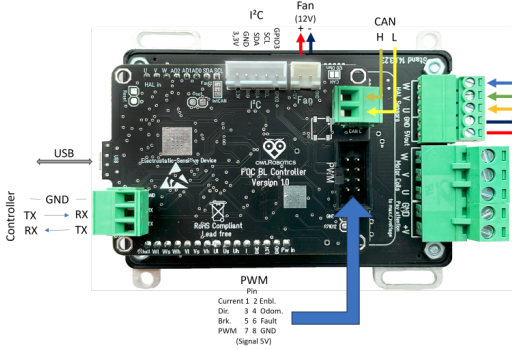
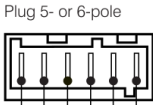


owlDrive black



24V power supply

ebm-papst BG 3633
(1-phase BLDC)



View from the plug side 6-pole connection
Matching mating connector (5- or 6-pole) e.g. Lumberg 3611 05 K31 5-pole; 3611 06 K31 6-pole

- 1 Motor 2
- 2 S Hall-Signal "out"
- 3 + Hall-Signal VCC
- 4 - Hall-Signal GND
- 5 Motor 1
- 6 PE (optional)



To change settings, attach USB cable to owlDrive and start a serial monitor. Send '0' to enter menu.

```
owlDrive main menu (firmware ver 36, database ver 28, CanNode 1, broadcast 63)
0. Exit menu
1. Selected profile (preset): Default (motor=Generic 1-phase-BLDC (1-channel encoder) pcb=owlRobotics_black_edition_Board)
2. Selected motor (preset): Generic 1-phase-BLDC (1-channel encoder)
3. Selected PCB: owlRobotics_black_edition_Board
4. Profile menu (align=0 invertDir=0 enableIn=0 pwmIn=0 fanDuty=0.50 serialMonOut=1 endSwIn=0 endSwActLow=1 endSwPosDirTg=
5. PCB menu (shuntR=7.41 opAmpGain=-1.00 opAmpOfs=1.65 overCurr=0.08A overVolt=1 underVolt=12.00 emfProtect=0 temp=1)
6. Motor menu (typ=BLDC-1-phase Usup=24V sen=Enc(1ch) kv=183 rpm=4400 R=0.9000 ohm L=0.00070 H pp=0 alignV=0.00 zeroOfs=0
7. Motion Control mode menu (torque torqueCtl=voltage usePhR=0 useKV=0 usePhL=1 limits U=+/-15.00 I=+/-2.00)
8. FOC Modulation type: SinePWM
9. Phase tester
10. CAN menu (canSpeed=1000kbps canMsgId=300 canNodeId=1 canNodeIdBroadcast=63 broadcastMask=0 followId=0 followVal=1)
11. Save to EEPROM and exit (required to make changes persistent)
12. Save to EEPROM and reboot (required if changed motor/pcb/sensor)
```

To test motor send: M5, M12 etc. (with the desired output phase voltage/torque)

/dev/ttyACM0												
M5												
canNode 2	sec 31	lps 25288	focps 5470	tg(torque->voltage) 0.00	v 0.0(0rpm)	Usup 26.58	BEMF					
Target: 0.000												
canNode 2	sec 32	lps 25269	focps 10765	tg(torque->voltage) 0.00	v 0.0(0rpm)	Usup 26.83	BEMF					
canNode 2	sec 33	lps 25280	focps 5468	tg(torque->voltage) 0.00	v 0.0(0rpm)	Usup 26.77	BEMF					
Target: 5.000												
canNode 2	sec 34	lps 24852	focps 13950	tg(torque->voltage) 5.00	v 178.2(1702rpm)	Usup 26.83						
canNode 2	sec 35	lps 24705	focps 5431	tg(torque->voltage) 5.00	v 200.4(1913rpm)	Usup 26.47						
canNode 2	sec 36	lps 24683	focps 5425	tg(torque->voltage) 5.00	v 200.4(1913rpm)	Usup 26.50						

```
Sunray settings:
#define MOW_MOTOR_COUNT 1
#define MOW_ADJUST_HEIGHT false
#define MOW_OVERLOAD_CURRENT 0.08
#define ENABLE_OVERLOAD_DETECTION true
#define ENABLE_FAULT_DETECTION true
#define ENABLE_RPM_FAULT_DETECTION true
```