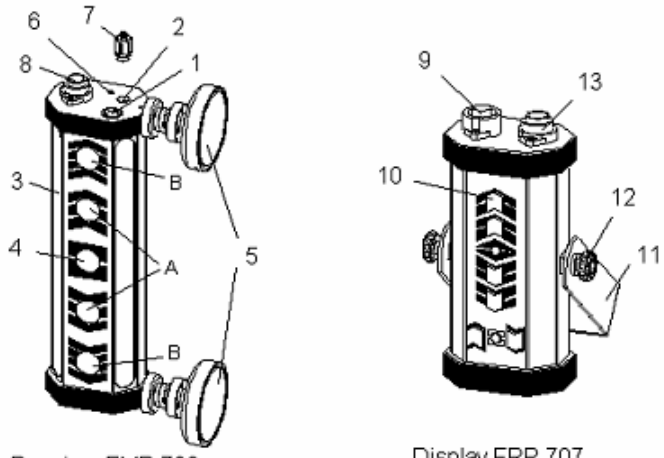
# Operators' Manual
# Machine Control Receiver *Set FMR 700*




Receiver FMR 706
Empfänger FMR 706

Display FRP 707
Fernanzeige FRP 707

FMR 706 + FRP 707 = SET FMR 700


- 360° Reception
- Length of receiving windows 25 cm
- Strong magnets for connection to the machine
- Detects beam from rotating laser levels of any brand
- Water- and dustproof metal housing

Supplied with:
Ref.no. 262000 – Machine control receiver FMR 706 with built-in rechargeable battery, charger, 12/24V battery cable, hard case
Ref.no. 263000 - Display FRP 707 with connection cable

*Ref.no. 261000 – SET FMR 700 consisting of FMR 706 and FRP 707*

1 ON/OFF-Switch
2 Socket for charger
3 Receiving windows (4x)
4 LED-Display
5 Fixing magnets
6 Charging indicator LED
7 Cover for socket
8 Socket for connection cable to FRP 707
or for 12/24V battery cable
9 Socket for connection cable to FMR 706
10 LED-Display
11 Bracket
12 Clamp screw
13 Socket for 12/24V battery cable
14 Connection cable
without picture:
- 12/24V battery cable
- Charger

**Connection to the excavator-** FMR 706 is equipped with strong magnets for attachement.

**Switch on-** Press 1x ON/OFF-Switch – all LED's are flashing. After switching on FMR 706 is in coarse detecting mode. Pressing ON/OFF again switches unit between fine and coarse detecting mode.

**Fine / coarse detection-** Change with ON/OFF-switch
FINE = the 2 inner LED's „A" are flashing 3 times
COARSE = the 2 outer LED's „B" are flashing 3 times

**Switch off**- Press ON/OFF-Switch by 2 sec.

**LED-Display-**
2 upper red LED's flashing = move FMR 706 upwards
*middle green LED flashing = FMR 706 on level*
2 lower red LED's flashing = move FMR 706 downwards

**Display FRP 707-**
Connect FRP 707 and FMR 706 by use of connecting cable 14 to sockets 8 & 9. Fix FRP 707 in the cabine of the machine. Now the receiver can be observed conveniently by the display even if the position of the receiver is above the cabine.

FRP 707 has no own power supply. It is powered by FMR 706.

CE

**Rechargeable battery and charger-**
FMR 706 has a built-in 7.2 V NiMh rechargeable battery pack. If the red LED's are flashing from the centre to outwards the battery needs to be charged. If not charged FMR 706 switches off automatically.

**Charging batteries-**
Remove cover no. 7 and connect charger with socket no. 2 and power supply. Recommended charging time: 15 hrs.

**12/24V Battery cable-**
Connect battery cable with socket no.8 (or if FMR 706 is connected to FRP 707 with socket no.13).
Then fix clamps on the car battery:
RED to positive pole (+) at battery
BLACK to negative pole (-) or to ground (engine block)

**Technical Data**

| | |
|---|---|
| Accuracy fine | ± 2 mm - ± 10 mm |
| Accuracy coarse | ± 5 mm - ± 23 mm |
| Rechargeable batteries / Charger | 7.2 V NiMh / 2500 mAh |
| Operating time | 40 h |
| Charging time | 15 h |
| Operating temperature | -20°C - +50°C |
| Size | 376 x 180 x 49 mm |
| Weight | 3,1 kg |

