



AGL10x

Central-i Adapter

Datasheet

Rev.2.3



www.agito-akribis.com

Member of Akribis Systems group

Product Description

The AGL10x is a series of Central-i remote adapters to interface the Central-i network with third-party external devices, such as servo and stepper drives. The adapters provide two operations modes: position closed loop, and pulse and direction.

These adapters enable the Central-i master to control any third-party drive in analog current mode or digital pulse and direction mode, thereby extending the Central-i network to work with any servo drive.

AGL101-CI is a fully featured Central-i remote adapter with numerous I/O interfaces and incremental and absolutes encoders support.

AGL102-CI is a compact Central-i remote adapter with standard I/O interfaces and incremental encoder support.

Part Numbering

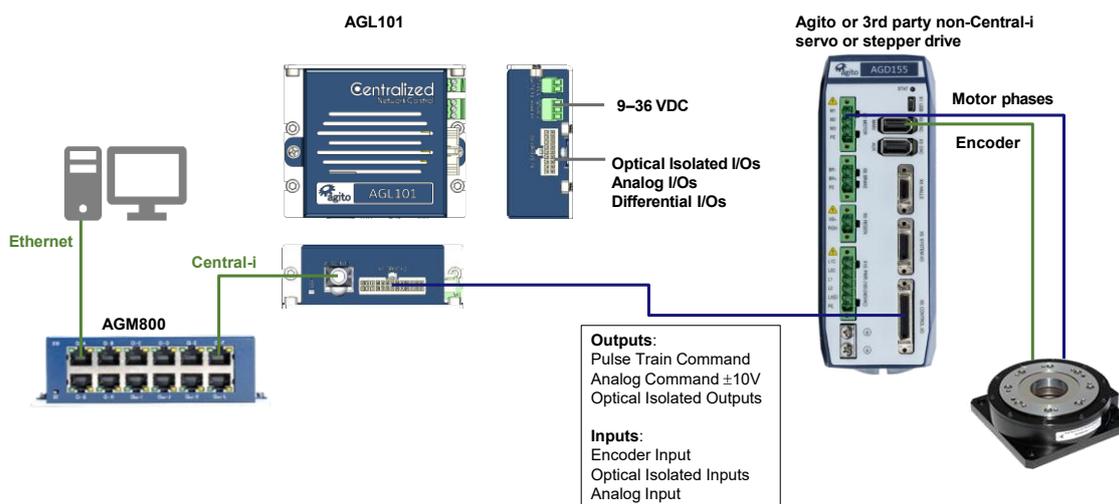
Product Description	Part Number Format
Central-i remote fully featured adapter	AGL101-CI-xx
Central-i remote compact adapter	AGL102-CI-xx

CI: Central-i communication

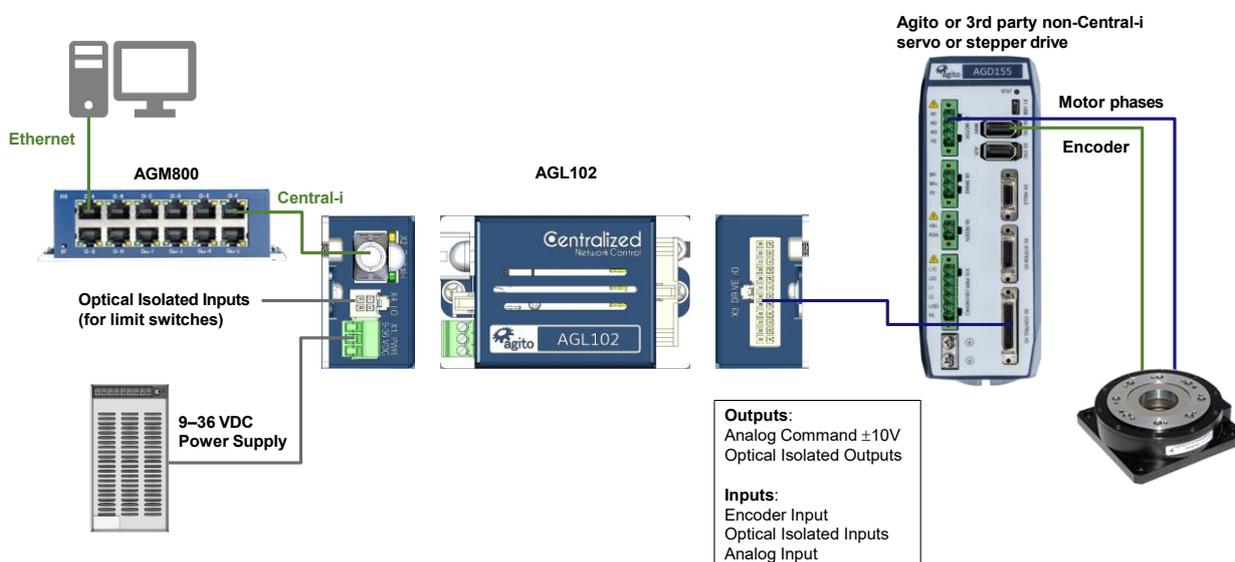
xx: CK: Connector Kit

System Design

AGL101 system



AGL102 system



Technical Specifications

Electrical/Mechanical Specifications

Feature	AGL101	AGL102
Number of axes	1	1
Nominal supply voltage	9–36 VDC	9–36 VDC
Isolated digital inputs	5 (2 NPN, 3 NPN/PNP)	–
Non-isolated digital inputs	–	6 (NPN)
Isolated digital outputs	6 (3 Sink, 3 Sink/Source)	–
Non-isolated digital outputs (sink up to 50 mA)	–	4 (Sink)
Analog inputs	2 (16-bit resolution)	1 (12-bit resolution)
Analog outputs	1 (16-bit resolution)	1 (16-bit resolution)
Differential outputs	1	0
Bi-directional differential I/Os	2	0
Supported encoders	1 port; AqB or absolute BiSS-C	1 port; AqB
Communication	Central-i	Central-i

