

# HMI Operator Panels

Baldor's new range of HMI Operator Panels provide cost-effective man-machine interfaces for motion-equipped automation.

4 new models allow endless performance possibilities when used with the Baldor range of Servo Controls and Motion Controllers.



Baldor HMI Operator Panels may be used directly with a wide range of Baldor Servo Controls and Mint™ Motion Controllers to provide a complete solution to your application.

Communication drivers have been developed for almost any combination of HMI Operator Panels and Baldor Servo and Motion Control products. The driver is simply downloaded to the HMI configuring it for communication with the controller.

A driver is available for Mint Motion Controllers featuring RS232 communication such as SmartMove, NextMove BX and MintDrive.

For Mint Motion Controllers featuring **CANopen** such as MintDrive, MintDrive II and NextMove PCI a driver is available for use in conjunction with the option card OPT032-501.

Baldor's Flex+Drive can also be used with our new range of HMI Operator Panels. A driver is used to allow information sharing between the HMI and Flex+Drive's ASCII communication protocol.

Building applications for the HMI is simply taken care of with our HMI Operator Panel Software, a powerful Windows application that provides a WYSIWYG editor to build the operator displays.

**Wide range of models to suit application requirements**

**Connects via RS232 port or CANopen channel**

**3 communication drivers to allow connection to Baldor Servo and Motion Controllers**

**Simple to use Baldor HMI Operator Panel software**

**Backed by Baldor world-wide support**

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# KPD007-501 Low cost HMI for simple applications

4 line x 20 column display

Keyboard macro editor

4 configurable function keys with LEDs and slide in legends

Cursor, help, clear, and enter keys



The KPD007-501 is a small, compact HMI aimed at applications where simplicity and low cost are essential. The 4 Line x 20 character display may be scrolled using the cursor keys to display up to 32 lines per page. A brightness control is provided to adjust the display for easy viewing.

The integral keypad offers 4 function keys, 4 user LEDs, 4 cursor (arrow) keys, a CLEAR key and an ENTER key. The arrow keys can

be used to increment or decrement any data field. Slide-in legends make it easy to customize and document the operation of the function keys.

The Keyboard Macro Editor allows a single keypress to perform a number of instruction sequences without programming. Macro Editor functions can include turning pages, setting parameters and LED's.

# KPD008-501 Full featured HMI with graphic display

8 line x 40 character LCD

Full graphic 240x64 pixel resolution

ASCII keyboard

Keyboard macro editor

Recipe capabilities

Downloadable fonts and scalable text



The KPD008-501 provides a sophisticated operator interface in an economic and ruggedised form. The 8 line x 40 character display has full graphic capability allowing the use of bitmap images to display machine functions.

Graphics can include bitmaps, bargraphs, box characters, charts and trend displays. They can be created by any Windows™ based software capable of generating BMP format files or designed using the using Baldor HMI Operator Panel Software.

The integral ASCII keypad offers 47 programmable keys (24 with user LEDs). Slide-in legends make it easy to customize and document the operation of each key. An internal battery-backed

real time clock allows time and date information from the clock to periodically update the controller thus enabling processing based on time-of-day, day-of-week or any other period.

The Keyboard Macro Editor allows a single key to initiate a number of instruction sequences with no programming required. Macro Editor functions include turning pages, setting parameters and LED's, accessing the alarm list, uploading and downloading recipe's.

Recipe data allows frequently used information to be stored on the panel, saving time and simplifying programming.

KPD009-501 5.6" graphic monochrome touch screen

KPD009-502 5.6" graphic TFT color touch screen



5.6" diagonal graphic display

Available in TFT color or monochrome

Resistive touch screen

1/4 VGA (320x240 pixel) resolution

Displays up to 16 lines x 40 characters

The KPD009-501 and 502 fulfill the need for a powerful yet cost effective operator interface system. Each panel can display up to 16 lines x 40 characters of text or full graphic capability with 1/4 VGA resolution (320x240 pixels). These pixel addressable displays allow full graphic capability with Baldor HMI Operator Panel software.

