CPS300

Compact positioning system for rotary tables / indexing attachments

- Easy adaptation to different rotary tables / indexing attachments
- Sinusoidal acceleration ramps
- Automatic clamping
- Optional as complete unit with integrated servo amplifiers
- Storage of program- and parameter data on PC through software KLEWin (optional)

Inkremental

SYNCHRON SERIAL INTERFACE

38/11-089.183.02

Abstract CPS300 rotary table / indexing attachments

The CPS300 is a free programmable CNC - positioning controller for 1 to 3 axes providing special functions adapted to rotary tables or indexing attachments with position controlled drives. Adaptation of the CPS300 controller to different rotary tables/indexing attachments is done via parameter settings, shown as decoded text on the illuminated LC-display.

Sinusoidal acceleration curves reduce considerably the load of all mechanical components. Clamping is automatically processed and monitored.

Programming and operation is easy and comfortable due to menu assisted sequences.

The following operating modes are available:

- Reference run: Automatic searching for the machine reference position.
- Automatic: Execution of the selected program or the programmed pitch increments using the appropriate speeds.
- Program input: Programming is realized in degrees. Absolute and incremental as well as nearest direction and segment programming is feasible.
  Subprograms, loops, input conditions ...
- Manual mode: Run to any position by means of arrow keys of definite motion to a previously entered angular position. Zero point setting or continious turning are also possible.
- Parameter input: Password protected parameter input of machine-specific parameters in different parameter levels.
- Test mode : Testing function for inputs and outputs. Very useful for initial startup or troubleshooting.
- KLEWin (Option) External storage and reading of program and parameter data on PC.
  Reading of different display languages like English or French.

Technical Data CPS 300 rotary table / indexing attachments

Programming system	Absolute, incremental, segment	Limit switch	adjustable via software
		Automic clamping	Adjustable via parameters
Minimum input angle	0.0001 degree	Drift compensation	Yes
Maximum input angle	+/- 999.9999 degree	Acceleration and deceleration ramp	10 - 10000 ms
Linear and rotational axes	Yes, also mixed		
Number of axes	1 - 3	Programmable speed	0.01-99.99 Revs/min.
Input	Membrane keyboard with tactile acknowlegdement	Max. Encoder frequency	250kHz (internal quadruplication 1MHz)
Display	LC - Display (decoded text) 4x40 illuminated characters	Position acquisition	Incremental, absolute (SSI-Interface),
Programms to be stored	99	Signal-inputs	32 - 41 Inputs.; 24V; 10mA
Programmable records	2000 (power fail safe)	Signal-outputs	16 Outputs; 24V; 0,8 A
Resolution	Up to 7.200.000 Incr./rev.	Analog output	+ / - 10V (12 bit resolution)
Reference zero run	Yes	Connections	Clamping connector 9-pin D-Sub for interfaces
Impulse start	Yes		
Start ramp monitoring	Yes		
Stop with residual movement	Yes	Supply voltage	85-264V; 50Hz; ca. 0,2A 24 VDC for signal outputs
Error diagnosis	Decoded Text	Ambient temperature	0 ... + 45° C
Linear ramp	Yes	Dimensions (WxHxd)	320 x 170 x 95 mm
Sin^2 Ramp	Yes		

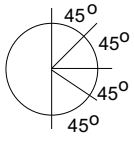
Inputs and Outputs

Signal inputs:
Automatic / Manual mode Release Start Stop Motor monitoring Axis specific inputs: - Reference switch - Clamping clamped - Clamping released - Negative limit switch - Positive limit switch Free usable inputs

Signal outputs:
Ready for operation Program end In position Clamping outputs per axis Quantity end Automatic ready 8 machine functions

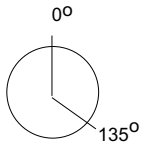
Other outputs per axis
Drive enable contact 1 Drive enable contact 2 Analog output +/- 10 Volt Analog ground

Examples for programming in degrees



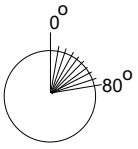

```
Record 1.001 Incremental dimension
X1:   45.000   X2:   45.000
F1:     2.00   F2:     1.00
```

Incremental angle of 45 degrees with 2 axes.




```
Record 1.002 Absolute dimension
X1: ----.---       X2:   135.000
F1:    0.00        F2:     1.20
Direction: 0       Direction: 2
```

Absolute positioning of axis 2 to 135 degrees with negative direction of travel.
Direction: 0: Travel using nearest direction
1: Positive travel direction
2: Negative trafel direction




```
Record 1.003 Pitches
X1:   80.000   X2: ----.---  Steps: 9
Divisor: 9       Divisor: 0
F1:   2.45       F2      0.00
```

Programming one segment of 80 degrees of axis 1 using a divisor of 9.
Number of pitches to be ececuted: 9
(80/9 = 8.8888 degrees

The following record functions are available:
- Set / reset / maintain / toggle machine function
- Reference run / set axis 0
- Control instructions: jump / program call / dwell time / waiting for condition
- Input inquiry: jump to record no. / program call / waiting for condition

General information :

The record types are selected in a selection screen:

```
Record 1.001  --empty--
F1:Travel/pos.       F4:Control functions
F2:M functions       F5:Inputs
F3:Reference/zero
```

The clamping is always processed automatically.

Complete units

The CPS300 is available as complete unit with integrated servo-amplifiers for brushless AC-Servomotors. Various amplifiers for the required motor current are available. Each axis may have a different amplifier. Optional interpolation-electronics (Series IBV600 and EXE600) can be implemented.

Technical Data tabletop unit

Power supply :	230V; 50Hz, 16A
Dimensions (WxHxD):	470 x 288 x 390 mm (without connectors)
Weight:	ca. 20 kg

The complete unit is a compact tabletop with all connections desinged in rugged industrial connectors on the backside. The required power supply is also integrated in the rack. The maximum current may not exeed a total of 16A.

Available amplifiers in tabletop housing

Type[1)]	$I_{N\ Continious}$ A_{RMS}	I_{max}[2)] A_{RMS}	Motor inductance min [mH]
DSD6-0204	2,0	4,0	6,0
DSD6-0408	2,0	4,0	3,0
DSD6-0612	6,0	12,0	2,0
DSD6-1020	10,0	20,0	1,2

[2)] Maximum-currents can be drawn for minimal 5 seconds.

Control cabinet / console

For higher power requirements and/or 3 axes the CPS300 is available in a control console or cabinet.

Technical Data tabletop unit

Power supply : 230V; 50Hz, 16A
3x400V; 50Hz, Current depends on used amplifiers

Available amplifiers

Type[1)]	$I_{N\ Continious}$ A_{RMS}	I_{max} [2)] A_{RMS}	Motor inductance min [mH]
DSK2-0306/600	3,0	6,0	5,0
DSK2-0510	5,0	10,0	1,2
DSK2-0510/600	5,0	10,0	2,2
DSK2-0816	8,0	16,0	0,8
DSK2-0816/600	8,0	16,0	1,5
DSK2-1020	10,0	20,0	0,6
DSK2-1020/600	10,0	20,0	1,1
DSK2-1530	15,0	30,0	0,6
DSK2-1530/600	15,0	30,0	0,7
DSD6-2244/600	22,0	44,0	1,1
DSD6-3060/600	30,0	60,0	0,8

[1)] All controllers are as 230V or 400V - type (..../600) available.

[2)] Maximum-currents can be drawn for minimal 5 seconds.

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