





delta80t

**VIRTUAL TERMINAL DELTA80T ISOBUS
WITH INTEGRATED GPS NAVIGATOR**

CE

467510X

INSTALLATION

	= Generic danger
	= Warning
ECU	= IBX100 remote control unit
VT	= Virtual Terminal
OP	= Object Pool
TC	= Task Controller

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This manual is an integral part of the equipment to which it refers and must accompany the equipment in case of sale or change of ownership. Keep it for any future reference; ARAG reserves the right to modify product specifications and instructions at any moment and without notice.

MANUAL USE MODES

This manual contains information for installers. For this reason we have used technical terms without providing any explanations.

THE INSTALLATION MUST BE CARRIED OUT BY AUTHORIZED AND SKILLED PERSONNEL ONLY. ARAG IS NOT RESPONSIBLE FOR ANY INSTALLATION CARRIED OUT BY UNAUTHORIZED OR UNSKILLED PERSONNEL.

LIMITATIONS

The descriptions of the assembly phases refer to a "general" computer, so specific models will not be mentioned, unless a certain installation procedure concerns exclusively one computer type.

RESPONSIBILITY

The installer must carry out workmanlike installations and ensure to the end user the perfect operation of the whole system both with ARAG components only and other brands' components.

ARAG always recommends using its components to install control systems. The installer will be held responsible for any malfunction if he decides to use other brands' components even without actually changing the system parts or harness.

The compatibility check with components and accessories of other manufacturers shall be carried out by the installer.

If the computer or the ARAG components installed together with other brands' components get damaged because of what stated above, no direct or indirect warranty will be provided.

1 RISKS AND PROTECTIONS BEFORE ASSEMBLY

All installation works must be done with battery disconnected, using suitable tools and any individual protection equipment deemed necessary.

Use ONLY clean water for treatment tests and simulations: using chemicals during simulated treatment runs can seriously injure persons in the vicinity.

2 INTENDED USE

The device you have purchased is a Virtual Terminal which – when connected to an adequate remote control unit (ECU) compatible with the ISOBUS system according to ISO11783 – makes it possible to control all phases of treatment in agricultural applications directly from the cabin of the farming machine it is installed in.

Delta80t features a satellite navigator that – through the external GPS receiver – can be used for agricultural applications and navigation.

Delta80t is not designed for use on public roads and should only be used on farmland.

This device is designed to work on agricultural machinery for spraying and crop spraying applications.

The equipment is designed and built in compliance with UNI EN ISO 14982 standard (Agricultural and forestry machinery - Electromagnetic compatibility - Test methods and acceptance criteria), harmonized with EMC Directive - 2014/30/EU.

3 PRECAUTIONS

- Do not aim water jets at the equipment.
 - Do not use solvents or fuel to clean the case outer surface.
 - Do not clean equipment with direct water jets.
 - Comply with the specified power voltage (12 VDC).
 - In case of voltaic arc welding, remove connectors from Delta80t and disconnect the power cables.
 - Only use ARAG genuine spare parts and accessories.
 - When connected to a suitable ISOBUS control unit, Delta80t can carry out electromechanical control operations.
- The monitor does not feature emergency stop devices: the manufacturer must provide all necessary safety devices for the equipment.

4 PACKAGE CONTENT

The table below indicates the components that you will find in the Delta80t monitor package:

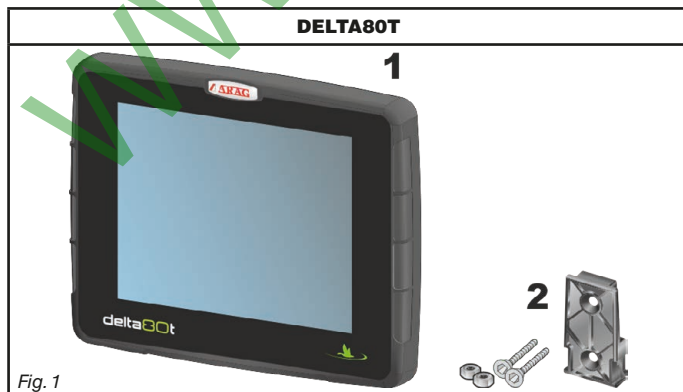


Fig. 1

Legend:

- 1 Delta80t
- 2 Fixing kit



Harnesses must be ordered separately (Ref. ARAG general catalog).

5 POSITION ON FARMING MACHINE

5.1 Monitor position

• The Delta80t series monitor must be placed in the control cabin of the farming machine. Observe the following precautions:



- Do NOT install the monitor in areas where it would be subjected to excessive vibrations or shocks, to prevent any damage or accidental use of the control keys;
- Install the device in a visible position within easy reach by hand; bear in mind that the monitor should not obstruct the operator's freedom of movement or block his view.



