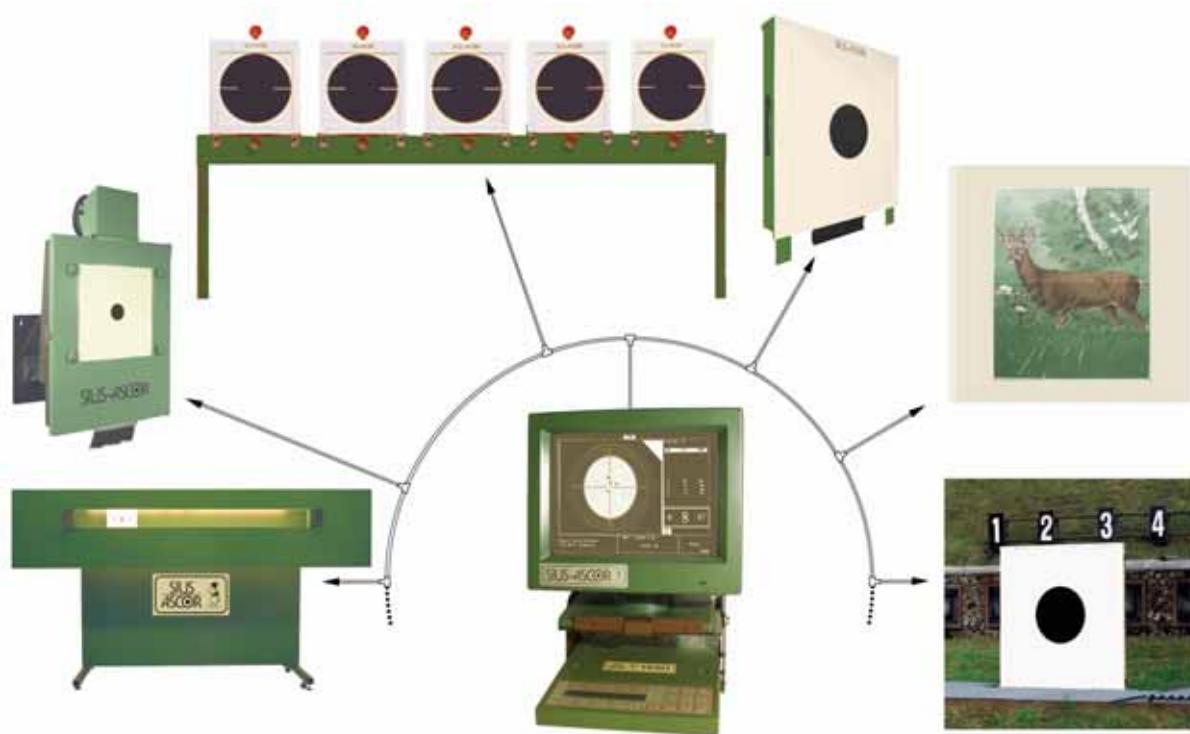


Electronic Targets

SA931 Catalogue

Sport-Shooting and Hunting



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1 Introduction

1.1 SIUS ASCOR

SIUS AG is a Swiss company, which has been offering products for sports shooting for the past 55 years, and has been market leader for more than 25 years in the field of electronic scoring systems. More than 30,000 SIUS-ASCOR targets are in use throughout the world in more than 40 countries. We have specialized in complete solutions for military and sports installations. The use of our units at the Olympic Games in Barcelona in 1992, Atlanta 1996, Sydney 2000 and Athens 2004 have been the greatest and most interesting challenges we have met.

For us, precision, quality, flexibility and operational reliability are always in the forefront.



Finals hall at the Olympic Games 2004 in Athens

1.2 Concept and possible applications of the SA931

Our units have proven themselves at the Olympic Games in Athens. Hardware and software were tested to the last detail. As a result of these efforts, we are happy to be able to present a perfect unit installation based on the most modern technology.

The individual components are interconnected over a LON network. The resulting simple cabling enables the customer to set up and install the system himself. The prepared cables are equipped with dust protective and waterproof LTW plugs and thus ensure maximum operational safety.

Each lane is equipped with its own control unit – indispensable for the independent operation of the individual lanes. Furthermore, it is possible to operate these control units remotely by means of a computer. Central data acquisition and evaluation are further expansion possibilities of the SA931.

Naturally, all ISSF disciplines (ISSF = International Shooting Sport Federation) are completely included from 10m air weapons (including a running target 10m) up to 300m big bore rifles. Various hunting targets are programmed. Country-specific disciplines (Swiss, Nordic countries) are also permanently programmed and can be called up directly. Seven languages are completely implemented (German, English, French, Italian, Swedish, Spanish, and Norwegian).

In order to keep your system up-to-date at all times, it is possible to download the current software onto the installation with a Windows PC. Free software updates are made available by SIUS and can be downloaded from the Internet. In this way, you can profit directly from new developments and improvements.

The SA931 includes spectator monitors, display boards, screens with projectors for ranking lists, shot pattern depictions and much more, which allows you to present sports shooting more attractively to the spectators.

The SA931 system is the optimal investment in the future of sports shooting.



10m installation at the Olympics 2004 in Athens

1.3 Structure of the catalogue

The basic system is primarily divided into the distances: 10m, 25m, 50m, 100m and 300m. The corresponding sets required for a basic SA931 installation can be found in the individual chapters. A set is the combination of several components which are used for the different installation combinations.

A system is always divided into target set, firing point set and cable and power supply set. All the required components are shown in a graphic table. The table associated with it contains the article number and a reference to the corresponding chapter in which the article is described in greater detail.

The SA931 basic installation can be extended in various ways. The individual target equipments components such as display boards, light signal accessory, data acquisition accessory and much more can be found in the addendum to the current system combinations.

The sets and set combinations presented are made up according to the most commonly sold system combinations. However, the SA931 can be combined in accordance with your wishes. For further details and information please contact SIUS or its representatives (*Chapter 5 Addresses*).

In the Appendix, you will find the guarantee terms, the addresses of the worldwide agencies as well as the article number index.

We look forward to a prosperous cooperation.

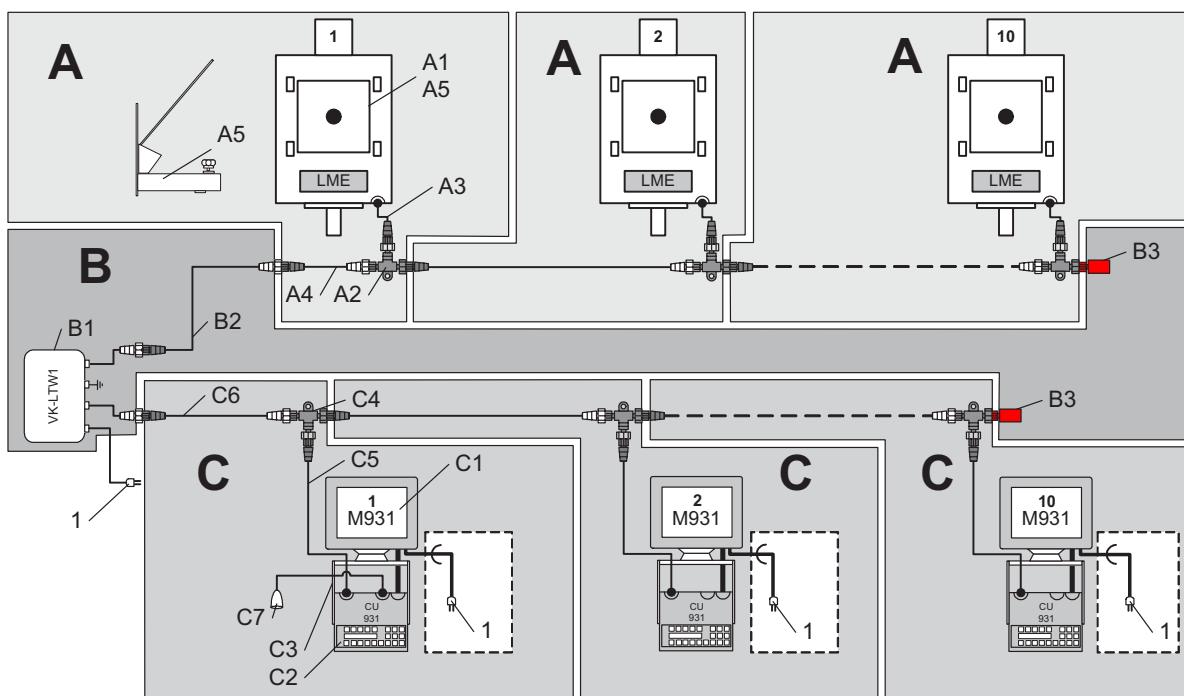
Your SIUS Team

2 SA931 basic installation sets and targets

2.1 Air rifle / air pistol installations 10m, S10-LON

2.1.1 Installation overview S10-LON 10m

The installation is divided into 3 sets: a target set (A), a cable and power supply set (B) and a firing point set (C). Each lane requires a target set (A) and a firing point set (C). The cable and power supply set (B) is designed for a maximum of 10 lanes. In addition, power supply cables are required (connecting cable: device to country-specific plug) (Pos. 1). The setup is as follows:



