



Assembly Instructions

surfaceCONTROL Mobile DSS8009

1. Warnings

Connect the power supply and the display / output device in accordance with the safety regulations for electrical equipment. The power supply may not exceed the specified limits.

> Risk of injury, damage to or destruction of the sensor.

Avoid impacts and shocks to the sensor. Avoid continuous exposure to dust and spray water on the sensor. Avoid exposure to aggressive materials (washing agent, cooling emulsions) on the sensor.

> Damage to or destruction of the sensor.

Read the detailed operating instructions before using the sensor. These can be found on the supplied CD.

Pay attention to the moving parts of the tripod when setting up the tripod and mounting the sensor on the tripod.

> Risk of entrapment

Ensure that the tripod with the sensor has a stable position to avoid any tipping over of the system.

> Crushing hazard

> Damage to or destruction of the inspection system

Ensure that all available screws and locking devices on the tripod, tilt head and tripod connector are present and correctly adjusted in order to avoid any detachment of the sensor from the tripod during operation.

> Crushing hazard

> Damage to or destruction of the inspection system

Secure the counterweight integrated into the column during transport, assembly and disassembly.

> Risk of injury or damage to the inspection system from tipping over.

2. Notes on CE Marking

The following applies for surfaceCONTROL 2500 1:

- EU Directive 2014/30/EU
- EU Directive 2011/65/EU, "RoHS" Category 9

The sensor is designed for industrial applications and meets the requirements.

The sensor complies with the requirements if the guidelines described in the operating instructions are observed during installation and operation.

1) Not for the whole system

3. Proper Environment

- Protection class: IP 40
- Operating temperature: +5 to +40 °C (for free air circulation)
- Storage temperature: -10 to +50 °C
- Humidity: 20 - 80 % (non-condensing)

4. Scope of Delivery of surfaceCONTROL Mobile DSS8009

- 1 surfaceCONTROL 2500 sensor, including mounting adapter for tripod
- 1 sensor acceptance report / assembly instructions
- 1 cable harness, length 5 m; for supply and data transmission; Escha screw connector, LEMO PushPull on sensor side, as well as USB-A and RJ45 on PC side
- 19 VDC table power pack
- Tripod with 2-way ball tilt head
- CD with programs, drivers, sensor-specific data and documentation
- Transport case for sensor and accessories

5. Illumination

The surfaceCONTROL 2500 sensor has an LED lighting unit with a high-power LED of wavelength 462 nm (blue), 528 nm (green) or 612 nm (red) depending on the model.



Risk of damage to the eyes by optical radiation! Do not look into the lens. Consciously close your eyes or immediately turn away if the optical radiation enters the eye.

6. Mounting of the Sensor on the Tripod

The surfaceCONTROL Mobile DSS8009 inspection system is delivered either with a light tripod stand or with a robust column stand.

➡ Mount the tripod according to its assembly instructions.

Ensure that the tripod with the sensor has a stable position to avoid any tipping over of the system.

➡ Mount the tilt head on the appropriate connector on the tripod.

➡ Undo the upper knurled screw on the tilt head of the tripod.

➡ Slide the sensor with the already pre-assembled tripod adapter in the longitudinal direction onto the tilt head of the tripod.

i Ensure that you can hold the sensor securely during assembly. If necessary, have a second person assist.

NOTICE

Increased wear of this coupling! Do not cant the quick release plate on the tripod adapter when inserting into the holder of the tilt head.

➡ Position the sensor so that the quick release plate is central on the tilt head and the locking pin audibly engages.

➡ Lock the upper knurled screw on the tilt head of the tripod.

➡ Check that the tripod adapter of the sensor is correctly seated on the coupling of the tilt head.

➡ Mount the swivel arm of the tilt head for improved handling of the sensor for the positioning.

i Use the built-in spirit level for the tripod for adjustment of the tripod.

7. Dismantling

Proceed as follows if you would like to detach the sensor from the tripod again:

Only for option: column stand with boom:

➡ Secure the boom of the tripod with the help of the safety lever or retract the boom all the way and secure it with the locking screw (see also assembly instructions for the tripod).



Risk of injury, damage to or destruction of the sensor. Secure the boom as the counterweight in the tripod can make it jerk upwards.

➡ Undo the upper knurled screw on the tilt head of the tripod.

➡ Press the red locking pin on the tilt head of the tripod and pull the sensor with the tripod out in the longitudinal direction.

i Ensure that you can hold the sensor securely while pulling out. If necessary, have a second person assist.

NOTICE

Increased wear of the coupling! Do not cant the quick release plate on the tripod adapter when pulling out the holder of the tilt head.

8. Connectors

All connectors of the sensor are located in the connector panel on the rear side.



Fig. 1 Rear view of sensor with connectors

1	Ethernet port Camera 1 (green)
2	Ethernet port Camera 2 (green)
3	USB port (blue)
4	Power port (red)

8.1 Supply Voltage (Power)

Pin	Signal	
1	VCC	
2	GND	

Fig. 2 Pin assignment connector power port

Range: 18 V - 24 V (rated value 19 V) DC; maximum load 8 A

The cable shield is connected to the connector housing.

