

# Berghaus-News

Traffic Technology · Mobile Crash Barriers

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## Film team accompanies AVS Traffic Safety



For a whole week, the Hamburg colleagues at AVS Traffic Safety were accompanied by a film team. The result was an informative short film about the comprehensive, varied work performed by the "Traffic Safety Professionals".

The film (in German only) is available on DVD for a low nominal charge from AVS Lehrte GmbH:

[www.AVS-Verkehrssicherung.de](http://www.AVS-Verkehrssicherung.de)

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## New LED technology for warning lights

**BAST-TESTED**



With **safety**  
by Berghaus!

The very latest **high-output LED technology** developed and produced by Berghaus is now being fitted in the low-cost ultra-flat LED advance warning light for a wide range of different applications. As so often, this puts Berghaus once again at the head of the field:

While elsewhere a large number of light emitting diodes are needed, the technicians at Berghaus manage **with just one single high-output LED** – with **excellent surface illumination**, as verified by the good test results from the German Federal Highway Research Institute (BAST).

Compared to our halogen technology, the new solution takes up far less current and achieves a far **longer operating period** with just one battery charge

### Technical data

Operating voltage	12 V or 24 V DC (automatically detected)
Lamp	High output LED
Lens	200 mm diameter, yellow
Current consumption - at 12 volt -	approx. 0.6 A (by day with sun) approx. 0.09 A (by night)
Flashing frequency	40-45 flashing pulses/min
Dimensions	75 x 210 mm (h x Ø)
Weight	approx. 550 g
<b>BAST test number V-4-55-2010</b> tested to TL Warning Lamps 90 type WL 6	
<b>DIN EN 12352: L8H (by day) / L8M (by night)</b>	

The integrated **automatic dimmer** adapts the luminosity of the LED advance warning light with fully variable adjustment to the ambient brightness. This ensures that road users are not dazzled and current consumption can even be reduced to **55 mA** (at 24volt) in complete darkness.

The **maintenance-free** high-output LED also has a far **longer service life** than halogen lamps, thus further reducing the need for servicing and enhancing operational reliability.

Other advantages in the electronic control developed by Berghaus include for example standard electronic **reverse polarity protection** and **undervoltage protection**. In addition, the lights can operate with **either 12 V or 24 V DC** without having to switch over.

In this way, development of the Berghaus electronics module already rules out any risk of reverse polarity, incorrect operating voltage and possible total discharge with corresponding damage to the vehicle battery.

**Berghaus advantages that soon pay off in practical use on construction sites.**



## Successful traffic light training

Once again this year in good Berghaus tradition, traffic light experts received training in mid February at company headquarters in Kürten (NRW) and in mid March at our subsidiary AVS in Mellingen (TH). Nearly 100 employees from renowned contractors for signalling technology and traffic safety from all over Germany took up this offer of further training. Operations manager Alfred Wurth and technician Uwe Banischewski led the participants through the various topics related to mobile traffic light systems. Course participants both on the basic and advanced level were introduced to many new aspects in the two different, consecutively structured two-day seminars. The contents included German technical specifications and guidelines for construction site traffic signals (e.g. RiLSA, TL-LSA), as well as drawing up and implementing signal timetables and operation of the traffic light controllers including effective trouble-shooting on site.



Course participants at the traffic light training seminar II in Kürten receive practical instructions at an EPB 48 crossroads controller in our exhibition and training room. We always train participants in practical use, from simple alternating one-way traffic systems through to extensive crossroad situations.

## Traffic light purchase with delivery and training



Group picture with traffic lights: employees at Paderborn district council depot at the end of February, after being instructed by our service technician Andres Kurzmann (on the left) in how to operate their new mobile traffic light system MPB 3400.