Pos.	Article No.	Pcs.	Description	Chapter
A	S10-LTW-SET	1	Target set air rifle / air pistol LTW	
A1	S10-LON	1	10m target for air rifle / air pistol	2.1.2
A2	KL001-T	1	T-Adaptor fem, fem, male LTW IP67	3.2.4
A3	KL003-2.0	1	Cable LTW m – RJ45 2.0m	3.2.7
A4	KL001-2.0	1	Cable LTW m – f 2.0m plug, black	3.2.6
A5	WHS10	1	Wall-mounted target holder with bullet trap	2.1.4.4
B	10M-LTW-SET	1	Cable and power supply set for 10m LTW	3.2.1.1
B1	VK-LTW1V0	1	Power supply for 10 lines 60W with LTW 230V	3.2.2
B2	KL001-20.0	1	Cable LTW m – f 20.0m plug, black	3.2.6
B3	KL001-R	2	Terminating resistor, red, male LTW IP67	3.2.5
C	FP931-LTW-SET	1	Firing point set LTW	3.1.1
C1	M931	1	Monitor 9" VGA RAL 6003 / with logo	3.1.3
C2	CU931V0	1	Control unit	3.1.2
C3	HST931	1	Monitor holder for CU931, small	3.1.8.1
C4	KL001-T	1	T-Adaptor fem, fem, male LTW IP67	3.2.4

Pos.	Article No.	Pcs.	Description	Chapter
C5	KL003-2.0	1	Cable LTW m – RJ45 2.0m	3.2.7
C6	KL001-2.0	1	Cable LTW m – f 2.0m plug, black	3.2.6
C7	RC-ZOOM	1	Remote control for SA931 zoom	3.1.12
1	Reference		Country-specific power supply cable, 2m	3.2.10

2.1.2 Target S10-LON for air rifle / air pistol

The target S10-LON is designed for all compressed air weapon disciplines with a distance of 10m.

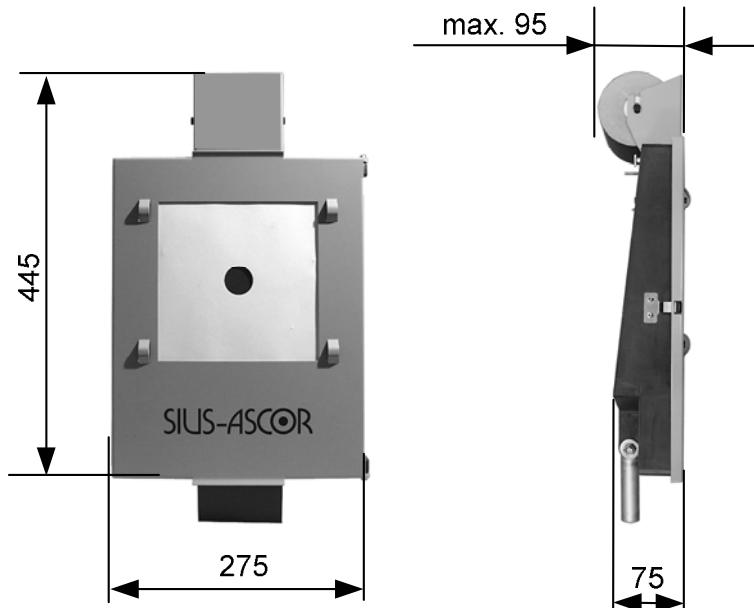
The four-microphone detection system guarantees the highest precision in the evaluation of the scoring installation. This target has therefore been used for numerous World Cup competitions and for numerous Olympic Games.

Equipped with a reinforced front frame (*Chapter 2.1.4.6 Reinforced front frame*) and a corresponding bullet trap, the S10-LON can also be used for 50m small bore rifles.



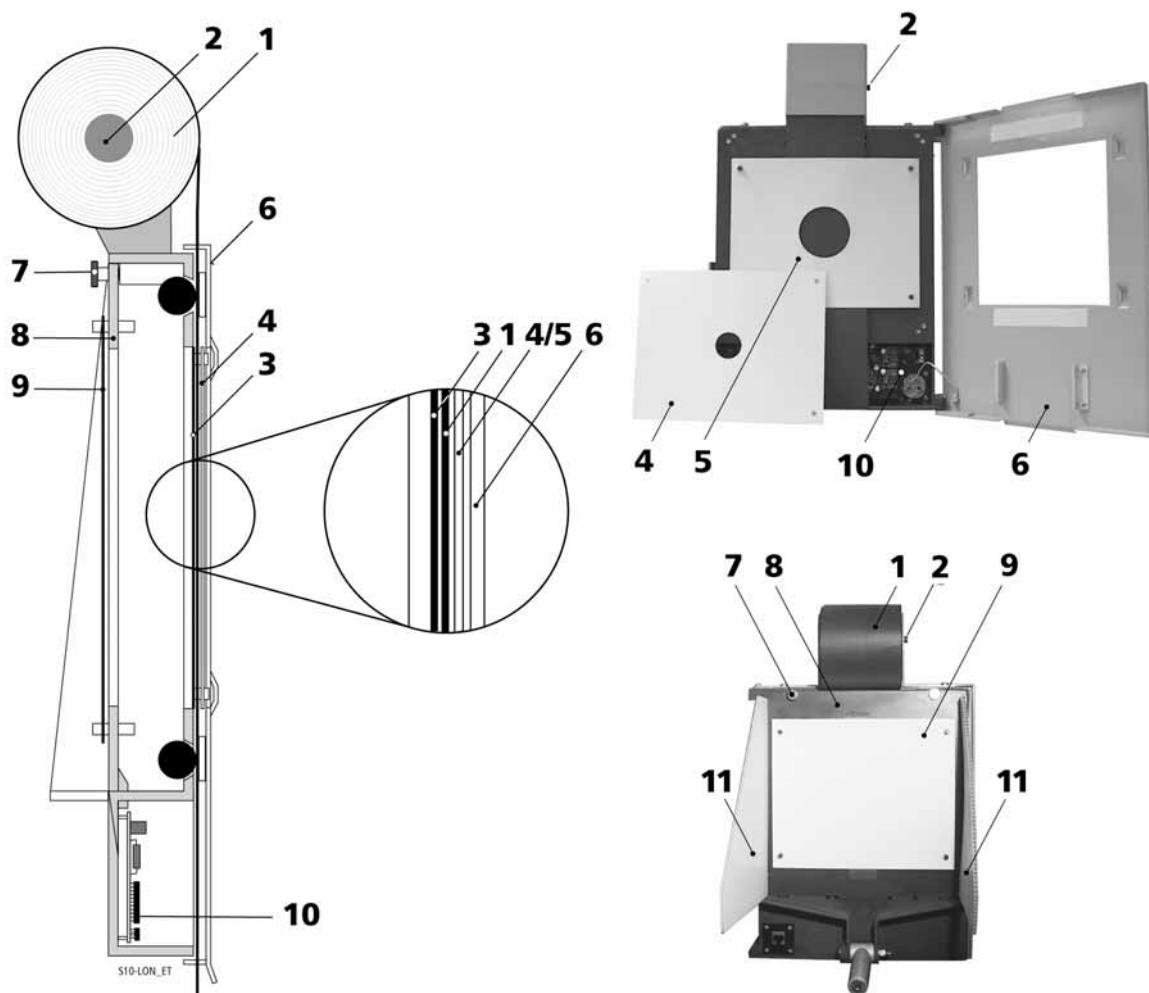
S10-LON specifications

Size (W x H x D):	275 x 445 x 75mm
Weight:	2.4 kg
Consumption:	7.6 W
Detection surface:	170 x 170mm



Pos.	Article No.	Description	Rem.
1	S10-LON	10m target for air rifle / air pistol	

2.1.3 Structure of the S10-LON



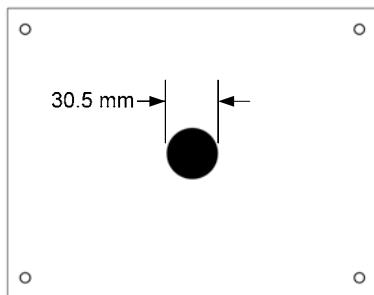
Pos.	Article No.	Description	Rem.
1.1	S20D001	Paper tape roll, black, 35m roll	2.1.4.2
1.2	S20A020	Paper tape roll, black, training (12 pieces)	2.1.4.2
2	S20A019	Paper tape roll axis	
3	S20A021	Membrane, black	
4	S20A022/10	ISSF air rifle target front mask (10 pieces)	2.1.4.1
5	S20A023/10	ISSF air pistol target front mask (10 pieces)	2.1.4.1
-	S10A001/10	ISSF SB rifle target front mask (10 pieces)	2.1.4.1 (optional)
6	S20D007	Front door, complete	
7	AMSR03X08	Screw with star shaped knob M3 x 8	
8	S20D004	Rear frame, complete	
9	S20A037/10	Backing target (10 pieces)	
10	LMEB001V0	Print LON measurement electronics for S10	
11	KFS20A005	Projectile spread protection 3mm	

2.1.4 Accessories for S10-LON

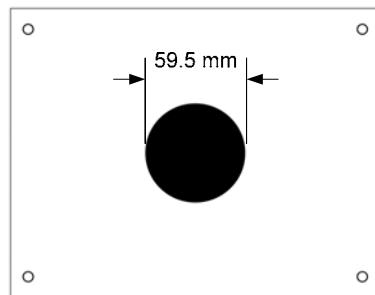
2.1.4.1 Target front masks

Various target front masks are available for the S10-LON electronic measurement target depending on the use of the front mask or the discipline being shot:

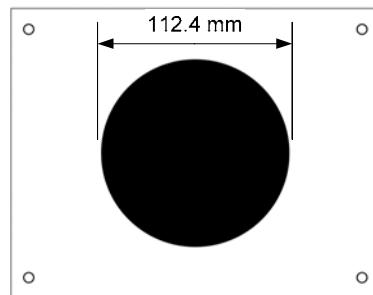
1. Air rifle 10m



2. Air pistol 10m



3. SB rifle 50m



Pos.	Article No.	Description	Rem.
1	S20A022/10	ISSF air rifle target front mask (10 pieces)	
2	S20A023/10	ISSF air pistol target front mask (10 pieces)	
3	S10A001/10	ISSF SB rifle target front mask (10 pieces)	

2.1.4.2 Paper rolls (shooting control)

Three different types of rolls are available:

The roll in Pos. 1 is used for all competitions according to ISSF. The roll in Pos. 2 is made of thinner paper and can thus be used for training. When using the target in wet conditions, the plastic roll in Pos. 3 can be used.



