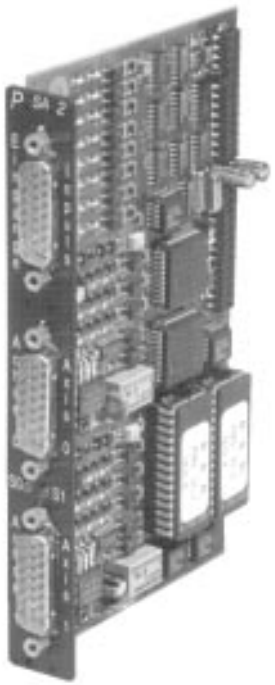


# PSA2

- Intelligent Positioning Module for Stepper Motors
- For Controlling Two Stepper Motors
- Pulse Frequency Max. 20 kHz
- 2 Potential Free Relay Contacts, 8 Transistor Outputs, 10 Digital Inputs
- Faster Trigger Signal Input

See section A8 "Positioning" as well

| SLOTS | | 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| PSA2 | Base Unit C (CP32) | ● | ● | | | | |

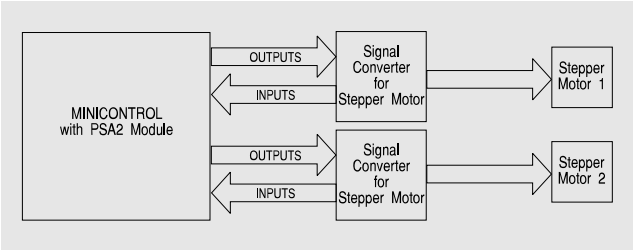
**ORDER DATA**

| | |
|---|---|
| **MCPSA2-0** | Positioning Module for Stepper Motors, for the control of two stepper motors, 1 potential free relay output per axis, 4 transistor outputs for stepper motor control, 5 digital inputs for end switches, reference switch, trigger switch and ready signals, pulse frequency max. 20 kHz |

**FUNCTIONALITY**

The PSA2 stepper motor control module is designed especially for positioning applications with stepper motors. Two axes can be controlled with a PSA2 module.

**Diagram**




The outputs of the PSA2 module for control electronics are: Pulse, Direction of Rotation, Enable and Booster (Current amplification during acceleration and deceleration phases). The control electronic inputs are: End Switch pos./neg., Reference Switch, Trigger Switch and Ready Signal.

**STANDARD SOFTWARE**

A standard function block for PSA2 module operation is included in software package SWSPSPOS01-0 (see section A7 "PLC Programming/Standard Software" and section A8 "Positioning" for more information).

| TECHNICAL DATA | PSA2 |
|---|---|
| Axes 2 | |
| Connections | Three 15 pin D-type (Female) |
| Inputs | Galvanically Isolated |
| End Switch Pos. | 24 V / 6 mA |
| End Switch Neg. | 24 V / 6 mA |
| Reference Switch | 24 V / 6 mA |
| Trigger Switch | 24 V / 6 mA and 5 V / 4 mA |
| Ready Signal | 4 to 28 V / ca. 5 mA |
| Transistor Outputs | Short Circuit and Overload Protected<br>N switching with active Pull-up |
| Pulse | 4 to 28 V, 50 mA |
| Rotation Direction | 4 to 28 V, 50 mA |
| Enable Signal | 4 to 28 V, 50 mA |
| Relay Output | 30 V / 1 A, Internal Protection Circuit (Varistor) |
| Pulse Frequency | 25 Hz to 20 kHz (Resolution 4 Hz) |
| Acceleration Time from 25 Hz (Start/Stop Frequency) to 20 kHz (End Frequency) | 60 msec to 17 sec |
| Modes of Operation | Linear Acceleration, Start/Stop Operation |
| Positioning Functions | Absolute, Relative, Start at Trigger Pulse, Endless Positioning. |
| Resistance to Disturbance | NEMA (1.5 kV) for Inputs, VDE 0843<br>(Burst Test) 3 kV on all pins |
| Documentation | Hardware Manual MINICONTROL |
| German | MAHWMINI-0 |
| English | MAHWMINI-E |
| French | MAHWMINI-F |

**CONNECTIONS**

| Inputs | Pin | Axis 0 | Pin | Axis 1 |
|---|---|---|---|---|
| 15 pin D-type (M) | 1 | End Switch pos. | 9 | End Switch pos. |
| | 2 | End Switch neg. | 10 | End Switch neg. |
| | 3 | Reference Switch | 11 | Reference Switch |
| | 4 | GND for Pin 1 to 3 | 12 | GND for 9 to 11 |
| | 5 | Trigger Signal 5 V | 13 | Trigger Signal 5 V |
| | 6 | Trigger Signal 24 V | 14 | Trigger Signal 24 V |
| | 7 | GND for 5 and 6 | 15 | GND for 13 and 14 |
| | 8 | | | |

| Outputs Axis 0 | Pin | Function | Pin | Function |
|---|---|---|---|---|
| 15 pin D-type (M) | 1 | Pulse | 9 | |
| | 2 | | 10 | |
| | 3 | Direction of Rotation | 11 | Relay contact A |
| | 4 | | 12 | Relay contact B |
| | 5 | Enable | 13 | + for Transistor Outp. |
| | 6 | | 14 | Ready Signal |
| | 7 | Booster | 15 | GND for Transistor Outp. |
| | 8 | | | |

| Outputs Axis 1 | Pin | Function | Pin | Function |
|---|---|---|---|---|
| 15 pin D-type (M) | 1 | Pulse | 9 | |
| | 2 | | 10 | |
| | 3 | Direction of Rotation | 11 | Relay contact A |
| | 4 | | 12 | Relay contact B |
| | 5 | Enable | 13 | + for Transistor Outp. |
| | 6 | | 14 | Ready Signal |
| | 7 | Booster | 15 | GND for Transistor Outp. |
| | 8 | | | |