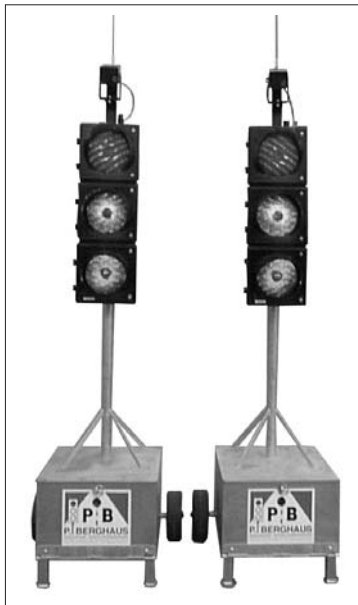


# Operation Manual



## Building Site Signalling Equipment MPB 3000



# General explanation of building site signalling equipment

## Signal safety

The use of transportable building site signalling equipment, among other things, is described in the regulations of the VDE and the RiLSA.

The above regulations determine that on building sites with one-way traffic regulations and a speed limit of 30 km/h, for example, signal protection in accordance with RiLSA and VDE 0832 is unnecessary as long as the responsible authorities do not change their conditions or increase their requirements.

All other building site signalling equipment for controlling traffic at junctions or crossings or, for example, pedestrian crossings must have signal protection in accordance with RiLSA and VDE 0832.

An acknowledgement that can be given via radio or cable is required for this signal protection. With radio-controlled signalling equipment, high-quality radio components which have a Reg TP (Federal Office for Telecommunication Licenses) approval number are used. The radio signals have a range of up to 2000 metres.

The company Peter Berghaus GmbH manufactures and delivers building site signalling equipment with or without signal protection.

### **Transport information - please observe!**

**Our building site signalling equipment must be standing when being transported. All signal transmission chambers and the control housing must always be closed properly and the control chamber must be locked to prevent damage from water!**

**If you do not observe this advice, you will automatically lose your guarantee!**

# I. Introduction

The MPB 3000 is the special traffic signal system for single-lane alternating-direction (two-way) traffic. Its standard equipment includes radar transmitters with directional recognition.

The system can be delivered with either cable or radio control.

The MPB 3000 incorporates all monitors as specified in VDE and RiLSA standards:

- Red light
- Green-green locking
- Green status
- Interim monitoring
- Watchdog (computer monitoring)

The MPB 3000 accommodates the following modes of operation:

1. Fixed time program
2. Traffic-flow-dependent mode with green-time extension
3. Traffic-flow-dependent mode with green on demand
4. Flashing
5. Lights out
6. Manual operation

Standard equipment on the MPB 3000:

- Directional-responsive radar transmitters
- Automatic night-time dimming
- Commercially-available halogen lamps (12 V/10 W/G4)
- Undervoltage and reverse-battery protection

Accessories for the MPB 3000:

- LED signal module for red/yellow/green or red/green
- Retrofit kit for 42-V-operation
- (data transmission between signal heads and power supply combined in a single cable)

## II. Operating instructions for the MPB 3000 cable- or radio-controlled working site traffic signal system

Single-lane traffic up to a distance of 999 metres can be controlled using the MPB 3000 traffic-flow-dependent signal system.

The unit is put into operation as follows:

1. In both signal heads, open the lowest chamber (green optics). The control system is located here with the operator's control built into the front panel. The transmitter of the signal system is identified with MPB 3000-S and the receiver with MPB 3000-E.
2. Switch both signal heads to **"Unit Off"** mode (*System off*).
3. Connect the 12 V main power supply to each signal head from either the batteries or Type N1 power adapter. Check for proper polarity. The "LED Battery" should now be illuminating green on both signal heads.
4. Select the desired mode of data transmission with the "Radio/Cable" switch. Both units should be set to the same mode.
5. On the control unit of the transmitter, set the desired site length with the "Length of construction site in metre" dial switch.

### **There are now two possibilities for setting the green time on the transmitter (MPB 3000-S):**

#### 6.a) Automatic fixed time

On the control unit of the transmitter, use the dials to set the values for "Greentime transmitter in seconds" and "Greentime receiver in seconds".

6.b) Automatic green time extension and Automatic manual activation mode

On the control unit of the transmitter, use the dials to set the maximum green time for the sender with “Greentime transmitter in seconds” and the maximum green time for the receiver with “Greentime receiver in seconds”.

