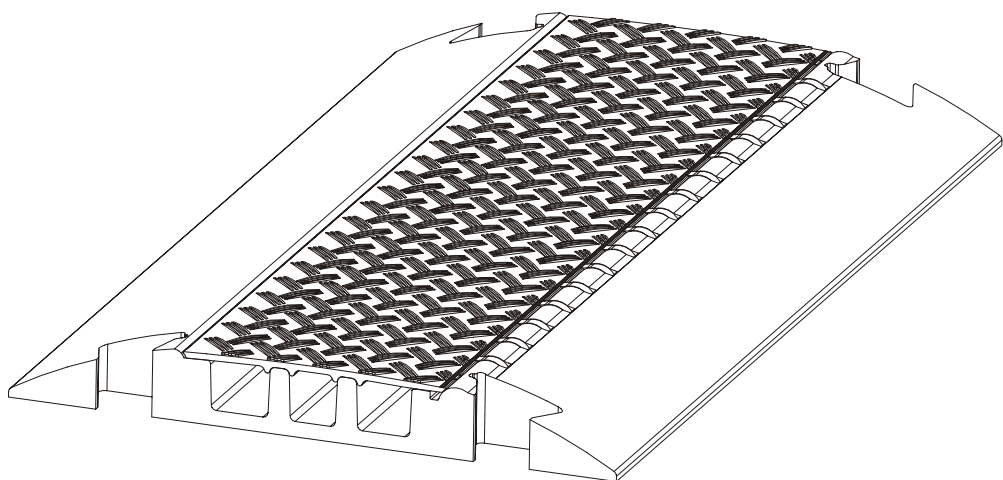


USER'S MANUAL
BEDIENUNGSANLEITUNG
MANUEL D'UTILISATION
MANUAL DE USUARIO
INSTRUKCJA OBSŁUGI
MANUALE D' USO

DEFENDER[®]
SERIES



DEFENDER SERIES
THE INDUSTRY & EVENT STANDARD

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DEFENDER CABLE CROSSOVERS

You have chosen the DEFENDER series and thus made the best choice when it comes to protecting your cables. Although using our cable crossovers is a simple and logical matter, here are a few helpful tips on handling and using them.

PATENTED WITH SELF-CLEANING HINGE (EU Patent No.: EP1366550) MADE IN GERMANY!

All of our crossovers are made of extremely sturdy, nonbreakable TPU (thermoplastic polyurethane). If necessary, the crossovers can be cleaned without trouble, even using a steam jet cleaner. In order to ensure trouble-free functioning, however, the hinge area and the fastener should always be kept clean. Lubricate the hinge and fastener lightly as needed. For this, we recommend using a commercially available Teflon or silicone spray. Wipe off excess lubricant after application to avoid any risk of slipping.

USE AND LOAD BEARING CAPACITY

Please note that additional markings / hazard warnings or even permits may be required when using cable crossovers on public thoroughfares, walkways, etc. To find the right cable crossover for your respective requirements, please see the attached tables for the load bearing capacity.

PREREQUISITE

Please always remember that the respectively specified safe load is for use on a firm, level surface. Load bearing capacity may be greatly reduced on uneven or soft ground. In such cases, you should conduct appropriate load tests before using the crossover.

FIRE PREVENTION

All DEFENDER cable crossovers are made of polyurethane. They have a B2 fire resistance rating (also available with a B1 rating – difficult to ignite – in compliance with DIN4102) and are resistant to oil, acids & petrol. The operating temperature range is approx. -40°C to +70°C. The Shore A hardness range is 88 ± 4.

OPERATION

Each cable crossover has connectors and corresponding sockets that enable you to connect cable crossovers in the same series endlessly with one another. We also call this a line. Generally, lines are stable enough to be walked on or driven over without any additional precautions. If the is subject to higher demands occasionally, so that there is a risk of the line shifting during use, we recommend additionally anchoring the line to the ground or floor. The Defender III incorporates special holes for anchoring in the dog bone connectors. With all other crossovers, a hole, through which you can then insert an anchor, should be drilled directly inside a cable channel. After installation (except for the Compact and Office models), the lids can be opened by pulling them upward. They snap into the end position automatically and stay open until you close them again, thus making it easier to run your cables. After running your cables, close the lid. When doing so, make certain that the lid closure snaps into the base securely. This is the only way to ensure that the lid stays closed under load.