Consider all necessary connections of the monitor (Fig. 2), the cable length, and make sure there is enough space for connectors and cables.

An identification symbol is located next to each connector to indicate its function.

NUM	CONNECTION POINTS
1	USB (2)
2	GPS receiver
3	Auxiliary functions
4	NAVIGATOR SYSTEM MODE: Battery
	VT MODE: ECU / Battery
5	Ethernet port



* For any reference to the system configuration refer to the manual attached to the ECU.

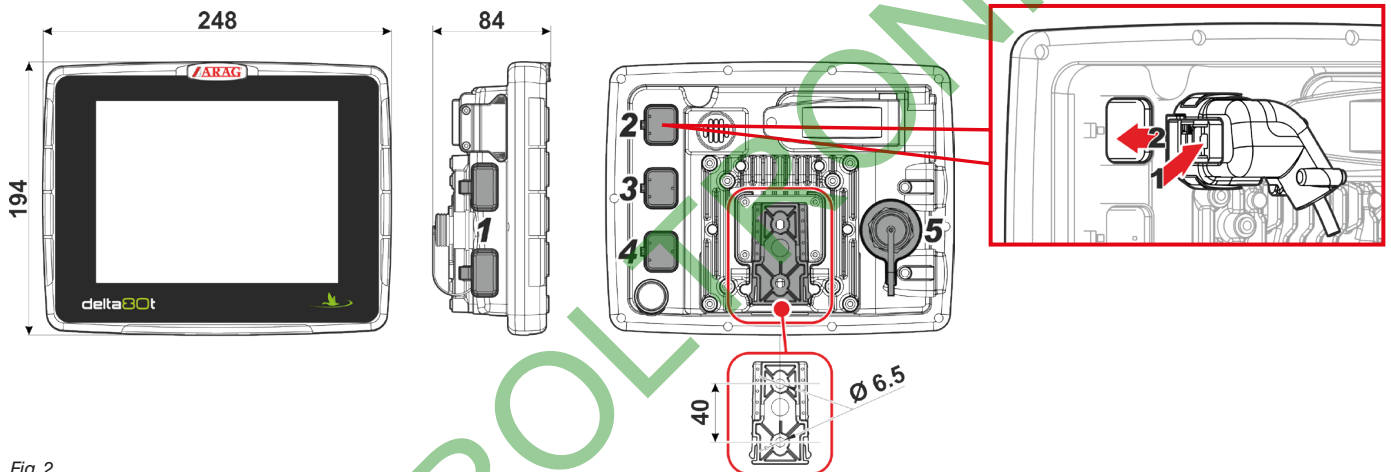


Fig. 2

5.2 Bracket fixing

The monitor must be mounted after having fixed the bracket at the desired location (the previous paragraph shows the bracket drilling template). The bracket must be slid out of the monitor seat (A, Fig. 3) and fixed using the supplied screws (B). Make sure the bracket is securely mounted, fit the monitor on it, and push it until it locks in place (C).

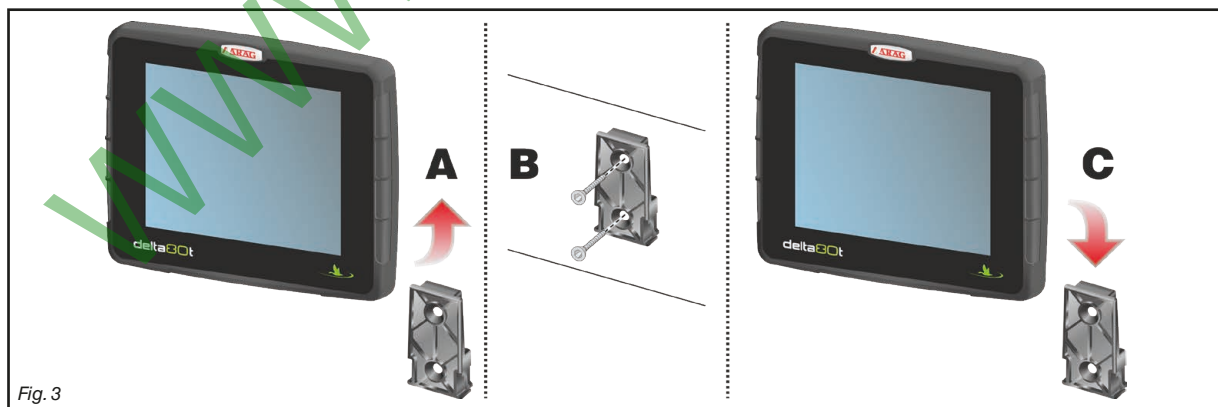


Fig. 3



WARNING: the Delta80t monitor must be fastened by means of the supplied bracket only, using suitable screws. OTHER FASTENING METHODS ARE NOT ALLOWED. ARAG is not liable for any damage to the equipment, persons or animals caused by failure to observe the above instructions.

