



Italon Capacity Fuel Level Sensor
Technical Passport
GS.01.00.00.000PS

1. TECHNICAL DATA

The ITALON capacitive fuel level sensor (hereinafter as FLS) is designed to measure the level of fuel in vehicle fuel tanks or stationary fuel storages, convert it to analog, frequency and digital signals used by an external device (monitoring system terminal).

Types of liquids: gasolines, diesel fuel and other liquid petroleum products that maintain its state of aggregation in the operating temperature range.

Versions of FLS are given in Table 1.

Name	Nominal length of the sensing element, mm	Effective working length of the sensing element, mm, ±1
GS.01.00.00.000	1000	983
GS.01.00.00.000-01	1500	1483
GS.01.00.00.000-02	2000	1983
GS.01.00.00.000-03	2500	2483
GS.01.00.00.000-04	3000	2985

Table 1

OVERALL AND CONNECTING DIMENSIONS OF FLS ARE PRESENTED IN FIG.1

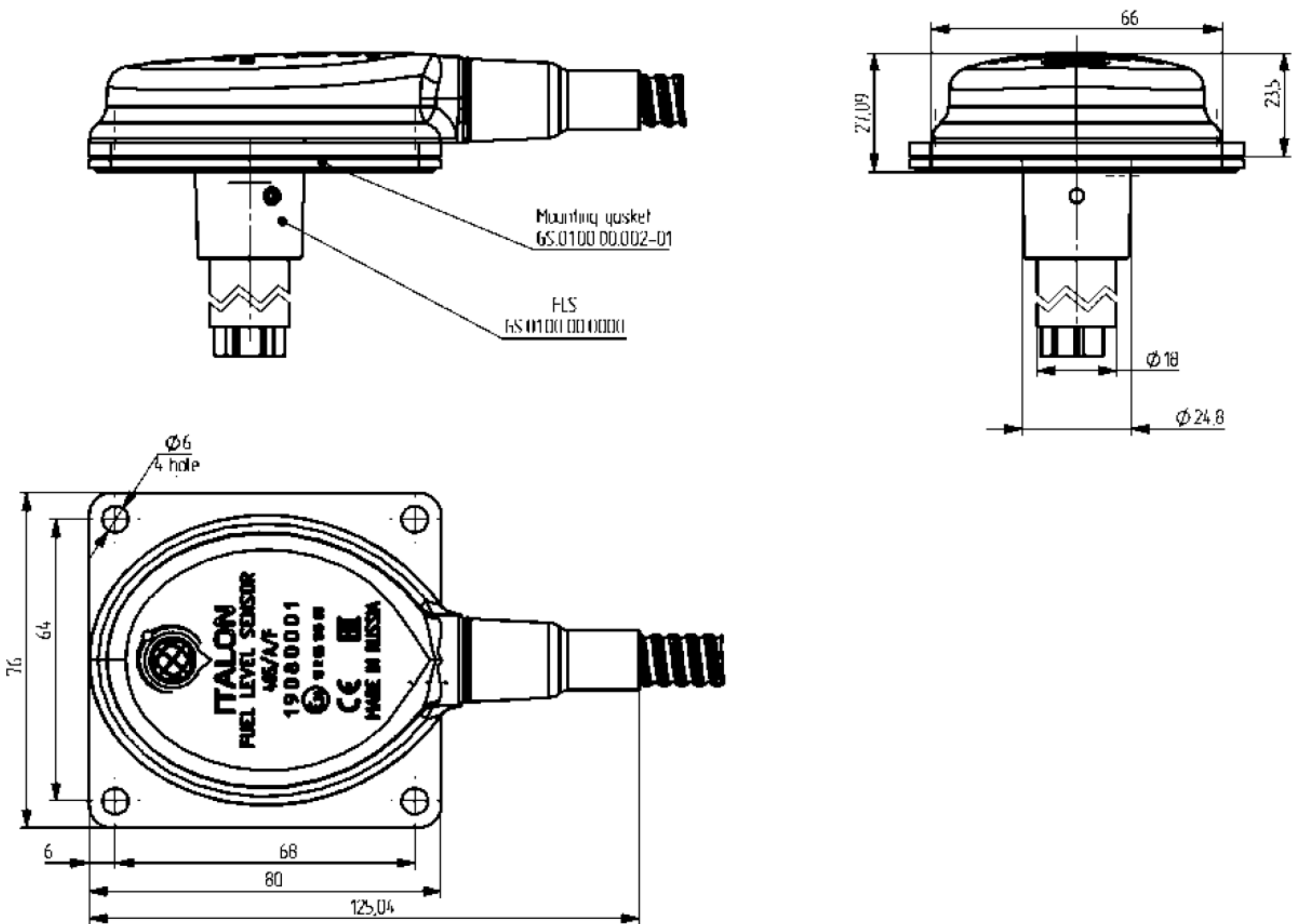


Figure 1

The minimum allowable bending radius of the FLS corrugated hose (internal) is 40 mm.

By the type of information issued, two main versions of FLS are manufactured:

- ◆ With an option of operation under the RS-485 data exchange protocol, as well as with an option of operation in analog (A) and frequency (F) modes - the marking "485/A/F" on top of the FLS (Fig. 2)
- ◆ With an option to function under the RS-232 and RS-485 protocols - the marking "232/485" on top of the FLS (Fig. 3).

