

DIT-IR Infrared Interface Module

Installation and operating instructions



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Declaration of conformity

GB Declaration of Conformity

We, Grundfos, declare under our sole responsibility that the products DIT-L, DIT-M and DIT-IR, to which this declaration relates, are in conformity with these Council directives on the approximation of the laws of the EC member states:

- EMC Directive (2004/108/EC).
Standard used: EN 61326-1: 2006, Class B
(DIT-IR: Interference resistance Class B).

ES Declaración de Conformidad

Nosotros, Grundfos, declaramos bajo nuestra entera responsabilidad que los productos DIT-L, DIT-M y DIT-IR, a los cuales se refiere esta declaración, están conformes con las Directivas del Consejo en la aproximación de las leyes de los Estados Miembros del EM:

- Directiva EMC (2004/108/CE).
Norma aplicada: EN 61326-1: 2006, clase B
(DIT-IR: Resistencia de interferencia clase B).

IT Dichiarazione di Conformità

Grundfos dichiara sotto la sua esclusiva responsabilità che i prodotti DIT-L, DIT-M e DIT-IR, ai quali si riferisce questa dichiarazione, sono conformi alle seguenti direttive del Consiglio riguardanti il riavvicinamento delle legislazioni degli Stati membri CE:

- Direttiva EMC (2004/108/CE).
Norma applicata: EN 61326-1: 2006, Classe B
(DIT-IR: Resistenza alle interferenze Classe B).

DE Konformitätserklärung

Wir, Grundfos, erklären in alleiniger Verantwortung, dass die Produkte DIT-L, DIT-M und DIT-IR, auf die sich diese Erklärung bezieht, mit den folgenden Richtlinien des Rates zur Angleichung der Rechtsvorschriften der EU-Mitgliedsstaaten übereinstimmen:

- EMV-Richtlinie (2004/108/EG).
Norm, die verwendet wurde: EN 61326-1: 2006, Klasse B
(DIT-IR: Störfestigkeit Klasse B)

FR Déclaration de Conformité

Nous, Grundfos, déclarons sous notre seule responsabilité, que les produits DIT-L, DIT-M et DIT-IR, auxquels se réfère cette déclaration, sont conformes aux Directives du Conseil concernant le rapprochement des législations des Etats membres CE relatives aux normes énoncées ci-dessous :

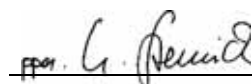
- Directive Compatibilité Electromagnétique CEM (2004/108/CE).
Norme utilisée : EN 61326-1: 2006, Classe B
(DIT-IR: Immunité au brouillage Classe B).

NL Overeenkomstigheidsverklaring

Wij, Grundfos, verklaren geheel onder eigen verantwoordelijkheid dat de producten DIT-L, DIT-M en DIT-IR waarop deze verklaring betrekking heeft, in overeenstemming zijn met de Richtlijnen van de Raad in zake de onderlinge aanpassing van de wetgeving van de EG Lidstaten betreffende:

- EMC Richtlijn (2004/108/EC).
Gebruikte norm: EN 61326-1: 2006, Klasse B
(DIT-IR: Weerstand tegen storingen Klasse B).

Pfintzal, 1st December 2010



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Person authorised to compile technical file and
empowered to sign the EC declaration of conformity.

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**Warning**

Prior to installation, read these installation and operating instructions. Installation and operation must comply with local regulations and accepted codes of good practice.

1. Symbols used in this document

**Warning**

If these safety instructions are not observed, it may result in personal injury!

Caution

If these safety instructions are not observed, it may result in malfunction or damage to the equipment!

Note

Notes or instructions that make the job easier and ensure safe operation.

2. General information

These installation and operating instructions contain all information important for users of the DIT-IR infrared interface module.

Should you require further information, or should you encounter problems that are not described in sufficient depth in this manual, please contact Grundfos Water Treatment.

2.1 Delivery contents

Carefully inspect all items to ensure that every part of the list below is present and no visible damage has occurred during shipment.