**Note for traffic-flow-dependent operation:  
Automatic green time extension and  
Automatic manual activation mode**

a) Minimum green time

*This is the green time which applies even when no traffic is present. **It is preset at the factory to 10 seconds.***

b) Extension time

*The extension time serves to prolong the green time past the preset minimum time. Depending on the traffic present, the green time can be extended to the defined maximum green time. If no traffic is detected for a 6-second period between the minimum and maximum timeframe, the current green-time cycle will be ended. **The extension time is preset at the factory to 6 seconds.***

7. On the “Modes” dial, set the mode of operation for each control unit.

Both signal heads flash yellow for a short period of time. Then the automatic starting program switches to the configured operation, displaying the standard yellow signal as a transition.

**Note: setting the site length as well as green time can only be done in the “Unit Off” mode!**

**Aligning radar transmitters in traffic-flow-dependent operation**

To monitor the proper alignment of the radar transmitters, you can use either the red LED on the front side of the radar transmitter or the red “LED indicator” on the front panel of both of the control units. Align the transmitters such that the oncoming traffic is accurately recognised.

### III. Explanation of LED indicators

#### 1. Function of the two-colour “LED Faults”

- LED blinks red -> Redlight defect

The halogen lamp for the red signal is defective on the signal head where the LED blinks red. The control unit from the other signal head displays the malfunction with a consistently red LED. Both signal heads flash yellow. Replace the defective halogen lamp and acknowledge the failure with the “Reset Fault” button. The signal system then restarts automatically.

- LED blinks orange -> Transmission fault

An error has occurred during the transmission of data. With cable control, check the connection of the cable at the plugs. With radio control, check the antennae and plugs on the radio module. Both signal heads flash yellow. When the error has been alleviated, the signal system restarts automatically.

- LED blinks green -> Green/Green lock

The signal system has detected an improper signal display. Green-green monitoring precludes both signal heads from simultaneously displaying a green signal. The “LED Fault” on the control system which detected the error blinks green. Both signal heads flash yellow. Acknowledge the error with the “Reset Fault” button on the transmitter control unit. If the error reoccurs, send the signal system in for testing.

- LED is red -> Transmitter/receiver redlight defect

The halogen lamp for the red signal is defective on the signal head where the LED blinks red. Both signal heads flash yellow. Replace the defective halogen lamp and acknowledge the failure with the “Reset Fault” button. The signal system then restarts automatically.

- LED is green -> Transmitter/receiver Green/Green lock

The signal system has detected an improper signal display. Green-green monitoring precludes both signal heads from simultaneously displaying a green signal. If the “LED Faults” is consistently green, the control system of the other unit has determined the error. The “LED Faults” on the other control unit blinks green. Both signal heads flash yellow. Acknowledge the error with the “Reset Fault” button on the transmitter control unit. If the error reoccurs, send the signal system in for testing.

## **2. Function of the two-colour "LED Battery"**

- Green LED  
The connected battery is charged to 100% of its capacity.
- Orange LED  
The connected battery is approximately 60% charged.
- Red LED  
The connected battery has approximately 40% of its total power remaining and should be changed.
- Red blinking LED  
The connected battery is dead. The signal system has switched off so as not to damage the battery. The battery must be changed.

## **3. Function of the "LED Indicator"**

- Red LED  
The radar transmitter has detected an oncoming vehicle and sent an indication to the control unit. This triggers the LED to light red.

## IV. Modes of operation on the MPB 3000

### 1. Lamps off

**The signal system must be started in automatic mode in order to apply this mode of operation.** Switch the operation mode switch to Position 1 (Lamps Off) on **one of the control units**. When the current cycle of the present mode has been completed, the signal system switches to Lamps off, first displaying red as a transition. Switch the dial back to the desired automatic position in order to return to automatic operation. After **a few seconds**, the system returns to the desired program, first displaying yellow as a transition.

### 2. Amber flashing

**The signal system must be started in automatic mode in order to apply this mode of operation.** Switch the operation mode switch to Position 2 (Amber flashing) on **one of the control units**. When the current cycle of the present mode has been completed, the signal system switches to Flashing, first displaying red as a transition. Switch the dial back to the desired automatic position in order to return to automatic operation. After **a few seconds**, the system returns to the desired program, first displaying yellow as a transition.

### 3. Automatic: Fixed times mode

Turn the operation mode dial on **both control units** to Position 3 (Automatic - Fixed time mode) (on the receiver, Position 3 = Automatic). In this mode, the set green time remains fixed, regardless of the traffic conditions. The system determines the clearing time based on the set site length and a travel speed of 30 km/h.

Factory preset duration: red/yellow: in accordance to  
yellow: country rules

### 4. Automatic: Greentimes extend mode

Turn the operation mode dial on **both control units** to Position 4 (Automatic - Greentimes extend mode) (on the receiver, Position 4 = Automatic). In this mode, the set green times are considered maximum values, dependent on traffic conditions. The minimum green time preset at the factory is 10 seconds.



