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Warranty Information

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

Support

For any support please contact your local distributor first or DEWETRON directly.

For Asia and Europe, please contact:

DEWETRON Ges.m.b.H.
Parkring 4
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Fax: +43 316 307090
Email: support@dewetron.com
Web: http://www.dewetron.com

The telephone hotline is available
Monday to Friday between
08:00 and 17:00 CET (GMT +1:00)

For the Americas, please contact:

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Wakefield, RI 02879
U.S.A.
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Email: support@dewamerica.com
Web: http://www.dewamerica.com

The telephone hotline is available
Monday to Friday between
08:00 and 17:00 GST (GMT -5:00)

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DEWETRON GesmbH
Parkring 4
A-8074 Graz-Grambach / Austria

Printing History

Please refer to the page bottom for printing version.

Safety instructions

Safety symbols in the manual

Indicates hazardous voltages.

WARNING	*Calls attention to a procedure, practice, or condition that could cause bodily injury or death.*

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

WARNINGS

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. DEWETRON Elektronische Messgeraete Ges.m.b.H. assumes no liability for the customer's failure to comply with these requirements.

All accessories shown in this document are available as option and will not be shipped as standard parts.

For safety reasons max. 50 V may be applied to the BNC input-connectors!
Refer to the regulation of maximum allowable touch potential.

Safety instructions for all DEWETRON systems

- The DEWETRON data acquisition systems may only be installed by experts.
- Read your manual before operating the system.
- Observe local laws when using the instrument.
- Ground the equipment: For Safety Class 1 equipment (equipment having a protective earth terminal), a non interruptible safety earth ground must be provided from the mains power source to the product input wiring terminals or supplied power cable.
- DO NOT operate the product in an explosive atmosphere or in the presence of flammable gases or fumes and do not bring the system in contact with water.
- 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 a DEWETRON sales and service office for service and repair to ensure that safety features are maintained.
- Keep away from live circuits: Operating personnel must not remove equipment covers or shields. Procedures involving the removal of covers or shields are for use by service-trained personnel only. Under certain conditions, dangerous voltages may exist even with the equipment switched off. To avoid dangerous electrical shock, DO NOT perform procedures involving cover or shield removal unless you are qualified to do so.
- No modifications are allowed at the instrument. The fuse in the power module has to be replaced by the same type. For continued protection against fire, replace the line fuse(s) only with fuse(s) of the same voltage and current rating and type. DO NOT use repaired fuses or short-circuited fuse holder labels and print on the power module may not be removed.
- 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.
- DO NOT substitute parts or modify equipment: Because of the danger of introducing additional hazards, do not install substitute parts or perform any unauthorized modification to the product. Return the product to a DEWETRON sales and service office for service and repair to ensure that safety features are maintained.
- Before opening the instrument (experts only) or exchanging the fuse in the power module disconnect power!
- Don’t touch internal wiring!
- Don’t use higher supply voltage than specified and take care of the correct polarity, otherwise the system will be damaged!
- Use only original plugs and cables for harnessing.
- Install filler-panels in unused slots.
- The power-cable and -connector serve as Power-Breaker. The cable must not exceed 10 feet, disconnect function must be possible without tools.
- Keep the ventilation slots free and check them frequently to avoid an overheating of the system. The cleaning interval of the filter pads depends on the environmental conditions.
- Safety of the operator and the unit depend on following these rules.
- DEWETRON is not responsible for any damage or injury that could result from improper connection or misuse!

General Information

CAUTION

- The system BIOS is protected by password. Any change in the BIOS may cause a system crash. When the system is booting, do not press ESC-button on keyboard. This may clear the BIOS settings and cause system faults.
- Any change in the file structure as deleting or adding files or directories might cause a system crash.
- Before installing software updates contact DEWETRON or your local distributor. Use only software packages which are released by DEWETRON. Further informations are also available in the internet (http://www.dewetron.com).
- After power off the system wait at least 10 seconds before switching the system on again. Otherwise the system may not boot correct. This prolongs also the life of all system components.

Environmental Considerations

Information about the environmental impact of the product.

Product End-of-Life Handling

Observe the following guidelines when recycling a DEWETRON system:

System and Components Recycling

Production of these components required the extraction and use of natural resources. The substances contained in the system could be harmful to your health and to the environment if the system is improperly handled at it's end of life! Please recycle this product in an appropriate way to avoid an unnecessary pollution of the environment and to keep natural resources.

This symbol indicates that this system complies with the European Union's requirements according to Directive 2002/96/EC on waste electrical and electronic equipment (WEEE). Please find further informations about recycling on the DEWETRON web site www.dewetron.com

Restriction of Hazardous Substances

This product has been classified as Monitoring and Control equipment, and is outside the scope of the 2002/95/EC RoHS Directive. This product is known to contain lead.