By the type of switching connector, FLSs are available in two versions: Molex (33472-0601/33482-3601) and Delphi (211PC063S0003/ 211PL063S0003).



Figure 2



Figure 3

- ◆ Figure 4 shows the pin assignment of the FLS connector and the color coding of the “485/A/F” version wires with the Delphi connector.
- ◆ Figure 5 shows the pin assignment of the installation cable connector, as well as the color coding of the “485/A/F” version wires with the Delphi connector.

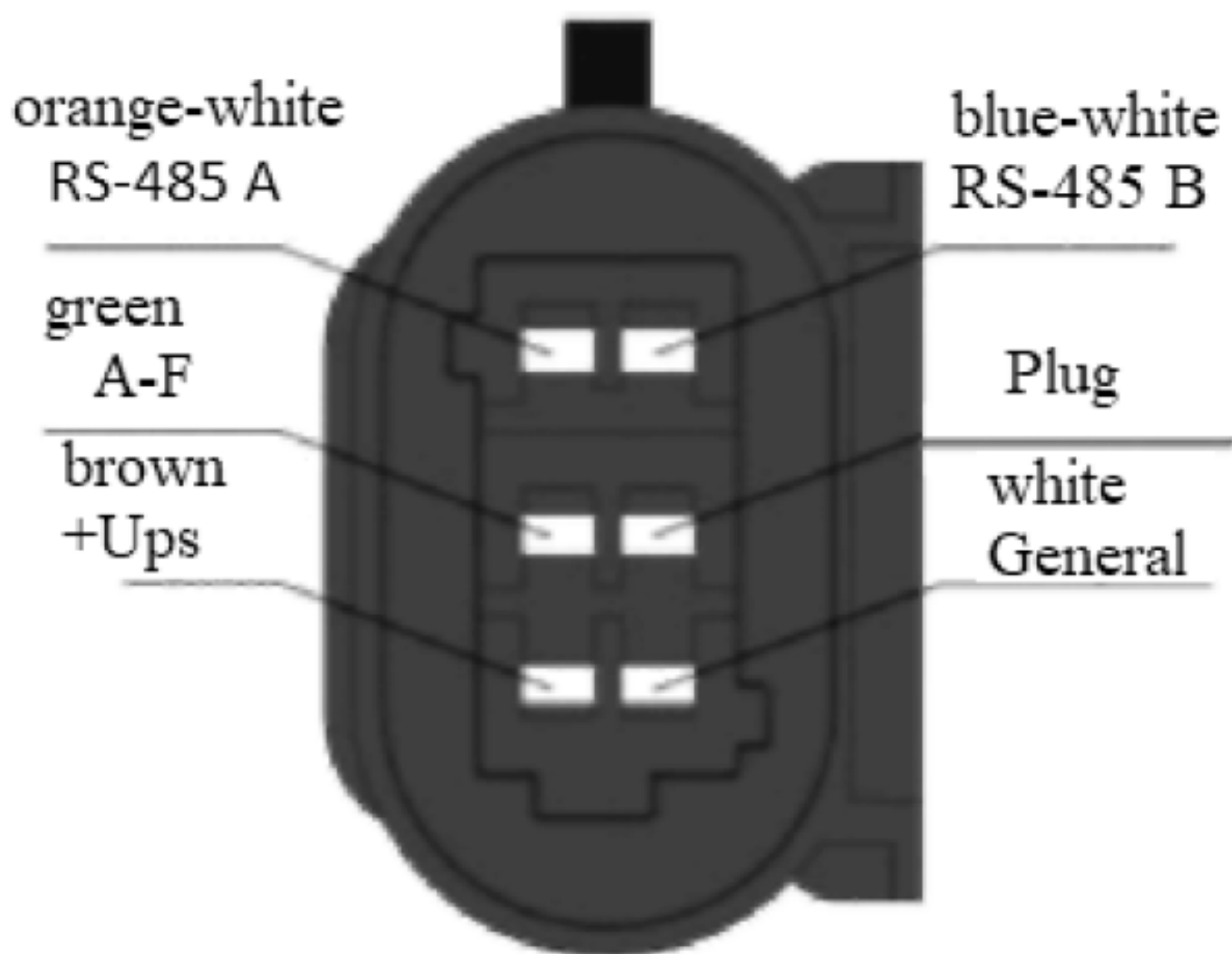


Figure 4

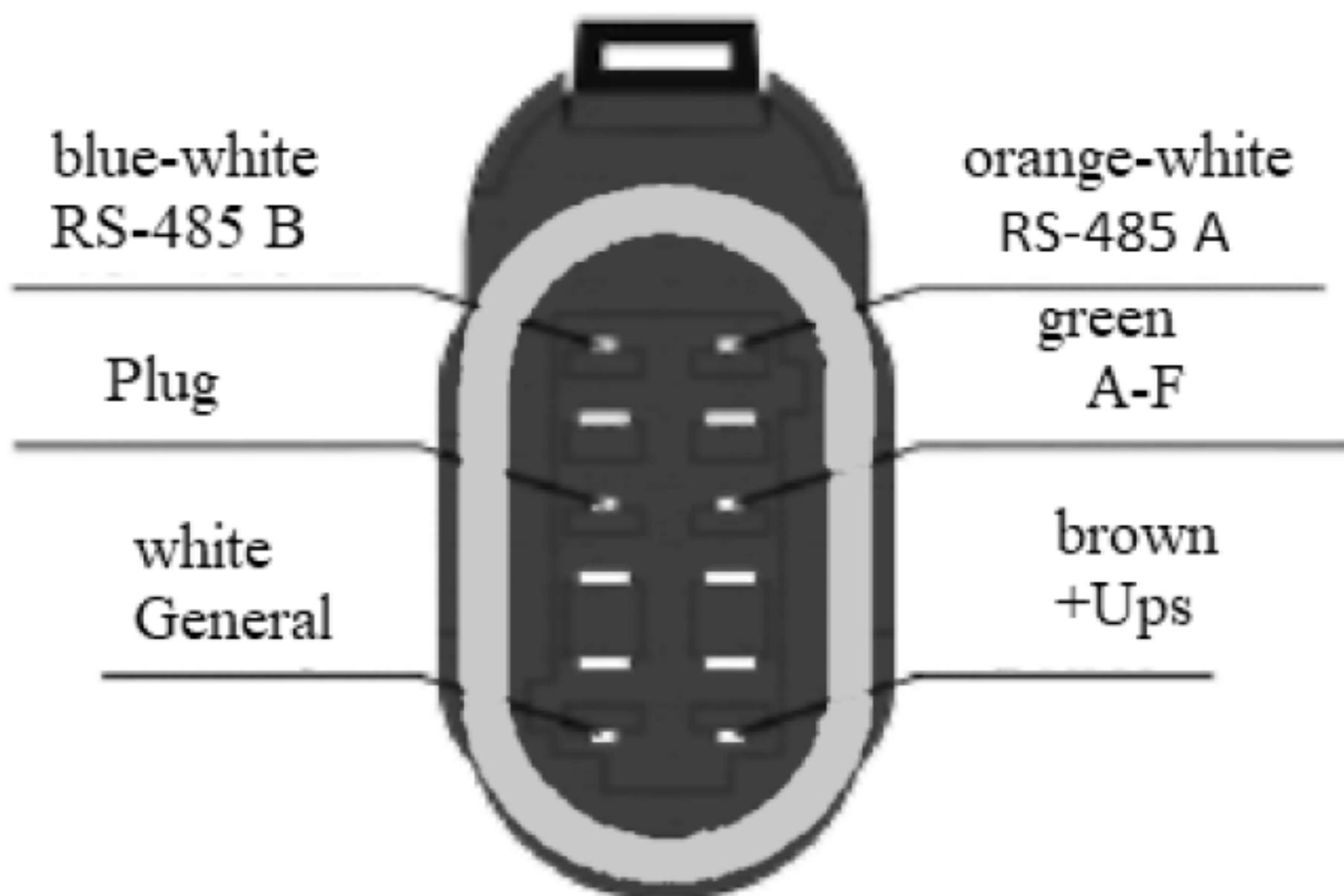


Figure 5

- ◆ Figure 6 shows the pin assignment of the FLS connector and the color coding of the “232/485” version wires with the Delphi connector.
- ◆ Figure 7 shows the pin assignment of the installation cable connector, as well as the color coding of the “232/485” version wires with the Delphi connector.

