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1 Notice

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Warranty Information:

A copy of the specific warranty terms applicable to your Dewesoft product and replacement parts can be obtained from your local sales and service office.

To find a local dealer for your country, please visit this link: <http://www.dewesoft.com/about#distributors>

Calibration

Every instrument needs to be calibrated at regular intervals. The standard norm across nearly every industry is annual calibration. Before your Dewesoft data acquisition system is delivered, it is calibrated. Detailed calibration reports for your Dewesoft system can be requested. We retain them for at least one year, after system delivery.

Support

Dewesoft has a team of people ready to assist you if you have any questions or any technical difficulties regarding the system. For any support please contact your local distributor first or Dewesoft directly.

Austria	Slovenia
Dewesoft GmbH Grazerstrasse 7 A-8062 Kumberg Austria / Europe Tel.: +43 3132 2252 Fax: +43 3132 2252-2 Web: http://www.dewesoft.com The telephone hotline is available Monday to Thursday between 09:00-12:00 (GMT +1:00) 13:00-17:00 (GMT +1:00) Friday: 09:00-13:00 (GMT +1:00)	Dewesoft d.o.o. Gabrsko 11a 1420 Trbovlje Slovenia / Europe Tel.: +386 356 25 300 Fax: +386 356 25 301 Web: http://www.dewesoft.com The telephone hotline is available Monday to Friday between 08:00 and 16:00 CET (GMT +1:00)

Service/repairs

The team of Dewesoft also performs any kinds of repairs to your system to assure a safe and proper operation in the future. For information regarding service and repairs please contact your local distributor first or Dewesoft directly.

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Dewesoft GmbH
Grazerstrasse 7
A-8062 Kumberg
Austria / Europe

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1.1 Safety instructions

Your safety is our primary concern! Please be safe!

Safety symbols in the manual

WARNING



Calls attention to a procedure, practice, or condition that could cause body injury or death.

CAUTION



Calls attention to a procedure, practice, or condition that could possibly cause damage to equipment or permanent loss of data.

General Safety Instructions

WARNING



The following general safety precautions must be observed during all phases of operation, service, and repair of this product. Failure to comply with these precautions or with specific warnings elsewhere in this manual violates safety standards of design, manufacture, and intended use of the product. Dewesoft GmbH assumes no liability for the customer's failure to comply with these requirements.

- ⚠ Please note the characteristics and indicators on the system to avoid fire or electric shocks. Before connecting the system, please read the corresponding specifications in the product manual carefully.
- ⚠ The inputs must not, unless otherwise noted (CATx identification), be connected to the main circuit of category II, III and IV.
- ⚠ The power cord separates the system from the power supply. Do not block the power cord, since it has to be accessible for the users.
- ⚠ DO NOT use the system if equipment covers or shields are removed.
- ⚠ If you assume the system is damaged, get it examined by authorised personnel only.
- ⚠ Adverse environmental conditions are:
 - ⚠ Moisture or high humidity
 - ⚠ Dust, flammable gases, fumes or dissolver
 - ⚠ Thunderstorm or thunderstorm conditions (except assembly PNA)
 - ⚠ Electrostatic fields, etcetera.
- ⚠ The measurement category can be adjusted depending on module configuration.
- ⚠ Any other use than described above may damage your system and is attended with dangers like short-circuit, fire or electric shocks.
- ⚠ The whole system must not be changed, rebuilt or opened
- ⚠ DO NOT operate damaged equipment: Whenever it is possible that the safety protection features built into this product have been impaired, either through physical damage, excessive moisture, or any other reason, REMOVE POWER and do not use the product until safe operation can be verified by service-trained personnel. If necessary, return the product to Dewesoft sales and service office for service and repair to ensure that safety features are maintained.
- ⚠ DO NOT service or adjust alone. Do not attempt internal service or adjustment unless another person, capable of rendering first aid and resuscitation, is present.
- ⚠ If you assume a more risk less use is not provided any more, the system has to be rendered inoperative and should be protected against inadvertent operation. It is assumed that a more risk less operation is not possible any more, if
 - ⚠ the system is damaged obviously or causes strange noises.
 - ⚠ the system does not work any more.
 - ⚠ the system has been exposed to long storage in adverse environmental.
 - ⚠ the system has been exposed to heavy shipment strain.
- ⚠ DO NOT touch any exposed connectors or components if they are live wired. The use of metal bare wires is not allowed. There is a risk of short cut and fire hazard!
- ⚠ Warranty void if damages caused by disregarding this manual. For consequential damages NO liability will be assumed!
- ⚠ Warranty void if damages to property or persons caused by improper use or disregarding the safety instructions.
- ⚠ Unauthorized changing or rebuilding the system is prohibited due to safety and permission reasons (CE).
- ⚠ Be careful with voltages >25 VAC or >35 VDC! These voltages are already high enough in order to get a perilous electric shock by touching the wiring.
- ⚠ The product heats during operation. Make sure there is adequate ventilation. Ventilation slots or cooling fins must not be covered!
- ⚠ Only fuses of the specified type and nominal current may be used. The use of patched fuses is prohibited.
- ⚠ Prevent using metal bare wires! Risk of short circuit and fire hazard!
- ⚠ DO NOT use the system before, during or shortly after a thunderstorm (risk of lightning and high energy over-voltage). An advanced range of application under certain conditions is allowed with therefore designed products only. For details please refer to the specifications.