If there is any damage or missing items, please contact your local distributor immediately.

A DIT-IR standard delivery comprises:

- 1 DIT-IR module in a plastic case
- 4 batteries (type AA/LR6)
- 1 USB cable
- 1 screwdriver with clip, red
- 1 installation and operating instructions
- 1 certificate of compliance.

2.2 Application

The DIT-IR infrared interface module is suitable for transferring data from a DIT-L or DIT-M photometer to a PC.

2.3 Warranty

A guarantee claim in accordance with our general terms of sale and delivery is only valid if the following requirements are fulfilled:

- The module has been used in accordance with the information in this manual.
- The module has not been dismantled or handled incorrectly.
- Repairs have only been carried out by authorised personnel.
- Only original parts have been used during repairs.

2.4 Avoidance of danger

**Warning**

Do not open or dismantle the module!

Cleaning, maintenance and repair must only be carried out by authorised personnel!

If safe operation cannot be ensured any longer, the DIT-IR infrared interface module is to be taken out of service and safeguarded against unintentional operation. This is the case under the following circumstances:

- The DIT-IR module has visible damage.
- The DIT-IR module seems to be inoperative.
- After a long storage time under unfavourable circumstances.

2.5 Nameplate

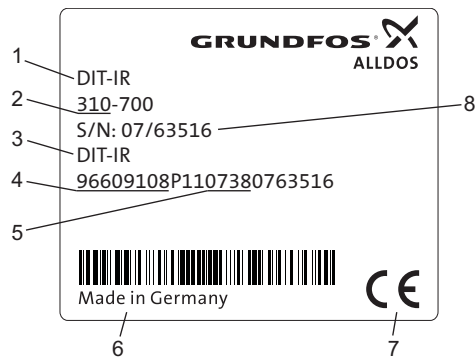


Fig. 1 Nameplate of DIT-IR

Pos.	Description
1	Type designation
2	Model
3	Product name
4	Product number
5	Year and week of production
6	Country of origin
7	Marks of approval, CE mark etc.
8	Serial number

3. Construction and function

3.1 System overview

The DIT-IR Infrared Interface Module (IRiM) receives data from a DIT-M or a DIT-L photometer and transmits them to one of the following interfaces:

- USB COM (PC)
- RS 232 connection (serial interface). All ASCII printers with serial interface can be used.

All interfaces can be connected at start-up. The interfaces can be selected by pressing the [Select] key of the DIT-IR. At start-up, the last selected interface is active.

3.1.1 System requirement for software installation

See also 4.2 *Software installation*.

Processor	Pentium 4/M or equivalent
RAM	512 MB
Screen resolution	Min. 1280 x 1024 pixels
Operating system	Windows XP
Disk space	90 MB

3.2 Installation and operating instructions

These installation and operating instructions serve as a reference for DIT-IR users and also for device firmware updates. The user must have prior knowledge of using Windows based applications.

3.3 Keypad overview

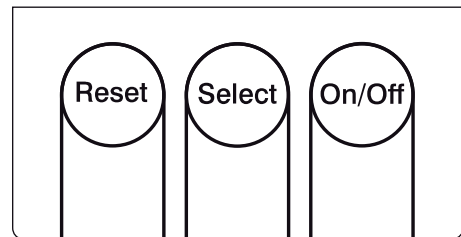


Fig. 2 DIT-IR keys

On/Off	Switches the module on and off
Select	For switching between the interface modes (scroll function)
Reset	Resets the DIT-IR board to default configuration

3.4 LED indicators

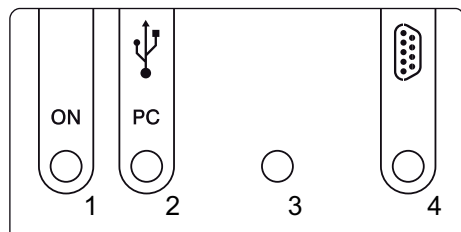


Fig. 3 DIT-IR keypad layout

1	Power indicator will be illuminated if the DIT-IR is running.
2	PC interface indicator will be illuminated, if the PC interface mode is selected, and the cable is connected with the PC. The LED flashes if the PC is not correctly connected.
3	USB interface and LED are not assigned.
4	Serial printer interface indicator will be illuminated, if the RS232 printer interface mode is selected. It will not check for the presence of a serial printer

3.5 DIT-IR power supply

The DIT-IR is powered by two optional sources:

- the USB-PC interface, if available
- 4 AA batteries, if the USB host power is not available.

