

TWIDO™ Programmable Controllers

Frequently Asked Technical Questions

What Is the Twido Din Socket Pinout?

What is the pinout from a Twido to the Serial Port on my PC?

Does the Twido PLC have an integrated RTC (Real Time Clock) function?

What communication protocols are supported by the Twido PLCs?

Can both serial ports on the Twido support Modbus Master functionality?

Can the Twido communicate via Unitelway?

Can the native serial port on the Twido be configured for RS-232?

Does Twido have a first-scan bit?

How is a ladder logic element placed in a program using TwidoSoft?

How do I delete a vertical short in my ladder logic in TwidoSoft?

Can I use port 2 of my Twido as a programming port?

What software package do I need in order to program a Twido PLC?

Which operating system support TwidoSoft?

Is it possible to connect a 4 wire PT100 to the Twido Module TWD ALM3LT?

What Is the Pinout from the Twido To A 174CEV30010 Modbus to Ethernet Bridge?

Can I edit logic on-line while the Twido is in run mode?

Which Agency Standards do the Twido controllers comply with?

How do you configure Memory Words (%MWi) in Twidosoft?

Does Twido have a Plus or Minus 10 volt DC Analog module?

How do you delete an instance of a function block from memory in Twidosoft?

Why doesn't my Schedule Block in a Twido Controller work with the same start and stop times on different dates?

What are the Twido Controller LED Indicators and what do they indicate?

How do I change the Twido Base Controller type in my new application?

How do I open a previously saved animation table in TwidoSoft?

What is the primary difference between the Twido "Compact" controller and the Twido "Modular" controller?

Is it possible to increase the number of I/O points on the Twido "Compact" controller?

Is the Twido range of product TuV compliant?

Is it possible to save an application to EEPROM without using the optional EEPROM cartridge?

What actions are performed on Twido Controllers by "Backup", "Restore" and "Erase"?

What is the difference between a Twido PEER node and Twido Remote I/O node?

Is it possible to monitor scan time on my Twido controller without programming a scan time evaluator?

How do you make the Twido controller automatically run after startup or power cycle?

What are the minimum PC requirements for running the Twido Soft Software?

What are the scan times for the Twido controllers?

What are the pinouts for the RS485 when using Remote I/O Link with Twido?

What is the maximum distance allowed when using Remote I/O Link with Twido

What is the maximum number of analog I/O points for a Twido controller?

How do I load a program to the Twido from a backup cartridge?

What security features does TwidoSoft offer?

Is conformal coating available for Twido controllers?

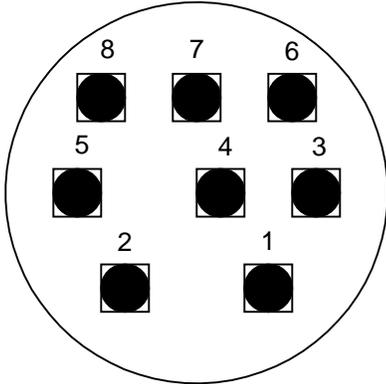
What is the life of the battery used in the Twido Controller?

Question:

What Is the Twido Din Socket Pinout?

Answer:

Twido Din Socket Pinout



Pin	Connection Type		Cable	
	RS-232	RS-485	TSX CX 100	T FTX CV1 020
1	RTS	D(B)	Black	Black
2	DTR	D(A)	Brown	Yellow
3	TXD	NC	Red	Blue
4	RXD	/DE	Orange	Green
5	DSR	/DPT	Yellow	Brown
6	SIG GND	NC	Green	Gray
7	SIG GND	0 Volts	Blue	Red
8	NC	5 Volts	White	White

Question:

What is the pinout from a Twido to the Serial Port on my PC?

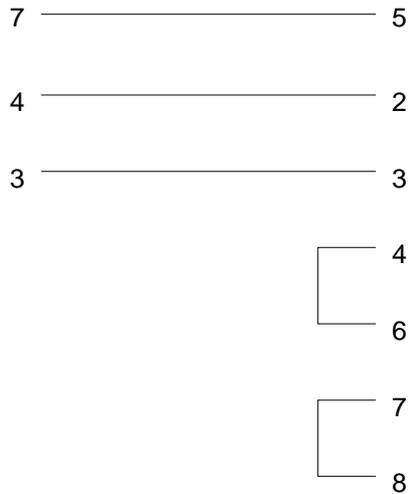
Answer:

This is the pinout to connect the Twido RS232 Din port to a PC's DB-9 serial port.

Twido to PC Serial Port

Twido RS232 Port

PC Serial Port



Question:

Does the Twido PLC have an integrated RTC (Real Time Clock) function?

Answer:

No, they do not have integrated real time clock function. In order to utilize the RTC function, it is necessary to use the optional plug-in RTC module. The part number for the RTC module is TWDXCPRTC.

