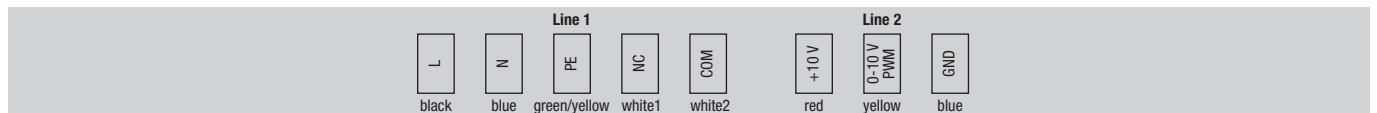
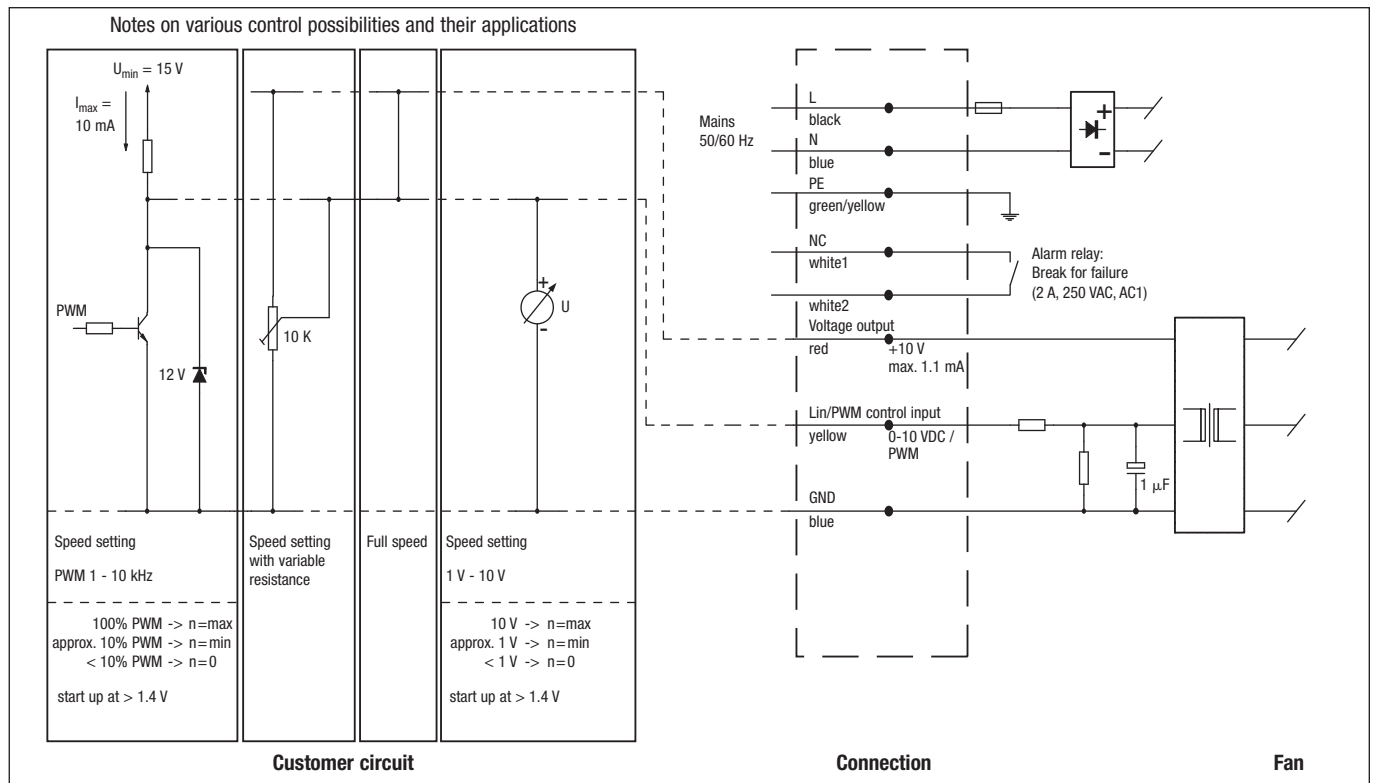