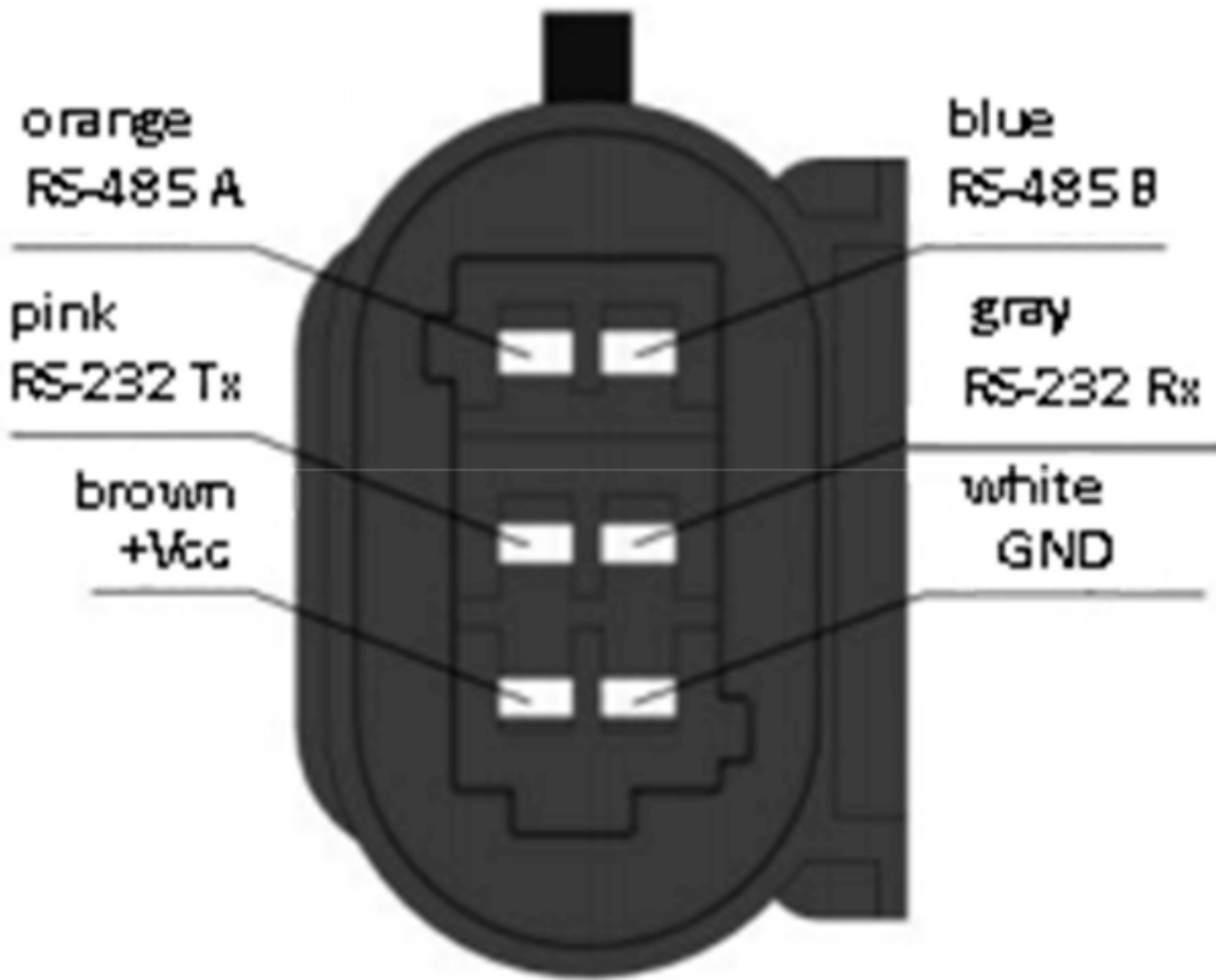


Figure 6

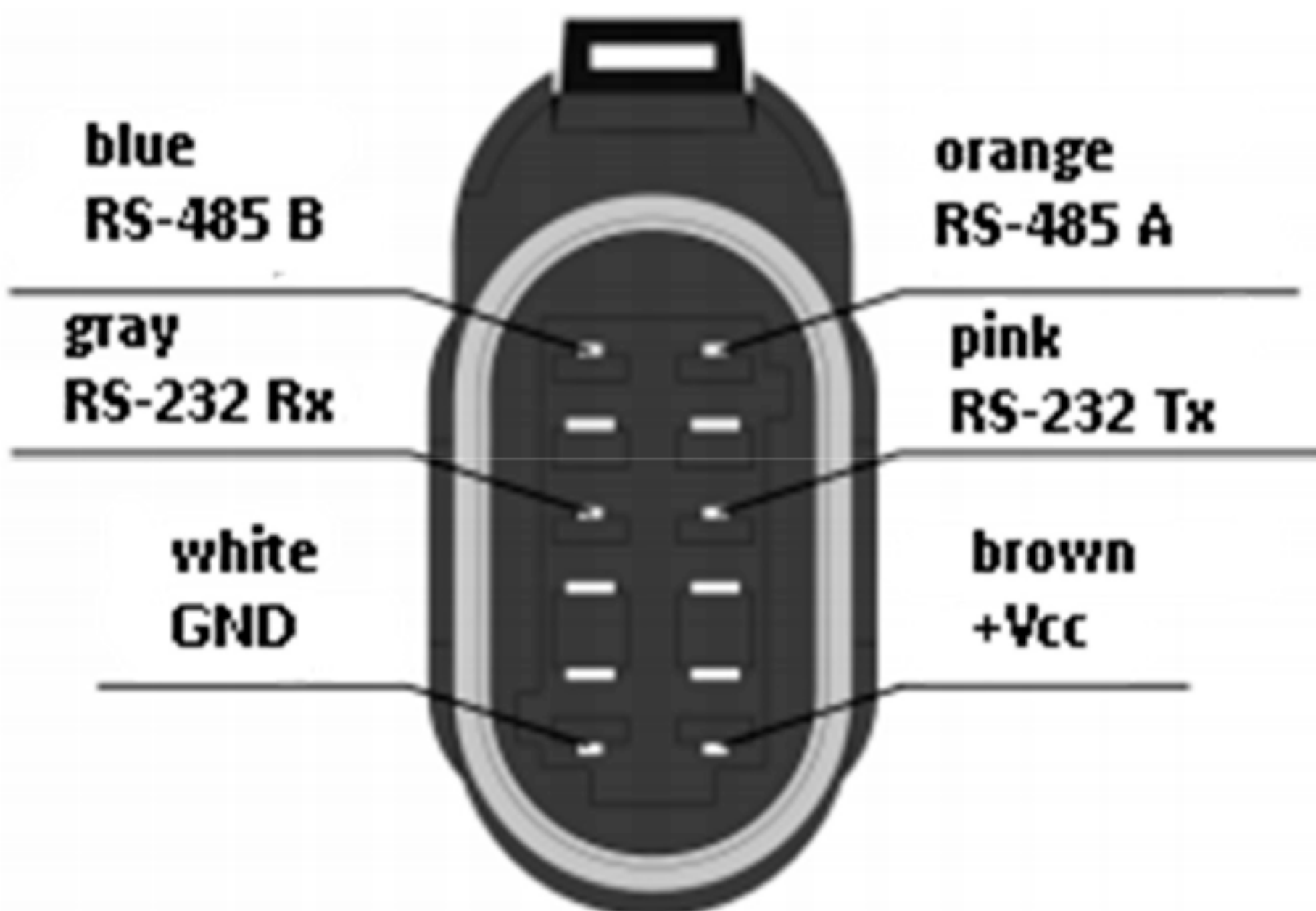


Figure 7

- ◆ Figure 8 shows the pin assignment of the FLS connector and the color coding of the “485/A/F” version wires with the Molex connector.
- ◆ Figure 9 shows the pin assignment of the installation cable connector, as well as the color coding of the “485/A/F” version wires with the Molex connector.

