

Elmo Motion Control Catalog

Motion Control Solutions Made **Small, Smart & Simple**



Servo Drives, Network Motion Controller

Elmo
Motion Control

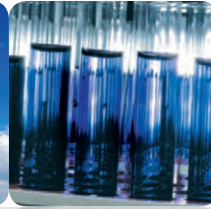


We Drive the Technology

www.motiontech.com.au

Elmo Motion Control

We Drive the Technology



In This Catalog

Gold Line

High performance digital servo drives with full EtherCAT support.

Gold Maestro

Network motion controller for multi-axis applications with EtherCAT and CANopen networking

Tambourine Power Supply

A compact, direct to mains power supply for servo applications.

SimpliQ Line

Elmo's senior line of AC & DC advanced digital servo drives, and DC analog servo amplifiers

Elmo's Gold Line

Gold Line Motion Control System Characteristics

Answering Your Needs

One solution, any application: With Elmo's Gold Line we have the solution for your system challenges. The Gold Line components' synergy, distributed intelligence and variety of features are easily harnessed to create your system and answer your needs. The built-in operational simplicity of each component, combined with an innovative single software environment to interface with and control all units, ensure the fastest time-to-market and highest performance.

Gold Servo Drive Features

- Full EtherCAT implementation: CoE, EoE, FoE, Distributed clock
- CANopen: DS-301, DS-305, DS-402 (v3.0)
- Any feedback sensor: Quad Encoders, Analog Sin/Cos Encoders, Digital Halls, Analog Halls, Resolver, Absolute Serial Encoders (EnDAT 2.2, Hiperface, BiSS/SSI, Panasonic, Tamagawa, Mitutoyo)
- Excellent servo performance due to high bandwidth and superior processing capabilities
- Advanced linear and non-linear control schemes for reliably handling mechanical load limitations
- Very fast control loop sampling time: current loop as low as 40 μ s, position and velocity loops as low as 80 μ s
- 1:2:2 (current/velocity/position) control topology for wider position bandwidth
- Efficient and user friendly tuning
- Three levels of tuning scenarios for simplicity and optimal results
- 3 sensor ports: 2 sensor inputs and a third port for output (emulation) and/or input
- Enhanced dual loop capabilities
- New, faster programming environment: 32 KB program memory
- More sophisticated protection to ensure long lasting reliability
- High current, high voltage IEC 61131-2 outputs for dedicated and generic functionality

Safety

- IEC 61800-5-2, Safe Torque Off (STO)
- UL 508c recognition
- UL 60950 compliance
- CE EMC Directive compliance



The Gold Maestro

The Ultimate Solution for Motion Control Networking

Top Level Network Motion Controller

Offering You Comprehensive Solutions

Elmo's Gold Maestro is a network-based, multi-axis machine motion controller that operates in conjunction with Elmo's classic Simplic servo drives, as well as the Gold Line of intelligent servo drives to provide a comprehensive and efficient motion control solution for the entire system. See the system diagram later in this catalog for how the Gold Maestro and Elmo's servo drives can be integrated in a complete motion control system.

The Superior Network Motion Controller

The Gold Maestro is based on the most advanced, easy to use and cost effective distributed motion control architecture which enables the motion processing tasks to be shared. It contains a rich feature set that combines sophisticated motion control and advanced communications with full programming capabilities. The Gold Maestro uses standard protocols over its various communications channels (Ethernet, EtherCAT, CAN and USB), combined with IEC and C programming, and the PLCopen motion interface.

Features

- High performance, distributed multi-axis network controller
- Controls up to 100 axes with a high level of synchronization and accuracy
- EtherCAT real-time device networking (CoE, Distributed clock)
- CANopen: DS-301, DS-305, DS-401 (I/O device profile), DS-402 (drive and motion control device profile)
- Dimensions: 115 x 25.7 x 75 mm (4.53" x 1" x 2.95")
- Rich, high-level, multi-axis programming environment:
 - Native C programming using the PLCopen for Motion API
 - IEC 61131-3, PLCopen
 - Large amount of memory
- Field Bus Communication:
 - EtherCAT
 - CAN bus (Isolated)
- Large variety of host communication protocols:
 - Ethernet, TCP/IP, UDP (fast binary protocols, Modbus, Ethernet/IP, Telnet, FTP, HTTP)
 - USB 2.0
- Real-time extension for the Linux operating system
- Ready-for-use application program templates for common automation applications
- Very compact, space saving package
- Mounting options: panel mount, board mount and embedded core (soldering)
- Cost effective
- DC powered: 14 V to 196 V