According to the current advertising slogans of consumer electronics stores and DIY shops, the price is all that counts when making a purchase. But what's the point, when it then takes you hours to wade your way through the operating manual once you've actually got your supposed bargain home? Many questions about how to use the purchase will remain unanswered and some users won't get past the basic operating steps even years later. Unfortunately, the situation would appear to be similar with some road safety products.

So it's a good thing that the already low price for Berghaus mobile traffic lights includes free instruction in the operating procedure. For example, we deliver every radio-controlled traffic light system free house throughout Germany, and one of our Berghaus service technicians always accompanies the first delivery of a new traffic light system. We take time for our

customers when making our deliveries. We explain the German technical specifications and guidelines for construction site traffic signals (e.g. RiLSA, TL-LSA) that are relevant to professional erection of the systems. We provide instruction at the actual traffic lights in how to operate them and give tips on maintenance and care of the units. We gladly pass on information obtained from practical experience and take up any questions and suggestions from your employees while still with you on site.

For more than 45 years, good service has always been part and parcel of our "traffic light" product, which is why we also gladly provide you with a demonstration of our traffic light systems without placing you under any obligation, even before an actual purchase decision.

Please get in touch to arrange a free demonstration!

## Intertraffic: visit us in Istanbul

25.26.27 MAY  
**2011 Intertraffic**  
**ISTANBUL**

**Istanbul Expo Center Hall 9 Stand H 2**

From 25 to 27 May, we will be presenting our current products at the "Intertraffic" trade-fair in Istanbul Expo Center at the joint stand for Peter Berghaus GmbH and Outimex AG. We will be welcoming the international trade public to the stand H2 in hall 9 where we will be presenting among others the ProTec family mobile crash barrier systems and the mobile construction site traffic light MPB 1400.

The low-cost traffic signal system has been specially rated to suit the needs of our export customers, with a choice of many languages to guide the user through the menu, naturally also including Turkish. As quartz-controlled traffic light system, it can be used to control alternating one-way traffic systems or

can even be extended to a crossroads system by adding any number of identical signal heads. A compact handheld terminal takes the user step-by-step through the menu and checks important details necessary for operation. The details are queried in a dialogue, entered in the handheld terminal and sent by infrared transmission to the traffic signal - as easily as using the remote control for your TV set. Within next-to-no time, anyone can erect the mobile signal system MPB 1400 for reliable traffic control.

Why don't you come and try it out for yourself? We look forward to meeting you at our exhibition stand!

## Best seller: mobile traffic light MPB 3400

Who would have thought it? Within just twelve months, our new MPB 3400 has become a best seller at home and abroad. It's quite understandable really, with the standard version of the low-cost traffic light system already being first choice.

The radio, cable or quartz-controlled traffic light system reliably controls alternating one-way traffic, T-junctions or crossroads systems with and without vehicle actuation at construction sites and road works. Depending on the selected operating mode, MPB 3400 complies with the type classes A, B and C stipulated in the German technical specifications for portable traffic light systems (TL-LSA 97) stipulated for mobile traffic signals in Germany.

All signal heads are completely identical. Any of the traffic lights can be adjusted at the front panel to act as transmitter or receiver (up to three receivers are technically possible). This means there is no need to distinguish between transmitters and receivers in purchasing and storage processes. Four traffic lights for example can be used to signalise two bottlenecks at two physically separated sites. If necessary, in technical terms it is also immediately feasible to control T-junction or crossroads traffic.

All automatic operating modes can be freely combined. Automatic fixed phases, request mode and green phase extension can be selected separately for each traffic light, and even mixed modes are possible.

The directional radar detectors that are a standard feature of vehicle-actuated traffic light control also permit various special applications. These include for example continuous red with green on request, automatic control at construction site exit zones or solutions for taking local public transport busses through road works in the opposite direction to an existing one-way system.

Many additional features are available as options: preemption for certain vehicles by integrating local public transport radio networks or district fire brigade and emergency system networks; SMS remote monitoring for controlling traffic light functions and notifying service technicians (e.g. when the batteries have to be changed); central 42V voltage supply for long-term construction work; radio handheld transmitter to request functions for self-contained user groups; changing the operating mode by radio or cable remote control, even to continuous red for tree felling work, and much more besides.

