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CANopen

EnDat



*Non contractual photos*

## 1 - Rack ISP FDP7C2AMPP

- Board tray with a backplane with a bus CANOpen, (resistor 120Ohm embedded), with automatic addressing of the card (on the position rack basis).
- 1 to 7 board ISP C2AMPP-2C, (10F width), each controlling 2 motors and two encoders , inputs /outputs go no go automaton (Extensible to 8 x 2 axis optional) or 1 to 14 board, (5F width), equivalent, each controlling 1 motor and 1 encoder
- An electrical interface board, with supply connectors and SUBD9 for CANOpen

### Separated accessories

- An external gateway IXXAT as Compact USB to CAN can be provided with a standard driver IHM

## 2 - Board ISP C2AMPP-2C

### Control mode:

- Absolute and relative displacement
- Motor move by full steps or ½ step
- Velocity profile : start/stop or acceleration / deceleration ramp
- Speed and acceleration value adjustable up to 4kHz
- Collision control to limit the backlash at end of movement
- Homing on cam with collision and adjustable original disengaging value

- Free displacement to limit switch
- Pre-setting
- Adjustable motor current (maximum 2A)
- Positive and negative software stops adjustable by configuration

**Each axis has the following interfaces:**

- Bipolar motor

**Encoder (either) :**

- None
- Incremental encoder(\*) (Configurable conversion factor step encoder / step motor)
- Absolute encoder(\*) Endat 2.2, SSI or SPI
  
- Two limit switches inputs 24 Vdc, electrically insulated – can be inverted or inhibited
- One original input cam 24Vdc electrically insulated (can be inhibited)
- Two go no go inputs 24 Vdc available
- One go-no-go output 24Vdc
- Original Limit switch sensors can be configured Close/ Open

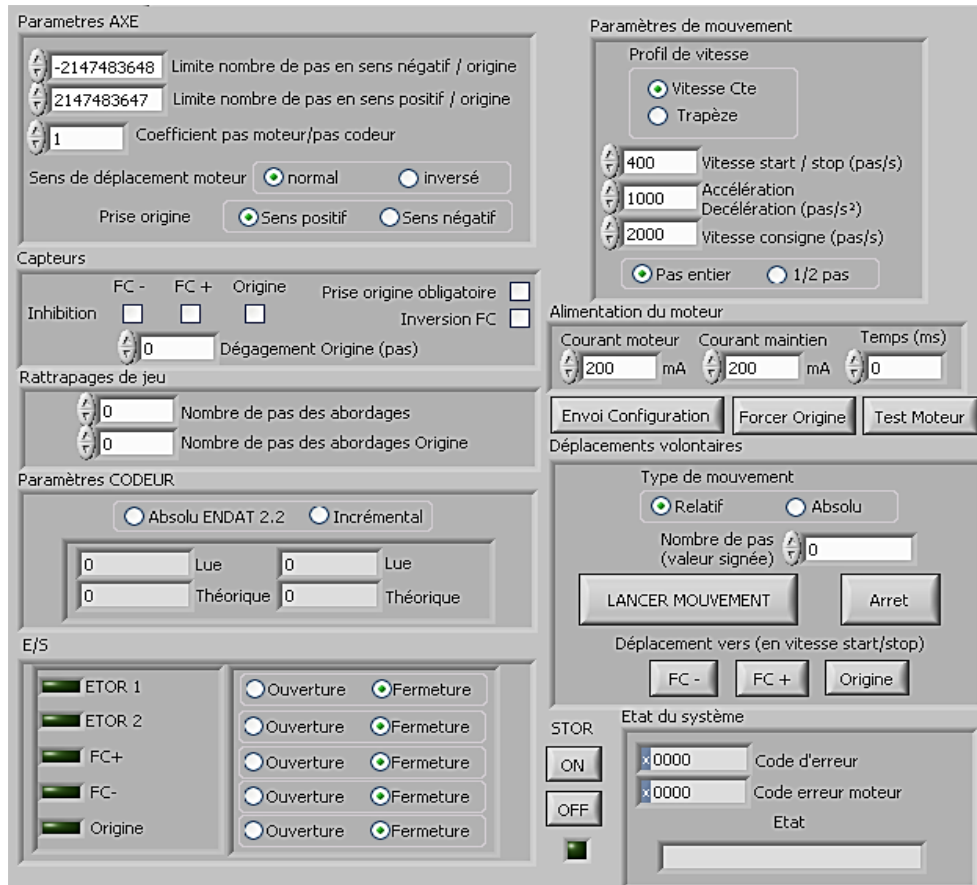
*(\*): the previous supply of a copy of each model of due encoder is recommended to ensure validation and interfaces adaptation to customer needs.*

### 3 - Applications

Complex positioning system composed of many stepper motors, controlled in parallel and locally- operate synergistically

## 4 - Options

- Outage detection and energy reserve for position recording
- Gateway USB-CAN with control interface under Labview 7.1



*Example of a standard setup and control interface of a motor axis and its encoder feedback on position.*

- Graphical Interface of control available on C++ - Qt for Windows
- Graphical Interface of control available on C++ - Qt for Linux (on process)

## 5 - Technical specifications

CHARACTERISTICS (hors options)	VALUE
Logic power supply	24VDC
Motor power supply	24VDC to 48VDC ( by separated supply )
Maximal intensity per motor	2A per phase
Encoder power supply	5V à 7V adjustable 250mA maximum per encoder (or 4A)
Dimensions	450mm x 3U x 210mm
Communication Connector	SUBD 9 male
Power supply connector	Phoenix contact MiniConnec Power serie HC
Logic power supply connector	Phoenix contact MiniConnec Classic
Motor Connector (1 axis with E/S TOR)	SUBD 15 points female
Encoder connector (1 axis)	SUBD 15 points male
TOR Inputs	24VDC Nominal Current : between 5 and 15mA Maximal Current: 30mA
TOR outputs	24VDC Nominal Current : 300mA Maximal Current: 2A (duration<10ms)
Reliability	Axis and encoder drive unit: 150 000 h Communication backpanel Profinet : 200 000 h