

# Star 2000 series

## Chassis mounted 2-phase stepping motor driver from 1 Amp to 12 Amps



### Available features:

- RS 232 and RS 485 serial interface
- Step and direction input
- Record selection \*
- CAN-bus \*
- DC or AC power supply input \*
- Quick 16-Bit processor with 128 K byte Flash EEPROM
- Encoder input \*
- Micro stepping
- Protection against short circuits
- MOSFET power circuits technology
- Chopper frequency 20 KHz
- Diagnostics display
- Crimp or screw cable connectors \*
- CE conformity

\* Dependent upon version type

The market always demands more efficient step-motor-solutions which are optimally priced. In order to meet these demands we offer the **Star2000** series of stepping motor controllers which are suitable for all current 2-phase stepping motor applications.

Beside the usual step and direction inputs for control of the drive it is possible to also control the drive with a PC or PLC via RS 232 or RS 485 interfaces. Two other versions enable control via a CAN-bus interface or by utilizing stored records in the EEPROM memory of the unit (one record equates to a single index movement) If the drive is used with a PC or PLC you do not need a separate indexer. All parameters and positional details regarding the indexing of the **Star2000** are able to be adjusted online via the Interface.

The built in display gives all information about the actual status of the **Star2000**.

By utilizing a high chopper frequency of 20KHz and combining this with the driving of the stepping motor in micro step mode (1,600 micro steps per revolution), the **Star2000** significantly reduces the resulting noise of the motor making it extremely quiet when running whilst maintaining a smooth movement.

Extensive protection against over-temperature, over-voltage, under-voltage and short-circuits between outputs (phase to phase) and between outputs to ground are features provided by the **Star2000** units.

When combined with the stepping motor of the MOT series the user will possess an extremely cost effective stepping motor system.

Also we can deliver the following associated accessories:

Stepping motors (type: MOT; HN & HY); linear actuators; COBRA linear stepping motors; planetary gearboxes; display terminals; TP & NT-LC power supplies; heatsinks; and cables.

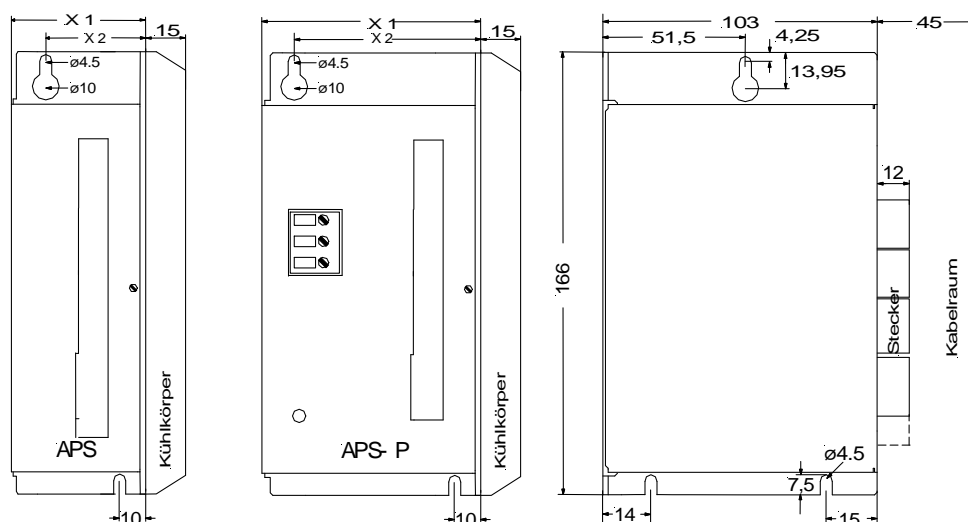
# Technical characteristics

	APD1 *	APS1-_-_0	APS1-_-_P	APS2-_-_0	APS2-_-_P	APS3-_-_0 §	APS3-_-_P	APS4-_-_0	APS4-_-_P	APS5-_-_0	APS5-_-_P
<b>Supply voltage</b>	14-26VAC	30-90VDC	22-63VAC	30-90VDC	22-63VAC	30-90VDC	22-63VAC	75-155VDC	55-100VAC	155-195VDC	110-135VAC
<b>Motor voltage</b>	17-40VDC	30-90VDC	30-90VDC	30-90VDC	30-90VDC	30-90VDC	30-90VDC	30-140VDC	30-140VDC	30-140VDC	30-180VDC
<b>Motor current</b>	2 x 2.4A	4A	4A	6A	6A	10A	10A	12A	12A	10A	10A
<b>Star2000 versions</b>	<b>Star2000 features available:</b>										
<b>APS_-B-00 **</b>	Step & direction inputs + RS232/485 serial interface, + PNP/NPN selection, DC power supply input and screw connections										
<b>APS_-B-0P **</b>	Step & direction inputs + RS232/485 serial interface, + PNP/NPN selection, AC power supply input and screw connections										
<b>APS_-C-00 **</b>	Step & direction inputs + RS232/485 serial interface, + PNP/NPN selection, DC power supply input and crimp connections										
<b>APS_-C-0P **</b>	Step & direction inputs + RS232/485 serial interface, + PNP/NPN selection, AC power supply input and crimp connections										
<b>APS_-B-E0 **</b>	Record selection with 16 index movement records and 1 initiate record memory + step & direction inputs + RS232/485 serial interface + PNP/NPN selection, DC power supply input and screw connections										
<b>APS_-B-EP **</b>	Record selection with 16 index movement records and 1 initiate record memory + step & direction inputs + RS232/485 serial interface + PNP/NPN selection, AC power supply input and screw connections										
<b>APS_-B-C0 **</b>	CAN-bus input + PNP/NPN selection, DC power input supply input and screw connections										
<b>APS_-B-CP **</b>	CAN-bus input + PNP/NPN selection, AC power input supply input and screw connections										

\* Two axes drive.    \*\* Replace \_ with the drive size: 1; 2; 3; 4; or 5.    § Requires a heatsink fitted for 10A output otherwise max. 6A @ 25°C and 4A at 45°C

<b>Chopper frequency</b>	20 kHz
<b>Power stage</b>	Protection against Phase/Phase and Phase/GND.    Automatic current reduction between standstill ( adjustable )
<b>Processor</b>	Quick 16-Bit processor with 128 K byte Flash EEPROM
<b>Inputs</b>	Opto-isolated, 12-30VDC (TTL inputs are available as an option)
	-step    Maximum Opto-coupling current 10mA .    Minimum impulse wide 1ms.    Maximum step frequency 50 kHz
	-direction    Maximum Opto-coupling current 10mA, 10µsec, maximum frequency 5kHz
<b>Outputs</b>	PNP Opto-isolated, maximum current 10mA
<b>Step resolutions</b>	200 / 400 / 800 / 1600 / 3200
<b>Protection class</b>	IP 20
<b>Humidity range</b>	10 to 90% relative – non condensing
<b>Ambient Temperature</b>	0 to 55°C
<b>CE</b>	Existing

## Dimensions:



	APS 1	APS 2	APS 3	APS 4	APS 5	APS 1-P	APS 2-P	APS 3-P	APS 4-P	APS 5-P
X1 [mm]	36	36	36	36	36	61	61	61	82	82
X2 [mm]	25	25	25	25	25	49	49	49	70	70
Heatsink	-	-	1)	Yes	Yes	-	-	1)	Yes	Yes

1) When the current > 6 A

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