



TSP10

Profibus stepper motor drive with encoder feedback

TSP10-PBE

- Compact size
- Supply voltage 24-74V_{DC} , max. motor current 7 A_{rms}
- Closed loop via the Profibus master
- Idle current reduction
- Noiseless at standstill, smooth operation
- Low heat losses
- Opto-isolated inputs (10) and outputs (4) - can used as I/O module
- Separated supply voltage for electronic and motor
- Programmable motion tasks with adjustable ramps, programmable with Profibus
- Profibus galvanic isolated
- Set-up the Profibus address with two rotary switches
- Please request a sample project for the commissioning of S7 (info@ahs-antriebstechnik.de)

TSP10-PBE Compact stepper motor drive

The TSP10-PBE drive is a compact microstep power module for 2-phase stepper motors with various configurations for the best possible customization to the individual application.

The units are designed for panel mounting and equipped with the mating plugs; the compact size allows installation, where only restricted mounting space is available. The heat dissipation is laterally possible over an optional heat-sink or over the bearing surface at the back.

The supply voltage plug and the motor plug are placed at the bottom side of the drive. The 25-pin Sub-D socket for the digital I/Os as well as three 9-pin Sub-D socket for the RS232-connection for the Profibus and encoder are located at the front of the drive. The Set-Up for the Profibus address is made by two rotary switches at the top side of the drive.

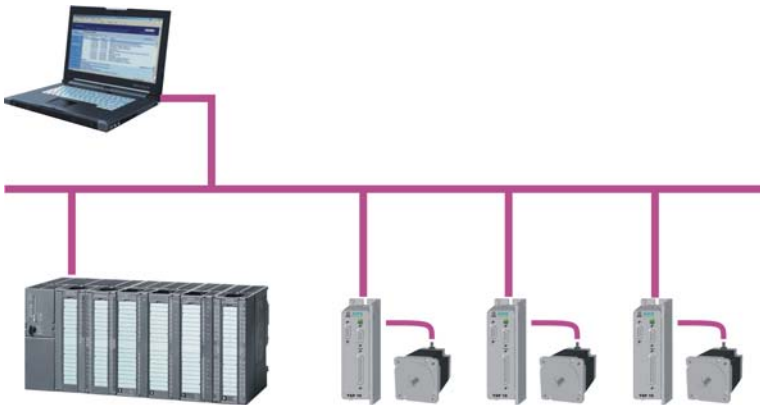
A two colour LED indicates the status of the drive by colors and flashing signals. All digital inputs and outputs are opto-isolated and can be used independent of the motor drive such as a simple digital I/O module. Because only a few basic settings are required, the stepper with little effort can be integrated into any control system.

Technical data

Supply voltage	power supply voltage 24 - 74V _{DC}
Motor current	max. 10 A _{peak} ; 0,2 bis 7 A _{rms}
	adjustable in mA for 2-phase stepper motors with 4,6 or 8 leads
Power supply	for the motor power supply only an unregulated DC voltage is required.
Ambient temperature	<50°C without heat sink max 3.2A @ 25°C / 1.6A @ 45° C
Heat sink temperature	<50°C with heat sink (optional) max 7A @ 25°C/ 3.5A @45° C
Humidity	max. 60°C, forced cooling may be necessary
Fault protection	10-90%, non-condensing
Idle current reduction	Line-to-Line and line-to-neutral shorts and over temperature
Inputs	free adjustable
Input interface	10 inputs, free configurable
Outputs	RS232, Profibus DP
	4 outputs, SPS compatible free configurable Status LED : green = ready for use; red = failure; yellow = motor movement
Baud rate	Up to 12 MBaud

Profibus settings

The TSP10 Profibus Stepper is the solution to control, several step motor axis distributed in the field, by via Profibus DP. The Profibus DP Stepper is a compact positioning control integrated stepper motor power. It has two limit switch inputs, a stop, and a reference switch input. The velocity mode and the position mode are easily configurable over the profibus.



Since they are only a few presets, the Profibus DP Stepper can be integrated into any control system using Profibus DP as sensor-actuator bus, with low expenditure. Because of the rapid and simultaneous transmission of the input and output words within all Profibus DP participants, there are a great variety of possibilities for realizing multi-axes applications over the bus without having to cope with synchronization problems.

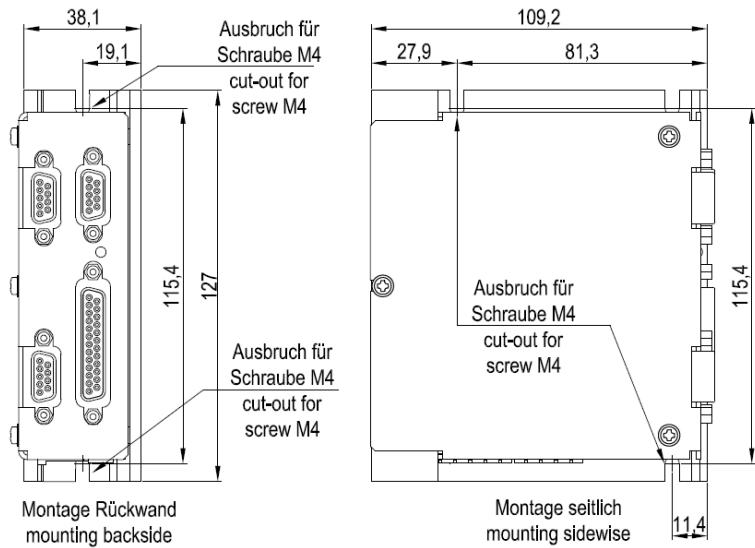
Parameter data

Set-up via Profibus:

Common		Parameter assignment													
Module data:															
Parameter	Value														
Limit switches	Limit switches are connected.														
Smoothing	Smoothing enabled														
Idle current reduction	After 100 ms														
Motor rotational direction	Default rotational direction														
Stop switch	High level to stop														
Idle current [%]	50														
Motor current [mA rms]	100														
Micro step factor n°200/rev.	20														
Homing	Actual position														
DA1	Ready														
DA2	Enabled														
DA3	Target reached														
DA4	Error														
Enabled output	Enabled														
User prm data:															
001	002	003	004	005	006	007	008	009	010	011	012	013	014	015	
00	00	00	00	8D	32	00	64	14	23	01	02	03	04	02	

Connection/ Dimensions

Connectors	
Supply voltage	4-pole plug-in terminal strip
Motor	5-pole plug-in terminal strip
Serial interface	9-pin Sub-D-socket
I/Os	25-pin Sub-D-socket
Profibus socket according to standard	9-pole Sub-D-socket
Encoder	9-pole Sub-D-socket



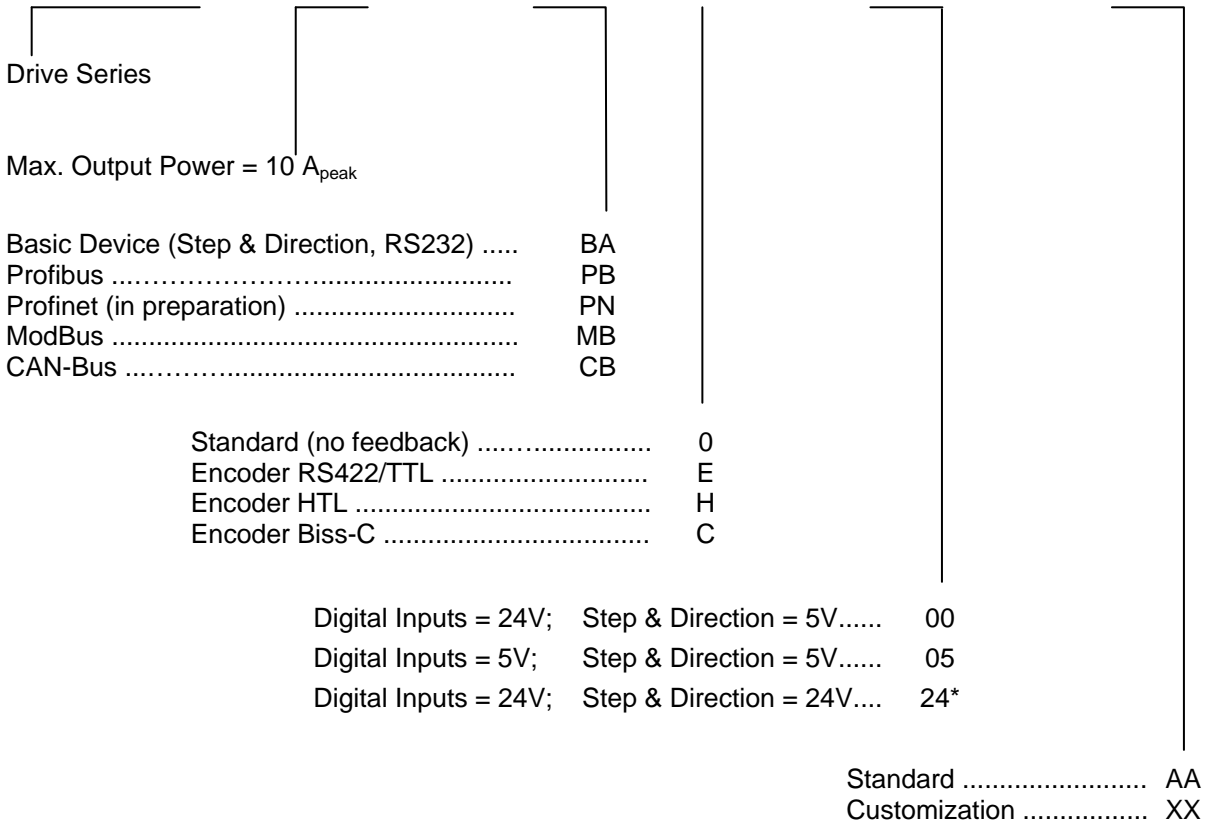
all dimensions in mm

Ordering code

TSP10-PBE-00-AA = Standard version

TSP10 Type code

T	S	P	1	0	-	B	A	0	-	0	0	-	A	A
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*only available for the TSP10-BA