PURPOSE

All cable crossovers in the DEFENDER series are designed to protect cables of all types against damage. In order to fulfil maximum operational requirements, all of our cable crossovers comply with the standards of the Low Voltage Directive.

RESPONSIBILITY

Each user is responsible for the manner of installation and selection of cables to be protected with the help of the DEFENDER cable crossovers. We warrant the load bearing capacity of our crossovers only when they are used properly.

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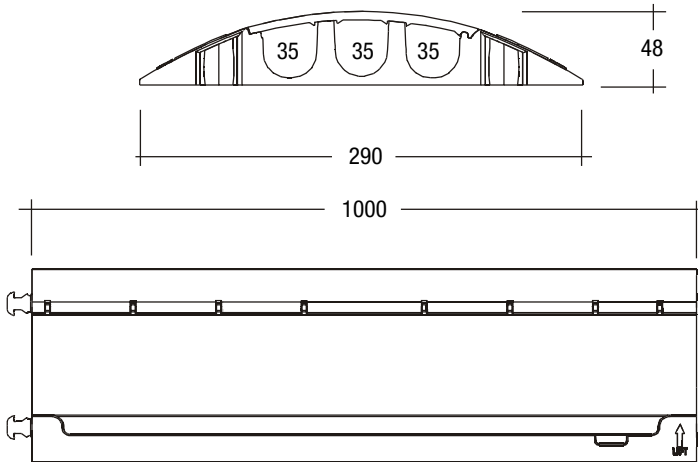
DEFENDER MINI

Small but sturdy. Light, professional and universally useable. The new DEFENDER Mini meets all expectations when it comes to professional cable protection and expands the DEFENDER series with a compact, very light (only 5 kg!) cable crossover capable of supporting vehicle traffic in the familiar black/yellow design. Like all of the DEFENDER cable crossovers, the DEFENDER Mini is resistant to oil, acids & petrol and has a patented self-cleaning hinged closure.

MINI	1000 x 290 x 48 mm	Weight: 5 Kg
Safe load: ca. 2t on a surface area of 20 x 20 cm. Not useable in road traffic. Nevertheless, cars can drive over the crossover slowly.		
Range of application: Trade fairs / walkways / marketplaces / Christmas markets / workshops / warehouses / shopping centres / department stores / etc.		



ENGINEERING DRAWING



Accessories:



DEFENDER MINI End ramp male



DEFENDER MINI End ramp female

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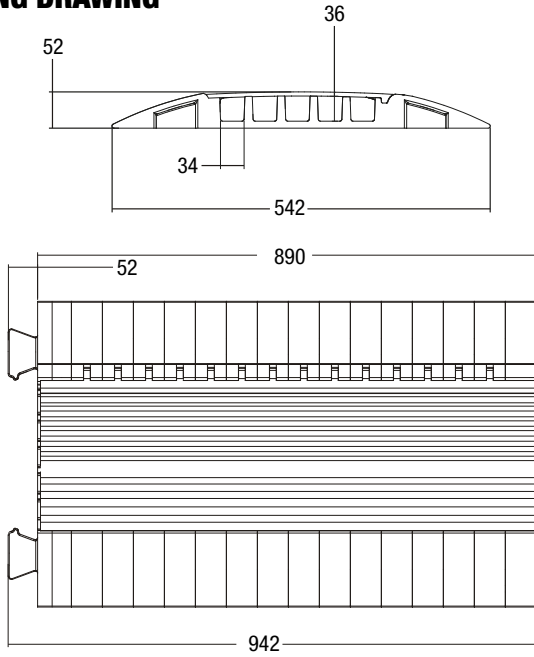
DEFENDER MIDI

The Defender Midi was developed as a solution for applications between the Defender Compact and Defender III. This cable crossover features five cable channels, moulded connectors and a lower height and lighter weight than the Defender III. The load bearing capacity is similar to that of the Defender III!