On request, the MPB 3400 is available with LED technology for full illumination of the lens, either already directly ex works or for retrofitting by the customer. The innovative technology provides constant brightness even when there is a decrease in operating voltage.

As an option, the mobile traffic light can be equipped with a multi-frequency radio link with up to 16 channels to ensure that a free or less frequented channel can be found even in conurbation areas. The high-output antenna is located in a free position on the highest point of the signal system, thus further maximising the outstanding range.

One standard option consists in automatic changeover from radio/cable to quartz operation in case of disruptions.

All signal heads of a type are 100% identical



Flexible in use: MPB 3400 is always first choice, for quartz or radio controlled alternating one-way traffic systems through to cable-controlled T-junctions or crossroads situations with directional radar detectors!

This version is required repeatedly by customers particularly in countries where only one radio frequency is available, as it compensates unnoticed for any brief disruptions in transmission.

Traffic still flows smoothly because the traffic lights change over to quartz operation as long as radio transmission is disrupted. Meanwhile, the traffic light system restores digital transmission in the background and then changes back to regular operation.

In spite of all its technical features, MPB 3400 is naturally very easy to operate. All controls can be read at a glance with an informative function display to make it easy even for the inexperienced user to start working with mobile traffic light technology.

From practitioners for practical use: Mobile traffic light system MPB 3400: our best-seller for many applications!



**Mobile traffic light**  
**MPB 3400**  
Inexpensive, reliable, robust  
and easy to operate  
**Berghaus-Verkehrstechnik.de**

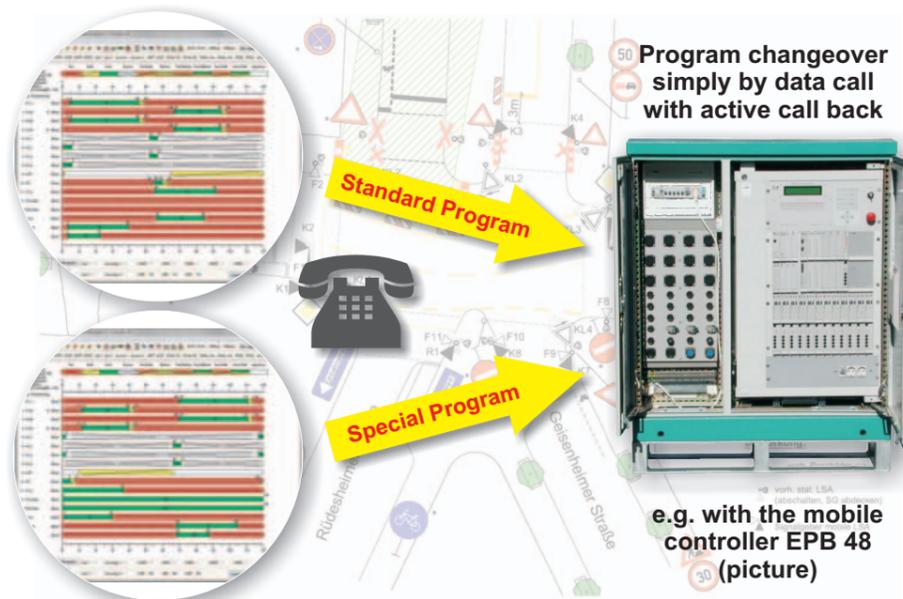
# Crossroads controller: program change call-up

Many major cities and regions have traffic control and traffic management centres that constantly monitor the traffic situation. They have the technical possibility of taking measures to influence and control the traffic for rectifying any disruptions.

Up to now, mobile crossroads controllers used primarily to control the traffic situation at road works were excluded from these technical measures, because the police or main traffic control centre had no means of remote access to the mobile traffic light controller.