Question:

What communication protocols are supported by the Twido PLCs?

Answer:

ASCII (American Standard Code for Information Interchange) and *Modbus* are the only two supported protocols.

Question:

Can both serial ports on the Twido support Modbus Master functionality?

Answer:

Yes. Both the native Modbus port and the optional additional Modbus port (for those models supporting the optional Modbus port) can support Modbus master functionality.

Question:

Can the Twido communicate via Uni-telway?

Answer:

No. The Twido's serial ports are not capable of communicating via Uni-telway. They will communicate via Modbus RTU and Modbus ASCII as well as ASCII.

Question:

Can the native serial port on the Twido be configured for RS-232?

Answer:

No. The native serial port on the Twido is RS-485 dedicated. There is an optional serial interface adapter, which is RS-232C, part number TWDNAC232D. There is also an RS-232 option module, part number TWDNOZ232D.

Question:

Does Twido have a first-scan bit?

Answer:

Yes. System bit 13 (%S13) is the first scan indicator bit. This bit is normally 0. It is set to 1 by the system only during the first scan after the controller has been changed to RUN.

Question:

How is a ladder logic element placed in a program using TwidoSoft?

Answer:

A logic element may be selected by left clicking on the element or using the function keys. To place the selected element into logic, right click on the desired location within the grid.

Question:

How do I delete a vertical short in my ladder logic in TwidoSoft?

Answer:

Place the locator box above and to the left of the vertical short. Select F9 "erase down connector" . Right click on mouse. This will remove only the vertical short from the rung, no other logic will be erased.

Question:

Can I use port 2 of my Twido as a programming port?

Answer:

No. Only the native serial port (port #1) can be used as a programming port.

Question:

What software package do I need in order to program a Twido PLC?

Answer:

Only TwidoSoft can support the Twido.

The part numbers for TwidoSoft are as follows:

TWDSPU1001V10M = TwidoSoft programming software CD, Documentation, and includes the programming cable.

TWDSPU1002V10M = TwidoSoft programming software CD and Documentation only.

Question:

Which operating system support TwidoSoft?

Answer:

TwidoSoft is only supported under WIN98SE and WIN2000.

Question:

Is it possible to connect a 4 wire PT100 to the Twido Module TWD ALM3LT?

Answer:

No, the module is designed to support Sound Pt 100 3-wire (-100....500 C).

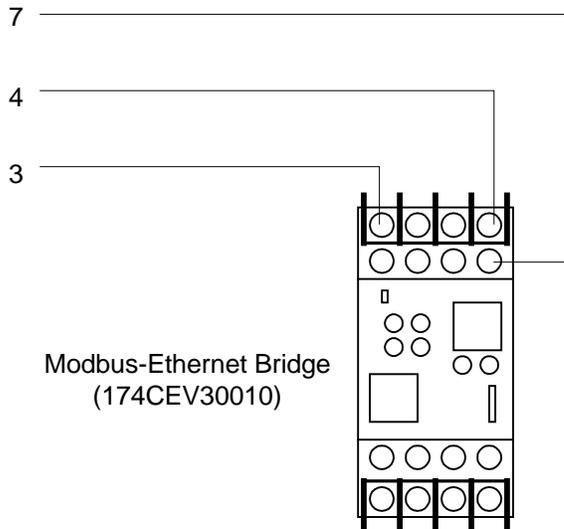
Question:

What Is the Pinout from the Twido to a 174CEV30010 Modbus to Ethernet Bridge?

Answer:

Twido to MB-Ethernet Bridge

Twido RS232 Port



Question:

Can I edit logic on-line while the Twido is in run mode?

Answer:

No, you need to stop the controller in order to edit logic online.

Question:

Which Agency Standards do the Twido controllers comply with?

Answer:

The Twido controllers comply with the main national and international standards concerning electronic industrial control devices.

The following are specific standards that the controllers conform to as listed in the TwidoSoft online help v.0.5.5.

EN61131-2 (IEC61131-2)

UL508

UL1604/CSA 213 Class I Division 2 Groups A, B, C, D

Question:

How do you configure Memory Words (%MWi) in Twidosoft?

Answer:

Memory Words must be addressed in your application. If there is no reference in your application then you will not be able to access them.

An example:

If you needed to use 1000 Memory Words to write data to, you need to reference the memory word %MW999 in your application. The application will then allocate Memory Words %MW0 to %MW999 as referenced and you will be able to access them.

Question:

Does Twido have a Plus or Minus 10 volt DC Analog module?

Answer:

No. Only 0 to 10 volts and 4 to 20 mA modules are available.

Question:

How do you delete an instance of a function block from memory in Twidosoft?

