

# Super Fencing System

## SFS-Link Manual

V1.1

superfencingsystem.com  
superfencingsystem@tuta.com

### Instructions

1. Plug 6P4C RJ11 cable into FA-05 / FA-07 / FA-15 DATA OUT jack and SFS-Link RJ11 jack.
2. Power SFS-Link with USB-C cable.
3. SFS-Link will now be discoverable by Super Fencing System.

### Microcontroller LED Functions

**“D4” LED:**           **FLASHES** when scoring machine data is **NOT** detected.  
                          **SOLID** when scoring machine data **IS** detected.

**“D5” LED:**           **OFF** when SFS-Link is **NOT** connected to Super Fencing System.  
                          **ON** when SFS-Link **IS** connected to Super Fencing System.

### PCB Components

**R2:** 0805 5.6KΩ

**R1:** 0805 10KΩ

**Q1:** SOT-23 MMBT3904 NPN BJT

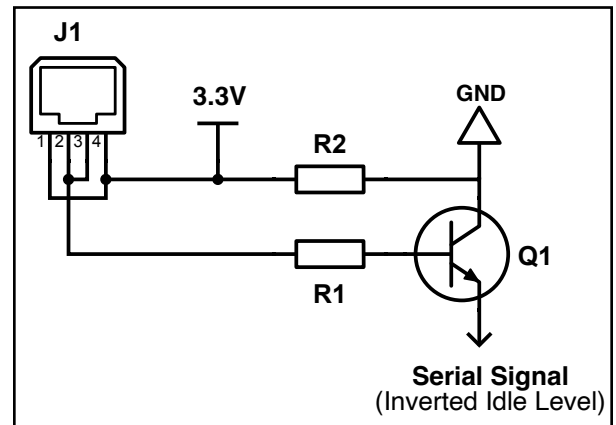
**J1:** MOLEX 432026105 6P4C RJ11 JACK

**Microcontroller:** ESP32 C3\*

\*AirM2M\_CORE\_ESP32C3 in Arduino IDE

PCB contains lead-free HASL.

Lead-free solder used for soldering PCB components.



**SFS-Link Hardware Schematic V1.1**

### SFS-Link Bluetooth Protocol V1.1

Bluetooth (BLE) Device Name: “SFS-Link [S/N]”

Service & Characteristic UUID: “6F000000-B5A3-F393-E0A9-E50E24DCCA9E”

Characteristic is a 14-character string.

Characteristic is initialized to “00000000000000”

Characteristic is set to “00000000000000” when no Favero data is read for over 0.5 seconds.

Characteristic has read and notify properties.

Characteristic is concatenated bytes 2-7 and 9 of Favero Serial 10-byte message, in hex.

Example: “06125602140A38” where 06...38 is byte 2...9.

**NOTE: The Favero serial protocol sends delayed machine data. This delay is 50-150 milliseconds. Combined with SFS-Link data processing, average delay for received machine data in SFS is ~200 milliseconds. To account for this delay, set ‘Machine Data Timestamp Offset’ in SFS settings to ~0.20 seconds when using a SFS-Link.**