

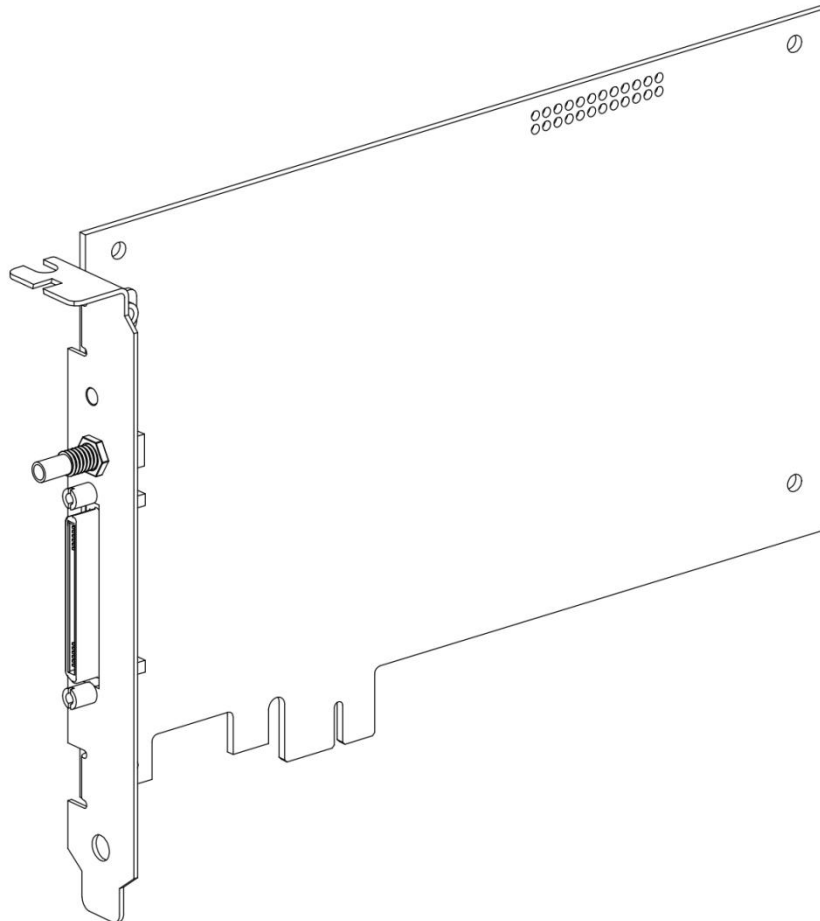
## DataSheet

# MT-G506

This document contains the specifications for MT-G506. Specifications are typical at 25°C unless otherwise noted.



**Caution** Using the MT-G506 in a manner not described in this document may impair the protection the MT-G506 provides.



# Analog Input

|                        |   |
|------------------------|---|
| Number of channels     | 16 differential                         |
| ADC resolution         | 16 bits                                 |
| Type of ADC            | Successive approximation register (SAR) |
| Input range            | ±25mA                                   |
| Overvoltage protection | ±30 V                                   |
| Sample mode            | simultaneous                            |
| Sample rate            | 200 kS/s maximum per channel            |

**Table 1. Accuracy**

|            | Measurement Conditions    | Percent of Reading<br>(Gain Error) | Percent of Range<br>(Offset Error) |
|------------|---------------------------|------------------------------------|------------------------------------|
| Calibrated | Maximum (-40 °C to 70 °C) | ±0.20%                             | ±0.09%                             |
|            | Typical (23 °C ±5 °C)     | ±0.08%                             | ±0.03%                             |

|                             |                                |
|-----------------------------|--------------------------------|
| CMRR                        | 120 dB minimum                 |
| -3 dB bandwidth             | >85 kHz                        |
| Input impedance(AI+ to AI-) | 12 mΩ                          |
| Input noise                 |                                |
| RMS                         | 1LSBrms                        |
| Peak-toPeak                 | 7LSB                           |
| Crosstalk                   | -90 dB                         |
| Settling time (to 2 LSBs)   | 5.5us                          |
| External Digital Triggers   |                                |
| Number of triggers          | 10                             |
| Source                      | TRIG, PXI_TRIG<0..7>, PXI_STAR |

# Maximum Power Requirements

Power requirements are dependent on the digital output loads and configuration of the LabVIEW FPGA VI used in your application.

|       |        |
|-------|--------|
| +3.3V | 1.23 A |
|-------|--------|

+12 V

0.57 A

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## Physical Characteristics

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Weight

200g

Dimensions

See end of this document

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## Safety Voltages

This product is designed to meet the requirements of the following electrical equipment safety standards for measurement, control, and laboratory use:

- IEC 61010-1, EN 61010-1
- UL 61010-1, CSA C22.2 No. 61010-1

## CE Compliance

This product meets the essential requirements of applicable European Directives, as follows:

- 2014/35/EU; Low-Voltage Directive (safety)
- 2014/30/EU; Electromagnetic Compatibility Directive (EMC)
- 2014/34/EU; Potentially Explosive Atmospheres (ATEX)

## Shock and Vibration

To meet these specifications, you must panel mount the system.