Pos.	Article No.	Description	Rem.
1	S20D001	Paper tape roll, black	
2	S20A020	Paper tape roll, black, training	
3	S10D008	Plastic roll, black	

2.1.4.3 Target illumination BLS10

The target S10-LON, in combination with the wall-mounted target holder plate WHS10 (*Chapter 2.1.4.4 Wall-mounted target holder and bullet trap WHS10*) can be extended with the illumination BLS10. Two different halogen bulbs are available for this purpose, depending on the operating voltage (230 V or 110 V).

In addition, a country-specific power supply cable is required (Pos. 2).



BLS10 specifications

Size (W x H x D):	150 x 370 x 530mm
Weight:	2.51 kg
Consumption:	75 W

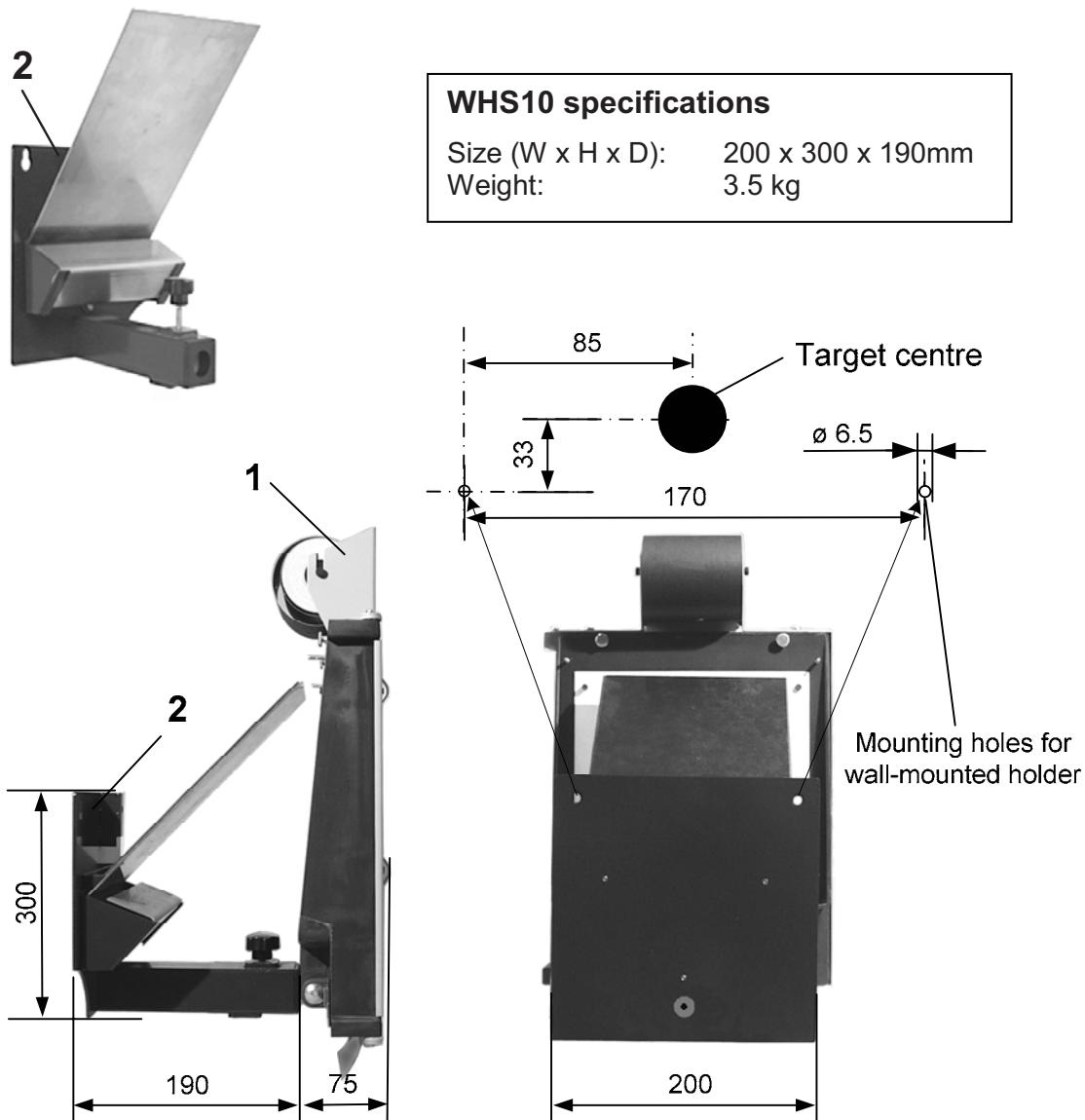
Pos.	Article No.	Description	Rem.
1	BLS10V0	Target illumination for S10, complete, for 230V AC	
1	BLS10V1	Target illumination for S10, complete, for 110V AC	
2	Reference	Country-specific power supply cable, 2m	3.2.10

2.1.4.3.1 Structure of the target illumination BLS10

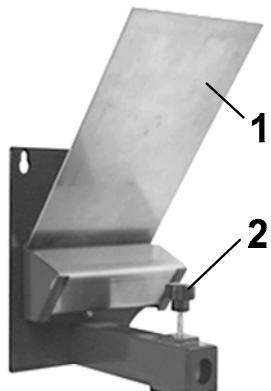
Pos.	Article No.	Description	Rem.
1	AE136	Halogen bulb, 230 V	
1	AE160	Halogen bulb, 110 V	
2	WHS10A004	Illumination holder	
3	AMA319	Star shaped knob	
4	AE137	Bulb housing	
5	BLS10A007	Protective cover	
6	BLS10D001	Lamp arm for BLS10	

2.1.4.4 Wall-mounted target holder and bullet trap WHS10

The target can be connected to the wall-mounted target holder with its connecting bolts and fixed directly against a wall. The wall-mounted target holder is integrated with the bullet trap for air rifles and air pistols. This can be removed, emptied and installed again very easily.



Pos.	Article No.	Description	Rem.
1	S10-LON	10m target for air rifle / air pistol	2.1.2
2	WHS10	Wall-mounted target holder with bullet trap	

2.1.4.4.1 Structure of the bullet trap WHS10

The wall-mounted target holder must not be used as a bullet trap for 50m small bore rifles.

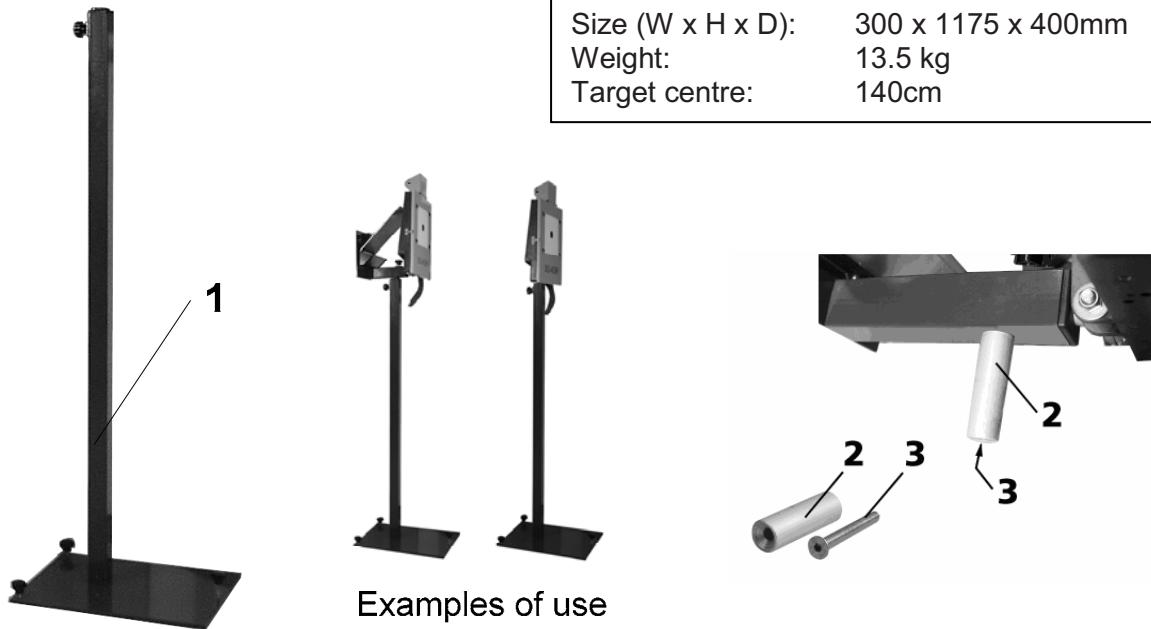
Pos.	Article No.	Description	Rem.
1	KFS10	Bullet trap for S10-LTW-SET	
2	AMA319	Screw with star shaped knob VC 192/30p-M6x16	

2.1.4.5 Pedestal BSS10

The pedestal BSS10 permits free erection of the S10-LON. The target can be fixed on directly with its fastening pin. If a wall-mounted target holder and a bullet trap are also used, then an additional mounting mandrel (Pos. 2) is necessary which is fastened with the countersunk screw (Pos. 3) to the cross beam of the wall-mounted target holder.