A 2-pin LEMO PushPull connector is used on sensor side.

i Only use the included power pack for the power supply of the surfaceCONTROL 2500 sensor.

8.2 Sensor Control (USB)

Pin	Signal
1	USB D+
2	USB D-
3	USB VCC
4	GND



Fig. 3 Pin assignment connector USB port

The cable shield is connected to the connector housing.

The sensor is configured and controlled via the available USB 2.0 interface. Use only the supplied USB cable.

A 4-pin LEMO PushPull connector is used on sensor side.

The USB-A connector on PC side can be connected to a USB 2.0 or USB 3.0 port.

The operation of the sensor via USB requires the installation of the corresponding driver from the software CD.

8.3 Image Data Transmission (Gigabit Ethernet)

Pin	Signal
1	Data1+
2	Data1-
3	Data2+
4	Data3+
5	Data3-
6	Data2-
7	Data4+
8	Data4-

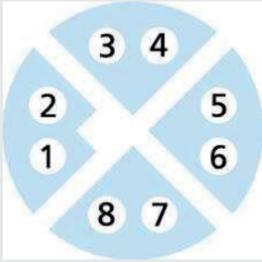


Fig. 4 Pin assignment connector Ethernet port

For the image data output of the cameras via Gigabit Ethernet, the sensor has two Gigabit Ethernet interfaces. The sensor supports only the transmission with 1 Gbit.

8-pin, X-coded, M12 round connectors with screwed connections are used on sensor side.

The connection and tightening of the Ethernet cable to the sensor can be done by hand and does not require any tools.

Proceed as follows for this:

- ➡ Carefully insert the cable connector into the port on the sensor.
- ➡ Turn the cable connector until you feel the latching of the inner groove into the corresponding guide of the port.

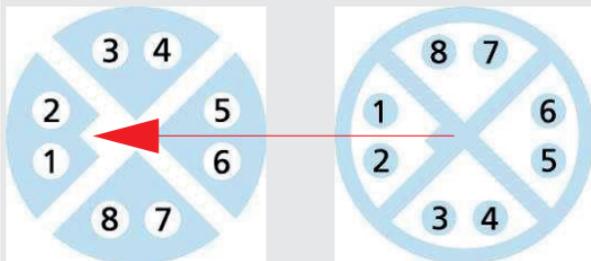


Fig. 5 Connecting Ethernet connector to port

- ➡ Tighten the cable connector.

NOTICE

Damage to or destruction of the sensor!
Do not apply force when tightening.

RJ45 connectors are used on the PC side.

- Use only the Ethernet cable supplied in the scope of delivery.

9. surfaceCONTROL Defmap3D System Requirements

The following minimum system requirements must be met:

- Windows 7 (32-bit and 64-bit), Windows 10 (32-bit and 64-bit)
- Intel Core-i5/Core-i7/Xeon
- 8 GB RAM
- Screen resolution: 1920 x 1080

10. Login in the System

When the system is switched on, the PC starts up and the operating system is loaded. The operator must login to the operating system with user name and password.

As delivered, two Windows users are set up on the PC:

- `dimconsys` – Windows main user, password: `dimconsys`
- `Administrator` – Administrator rights, password: will be communicated if required

The `dimconsys` user is recommended for work with the sensor.

Creation of a new Windows user and modification or deletion of a Windows user are performed using the Windows user management.

11. Additional Information

Details on the structure of the tripods can be found in the respective assembly instructions.

Details on the individual programs can be found in the respective operating instructions or in the operating instructions for the sensor. The operating instructions can be found on the supplied CD.

12. Quick Start: Commissioning, Software

➔ Install the software.



Insert the surfaceCONTROL CD into the CD-ROM drive.

Follow the dialog instructions through the installation process.

A. Read the installation guide

B. Install the software

C. For more information, refer to the online documentation

➔ Mount the sensor according to the assembly instructions.

➔ Connect the sensor and the PC using the Ethernet cable and the USB cable.

➔ Connect the sensor to the power supply.

The connectors for Ethernet are fitted with an Escha screw connector.

➔ Loosen the screw before pulling the connector out of the port.

➔ Switch on the power supply (19 VDC).

i The sensor must only be connected to the peripheral equipment when disconnected from the power, i.e. only when the operating voltage is switched off. The sensor requires a warm-up time of typically 30 min for high precision measurements.

➔ Wait until the surfaceCONTROL measurement system is recognized by the PC.

This may take a few seconds.

You can now operate the surfaceCONTROL measurement system with surfaceCONTROL Defmap3D.

i For the operation of the sensors via Ethernet, it may be necessary to adjust the IP setting on the PC as well as to adapt the firewall settings on the PC, see chapter 6.4.3 of the operating instructions.

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