

DAQ in Visual Studio using TC-01 and DAQmx

Desktop Application

💀 DAQRead	_	×
Temperature Value: 22.3		
Read		



Here you can connect different Thermocouple Temperature Sensors

TC-01

TC-01

J-Type Grounded Probe Thermocouple



DAQmx

DAQmx

- Necessary Driver in order to use TC-01 in C# (or LabVIEW, etc)
- Free Download: https://www.ni.com/en-no/support/downloads/drivers/download.ni-daqmx.html
- Make sure to at least select "NI-DAQmx Support for .NET Framework 4.x" and "NI-DAQmx Support for Visual Studio 2019" during the installation of DAQmx.

NI-DAQmx Driver

			Insta	lling			×
Installing				Select	Agree	Review	Finish
Select Additional items ye	Agree ou may wish to ins	Re tall:	Ad	ditional items	you may wish to i	nstall:	
✓ NI-DAQmx Runtime with Run-time components r devices and support for	h Configuration Support equired to deploy application configuring NI hardware via t	s using Na he Measui		NI-DAQmx Support for Files used to create N Real-Time Module.	or LabVIEW Real-Time and La I-DAQmx applications with La	bWindows/CVI Real-Time abVIEW Real-Time or with the	LabWindows/CVI
NI-DAQmx Support for Provides .NET interface	NET Framework 4.0 Language for DAQ devices and adds NI-	es DAQmx su	NI Linux RT PXI System Image This software package includes the system image necessary for formatting and provisioning a supported PXI controller to run NI Linux Real-Time. Updated system images are required to install latest drivers to the controller.				
 NI-DAQmx Support for Provides .NET interface 	NET Framework 4.5 Language for DAQ devices and adds NI-	es DAQmx su					
✓ NI-DAQmx Support for Provides files to create N	C NI-DAQmx applications using	ANSI C co	~	NI-DAQmx cDAQ Firm	ware Ethomat CompactDAO Chas	ric FieldDAO and NULinux Pe	al-Time CompactDAO
NI-DAQmx Support for Provides NI-DAQmx sup	LabVIEW 2019 (32-bit) port for LabVIEW 2019 (32-bi	it)	Controllers				
✓ NI-DAQmx Support for Files used to create NI-E	LabVIEW Real-Time and LabW DAQmx applications with Lab\	/indows/C ⁰ /IEW Real-		NI-DAQmx Support for DAQmx integration su	or Visual Studio 2015 Ipport for Microsoft Visual St	udio 2015	
Real-Time Module.	mage			NI-DAQmx Support fo DAQmx integration su	or Visual Studio 2017 Ipport for Microsoft Visual St	udio 2017	
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Measurement & Automation Explorer (MAX)

Measurement & Automation Explorer (MAX)

Data Neighborhood	🔚 Save 💦 Refresh 🔀	🕽 Self-Test 🔲 Test Panels 🙀 Create Task 🐵 Configure	TEDS
Devices and Interfaces Integrated Webcam "cam0" Integrated Webcam Studie(TM0)	Settings		NI-DAOmx Device Basics
← NI USB-TC01 "Dev1"	Name	Dev1	What do you want to do?
L Network Devices	Vendor	National Instruments	Run the NI-DAQmx Test Panels
Scales	Model	NI USB-TC01	Remove the device
5 Software Remote Systems	Serial Number	017EAF07	View or change device configuration

Test Panel

		Amplitude vs. Samples Chart	Auto-scal	le chart
Dev 1/ai0	✓ 10000	30 -		
Mode	Samples To Read	29 -		
On Demand	✓ 1000	28 -		
Measurement Type		27-		
		26 -		
		25 -		
Max Input Limit Min Input Lin	nit Units	25		
100		24-		
Thermocouple Type		23-		
1	\sim	22		
		21 -		
CJC Source		61		
CJC Source Built-In	~	20 -		
CJC Source Built-In	~	20-1		1
CJC Source Built-In	Y	20-	2	1



Visual Studio

Desktop Application

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Temperature Value:		
22.3		
Read		

```
using NationalInstruments.DAQmx;
```

•••

```
Task temperatureTask = new Task();
AIChannel myAIChannel;
```

AnalogSingleChannelReader reader = new AnalogSingleChannelReader(temperatureTask.Stream);

```
double tempData = reader.ReadSingleSample();
```

```
txtTemperature.Text = tempData.ToString("0.0");
```

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