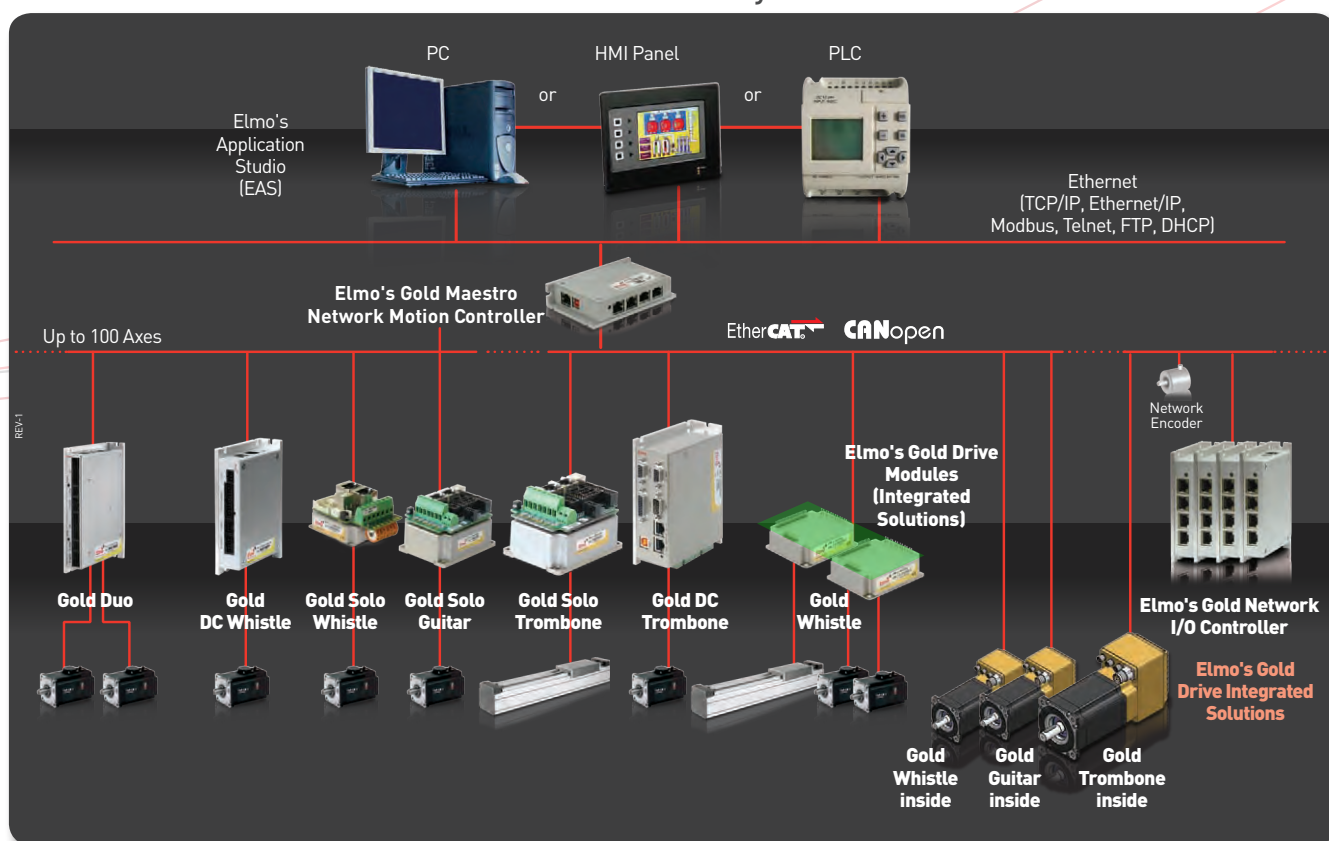
115 x 25.7 x 75 mm
(4.53" x 1" x 2.95")

[illegible]



