S-DIAS Axis Module
DC 061-1

with 1 motor output stage
- 1 resolver input
- 1 holding brake
- 2-channel enable input for STO (Safe Torque Off)

The S-DIAS DC 061-1 axis module is used to control a synchronous servo motor with a 48-Volt supply voltage and phase current of up to 6 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

Type	brushless, 4-quadrant regulator with position setting
Operating voltage	+18-55 V
Maximum continuous current	6 A
Maximum peak current (10 sec)	15 A
Controller frequency	16 kHz
Overload protection	Short circuit cutoff Temperature monitor I^2T monitor Over and under voltage monitor

Resolver Specifications

Type	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	+18-24 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
Maximum switch-off energy (inductive load)	50 mJ

Regen Brake Specifications

Type	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 70 mA	maximum 80 mA

Article Number and Miscellaneous

Article number	20-014-061-1	
Dimensions	12.5 x 104.2 x 72 mm (W x H x D)	
Standard	UL 508C (E336350)	
Approvals	UL, cUL, CE	

Environmental Conditions

Storage temperature	-20 ... +85 °C	
Environmental temperature	0 ... +50 °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	in accordance with 61000-6-7:2015 (Generic standards - Immunity requirements for equipment intended to perform functions in safety-related systems (functional safety) at industrial locations) in accordance with EN 61000-6-2:2007 (industrial area) (increased requirements in accordance with IEC 62061) Additionally tested according to EN 61800-5-2:2017 (Generic Standards for Electrical Power Drive Systems with Adjustable Speed Part 5-2: Safety Requirements – Functional Safety)	
EMC noise generation	in accordance with EN 61000-6-4:2007 (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