



# ELECTRICAL INTERFACE CONTROL DOCUMENT

TWINKLE STAR TRACKER

## Release information

|             | Name        | Function | Signature | Date       |
|-------------|-------------|----------|-----------|------------|
| Author      | T. Delabie  | CEO      |           | 06/09/2021 |
| Reviewer    | B. Vandoren | CTO      |           | 07/09/2021 |
| Approved by |             |          |           |            |

arcsec NV, Belgium

arcsec Proprietary Information. Unauthorised distribution, dissemination or disclosure not allowed.

**Version Control**

| Version | Author     | Date       | Change Log      | Sections |
|---------|------------|------------|-----------------|----------|
| 1.0     | T. Delabie | 06/09/2021 | Initial version | All      |
|         |            |            |                 |          |
|         |            |            |                 |          |
|         |            |            |                 |          |

**Applicable Documents**

| ID   | Document Title | Document Reference | Version |
|------|----------------|--------------------|---------|
| AD01 |                |                    |         |
|      |                |                    |         |
|      |                |                    |         |
|      |                |                    |         |
|      |                |                    |         |

**Reference Documents**

| ID   | Document Title | Document Reference | Version |
|------|----------------|--------------------|---------|
| RD01 |                |                    |         |
|      |                |                    |         |
|      |                |                    |         |
|      |                |                    |         |
|      |                |                    |         |





## Table of contents

|     |                            |   |
|-----|----------------------------|---|
| 1   | Introduction.....          | 4 |
| 2   | Electrical interfaces..... | 4 |
| 1.1 | Connector .....            | 4 |
| 1.2 | Power.....                 | 5 |





# 1 Introduction

This document describes the electrical interfaces of the Twinkle star tracker. The Twinkle star tracker is a high accuracy, extremely compact star tracker that fits within CubeSat dimensions, but is also suitable for larger satellites. It delivers arc-second range pointing knowledge with a minimal strain on the power, volume and mass budget.

## 2 Electrical interfaces

### 1.1 Connector

The connector is a 10 pin PicoBlade connector: 0530481010

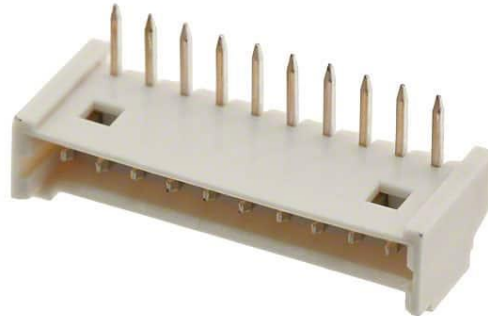
The pinout is given in Table 1.

Table 1 Connector Pinout

| Pin | Function                     |
|-----|------------------------------|
| 1   | 5V                           |
| 2   | GND                          |
| 3   | Internal use, do not connect |
| 4   | RS485-A                      |
| 5   | RS485-B                      |
| 6   | RS485-Z                      |
| 7   | RS485-Y                      |
| 8   | Internal use, do not connect |
| 9   | Internal use, do not connect |
| 10  | Internal use, do not connect |

Figure 1 shows the physical layout of the connector pinout.





**Figure 1 PicoBlade connector**

## **1.2 Power**

The star tracker accepts a voltage between 4.5V and 5.5V. Care must be taken for the polarization and such that no overvoltage can occur.