The Gold Distributed Network

Elmo's Motion Control System Solutions



Tambourine Power Supply

A Compact, Direct to Mains Power Supply for Servo Applications



Tambourine Highlights

- Continuous output current: 20 A
- AC input
- Single- or three-phase operation
- Direct-to-mains operation capability
- High regenerative (braking) capability
- Inrush current limit
- EMC filtering inside
- UL approved and CE compliant

Offering You Top Servo Solutions

The **Tambourine** is Elmo's new power supply, designed to power multiple servo drives. The **Tambourine** rectifies AC input voltage of up to 3 x 505 VAC, into filtered DC voltage with a continuous output current of 20 A (40 A peak).

Elmo Motion Control

We Drive the Technology

CANopen

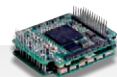
Elmo's SimplIQ Line

AC, DC Intelligent Digital Servo Drives

- Elmo's SimplIQ digital servo drives combine high power density, intelligent functionality and space friendly design.
- The drives integrate Elmo's advanced SimplIQ motion control core technology, which enables superior control performance, offers advanced programming capabilities and supports standard communication protocols.
- All the drives in the series include a fully digital motion controller that features current, velocity and position loops and a wide range of commutation types and position feedbacks.
- The result: higher dynamics and increased precision for a wide variety of implementations.

Digital

DC Input: 7.5 to 750 VDC - for Brush, Sinusoidal, Trapezoidal Motors



Tweeter
0.16 to 0.2 kW



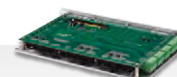
Whistle
0.05 to 1.6 kW



Solo Whistle
0.05 to 1.6 kW



Duo Whistle
0.05 to 1.6 kW



Trio Whistle
0.05 to 1.6 kW



Guitar
0.48 to 4.8 kW



Solo Guitar
0.48 to 4.8 kW



Harmonica
0.2 to 1.1 kW



Cello
0.24 to 3.4 kW



Trombone
Up to 7 kW



Solo Trombone
Up to 7 kW



DC Trombone
Up to 7 kW



Drum
2.7 to 9.6 kW



Drum HV
Up to 35 kW



Bassoon
0.32 to 1.9 kW



Cornet
0.42 to 3.4 kW



Tuba
3.6 to 11.3 kW

AC Input: 1 x 30 to 3 x 505 VAC - for Brush, Sinusoidal, Trapezoidal Motors

Feature	Tweeter	Whistle*	Harmonica	Cello	Guitar	Drum	Bassoon	Cornet	Tuba	Trombone**	Drum HV
Supply Voltage Range (VDC) (No backup functionality)	7.5 to 95	7.5 to 95	10 to 195	10 to 195	11 to 195	11 to 390				80 to 750	100 to 750
Supply Voltage Range (VDC) (Backup functionality)										50 to 750	50 to 750
Supply Voltage Range (VAC)							1 x 30 up to 1 x 270	1 x 60 up to 3 x 505	1 x 60 up to 3 x 505		
Continuous Output Current (A)	2.5 to 3.3	1 to 20	2 to 13.3	2.25 to 30	3 to 45	18 to 90	1 to 6	1.4 to 9	12 to 20	8 to 17	Up to 100
Output Power Range (kW)	0.16 to 0.2	0.05 to 1.6	0.2 to 1.1	0.24 to 3.4	0.48 to 4.8	2.7 to 9.6	0.32 to 1.9	0.42 to 3.4	3.6 to 11.3	Up to 7	Up to 35
STO Inputs (optional)		2								2	2
Digital In/Digital Out/Analog In	6/2/1	6/2/1	6/2/1	10/5/2	6/4/1	6/2/1	6/2/1	10/6/2	10/6/2	6/4/1	6/4/1
Motor Types	DC Brush, Sinusoidal, Trapezoidal										
Operating Mode	Current, Velocity, Position and Advanced Position										
Commands	Analog, PWM, Pulse and Direction, Software Commands										
Feedback	Incremental Encoder, Absolute Encoder, Resolver, Digital Hall, Analog Hall, Analog Sin/Cos, Tachometer, Potentiometer										
Communications	CANopen: DS-301, DS-305, DS-402; RS-232										
Programming	SimplIQ Programming										
Software	Composer										
Program Memory	Up to 32 KB										

* There are three types of Whistle servo drives: Whistle (PCB-mounted), DC Whistle (panel-mounted) and Solo Whistle (stand-alone).

