



Quick Start Guide

QG000115

TDC-GP30

DEV-KIT

Ordering Code: GP30-DEV-KIT / GP30-DEV-KIT-F01

v2-00 • 2019-Feb-26

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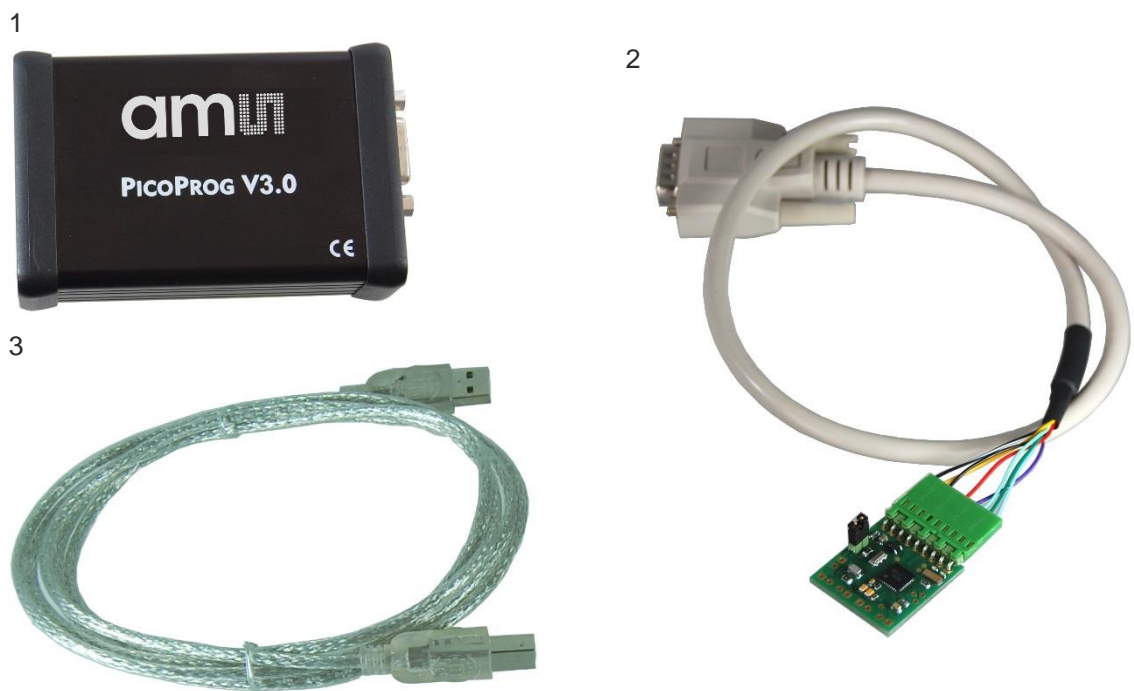
1 Out of the Box



For a detailed description of the TDC-GP30 DEV-KIT, please refer to User Guide:

- UG000292

Figure 1:
Kit Content

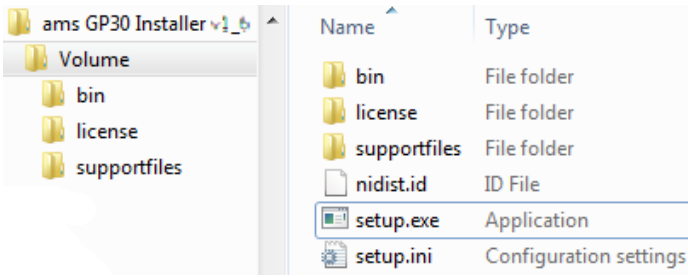


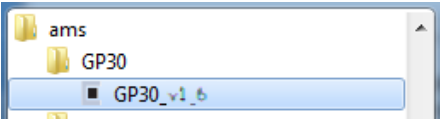


Pos.	Item	Comments
1	PICOPROG V3.0	Programmer and Interface
2	GP30-DEV KIT MODULE	Based on TDC-GP30 in QFN32 package
3	USB cable	Connects PICOPROG V3.0 to PC

2 Software Installation

It is crucial to install the software before connecting the evaluation kit to your computer. A default driver loading of your OS may interfere with correct installation.