BSS10 specifications

Size (W x H x D):	300 x 1175 x 400mm
Weight:	13.5 kg
Target centre:	140cm



Pos.	Article No.	Description	Rem.
1	BSS10	Pedestal for S10-LON	3.1.8.3
2	WHS20A004	Mounting mandrel for WHS10	
3	AMSSI08X70	Countersunk screw with hexagon socket	

2.1.4.6 Reinforced front frame

The reinforced front frame PPS10 permits the utilization of the target S10-LON (*Chapter 2.1.2 Target S10-LON for air rifle / air pistol*) for shooting with small bore weapons.

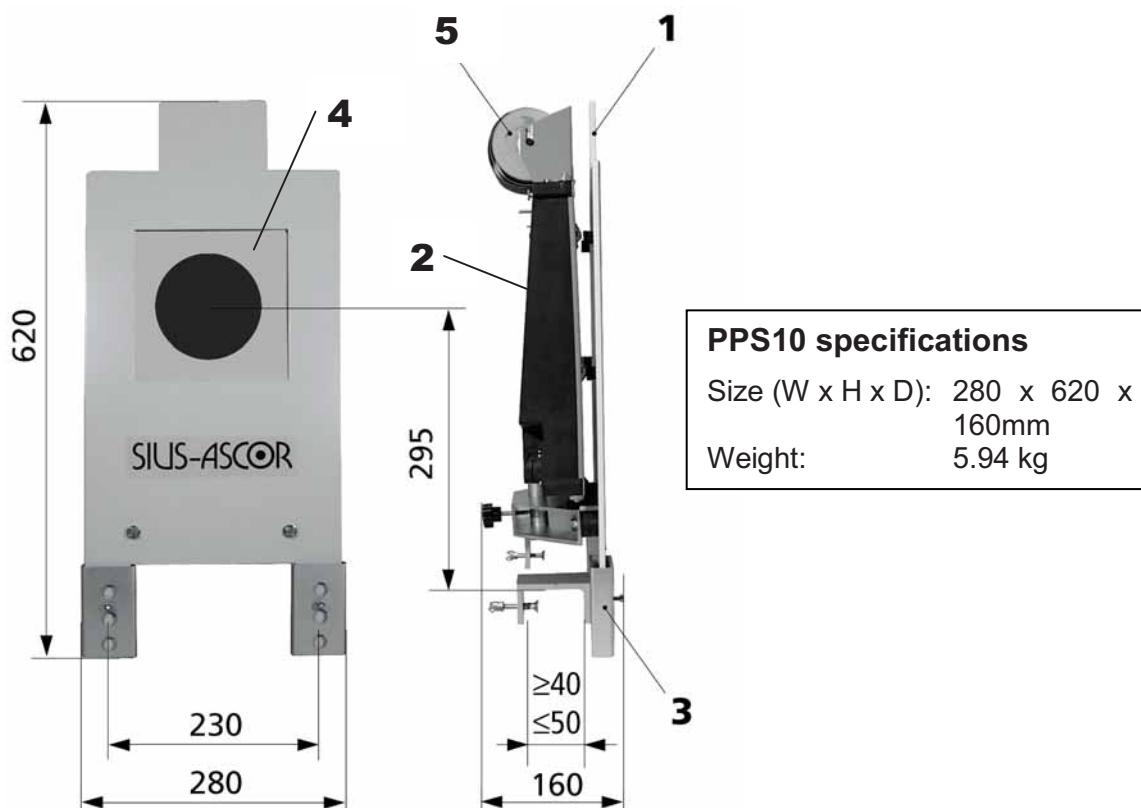
The S10-LON can be placed onto the reinforced front frame. The PPS10 itself is equipped with feet that fit into the target holder HS25.

!Caution!

A corresponding bullet trap must be used for shooting the S10-LON with **small bore weapons**.

The wall mounted target holder WHS10 must **not be used for small bore shooting**.

The target S10-LON is not **weatherproof** and must be **set up in a protected position**. As paper is used to control the value of the shots, the **target must not be left in the open but must be stored in a dry place after use**. However, the reinforced front frame itself can be left in the open.

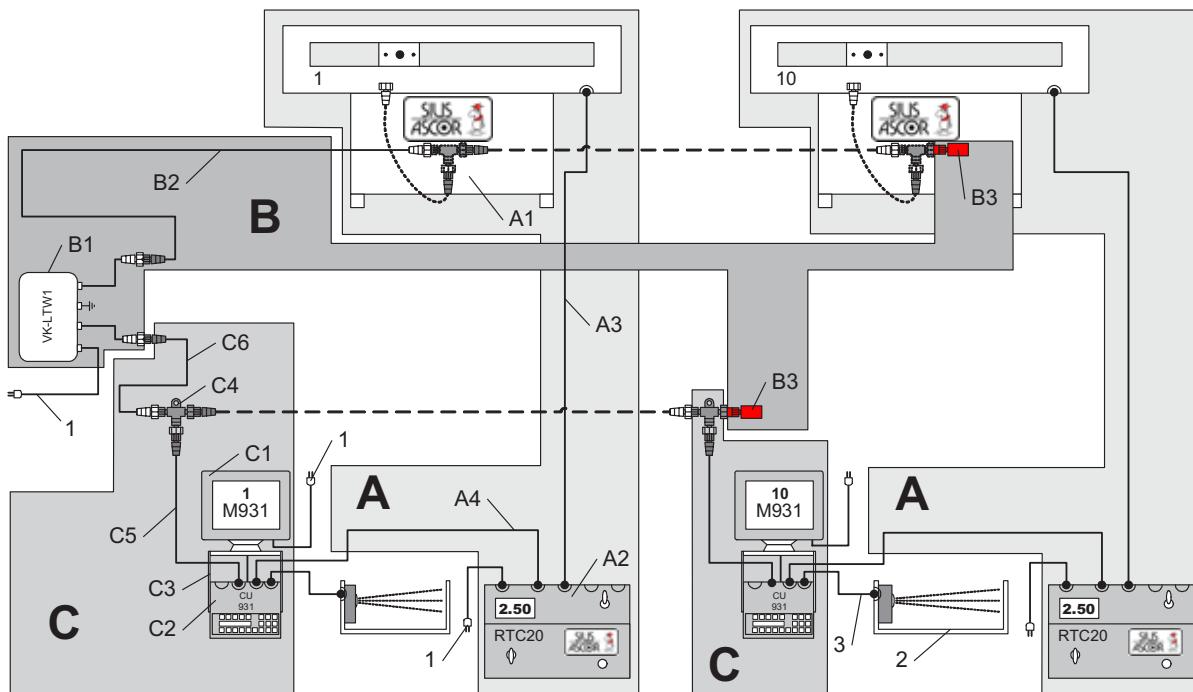


Pos.	Article No.	Description	Rem.
1	PPS10	Reinforced front frame for S10-LON SB	
2	S10-LON	10m target for air rifle / air pistol	2.1.2
3	HS25	S25/50 target holder board installation	2.3.4.2.2
4	S10A001/10	ISSF SB rifle target front mask (10 pieces)	2.1.4.1
5	S20D001	Paper tape roll, black	2.1.4.2

2.2 “Running target 10m”, RT10-LON

2.2.1 Installation overview RT10-LON

The installation is divided into 3 sets: a target set (A), a cable and power supply set (B) and a firing point set (C). Each lane requires a target set (A) and a firing point set (C). The cable and power supply set (B) is designed for a maximum of 10 lanes. In addition, power supply cables are required (connecting cable: device to country-specific plug) (Pos. 1). The setup looks as follows:



Pos.	Article No.	Pcs.	Description	Chapter
A	RT10-LTW-SET	1	Target set running target LTW	
A1	RT10-LON	1	10m running target LTW	2.2.2
A2	RTC20	1	Controller for RT10-LON	2.2.4
A3	KS031-22	1	Cable connection RTC20-RT10-LON, 22m	
A4	KP019	1	Cable connection CU931-LB20, 22m	
B	10M-LTW-SET	1	Cable and power supply set for 10m LTW	3.2.1.1
B1	VK-LTW1V0	1	Power supply for 10 lines 60 W with LTW 230V	3.2.2
B2	KL001-20.0	1	Cable LTW m – f 20.0m plug, black	3.2.6
B3	KL001-R	2	Terminating resistor, red, male LTW IP67	3.2.5
C	FP931-LTW-SET	1	Firing point set LTW	3.1.1
C1	M931	1	Monitor 9" VGA RAL 6003 / with logo	3.1.3
C2	CU931V0	1	Control unit	3.1.2
C3	HST931	1	Monitor holder for CU931, small	3.1.8.1
C4	KL001-T	1	T-Adaptor fem, fem, male LTW IP67	3.2.4
C5	KL003-2.0	1	Cable LTW m RJ45 2.0m	3.2.7
C6	KL001-2.0	1	Cable LTW m – f 2.0m plug, black	3.2.6

Pos.	Article No.	Pcs.	Description	Chapter
C7	RC-ZOOM	1	Remote control for SA931 zoom	3.1.12
1	Reference		Country-specific power supply cable, 2m	3.2.10
2	LB20		Photoelectric beam detector for RT10-LON	2.2.5.1
3	KP019		Cable connection CU931-LB20	

2.2.2 "Running target 10m" RT10-LON

The running target (Pos. 1) is designed for the "10m Running Target" discipline for compressed air firearms. For the detection system, a modified version of the target S10-LON is built into the running target (*Chapter 2.1.3 Structure of the S10-LON*). It is equipped with a special target front mask and mounted on a trolley. This is pulled back and forth by means of a direct current motor controlled by the controller RTC20. The RTC20 supports the SLOW/FAST types of operation. For MIXED, the RTC20 must be connected to the control unit CU931.