Encoder Ports Specifications

Feature	Specification
Encoder types	AGL101: Incremental AqB Absolute: EnDat 2.2 (dedicated FPGA version), BiSS-C AGL102: Incremental AqB
Power supply to encoder	AGL101 only: 0.5A per encoder port
Max. cable length	20 m
Incremental encoder (AqB)	Hardware: Differential RS422/RS485 Max. input frequency: 6.25 MHz Termination: 120 Ω Commutation: Auto-phasing, Hall sensors
Absolute BiSS-C	Hardware: Differential RS422/RS485, clock (MA), data (SLO) Clock frequency: 1 MHz Max. position bits: 32 bits Commutation: Auto-phasing, by absolute offset
Absolute EnDat 2.2	Hardware: Differential RS422/RS485, clock, data Clock frequency: 1 MHz Max. position bits: 32 bits Commutation: Auto-phasing, by absolute offset

Feature	Specification
Power supply for optically isolated I/Os	Voltage: 5–28 VDC
Optically isolated digital inputs	Type: PNP/NPN Propagation delay: 10 μs Max. frequency: 100 kHz
Optically isolated digital outputs	Type: Sink/Source Max current: 0.5A (for sink type), 0.3A (for source type) Propagation delay: 10 μs Max. frequency: 100 kHz
Non-isolated digital inputs	Type: NPN Propagation delay: 10 μs Max. frequency: 100 kHz
Non-isolated digital outputs	Note: Requires external pull up resistor, 1 kΩ recommended Type: Sink Voltage: 5–28V (AGL101), 9V–28V (AGL102) Max. current: 50 mA
Differential I/Os	Hardware: Differential RS422 Propagation delay: 100 ns Max. frequency: 2 MHz Differential output voltage: 3.3 VDC Bi-dir differential output voltage: 2.3 VDC
Analog inputs	Operational voltage: ±10V Resolution: 16 bits
Analog outputs	Operational voltage: ±10V Resolution: 16 bits

Central-i Specifications

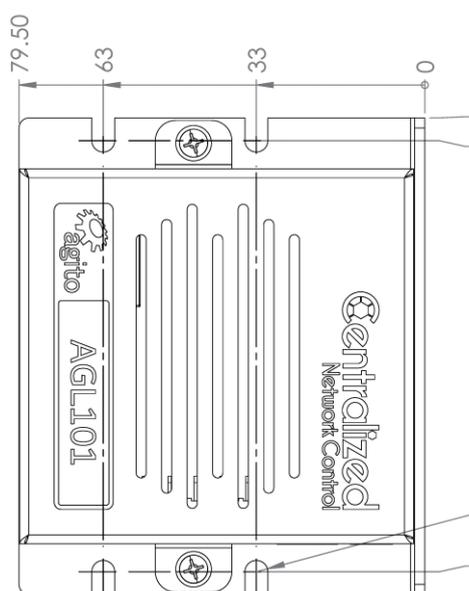
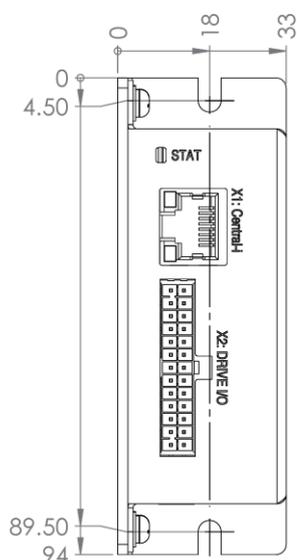
Feature	Specification
Topology	Star (peer to peer)
Cycle time	61 μs
Connector type	RJ-45 (Cat5e cable)
Cable length	Up to 20 m Longer cables, up to 100 m, are possible with special hardware
Physical layer	Dual channel RS485 full duplex
Baud rate	20 Mbps (per channel)
Synchronization between nodes	8 nanoseconds

Environmental Specifications

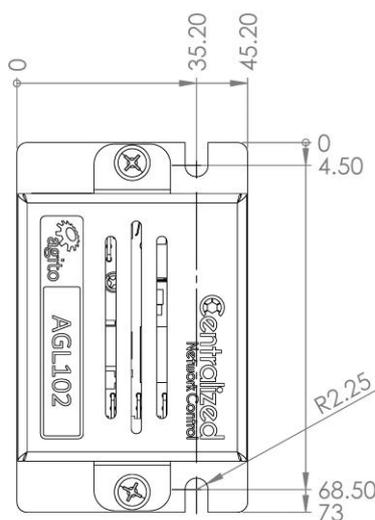
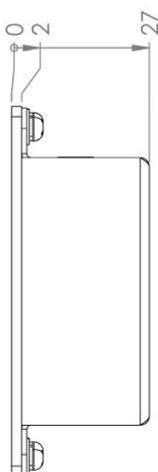
Feature	Specification
Operating (ambient) temperature	0°C to 45°C
Storage temperature	-20°C to 70°C
Operating humidity	< 90%
Storage humidity	< 40%
Pollution degree	2
Vibration	per 1G @ 150 Hz according to IEC 60068-2-6
Operating conditions	IP20

Dimensions and Weight

Feature	AGL101	AGL102
Unit dimensions (max)	H=89.5 mm W=79.5 mm D=18 mm	H=45mm W=73 mm D=27 mm
Package dimensions	H= 96 mm W=85 mm D=23 mm	H= 51 W=69 D=33
Unit weight	250 g	150 g
Shipping weight	350 g	250 g



AGL101 Dimensions (mm)



AGL102 Dimensions (mm)