

S-DIAS Axis Module DC 061-1



with 1 motor output stage 6 A
 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 DC |
| Operating voltage | +18-55 V |
| Maximum continuous current | 6 A |
| Maximum peak current (10 sec) | 15 A |
| Controller frequency | 16 kHz |
| PWM frequency | 16 kHz |
| Overload protection | Short circuit cutoff Temperature monitor I ² T 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 | 8 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