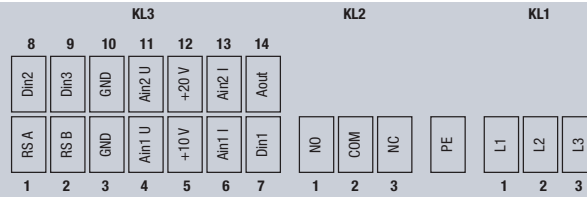


# Electrical connections EC M3)

## Technical features:

- PFC (passive)
- integrated PID controller
- Control input 0-10 VDC / PWM
- Input for sensor 0-10 V or 4-20 mA
- Slave output 0-10 V max. 5 mA
- Output 20 VDC ( $\pm 20\%$ ) max. 50 mA
- Output 10 VDC (+10 %) max. 10 mA
- RS485 MODBUS-RTU
- Motor current limitation, Alarm relay
- Line undervoltage / phase failure detection
- Over-temperature protected electronics / motor
- Reverse polarity and locked-rotor protection, Soft start
- External 24 V input (programming)
- External release input
- Operation and alarm display
- Control interface with SELV potential safely disconnected from the mains



Connector	Pin	Connection	Assignment / function
KL1	1	L1	Mains supply connection, supply voltage 3~380-480 VAC; 50/60 Hz
	2	L2	Mains supply connection, supply voltage 3~380-480 VAC; 50/60 Hz
	3	L3	Mains supply connection, supply voltage 3~380-480 VAC; 50/60 Hz
PE	PE	Earth connection, PE connection	
KL2	1	NO	Status relay, floating status contact, close with error
	2	COM	Status relay, floating status contact, changeover contact, common connection (2 A, 250 V, min. 10 mA, AC1)
	3	NC	Status relay, floating status contact, break with error
KL3	1	RSA	Bus connection RS485; RSA; MODBUS RTU
	2	RSB	Bus connection RS485; RSB; MODBUS RTU
	3/10	GND	Signal ground for control interface
	4	Ain1 U	Analogue input 1 (set value); 0-10 V; Ri= 100 k $\Omega$ ; parametrisable curves; only usable as alternative to input Ain1 I
	5	+10 V	Fixed voltage output 10 VDC; +10 V $\pm 3\%$ ; max. 10 mA; short circuit proof; power supply for ext. devices (e.g. potentiometer)
	6	Ain1 I	Analogue input 1 (set value); 4-20 mA; Ri= 100 $\Omega$ ; parametrisable curve; only usable as alternative to input Ain1 U
	7	Din1	Digital input 1: enabling of electronics; enabling: open pin or applied voltage 5 to 50 VDC; disabling: bridge to GND or applied voltage < 1 VDC; reset function: triggers software reset after a level change to < 1V
	8	Din2	Digital input 2: parameter set switch 1/2; according to EEPROM setting, the valid/used parameter set is selectable per BUS or per digital input Din2. Parameter set 1: open pin or applied voltage 5 to 50 VDC; parameter set 2: bridge to GND or applied voltage < 1 VDC
	9	Din3	Digital input 3: Control characteristic of the integrated controller; according to EEPROM setting, the control characteristic of the integrated controller is normally/inversely selectable per BUS or per digital input; normal: open pin or applied voltage 5 to 50 VDC (control deviation = actual sensor value - set value); inverse: bridge to GND or applied voltage < 1 VDC control deviation = set value - actual sensor value)
	11	Ain2 U	Analogue input 2; actual sensor value 0-10 V; Ri= 100 k $\Omega$ ; parametrisable curve; only usable as alternative to input Ain2 I
	12	+20 V	Fixed voltage output 20 VDC; +20 V $\pm 25\%$ ; max. 50 mA; short circuit proof; power supply for ext. devices (e.g. sensors)
	13	Ain2 I	Analogue input 2; actual sensor value 4-20 mA; Ri= 100 $\Omega$ ; parametrisable curve; only usable as alternative to input Ain2 U
	14	Aout	Analogue output 0-10 V; max. 5 mA; output of the actual motor control factor (output voltage of electronics)/of the actual motor speed; function selectable per BUS; parametrisable curve