MIDI	890 x 542 x 54 mm	Weight: 11.5 Kg
Safe load: ca. 5t on a surface area of 20 x 20 cm. Generally, any street-legal vehicle can drive over this crossover.		
Range of application: As with MINI, but also construction sites, streets, etc.		



ENGINEERING DRAWING



Accessories:



DEFENDER MIDI 45° curve



DEFENDER MIDI End ramp

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DEFENDER COMPACT

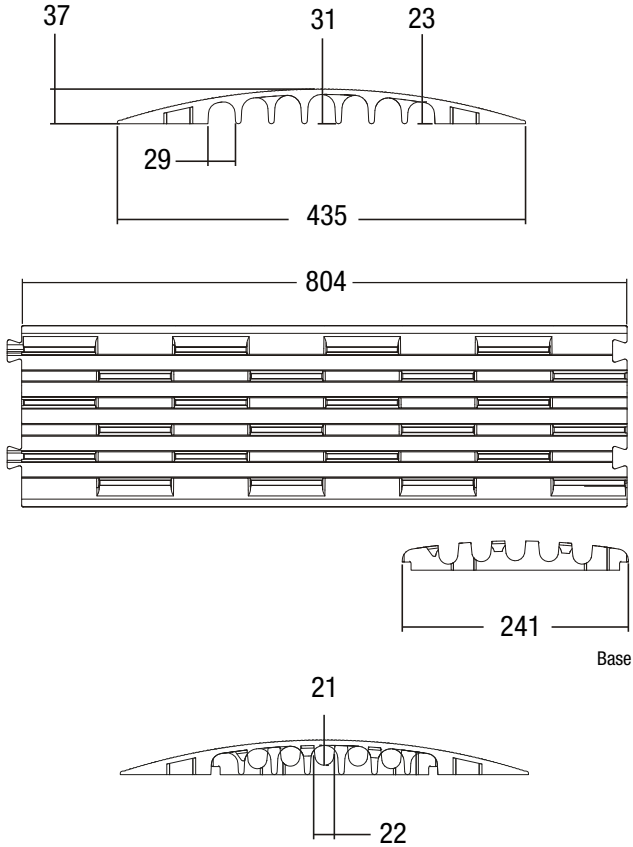
The affordable variant of the Defender III system. The arrangement of supports moulded into the bottom permits the Defender Compact to be laid over numerous cables, supporting the weight of crossing vehicles. Black polyurethane construction with a ribbed non-slip surface. The ultimate enhancement for heavy loads: The unique Defender Compact base with a weight of 3.5 kg is attached to the Defender Compact cable crossover to form a single unit. Thus reinforced, the Defender Compact cable crossover can withstand even high loads. Even forklifts and lifting trucks can now drive over this crossover without problems. Five cable channels with a diameter of 22 mm each provide ample space for many applications. If multiple DEFENDER Compact cable crossovers with a base are assembled in a line, the row now remains flat as stable row even when driven over by a car.

This simple cable protector is a so-called "drop over" crossover. First you run your cables and then cover them with the COMPACT. If you have chosen the COMPACT with BASE, first assemble the BASE into a fixed LINE. Now run your cables on the base before covering both with the COMPACT. The bars of the COMPACT engage in the BASE and connect both to form a fixed unit. You can make the line more rigid by laying the COMPACT so that it is offset in relation to the BASE.

COMPACT	805 x 435 x 37 mm	Weight: 3.5 Kg
Safe load: Pedestrians, bicycle		
Range of application: Mainly in halls, at trade fairs, etc.		