- ⚠ Make sure that your hands, shoes, clothes, the floor, the system or measuring leads, integrated circuits and so on, are dry.
- ⚠ DO NOT use the system in rooms with flammable gases, fumes or dust or in adverse environmental conditions.
- ⚠ Avoid operation in the immediate vicinity of:
 - ⚠ high magnetic or electromagnetic fields
 - ⚠ transmitting antennas or high-frequency generators
 - ⚠ for exact values please refer to enclosed specifications.
- ⚠ Use measurement leads or measurement accessories aligned to the specification of the system only. Fire hazard in case of overload!
- ⚠ Do not switch on the system after transporting it from a cold into a warm room and vice versa. The thereby created condensation may damage your system. Acclimatise the system unpowered to room temperature.
- ⚠ Do not disassemble the system! There is a high risk of getting a perilous electric shock. Capacitors still might be charged, even if the system has been removed from the power supply.
- ⚠ The electrical installations and equipments in industrial facilities must be observed by the security regulations and insurance institutions.
- ⚠ The use of the measuring system in schools and other training facilities must be observed by skilled personnel.
- ⚠ The measuring systems are not designed for use at humans and animals.
- ⚠ Please contact a professional if you have doubts about the method of operation, safety or the connection of the system.
- ⚠ Please be careful with the product. Shocks, hits and dropping it from already lower level may damage your system.
- ⚠ Please also consider the detailed technical reference manual as well as the security advices of the connected systems.

This product has left the factory in safety-related flawless and in proper condition.

In order to maintain this condition and guarantee safety use, the user has to consider the security advices and warnings in this manual.

EN 61326-3-1:2008

IEC 61326-1 applies to this part of IEC 61326 but is limited to systems and equipment for industrial applications intended to perform safety functions as defined in IEC 61508 with SIL 1-3.

The electromagnetic environments encompassed by this product family standard are industrial, both indoor and outdoor, as described for industrial locations in IEC 61000-6-2 or defined in 3.7 of IEC 61326-1.

Equipment and systems intended for use in other electromagnetic environments, for example, in the process industry or in environments with potentially explosive atmospheres, are excluded from the scope of this product family standard, IEC 61326-3-1.

Devices and systems according to IEC 61508 or IEC 61511 which are considered as “operationally well-tried”, are excluded from the scope of IEC 61326-3-1.

Fire-alarm and safety-alarm systems, intended for protection of buildings, are excluded from the scope of IEC 61326-3-1.

4.3.2.1 LAN Connector LED States

LED	LED Colour	LED State	Condition
Link	Green	Off	LAN link is not established
		On	LAN link is established
		Blinking	LAN is active
Data Rate	Green/Yellow	Off	10 Mb/s data rate
		Green	100 Mb/s data rate
		Yellow	1000 Mb/s data rate

5 Software

5.1 BIOS

When you get your DS-NET-CPU no BIOS passwords are set. You may want to set these passwords to protect your system. When you boot up the device, press **F2** to enter the BIOS.

5.2 Operating System

Your device is set up with an activated version of Windows®. The operating system and the correct drivers for your hardware have already been installed and preconfigured. Moreover the data acquisition programs have been installed, licensed and preconfigured.

Note: There is no anti-virus software installed and the firewall is deactivated.

5.2.1 Start-up & Shut down

When the DS-NET system is powered on, the CPU will automatically boot Windows®.

The system is preconfigured to have one user who is the computer administrator: this account does not have a password, so that the user will be logged in automatically.

A link to DEWESoft® is stored in the *Startup* folder, so that DEWESoft® will start automatically when you boot Windows®. Optionally you may want to configure DEWESoft® to automatically load a setup and start storing – check the DEWESoft® user documentation for details.

The CPU has an *AUTO-ON* option. That means, that the system will automatically restart if there is a power failure.

HINT



If you shut down Windows® normally (via *Start – Shutdown*), the system will of course not restart again immediately. You have to either press the *PWR* button (see 4.1 Hardware Features on page 11) or power the DS-NET system off and on to restart the CPU again.

5.2.4 TCP/IP settings

The DS-NET-CPU has a LAN and a WLAN Ethernet adapter.

The WLAN is configured to obtain its IP address automatically via DHCP.

The LAN is configured to use the following fixed IP settings, so that the DS-GATE (which has a default IP address of: 192.168.1.28) is in the same sub-net¹:

IP	192.168. 1. 20
Subnet-Mask	255.255.255. 0
Gateway	192.168. 1. 1
DNS	192.168. 1.111

Table 2: Default LAN IP settings

5.3 Application Software

This part of the documentation describes the major application software that has already been installed and preconfigured on your DS-NET-CPU module.