Graphics can include bitmaps, bargraphs, box characters, charts and trend displays. They can be created by any Windows™ based software capable of generating BMP format files or designed using the Baldor HMI Operator Panel Software.

The analog touchscreen adds the ability to create touchcells as small as a single character or as large as the entire screen. Baldor HMI Operator Panel Software includes all the tools for touchscreen programming. A floating toolbar is used to create ASCII characters, panel keys, indicator lamps, position selector switches and pushbuttons which can include text and illumination. The panels feature a large 8Mb flash memory and an internal battery-backed real time clock.

Macro Editor and Recipe and Alarms features are also fully supported.

## OPT 032-501 CANopen option card

The OPT032-501 is an option card that is fitted to the HMI and in conjunction with the supplied communication driver allows communication between the use of the HMI with any Baldor Mint Motion Controller featuring CANopen.

Data is exchanged between the controller and a Local Database on this option card. The controller accesses this Local Database by means of properly defined PDO's and SDO's.

## Accessories and Documentation

The following accessories and documents are available to support programming and installation:

| Catalog Number | Description   |
|----------------|---|
| CBL034-501     | RS232 communications cable (PC to HMI panel)  |
| OPT033-501     | Gender changer for above cable (required for KPD007-501 HMI)  |
| MN1271         | HMI Operator Panel Programming Guide (supplied as a PDF file on Baldor Motion Toolkit CD but available as a hardcopy) |
| MN1272         | HMI Operator Panel Installation Guide (supplied with the HMI but available separately)                                |