RT10-LON specifications

Size (W x H x D):	312 x 164 x 70cm
Weight:	72.5 kg
Consumption:	7W (target only)
Detection surface:	170 x 170mm

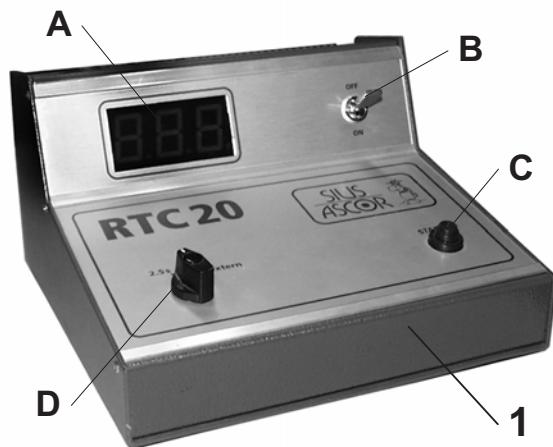


2.2.3 Replacement supplies for "Running Target" RT10-LON

Pos.	Article No.	Description	Rem.
	AE116	Lighting tube 120 W	
	AS394	Limit switch	
	KF20A006	Ballistic protection plate to KF20 bullet trap / Polycarbonat 175 x 133 x 4 mm	
	KF20A010	Ballistic protection plate to KF20 bullet trap / Chrome-plated steel 60 x 71 x 1,5 mm	

2.2.4 Controller RTC20 for RT10-LON

The controller (Pos. 1) controls the movement of the trolley of the RT10-LON running target. The controller also displays the actual movement time of the trolley in 1/100 seconds. The device requires a country-specific cable (Pos. 2) for its power supply.



RTC20 specifications

Size (W x H x D):	220 x 135 x 235mm
Weight:	3 kg
Consumption:	80 W

A = Effective running time in 1/100s

B = Main switch

C = Starter button

D = Selection switch

Pos.	Article No.	Description	Rem.
1	RTC20	Controller for RT10-LON	
2	Reference	Country-specific power supply cable, 2m	3.2.10

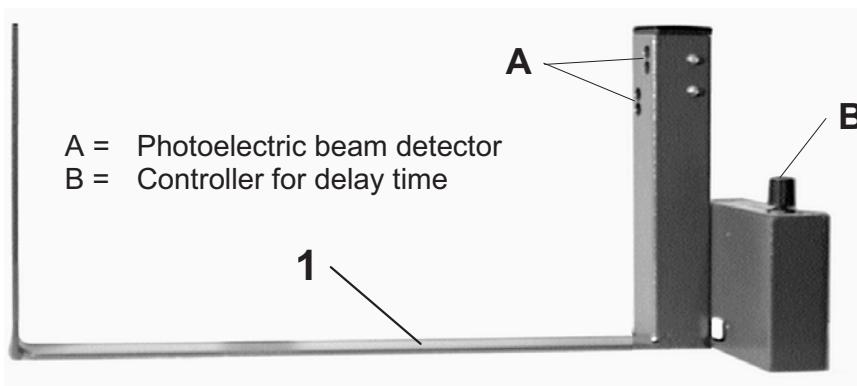
2.2.5 Accessories for RT10-LON

2.2.5.1 Photoelectric beam detector LB20

The photoelectric beam detector (Pos. 1) automatically triggers the movement of the target or the trolley when the weapon is lifted. Thus, the training operation with the "Running Target" is possible without any auxiliary personnel.

LB20 specifications

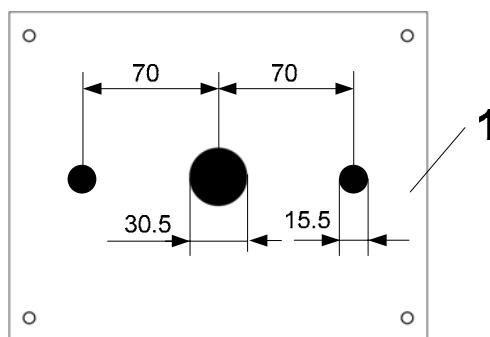
Size (W x H x D): 455 x 210 x 120mm
Weight: 890 g



Pos.	Article No.	Description	Rem.
1	LB20	Photoelectric beam detector for RT10-LON	

2.2.5.2 Target front mask "10m Running Target"

The detection system is equipped with a target front mask which, in contrast to the usual air rifle target, possesses two offset points.



Pos.	Article No.	Description	Rem.
1	RT20A051	ISSF 10m running target front mask (10 pieces)	

2.3 SB rifle and pistol installations 25m/50m, S25/50-LON

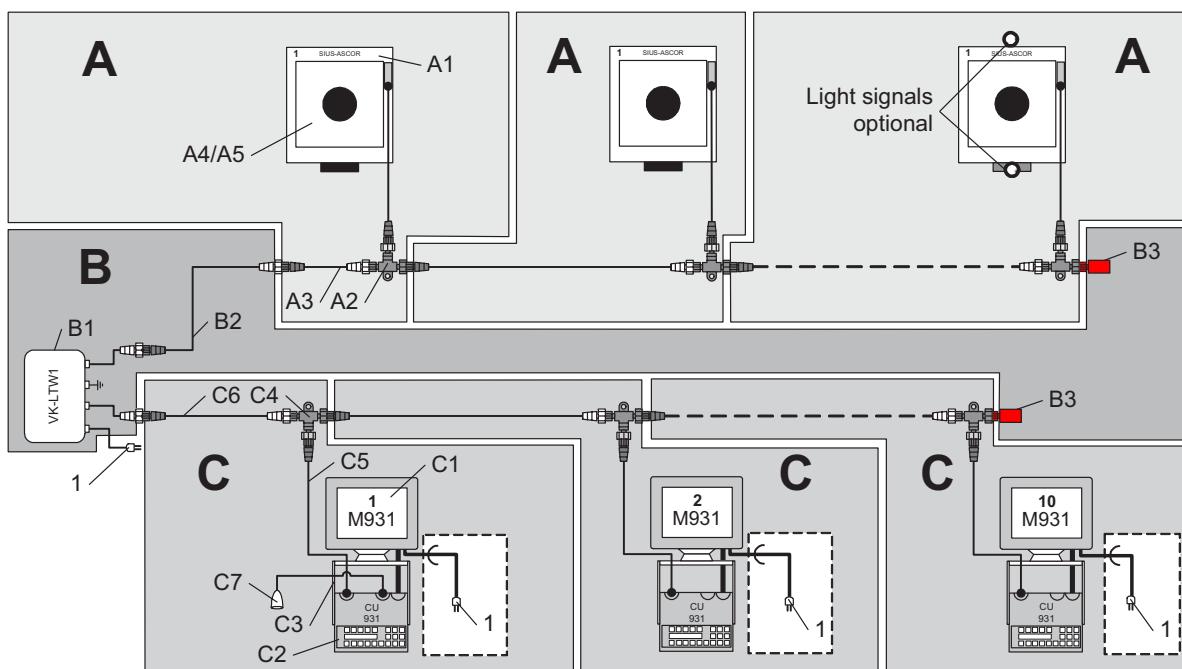
2.3.1 Installation overview

2.3.1.1 Installation overview S25/50-LON 25m

The installation is divided into 3 sets: a target set (A), a cable and power supply set (B) and a firing point set (C). Each lane requires a target set (A) and a firing point set (C). The cable and power supply set (B) is designed for a maximum of 10 lanes. In addition, several power supply cables are required (connecting cable: device to country-specific plug) (Pos. 1).

For all Olympic disciplines over this distance, the installation is equipped with a time control unit TCU25 and light signals (see Chapter 4.1 Additional light signals).