This minimum green time is applied independent of traffic conditions. It can, however, be extended to the maximum green time depending on the approaching traffic. The extension of each radar transmission (extension time) is preset at the factory to 6 seconds.

Factory preset duration:	red/yellow:	in accordance to
	yellow:	country rules
	green (min.):	10 seconds
	extension:	6 seconds

## 5. **Automatic: “Green on demand” mode**

Turn the operation mode dial on **both control units** to Position 5 (Automatic “green on demand” mode) (on the receiver, Position 5 = Automatic). In this mode, the set green times are considered maximum values, dependent on traffic conditions. The minimum green time is preset at the factory to 10 seconds. This minimum green time is applied independent of traffic conditions. It can, however, be extended to the maximum green time depending on the approaching traffic. The extension of each radar transmission (extension time) is set at the factory to 6 seconds. What is different than Position 4 is that the signal heads display red consistently until a radar transmitter detects an oncoming vehicle. The signal head which detected the vehicle now switches to green after the clearing time has come to an end. For continuous oncoming traffic, the green time is extended as already mentioned. Following the expiration of the maximum green time (at the latest), the signal switches back to consistent red until the next vehicle has been detected.

Factory preset duration:	red/yellow:	in accordance to
	yellow:	country rules
	green (min.):	10 seconds
	extension:	6 seconds

*Note: In this mode of operation with the basic setting at Allred, a forced cycle has been preset at the factory with a triggering time of 5 minutes. This means that if a radar transmitter has been incorrectly set or becomes defective, the signal system will at least switch to green every five minutes so as to avoid abandoning traffic.*

## **Manual operation (Positions 6, 7 and 8)**

**The traffic signal system must be started in automatic mode in order to apply this mode of operation. Setting to hand operation is made on only one of the signal heads.**

### **6. Green transmitter**

On one of the control units, switch the operation mode dial to Position 6 (Green transmitter). The signal system now switches from the automatic program sequence (after the clearing time has expired) to continuous green on the sender signal head. The system continues to display this configuration until a different mode of operation has been selected.

### **7. Allred**

On one of the control units, switch the operation mode dial to Position 7 (Allred). The signal system now switches from the automatic program sequence to displaying a red signal at both signal heads. The system continues to display this configuration until a different mode of operation has been selected.

### **8. Green Receiver**

On one of the control units, switch the operation mode dial to Position 8 (Green Receiver). The signal system now switches from the automatic program sequence (after the clearing time has expired) to continuous green on the receiver signal head. The system continues to display this configuration until a different mode of operation has been selected.

**Note:**

***Changing between Positions 6 and 8 (in either direction) can be made directly. It is not required that Position 7 first be engaged. The applicable clearing time will be maintained.***

## V. External manual operation (accessory)

### Startup and operation

1. Before plugging in the external manual operation device, the desired mode of operation must be selected on the dial. **Note: it is not necessary to set both control units!**
2. Plug the manual operation device into the socket of the transmitter control unit (MPB 3000-S). The corresponding socket can be found in the green chamber.
3. After the clearing time has expired, the signal system switches to the selected automatic program sequence.
4. A description of the other modes of operation can be found in chapter IV in these operating instructions.
5. When the external device is unplugged, the system automatically returns to its previously set mode of operation.
6. Replace the cap on the socket used for the external device!

# VI. Instructions for setting control panels

## I. Transmitter control panel (MPB 3000-S)

1. Connect the 12 V power supply from either the rechargeable battery or the Type N1 power adapter. Check for proper polarity. The “LED Battery” should be lit green.
2. Turn the operation mode dial anti-clockwise until the “LED Battery” is red and the “LED Faults” is green. Now you are in the test program. Should the “LED Faults” be lit red, however, turn the dial for site length (dial on left) until the “LED Faults” is green. Now fix the dial (with arrow) to the shortest setting for site length (30 metres).
3. Press the “Reset Fault” button **once**.
4. The “LED Battery” must now light orange. If the LED lights red, turn the dial for greentime transmitter (middle dial) until the “LED Faults” lights green. Now fix the dial (with arrow) to the shortest green time duration (15 seconds).
5. Press the “Reset Fault” button **once**.
6. The “LED Battery” must now be lit green. Should it be lit red, turn the dial for greentime receiver (dial on right) until the “LED Faults” lights green. Now fix the dial (with arrow) to the shortest green time duration (15 seconds).
7. Now turn the operation “Modes” dial clockwise seven positions. Fix the dial (with arrow) to Position 1 (Lamps Off).

The signal system is now ready for operation. Turn the operation mode dial to the “Unit Off” position and set the desired operating configuration.