6 WIRING CONNECTIONS

- Only use ARAG harnesses suitable for Delta80t monitor.
- Take care not to break, pull, tear or cut the cables.
- Use of unsuitable cables not provided by ARAG automatically voids the warranty.
- ARAG is not liable for any damage to the equipment, persons or animals caused by failure to observe the above instructions.

6.1 Auxiliary function and power supply connection

WARNING:
 To avoid short circuits, do not connect the power cables to battery before the installation is completed.
 Before powering up the monitor, make sure the tractor battery voltage is as specified (12 VDC).

6.1.1 AUXILIARY FUNCTIONS

Depending on the required auxiliary functions, different types of harnesses are available (ARAG general catalog).

• Treatment activation / Polaris switch-on control

Additional harnesses to connect Delta80t to the listed functions are available on the ARAG general catalog.

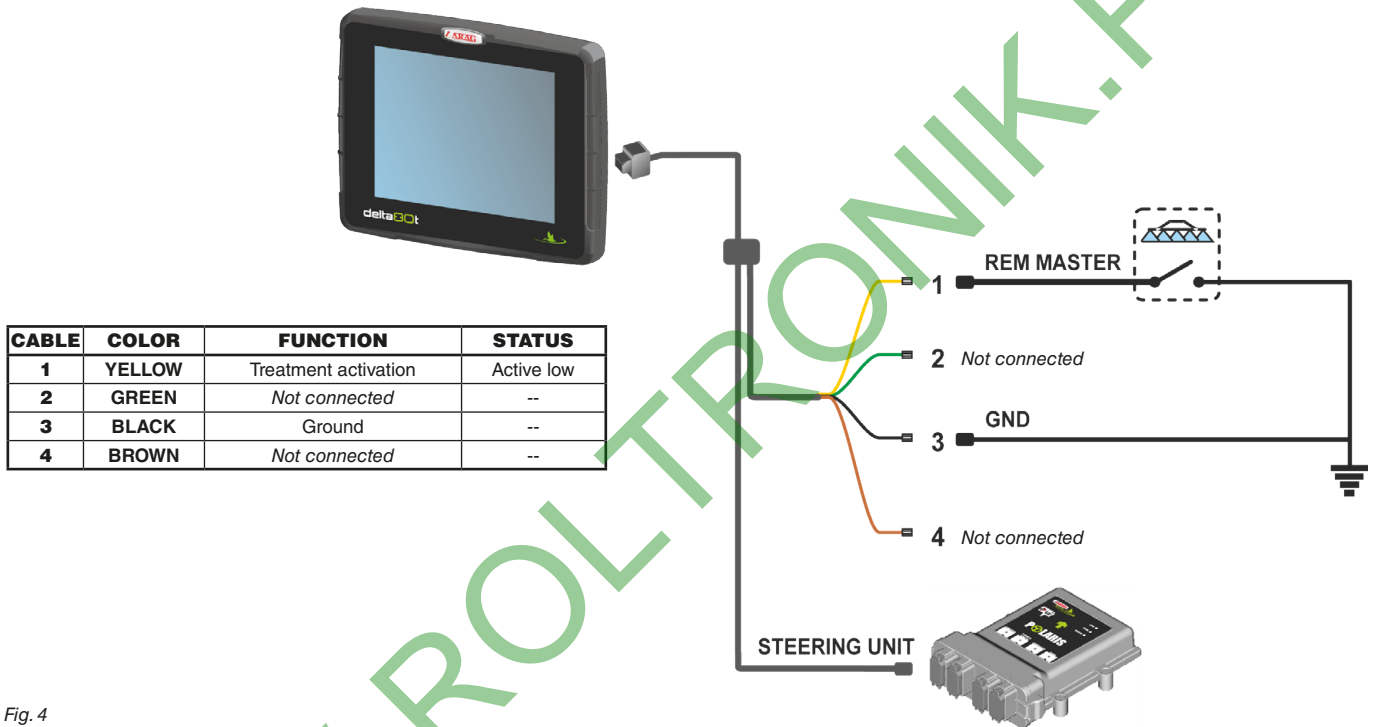


Fig. 4

6.1.2 POWER SUPPLY CONNECTION - VT MODE WITH ISOBUS SOCKET AND AUXILIARY INPUT

Delta80t is supplied directly by the farming machine battery (12 Vdc): ALWAYS switch on the computer through the monitor, and then remember to switch it off using the specific key on the control panel.