## SW1272 HMI Operator

### Panel Software

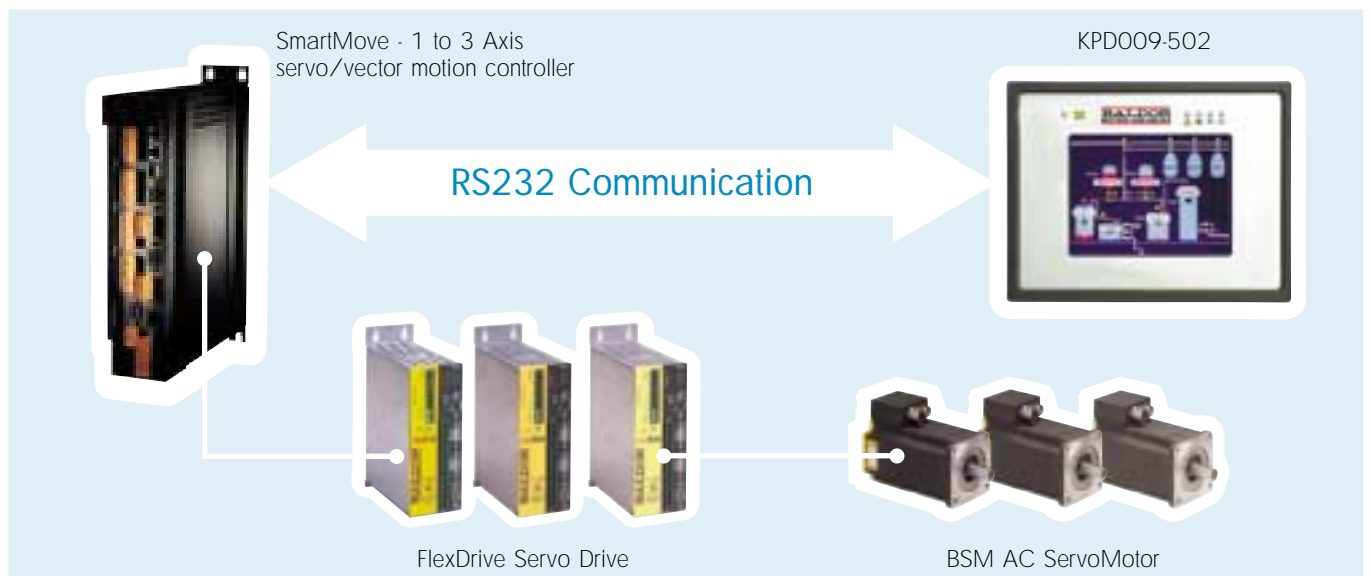
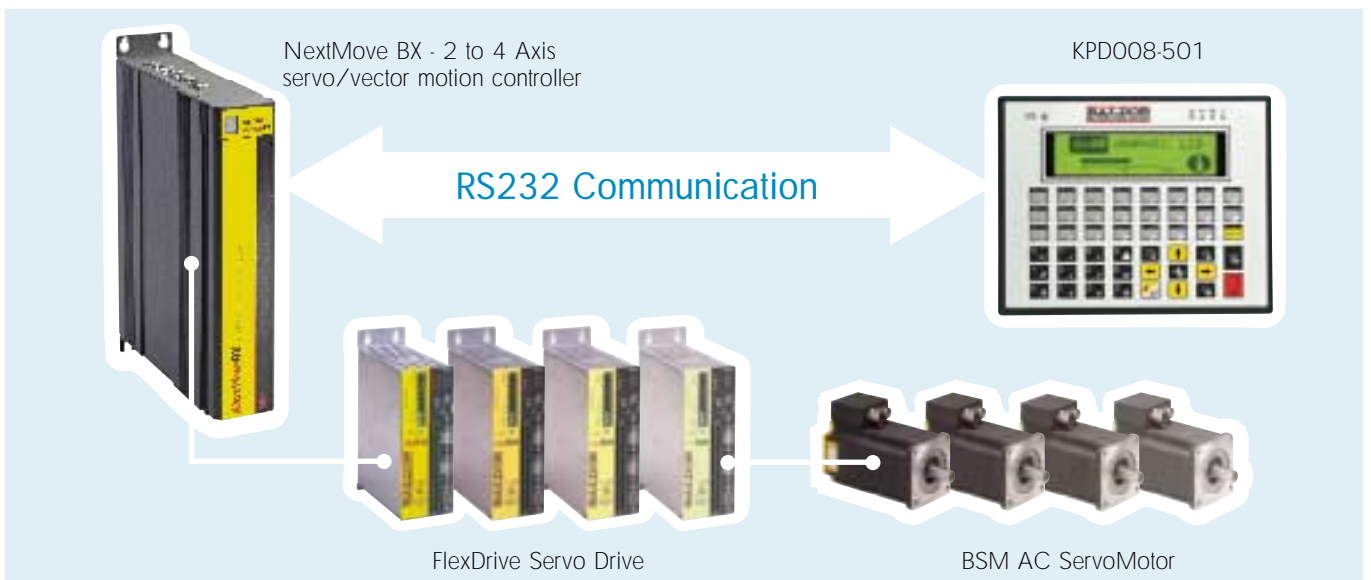
Setting up communications with the HMI using the appropriate communication driver for your Baldor Mint Motion Controller or Flex+Drive Servo Control and configuring your application using Baldor HMI Operator Panel Software just couldn't be easier.

This powerful and intuitive software will allow you to program your HMI to simply realise all the features available. Depending on your choice of HMI, you will be able to display motion and machine control parameters in numerical, text and bargraph format. Dynamic graphic objects, Analog and digital gauges, data acquisition, display of trend information and report printing to a serial printer are possible.

