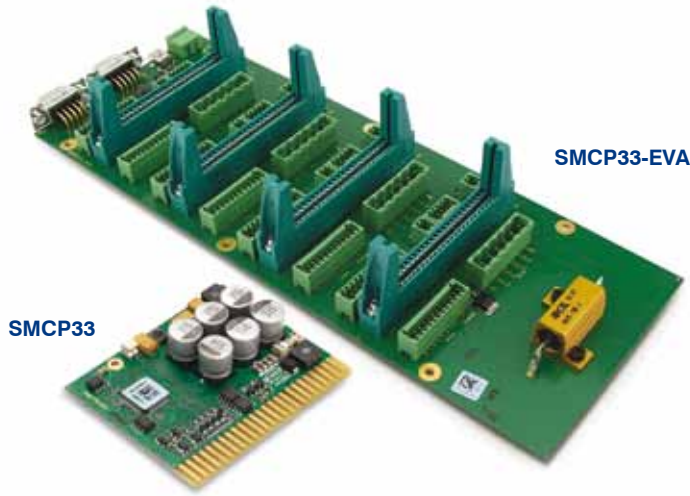


# Motor controllers

## ■ Closed loop motor controller with encoder input, SMCP33



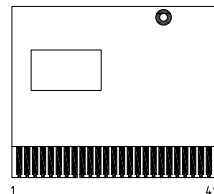
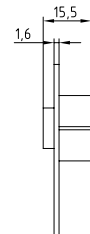
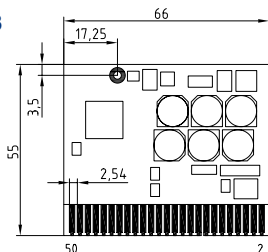
### Technical data

<b>Operating voltage:</b>	12 to 48 V DC
<b>Phase current:</b>	Nominal current 2 A (effective), with heatsink 4 A
<b>Interface:</b>	RS485, USB
<b>Operating mode:</b>	Position, speed, flag position, clock direction, analog, joystick, torque
<b>Operating mode:</b>	1/1, 1/2, 1/4, 1/5, 1/8, 1/10, 1/32, 1/64, adaptive (1/128)
<b>Step frequency:</b>	0 to 50kHz in the clock/direction mode, 0 to 25 kHz in all other modes
<b>Inputs:</b>	8 inputs (5 V), 2 analog inputs (-10...+10 V)
<b>Outputs:</b>	8 outputs (5 V, max. 20 mA TTL)
<b>Position monitoring:</b>	Automatic error correction to 0.9° only with optical encoder (e.g. WEDS5541 series)
<b>Current reduction:</b>	Adjustable 0 - 100%
<b>Protection circuit:</b>	Overvoltage, undervoltage and temperature > 80 °C
<b>Temperature range:</b>	0 to + 40 °C

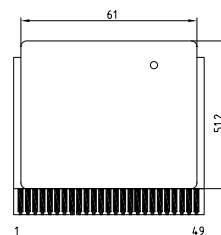
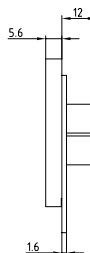
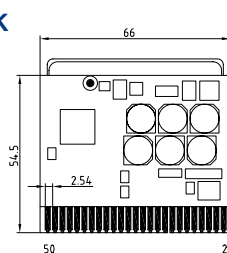
**!** Attention: Always use a backup capacitor for the controller operating voltage. This capacitor should always be positioned as closely as possible to the controller. Controllers up to 4 A require a capacitor of 4700  $\mu$ F and controllers up to 10 A require a capacitor of 10,000  $\mu$ F. Otherwise there is a risk of the controller being destroyed.

### Outline drawing (mm)

#### SMCP33



#### SMCP33-K



Mating plug/PCB holder EDAC type: 345-050-521-202  
345-220-088  
345-240-318

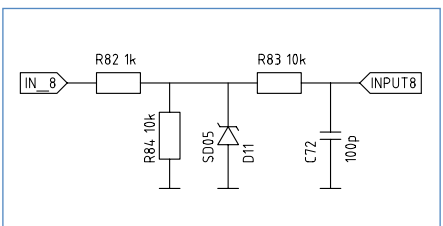
Mating plug  
Inline plug-in unit, short  
Encoding element between contact

### Inputs/outputs (X1)

Pin	Function
1	
2	GND
3	
4	SUPPLY + UB
5	
6	GND
7	
8	MOTOR PHASE B\
9	
10	MOTOR PHASE B
11	
12	MOTOR PHASE A\
13	
14	MOTOR PHASE A
15	
16	GND
17	ENCODER INDEX
18	ENCODER CHANNEL A
19	ENCODER CHANNEL B
20	ENCODER +5V
21	TEMP_MOTOR_1
22	OUTPUT BRAKE
23	
24	OUTPUT BALLAST
25	
26	RS485 RX-
27	RS485 RX+
28	RS485 TX-
29	RS485 TX+
30	
31	GND
32	ANALOG INPUT 1
33	ANALOG INPUT 2
34	INPUT 1
35	INPUT 2
36	INPUT 3
37	INPUT 4
38	INPUT 5
39	INPUT 6
40	INPUT 7
41	INPUT 8
42	OUTPUT 1
43	OUTPUT 2
44	OUTPUT 3
45	OUTPUT 4
46	OUTPUT 5
47	OUTPUT 6
48	OUTPUT 7
49	OUTPUT 8
50	
51	GND

ALL GNDS INTERNALLY CONNECTED

### Input circuits



### Order identifier

**SMCP33**  
**SMCP33-K** (with heatsink)  
Suitable evaluation/motherboard:  
**SMCP33-EVA**