**ESP32-S3 Truck Simulator Button Box - Detailed Wiring**

**Pin-by-Pin Wiring Guide for ESP32-S3 Truck Simulator Button Box**

**1. SPST Toggle Switches (8)**

|  |  |  |
| --- | --- | --- |
| **SPST Switch** | **ESP32-S3 GPIO** | **Connection Details** |
| **SPST 1** | **GPIO 2** | One terminal → **GND**, Other terminal → **GPIO 2** |
| **SPST 2** | **GPIO 3** | One terminal → **GND**, Other terminal → **GPIO 3** |
| **SPST 3** | **GPIO 4** | One terminal → **GND**, Other terminal → **GPIO 4** |
| **SPST 4** | **GPIO 5** | One terminal → **GND**, Other terminal → **GPIO 5** |
| **SPST 5** | **GPIO 6** | One terminal → **GND**, Other terminal → **GPIO 6** |
| **SPST 6** | **GPIO 7** | One terminal → **GND**, Other terminal → **GPIO 7** |
| **SPST 7** | **GPIO 8** | One terminal → **GND**, Other terminal → **GPIO 8** |
| **SPST 8** | **GPIO 9** | One terminal → **GND**, Other terminal → **GPIO 9** |

**2. SPDT Momentary Toggle Switches (7)**

Each SPDT switch has **three terminals**:

* **Center (Common) → GND**
* **Left Position → GPIO A**
* **Right Position → GPIO B**

|  |  |  |  |
| --- | --- | --- | --- |
| **SPDT Switch** | **GPIO Left (A)** | **GPIO Right (B)** | **Common (C)** |
| **SPDT 1** | **GPIO 11** | **GPIO 12** | **GND** |
| **SPDT 2** | **GPIO 13** | **GPIO 14** | **GND** |
| **SPDT 3** | **GPIO 15** | **GPIO 16** | **GND** |
| **SPDT 4** | **GPIO 17** | **GPIO 18** | **GND** |
| **SPDT 5** | **GPIO 19** | **GPIO 20** | **GND** |
| **SPDT 6** | **GPIO 21** | **GPIO 22** | **GND** |
| **SPDT 7** | **GPIO 23** | **GPIO 24** | **GND** |

**3. Ignition Start Button**

|  |  |  |
| --- | --- | --- |
| **Button** | **ESP32-S3 GPIO** | **Connection Details** |
| **Ignition** | **GPIO 25** | One terminal → **GND**, Other terminal → **GPIO 25** |

**4. Push/Pull Switches (2)**

|  |  |  |
| --- | --- | --- |
| **Push/Pull Switch** | **ESP32-S3 GPIO** | **Connection Details** |
| **Push/Pull 1** | **GPIO 26** | One terminal → **GND**, Other terminal → **GPIO 26** |
| **Push/Pull 2** | **GPIO 27** | One terminal → **GND**, Other terminal → **GPIO 27** |

**5. Hazard Button**

|  |  |  |
| --- | --- | --- |
| **Button** | **ESP32-S3 GPIO** | **Connection Details** |
| **Hazard** | **GPIO 28** | One terminal → **GND**, Other terminal → **GPIO 28** |

**6. Push-On / Release-Off Button**

|  |  |  |
| --- | --- | --- |
| **Button** | **ESP32-S3 GPIO** | **Connection Details** |
| **Push-On/Release-Off** | **GPIO 29** | One terminal → **GND**, Other terminal → **GPIO 29** |

**7. NC/NO Button**

|  |  |  |
| --- | --- | --- |
| **Button** | **ESP32-S3 GPIO** | **Connection Details** |
| **NC/NO Button** | **GPIO 30** | **COM → GND**, **NO → GPIO 30** |