

# DIAS Drive

## SDD 310



Version Cold Plate

The SDD 310 is the "standard" drive from SIGMATEK and is designed for midrange power. This three-axis device can be operated with 3x 10 A continuous and 3x 20 peak current. With the integrated auto scaling function, small motors (< 1 A rated current) can also be optimally regulated.

The VARAN bus interface provides fast, hard real-time capable and nearly jitter-free communication.

### Additional Characteristics:

- various feedback systems (Resolver, EnDAT, Hiperface and Sin/Cos)
- reduced power loss using a new PWM process
- integrated class A power filter
- intermediate circuit is accessible for the coupling of additional devices
- spline interpolation implemented in addition to position control
- integrated Safety functions „Safe Torque Off“ STO and „Safe Stop 1“ SS1

### Rated Values

Rated mains voltage (symmetrically to ground) 5000 A eff. (L1, L2, L3)	V <sub>AC</sub>	3x 230 V <sub>-10%</sub> – 480 V <sup>10%</sup> , 45-65 Hz
Max. peak current in starting torque (limited by inrush current)	A	2.5
Rated power in S1 mode	kVA	14
Rated DC-link voltage	V <sub>DC</sub>	290-680
Over voltage protection - limit for the intermediate circuit	V <sub>DC</sub>	450-900
Auxiliary supply voltage +24 V	V <sub>DC</sub>	22-30
+24 V auxiliary supply power	W	35
Holding brake supply voltage +24 V-BR	V <sub>DC</sub>	25-27
Max. holding brake current per axis	A <sub>DC</sub>	2
Holding brake-voltage reduction with a +24 V-BR load	V <sub>DC</sub>	max. 1 (at 3x 2 A holding brake current)
Max. holding brake switching energy	mJ	100
Rated output current for axis 1 (eff. +/- 3 %)	A <sub>RMS</sub>	10
Max. standstill current axis 1 from 500 ms	A <sub>RMS</sub>	7
Rated output current for axis 2 (eff. +/- 3 %)	A <sub>RMS</sub>	10
Max. standstill current axis 2 from 500 ms	A <sub>RMS</sub>	7
Rated output current for axis 3 (eff. +/- 3 %)	A <sub>RMS</sub>	10
Max. standstill current axis 3 from 500 ms	A <sub>RMS</sub>	7
Max. continuous sum current of all axis (heat sink)	A <sub>RMS</sub>	20
Peak output current of axis 1 for a max. of 5 sec. (eff. +/- 3 %)	A <sub>RMS</sub>	20
Peak output current of axis 2 for a max. of 5 sec. (eff. +/- 3 %)	A <sub>RMS</sub>	20
Peak output current of axis 3 for a max. 5 sec. (eff. +/- 3 %)	A <sub>RMS</sub>	20
Power stage loss	W/A <sub>RMS</sub>	10
Output frequency of the power output stage	kHz	8
Maximum leakage current	mA	15

### Regen Circuit

Capacitance of the intermediate circuit voltage	μF	700
External brake resistance	Ω	25-50
Internal regen resistor value	Ω	25
Rated power of the internal regen resistor	W	200

### G-VMAINS = 230 (rated mains voltage = 230 V)

Start-up limit	V <sub>DC</sub>	420
Switch-off level	V <sub>DC</sub>	400
Over voltage protection	V <sub>DC</sub>	450
Max. rated power of the external regen resistor	W	750
Peak power of the internal brake resistor (max. 1 s)	kW	6.5

### G-VMAINS = 400 (rated mains voltage = 400 V)

Start-up limit	V <sub>DC</sub>	730
Switch-off level	V <sub>DC</sub>	690
Over voltage protection	V <sub>DC</sub>	800
Max. rated power of the external regen resistor	W	1200
Peak power of the internal brake resistor (max. 1 s)	kW	21

### G-VMAINS = 480 (rated mains voltage = 480 V)

Start-up limit	V <sub>DC</sub>	850
Switch-off level	V <sub>DC</sub>	810
Over voltage protection	V <sub>DC</sub>	900
Max. rated power of the external regen resistor	W	1500
Peak power of the internal brake resistor (max. 1 s)	kW	27

### Internal Fuse

Auxiliary supply 24 V (+24 V to BGND)		electronic fuse
Holding brake supply 24 V-BR (+24 V-BR to BGND)		electronic protection
Regen resistor		electronic protection

### Resolver Specifications

Exciter frequency ferr	kHz	8
Exciter voltage U <sub>Ref</sub>	U <sub>eff</sub>	4
Number of poles m	-	2, 4, 6, ..., 32
Resolver voltage U <sub>sin/cos</sub> , max	U <sub>eff</sub>	2.2

### Connector Types

Auxiliary supply (X1A)		Combicon 5, 3-pin
Power supply (X1B)		Power Combicon 7.62, 8-pin, 4 mm <sup>2</sup>
Feedback (X6, X7, X8)		D-Sub 25-pin (female)
Motor ( X3, X4, X5)		Power Combicon 7.62, 6-pin, 4 mm <sup>2</sup>

### Mechanics

Height with/without plugs	mm	472/378
Width	mm	158
Depth	mm	240
Weight	kg	10

### Mechanics with Cold Plate

Height	mm	428
Width	mm	152
Depth	mm	121.3
Weight	kg	6.35

### Article Number

with fan unit		09-501-101-23
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