OMNICOMM
FUEL DATA YOU CAN TRUST

DIAGNOSTIC INSTRUCTION FOR DISPLAY

OMNICOMM ICON

CONTENT

INTRODUCTION

This document is intended for conducting diagnostics of the Display Omnicomm ICON. It covers diagnostic methods and the sequence of steps for filling out the Diagnostic Report.
Before performing diagnostics, the Display Omnicomm ICON must be checked for the absence of mechanical damage and signs of chemical exposure. The casing, connecting cable, buttons, and screen must be free from damage and corrosion.

1. REQUIRED DIAGNOSTIC EQUIPMENT

Equipment Required for Diagnosing the Display Omnicomm ICON:

- Multimeter (for measuring voltage, current, and resistance).
- Power supply (12 V, 1 A – 3 A DC) or a laboratory (adjustable) power supply (Voltage: 0–30 V DC; Current: 0–3 A DC).

Additionally, each piece of diagnostic equipment should have a valid certificate of conformity and a calibration certificate to ensure measurement of accuracy and compliance with safety standards.

2. GENERAL RECOMMENDATIONS

Before conducting diagnostics, it is recommended to carefully read the instructions and follow the specified information to prevent errors during measurements and avoid damage to the Display Omnicomm ICON.

Special Control Points During Diagnostics:

1. The color coding of the Display Omnicomm ICON connecting wires does not match other Omnicomm products.
2. Avoid short-circuiting uninsulated connecting wires during diagnostics to prevent short circuits and damage to the Display Omnicomm ICON.
3. Unused connecting wires during diagnostics must be insulated to avoid short circuits and damage to the Display Omnicomm ICON.
4. To ensure accurate measurements, provide a reliable contact between the connecting wires and diagnostic equipment.
5. When connecting and/or joining connecting wires, it is recommended to use quick-release electrical terminals.
6. All measurements must be made relative to the purple wire (power negative).
7. When measuring resistance, the power supply (positive) to the Display Omnicomm ICON must be disconnected.

3. ICON WIRING ASSIGNMENTS OF THE DISPLAY OMNICOMM ICON CONNECTING CABLE

This wiring assignment is used for connecting the Display Omnicomm ICON to fuel level sensors Omnicomm and GPS-trackers Omnicomm via RS-485 interface, ensuring proper communication and power supply.

Additional Notes:

- The red wire carries the positive power supply voltage.
- The purple wire is the common ground or power negative.
- The blue and gray wires are the differential RS-485 communication lines (A and B respectively).
- The orange wire is used for an alarm button input.
- The yellow-green wire is unused/not assigned.

This wiring scheme differs from other Omnicomm equipment wiring colors, so it is important to follow these specific wire assignments when working with the Display Omnicomm ICON.

For detailed connection diagrams and configuration, refer to the official Omnicomm ICON user manual or installation guide.

4. CONTROL POINT MEASUREMENTS FOR THE DISPLAY OMNICOMM ICON

4.1 Power Supply Voltage Check of the Display Omnicomm ICON

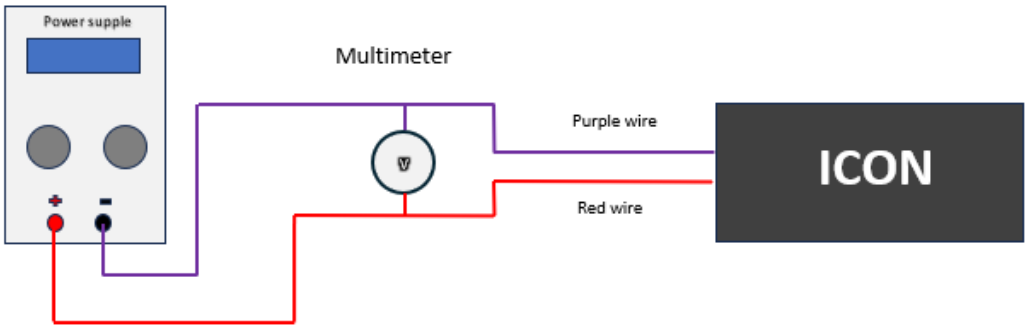

Fig. 1 Connection Diagram

1. Set the power supply voltage to 12 Volts.
2. Switch the multimeter to voltage measurement mode (range 20 Volts).
3. Assemble the connection circuit according to "Fig.1 Connection Diagram".
4. Connect the red wire (+ power supply) of the Display Omnicomm ICON to the positive terminal of the power supply.
5. Connect the purple wire (- power supply) of the Display Omnicomm ICON to the negative terminal of the power supply.
6. Turn on the power supply.
7. Verify the presence of the display's power voltage by reading the multimeter (the measured voltage should correspond to the voltage set on the power supply).