## **II. Receiver control panel (MPB 3000-E)**


1. Connect the 12 V power supply from either the rechargeable battery or the Type N1 power adapter. Check for proper polarity. The “LED Battery” should be lit green.
2. Turn the operation mode dial anti-clockwise until the “LED Battery” is red and the “LED Faults” is green. Now you are in the test program.
3. Now turn the operation mode dial seven positions clockwise. Fix the dial (with arrow) to Position 1 (Lamps Off)

The signal system is now ready for operation. Turn the operation mode dial to the “Unit Off” position and set the desired operating configuration.

# VII. Front panels

## 1. Front panel MPB 3000 transmitter

# MPB 3000 - S



Radio

+

Cable

+

Fuse

6,3 A

**Fault indicator**

- 1. Red-flashing = Redlight defect
- 2. Orange-flashing = Transmission fault
- 3. Green-flashing = Green/Green lock
- 4. Red = Receiver redlight defect
- 5. Green = Receiver Green/Green lock

+

**LED**  
Faults

+

Reset  
Fault

+

**Battery voltage**

- 1. Green = 100 %
- 2. Orange = 60 %
- 3. Red = 40 %
- 4. Red-flashing = low

+

**LED**  
Battery

1 2 3 4 5 6 7 8

+

Unit Off

**Modes**

- 1. Lamps Off
- 2. Amber flashing
- 3. Automatic - Fixed times mode
- 4. Automatic - Greentimes extend mode
- 5. Automatic - "Green on demand" mode
- 6. Green Transmitter
- 7. Allred

+

**LED**  
Indicator

999 30 50

800 75

700 100

600 + 125

500 150

400 175

300 250 200

Length of construction site  
in metre

200 15 20

150 25

125 30

100 + 35

80 40

70 45

60 55 50

Greentime transmitter  
in seconds

200 15 20

150 25

125 30

100 + 35

80 40

70 45

60 55 50

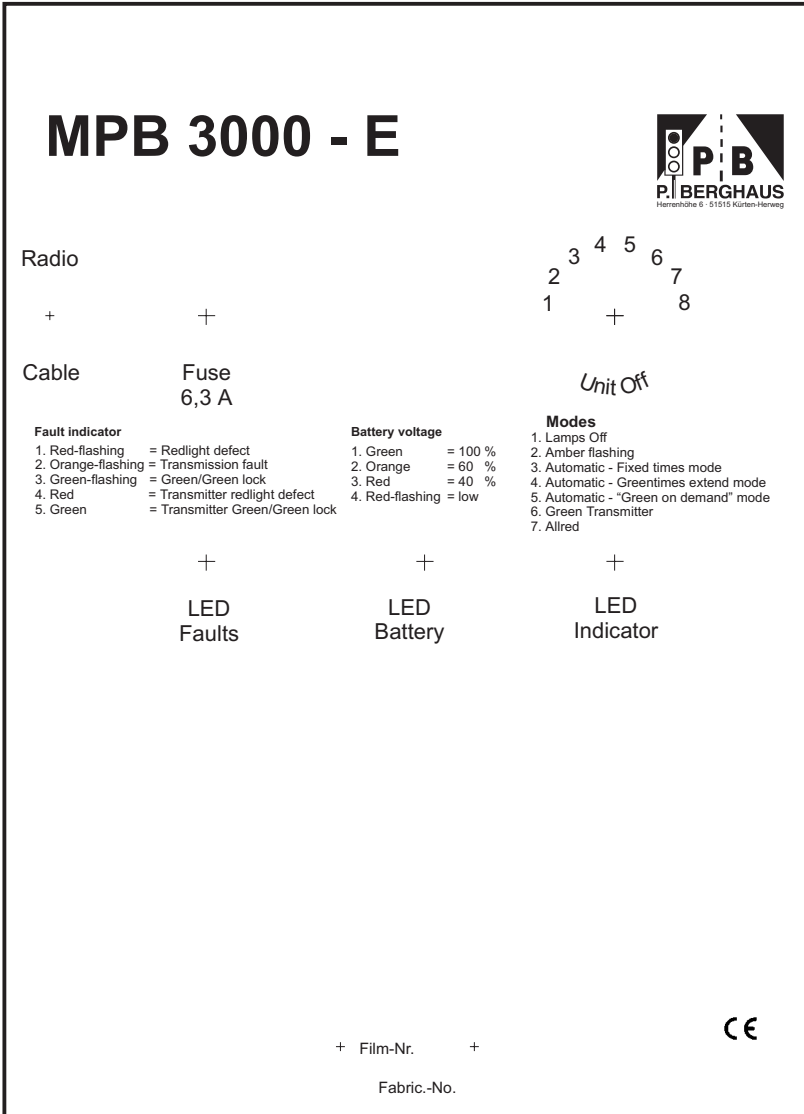
Greentime receiver  
in seconds

+ Film-Nr. +

Fabric.-No.



