

S-DIAS Current Controller Module SR 022



with 1 DC motor output stage
1 incremental encoder input
1 digital input +5 V
2 digital inputs +24 V

The S-DIAS SR 022 current controller module is used to operate a DC motor with a 12-30 V supply voltage and a maximum motor current of 3.5 A. Higher starting currents are possible for a short period.

Additionally, the motor contains an incremental encoder input (optional TTL or RS422 signal), as well as three digital inputs (1x +5 V, 2x +24 V).

Motor Output Specifications

Number	1
Supply voltage	12-30 V DC
Controller frequency	30 kHz
Current	0-2.0 A in S1 mode 0-3.5 A in S3 mode
Output current over the environmental temperature	2.0 A (S1)/3.5 A (S3) up to 45 °C 1.0 A (S1)/1.4 A (S3) up to 55 °C
Operating modes	S1/100 % duty cycle S3/50 % duty cycle with a maximum on-time of 1.5 min
Intermediate circuit capacity	140 µF
Voltage monitoring	Overvoltage and under voltage monitoring
Motor current measurement	0-3.5 A
Protective function	Short circuit switch-off I ² t switch-off Over temperature switch-off

Incremental Encoder Input Specifications

Number	1
Input signals	Incremental encoder signals RS422 (A, /A, B, /B, R, /R) RS422 signal (120 Ω termination, integrated in the module)
	Incremental encoder signals TTL (A, B, R) TTL level (1200 Ω Pull-Up, integrated in the module)
Input frequency	adjustable via software maximum input frequency 400 Hz and 125 kHz
Counter frequency	input frequency adjustable via software maximum counter frequency 1.6 kHz and 500 kHz
Signal analysis	4x
Counter resolution	16-bit
Encoder power supply	+5 V/0.2 A short-circuit proof

+5 V Digital Input Specifications

	Number	1	
	Input voltage	typically +5 V	maximum +5.5 V
	Signal level	low: < +0.8 V	high: > +2.0 V
	Switching threshold	typically +1.4 V	
	Input current	1.5 mA at +5 V	
	Input delay	typically 5 ms	

+24 V Digital Input Specifications

	Number	2	
	Input voltage	typically +24 V	maximum +30 V
	Signal level	low: < +8 V	high: > +14 V
	Switching threshold	typically +11 V	
	Input current	3.7 mA at +24 V	
	Input delay	typically 5 ms	

Electrical Requirements

	Power supply +24 V	18-30 V	
	Current consumption of the +24 V external supply	maximum 70 mA (at +24 V)	
	Motor supply	12-30 V	
	Current consumption of motor supply	depends on the motor	
	Voltage supply from S-DIAS bus	+5 V	
	Current consumption on the S-DIAS bus (+5 V supply)	typically 85 mA	maximum 95 mA
	Voltage supply from S-DIAS bus	+24 V	
	Current consumption on the S-DIAS bus (+24 V supply)	typically 20 mA	maximum 25 mA

Article Number and Miscellaneous

Article number	20-029-022	
Dimensions	12.5 x 104.2 x 72 mm (W x H x D)	
Standard	designed according to UL	
Approvals	UL, cUL, CE, UKCA	

Environmental Conditions

Storage temperature	-20 ... +85 °C	
Environmental temperature	0 ... +55 °C	
Humidity	0-95 %, non-condensing	
Operating conditions	pollution degree 2 altitude up to 2000 m	
EMC resistance	EN 61000-6-2 (industrial area)	
EMC noise generation	EN 61000-6-4 (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