The setup looks as follows:

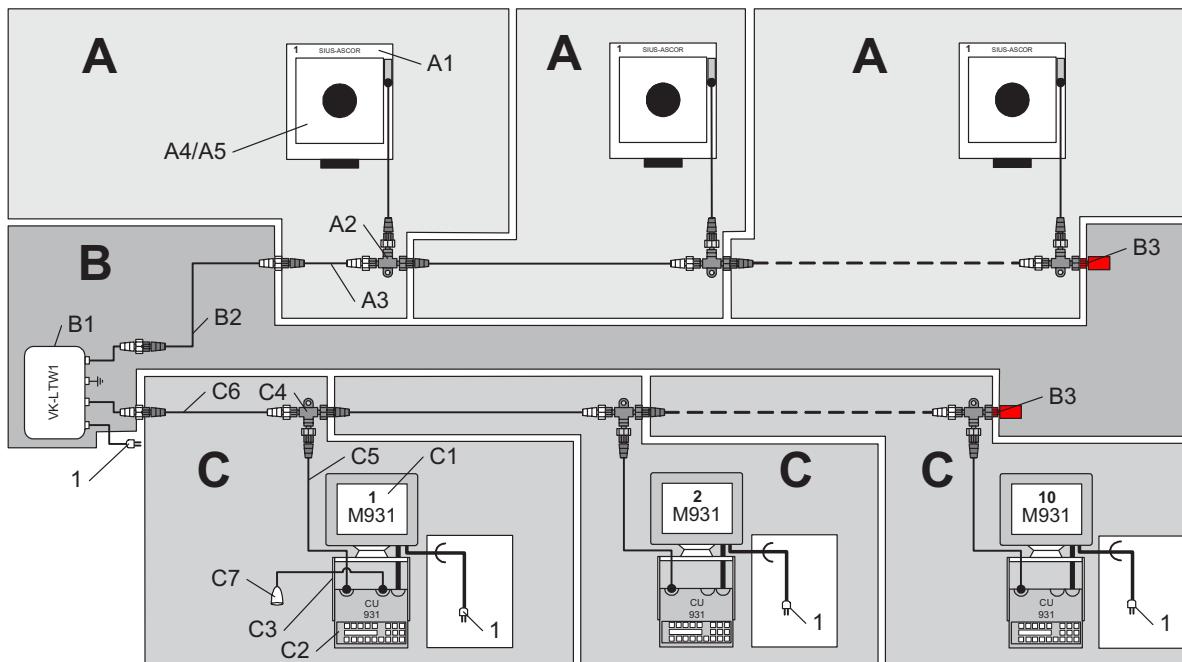


Pos.	Article No.	Pcs.	Description	Chapter
A	S25/50-LTW-SET	1	Target set S25/50 LTW	
A1	S25/50-LON	1	25 or 50m target	2.3.2
A2	KL001-T	1	T-Adaptor fem, fem, male LTW IP67	3.2.4
A3	KL001-2.0	1	Cable LTW m – f 2.0m plug, black	3.2.6
A4	S50A031	1	ISSF precision pistol target front mask	2.3.4.1
A5	S50A033	1	ISSF rapid fire pistol target front mask	2.3.4.1
B	25M-LTW-SET	1	Cable and power supply set for 25m LTW	3.2.1.1
B1	VK-LTW1V0	1	Power supply for 10 lines 60 W with LTW 230V	3.2.2
B2	KL001-40.0	1	Cable LTW m – f 40.0m plug, black	3.2.6
B3	KL001-R	2	Terminating resistor, red, male LTW IP67	3.2.5
C	FP931-LTW-SET	1	Firing point set LTW	3.1.1
C1	M931	1	Monitor 9" VGA RAL 6003 / with Logo	3.1.3
C2	CU931V0	1	Control unit	3.1.2
C3	HST931	1	Monitor holder for CU931, small	3.1.8.1

Pos.	Article No.	Pcs.	Description	Chapter
C4	KL001-T	1	T-Adaptor fem, fem, male LTW IP67	3.2.4
C5	KL003-2.0	1	Cable LTW m RJ45 2.0m	3.2.7
C6	KL001-2.0	1	Cable LTW m – f 2.0m plug, black	3.2.6
C7	RC-ZOOM	1	Remote control for SA931 zoom	3.1.12
1	Reference		Country-specific power supply cable, 2m	3.2.10

2.3.1.2 Installation overview S25/50-LON 50m

The installation is divided into 3 sets: a target set (A), a cable and power supply set (B) and a firing point set (C). Each lane requires a target set (A) and a firing point set (C). The cable and power supply set (B) is designed for a maximum of 10 lanes. In addition, power supply cables are required (connecting cable: device to country-specific plug) (Pos. 1). The only difference between this installation and the installation over 25m is the length of the cables from the firing point to the target (Pos. B2). The division looks as follows:



Pos.	Article No.	Pcs.	Description	Chapter
A	S25/50-LTW-SET	1	Target set S25/50 LTW	
A1	S25/50-LON	1	25 or 50m target	2.3.2
A2	KL001-T	1	T-Adaptor fem, fem, male LTW IP67	3.2.4
A3	KL001-2.0	1	Cable LTW m – f 2.0m plug, black	3.2.6
A4	S50A031	1	ISSF precision pistol target front mask	2.3.4.1
A5	S50A033	1	ISSF rapid fire pistol target front mask	2.3.4.1
B	50M-LTW-SET	1	Cable and power supply set for 50m LTW	3.2.1.1
B1	VK-LTW1V0	1	Power supply for 10 lines 60 W with LTW 230V	3.2.2
B2	KL001-65.0	1	Cable LTW m – f 65.0m plug, black	3.2.6
B3	KL001-R	2	Terminating resistor, red, male LTW IP67	3.2.5
C	FP931-LTW-SET	1	Firing point set LTW	3.1.1
C1	M931	1	Monitor 9" VGA RAL 6003 / with logo	3.1.3
C2	CU931V0	1	Control unit	3.1.2
C3	HST931	1	Monitor holder for CU931, small	3.1.8.1
C4	KL001-T	1	T-Adaptor fem, fem, male LTW IP67	3.2.4
C5	KL003-2.0	1	Cable LTW m RJ45 2.0m	3.2.7
C6	KL001-2.0	1	Cable LTW m – f 2.0m plug, black	3.2.6
C7	RC-ZOOM	1	Remote control for SA931 zoom	3.1.12

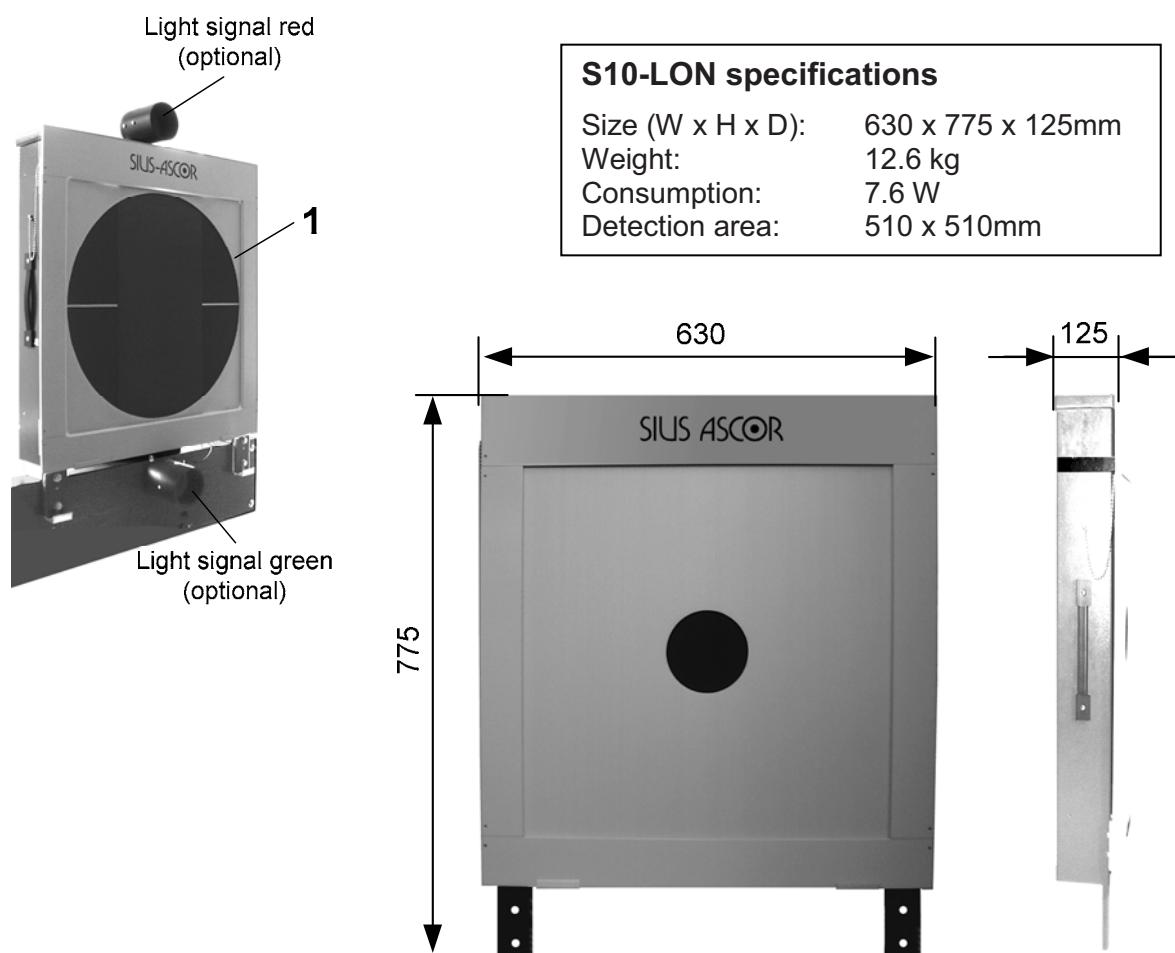
Pos.	Article No.	Pcs.	Description	Chapter
1	Reference		Country-specific power supply cable, 2m	3.2.10

2.3.2 Target S25/50-LON for small bore rifle / pistol

The target S25/50-LON is designed for all **lead** ammunition or **small bore** pistols and rifles for distances of either 25 or 50m. The same targets are used for both distances. For the pistol disciplines of 25m, the target boards are additionally equipped with red/green light signals and the installation has the time control unit control set (*Chapter 4.1 Additional light signals*).

