

**YOU NEED**

- PD-1161
- Serial interface: RS232, RS485, or USB
- If you choose RS485: RS485 interface converter suitable to your module
- Nominal supply voltage +24V DC (10... 30V DC)
- TMCL-IDE program and PC
- Cables for interface, motor, and power

**STARTING UP**

1. Choose your interface.  
*USB:* connect USB interface to PC. Download and install the file *TMCM-1161.inf* ([www.trinamic.com](http://www.trinamic.com)) after connecting the power supply.  
*RS485 or RS232:* use the interface connector.

For communication via RS485 interpose an interface converter (e.g. USB-2-485). Connect the chosen interface to PC.

2. Connect the 24V DC power supply. Use pin 1 and pin 2 of the interface connector.
3. Turn power ON. The green LED for power lights up and the motor is powered but in standstill now. *If this does not occur, turn power OFF and check your connections and power supply!*
4. Start the TMCL-IDE program  
*See next page how to configure the connection and to use the IDE.*
5. Type in the open window:

```

ROL o, 500 //Rotate motor 0 with speed 500
WAIT TICKS, o, 500
MST o
ROR o, 250 //Rotate motor 0 with 250
WAIT TICKS, o, 500
MST o

```

6. Click the *Assemble* icon. Thereafter click the *Download* icon to download the code to the module. Click the *Run* icon. The program will now be executed.
7. Click the *Stop* icon and start TMCL™ *Direct Mode* to issue the following commands:

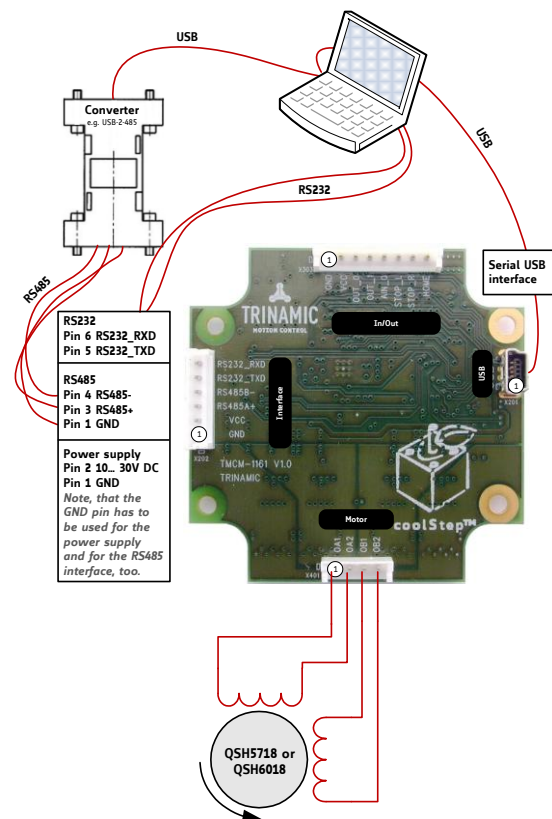
ROR rotate right, motor 0, value 500 -> click *Execute* / The motor is rotating now.  
MST motor stop, motor 0 -> click *Execute* / The motor stops now.

**FIRST STEPS ARE MADE.**

Please refer to the PD-1161 Hardware and Firmware Manuals, too.

**PRECAUTIONS**

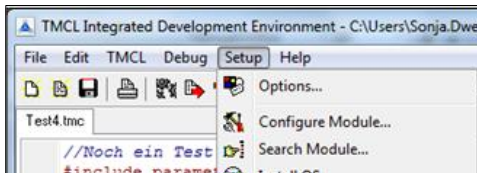
- Do not mix up connections or short-circuit pins.
- Avoid bounding I/O wires with motor power wires.
- Do not exceed the maximum power supply of +30V DC!
- Do not connect or disconnect the motor while powered!
- **START WITH POWER SUPPLY OFF!**



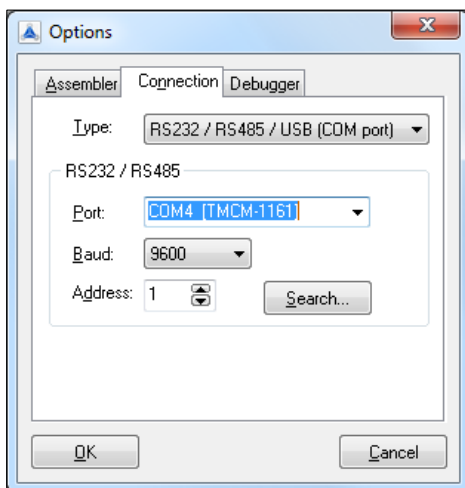
## TMCL-IDE

The TMCL-IDE is available on [www.trinamic.com](http://www.trinamic.com).

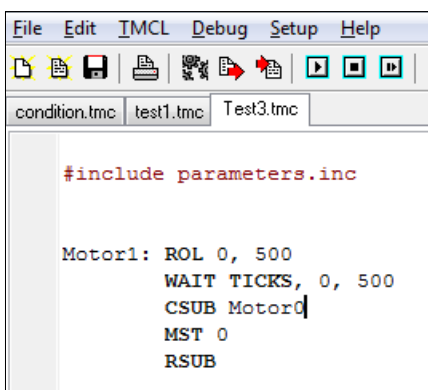
1. Make sure the COM port you intend to use is not blocked by another program.
2. Open TMCL-IDE by clicking *TMCL.exe*.
3. Choose *Setup* and *Options* and thereafter the *Connection* tab.



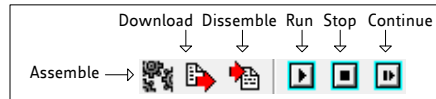
4. Choose *COM port* and *Type*. Click *OK*.



5. Write a program code into the white field and save it with *File/Save*. Note, that TMCL programs run standalone on the module, too.



6. Click *Assemble* first, then *Download* and *Run* to start the program.



7. Stop all running programs by clicking *Stop* and start *Direct Mode* by clicking the appropriate icon.



8. The TCM-1161 is automatically detected, if the communication is established.
9. Issue a command by choosing *Instruction*, *Type*, *Motor*, and *Value* and click *Execute* to send it to the module.



### TROUBLESHOOTING

#### IF COMMUNICATION IS NOT ESTABLISHED

- Check if the green LED lights up. If not, check your power supply.
- Try to start *Direct Mode* and check, if the module is detected automatically.
- Check, if you are using the right COM port and it is not blocked by another program.
- Check, if the file *TMCM-1161.inf* is installed correctly.
- Check your connection settings. Default: 9600 baud, address 1.
- Check if your RS485 converter functions.

#### IF MOTOR DOES NOT RESPOND

- Usually the communication is not established (see above).
- Check the motor connection.
- If you are using a TMCL™ program try a movement command in *Direct Mode* to check if there is a problem with it.
- Restore factory settings by using instruction 137 for cancelling all settings modified by the user.