

Technical Documentation: Text Protocol for UART Data Transmission SSC

Introduction

This document provides technical details for the control unit responsible for managing sections on agricultural machinery. The controller informs the system about the number of sections it supports, with a maximum capacity of 99 sections. This documentation outlines the communication protocol, message format, and usage examples for seamless integration with agricultural systems.

UART Parameters

- Baud Rate: 115200 bits/s
- Data Bits: 8 bits
- Parity: None
- Stop Bits: 1 (1 stop bit)

Message Format

Each message starts with a preamble consisting of a one-byte '\$' symbol. Following the preamble is the message identifier, which is a two-byte character string "SC". The DataField containing information about liquid flow regulation comes next. The message is concluded with a checksum and the CR (carriage return) and LF (line feed) symbols.

Example Message

Here is an example message string:

SSC,10,1,0,1,0,1,1,1,0,1,0,0*21

DataField Structure

The DataField includes the following fields:

- **Data 1:** Represents the maximum number of supported sections (e.g., 10 in the example).
- **Data 2:** Indicates whether the main valve is active (1 for active, 0 for inactive).
- **Data (3-102):** Status of sections, comma-separated. Each section status can be either 0 (disabled) or 1 (enabled).

Checksum

After the DataField, a "*" symbol, represented by a two-byte string CHK1 and CHK2.

End of Message

The message concludes with the CR (carriage return) and LF (line feed) symbols, indicating the end of the packet.