## 2. Front panel MPB 3000 receiver



## VIII. Technical data

Operating voltage: ca. 8-14 V DC

Current consumption (cable operation):

Daytime mode: ca. 1.13 A per signal head

Night-time mode: ca. 0.65 A per signal head

Current consumption (radio operation):

Daytime mode: ca. 1.30 A per signal head

Night-time mode: ca. 0.92 A per signal head

Energy consumption: ca. 22 Ah per day and signal head

Light bulbs: 12 V/10 W halogen with G4 socket  
(commercially available)

Fuse: 6.3 A, 5x20, semi time-lag  
(commercially available)

Modes of operation: Lamps Off, Amber flashing, Fixed times  
mode, Greentimes extend, "Green on  
demand" mode, Manual

Data transmission: 2-wire cable or  
digital radio transmission path

Radio transmission path: max. length under ideal conditions =  
2000 m



# **Radar Detector MWD BR-B Description**

## **1. General**

The MWD BR-B is a directional recognition radar detector which was conceived specifically for use in the area of industrial gate and barrier installations.

The detection of movement proceeds in accordance with the Doppler Principle. For this the sensor sends out microwaves in the 24 GHz range. These are altered in their frequency by moving objects. The altered frequencies are received by the sensor, which evaluates them. Thus, every movement within the radar detection field is registered, subsequently evaluated using a logical analysis and communicated through a relay-output to the gate or locker control unit.

### **The radar detector also offers other advantages:**

- One can choose between models with or without directional recognition
- Distinction can be made with directional recognition between approaching and retreating
- Voltage-free relay output
- Insensitivity to temperature and moisture variations, air currents and radio disruptions
- Voltage supply either AC or DC
- Sensitivity setting possible through opening in the front side of the housing
- Housing protected with the IP 65 Protection Type, and thus protected in all directions against dust and water jets
- Cost-saving installation

## **2. Mounting**

### ***2.1 Selection of mounting point***

The device is to be mounted above the signal head (or alternatively on the extended crane). The maximum mounting height is ca. 6 m.

*Suggestions for avoiding false activations:*

- The device should be mounted at a point that is vibration-free
- No moving objects should be permitted within the beaming field, as these could lead to false activations
- No fluorescent tubes are to be permitted to hang within the detector's beaming field
- The beaming fields of two radar detectors are not to intersect with one another, as this can lead to false activations. Should such a configuration prove to be nonetheless necessary, then devices with slightly-altered frequencies can be supplied, whereby this effect is avoided.
- Mounting should not take place behind objects or building elements
- If the radar detector is subject to rain or snow, then it should be set to the directional recognition mode (one-directional - retreating).

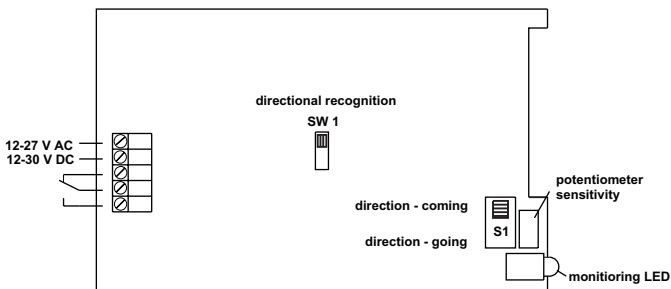


Illustration 1: Frontal view of the evaluation plate and connection schematics

### ***2.2 Connecting the radar detector***

Connection proceeds in accordance with Illustration 1. In cases of voltage supply with direction current (DC), the polarity of the connecting cable plays no role. The housing is to be grounded to protect against ESD discharges.

### ***2.3 Switching the directional recognition on and off***

With the MWD BR-B, three settings are possible in reference to the directional recognition feature:

- *Directional recognition OFF:*

"Directional Recognition" switch SW1 set to "OFF";

Switch S1 set to "Direction - coming"

- *Directional recognition ON for recognising an approaching object:*

"Directional Recognition" switch SW1 set to "ON";

Switch S1 set to "Direction - coming"

- *Directional recognition ON for recognising a retreating object:*

"Directional Recognition" switch SW1 set to "ON";

Switch S1 set to "Direction - going"

### ***2.4 Relay full-delay time / slow release***

The fall-off delay of the relay is set at the factory at 0.5 seconds. It is possible to increase the fall-off delay to 2 seconds by separating the bridge B1 on the printed circuit board (Illustration 1).

### ***2.5 Screwing the housing together***

The cover is to be screwed on tightly using a torque of 1 Nm. This way it will on the one hand not be damaged, and on the one hand the internal cover seal as well as the screw seals will receive enough pressure to guarantee the IP 65 Protection Type.

