



## DATASHEET

ISP C1AMPP-1C  
ISP C2AMPP-2C

### Control Board Stepper motor with encoder

update : 2014/07/17

page 1

#### **Presentation:**

Control board of bipolar stepper motor axis with mono axis encoder interface ISPC1AMPP-1C, (OEM version) or double axis ISPC2AMPP-2C (for mass production only).

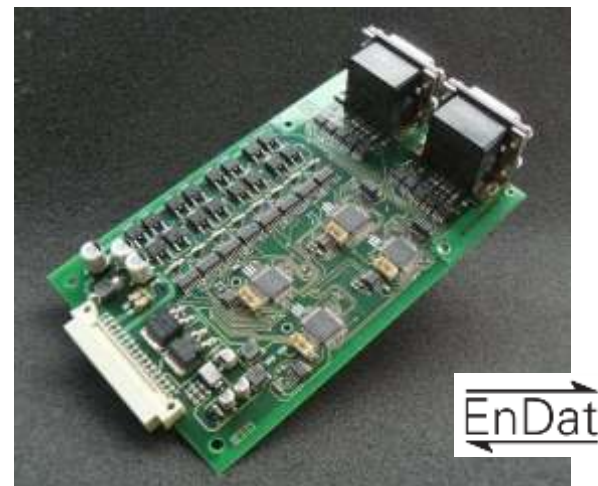
#### Available control modes:

- Absolute and relative displacement.
- Motor move by full step or 1/2 step
- Velocity profile: start/stop or acceleration/deceleration ramp
- Speed and acceleration rate's adjustment up to 4 kHz
- Collision management allowing to reduce the backlash on motion limit.
- Homing on cam with adjustable collision and original clearance value.
- Free displacement to limit switch
- Natural forcing
- Adjustable motor current (maximum 1.8A). (\*)
- Software stops adjustable by configuration
- Holding current on position at limit motion (Current and length adjustment).



#### Each axis has the following interfaces:

- Bipolar motor.
- Incremental encoder (configurable conversion rating step encoder/ step motor) (\*\*)
- Absolute encoder ENDAT, SSI, SPI. (\*\*)
- Two inputs limit 24Vdc, (electrically isolated can be reversed or inhibited by software configuration)
- One original cam input 24Vdc, and electrically isolated (inhibition possible).
- 2 Go no Go inputs 24 Vdc configuration free
- 1 Go no Go output PNP - 24Vdc 400mA.
- Limit switch sensors and the original cam can be configured as contact at close or open.



(\*) Upon motor impedance

(\*\*) the previous supply of a copy of each model of due encoder is recommended to ensure validation and interfaces adaptation to customer needs.

ISP SYSTEM • SA au capital 1 000 000 € • ZI de la Herray - B.P. 10047 • 65501 Vic-en-Bigorre • FRANCE  
Tél : 05 62 33 44 44 • Fax : 05 62 33 44 45 • e-mail : [contact@isp-system.fr](mailto:contact@isp-system.fr) • <http://www.isp-system.fr>  
RCS Tarbes B 410 675 078 • SIRET 410 675 078 00027 • APE 7112B

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update : 2014/07/17

page 2

#### Power supply :

- Power supply : 24 to 48Vdc
- Logic Supply: 24V (separated of the power supply))
- Possibility to supply the encoder through the control board providing an external power
- Backup of the motor position and encoder in case of logical power shut-off.

#### Driving :

- Control board driven by CANOpen

#### Available accessory of control by bus CANOpen :

- USB Gateway to CAN
- Ethernet Gateway to CAN
- Gateway for control board PROFINET IO (Datasheet ISP10A528FPI0040)

#### Linked product :

- ISP FDP7C2AMPP-CAN :Control Rack of 7 board ISP C2AMPP-2C by CANOpen
- ISP FDP6C2AMPP-PN : Control rack of 6 board ISP C2AMPP-2C driven by PROFINET node
- IHM labview 7.1 and upper
- IHM windows (Every gateway)
- IHM linux

#### **Applications:**

- Positioning axis control board with stepper motor, encoder monitoring return, physical and software limit monitoring and homing
- Multi axis positioning control board through the plugging of various board with dialogue on a same communication bus CANOpen or backplane ISP SYSTEM (ex : ISP FDP6C2AMPP).
- Pilotage de systèmes de laboratoire avec interface Labview ou en C++/Qt.

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update : 2014/07/17

page 3

#### **Technical specifications:**

Characteristics (except options)	Values
Logic Power supply	24VDC
Motor power supply	24VDC to 48VDC
Maximal intensity per motor	2A per phase(*)
Motor voltage	24VDC to 48VDC
Dimensions	PCB Europe size (100 mm x 160 mm)
	Height 3U
	Mono Axis ISP C1AMPP-1C : 5F
	Double Axis ISP C2AMPP-2C : 10F
Motor connector	SUBD 15 female
Encoder connector	SUBD 15 male
Others electrical interfaces	DIN 41612 B/2 32 channel
<ul style="list-style-type: none"><li>- Logic and power supply</li><li>- Communication bus CAN (3 wire)</li><li>- Hardware addressing of SID CAN on 4 bits</li></ul>	
TOR Inputs	Input : 24VDC Nominal Current : between 5 and 15mA Maximal current : 30mA
TOR outputs	Input : 24VDC Maximum current 300mA Inrush current : 2A (length <10ms)
Reliability	

Nota: Technical data of this datasheet may be subject to modifications, depending on product updates

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