

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 _{AC}	3x 230 V _{-10%} – 480 V ^{10%} , 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 _{DC}	290-680
Over voltage protection - limit for the intermediate circuit	V _{DC}	450-900
Auxiliary supply voltage +24 V	V _{DC}	22-30
+24 V auxiliary supply power	W	35
Holding brake supply voltage +24 V-BR	V _{DC}	25-27
Max. holding brake current per axis	A _{DC}	2
Holding brake-voltage reduction with a +24 V-BR load	V _{DC}	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 _{RMS}	10
Max. standstill current axis 1 from 500 ms	A _{RMS}	7
Rated output current for axis 2 (eff. +/- 3 %)	A _{RMS}	10
Max. standstill current axis 2 from 500 ms	A _{RMS}	7
Rated output current for axis 3 (eff. +/- 3 %)	A _{RMS}	10
Max. standstill current axis 3 from 500 ms	A _{RMS}	7
Max. continuous sum current of all axis (heat sink)	A _{RMS}	20
Peak output current of axis 1 for a max. of 5 sec. (eff. +/- 3 %)	A _{RMS}	20
Peak output current of axis 2 for a max. of 5 sec. (eff. +/- 3 %)	A _{RMS}	20
Peak output current of axis 3 for a max. 5 sec. (eff. +/- 3 %)	A _{RMS}	20
Power stage loss	W/A _{RMS}	10
Output frequency of the power output stage	kHz	8
Maximum leakage current	mA	15
PWM-Frequenz	kHz	8
Reglerfrequenz	kHz	16

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 _{DC}	420
Switch-off level	V _{DC}	400
Over voltage protection	V _{DC}	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 _{DC}	730
Switch-off level	V _{DC}	690
Over voltage protection	V _{DC}	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 _{DC}	850
Switch-off level	V _{DC}	810
Over voltage protection	V _{DC}	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 _{Ref}	U _{eff}	4
Number of poles m	-	2, 4, 6, ..., 32
Resolver voltage U _{sin/cos} , max	U _{eff}	2.2

Connector Types

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

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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