

SilverPak 17T

MOTOR + CONTROLLER + DRIVER

MAIN FEATURES:

- Voltage: +7 to 28VDC
- Current: 0.1 to 1.5 Amps programmable
- Hold current: 0.1 to 1.5 Amps programmable
- Step resolution: Full Step, 2x, 4x, 8x, 16x
- Speed: (max step frequency: 45kHz)
- Inputs: 2 limit switches, 1 analog or digital
- Outputs: 1 open-collector (100mAmp)
- RS485 communication
- Stand alone operation, can store programs on EEPROM and run upon power up
- Easy installation due to integration
- Stallguard™ (encoder-less stall detection embedded in controls systems)
- Damper included in every unit for smooth motion.

DETAILED FEATURES:

- Operating temperature: -20 to 50°C

INCLUDED ACCESSORIES:

- A DB-15 cable comes with each unit and it depends on which converter card they are using.

OPTIONAL ACCESSORIES:

(Available for an additional cost)

(p/n 083-00035)

- Designer's kit: RS232-to-485 with push button, toggle switch, potentiometer, DB-15 cable (p/n 090-00094, and CD_ROM



(p/n 083-00036)

- Designer's kit: USB485 converter card with push button, toggle switch, potentiometer, DB-15 cable (p/n 090-00096), 6FT USB cable, 3-pin to 3-pin cable, and CD_ROM



CONNECTION SPECIFICATIONS:

Pin #	Color	Function
1	Black	Left Limit Switch
2	Red	Right Limit Switch
3	Green	Power Ground (GND)
4	Brown	General Purpose Output
5	Black/White	Power out (VDD)
6	Yellow	Power Ground
7	Orange	General Purpose Input
8	Green/White	+5 Volt output (max 20mA)
9	Blue	Power Ground
10	Red/White	+7 to 28VDC
11	Orange/White	Communication Ground (GND)
12	Blue/White	RS485 Com (RxD)
13	Yellow	RS485 Com (TxD)
14	 	No Connection
15	 	No Connection

PROGRAMMING:

- Programming the Silverpak 17T is easy due to Trinamic's TMCL programming GUI interface.

Here is a sample program:

```

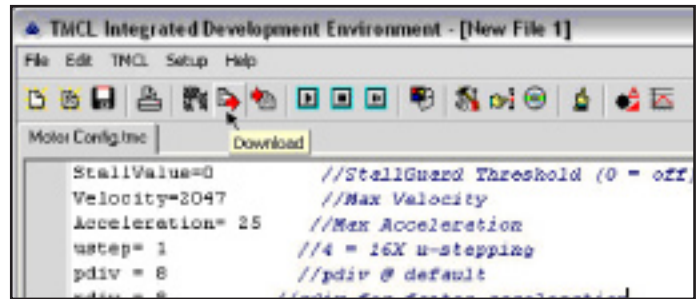
//TMCL sample setup program

//StallGuard Threshold (0 = off)
StallValue=0
//Max Velocity
Velocity=2047
//Max Acceleration
Acceleration= 1100
//4 = 16X u-stepping
ustep= 4
//pdiv @ default
pdiv = 3
//idiv
idiv = 0
//400 mA Peak
ihold = 400
//300 mA Peak
ihold2 = 300
//0048 = en, 0 = off
decay = 0

//Initialization of above parameters

SMP 6, 0, current //Setting Current
SMP 203, 0, decay //Watch Mixed Decay
SMP 5, 0, acceleration //Setting max acceleration
SMP 208, 0, StallValue //Setting StallGuard Threshold
SMP 140, 0, ustep //Setting u-stepping
SMP 143, 0, ihold //Max Hold Current
SMP 154, 0, pdiv //Initializing pdiv
SMP 4, 0, velocity //Setting max/min velocity
SMP 136, 0, idiv //Ramp Slope
RRR 0, 1048 //Rotate Right Continuously
WAIT TICKS, 0, 1000 //Wait for 1000 msec before issuing next command
MXT 0 //Stop Motor @ 0
STEP
    
```

- Once code is written, you may download, and press 'Play':



TMCL PROGRAMMING LANGUAGE:

- You can program loops, subroutines, jump conditions
- You can store a program to run upon power up

```

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STALLGUARD:

- Pre-set the stall threshold by rotating motor at constant speed and moving the threshold bar.



- And you can test between specific speeds what the stall value is (0 to 7)

