTORY ETHERNET
COMMS eg: ETHERNET I/P

MC6N   ETHERCAT DRIVES   ETHERCAT FLEXSLICE SYSTEM

TRIO
MOTION TECHNOLOGY