5.3.1 Foxit Reader

Foxit Reader is a lightweight PDF viewer to display our documentation files: <http://www.foxitsoftware.com/pdf/reader/>.

5.3.2 DEWESoft®

DEWESoft® is already installed, licensed and preconfigured for your DS-NET measurement system. The DEWE-NET option (see also 7.1 DEWE-NET Option on page 19) is activated and is configured to work as a *Slave measurement unit*.

The *Default* project is configured to load the *Default.d7s* setup when DEWESoft® is started. This can be changed under: **Settings** – **Startup** - **Starting setup**.

5.3.3 Ultra VNC

Ultra VNC is required when you use the DEWE-NET option (see also 7.1 DEWE-NET Option on page 19) to access the DS-NET-CPU from another computer: <http://www.uvnc.com/>.

5.3.4 test.commander, ICP100

The programs *test.commander* and *ICP100* are optional software programs for your DS-NET system. Usually you do not need to work with these programs directly, but it is recommended to have them installed for full access to expert DS-NET functions.

When you get your DS-NET system a *test.commander* project called `FACTORY_SETUP.EPJ` has been created for you. This may be useful if you want to restore the factory settings of the DS-NET measuring modules, so you should not delete it.

¹ Please consult the DS-NET user manual for more details on the IP settings

8 Appendix

8.1 Glossary and abbreviations

BIOS

The BIOS of a PC software is built into the PC, and is the first code run by a PC when powered on (*boot firmware*). The primary function of the BIOS is to load and start an operating system.

CAN

Controller-area network (CAN or CAN-bus) is a vehicle bus standard designed to allow micro-controllers and devices to communicate with each other within a vehicle without a host computer.

Dewesoft

Dewesoft refers to the company.

DEWESoft® refers to the software suite for data acquisition, data processing, data analysis and much more.

see www.dewesoft.com

DHCP

The Dynamic Host Configuration Protocol (DHCP) is an auto configuration protocol used on IP networks. Computers that are connected to IP networks must be configured before they can communicate with other computers on the network. DHCP allows a computer to be configured automatically, eliminating the need for intervention by a network administrator.

In the absence of DHCP, hosts may be manually configured with an IP address.

DS-GATE

The Dewesoft gateway module is the most important part of a DS-NET system, because it is responsible for all the communication between the DS-NET modules and the host system (The DS-NET-CPU module, in this case).



LED

A light-emitting diode is a semiconductor light source.

LEMO

LEMO is the name of the high quality push-pull connectors that are used for cable connections: e.g. the power-supply cable and the sync cables of the DS-NET system. The company that produces these connectors is also called LEMO (www.lemo.com)



Microsoft®

Microsoft® Corporation is a public multinational corporation head-quartered in Redmond, Washington, USA that develops, manufactures, licenses, and supports a wide range of products and services predominantly related to computing through its various product divisions.

DEWESoft® is a Windows®-based application and thus a Windows® operating system must be installed on the measurement PC where DEWESoft® will run.

see www.microsoft.com

NET Option

aka. DEWESoft NET, DEWE NET

With DEWE-NET your measurement system can be controlled remotely with ease of use you couldn't imagine before. DEWE-NET also serves as the centre of Distributed Data Acquisition systems where you have multiple systems located either together or scattered across an entire continent. IRIG and GPS time will take care that data will stay synchronized, no matter how long the acquisition runs.

OS

An operating system (OS) is a set of system software running on a device that manages the system hardware. Windows® is required for DEWESoft®.

PC

The DS-NET-CPU is a full-fledged Personal Computer system, running Windows® and the DEWESoft® data acquisition software.

SSD

A solid-state drive (SSD) is a data storage device that uses solid-state memory to store persistent data. SSDs are distinguished from traditional hard disk drives (HDDs), which are electromechanical devices containing spinning disks and movable read/write heads. SSDs, in contrast, use microchips, and contain no moving parts. Compared to traditional HDDs, SSDs are typically less susceptible to physical shock, quieter, and have lower access time and latency.

Your DS-NET-CPU system comes with an internal SSD drive.

SSID

Service set identifier, or SSID, is a name that identifies a particular 802.11 wireless LAN.

USB

Universal Serial Bus is a specification to establish communication between devices and a host controller (usually PCs).

VNC

Virtual Network Computing (VNC) is a graphical desktop sharing system to remotely control another computer. The DEWE-NET option uses Ultra VNC.

WLAN

A wireless local area network (WLAN) links two or more devices using some wireless distribution method, and usually providing a connection through an access point to the wider internet. This gives users the mobility to move around within a local coverage area and still be connected to the network.

DS-NET-CPU comes with wireless network adapter and with a wireless network antenna.

Windows®

A PC operating system by Microsoft®. DEWESoft® will work on Windows® XP, Windows® Vista, Windows® 7 and Windows® 8.

Windows® is a registered trademark of Microsoft Corporation in the United States and other countries.

8.2 Documentation version history

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