ENGINEERING DRAWING



Accessories:



DEFENDER COMPACT Base

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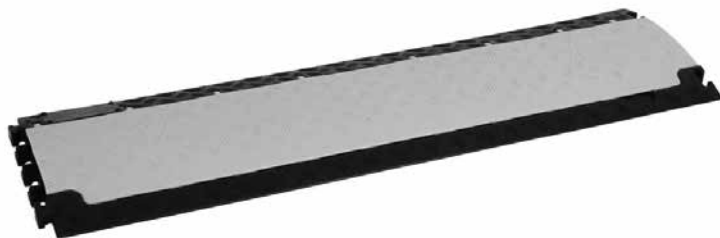
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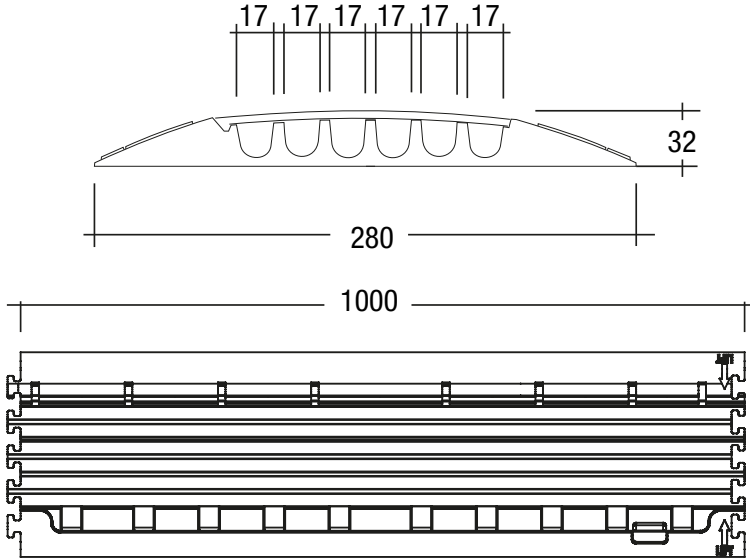
DEFENDER NANO

The smallest unit, with great potential. Light, professional, wheelchair compatible and universally useable. With its six channels, the DEFENDER NANO meets all expectations for professional cable protection in a minimum of space. Thanks to the addition of this compact, extremely light (only approx. 4 kg!) cable crossover that can be driven on in the familiar black/yellow design, the compact segment of the series is now complete. Like all of the DEFENDER cable crossovers, the DEFENDER NANO is resistant to oil, acids & petrol and has a patented self-cleaning hinged closure.

NANO	1000 x 280 x 32 mm	Weight: 4.47 Kg
Safe load: ca. 2t on a surface area of 20 x 20 cm. Compatible with lifting trucks. Not useable in road traffic. Nevertheless, cars can drive over the crossover slowly.		
Range of application: Trade fairs / walkways / marketplaces / Christmas markets / workshops / warehouses / shopping centres / department stores / etc.		



ENGINEERING DRAWING



Accessories:



DEFENDER NANO End ramp



DEFENDER NANO End ramp

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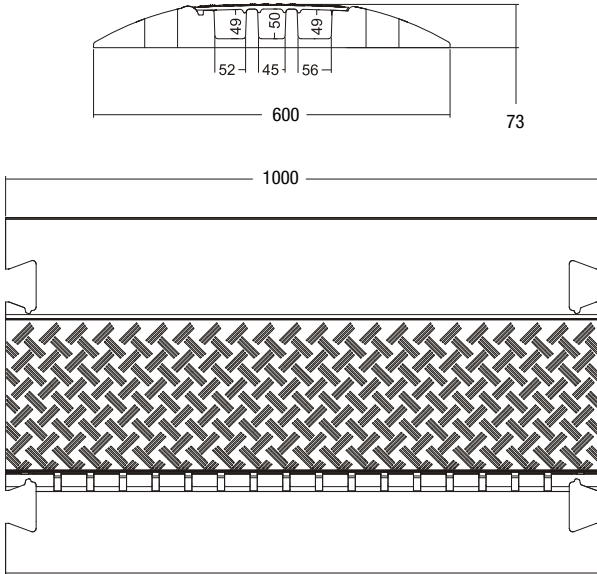
DEFENDER III

Our top seller. Black polyurethane construction with textured non-slip surface and highly visible yellow polyethylene lid and three cable channels. The crossovers can be joined together by connector plugs available individually. Each crossover comes with one pair of connector plugs. The new lid with patented hinge (EU Patent No.: EP1366550) now remains open while cables are laid. The integral zipper fastener provides improved protection from dirt and/or tearing off of the lid in comparison with conventional hook-and-eye fastener systems. A complete range of accessories expands the Defender III into a flexible system for protecting expensive cables and multicores.