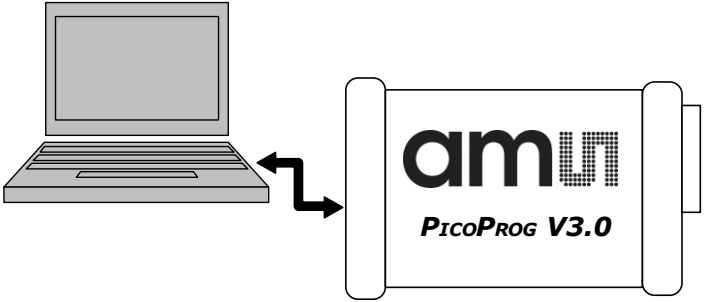
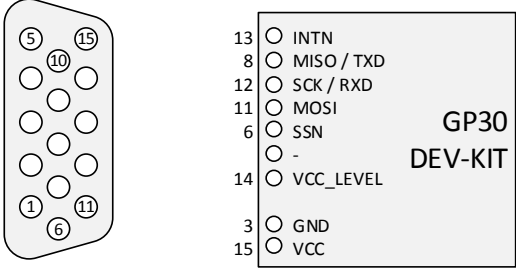
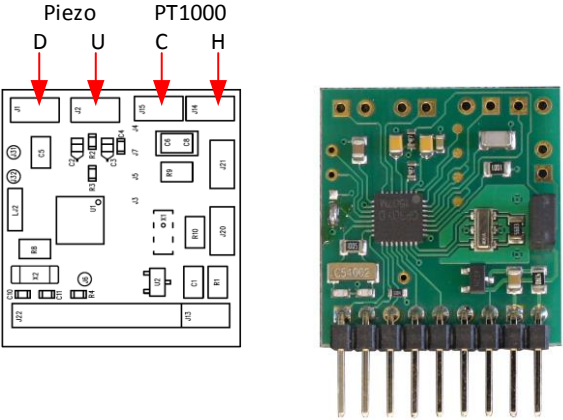
Figure 2:
Software Installation

Step	Instruction/Description	Display
1	<p>Download the latest software installation package to the desired directory.</p> <p>Unzip the package to the desired directory.</p> <p>Open "setup.exe" from the unzipped directory.</p> <p>Follow the instructions on the screen.</p>	
2	<p>When connecting the PICOPROG to the USB port it will be listed first as "picoprogram v2.0 unprogrammed" device. This is true also for PicoProg V3.0.</p>	
3	<p>Starting the software will download a special firmware into the PICOPROG, PicoProgFW_GP30_v21.hex or higher, and the device will now be listed as "UNIPRO":</p>	
4	<p>Open the START Menu and open the software from amsGP30/GP30_vx_x</p>	

3 Connect Hardware

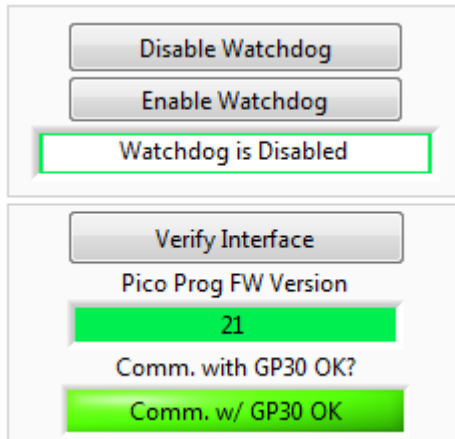
Make sure software is installed correctly before proceeding with this step!