Thanks to the new external **GSM program changeover** feature by Berghaus, this situation is now relegated to the past.

A separate control unit erected for example in the traffic control centre, the road transport authority or also with a traffic safety company, permits remote control of the mobile traffic light controller. With safe protection from outside intervention and operating errors, the remote control functions reliably by means of a data call with **active call-back** (not SMS) via the **GSM network**.



With the integrated multiprocessor controller type EPB 12 or 48, the user can then select up to **12 other special programs** with the remote GSM program changeover as the need arises, in addition to the basic program, DCF77, daily or weekly automatic program already

defined in the controller.

Practical application is **easy and safe**: a previously defined special program is selected with a knob on the separate control unit and the selection is confirmed. The integrated GSM modem now sends the data call, informing the

EPB crossroads controller of the change in program with the required selection. The GSM link is disconnected and the controller finds the best changeover time (UZP / GSP) in the program. The required special program is executed as soon as possible with priority over all other programs. The traffic light controller then places a call back to the external control unit, stating that the selected special program has been executed. Successful program change is indicated on the control unit with a control lamp lighting up next to the selection.

The new external GSM program changeover is ideal for mobile controllers in the EPB series for permitting fast reaction to **unforeseeable traffic situations**, such as congestion, temporary road blocks or diversions e.g. because of traffic accidents and major fire brigade or police operations, or also for dealing with **planned situations** such as traffic congestion caused by major events (trade fairs, football matches, concerts, etc.).

## New Berghaus software "AmpelTools"

Mobile traffic light systems at major road works and temporarily changed traffic layouts are expected to act as almost complete substitutes for stationary traffic lights, dealing with an increasingly complex range of functions.

The flow of traffic in the changed road layout must be kept moving at all times in spite of the construction work, so that often flexible solutions are needed in the temporary traffic signals.

Regulations such as the German technical specifications for portable traffic light systems (TL-LSA 97), the German VDE standard 0832 or the German guidelines for traffic signal systems (RiLSA) provide the framework of statutory legislation for using a mobile traffic light controller.

So it's a good thing that assistance is available from reliable professional software in order to cope with the many different factors involved:

Our new AmpelTools software combines the functions of our popular Ampel-Plan and Ampel-Win software products in one single application.

Use AmpelTools to devise signal timetables and other documents required by the RiLSA in a very clear fashion in just a few steps.

It is thus possible to produce interim time calculations for example with just a few

green/green interlocking. The plans are optimised with just a few clicks, adjusting times or rolling the complete phase plan (e.g. adjusting progressive signalling by 10 seconds).

Passage times can be adjusted separately for every calculation procedure (e.g.



**Clearly visualised in colour: phase plan devised quickly with a few clicks**

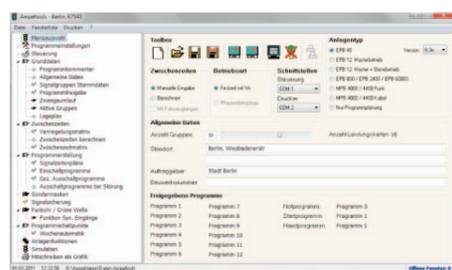
vehicles going straight on, vehicles turning off, clearing trams or buses through the system).

Needless to say, the signal timetable documents produced with AmpelTools can be used straightaway for programming with our signal systems in the EPB series and for our MPB 4400 system, thus combining signal timetabling and programming simply and effectively in one step. The phase plans no longer have to be exported to the programming software.

AmpelTools with the large, clearly structured screen visualisation now makes it even easier to handle the software.

And best of all, old Ampel-Plan files can be imported to AmpelTools immediately so that you can start off straightaway with our new software.

Please note that the AmpelTools software is available only in German as it has been produced according to the German regulations.



