

# Accessories

## Electronic filters

### EFM 5001 / 5003 / 5008

		EFM 5001 S	EFM 5003 S	EFM 5008 S	
Power supply	$U_p$	0 ... 50	0 ... 50	0 ... 50	V
Max. continuous power losses <sup>1)</sup>	$P_{cont}$	50	150	350	W
Continuous output current	$I_{cont}$	1	3	8	A
Max. peak current <sup>2)</sup>	$I_{max}$	3	9	24	A
Inductance		39	47	39	$\mu\text{H}$
Operating temperature range		-25 ... + 65			$^{\circ}\text{C}$
Storage temperature range		-25 ... + 85			$^{\circ}\text{C}$
Dimensions (L x W x H)		65 x 58 x 18	65 x 58 x 18	105 x 75 x 43	mm
Mass		66	66	254	g

<sup>1)</sup> at 22°C ambient temperature

<sup>2)</sup> S2 operation for max. 3s

#### General information

These filters remove the PWM for the motors by means of DC mean value formation.

They are designed for a maximum motor supply voltage with a nominal value of 50V and allow a nominal motor current of 1, 3 or 8 ampere.

With DC-motors, the supply line RMS value can be used.

For the proper filter effect, all PWM filters require a 0V connection, which must be connected as short as possible to the ground connection of the motor supply.

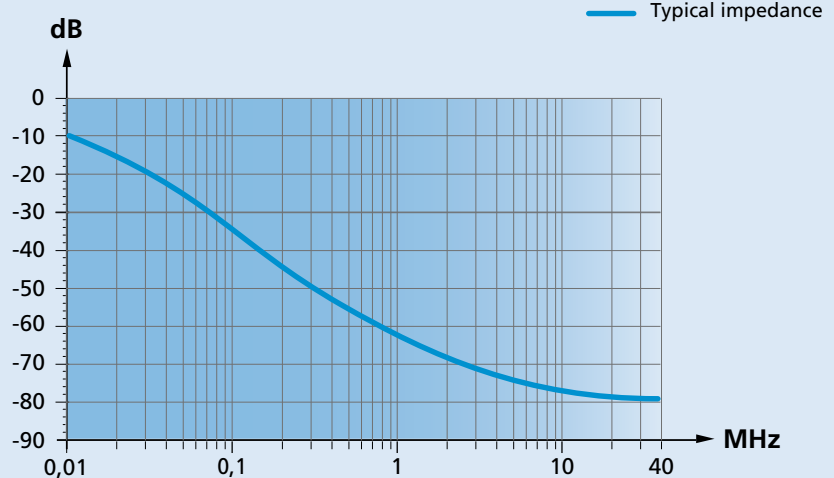
**Note:** The filters of the EFM series are not compatible with MC2.5 controllers.

#### Typical impedance

Typical impedance describes the attenuation of the filter for compensation of high-frequency interference at the semiconductor output stage.

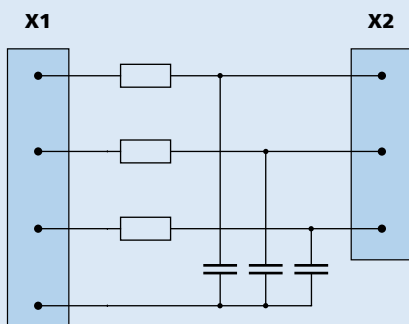
The motor filters are suitable only for high PWM frequencies. Lower PWM frequencies increase the power loss.

Details on use of the filter are given in the respective technical manual.