DEWE-201 Data Acquisition System

- Rugged small-size standalone instrument
- 16 MDAQ input channels
  (voltage, ICP®, bridge or strain)
- 2 counter input (encoder), CAN-bus option
- RS-485, prepared for EPAD expansion
- Local data storage or
  online data transfer via Ethernet
- A/D converter specs see appendix A

System specifications

	DEWE-201																
	MDAQ-DIRECT	MDAQ-V-10	MDAQ-V-100	MDAQ-SUB-V-200	MDAQ-SUB-ACC-x	MDAQ-SUB-ACC-A-x	MDAQ-SUB-BRIDGE	MDAQ-SUB-STG	MDAQ-BASE-5	MDAQ-BASE-10	MDAQ-FILT-5-BU	MDAQ-FILT-5-BE	MDAQ-FILT-5-BU-S1	MDAQ-FILT-10	MDAQ-FILT-10-S1	MDAQ-AAF4-5-BU
Channel 0 to 7 Channel 8 to 15	❑	❑	❑	❑ ❑	❑ ❑	❑ ❑	❑ ❑	❑ ❑	❑	❑	❑	❑	❑	❑	❑	❑

Power supply:	❑ 8 to 24 V_{DC} (startup voltage 9 V, lab-mode)* 8 to 24 V_{DC} (startup voltage 12 V, in-vehicle mode)*	
	❑ 8 to 30 V_{DC} (startup voltage 12 V, in-vehicle mode)*	
Operating temperature:	0 °C to +50 °C	
Storage temperature:	-20 °C to +70 °C	
Humidity (operating):	10 % to 80 %, non condensing 5 % to 95 % rel. humidity	
Vibration test: EN 60068-2-6	Shape Frequency range Acceleration Sweep rate Duration Test in 3 directions	Sine 10 - 150 Hz 2 g 1 oct./min. 20 Cycles
Vibration test: EN 60721-3-2 Class 2M2	Shape Frequency range Power spectral density Duration	Random 10 - 200 Hz 1 m/s² / Hz from 10 – 200 Hz 30 Minutes per axis
Shocktests: EN 60068-2-27	Shape Acceleration amplitude Duration Test in 3 axis, 3 shocks in each axis and direction	Half-sine 15 g 11 ms
Dimensions (W x H x D):	approx. 285 x 230 x 88 mm (11.2 x 3.5 x 0.9 in.)	
Weight:	typ. 4 kg (8.8 lbs), depending on configuration	

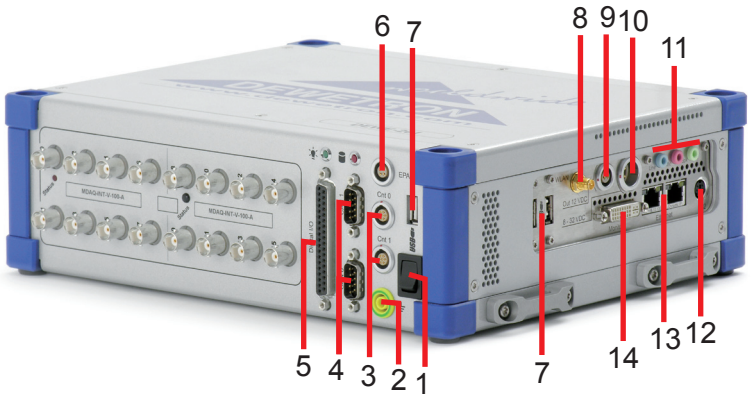
*) for further information please refere to chapter: Smart power supply.

Main System

Connectors

Connector overview:

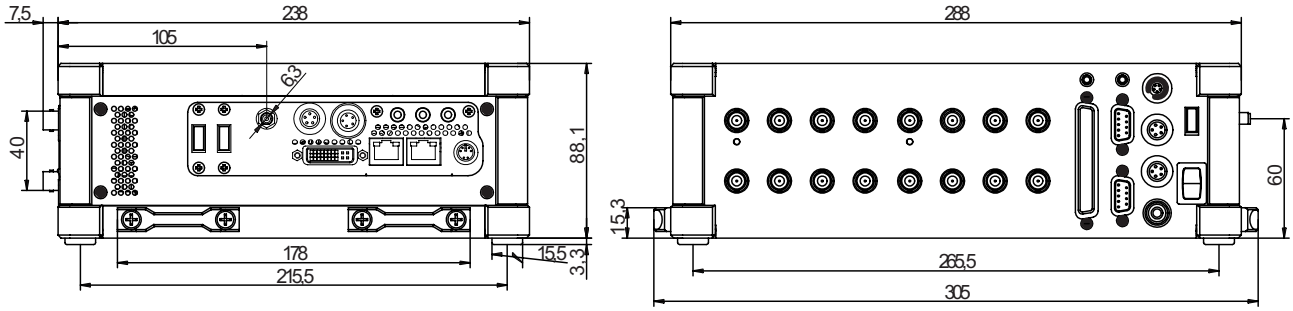
1 Power-on button
2 Ground connector
3 Counter inputs
4 CAN interface
5 Digital I/O connector
6 EPAD interface
7 USB interface connectors
8 WLAN antenna
9 Power supply for accessories (12 V_{DC}) Lemo FGG.1B.302
10 Power supply input (EGJ.2B.303.CLA)
11 Audio inputs
12 PS/2 connector
13 Ethernet LAN connector
14 DVI connector



