ELECTRICAL INTERFACE CONTROL DOCUMENT

SAGITTA STAR TRACKER

Release information

	Name	Function	Signature	Date
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Version Control

Version	Author	Date	Change Log	Sections
1.0	T. Delabie	26/02/2021	Initial version	All
1.1	T. Delabie	01/03/2021	Split up ICD in parts	All

Applicable Documents

ID	Document Title	Document Reference	Version
AD01			

Reference Documents

ID	Document Title	Document Reference	Version
RD01			

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1 Introduction

This document describes the electrical interfaces of the arcsec star tracker. The arcsec star tracker is a high accuracy, 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 an Omnetics 15 pin nano-D connector:
MNSO-15-AA-N-ETH-M:

As a mating connector, we use:
MNPO-15-WD-18.0-N-EJS-C

The pinout is given in Table 1.

Table 1 Connector Pinout

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

Figure 1 shows the physical layout of the connector pinout.

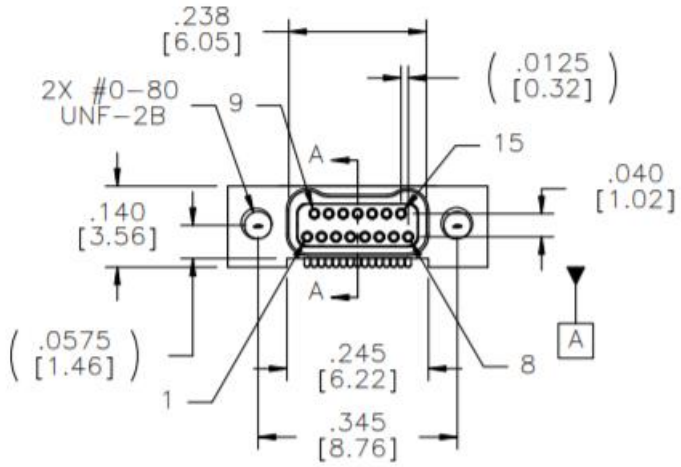

Figure 1 Nano-D 15 connector

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.

The housing is connected internally with a 1M Ohm resistor to ground.