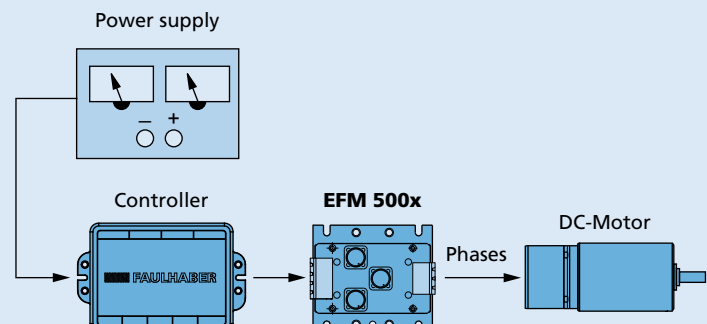


#### Circuit diagram / Connection diagram

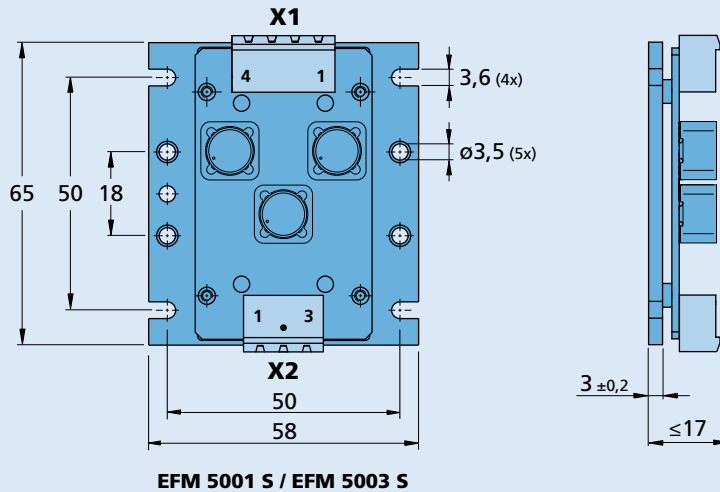
##### Circuit diagram




##### Connection diagram



**Dimensional drawing and connection information**

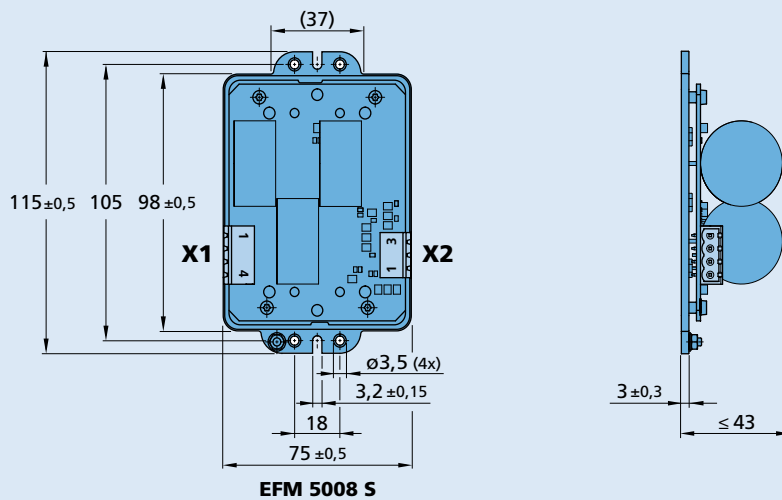



Scale reduced 

**Connection information**

<b>X1</b>	<b>EFM 50xx S input</b>
1	Motor C
2	Motor B
3	Motor A
4	GND
<b>X2</b>	<b>Motor output</b>
1	Motor A
2	Motor B
3	Motor C

**Dimensional drawing and connection information**



Scale reduced 

**Connection information**

<b>X1</b>	<b>EFM 5008 S input</b>
1	Motor C
2	Motor B
3	Motor A
4	GND
<b>X2</b>	<b>Motor output</b>
1	Motor A
2	Motor B
3	Motor C

**Product combination**

Electronic Filters	Speed Controller	Motion Controller V3.0	Motion Control Systems
EFM 5001 S	SC 1801 P SC 1801 F SC 1801 S		
EFM 5003 S	SC 2402 P SC 2804 S SC 5004 P	MC 5004 P MC 5005 S	
EFM 5008 S	SC 5004 P SC 5008 S	MC 5005 S MC 5010 S	