Typical DEWE-201 front view

Note: The location of the connectors might vary from system to system and depends on system configuration

Dimensions*



* Dimensions in mm
(1 inch = 25.4 mm)

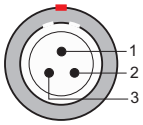
Internal 160 W DC power supply

160 W DC power supply	
Input:	
Input range:	8 to 24 V_{DC} (startup voltage min. 9 V_{DC}, lab-mode)*
	8 to 24 V_{DC} (startup voltage min. 12 V_{DC}, in-vehicle mode)*
Input frequency:	DC
Max. input current:	15 A
*) For further information please refere to chapter: Smart power supply.	

Internal 140 W DC power supply

140 W DC power supply	
Input:	
Input range:	8 to 30 V_{DC} (startup voltage min. 12 V_{DC})*
Input frequency:	DC
Output:	
Output power:	140 W
Output voltages:	+3.3 V (max. 10 A)
	+5 V (max. 10 A)
	+5 Vsb (max. 1.5 A)
	+12 V (max. 4 A)
	-12 V (max. 0.15 A)
*) Only available in ‚in-vehicle mode'.	

Power supply pin assignment:



1 V+
2 GND
3 Ignition

Lemo EGJ.2B.303.CLA

SMART Power supply

This device is equipped with a smart power supply. It can be configured for two different modes

1.) Lab mode

The device is powered through AC mains via an external AC/DC converter. Please set the jumpers as follows:

A B C D

In this mode the DEWE-201 acts like a standard ATX compatible computer.

Note: like all such ATX compatible PC systems, the DEWE-201 will draw a little current also in power-off mode

Note: In the lab mode the system won't boot up below 8V supply voltage.

2.) In-vehicle mode

The device is powered out of the vehicle. Please set the jumpers as follows:

A B C D

In this mode, the DEWE-201 senses the IGN pin for automatic power on / shut down. It is recommended to connect the IGN of the vehicle to the IGN pin. Without high level on this Pin, the system won't start.

- Connect to the vehicles power supply
- Switch on the ignition. After about 5 seconds the system will start to boot up. (I it supposed that in these 5 seconds the engine has been started)
- The device now can be shut down using the front button, as usual
- The device now can be shut down using the windows function, as usual
- If you switch off the ignition, after about 5 seconds the system will shut down automatically. After about 45 seconds, the device will shut off hard, even if Windows hangs.

Note: In the in-vehicle mode, the DEWE-201 will shut off completely after 45 seconds. So it can remain on the power supply also for long term without discharging the battery.

Attention: In the in-vehicle mode the system won't boot up below 11,5V supply voltage.

PS/2 mouse / keyboard connector

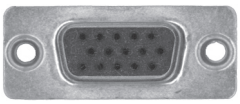
The mouse / keyboard connector could be used to connect a keyboard or an external PS/2 mouse. The connector meets standard PS/2 pin assignment.

USB interface connectors (Universal Serial Bus)

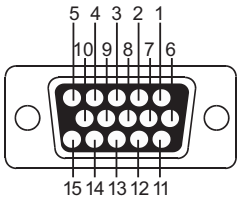
The USB interface connectors meets standard USB pin assignment.

VGA connector

The VGA connector offers the possibility to connect a CRT or other standard VGA displays to the system.



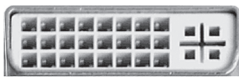
15-pin mini-SUB-D connector (male)



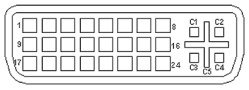
Schematic

Pin assignment
1: Red video
2: Green video / Sync on green
3: Blue video
4: -
5: -
6: Red video ground
7: Green video ground
8: Blue video ground
9: -
10: Ground
11: Ground
12: Data line
13: H-Sync / HV-Sync
14: V-Sync
15: Clock line

Some systems have a DVI connector instead or additionally to the VGA.