If the DIT-IR is connected to the USB-PC interface, the batteries are not used. If the software is running, the power LED is illuminated. See fig. 3.

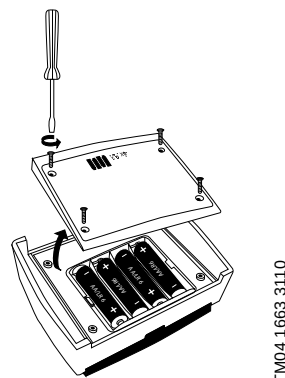


Fig. 4 DIT-IR battery compartment

Note

EC guideline 2006/66/EC requires users to return all used and worn-out batteries and accumulators. They must not be disposed of together with ordinary domestic waste.

3.6 DIT-IR connection

Place the DIT-IR as close as possible to the photometer.

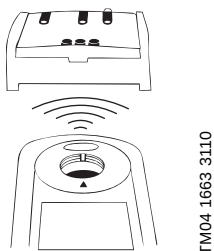


Fig. 5 DIT-IR connection

4. Installation of the device driver and data acquisition software

4.1 Driver installation

Note

Installation as described in this manual is based on a Windows XP platform. If you use another Windows operation system, please proceed analogously.

After the DIT-IR is connected to the USB interface for the first time, an installation assistant opens automatically. Make the selection shown below and click [Next].



Find the driver under "[CD drive name]:\inf" on the CD supplied. After inserting the CD and setting the following selection, start searching the CD by clicking [Next]:



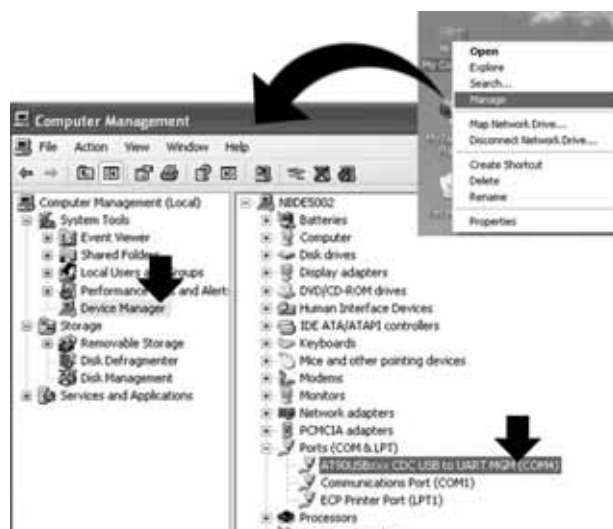
When the driver has been found, the message shown below appears. Confirm the installation by clicking [Continue Anyway].



The driver will be installed.

Complete the installation to close the installation assistant. Restart the PC.

A virtual COM port has been created. The address of the port can be seen in the device manager. It can be opened from the desktop as follows:



4.2 Software installation

The software for data acquisition and parameter setting can be found on the CD supplied.

Path: [CD drive name]:\Installer\Volume\setup.exe

Double-click to start the setup.exe file.



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After starting the setup.exe file, the installation folder can be selected. It is recommended to confirm the suggested default folder by clicking [Next].



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After confirmation, the software license agreement appears, which must be accepted.

Find other languages on the CD under "[CD drive name]\Installer\Volume\setup.exe".

To continue, click [Next].