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### Operating vibration

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Random (IEC 60068-2-64)

5 g<sub>rms</sub>, 10 Hz to 500 Hz

Sinusoidal (IEC 60068-2-6)

5 g, 10 Hz to 500 Hz

Operating shock (IEC 60068-2-27)

30 g, 11 ms half sine; 50 g, 3 ms half sine;  
18 shocks at 6 orientations

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# Environmental

Refer to the manual for the chassis you are using for more information about meeting these specifications.

|                                     |   |
|-------------------------------------|---|
| Operating temperature               | -40 °C to 70 °C<br>(IEC 60068-2-1, IEC 60068-2-2) |
| Storage temperature                 | -40 °C to 85 °C<br>(IEC 60068-2-1, IEC 60068-2-2) |
| Ingress protection                  | IP40  |
| Operating humidity (IEC 60068-2-78) | 10% RH to 90% RH, noncondensing Storage           |
| humidity (IEC 60068-2-78)           | 5% RH to 95% RH, noncondensing Pollution          |
| Degree                              | 2   |
| Maximum altitude                    | 4,000 m   |

Indoor use only.

# DAQMode Support

通用模式 (DAQMode=0) 包括: AI、AO、Counter、PWM、Encoder、Digital Input、Digital Output、Digital Waveform Input、Digital Waveform Output、Temperature。

通用模式适用所有的MT-DAQ设备, 该模式下用户可以开发使用设备数据手册中说明的全部功能, 不同设备支持的功能不同。本设备通用模式支持的功能如下表所示, 对应功能为绿色则支持, 红色则不支持。

本设备通用模式 (DAQMode=0) 支持的功能:

|                          |                           |
|--------------------------|---------------------------|
| ● AI                     | ● AO                      |
| ● Counter                | ● PWM                     |
| ● Encoder                | ● Temperature             |
| ● Digital Input          | ● Digital Output          |
| ● Digital Waveform Input | ● Digital Waveform Output |

特殊模式包括: AI/AO同步 (AIO Sync)、编码器触发AI (Encoder Trigger AI)、AI触发编码器 (AI Trigger Encoder)、DI触发AI/AO同步 (DI Trigger AIO)、DI触发AI (DI Trigger AI)、DI触发AO (DI Trigger AO)。

如果需要使用特殊模式下的模式, 用户需要确认购买设备是否支持该模式, 本设备支持的特殊模式如下表所示, 对应模式为绿色则支持, 红色则不支持; Customer是定制DAQ模式, 正常用户无法使用。如果模式配置错误, 会导致设备无法正常运行。

本设备支持的特殊模式:

|                                  |                                     |
|----------------------------------|-------------------------------------|
| ● AO-Sync-AI (DAQMode=1)         | ● AI-Trigger-Encoder (DAQMode=2)    |
| ● Encoder-Trigger-AI (DAQMode=3) | ● DI-Trigger-AI-Sync-AO (DAQMode=4) |
| ● DI-Trigger-AI (DAQMode=5)      | ● DI-Trigger-AO (DAQMode=6)         |

# Config文本

MT-DAQ设备的开发和使用依赖于Config配置文本，只有正确配置该文本，才能保证设备的正常运行。不同型号的设备或板卡对应的配置参数是不同的。Python、LabVIEW和C#三种编程语言的Config配置文本完全相同。

通用Config配置文本通过MT-Master软件主页导出获得，用户可以根据实际设备或板卡的参数对配置文本进行修改配置，或者按照文本默认参数配置运行。

Config配置文本中的各项参数含义及其具体配置可以参考MT-DAQ上手指南，指南链接附于下文Support板块。

使用MT产品过程中如有任何疑问，可以通过访问官网：<http://www.mangotree.cn>联系专业客服咨询。



MangoTree官网

# Support

MT-Master上手指南:

<https://server.mangotree.cn:9900/WebFile/Downloads/上手指南/MT-Master/>



Master上手指南

MT-Master视频教程:

<https://server.mangotree.cn:9900/WebFile/Downloads/视频教程/MT-Master/>



Master视频教程

MT-DAQ上手指南:

<https://server.mangotree.cn:9900/WebFile/Downloads/上手指南/MT-DAQ/>



DAQ上手指南

MT-DAQ视频教程:

<https://server.mangotree.cn:9900/WebFile/Downloads/视频教程/MT-DAQ/>



DAQ视频教程

# Dimensions:(mm)