DEFENDER III	1000 x 600 x 73 mm	Weight: 22 Kg
Safe load: ca. 5t on a surface area of 20 x 20 cm. Generally, any street-legal vehicle can drive over this crossover. Also still permitted by road traffic regulations in terms of height. High stability even in the connected line.		
Range of application: As for MIDI and MINI, but for larger cables.		



ENGINEERING DRAWING



Accessories:



DEFENDER III Lid fastening bolts



DEFENDER III Connecting plugs



DEFENDER III 45° curve



DEFENDER III End ramp

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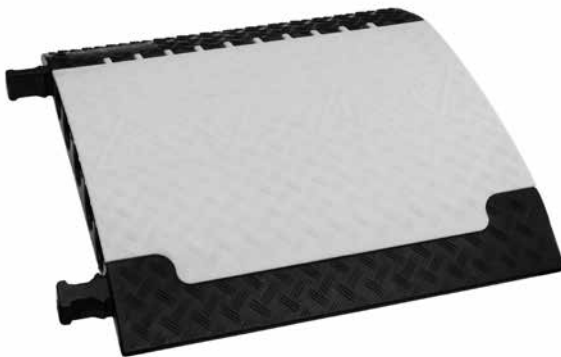
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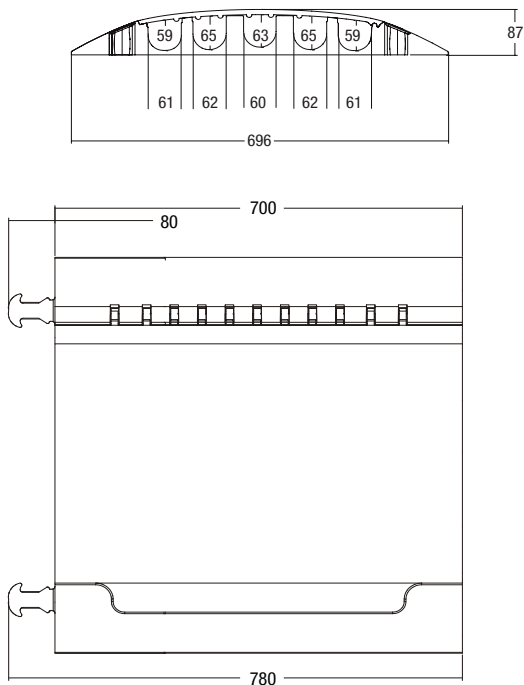
DEFENDER XXL

We developed our new flagship of the Defender series in cooperation with the industry and renowned rental companies. Five oversized cable channels – three of which are suitable for C-tube hoses as used by fire brigades (Ø 62 mm). Also provides optimum protection for power cables. Surpasses even the Defender III module in terms of load bearing capacity.

XXL	700 x 696 x 87 mm	Weight: 21.4 Kg
Safe load: ca. 5t on a surface area of 20 x 20 cm. Generally, any street-legal vehicle with sufficient ground clearance can drive over this crossover. High stability even in the connected line. Suitable for C-tube hoses.		
Range of application: As for the DIII - however, please ensure compliance with road traffic regulations (higher than 75 mm)		



ENGINEERING DRAWING



Accessories:



DEFENDER XXL End ramp

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DEFENDER ULTRA-L

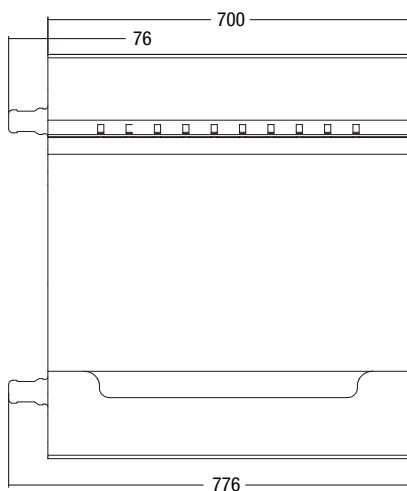
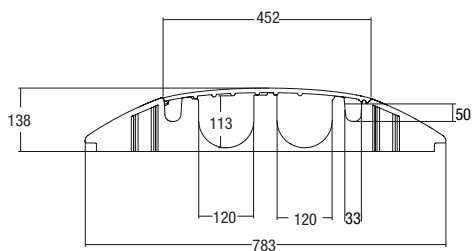
This cable crossover was developed in cooperation with suppliers for major events. This heavy-duty crossover features two oversized cable / hose channels for lines up to 120 mm (e.g., 2 large fire hoses), fragile connections and/or connector housings not exceeding 100 mm. Please observe your national road traffic regulations for use in public road traffic.