**New user interface of AmpelTools with clearly arranged menu structure**

steps, as well as graphic signal timetables with control of interim time infringements and conflict monitoring such as

## Mobile warning trailers: turning old into new



**In need of repairs by Berghaus experts: rectifying accident damage**

Our range of traffic safety products naturally also includes the segment for **"mobile prewarning devices and mobile warning trailers"**.

Even if not automatically apparent at first sight, the warning light housing also has "Berghaus inside". Electronic modules developed by Berghaus can be found in countless mobile warning trailers used at one-day roadworks or travelling sites, at construction sites and the scenes of accidents for protection and for controlling the flow of traffic.

As well as producing warning signs "type SM" for roads (German road sign 615) and "type AM" for motorways (German road sign 616), our Kürten factory is also organised to perform swift, professional repairs to mobile warning trailers.

We can also gladly repair and refit the guiding features covered with reflective foil. In recent years, we have already treated many mobile warning trailers for our customers, bringing the foil-covered features up to date or enhancing them further.

It is of no importance whether the warning sign was originally made by us or by another manufacturer, even by a company that no longer exists.

Complete solutions are available to replace the lamps and electronic modules. The customer can also arrange for an older mobile warning trailer to be upgraded to the status stipulated by the German technical specifications for

mobile warning trailers (TL), or have currently required components and equipment renewed or retrofitted by our fitters and technicians in Kürten.

There are almost no limits, including motor-operated blue arrow, radio remote control, electrical lifting of the upper section, integrated automatic battery charger with charge retention, BAST-tested LED warning lights in the illuminated arrow, and much more besides!

As professional expert and manufacturer, we also gladly provide advice for your specific project, regardless of whether you are interested in a new purchase, accident repairs, an upgrade or retrofitting of your mobile warning trailers. Please don't hesitate to contact us!



**Safety by Berghaus: TL-tested mobile warning trailer (German road sign 616)**

## Professional cleaning for mobile crash barriers

Mobile road restraint systems must always feature retroreflecting markings [...] according to the German Additional Technical Contract Conditions and Guidelines for the Work Involved in Safeguarding Road Works (ZTV-SA 97). This is a generally known fact. The BAST-tested reflectors affixed to the longitudinal side of a mobile crash barrier at the stipulated intervals to each other and to the carriageway make it possible to dispense with additional yellow paint or foil markings on the carriageway next to the crash barrier. When seen from the viewpoint of passing traffic, the reflectors clearly fulfil their guidance effect. Given corresponding soiling of the traffic safety devices, during the maintenance and inspection tours prescribed by German ZTV-SA 97, it may be necessary for these to be cleaned without delay.

Already the construction of our mobile ProTec crash barrier pays great attention to high safety with minimum maintenance, providing the system with a generous water drainage feature. The ProTec crash barriers therefore prevent any collection of dirt or water puddles in front of the elements which could cause dangerously high spray into the oncoming traffic and also result in soiling of the reflectors.

If nevertheless the crash barriers need cleaning, possibly after very long periods of use, severely soiled carriageways in the roadworks or when used during the winter period, our customer FVS GmbH shows you for example just how easy it can be to clean ProTec:

Without impeding the flow of traffic and without causing any major traffic disruptions, the secured cleaning vehicle drives along the ProTec crash barriers. Two large rotating washing

brushes proceed with professional cleaning of reflectors and walls in just one working cycle – practically while "driving past".

The ProTec reflectors are fitted in a recess in the crash barrier so that they will not be damaged or get torn off either by the passing traffic or by the washing brushes. It only takes a little water to make the mobile restraint system spick and span again, with the reflectors also bright and shiny once more.

Our illustrations show a 4+0 road layout on the A3 motorway near Hösbach. A stretch of 7 km mobile crash barrier was cleaned in both sides in each direction in just 6 hours.

But see for yourself: FVS GmbH has posted an informative video on "Washing the crash barrier" under "News" on its website [www.fvsgmbh.de](http://www.fvsgmbh.de).