### ***2.6 Setting the beaming field***

The MWD Br-B possesses a circular radar detection field. The size and position of the radar detection field can be altered through resetting the sensitivity and directional angle of the device. In general, the optimum directional angle of the detector lies between 30° and 45°.

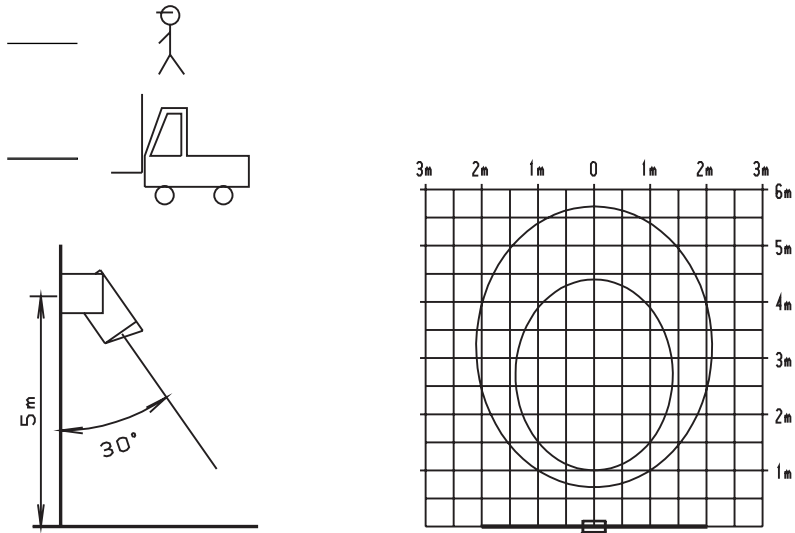


Illustration 2: Radar detection field with a mounting height of 5 m, a directional setting angle of 30° and a maximum sensitivity.

The size of the radar detection field can vary with the size and speed of the object to be detected.

***Notes regarding setting of the radar detection field:***

Starting from a point beyond the radar detection field, walk towards the detector and observe when it starts to react, using the LED.

Repeat this procedure from different directions. Using the information gathered this way, the radar detector’s detection field can now be set to the correct size, with the aid of the potentiometer located behind the screw cap on the front side (Illustration 4).

Where necessary, the size of the radar detection field can be slightly re-set with the aid of the potentiometer.

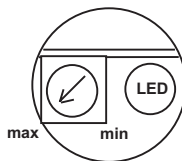


Illustration 3: Frontal view of the sensitivity potentiometer and the monitor LED

### **3. Elimination of malfunctions**

1. *Automobile group receives no green, or green time is not extended*

- The LED does not illuminate, despite a movement:
  - The sensitivity may be set too low -> set it higher
  - The device voltage supply is interrupted -> check cable and plug
- The LED illuminates when there is a movement:
  - The connection between relay output and subsequent control unit is interrupted -> check cable and plug

3. *Automobile group receives green without being present, or green time is continuously being extended*

- The detector registers movements that take place outside of the desired beaming field -> reduce range or directional angle of the detector
- The detector registers disrupting reflected beams that alter the radar detection field -> alter range and directional angle of the detector

### **4. Technical Data**

Dimensions (WxHxD)

without holding bracket: (88x85x160) mm

Weight with holding bracket: 750 g

Protection Type: IP 65

Temperature range: -20° to +55° C

Supply voltage: 12-27 V AC

12-30 V DC

Voltage use: typ. 1.8 W (at 24 V AC)  
max. 2.4 W (at 24 V AC)

Output relays

max. switch voltage: 24 V AC/DC

max. alternating current: 1 A with Ohm load  
(resistance) min. alternating

Contact type:	current 1mA 1 change-over contact In case of inductive load, the customer is to provide a protector for the relay contacts
Relay releasing time or delay:	0.5 sec/2 sec selectable through wire strap
Frequency:	24.125 Ghz
Transmitting power:	5 mW
Maximum mounting height:	ca. 6 m
Sensitivity setting:	using potentiometer on the front side

