TMC-USB series controllers

Naming rules of driver modular:

TMC–USB–x–xxxx

- TMC-USB: USB version of total solution of motion control systems
- Total quantity of axis controlled x: 1- to 4-axis
- Type of motors driven:
  S242: two-phase 42 (and less) stepping motors
  S257: two-phase 57 stepping motors
  S286: two-phase 86 stepping motors
  S357: three-phase 57 stepping motors
  S5xx: five-phase stepping motors
  ASP1: AC servo motors, Panasonic, 100W
  ASP2: AC servo motors, Panasonic, 200W
  DSxx: DC servo motors
  LMP5: standard linear motors (includes DD motors), driving current 5A
  LMC10: standard linear motors (includes DD motors), driving current 10A

Description:

TMC-USB series products are PC- and controlling card-based total solution of motion control systems which meet the requirements of multi-dimension motions and multi-type motor usage. They are full of characteristics of being operated with kinds of motors and providing high flexibility to combination of multi-axis. The standard products from Zolix can be used for controlling two-, three- and five-phase stepping motors, servo motors, linear motors and DD motors. One controller can drive different kind of motors by employing different type of controlling cards.

Software is developed with LABVIEW environment. It is easy for operation, further customer-development and integration with other equipment on customers' sites. The database of controlling parameters of all kinds of Zolix's motorized stages is built-in. That offers a one-step easy operation by choosing the correct model number of stage being used.

The interface of software can display operation parameters of each axis and does not need the switch among different axis. Operator can control one axis or a combination of multi-axis. Four independent thread procedures can be run. Cycling and branching instructions can be provided.

The functions above guarantee TMC-USB series controllers to be used in automatic production lines and be operated with automatic testing instruments.

Main specifications

Basic functions	
Output of single controlling card	Pulse control of 2- or 4-channel stepping motor, optocoupler for isolation
Maximum output frequency	4MHz
Error on pulse output frequency	< 0.1%
Interpolation	Linear-interpolation of 2 to 3 random axis; Circle-interpolation of 2 random axis
Continuous interpolation function	Yes
Type of acceleration/ deceleration	Linear
Digit of logic counter for positioning	32
Capability of real-time-changing of speed during motions	Yes
Parameters can be read during motions	Logic position, real position, driving speed, acceleration
Position detection of each axis	Input ports provided for independent left- and right-side-limit sensors and origin-point sensor, for each axis
Inputs	Up to 8-channel optocoupler input for each axis
Inputs of encoder	Pulsed optocoupler inputs for A- and B-phase of encoder
Outputs	Up to 8-channel optocoupler output of open-collector for each axis
Operation conditions	
Power supply	220V AC +/- 10% 45-65Hz
Power	< 1KW
Working temperature range	0℃~50℃
Storage temperature range	-20℃~80℃
Working humidity range	20%~95%
Storage humidity range	0%~95%