4.2 Power Consumption Check of the Display Omnicomm ICON

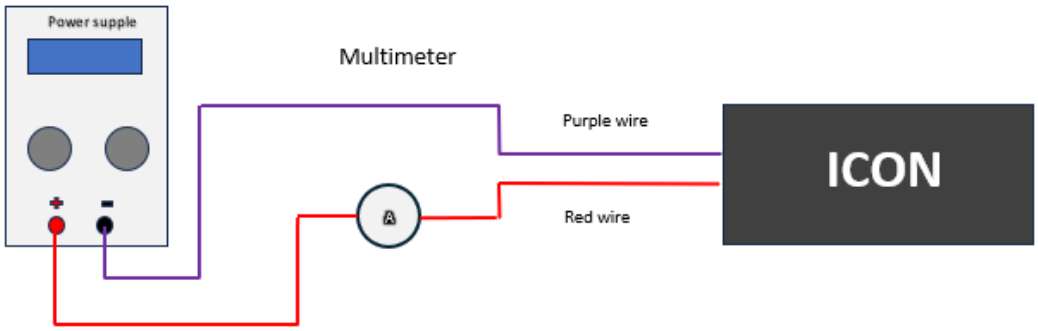

Fig. 2 Connection Diagram

1. Set the power supply voltage to 12 Volts.
2. Switch the multimeter to current measurement mode (10 Amperes range).
3. Assemble the connection circuit according to "Fig.2 Connection Diagram".
4. Connect the red wire (+ power supply) of the Display Omnicomm ICON to the positive terminal of the power supply through the ammeter (multimeter set to current measurement).
5. Connect the purple wire (- power supply) of the Display Omnicomm ICON directly to the negative terminal of the power supply.
6. Turn on the power supply.
7. Verify by the multimeter reading that there is no short circuit on the Display Omnicomm ICON power supply (current consumption should be minimal, indicating no short).
8. If the display current consumption does not exceed 100 mA, switch the multimeter to current measurement mode (mA range) for a more precise reading.
9. Record the multimeter reading in the Diagnostic Report under the entry: "Current consumption at 12 V"

4.3 Measurement of the Power Supply Circuit Resistance of the Display Omnicomm ICON

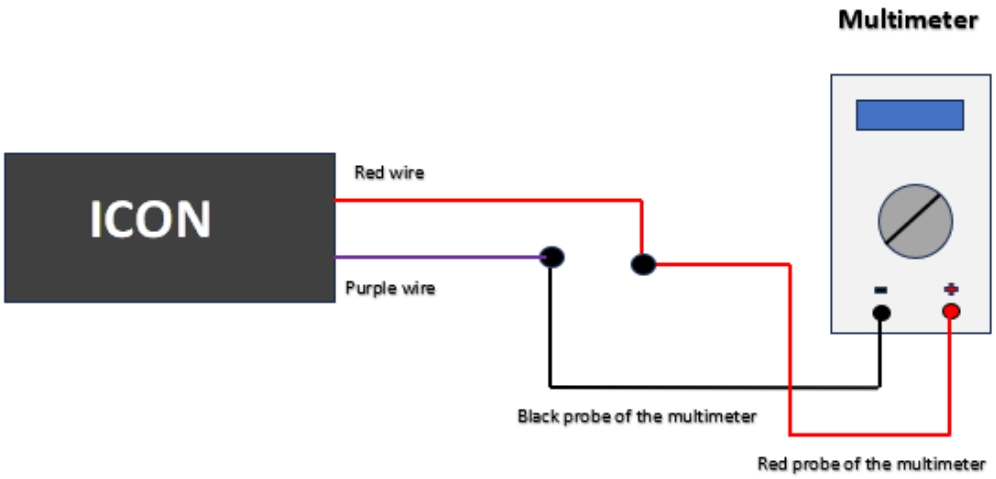

Fig. 3 Connection Diagram

1. Switch the multimeter to resistance measurement mode (range 10 mΩ).
2. Assemble the connection circuit according to "Fig. 3 Connection Diagram".
3. Connect the red wire of the Display Omnicomm ICON to the red probe of the multimeter.
4. Connect the purple wire of the Display Omnicomm ICON to the black probe of the multimeter.
5. Record the multimeter reading in the Diagnostic Report under the item: "Power supply positive".

