

Integrated Motion Control System

LSD-AT-2M-15/3

The LSD-AT-2M is a compact size, low-cost, stand alone, advanced dual axes integrated motion control system. Combining advanced computing components, RS232 and CAN networking with noise-free linear drivers, the LSD-AT-2M is optimized for controlling low-power motors under noise sensitive environment.

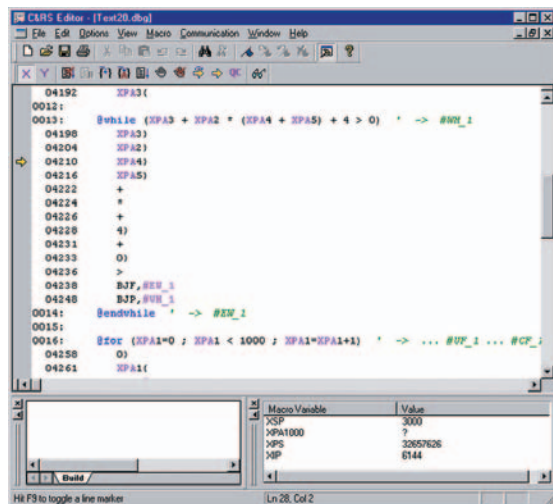
General Description

The LSD-AT-2M is an advanced dual axes integrated motion control system consisting of an advanced dual axes motion controller (SC-AT-2M) and a dual axes linear driver (LD-AT-2M).

Highlights

The LSD-AT-2M is an integrated unit. Refer to the individual brochures of the SC-AT-2M and the LD-AT-2M-15/3 for additional information. The LSD-AT-2M provides all the features of these products, combined into a single standalone dual axes unit.

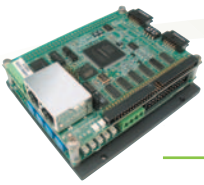
The LSD-AT-2M, as well as the SC-AT-2M, the PSD-AT-2M and the SC-IO is provided with an unique Windows shell program. The shell program provides unique Integrated Development Environment (IDE) for user programs, supporting: editing, compiling, error listing, single step, breakpoints, watch window and more.



In addition to the SC-AT-2M variety of features, the LSD-AT-2M adds the excellent linearity, dead-band free and noise free drivers of the LD-AT-2M.

The LSD-AT-2M integrated control unit supports a large variety of feedback sources, including: incremental encoders, absolute encoders (BiSS, EnDat and SSI), analog encoder (with a built-in interpolator of up to x8192) and analog signal.

The built-in dual axes linear driver includes a current control loop and is ideal for noise sensitive applications and for low inductance motors.



Specifications

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General

Number of axes	2	
Power supplies	5, ±(12-15)	V
Motor type	DC Brush	
Dedicated I/Os	Hardware limits, Inhibit, Fault (per axis, isolated) Emergency Stop (isolated)	
Uncommitted I/Os	8 digital inputs, 4 digital outputs (isolated) 2 fast digital inputs, 2 fast digital outputs 2 analog inputs	
Operating temperature	0-70	°C
MTBF	500,000	Hours
Dimensions	100 x 88 x 40	mm

Controller

Sampling rate	8-16	KHz
Incremental encoder	Maximum speed up to 25×10^6 Position capturing by hardware Event generator by hardware 1/T velocity feedback by hardware	counts/sec
Analog sin./cos. encoder	Built-in interpolator Programmable interpolation factor, up to x8192 Decimal factors supported. True, noise-free operation over all interpolation factor range	
Absolute encoders	BiSS, EnDat, SSI	
Motion modes	Point To Point: Smoothed, Repetitive, Relative Absolute Jogging Search: Limit or Index or Input Joystick: Position or Velocity Electronic Gearing, Contouring, ECAM, Vector motions Step: Repetitive, Relative or Absolute	
Control filter	PID or PIV modes Velocity and acceleration feed-forwards 2 nd order filter or notch filters Non-linear algorithms	
User programs	Up to 2 threads simultaneously	
Programming features	Complex expressions High level: if, while, for; all support nesting. Directives: define, include, target, ... Break points, single clause execution Advanced debugging environment under PC Windows	

Driver

Driving method	Linear	
Control structure	Analog current loop	
Bandwidth	Typical 3	KHz
Full scale current	Selectable, 0.4, 1.2 or 3	A
Peak current	3	A
Continuous current	2	A
Motor voltage	6-15	V

Note: Refer to the notes at the LD-AT-2M Brochure