15-pin mini-SUB-D connector (male)



Schematic

Pin assignment

1: TDMS-data 2-	9: TDMS-data 1-	17: TDMS-data 0-	C1: Analog: red
2: TDMS-data 2+	10: TDMS-data 1+	18: TDMS-data 0+	C2: Analog: green
3: Shield TDMS-data 2,4	11: Shield TDMS-Daten 1,3	19: Shield TDMS-data 0,5	C3: Analog: blue
4: TDMS-data 4-	12: TDMS-data 3-	20: TDMS-data 5-	C4: Analog: H-Sync
5: TDMS-data 4+	13: TDMS-data 3+	21: TDMS-data 5+	C5: Analog: ground
6: DDC clock	14: +5 volt	22: Shield TDMS-Takt	
7: DDC data	15: Ground for +5 volt	23: TDMS-clock+	
8: Analog: V-Sync	16: Hotplug-Detect	24: TDMS-clock -	

Note: After the start up of the system there are only analog signals available and do not operate with a DVI-DVI cable. The monitor has to be connected to the standard VGA connector with the provided DVI adapter or an DVI-VGA cable (not included).

Ethernet connector

The DEWE-201 system supports 10/100/1000 BaseT Ethernet with standard RJ45 connector.

Power-on button

When the power-on button is pressed while the DEWE-201 is already at Windows, the DEWE-201 will shut down. Press the power-on button for more than 3 seconds while the DEWE-201 is starting into Windows or when the DEWE-201 doesn't shut down at the normal way.

Digital I/O connector

This connector supports digital input and output lines of the built-in A/D board. If this board does not support digital I/O's, the connector is not available.

The pin assignment is depending on the used A/D board - details are available in appendix B.

Ground connector

For some kind of measurements, it's necessary to give the system an additional ground connection.

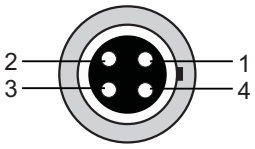
Power supply for accessories

To supply your accessories with 12 VDC. Plug in your accessories before starting the DEWE-201, otherwise it could happen that the DEWE-201 will reboot.

Lemo FGG.1B.302

EPAD connector

To connect DEWETRON EPAD modules to the system.

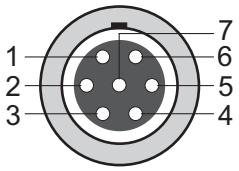


4-pin. LEMO connector (female)

Pin assginment
1: RS-485 A
2: RS-485 B
3: +12 V
4: GND
Shield is connected on housing

Counter connector (optional)

This connector supports the counter signals of the built-in A/D board. If this board does not support counter signals, the connector is not available.



7-pin LEMO connector (female)

Pin assginment
1: Source (n)
2: Up_Down (n)
3: Gate (n)
4: GND
5: +5V (max. 1.8 A)
6: +12 V (max. 1.8 A)
7: CNT_GND (n)

For safety reasons max. 50 V may be applied to the BNC input-connectors!
Refer to the regulation of maximum allowable touch potential.

A/D & D/A Conversion

A/D Conversion

Detailed information about the A/D card are not included in this manual.

For detailed information see the manufacturer's A/D card manual.

D/A Conversion

Detailed information about the D/A card are not included in this manual.

For detailed information see the manufacturer's D/A card manual.

Notes

Internal Wiring

Please find information about the MDAQ amplifiers in the attached DEWE-MDAQ series modules manual. The latest version of the manual can be downloaded from:

http://www.dewetron.com/download/index.php?search=MDAQ&catkey=manuals-amplifiers

Internal Wiring

Notes

CE-Certificate of conformity

CE

Manufacturer:

DEWETRON Elektronische Messgeraete Ges.m.b.H.

Address:

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A-8074 Graz-Grambach Austria

Tel.: +43 316 3070 0
Fax: +43 316 3070 90
e-mail: sales@dewetron.com
http://www.dewetron.com

Name of product: **DEWE-201**

Kind of product: *Dynamic data logger*

The product meets the regulations of the following EC-directives:

73/23/EEC
"Directive on the approximation of the laws of the Member States relating to electrical equipment designed for use within certain voltage limits amended by the directive 93/68/EEC"

89/336/EEC
"Directive on the approximation of the laws of the Member States relating to electromagnetic compatibility amended by the directives 91/263/EEC, 92/31/EEC, 93/68/EEC and 93/97/EEC

The accordance is proved by the observance of the following standards:

LV	**Safety**	IEC/EN 61010-1:1992/93 IEC/EN 61010-2-031	IEC 61010-1:1992/300 V CATIII Pol. D. 2 IEC 1010-2-031
EMC	**Emissions**	EN 61000-6-4	EN 55011 Class B
	Immunity	EN 61000-6-2	Group standard

Graz, October 14, 2008

Place / Date of the CE-marking

Dipl.-Ing. Roland Jeutter / Managing director

Notes