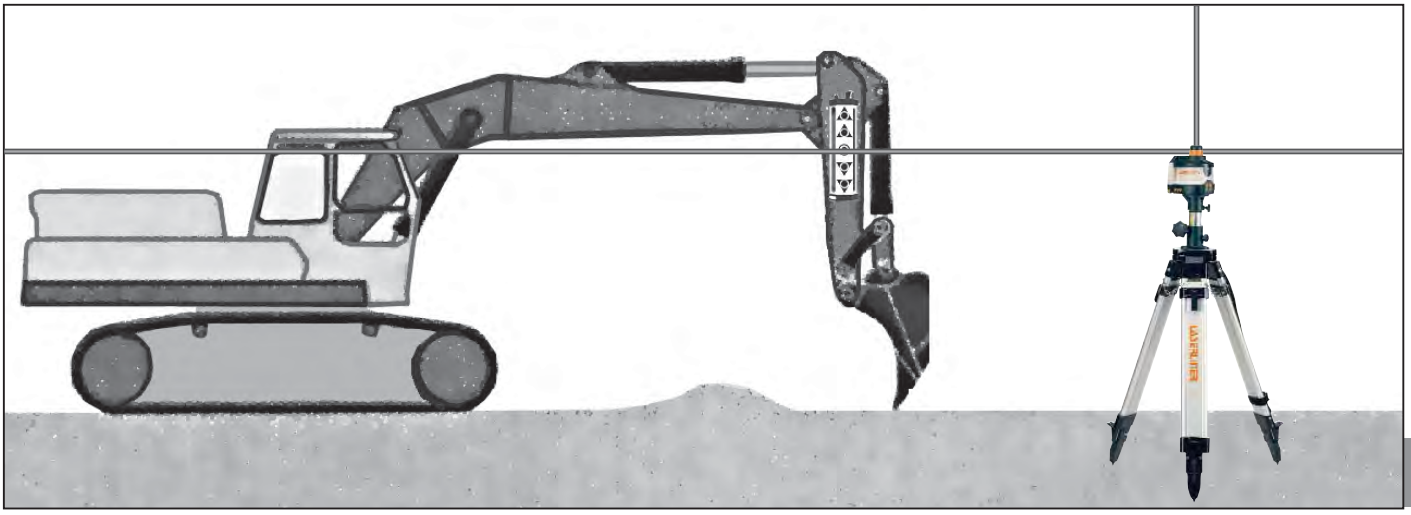
01/2004

## SensoPilot Pro

Laser receiver for steering construction machines. In combination with a rotation laser, the SensoPilot is used for continuous level/height monitoring. Through four 25 cm laser receiver units, the laser beam can be received in a radius of 360°. The laser level is indicated by large, very easily visible LEDs. Range: 200 m. Highly robust waterproof and dustproof housing with powerful magnets for fixing to the machine.
**Includes:** Integrated rechargeable battery, battery charger, 12/24V battery cable and carrying case.