ULTRA L ULTRA L V2	700 x 783 x 139 mm 700 x 766 x 120 mm	Weight: 28,3 Kg
Safe load: ca. 5t on a surface area of 20 x 20 cm. Generally, any street-legal vehicle with sufficient ground clearance can drive over this crossover. High stability even in the connected line.		
Range of application: As with Defender XXL, but also construction sites, streets, etc. However, please ensure compliance with road traffic regulations (higher than 75 mm)		

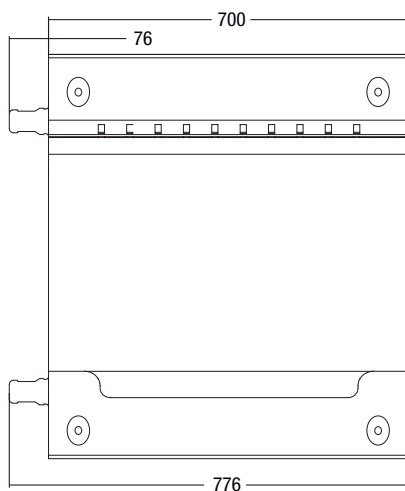
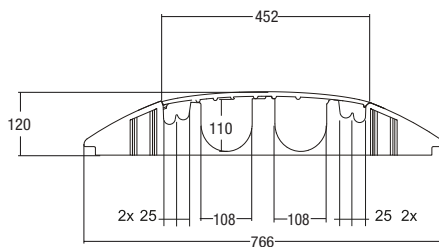


ENGINEERING DRAWING

DEFENDER ULTRA-L (85600)



DEFENDER ULTRA-L V2 (85601)



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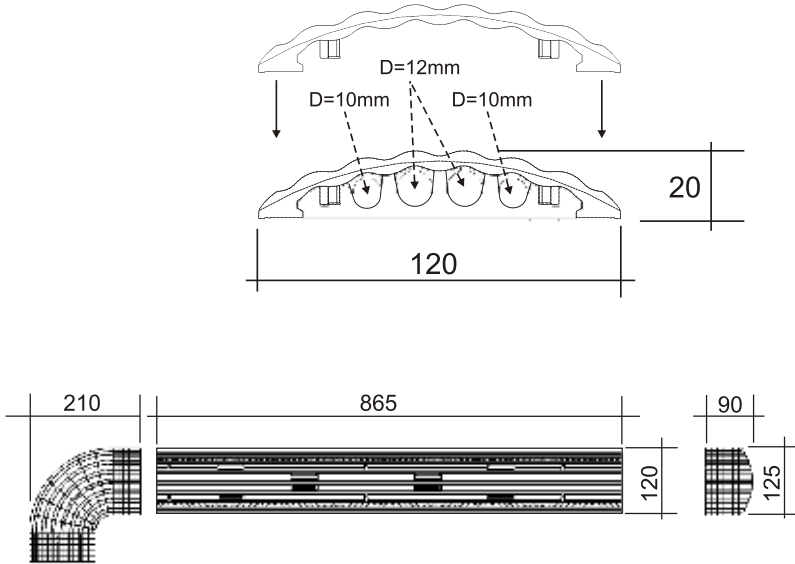
DEFENDER OFFICE

The 4-channel Defender Office meets all requirements and guidelines (pursuant to Sec. 3 A1 of the German Work Safety Regulations) for professional cable protection, whether in offices, in your conference room or at your trade fair booth. You can adapt the length of the cable crossover and the 90° curve to your individual needs at any time. Like the COMPACT with BASE, this cable protector consists of two parts. Unlike all other crossovers, however, this solution does not have any connectors. In order to run a fixed line, the lid must be attached with an offset of approx. 10 cm in relation to the base. In this manner, the lid functions as a connector. The bases and lids can be shortened individually in increments of 10 mm. Both parts are marked with corresponding lines. Please follow these markings to ensure trouble-free functioning.