The Duo Whistle and Trio Whistle are integrated boards with two and three Whistles respectively.

** There are three types of Trombone servo drives: Trombone (PCB-mounted), DC Trombone (panel-mounted) and Solo Trombone (stand-alone)



Elmo's **SimpliIQ** Line

DC Power Input, Current Mode, PWM, Analog Servo Amplifiers

for Brush and Brushless Servo Motors

- Elmo's analog servo amplifier family is a set of powerful servo amplifiers receiving analog commands.
- The amplifiers are designed to address the needs of brush and brushless DC motors.
- Each amplifier exhibits excellent servo performance, top efficiency, high quality and reliability - all in sleek and compact, high power density packages.
- Outstanding motion control is achieved through the implementation of Elmo's proprietary switching and control methods, enabled by fully customized, dedicated analog ICs and advanced heat transfer and dissipation methods.

Analog

Brush & Brushless Motors for Trapezoidal Commutation				Brushless Motors for Sinusoidal Commutation	Brush Motors
DC Input: 11 to 95 VDC	DC Input: 11 to 95 VDC	DC Input: 10 to 195 VDC	DC Input: 12 to 400 VDC	DC Input: 10 to 195 VDC	DC Input: 10 to 195 VDC

					
Ocarina 0.05 to 1.4 kW	Castanet 0.19 to 0.24 kW	Piccolo 0.29 to 2.9 kW	Cymbal 3.20 to 11.3 kW	Flute 0.24 to 2.4 kW	Violin 0.29 to 2.9 kW

Feature	Ocarina	Castanet	Piccolo	Cymbal	Flute	Violin
PWM Switching Frequency	32 kHz ±5% (on the motor) Higher frequencies are available					
Switching Method	Advanced Unipolar PWM					
Servo Modes	Current, Velocity					
Commands	Low voltage analog signal in the range of ±3.75 V to ±20 V					
Feedback	Halls only, Tachometer, Incremental Encoder				None, Tachometer, Armature	
Current Loop Bandwidth	Up to 4 kHz					
Output Voltage [% VIN]	93%				100%	
Ambient Temperature	0 °C to 50 °C (32 °C to 122 °F) Models for extended environmental conditions are available					
Maximum Case Temperature	87 °C (188 °F)					
Storage Temperature	-40 °C to 100 °C (-40 °F to 212 °F)					
Maximum Humidity	90% non-condensing					
Maximum Operating Altitude	Up to 10,000 m (30,000 ft)					

Distributed by:



Distributors for Australia & New Zealand

MOTION TECHNOLOGIES PTY LTD

24/22-30 Northumberland Road
Caringbah NSW 2229 Australia
Phone: (02) 9524 4782
Fax: (02) 9525 3878

sales@motiontech.com.au
www.motiontech.com.au

© 20/03/19



Head Office: Elmo Motion Control Ltd.

64 Gissin St., P.O. Box 463, Petach Tikva, 49103, Israel
Tel: +972-3-929-2300 • E-mail: info-il@elmomc.com

North America: Elmo Motion Control Inc.

42 Technology Way, Nashua, NH 03060, USA
Tel: +1 (603) 821-9979 • E-mail: info-us@elmomc.com

Europe: Elmo Motion Control GmbH

Steinkirchring 1, D-78056, Villingen-Schwenningen, Germany
Tel: +49 (0) 7720-85 77 60 • E-mail: info-de@elmomc.com

APAC: Elmo Motion Control (South Korea)

#807, Kofomo Tower, 16-3, Sunae-dong, Bundang-gu,
Seongnam-si, Gyeonggi-do, South Korea
Tel: +82-31-698-2010 • E-mail: info-asia@elmomc.com

China: Elmo Motion Control Technology (Shanghai) Co. Ltd.

Room 1414, Huawei Plaza, 999 Zhongshan West Road, Shanghai (200051), China
Tel: +86-21-3251-6651 • E-mail: info-asia@elmomc.com


Elmo
Motion Control

www.elmomc.com