# Spare Parts List



**Article: Traffic signal system MPB 3000**

<b>Order no.</b>	<b>Article description</b>
MPB 3000	Signal head, Holland-type, 3-part, 210 mm, with sun visors, completely wired (on clamp bar), incl. battery cable, reflectors, equipped with G4 thread mounts and halogen bulbs 12 V/10 W/G4, with connector prepared for MPB 3000 control system
EH 2010	Signal head rear panel for yellow chamber, 210 mm, 1-part
MPB 303	Green chamber / control system rear panel, Holland-type, 210 mm
EH 2025	Signal head rear panel for red chamber, 210 mm, 1-part
EH 2014	Sealing rubber for control unit housing, Holland-type
EH 2016	Signal head door without diffusion plate, Holland-type, 210 mm
EH 2017	Signal head door, Holland-type, with red diffusion plate, 210 mm
EH 2018	Signal head door, Holland-type, with yellow diffusion plate, 210 mm
MPB 304	Signal head / control unit door, Holland-type, with green diffusion plate, 210 mm, with lock no. 641
EH 2012	Lock for control unit door no. 641, incl. one key
EH 2641	Key no. 641
EH 2009	Closer for signal head door
EH 2008	Closer counterpart for chamber
EH 2020	Diffusion plate red, Holland-type, 210 mm
EH 2021	Diffusion plate yellow, Holland-type, 210 mm
EH 2022	Diffusion plate green, Holland-type, 210 mm
EH 2034	Diffusion plate holder
EH 2023	Sealing rubber for diffusion plate 210 mm, Holland-type
EH 2030	Sun visor, Holland-type, 210 mm
EH 2031	Cover cap for signal head, Holland-type
EH 2032	Sealing ring for cover cap, self-adhesive, Holland-type
EH 2033	Intermediate ring for connecting signal head rear panels, Holland-type
EG 0041	Halogen bulb 12 V/10 W/G4
EG 0084	Halogen G4 mount
EH 2040	Reflector for G4 mount, Holland-type, 210 mm
EI 0020	Battery socket (+), red, clamp-type
EI 0021	Battery socket (-), green, clamp-type
EK 0001	Battery cable for MPB 3000 without clamp-type battery socket, with ring lugs
MPB 312	Front plate MPB 3000, printed
ES 2092	Toggle switch (pilot), on/off 1xA
MPB 111	Reset button
MPB 110	Rotating spindle for switch
ES 2030	Fuse socket with locknut (5 x 20)
ES 2031	Safety cover for fuse (5 x 20)

# Spare Parts List

Article: Traffic signal system MPB 3000



Order no.	Article description
ES 2041	Dimming switch with connecting cable and screw connectors
ESP 070	Control board for MPB 3000
ESP 170	Control board for MPB 3000, as exchange
EF 0009	Radio module, model FM-D 92 for MPB 3000
EF 1009	Radio module, model FM-D 92 for MPB 3000, as exchange
MPB 321	Cable form, 9-wire for driving lights
MPB 322	Cable form for wireless system, complete, with 9-pin sub-plug and 6-pin board connector
MPB 323	Cable form for data bus, complete, with 2-pin board connector
EP 6037	Radar detector 12 V incl. 0.5 m cable with mounted plug, without mounting
MP4008	Mounting bracket for radio antenna and radar transmitter
MP400H	Mounting bracket for radar transmitter on a cable system
EFK 010	Antenna radiator, Kathrein-type
EFK 008	Antenna base, Kathrein-type
EFK 001	Antenna radiator and base, Kathrein-type
EFK 007	Antenna cable without plug, Kathrein-type
EFK 006	Antenna plug, BNC (adapter), Kathrein-type
ES 3005	9-pin sub-plug for MPB 3000 radio system
ES 3022	Flange coupling 4-pin, EVG
ES 3024	Angled plug 4-pin, EVG
ES 3033	Flange coupling 7-pin, EVG
ES 3032	Flange plug 7-pin, EVG
ES 3040	Closing cap for plug and flange plug, EVG
ES 3041	Closing cap for coupling and flange coupling, EVG
EE 0024	Protective box for 2 rechargeable batteries
EE 0000	Protective box for 4 rechargeable batteries
EE 0006	Caster, 100% rubber
EE 0003	Covering cap for caster
EE 0012	Mounting tube, galvanised, for MPB 3000 / MPB 4000
EE 0005	Wing screw, M 10 x 30
A 46500	Electronic switching system for 2 rechargeable batteries
A 46501	Electronic switching system for 4 rechargeable batteries



# Peter Berghaus GmbH

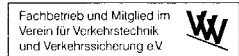
Signalbau – Baustellenabsicherungsprodukte

Peter Berghaus GmbH · Herrenhöhe 6 · 51515 Kürten-Herweg



## EG – Konformitätserklärung

Für das folgende Erzeugnis:



### Transportable Signalanlage Typ MPB 3000

wird hiermit bestätigt, daß es den Schutzanforderungen entspricht, die in der Richtlinie 89/336/EWG des Rates zur Angleichung der Rechtsvorschriften der Mitgliedsstaaten über die elektromagnetische Verträglichkeit festgelegt sind, außerdem entspricht es den Vorschriften des Gesetzes über die elektromagnetische Verträglichkeit von Geräten (EMVG) vom 9. November 1992.