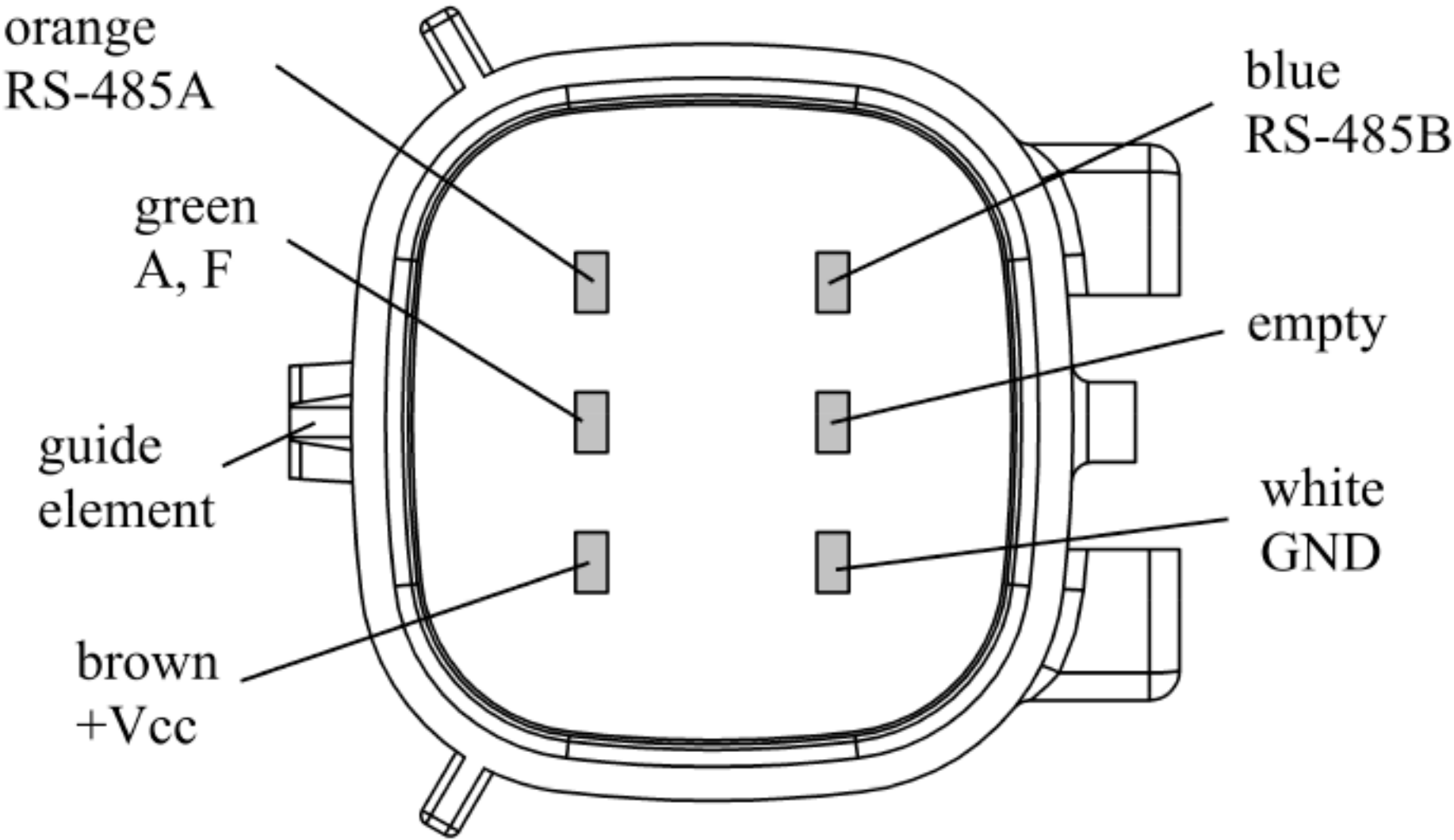


Figure 8

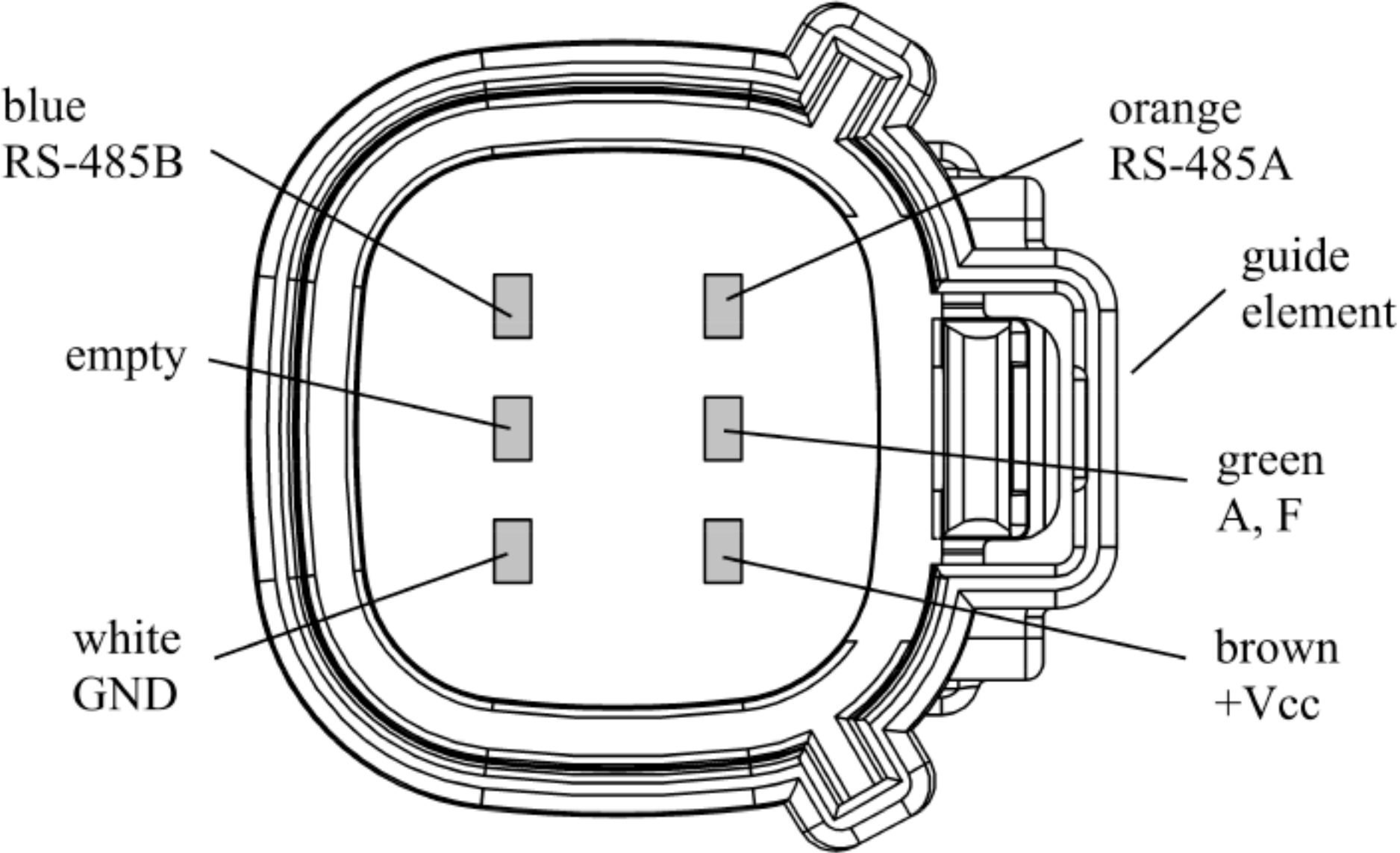


Figure 9

- ◆ Figure 10 shows the pin assignment of the FLS connector and the color coding of the “232/485” version wires with the Molex connector.
- ◆ Figure 11 shows the pin assignment of the installation cable connector, as well as the color coding of the “232/485” version wires with the Molex connector.

