

# Parser Folder

`components/driving_board/parser`

**This page:** structure of message encoding in parser.c

The encoding logic includes:

*copy\_motor\_to\_pb():*

Copies each motor from internal MotorDiagnostic struct into protobuf MotorInformation.

*DBMDiagnosticsEncode():*

Encodes full diagnostics data into a protobuf message.

This function: Initializes the protobuf message  
Copies board state  
Copies all 10 motors into the protobuf structure  
Calls pb\_message\_encode to serialize data

**The diagnostics message contains 10 motors:**

front\_left, middle\_left, back\_left, front\_right, middle\_right, back\_right, steering\_front\_left, steering\_back\_left, steering\_front\_right, steering\_back\_right,

Each motor is copied using a loop into the protobuf message.

*message\_add\_envelope():*

This method wraps a protobuf message into a PBEvelope using the same pb\_message\_encode function.

It: Takes a populated protobuf message (e.g. DrivingBoardDiagnostics)  
Initializes a PBEvelope  
Sets the correct oneof field (e.g. drive\_diag)  
Calls pb\_message\_encode on the envelope struct  
Returns encoded envelope buffer and length

---

Revision #5

Created 2026-04-14 15:22:01 UTC by Irem Civginer

Updated 2026-04-23 12:20:44 UTC by Irem Civginer