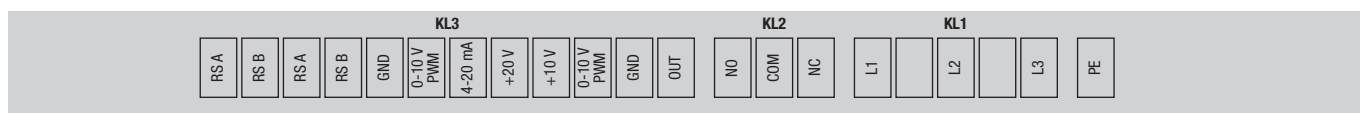
Electrical connections EC

K1) EC motors (size 084, line-fed)



Line	Connection	Colour	Assignment / function	Line	Connection	Colour	Assignment / function
1	L	black	Mains 50/60 Hz, phase	2	+10 V	red	Voltage output +10 V max. 1.1 mA
	N	blue	Mains 50/60 Hz, neutral		0-10 V / PWM	yellow	Control input (Impedance 100 k Ω)
	PE	green/yel	Protective earth		GND	blue	GND
	NC	white1	Alarm relay, break for failure				
	COM	white2	Alarm relay, COMMON				

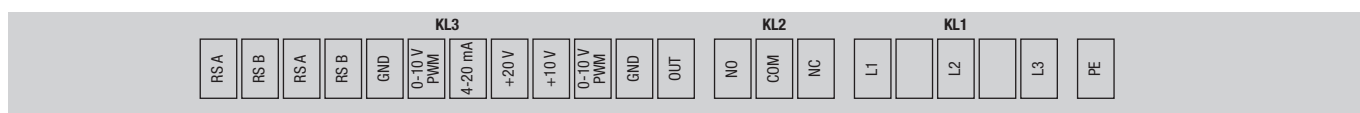
L2) EC motors (size 112, three-phase mains-powered)



Connector	Connection	Assignment / function
PE	PE	Protective earth
KL1	L3	Mains; L3
	L2	Mains; L2
	L1	Mains; L1
KL2	NC	Alarm relay, break for failure
	COM	Alarm relay, COMMON (2A, 250 VAC, AC1)
	NO	Alarm relay, make for failure

Connector	Connection	Assignment / function
KL3	OUT	Master output 0-10 V max. 3 mA
	GND	GND
	0-10 V / PWM	Control / Actual value input (Impedance 100 kΩ)
	+10 V	Supply for external potentiometer, 10 VDC (+10 %) max. 10 mA
	+20 V	Supply for external sensor, 20 VDC (±20 %) max. 50 mA
	4-20 mA	Control / Actual value input
	0-10 V / PWM	Control / Actual value input
	GND	GND
	RSB	RS485 interface for ebmBUS; RS B
	RSA	RS485 interface for ebmBUS; RS A
	RSB	RS485 interface for ebmBUS; RS B
	RSA	RS485 interface for ebmBUS; RS A

M) EC motors (size 150, three-phase mains-powered)

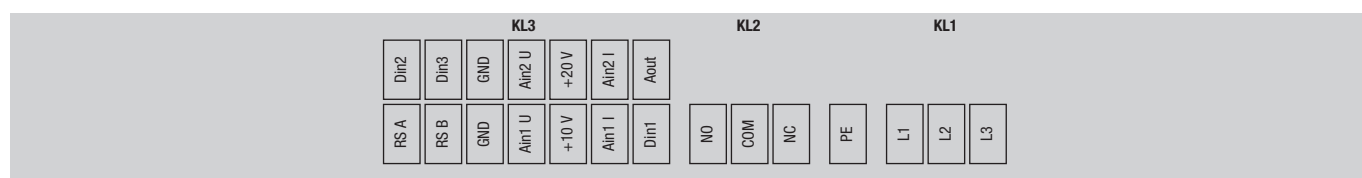


Connector	Connection	Assignment / function
PE	PE	Protective earth
KL1	L3	Mains; L3
	L2	Mains; L2
	L1	Mains; L1
KL2	NC	Alarm relay, break for failure
	COM	Alarm relay, COMMON (2A, 250 VAC, AC1)
	NO	Alarm relay, make for failure

Connector	Connection	Assignment / function
KL3	OUT	Master output 0-10 V max. 3 mA
	GND	GND
	0-10 V / PWM	Control / Actual value input (Impedance 100 kΩ)
	+10 V	Supply for external potentiometer, 10 VDC (+10 %) max. 10 mA
	+20 V	Supply for external sensor, 20 VDC (±20 %) max. 50 mA
	4-20 mA	Control / Actual value input
	0-10 V / PWM	Control / Actual value input
	GND	GND
	RSB	RS485 interface for ebmBUS; RS B
	RSA	RS485 interface for ebmBUS; RS A
	RSB	RS485 interface for ebmBUS; RS B
	RSA	RS485 interface for ebmBUS; RS A