Figure 3:
Connect Hardware

Step	Instruction/Description	Schematic Representation
1	Connect your computer with the PICOPROG V3.0 using USB cable	
2	Connect PICOPROG V3.0 and the development kit with enclosed cable using the DB15 interfaces	
3	<p>Connect your spool piece to US_UP(U) and US_DOWN(D)</p> <p>Optionally, connect external temperature sensor to PTHOT(H) and PTCOLD(C)</p>	

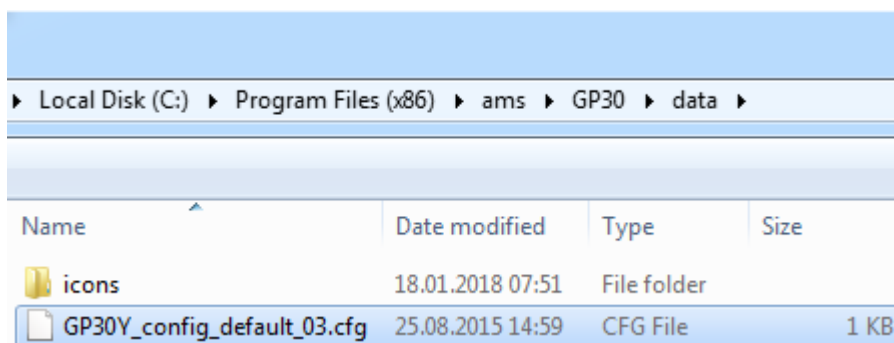
4 Start the Application

- Execute the GP30 Frontpanel software. The communication status should be green



In case of no communication with PICOPROG, check the USB driver and used USB port. In case of no communication with GP30, check the connection to GP30 and press “System Reset” to ensure a defined state of GP30. In case of enabled Watchdog, press “Disable Watchdog” to prevent the possibility the firmware restarts the GP30.

- Next it is necessary to load an initial configuration. A default configuration (file name: GP30Y_config_default_03.cfg) can be found and opened in the installation folder of the software, see below. Please remark that default configuration is used for 1MHz transducers.



- Press “Write Config” to download the loaded configuration into GP30. In case of any malfunctions repeat these steps: Press “System Reset – “Disable Watchdog” – “Write Config”

- Press “Start Measurement”
The measurement should run and results should be displayed now.

Time of Flight Measurement

#	Name	Results / ns	Average/ns	Std. Dev./ps
1	TOF SUM AVG UP	73668,0	73668,0	519,6
2	TOF SUM AVG DOWN	73668,0	73668,0	520,6
3	TOF1 UP	68169,3	68169,3	514,7
4	TOF2_UP	69167,4	69167,4	536,3
5	TOF3_UP	70167,3	70167,3	515,0
6	TOF4_UP	71167,9	71167,9	510,4
7	TOF5_UP	72168,2	72168,2	525,6
8	TOF6_UP	73167,9	73167,9	531,2
9	TOF7_UP	74167,7	74167,7	532,1
10	TOF8_UP	75167,7	75167,7	544,8
11	TOF1 DOWN	68169,3	68169,3	525,3
12	TOF2 DOWN	69167,4	69167,4	532,9
13	TOF3 DOWN	70167,3	70167,3	537,4
14	TOF4 DOWN	71167,9	71167,9	510,9
15	TOF5 DOWN	72168,2	72168,2	528,5
16	TOF6 DOWN	73167,8	73167,8	522,1
17	TOF7 DOWN	74167,6	74167,6	518,8
18	TOF8 DOWN	75167,5	75167,5	538,5
19	diff. TOF 1	0,0343	0,0343	117,4
20	diff. TOF 2	0,0343	0,0343	105,6
21	diff. TOF 3	0,0229	0,0229	119,1
22	diff. TOF 4	0,0229	0,0229	118,8
23	diff. TOF 5	-0,0229	-0,0229	120,8
24	diff. TOF 6	0,0458	0,0458	123,7
25	diff. TOF 7	0,1450	0,1450	112,9
26	diff. TOF 8	0,1984	0,1984	125,8
27	diff. TOF SUM AVG	0,0474	0,0474	53,6

Avg. Rate: Avg. Rate:

Write TOF Values to File

DON'T write to File
 Values f. Calibration
 All TOF Values

Pulse Width Ratio UP:
 Pulse Width Ratio DOWN:

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