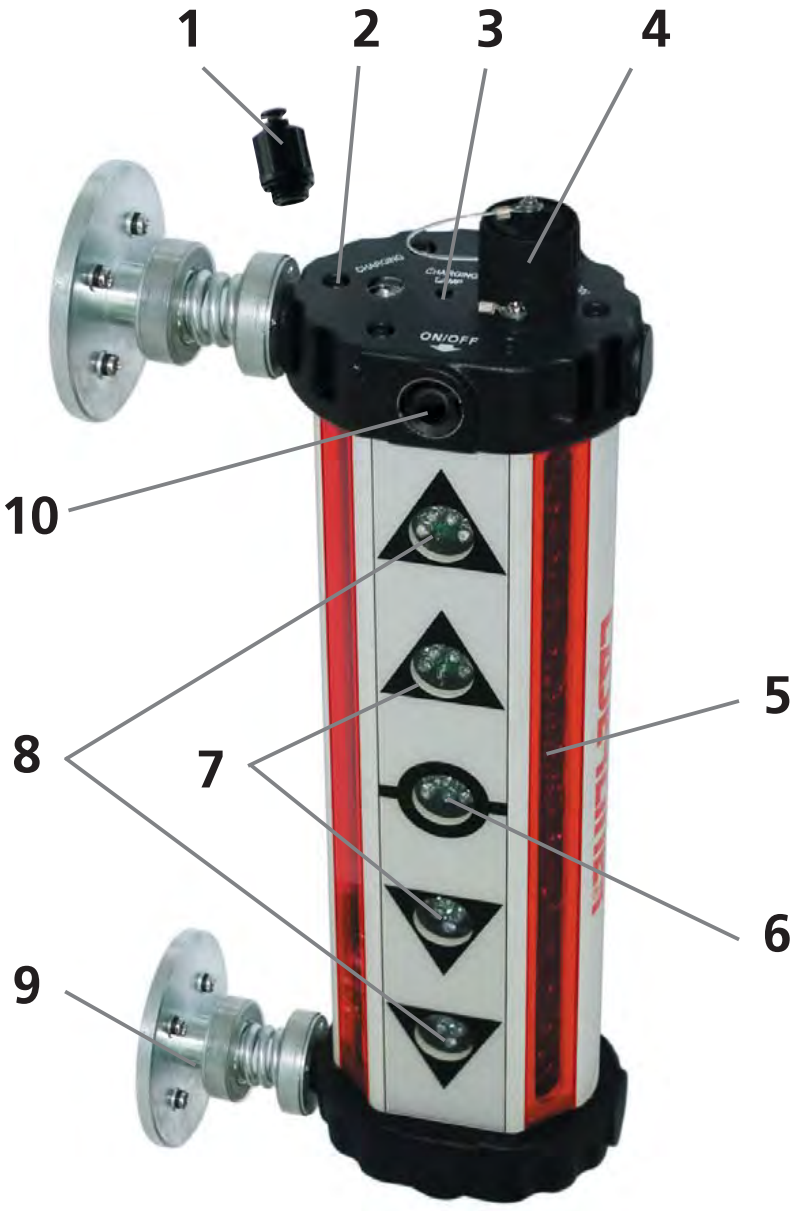
## Remote display for SensoPilot Pro

The remote display allows the reference height to be viewed direct from the driver's cab of the construction machine. It therefore ideally supplements the SensoPilot laser receiver. Highly robust design with mounting base and waterproof and dustproof housing.
**Includes:** Connection cable for SensoPilot.



## Warranty:

The warranty period is 2 years from the date of purchase. The warranty covers all material or manufacturing defects occurring during this time. The following are excluded from warranty: Damage due to improper use (e.g. operation with wrong type of current/voltage, connection to unsuitable power source, fall onto hard surface, etc.) or improper storage, normal wear and tear, and defects which only insignificantly impair the value or suitability for use. Any tampering by unauthorised persons will render this warranty void. In the event that you need to claim warranty, please take the complete device together with all information and the invoice to one of our dealers or send it in to Umarex-Laserliner.




**Remote display for SensoPilot Pro**


**1** Cover for charger socket

**2** Charger socket

**3** LED charge display

**4** Socket for SensoPilot - remote display connection cable OR 12/24V battery cable

**5** Laser beam receiver fields

**6** LED laser height display (green)

**7** LED laser height display (red)

**8** LED laser height display (red)

**9** Magnets for fixing to building machine

**10** ON / OFF switch
Precision selection

**11** LED laser height display

**12** Socket for SensoPilot - remote display connection cable

**13** Socket for 12/24V battery cable

**14** Fixing bracket

**15** Securing screw for fixing bracket

## Operation of SensoPilot Pro

### Power supply

- Before using the SensoPilot, ensure the batteries are fully charged.
- If LEDs 6 / 7 / 8 blink from inside to outside, the batteries need recharging. To do so, remove the cover of the charger socket (1) and connect the charger. Recharging takes approx. 15 hours.
- Alternatively, the SensoPilot can be operated from the battery of the construction machine via the 12/24V battery cable. To do this, plug the battery cable into the socket (4).
- When no laser beam is being received, the SensoPilot switches itself off automatically.

### Fixing the SensoPilot Pro

The powerful magnets (9) allow the SensoPilot to be fixed directly on the construction machine. Take care that the contact surfaces are clean and level so as to ensure that the magnets have a firm and reliable hold.

### Putting the SensoPilot into operation

Press the ON / OFF switch once; all the LEDs will flash briefly. The SensoPilot is now ready for operation. The large oblong receiver fields (5) recognise the laser beam, and the LEDs (6, 7, 8) indicate when the reference height is reached.

- Upper LEDs blinking: Move the SensoPilot upwards.
- Middle LED (6): The SensoPilot is at reference height.
- Lower LEDs blinking: Move the SensoPilot downwards.

### Precision select

Two levels of precision (HIGH and LOW) can be selected. Changeover between the precision levels is done using the On / OFF switch (10).

- HIGH: The inner LEDs (7) blink 3 times.
- LOW: The outer LEDs (8) blink 3 times.

### Switching off the SensoPilot

Press the ON / OFF switch (1) for about 3 seconds.