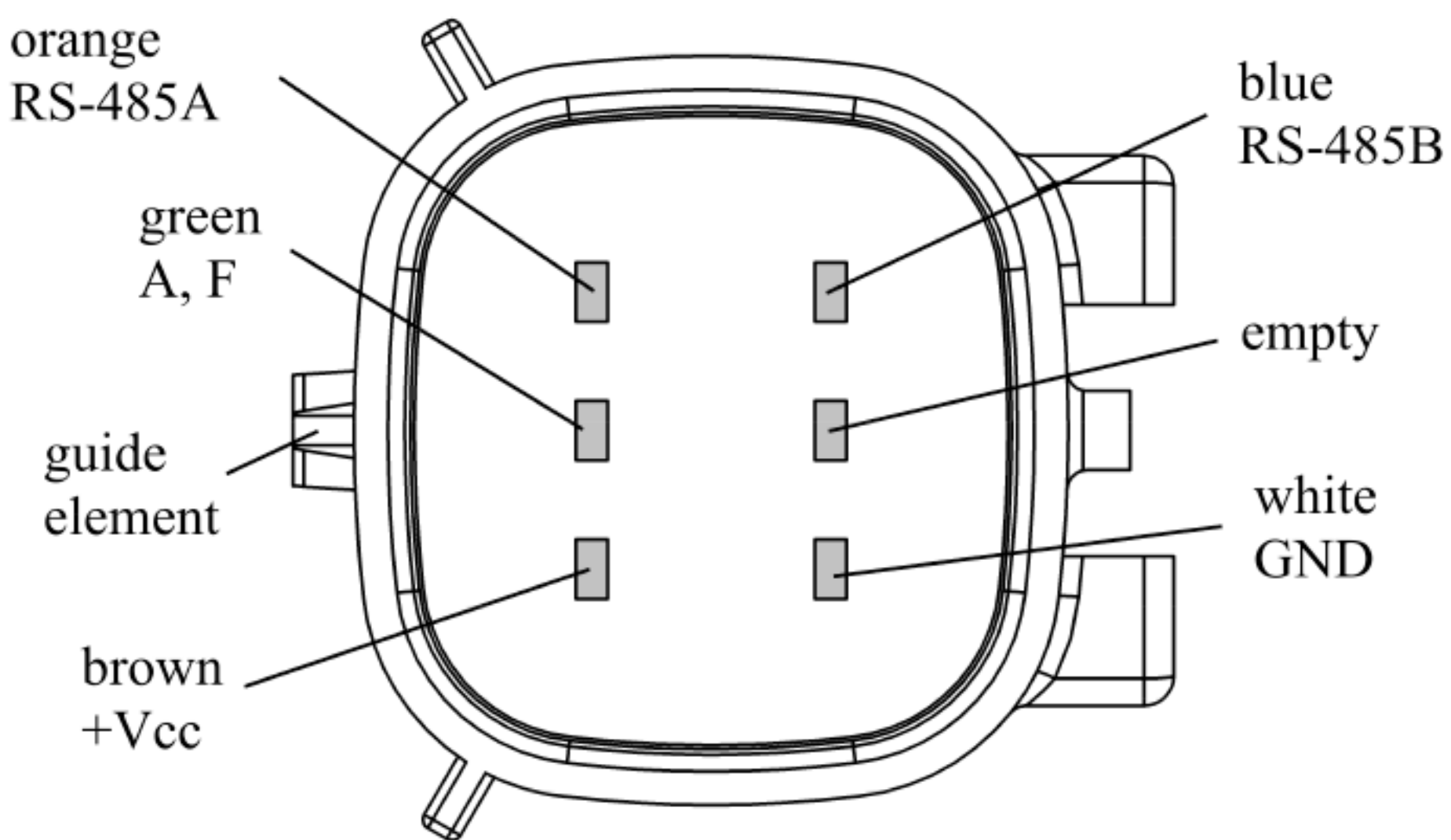


Figure 10

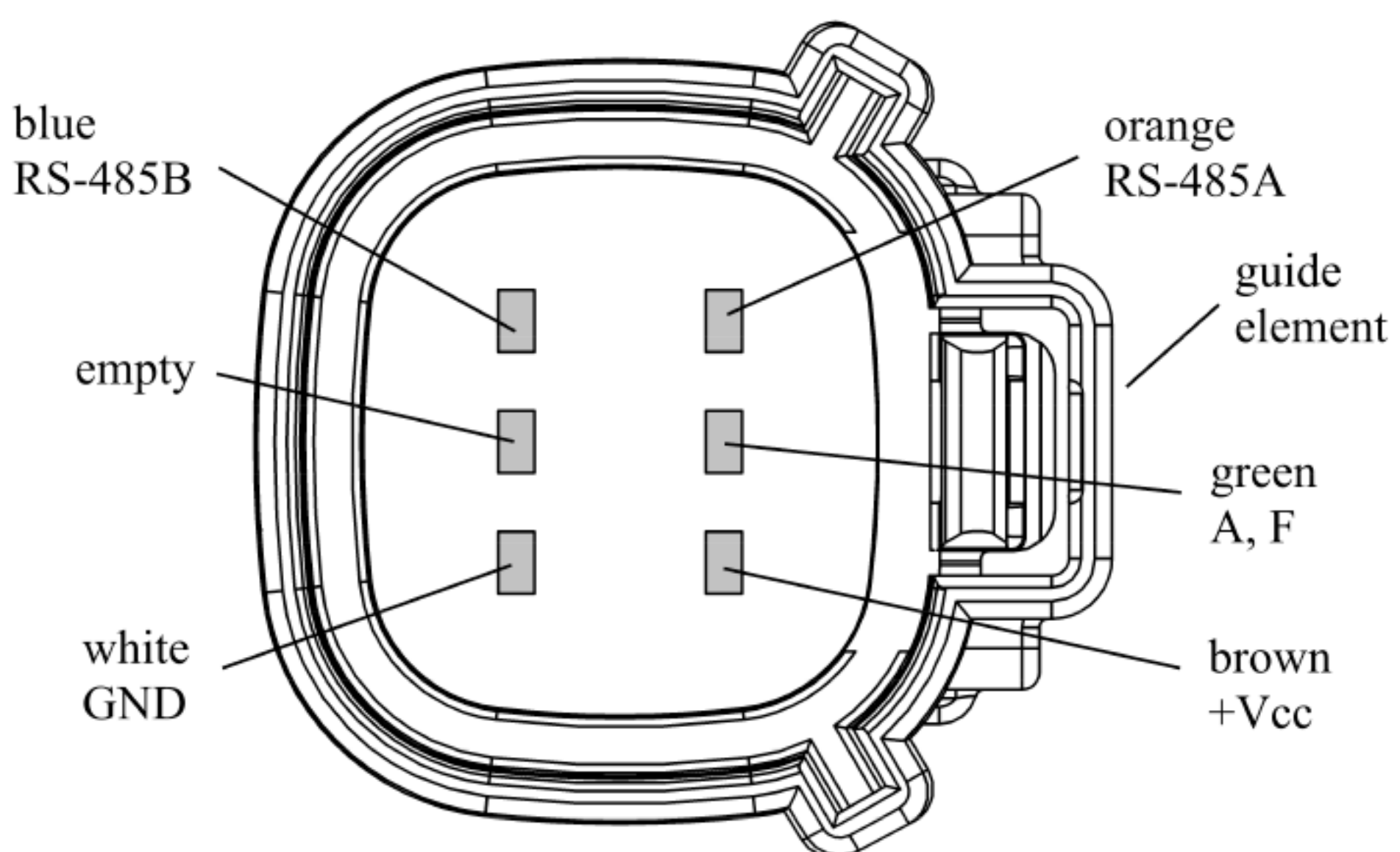


Figure 11

MAIN TECHNICAL CHARACTERISTICS OF FLS ARE GIVEN IN TABLE 2

Parameter	Value
Maximum measured level for versions, mm	Corresponds to the effective operational length (Table 1)
DC power supply voltage, V	7 to 40
Type of analog-frequency output	Analog or frequency (to be set by the user when configuring the FLS)
The interface for digital data exchange with external devices	RS-485
Power consumption, W: typical value (supply voltage: 12 to 30 V) maximum	0.55 0.9
Measurement data update period, sec	1
Basic percentage measurement error, %, max.	0.4
Additional percentage measurement error, %, max.	0.6
Operating temperature range, °C	40...+80
Storage and transportation temperature range, °C	60...+85
Average service life, years	8

2. FUEL LEVEL SENSOR KIT

◆ FLS	1 pc.
◆ Installation cable enclosed in a plastic corrugated sleeve, 7 meters	1 pc.
◆ Installation accessory kit	1 pc.
◆ Package ¹	1 pc.
◆ Technical passport	1 pc.

The installation accessory kit includes:

◆ Roofing self-attack screw 4.8*25	3 pcs.
◆ Sealing roofing self-attack screw 4.8*25 ²	1 pc.
◆ "Rimico"-type plastic numbered seal ³	1 pc.
◆ "Alfa"-type plastic numbered seal ⁴	1 pc.
◆ Blade fuse, 1A	1 pc.
◆ Fuse holder	1 pc.
◆ End bushing	1 pc.

¹ Versions GS.01.00.00.000 and GS.01.00.00.000-01 are delivered being packed in groups (2 products each), others as agreed with the customer.

² Instead of a sealing screw, the roofing screw can be completed with a sealing kit (caps).

³ Intended to seal the FLS installed on the fuel tank of the object.

⁴ Intended to seal the FLS-cable connection.

3. TRANSPORTATION AND STORAGE

Products are transported by any kind of transport, which ensures their protection from precipitation according to storage conditions 3 (ZhZ) GOST 15150-69 and the rules in force on the relevant type of transport, subject to the shock and vibration protection.