Electrical connections EC

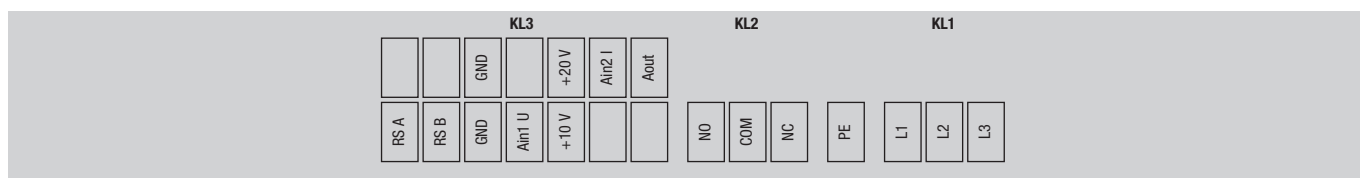
L5) EC motors (size 112, three-phase mains-powered)



Connector	Connection	Assignment / function
KL1	L3	Mains; L3
	L2	Mains; L2
	L1	Mains; L1
PE	PE	Protective earth
KL2	NC	Alarm relay, break for failure
	COM	Alarm relay, COMMON (2A, 250 VAC, AC1)
	NO	Alarm relay, make for failure

Connector	Connection	Assignment / function
KL3	Din1	Digital input 1 (enabling / disabling of electronics), Enabling: Pin open or applied voltage 5...50 VDC Disabling: Bridge to GND or applied voltage < 1 VDC
	Ain1 I	Analogue set value input, 4-20 mA (impedance 100 Ω), only to be used as alternative to terminal Ain1 U
	+10 V	Supply for external potentiometer, 10 VDC (±3 %) max. 10 mA
	Ain1U	Analogue set value input, 0-10 V (impedance 100 kΩ), only to be used as alternative to terminal Ain1 I
	GND	GND
	RSB	RS485 interface for MODBUS RTU; RS B
	RSA	RS485 interface for MODBUS RTU; RS A
	Aout	Analogue output 0-10 V max. 5 mA, reading of current motor speed / current motor control factor
	Ain2 I	Analog. actual value input, 4-20mA (impedance 100Ω), only to be used as alternative to terminal Ain2 U
	+20 V	Supply for external sensor, 20 VDC (+25 % / -10%) max. 40 mA
	Ain2 U	Analog. actual value input, 0-10 V (impedance 100 kΩ), only to be used as alternative to terminal Ain2 I
	GND	GND
	Din3	Digital input 3 (switch Normal / Inverse), The preset effective direction of the integrated controller can be selected via BUS or via digital input Normal/Inverse. Normal: Pin open or applied voltage 5...50 VDC Inverse: Bridge to GND or applied voltage < 1 VDC
	Din2	Digital input 2 (switch Day / Night), The preset set of parameters can be selected via BUS or via digital input Day/Night. Day: Pin open or applied voltage 5...50 VDC Night: Bridge to GND or applied voltage < 1 VDC

M2) EC motors (size 150, three-phase mains-powered)



Connector	Connection	Assignment / function
KL1	L3	Mains; L3
	L2	Mains; L2
	L1	Mains; L1
PE	PE	Protective earth
KL2	NC	Alarm relay, break for failure
	COM	Alarm relay, COMMON (2A, 250 VAC, AC1)
	NO	Alarm relay, make for failure

Connector	Connection	Assignment / function
KL3	+10 V	Supply for external potentiometer, 10 VDC ($\pm 3\%$) max. 10 mA
	Ain1U	Analogue set value input, 0-10 V (impedance 100 k Ω), only to be used as alternative to terminal Ain2 I
	GND	GND
	RSB	RS485 interface for ebmBUS; RS B
	RSA	RS485 interface for ebmBUS; RS A
	Aout	Analogue output 0-10 V max. 5 mA, reading of the current motor control factor
	Ain2 I	Analog. actual value input, 4-20mA (impedance 100 Ω), only to be used as alternative to terminal Ain1 U
	+20 V	Supply for external sensor, 20 VDC (+25 % / -10%) max. 40 mA
	GND	GND