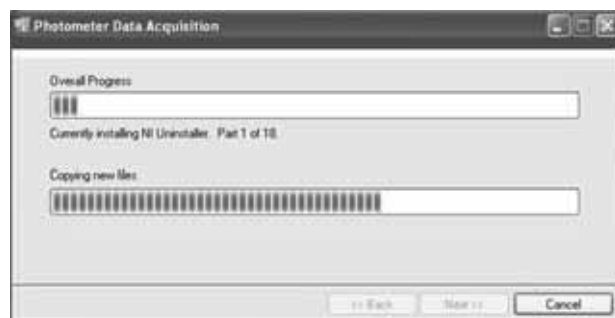
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A summary of the programs to install appears. To start the installation, click [Next].



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The software will be installed.



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Complete the installation according to the menu navigation.

After the installation is completed, a restart is necessary. After the restart, the software can be used.

5. Start the application

Infrared data from the photometer will be received by DIT-IR at 9600 baud. The baud rate can be changed by the supplied software. See section 5.3.3 *Configuration of the DIT-IR settings*. When the unit is switched on, the last selected interface will be active.

5.1 Data transmission

Position the activated DIT-IR and the transmitting instrument, such as a photometer, in line of sight, face to face. See also fig. 5). Start print command at the transmitting instrument. The data will be sent to the DIT-IR module.

Caution

If the printer is not connected, the incoming data will be lost!

Note

The DIT-IR does not support and will not indicate any printer-related errors (paper jam, paper tray empty, etc.).

5.2 Serial interface mode

To scroll until the serial interface mode is set, press the [Select] key. The LED in front of the DB9 connector will flash up to indicate the serial interface mode. All ASCII printers with serial interface can be used.

5.2.1 Connection to a serial printer

Connect the serial printer to the DB9 connection of the DIT-IR module. Use a cable with non-transposed conductors.

Pin assignment of the serial cable:

- Pole 2 is connected to pole 2 of the other DB9 connection
- Pole 3 is connected to pole 3 of the other DB9 connection
- GND (pole 5 to pole 5).

5.2.2 Interface parameter

Set the same baud rate on the photometer (see the photometer installation and operating instructions), the DIT-IR (see 5.3.3 *Configuration of the DIT-IR settings*) and the serial printer (see manual).

5.3 PC interface mode

To scroll until the PC interface is set, press the [Select] key.

5.3.1 Connection to a PC

Connect the PC and the DIT-IR module port with a USB cable.

5.3.2 Data transmission to a PC

See also section 5.1 *Data transmission*

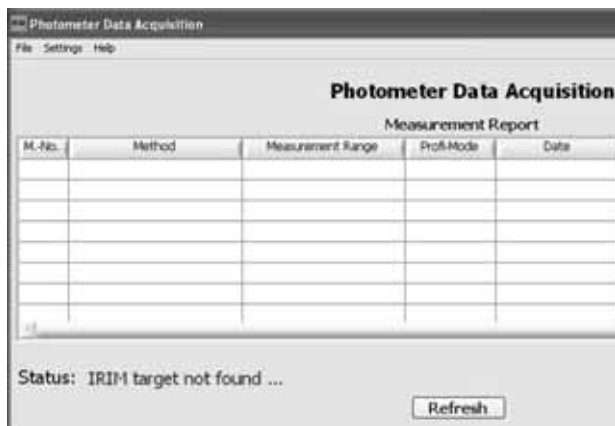
After software installation (section 4.2 *Software installation*), a folder containing a software shortcut will automatically be generated on the desktop.

After the software has been started, the following option window appears. A user name can be entered, the required language (German/English) can be chosen and the type of data report required can be selected.



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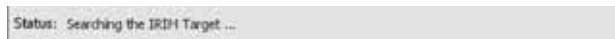
If no DIT-IR is connected when the software is started, the status message shown below appears after clicking [OK].



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Connect the DIT-IR, select the appropriate interface and click [Refresh].