Diese Erklärung gilt für alle Exemplare, die nach den anhängenden Fertigungszeichnungen – die Bestandteile dieser Erklärung sind – hergestellt werden.

Zur Beurteilung des Erzeugnisses hinsichtlich der elektromagnetischen Verträglichkeit wurden folgende einschlägige harmonisierte europäische Normen herangezogen:

1. Fachgrundnorm Störfestigkeit EN 50082-1; 1997
2. Fachgrundnorm Störsendung EN 50081-1; 1992
3. Signalsicherung nach VDE 0832 und RiLSA

Kürten  
(Ort)

01.02.2000  
(Datum)

  
(Unterschrift)

GRAND-DUCHE DE LUXEMBOURG

SERVICE DE L'ENERGIE  
DE L'ETAT



## SERVICE DE L'ENERGIE DE L'ETAT

Notified body  
*Organisme notifié - Notifizierte Stelle*

Identification Number  
*No d'identification - Identifikationsnummer :*

0499

# EC-Type Approval Certificate

Attestation "CE de Type" / EG-Baumusterbescheinigung

according to the  
*conformément à - gemäß*

## Electromagnetic compatibility directive

*Directive relative à la compatibilité électromagnétique / Richtlinie über die elektromagnetische Verträglichkeit*

(89/336/EEC)

Certificate Holder:  
*Titulaire de l'attestation - Inhaber der Bescheinigung:*

**Peter BERGHAUS GmbH**  
Signalbau  
Herrenhöhe, 6  
D 51515 KUERTEN-HERWEG

Manufacturer:  
*Constructeur - Hersteller:*

**Peter BERGHAUS GmbH**  
Signalbau  
Herrenhöhe, 6  
D 51515 KUERTEN-HERWEG

Product Designation:  
*Désign. du produit - Produktbez.:*

**TRANSMITTER/RECEIVER**

Product identification:  
*Identification du produit  
Produktidentifikation:*

*Émetteur/Récepteur - Funkgerät*  
Wireless data communication FM-D 92  
Ver. 1.4, 1200 Baud

This EC-Type Approval Certificate has been granted according to article 10.5 of the 89/336/EEC Directive concerning electromagnetic compatibility and its amendments. No compliance according to other EC Directives on electromagnetic compatibility and their requirements is given. Only the tested sample and the corresponding test report are covered by this EC-Type Approval Certificate, no authorization on product marking by a safety mark is given.

Registered Certificate No: 9741731-03  
*No du Certificat - Zertifikats Nr.:*

Technical Test Report: 97000202  
*Rapport d'essais - Prüfbericht:*

Luxembourg, 10.01.97

Service de l'Énergie de l'État  
34, avenue de la Porte-Neuve  
B.P. 10  
L-2010 LUXEMBOURG  
Tel. (Int + 352) 46 97 46-1 Fax (Int + 352) 22 25 07

  
**Jean-Paul HOFFMANN**  
Directeur

BUNDESAMT FÜR POST UND TELEKOMMUNIKATION



ZULASSUNGSURKUNDE

Zulassungsnummer: A109376D

Zus. Kennzeichen: QE

Objektbezeichnung: Digitale Sende- und Empfangsanlage FM-D 92

Zulassungsinhaber: Peter Berghaus GmbH  
Herrenhöhe 6  
D-51515 Kürten-Herweg

Zulassungsart: Allgemeinzulassung

Objektart: Funkanlagen für gewerbliche und industrielle Fernsteuerungs- und Fernmeßzwecke

Das Zulassungsobjekt erfüllt die technische Vorschrift der Richtlinie FTZ 17 TR 2014, Ausgabe Dezember 1988.

Die Zulassungsurkunde mit Ausstellungsdatum 01.12.93 wird hiermit ungültig.

Saarbrücken, den 01.10.1997

Im Auftrag



*Bernd Jung*  
Bernd Jung

1 Anlage

## **Warranty against defects**

For the signalling equipment manufactured in our company

**the period of warranty lasts for 12 months.**

During this period we are liable for all material and processing errors which are the result of defective manufacturing.

Please send systems or sections of the equipment which need to be replaced post-free or carriage paid to our work. Only those parts with errors in the material or in the finishing will be replaced. There can be no demand for cancellation of sale or for lowering the purchase price unless the damage can not be repaired by us.

The occasion and time required for repairs under the warranty are to be given after a prior agreement has been made. The warranty expires if modifications or repair work are carried out by the customer or a third party without prior permission. Normal wear or damage which are the result of negligent or improper handling are not included under the warranty.



# **P. BERGHAUS GmbH**

**Signal Construction • Roadworks Safety Products**

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