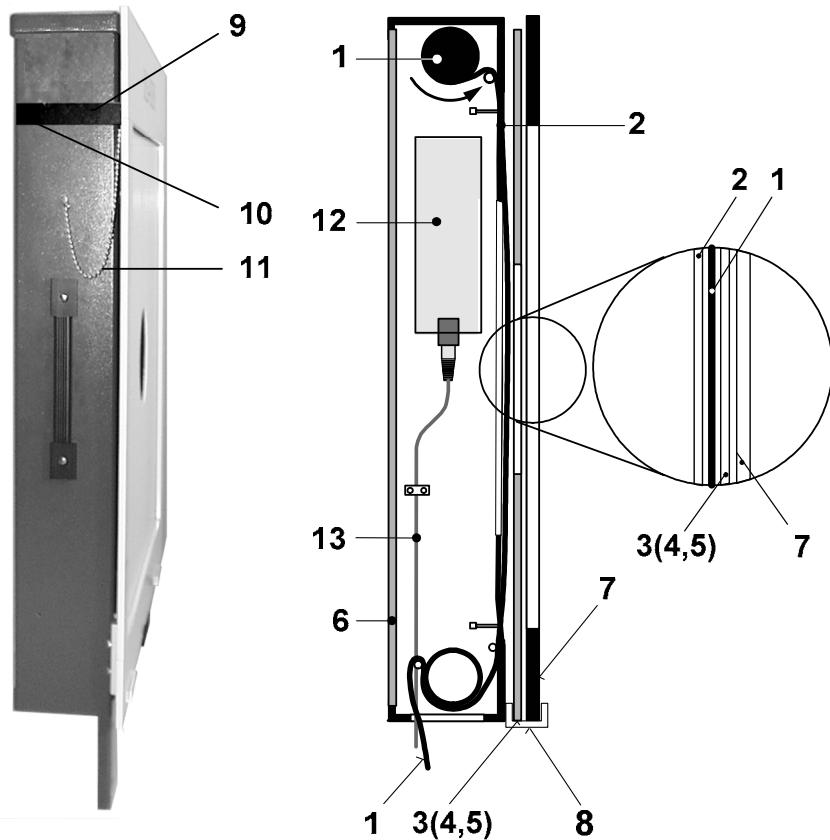
The four-microphone detection system guarantees the highest precision in the evaluation of the scoring position. This target has therefore been used for numerous European, World and Continental competitions as well as for several Olympic Games.

Equipped with a reinforced front frame (*Chapter 2.3.4.5 Reinforced front frame for large calibre ammunition*) and a corresponding bullet trap, the S25/50-LON can also be used for big bore **steel shell projectiles** (e.g. Parabellum 9mm).



Pos.	Article No.	Description	Rem.
1	S25/50-LON	25 or 50m target	

2.3.3 Structure of the S25/50-LON



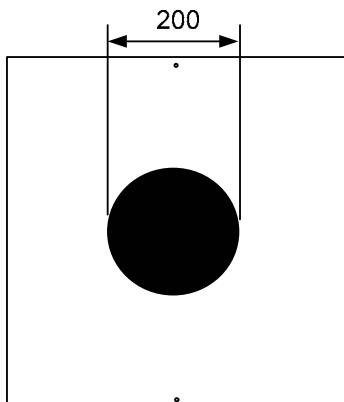
Pos.	Article No.	Description	Rem.
1	S50D001	Consumable rubber strip rolled with catch, 5.5m	
2	S50D008	Rubber membrane with white aiming line	
3	S50A030	ISSF small bore rifle target front mask	2.3.4.1 (installed)
4	S50A031	ISSF precision pistol target front mask	2.3.4.1 (optional)
5	S50A033	ISSF rapid fire pistol target front mask	2.3.4.1 (optional)
6	S50A038	Backing target S25/50	
7	S25/50D012	Aluminium front frame for small bore weapons	
8	S50A006	Reinforced front frame holder	(2 required)
9	S25/50A012	Fixed velour fleece strip, black (to fix reinforced front frame)	
10	S25/50A011	Fixed velour bubble type strip, black (to fix target)	
11	S50A037	Bullet chain ø3.6mm, 14cm	
12	LMEB001V1	Print LON measurement electronics for S25/50	
13	KL003-2.0	Cable LTW m – RJ45,2.0m	3.2.7

2.3.4 Accessories for S25/50-LON

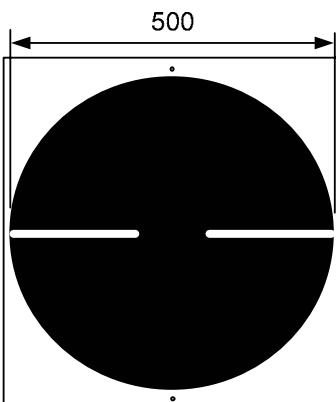
2.3.4.1 Target front masks

Various target front masks are available for the S25/50-LON electronic measurement target depending on the use of the front mask or the discipline being shot:

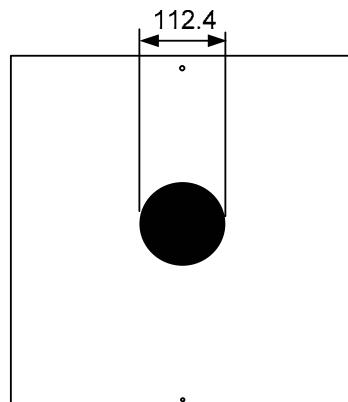
1. ISSF precision pistol target front mask 25/50m



2. ISSF rapid fire pistol target front mask 25m



3. ISSF small bore rifle target front mask 50m



Pos.	Article No.	Description	Rem.
1	S50A031	ISSF precision pistol target front mask ø 200mm	
2	S50A033	ISSF rapid fire pistol target front mask ø 500mm	
3	S50A030	ISSF SB rifle target front mask ø 112.4mm	

2.3.4.2 Target holders

Various target holders and holder-sets make various types of fixing possible for the S25/50 targets and the reinforced front frames PPS10.

When selecting the holders, care must be taken that holder and carrier are acoustically separated from each other.

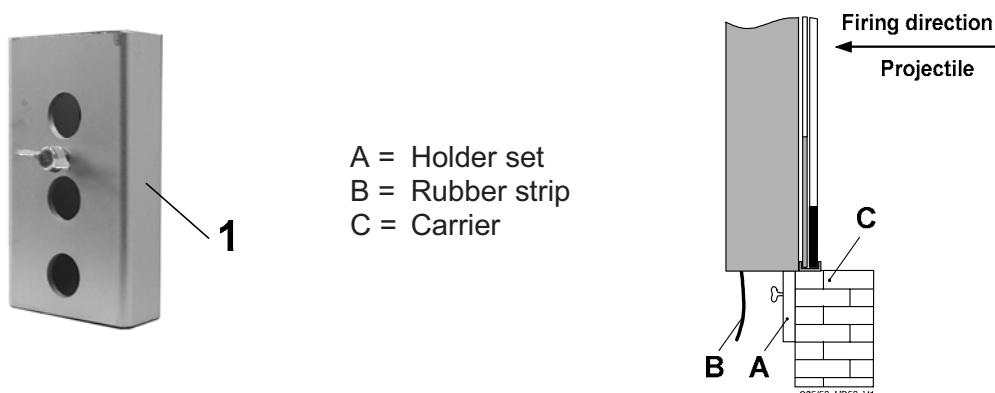
The articles listed in the sets are also available separately.

2.3.4.2.1 Target holder for installation on a carrier

The holder-set HS50D002 is suitable for installation of the target on a carrier. The rubber strip can exit behind the carrier without hindrance.

In the case that carrier and holder are not separated acoustically, the holder HS50D001 (*Chapter 2.3.4.2.3 Target holder for installation on the back of a carrier*) must be used.

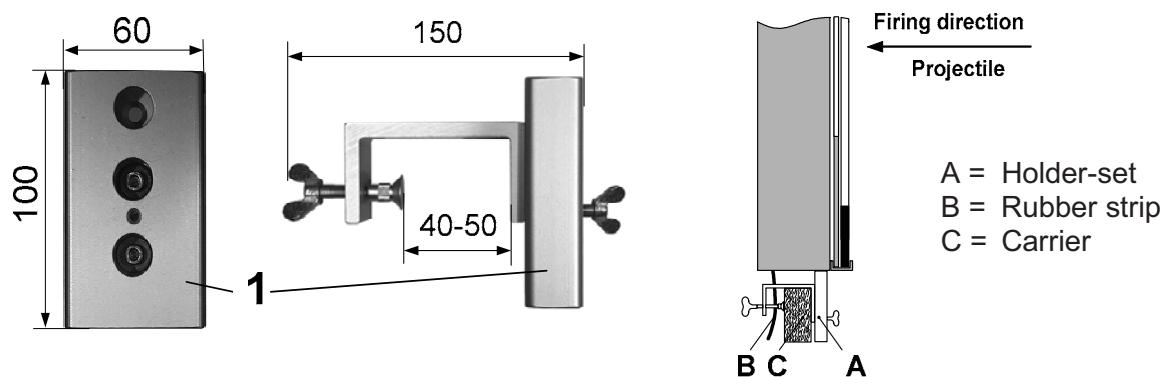
The set contains all parts for the installation of a target, including erection bolts.



Pos.	Article No.	Description	Rem.
1	HS50D002	S25/50 target holder-set, carrier installation	

2.3.4.2.2 Target holder for board installation

The holder-set HS50D003 is suitable for the installation of targets on a carrier beam or a board with a thickness of 40-50mm. The set contains all parts for the installation of a target.

