# X-MIND K Series Drives



## **INTRODUCTION**

- Series of ministep bipolar chopper drives with direct input from the main AC power supply (110-230 VAC) and an on-board programmable motion controller that can be used:
  - for the interfacing, through RS485 serial line, with a central control system
  - as an independent unit.
- Compact system equipped with dedicated instructions optimized for advanced motion control applications.
- Target: advanced applications requiring direct input from the main power supply and a programmable motion controller.

## **HIGHLIGHTS**

- Microstepping function up to 4.000 step/rev.
- Communication through RS485 serial line.
- Programmable motion controller allowing connection up to 48 drives on a single serial line.
- External fans not needed: ideal both for mounting inside a metallic electrical cabinet and for stand-alone applications.

| Series | Model | V <sub>AC</sub> range | l <sub>NP</sub> min.<br>(Peak value) | I <sub>NP</sub> max.<br>(Peak value) | Dimensions |
|--------|-------|-----------------------|--------------------------------------|--------------------------------------|------------|
|        |       | (Volt)                | (Amp)                                | (Amp)                                | (mm)       |
| X-MIND | K4    | 110 to 230 +/-15%     | 2.3                                  | 4.0                                  | 180x173x53 |
| X-MIND | K6    | 110 to 230 +/-15%     | 3.4                                  | 6.0                                  | 180x173x53 |

#### **TECHNICAL FEATURES**

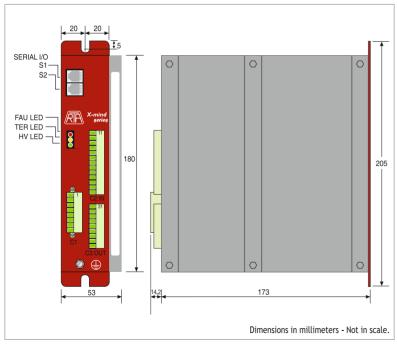
- Range of operating voltage: 110-230 V<sub>AC</sub>
- Range of current: 2.3-6.0 Amp. Setting up to four possible values by means of a serial line.
- Microstepping: 400, 800, 1.600, 3.200 and 500, 1.000, 2.000,
  4.000 steps/revolution. Setting by means of a serial line.
- Automatic current reduction at motor standstill.
- Protections:
  - -Protection against under-voltage and over-voltage.
  - -Protection against a short-circuit at motor outputs.
  - -Overtemperature protection.
- Electronic damping facility for further acoustic noise and mechanic vibrations reduction at low and medium speed.
- External fans not needed.
- Coupling with stepping motors rated for high voltage and equivalent or bigger than NEMA 34 is mandatory.
- Version: boxed, equipped with crimp-type connectors.
  Maximum compactness.
- Warranty: 24 months.



# PROGRAMMABLE MOTION CONTROLLER

- Communication through RS485 serial line; up to 48 drives can be connected on a single serial line. One instruction can be broadcasted to all drives.
- Various types of available instructions, as for example: indexed run with ramp, free run with ramp, indexed run without ramp, run with a programmable braking distance, zero research. Space can be programmed in relative or absolute mode (linear or circular).
- Number of steps for indexed ramp up to ± 8.338.607 in relative or absolute mode, speed from 1 to 24.000 Hz in standard and increased resolution, ramp times from 16 to 1440 msec.
- Availability of instructions to develop motion programs as, for example: conditional jump, time delay, program block and recovery, I/O management, FOR NEXT loop.
- Possibility to control the execution of 16 previously stored motion programs through hardware inputs.
   Accordingly, the drive can be used in stand-alone applications, without serial connection.
- 11 inputs and 6 outputs, all optically insulated. Among them 3 inputs and 4 outputs are freely programmable.
- Memory of 128 instructions kept also at drive switchedoff and three run time instructions.
- A utility working in Windows<sup>®</sup> is available in order to ease motion programs development by the user.

### **MECHANICAL DIMENSIONS**



## **POWER AND LOGIC CONNECTIONS**