The following status message appears:

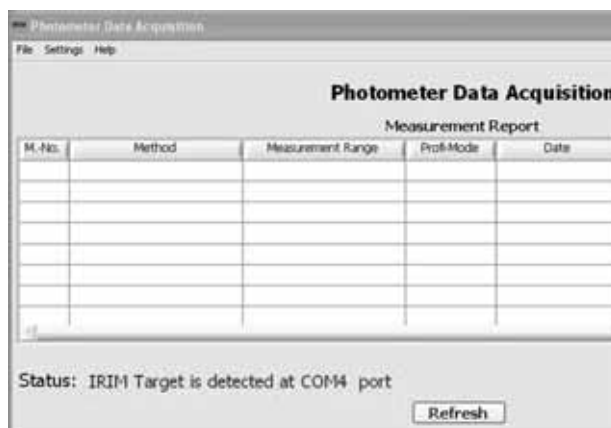


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Option Excel

If the DIT-IR has been found, a window opens. Enter the file location and name.

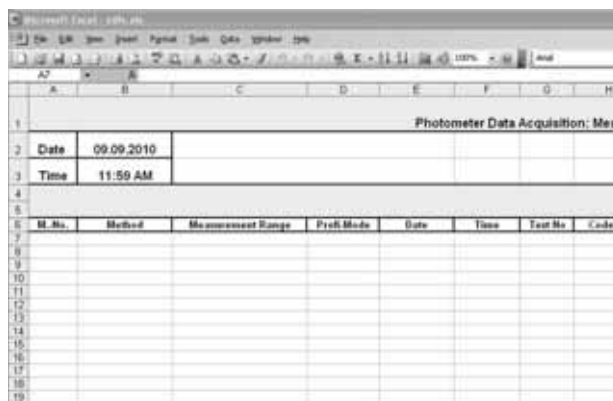
After confirming the location, the operating interface of the software opens:



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In this window, the transmitted data can be viewed and stored. DIT-IR settings can be changed. See section 5.3.3 *Configuration of the DIT-IR settings*.

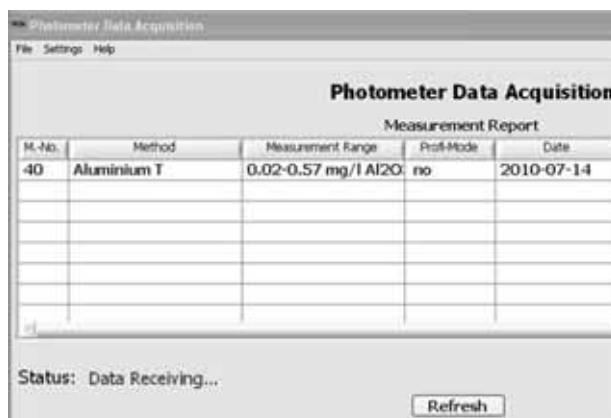
Simultaneously, an Excel template (result template) opens automatically, using the chosen language. The transmitted data will be stored in this sheet.



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If the print command on the photometer has been pressed, the transmitted data can be seen in the operating interface as well as in the Excel template. The data will be saved automatically to the assigned location under the chosen name.

Data acquisition operating interface:



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Data acquisition, Excel template:

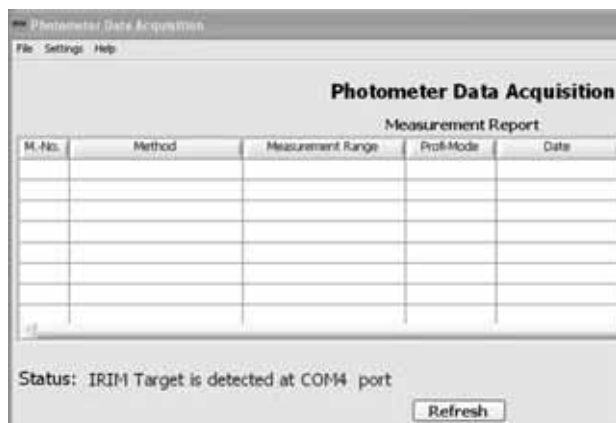
Photometer Data Acquisition: Measurement Report							
Date		Time					
1	09.09.2010						
2	1:24 PM						
M.No.	Method	Measurement Range	Profi-Mode	Date	Time	Test No.	Code No.
40	Aluminium T	0.02-0.57 mg/l Al2O3	no	14.07.2010	10:20:30	1	1536

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Option, note pad

After selecting the note pad mode, a window opens. Enter the file location and name of the data to be transmitted.

