AGM Series: Central-i Multi-axis Master Controllers

Centralized Network Control

Datasheet rev 02

AGM800

AGM400

AGM series is a family of high performance 4-axes and 8-axes Central-i master controllers, which are equipped with up to 12 Central-i ports. 8 ports can be connected to any remote Central-i amplifier, while the remaining ports can be connected to any remote I/O module. AGM series is equipped with large flash/RAM memories to support complex applications and features, such as CNC motion and 3D error mapping. AGM is centralized motion controller and executes motion profiler and all servo control loops internally at 16 kHz sampling rate, that allow perfect multi-axis synchronization at better than 1 microsecond level. That make AGM series perfectly fit to high precision coordinated motion applications, such as CNC, Semiconductors, Electronic Assembly, and robotics.

General Specifications

Description	AGM800-CI	AGM400-CI
Number of Central-i Ports	12	6
Number of axes	8	4
Power Supply	9-36VDC	
CPU	ARM Cortex A9, 900MHz dual core	Texas Instruments DSP 300Mhz
Flash Memory	128 MB (+SD card)	2MB
RAM	8 GB	500KB
Communication	Ethernet, RS232	Ethernet, RS232, CAN, USB, RS485
Fieldbus to amplifiers and I/O	Central-i	
Control Sampling rate	16 KHz (position, velocity, optional force, current)	
Operational Modes	Position, Velocity, Force or Current (Torque) modes	
Motion Modes	Point to Point, Repetitive, Jog, ECAM, Gearing, Joystick, Handwheel, Pulse & Direction, Gantry, Vector and Tracking motion modes. Motion parameters, such as speed, acceleration, deceleration, and target position can be all modified on-the-fly.	
Features	Encoder Error Mapping: 1D, 2D or 3D, Auto-Loop Shaping (auto-tuning), Frequency Domain System Identification and Modelling, Flexible Gain Scheduling, Position Lock and Event, Ultra-Precision Mode (UPM), Input-Shaping, Profile-Shaping, Machine Vibration Control, Spring and Friction Compensation, Complex-Kinematics (robot kinematics), etc.	
Interface to Camera/Laser	Via fast differential or optically isolated I/O in remote AGIO: Event – position output event (1D or 2D) , Lock – position capture , User programmable PWM output via remote unit with 1MHz frequency	
CNC mode	CNC sequential contour (G-codes) support, FIFO buffering, Corners compensation, Linear, Circular and Helical interpolations	
Homing modes	User programmable: on encoder index, home switch, limit switch and hard stop. (easily configurable to any sequence)	
Commutation	Motor learning, Auto phasing (for incremental encoders), by halls, by abs encoder	

Programming Interfaces	Standalone multi-tasking user programs – high level script-based program executed in the controller (up to 8 multi-threading programs with priority setting for each thread. Commands per 1 msec. IDE integrated in PCSuite Windows .Net API – available in NuGet Manager. Standard TCP/IP communication – ASCII string commands or binary CAN format.

Ordering Information

Product Part Number	Description	Optional Accessories	Accessories Description
AGM800-CI	Central-i 8-axis Master	**AGM800-CI -CK**	AGM800-CI Connector Kit
AGM400-CI	Central-i 4-axis Master	**AGM400-CI-CK**	AGM800-CI Connector Kit