If the Delta80t remains on for a long time with machine off, the tractor battery could run flat: in case of prolonged breaks of the machine with engine off, make sure the monitor is off, too.

The power source must be connected as indicated in Fig. 5:

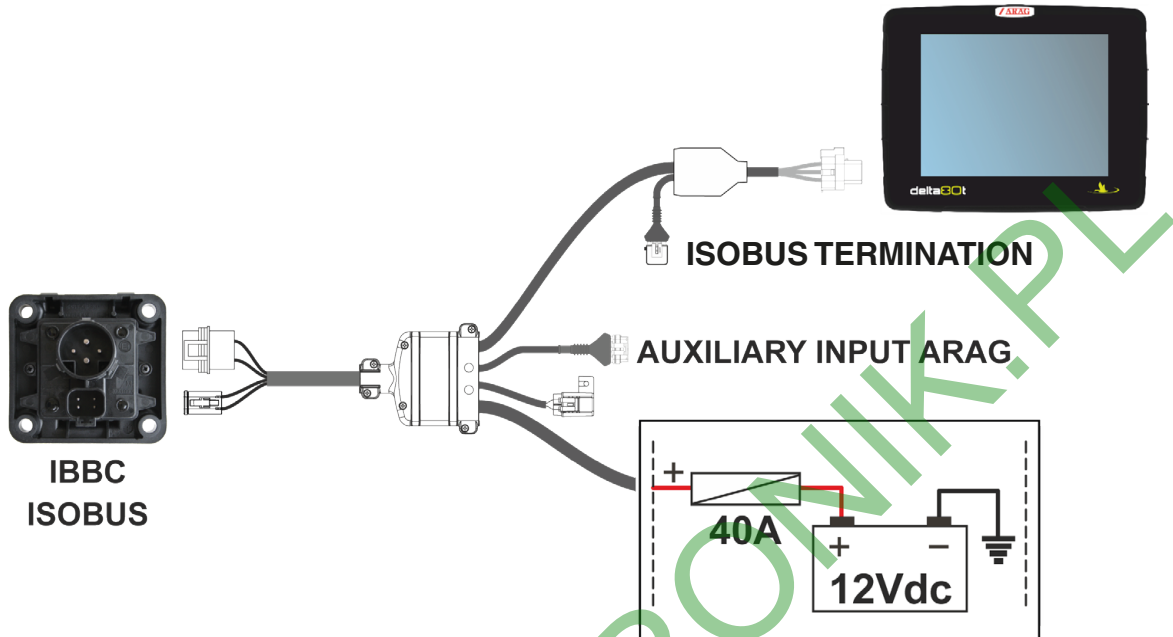


Fig. 5



Connect the power cable directly to the battery using the suitable eyelets. WARNING! DO NOT connect to key-operated switch (15/54).

6.1.3 POWER SUPPLY CONNECTION - NAVIGATOR SYSTEM MODE

Delta80t is supplied directly by the farming machine battery (12 Vdc): ALWAYS switch on the computer through the monitor, and then remember to switch it off using the specific key on the control panel.



If the Delta80t remains on for a long time with machine off, the tractor battery could run flat: in case of prolonged breaks of the machine with engine off, make sure the monitor is off, too.

The power source must be connected as indicated in Fig. 6:

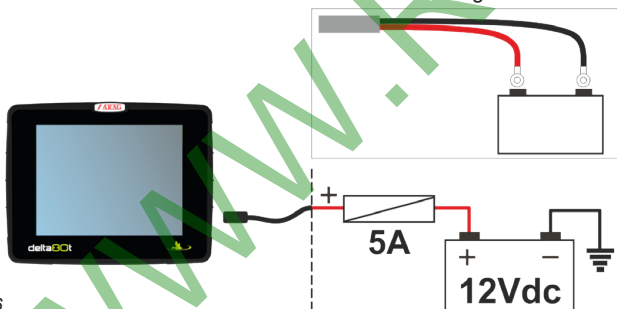


Fig. 6




Connect the power cable directly to the battery using the suitable eyelets. WARNING! DO NOT connect to key-operated switch (15/54).

WARNING: This harness allows connecting control units manufactured by ARAG, compliant with ISOBUS standards. Before connecting control units from other manufacturers, please refer to ARAG Technical Service to check their actual electrical compatibility.