**Spick and span again: cleaning the reflectors on the ProTec mobile crash barrier – quickly and easily without impeding the flow of traffic or causing major disruptions.**

**One of FVS GmbH's cleaning vehicles at work**

## Occupational safety: always safe handling



**The special handling grippers for the mobile crash barriers in the ProTec family make sure the elements are handled safely.**

**The truck crane unloads the 10 m long elements straight from the back of the lorry in one single working cycle and places them on the arriageway.**



Mobile road restraint systems are used on our roads and motorways not just to prevent the consequences of an accident caused by vehicles leaving the carriageway (as per German ZTV-SA 97). They also protect the employees working on site from the continuing flow of traffic. And so mobile road restraint systems make a major contribution to our safety in road traffic. Consideration should also be paid equally to the safety of employees working for traffic safety companies when erecting the mobile crash barriers – usually while traffic is still moving.

Employees for example at the AVS Traffic Safety Group comply with the internal work instructions for handling mobile crash barriers as well as the accident prevention regulations



(UVV). In the interests of the safety of road works employees and road users, AVS is also involved in the construction of the mobile crash barrier systems by paying special attention to the prevention of accidents. In this way, during the development of the ProTec system, technical concepts were also devised for the necessary work processes, placing system handling and installation under a very high safety aspect.

Special handling grippers were developed for the two systems ProTec 120 and ProTec 160 and were adapted in detail particularly to the ProTec mobile crash barrier system. The handling gripper also grasps under the barrier element, making it impossible for the element to come loose when using the gripper correctly. Furthermore, the handling grippers undergo visual inspection every time before they are used, and are naturally also subject to the annual UVV inspection by the manufacturer.

The special handling grippers therefore promise great safety already during the installation process for installation gangs and road users.

## Temporary marking: foil, paint or cold spray plastic?

by Jens-Rolf Oppermann  
Büro für Verkehrstechnik, Lehrte

Without doubt, the marking materials available to us here in Germany are of good quality. Even so, the question still often arises as to whether marking foil or liquid materials should be used?

Firstly it is important to differentiate between the type of road layout. Smaller roadworks and those with frequent changes in layout are predestined for foil marking. Austerity measures often lead to less expensive foils being chosen with reduced durability classification. But the de-marking process with these foils often takes much longer, with later release of the carriageway for normal use again. Recent years have seen the development of excellent marking foils with outstanding properties. Durability classes up to P7 and

roughly structured surfaces offer a high degree of safety, particularly on federal highways. However, weather conditions place restrictions on the possibilities for using foil.

When it comes to application of high-solid paint, cold spray plastic or agglomerates, manufacturers issue far more extensive instructions than for marking foil. Extensive traffic control zones on motorways are frequently marked with cold spray paint or agglomerates if initially traffic is moving just on the carriageway being upgraded, apart from lane switching zones where again, foil is used. In the next construction phase, the traffic runs on the new road surface, where again, marking foils have been applied. Why aren't liquids used here? After all, they are applied more quickly and offer better durability. The

main reason is the fear that the new carriageway surface could be damaged on removing the temporary marking. This is a situation where the right equipment and know-how is vital.

Everyone involved would surely much prefer it if new road layouts were always only implemented in good weather. However, road construction work in Germany is carried out according to the availability of funds, construction contracts, repeatedly postponed contract awarding dates and often without the necessary bit of common sense. And so

road works still have to be set up in winter or spring, in spite of the known fact that the corresponding foils will not adhere properly. Low temperatures, high humidity levels, gritting salt and snow ploughs are a

real challenge for the temporary marking. In view of these imponderables, the question arises whether it would not be better to apply cold spray plastic, high-solid paints or agglomerates to new road surfaces? One answer could be a new de-marking system that protects the road surface, which will be featured in the next issue of Berghaus News.



**Marking machine belonging to AVS**



# Peter Berghaus GmbH

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