After confirmation of the file location, the operating interface opens:



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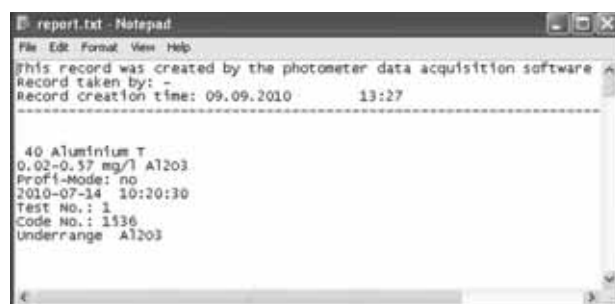
In this window, the transmitted data can be viewed and stored. Settings of the DIT-IR can be changed. See section 5.3.3 Configuration of the DIT-IR settings.

If the print command on the photometer has been pressed, the transmitted data can be seen in the operating interface. Data acquisition operating interface:

M.No.	Method	Measurement Range	Profi-Mode	Date
40	Aluminium T	0.02-0.57 mg/l Al2O3	no	2010-07-14

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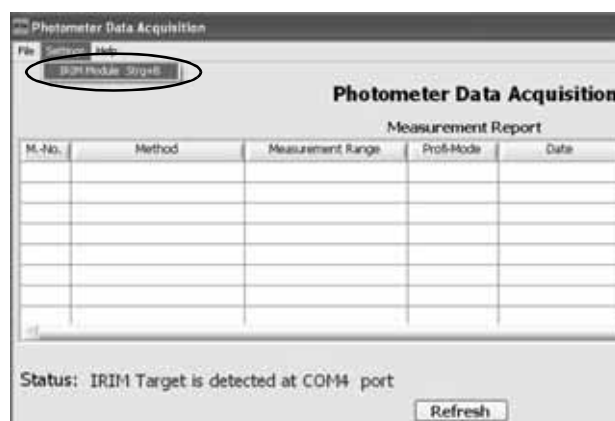
The data will be stored automatically in the assigned location and named as a .txt file.



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5.3.3 Configuration of the DIT-IR settings

With the data acquisition software, various settings on the DIT-IR can be changed. The settings can be found under Settings > IRIM Module.

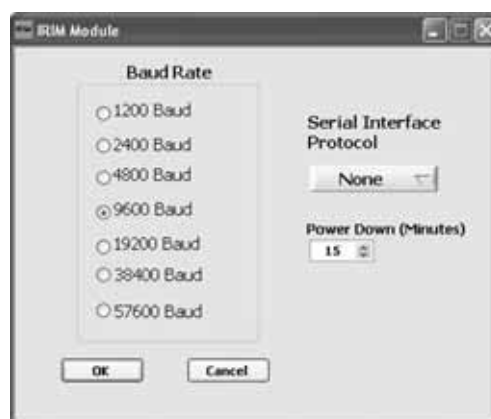


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The window below opens. Set the baud rate, turn-off time ("Power Down") and the transmission protocol.

Default configuration: 9600 baud and protocol "None".

For any changes to the default settings, refer to the PC or device manuals. The turn-off time can be set between 1 and 120 minutes. The turn-off time is inactive if the DIT-IR is powered by the USB-PC connection.



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6. Disposal

This product and all its associated parts must be disposed of in an environmentally friendly manner.

1. Use appropriate waste collection services.
2. If there is no such facility, or the facility refuses to accept the materials used in the product, the product can be sent to the nearest Grundfos company or service centre.

The 2006/66/EC guideline requires users to return all used and worn-out batteries and accumulators. They must not be disposed of in normal domestic waste.

Note

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