4.4 Measurement of the Resistance of the RS-485A Interface Line of the Display Omnicomm ICON

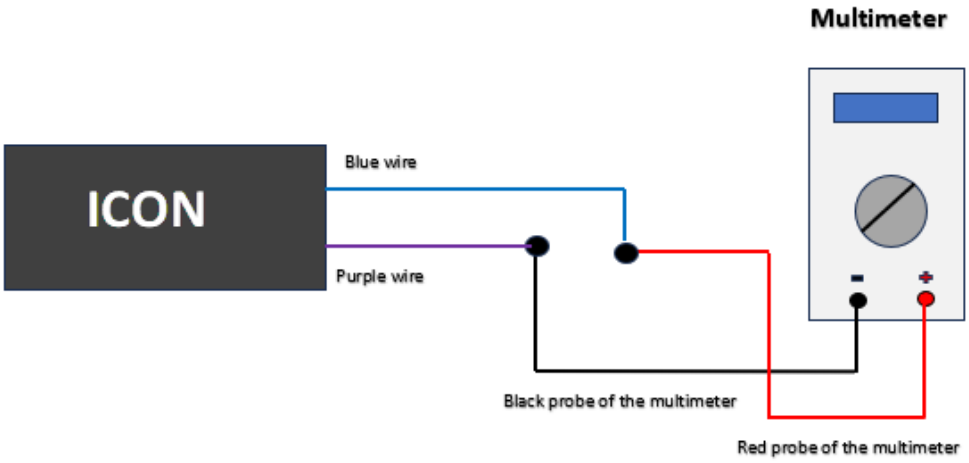

Fig. 4 Connection Diagram

1. Switch the multimeter to resistance measurement mode (range 10 mΩ).
2. Assemble the connection circuit according to "Fig. 4 Connection Diagram".
3. Connect the blue wire of the Display Omnicomm ICON to the red probe of the multimeter.
4. Connect the purple wire of the Display Omnicomm ICON to the black probe of the multimeter.
5. Record the multimeter reading in the Diagnostic Report under the item: "RS 485A"

4.5 Measurement of the Resistance of the RS-485B Interface Line of the Display Omnicomm ICON

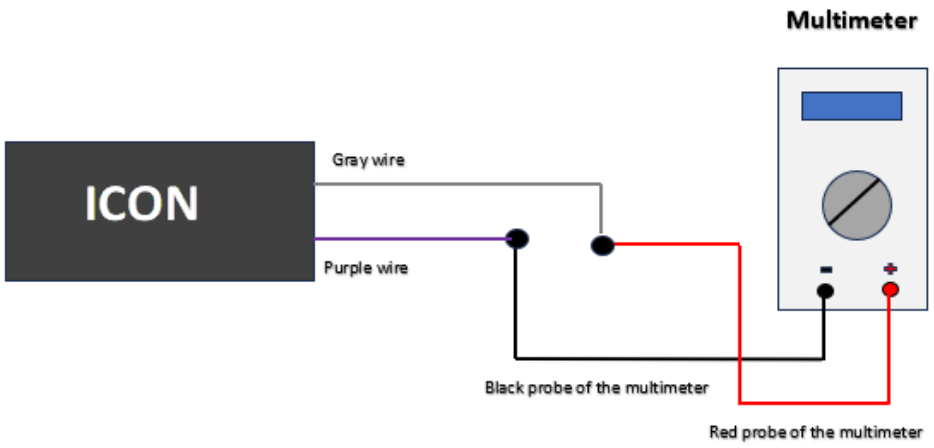

Fig. 5 Connection Diagram

1. Switch the multimeter to resistance measurement mode (range 10 mΩ).
2. Assemble the connection circuit according to "Fig. 5 Connection Diagram".
3. Connect the gray wire of the Display Omnicomm ICON to the red probe of the multimeter.
4. Connect the purple wire of the Display Omnicomm ICON to the black probe of the multimeter.
5. Record the multimeter reading in the Diagnostic Report under the item: "RS 485B".