Answer:

You can not delete an instance of a Function Block from memory after it has been configured. Once a Function Block is configured in logic, the system allocates memory for this instance. If you delete the Function Block from logic it does not delete the memory that has been allocated for this Function Block.

A work around:

- Export the application as an ASCII Program and save.
- Open the saved ASCII program with a text editor.
- Delete the Function Block references as displayed in Instruction List.
- Save the text file
- Create a New Application in Twidosoft and import the updated Text file.

Question:

Why doesn't my Schedule Block in a Twido Controller work with the same start and stop times on different dates?

Answer:

You must offset the start or stop time. The times in each entry field can not be the same value.

Example: if you have a start time of 9:00 AM on the 5th of a month, then the stop time on the 6th of a month should be something different like 9:01 AM.

Question:

What are the Twido Controller LED Indicators and what do they indicate?

Answer:

Status of the Controller

The following table displays the different LED states on a base controller, peer controller, and remote controller.

LED Status		Base Controller or Peer Controller	Remote Controller
RUN green		Application not executed	Incorrectly or not connected
		Controller is in STOP mode or execution fault	Same as base controller
		Controller is in RUN mode	Same as base controller
ERR red		OK	OK
		Application not executable	N/A
		Internal faults (watchdog, etc.)	Same as base controller
STAT green		Controlled by the user or application through system bit %S69	Same as base controller
		N/A	N/A
		Controlled by the user or application through system bit %S69	Same as base controller
 Off  Flashing  Illuminated			

Question:

How do I change the Twido Base Controller type in my new application?

Answer:

When starting a new application the TWDLMDA40DUK default controller is used. This may need to be changed to match the hardware you are using.

If the Base Controller in the application does not match the hardware it will not be possible to download to the controller.

1. From the application browser right click on icon next to TWDLMDA40DUK or from the Tool bar select Hardware.
2. Select 'Change Base Controller'.
3. Highlight the correct Base Controller for your Application. (The description field will give details of the controller type you are selecting.)
4. Click the 'Change' button.

The New Base Controller should now be displayed in the Application Browser.

Question:

How do I open a previously saved animation table in TwidoSoft?

Answer:

1. Open the application browser from the View tool bar.
2. Double click the animation tables icon.
3. Right click on the Animation tables icon or select Tools from the Tool bar.
4. Select 'Open Animation table'
5. Select the animation table (*.tat file)**
6. Click on the open button.

** The default directory for saving Animation tables is Applications within TwidoSoft

Question:

What is the primary difference between the Twido "Compact" controller and the Twido "Modular" controller?

Answer:

The Twido "Compact" offering has a fixed number of I/O points. Either 10, 16 or *24 points. The Twido "Modular" offering can be scaled to a user defined or "just enough" number of I/O points by using any of the 18 expansion I/O modules in the Twido range.

* Twido "Compact" model TWDLCAA24DRF can support up to 4, I/O expansion modules.

Question:

Is it possible to increase the number of I/O points on the Twido "Compact" controller?

Answer:

Yes. Base model TWD LCAA 24DRF will support up to 4 I/O expansion modules. This expansion will result in a maximum of 88 I/O points for screw / wire clamp terminal block expansion modules. If you choose to use the HE-10 style connections for your expansion modules you will be able to increase the number of I/O points to a total of 152.

Question:

Is the Twido range of product TuV compliant ?

Answer:

Yes. In fact the Twido product range has met the following standards.

IEC	61131-2
UL	508
UL	1604
CSA	C22.2
CE	
UL Class 1 Div 2	Groups A B C D

Question:

Is it possible to save an application to EEPROM without using the optional EEPROM cartridge?

Answer:

Yes, it is possible to save an application to EEPROM without using the optional EEPROM cartridge.

Each Twido offers a limited amount of onboard EEPROM storage.

- TWD LCAA 10DRF 10 Kb
 - TWD LCAA 16DRF 16 Kb
 - TWD LCAA 24DRF 32 Kb
 - TWD LMDA 20D*K 32 Kb
 - TWD LMDA 20DRT 32 Kb
 - TWD LMDA 40D*K 32 Kb
-

Question:

What actions are performed on Twido Controllers by "Backup", "Restore" and "Erase" ?

Answer:

The commands "Backup", "Restore" and "Erase" are dialogues used in conjunction with the onboard or optional EEPROM memory area.

Backup: This option is accessible in on-line and off-line mode. When selected, the Backup option will transfer the contents of the Twido's RAM area to EEPROM. The controller must be stopped in order to use Backup.

Restore: This option is only accessible in the off-line mode. When selected, the Restore option will transfer the contents of the Twido's EEPROM to the RAM area. The controller must be stopped in order to use Restore.

Erase: This option is only accessible in off-line mode. When selecting "Erase All" the contents of the EEPROM area as well the contents of RAM are erased. The controller will be in an "unconfigured" state after performing an "Erase All" command. When selecting "Erase backup cartridge only" the contents of the optional 32Kb or 64Kb cartridge will be erased, leaving the contents of the RAM area intact.

