S-DIAS Drive Module DC 101



with 1 motor output stage 10 A

1 resolver input

1 holding brake

2-channel enable input for STO

(Safe Torque Off)

The S-DIAS DC 101 drive module is used to control a synchronous servo motor with a 48-Volt supply voltage and phase current of up to 10 A. A resolver input is available for position feedback. A 24 V output for connecting a holding brake is provided. External Regen brake can also be connected.

Motor Driver Specifications		
Туре	Synchronous servo motor	
Operating voltage	+18-55 V	
Maximum continuous current	10 A	
Maximum peak current (10 s)	20 A	
Output current over the environmental temperature	maximum 10 A continuous current at 45 °C maximum 7.5 A continuous current at 50 °C maximum 5 A continuous current at 55 °C	
Controller frequency	16 kHz	
Overload protection	Short circuit cutoff Temperature monitor I ² T monitor Over and under voltage monitor	

Resolve	er Specifications	
	Туре	Resolver
	Resolution	12-bit
	Output voltage (EXC)	typically 7 Vrms
	Maximum output current (EXC)	200 mA
	Output frequency	4 kHz
	Input voltage	typically 3.5 Vrms
	Resolver transfer ratio	0.5

Enable	Inputs Specifications		
	Number	2	
	Input voltage	+24 V	
	Input voltage range	+18-30 V	
	Signal level	low: < 5 V	high: > 15 V
	Switching threshold	typically 11 V	
	Input current	3 mA at 24 V	
	Input delay	typically 0.5 ms	

Holding Brake Specifications		
	Output voltage	24 V
	Maximum continuous current	500 mA
	Short-circuit protection	yes

Regen Brake Specifications			
	Туре	external power resistor	
	Output	GND switching	
	Maximum current	10 A	
	Lowest possible resistance	6 Ω	
	Short-circuit protection	yes	
	Threshold regen braking on/off	60 V/55 V	

Electrical Requirements

Power supply +24 V	+18-30 V, Class 2	
Current consumption of the +24 V supply	load-dependent (holding brake)	
Supply voltage motor	+18-55 V	
Switching threshold for motor voltage monitor	minimum 18 V	maximum 65 V
Current consumption of motor supply	load-dependent (motor)	
Voltage supply from S-DIAS bus	+24 V	
Current consumption on the S-DIAS bus (+24 V supply)	typically 95 mA	maximum 110 mA

Article Number and Miscellaneous

Article number	20-014-101	
Dimensions	25 x 104.2 x 72 mm (W x H x D)	
Standard	CE, TÜV EG type testing in process	

Environmental Conditions

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Storage temperature	-20 +85 °C	
Environmental temperature	0 +55 °C	
Humidity	0-95 %, non-condensing	
Installation altitude above sea level	0-2000 m without derating > 2000 m with derating of the maximum environmental temperature by 0.9 °C per 100 m	
Operating conditions	pollution degree 2	
EMC resistance	in accordance with EN 61000-6-7:2015 (Generic standards – immunity requirements for equipment designed to perform functions in safety-based systems (functional safety) at industrial facilities) according to EN 61000-6-2:2005/AC:2005 (industrial area) (increased requirements in accordance with IEC 62061) additionally tested according to EN 61800-5-2:2017 (Generic Standard – Electrical Power Drive Systems with Adjustable Speed Section 5-2: Safety Requirements – Functional Safety)	
EMC noise generation	according to EN 61000-6-4:2007/A1:2011 (industrial area)	
Vibration resistance	EN 60068-2-6	3.5 mm from 5-8.4 Hz 1 g from 8.4-150 Hz
Shock resistance	EN 60068-2-27	15 g
Protection type	EN 60529	IP20

Notes

