# S-DIAS Drive Module DC 102



with 1 motor output stage 10 A 1 incremental encoder input 1 holding brake 2-channel enable input for STO (Safe Torque Off)

The S-DIAS DC 102 drive module is used to control a synchronous servo motor with a 48-Volt supply voltage and phase current of up to 10 A. An incremental encoder 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 I²T monitor Over and under voltage monitor

#### Incremental Encoder Specifications

Number of channels	1	
Input signals	Incremental encoder signals RS422 (A, /A, B, /B, R, /R) RS422 signal (120 $\Omega$ termination)	
Input frequency	maximum 125 kHz	
Counter frequency	maximum 500 kHz	
Signal evaluation	4x	
Counter resolution	32 bits	
Encoder power supply	+5 V/0.2 A short circuit protected	

## Enable Inputs Specifications

Number	2	
Input voltage	+24 V	
Input voltage range	+18-30 V	
Signal level	low: < 5 V	high: > 15 V
witching threshold typically 11 \		ly 11 V
Input current	urrent 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
	Maximum switch-off energy (inductive load)	50 mJ

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	/, 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) +24 V	
Voltage supply from S-DIAS bus		
Current consumption on the S-DIAS bus (+24 V supply)	typically 95 mA	maximum 110 mA

### Article Number and Miscellaneous

	Article number	20-014-102	
	Dimensions	25 x 104.2 x 72 mm (W x H x D)	
	Standard	CE, TÜV EG type testing in process	

## **Environmental Conditions**

	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 0.5 °C per 100 m	
	Operating conditions	pollution degree 2	
	EMC resistance		
	EMC noise generation	according to EN 61000-6-4:20	007/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