OFFICE	870 x 110 x 20 mm	Weight: 1.5 Kg
Safe load: ca. 1t on a surface area of 20 x 20 cm. Office crossover - can, however, also be driven over by vehicles.		
Range of application: Conceivably for all applications, but not very stable in a line, thus preferred applications are in offices, at trade fairs, etc.		



ENGINEERING DRAWING



Accessories:



DEFENDER OFFICE 90° curve



DEFENDER OFFICE End ramp

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LIMITED WARRANTY

This warranty extends to the Defender branded product you purchased from Adam Hall. The statutory warranty rights against the vendor shall not be affected by this warranty. Rather, this warranty gives you additional independent claims against Adam Hall.

With this warranty, Adam Hall ensures that products you have purchased from Adam Hall or Adam Hall partners, under normal use, are free of defects in material or workmanship for a period of 5 years from the date of purchase. The warranty period begins on the date of purchase. In order to assert a claim for warranty service, the proof of date of purchase is provided by the receipt bearing the date of purchase or the date of purchase on the delivery note. You are entitled to warranty service under the conditions and provisions set out in this document, if a repair within the warranty period is required.

This warranty applies only to the original purchaser of the products supplied by Adam Hall and is not transferable to any person to whom the property is transferred by the original purchaser.

Within the warranty period, the defective parts or the product from Adam Hall will be repaired or replaced. Under the terms of this warranty, all the replaced or removed components become the property of Adam Hall.

In the unlikely event that a product acquired from Adam Hall, repeatedly exhibits a defect, Adam Hall may decide, at its discretion, to replace this product with a comparable product of at least the same performance.

Adam Hall does not guarantee that the operation of this product will be uninterrupted or error-free. Adam Hall accepts no responsibility for any damage due to incorrect compliance with the instructions received in the delivery.

This warranty does not extend to:

- wearing parts (eg battery, tubes).
 - devices that have had their serial number removed or damaged, or failed as a result of an accident
 - inappropriate or abusive use or other external causes
 - devices that were not used in accordance with the operating parameters defined in the user documentation shipped with the product
 - devices that have been repaired using parts not made or distributed by Adam Hall
 - devices that have been serviced, modified or repaired by someone other than Adam Hall or an authorised service partner.
- These terms and conditions constitute the complete and exclusive warranty agreement between you and Adam Hall regarding the Adam Hall branded product you have purchased.

This warranty is valid only within Europe. Outside of Europe please contact our official distributors.

LIMITATION OF LIABILITY

If your Adam Hall branded hardware product fails to work as warranted above, your sole and exclusive remedy shall be repair or replacement. Adam Halls' maximum liability under this limited warranty is expressly limited to the lesser of the price you have paid for the product or the cost of repair or replacement of any hardware components that malfunction in conditions of normal use.

Adam Hall is not liable for any damages caused by the product or the failure of the product, including any lost profits or savings or special, incidental, or consequential damages. Adam Hall is not liable for any claim made by a third party or made by you for a third party.

This limitation of liability applies whether damages are sought, or claims are made, under this Limited Warranty or as a tort claim (including negligence and strict product liability), a contract claim, or any other claim. This limitation of liability cannot be waived or amended by any person. This limitation of liability will be effective even if you have advised Adam Hall of an authorized representative of Adam Hall of the possibility of any such damages. This limitation of liability however, will not apply to claims for personal injury.

This Limited Warranty gives you specific legal rights. You may also have other rights that may vary from state to state or from country to country. You are advised to consult applicable state or country laws for a full determination of your rights.

REQUESTING WARRANTY-SERVICE

To request warranty service for the product, contact Adam Hall or the Adam Hall authorized reseller from which you purchased the product.