### Rotation laser

For generating a laser reference height, automatic rotation lasers with a high maximum rotation speed are best. Laserliner offers a wide range of suitable high-quality lasers, e.g. the AutoControl-Master ACM. However, rotation lasers of other makes can also be used. Ask your specialist dealer or UMAREX-Laser for advice. Additional information can also be found at www.laserliner.com.

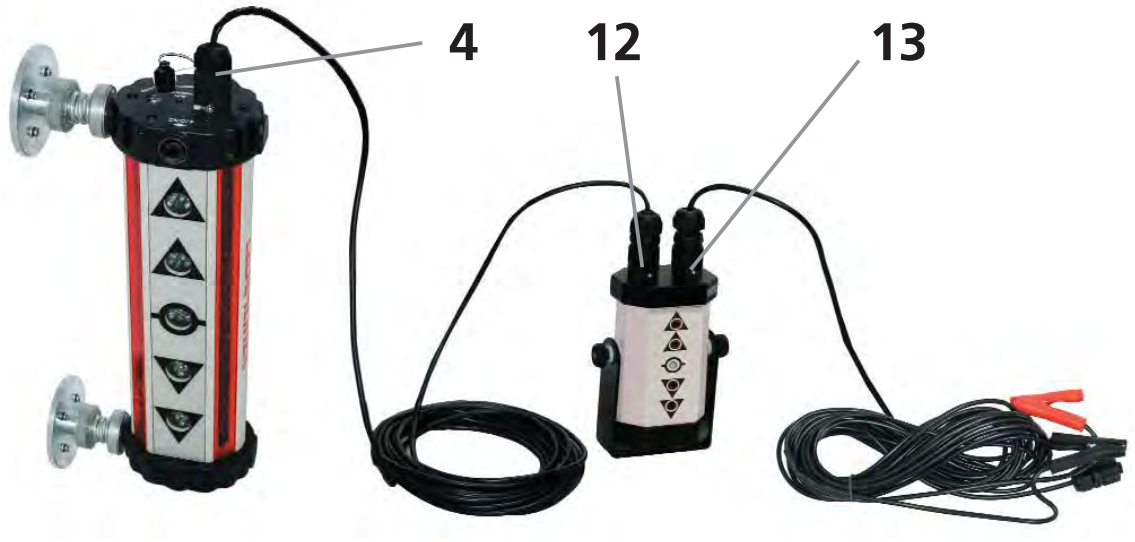
## Operation of remote display

### Power supply

- In the case of battery operation, power is supplied from the SensoPilot.
- For operation from the battery of the construction machine, connect the remote display (13) using the 12/24V battery cable, ensuring that RED is connected to the positive battery pole (+) and BLACK to earth (engine block). The SensoPilot is then also supplied with power via the connection cable - see illustration below.

### Use of the remote display

The remote display allows laser reception of the SensoPilot to be monitored when this cannot be seen from the cab of the construction machine. In this case, connect the remote display (12) to the SensoPilot (4) using the connection cable and install the remote display in the operator's cab.




Connection cable from SensoPilot to remote display

12/24 V battery cable

| SensoPilot Pro / Remote display | |
|---|---|
| Precision HIGH / LOW | ± 2 mm – ± 10 mm / ± 5 mm – ± 23 mm |
| Battery / laser | 7,2 V NiMh / 2500 mA |
| Battery operating time | approx. 40 hours |
| Charging time | approx. 15 hours |
| Working temperature | -20°C – +50°C |
| Dimensions | 376 x 180 x 49 mm |
| Weight of SensoPilot / remote display | 5 kg / 2 kg |
| Subject to change | 12.2004 |

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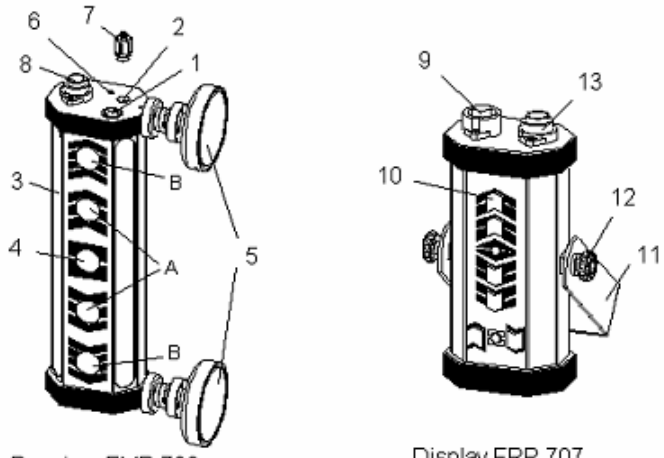


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