7 ACCESSORIES

7.1 Pendrive

The pendrive may be used to exchange data with the Delta80t monitor.

 **Before use, format the pendrive in FAT 32 mode; make sure that it is not protected and can be read by the system. Most pendrives with up to 8 GB memory are compatible.**

8 MAINTENANCE / DIAGNOSTICS / REPAIRS

8.1 Troubleshooting

FAULT	CAUSE	REMEDY
The display does not switch on	No power supply	• Check power supply connection
	Monitor is OFF	• Press the ON key

8.2 Cleaning rules

- Clean only with a soft wet cloth.
- DO NOT use aggressive detergents or products.
- DO NOT use direct water jets.

9 TECHNICAL DATA

DESCRIPTION	DELTA80T
Display	LCD 8,4", 65000 colors, 500 cd/m ²
Rated supply voltage	12 Vdc (9 ÷ 16 Vdc)
Consumption	monitor: 1.5 A
Operating temperature	0 °C ÷ 45 °C +32 °F ÷ +113 °F
Storage temperature	-20 °C ÷ 60 °C -4 °F ÷ +140 °F
Weight (without cables)	monitor: 2240 g
Spraying activation input (MASTER IN)	active low (NPN)
No. 4 Serial ports RS232	Up to 115,200 baud
No. 4 CanBus ports	Up to 1 Mbit/sec
2 USB 2.0 ports	HOST
GPS receiver power supply	12 Vdc (max 300 mA)
Protection against polarity inversion	•
Protection against short-circuit	•

10 END-OF-LIFE DISPOSAL

This device contains a lithium polymer battery that, at end of life, must be disposed of according to the prevailing rules.

Should it be necessary to replace the battery, do not disassemble the device but contact ARAG directly.



The device must be used and stored at the temperature indicated in chapter "Technical data" of this manual.

Excessive temperature oscillations may cause acid leakage, overheating, explosion or self-combustion of the battery and consequent injuries and/or damage to persons.

Do not open, remove, drill or throw the device in the fire.

In case of battery leakage and accidental contact with the leaked out fluids, thoroughly rinse the concerned area and seek immediately medical advice.

11 GUARANTEE TERMS

1. ARAG s.r.l. guarantees this apparatus for a period of 360 days (1 year) from the date of sale to the client user (date of the goods delivery note).
The components of the apparatus, that in the unappealable opinion of ARAG are faulty due to an original defect in the material or production process, will be repaired or replaced free of charge at the nearest Assistance Center operating at the moment the request for intervention is made. The following costs are excluded:
 - disassembly and reassembly of the apparatus from the original system;
 - transport of the apparatus to the Assistance Center.
2. The following are not covered by the guarantee:
 - damage caused by transport (scratches, dents and similar);
 - damage due to incorrect installation or to faults originating from insufficient or inadequate characteristics of the electrical system, or to alterations resulting from environmental, climatic or other conditions;
 - damage due to the use of unsuitable chemical products, for spraying, watering, weedkilling or any other crop treatment, that may damage the apparatus;
 - malfunctioning caused by negligence, mishandling, lack of know how, repairs or modifications carried out by unauthorized personnel;
 - incorrect installation and regulation;
 - damage or malfunction caused by the lack of ordinary maintenance, such as cleaning of filters, nozzles, etc.;
 - anything that can be considered to be normal wear and tear;
3. Repairing the apparatus will be carried out within time limits compatible with the organizational needs of the Assistance Center.
No guarantee conditions will be recognized for those units or components that have not been previously washed and cleaned to remove residue of the products used;
4. Repairs carried out under guarantee are guaranteed for one year (360 days) from the replacement or repair date.
5. ARAG will not recognize any further expressed or intended guarantees, apart from those listed here.
No representative or retailer is authorized to take on any other responsibility relative to ARAG products.
The period of the guarantees recognized by law, including the commercial guarantees and allowances for special purposes are limited, in length of time, to the validities given here.
In no case will ARAG recognize loss of profits, either direct, indirect, special or subsequent to any damage.
6. The parts replaced under guarantee remain the property of ARAG.
7. All safety information present in the sales documents regarding limits in use, performance and product characteristics must be transferred to the end user as a responsibility of the purchaser.
8. Any controversy must be presented to the Reggio Emilia Law Court.

12 EU DECLARATION OF CONFORMITY

The declaration of conformity is available at the website www.aragnet.com, in the relevant section.

WWW.ROLTRONIK.PL

Only use genuine ARAG accessories or spare parts to make sure manufacturer guaranteed safety conditions are maintained in time. Always refer to the internet address www.aragnet.com.

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