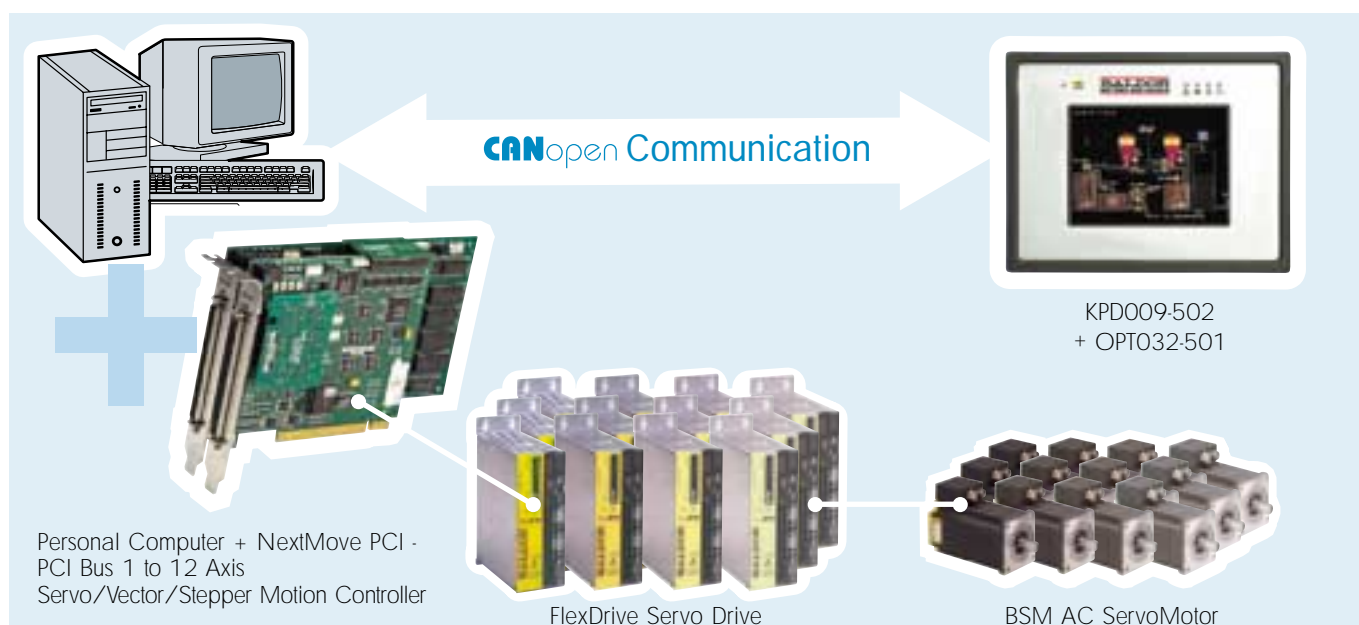
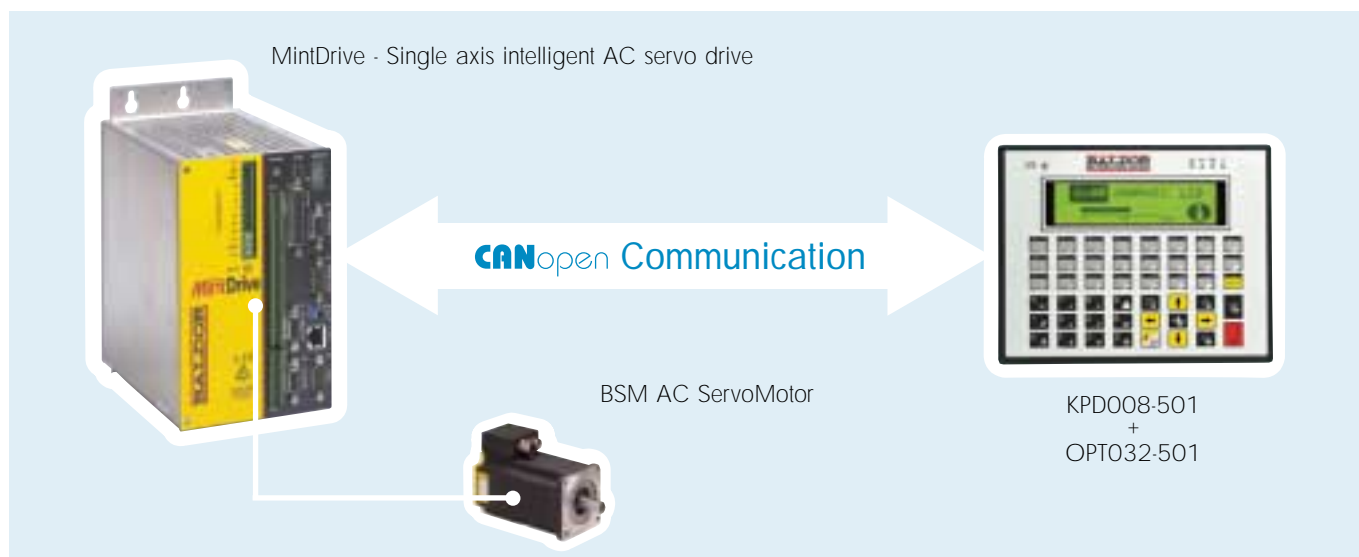
Backed by support from your local Baldor Sales Office, you will quickly be able to enhance and extend the capabilities of your motion and machine control application.