Question:

What is the difference between a Twido PEER node and Twido Remote I/O node?

Answer:

A PEER controller resides on the Remote I/O network and executes its own application program. Communications between the Master controller and the PEER controller is accomplished by using network words %INW & %QNW. Every PEER controller on the Remote I/O network has 4 %INW's and 4 %QNW's.

There is no direct PEER to PEER messaging within the Remote I/O network. Each PEER node on the network must use the Master node as a bridge in order to exchange data with other nodes on the Remote I/O.

A Remote I/O controller resides on the Remote I/O network but does not execute an application program. The Remote controller will make its local I/O available to the Master using standard references such as %I and %Q.

The Master will not read or write analog values or Extended I/O references on the Remote controller.

Question:

Is it possible to monitor scan time on my Twido controller without programming a scan time evaluator?

Answer:

There are 3 system words you may use to monitor scan time.
%SW30 Last Scan Time. Shows execution time of the last controller scan cycle (in ms.).
%SW31 Max. Scan Time. Shows execution time of the longest controller scan cycle since the last cold start (in ms.). %SW32 Min. Scan Time. Shows execution time of the shortest controller scan cycle since the last cold start (in ms.)

Question:

How do you make the Twido controller automatically run after startup or power cycle?

Answer:

Both the Compact and the Modular Twido controllers can be setup for **Automatic Start in Run** mode. In offline mode, select the **Program** drop down menu and choose **Edit Scan Mode**. Set the Operating Mode for **Automatic start in run**. Once loaded to the controller the operating mode will be active.

Question:

What are the minimum PC requirements for running the Twido Soft Software?

Answer:

The minimum PC requirements for running the Twido Soft programming software are detailed below:

- PC-compatible computer with a 300 MHz Pentium processor.
 - Windows 98 Second Edition or Windows 2000
 - Microsoft Internet Explorer 5.0 or 4.0 with HTML Help
 - Installation and Update Package (Hhupd.exe) 1.32
 - RS232 with a DB9 connector
 - 128 MB of RAM
 - 40 MB of hard drive space.
 - CD ROM drive
-

Question:

What are the scan times for the Twido controllers?

Answer:

Both the Compact and the Modular base units have processing times of 1 msec. per 1000 logical steps. The units will also require 0.5 msec. for system overhead.

Question:

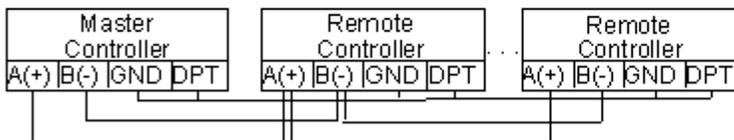
What are the pinouts for the RS485 when using Remote I/O Link with Twido?

Answer:

Cable Connection to Each Device

Note: The DPT signal on pin 5 must be tied to ground on pin 7 in order to signify the use of remote link communications. When this signal is not tied to ground, the Twido controller as either the master or slave will default to a mode of attempting to establish communications with TwidoSoft.

Cable connections to each device are illustrated below.



Note: The DPT to GND connection is only necessary if you are connected to a base controller on Port 1.

Wire Color Code

A (+)	Yellow
B (-)	Black
GND	Red
DPT	Brown

Question:

What is the maximum distance allowed when using Remote I/O Link with Twido

Answer:

The maximum distance for Remote I/O Link is 200 meters.

Question:

What is the maximum number of analog I/O points for a Twido controller?

Answer:

The maximum number of analog I/O points for a Twido controller is 15 inputs and 7 outputs.

The table below details the maximum number of I/O points per controller:

Controller	Analog Inputs	Analog Outputs
TWDLMDA40D*K	15	7
TWDLMDA20DRT	15	7
TWDLMDA20D*K	9	4
TWDLCAA24DRF	8	4

Question:

How do I load a program to the Twido from a backup cartridge?

Answer:

To load a program from an optional backup cartridge into your Twido controller, simply remove power from the controller, install the backup cartridge and then restore power to the controller. The program will automatically be loaded into the controller from the backup cartridge.

Question:

What security features does TwidoSoft offer?

Answer:

TwidoSoft provides two options for protecting an application: Controller Application Protection and Password Protection.

Controller Application Protection prevents access to the PLC's (controller's) program from the PC, however it does not prevent access to a application stored on the PC.

Password Protection requires a password to be entered to either access the program in the PLC or to access the program on the PC.

Question:

Is conformal coating available for Twido controllers?

Answer:

No, conformal coating is not available for Twido controllers.

Question:

What is the life of the battery used in the Twido Controller?

Answer:

The life of the battery used in a Twido controller is 5 years.