Products may be transported as originally packaged at an ambient temperature of -60°C to +85°C.

In the warehouse of the user, the storage conditions of products in the original packaging shall comply with conditions 1 (L) according to GOST 15150-69. Products may be stored under conditions 2 (C) according to GOST 15150-69, but not longer than 6 months. The room air must be free from aggressive gases or vapors.

4. SERVICE AND SHELF LIFE, MANUFACTURER'S WARRANTY, DISPOSAL

- ◆ The average service life of the product is 8 years.
- ◆ The shelf life without inspections is 2 years.
- ◆ The product's guaranteed operational life is 5 years from the date when the manufacturer has found the product suitable for delivery to the customer.
- ◆ There are no special requirements for the disposal and burial of products.
- ◆ The manufacturer reserves the right to make changes in the design of the product without impairing its performance.

5. INFORMATION ABOUT THE COMPLAINT

- ◆ For a fuel level sensor that failed before the expiration of the warranty period (subject to the rules of transportation, storage and operation), a complaint should be made.
- ◆ Application for compensation (comments, suggestions, complaints) will be sent to the address specified in Section 6 herein in the form posted on our official website.

6. PRODUCT STATUS RECORD

Date of installation at an	Object type	Product's working length	Dismantling date	Dismantling reason

7. COUNTRY OF ORIGIN AND MANUFACTURER

- ◆ Country of origin Russian Federation
- ◆ Manufacturer Italon LLC
- ◆ 7B Tupolev avenue, 432072, Ulyanovsk,
- ◆ Tel.: 8-800-700-82-88,
e-mail: mail@italonpro.com, website: www.italonpro.com

8. ACCEPTANCE

The GS.01.00.00.000 fuel level sensor meets the specifications of TU 29.31.22-003-25246794- 2018 in the amount provided for the inspection at the manufacturer and is found to be suitable for operation.