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# RS232 Application Examples



# CANopen Application Examples



# Technical Data

|   |                                  |                                      |                                     |                                     |
|---|----------------------------------|--------------------------------------|-------------------------------------|-------------------------------------|
| Ordering Code                             | KPD007-501                       | KPD 008-001                          | KPD009-501                          | KPD009-502                          |
| Display                                   | Mono LCD                         | Mono LCD                             | Mono LCD                            | TFT Color LCD                       |
| Backlight                                 |                                  | LED                                  |                                     |                                     |
| Graphics                                  | No                               | 240x64 pixels                        | 320x240 pixels                      | 320x240 pixels                      |
| Rows/columns                              | 2x20                             | 8x40                                 | 16x40                               | 16x40                               |
| Scalable fonts                            | No                               | Yes                                  | Yes                                 | Yes                                 |
| User definable characters                 | No                               | 256                                  | 256                                 | 256                                 |
| Contrast regulation                       | Software                         | Software                             | Software                            | Software                            |
| User memory                               | 128 Kb Flash EPROM               | 128 Kb (32 reserved )<br>Flash EPROM | 8 Mb SSFDC<br>memory card           | 8 Mb SSFDC<br>memory card           |
| User memory expansion                     | –                                | 512 KB                               |                                     |                                     |
| Function keys                             | 4                                | 23                                   | –                                   | –                                   |
| System keys                               | 7                                | 24                                   | –                                   | –                                   |
| Touch screen                              |                                  | No                                   | Resistive                           | Resistive                           |
| User LEDs                                 | 5                                | 24                                   | –                                   | –                                   |
| System LEDs                               | 5                                | 5                                    | 5                                   | 5                                   |
| PC/Printer port                           | No                               | Yes                                  | Yes                                 | Yes                                 |
| Controller port                           | Combined with<br>PC/Printer Port | RS-232, RS-422,<br>RS-485, CL 20 mA  | RS-232, RS-422,<br>RS-485, CL 20 mA | RS-232, RS-422,<br>RS-485, CL 20 mA |
| Aux port (CANopen<br>fieldbus connection) | Yes, with optional<br>module     | Yes, with optional<br>module         | Yes, with optional<br>module        | Yes, with optional<br>module        |
| Page size                                 | 32 rows                          | 32 rows                              | –                                   | –                                   |
| Recipe memory                             | No                               | 16 KB                                | 32Kb                                | 32Kb                                |
| Alarms                                    | 256                              | 1024                                 | 1024                                | 1024                                |
| Event list                                | No                               | 256                                  | 1024                                | 1024                                |
| Alarm info page                           | Yes                              | Yes                                  | Yes                                 | Yes                                 |
| Password                                  | Yes                              | Yes                                  | Yes                                 | Yes                                 |
| Battery                                   | No                               | Yes                                  | Yes                                 | Yes                                 |
| Hardware Real<br>Time Clock               | No                               | Yes                                  | Yes                                 | Yes                                 |
| Screen saver                              | No                               | No                                   | Yes                                 | Yes                                 |
| Buzzer                                    | No                               | No                                   | Yes                                 | Yes                                 |
| Fuse                                      |                                  | 2 A (user replaceable)               | Automatic                           | Automatic                           |
| Power supply voltage                      | 24 VDC                           | 18 - 30 VDC                          | 18 - 30 VDC                         | 18 - 30 VDC                         |
| Max power<br>consumption at 24VDC         | –                                | ~ 400 mA                             | ~ 600 mA                            | ~ 600 mA                            |

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