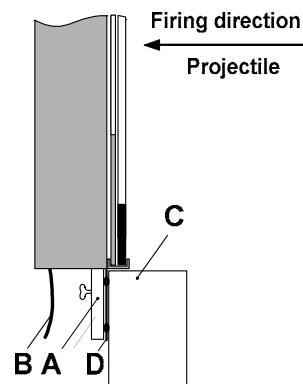
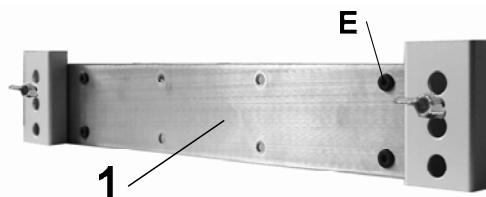


Pos.	Article No.	Description	Rem.
1	HS25	S25/50 target holder-set, board installation	

2.3.4.2.3 Target holder for installation on the back of a carrier

The holder-set HS50D001 is suitable for the installation of the target on the back of a carrier. The rubber joints of the mounting plate prevent the transmission of the noise onto the neighbouring targets, which means that this holder is also suitable for installation on steel and concrete. The set contains all parts for the installation of a target.

- A = Target support
- B = Rubber strip
- C = Carrier
- D = Mounting plate
- E = Rubber joint

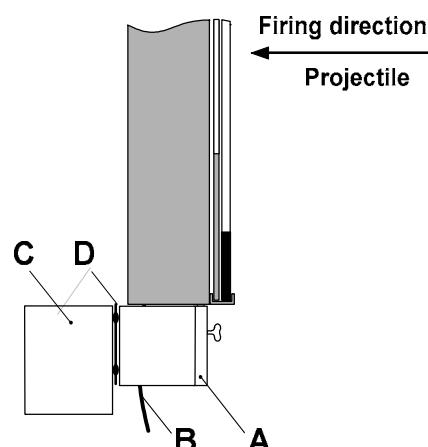
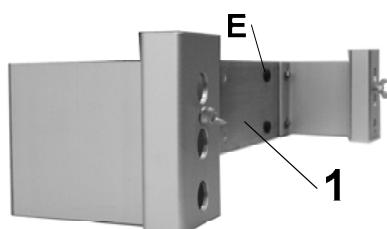


Pos.	Article No.	Description	Rem.
1	HS50D001	Target holder-set inst. on the back of a carrier	

2.3.4.2.4 Target holder for installation in front of a carrier

The holder-set HS50 is suitable for installation of the target at the front of a carrier. The distance profile ensures a free run of the rubber strips. The rubber joints of the mounting plate prevent the transmission of the noise onto the neighbouring targets. The set contains all parts for the installation of a target.

- A = Target support
- B = Rubber strip
- C = Carrier
- D = Mounting plate
- E = Rubber joints



Pos.	Article No.	Description	Rem.
1	HS50	S25/50 target holder-set in front of a carrier	

2.3.4.3 Multi-target holder 4.9m / 3.8m

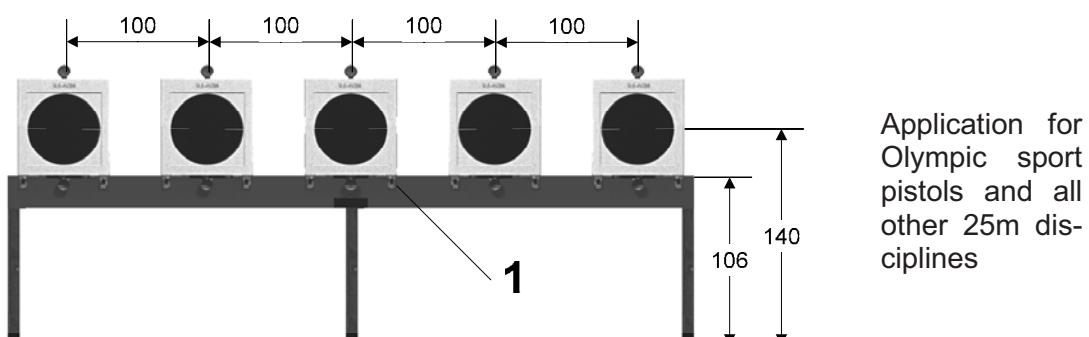
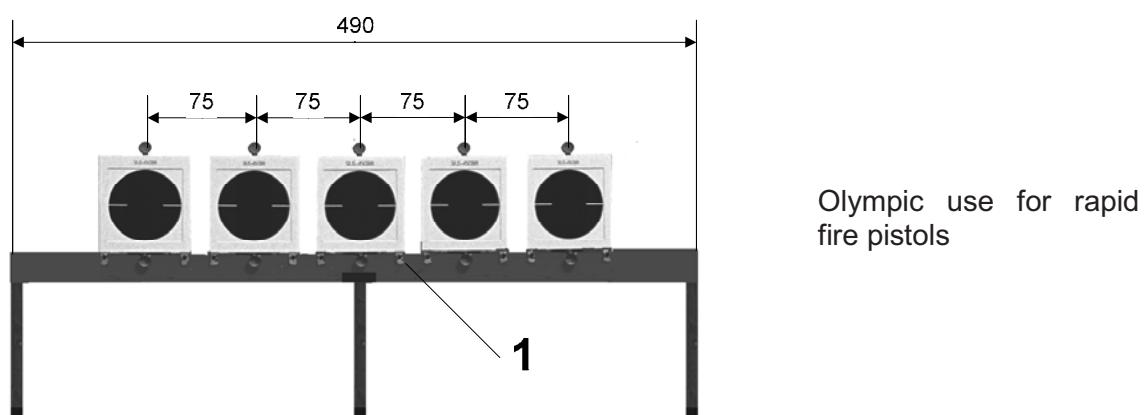
The targets S25/50 can be mounted on the multi-target holders MSH25L and MSH25. The two holders differ in their erection width (480 or 380cm).

The erection of the individual targets is carried out with the aid of the target holder HS25 (*Chapter 2.3.4.2.2 Target holder for board installation*).

The targets can be displaced along the board.

2.3.4.3.1 Multi-target holder MSH25L

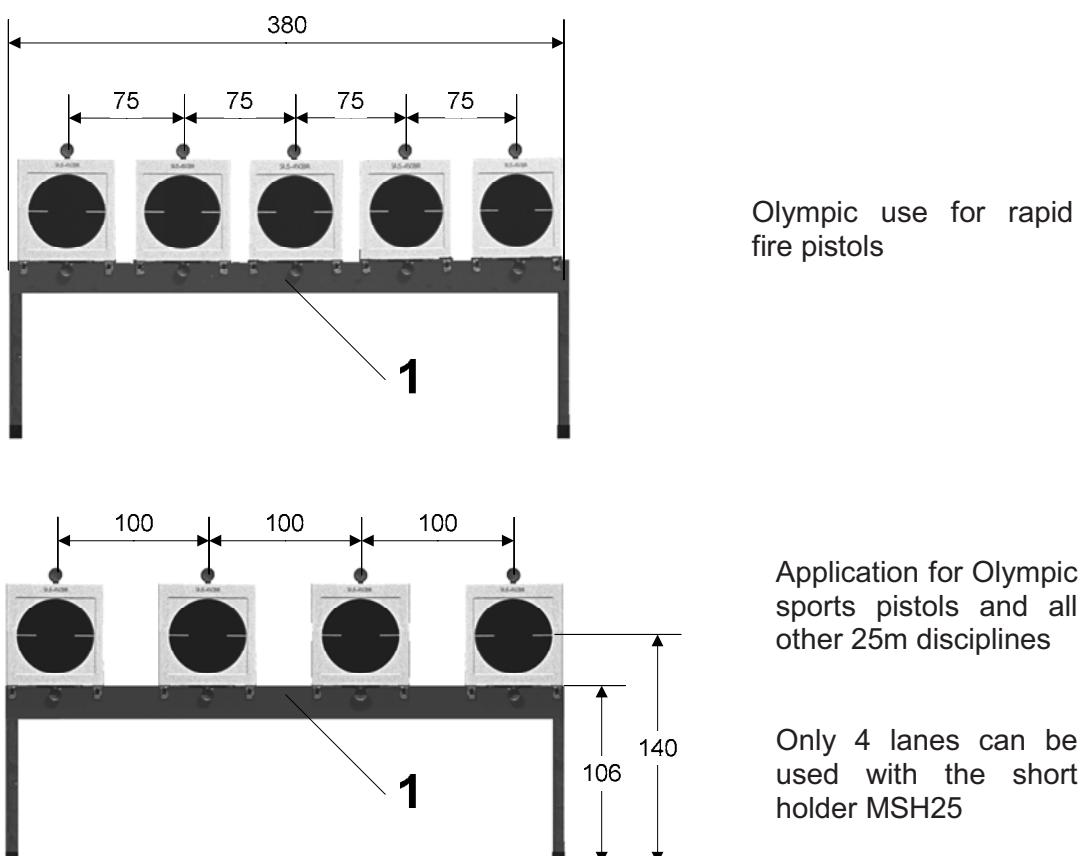
The holder MSH25L is suitable for Olympic Rapid Fire as well as for all other 25m pistol disciplines. In contrast to the multi-target holder MSH25, five targets can be mounted on this holder for every regulated discipline. For this reason we recommend using the multi-target holder MSH25L wherever possible.



Pos.	Article No.	Description	Rem.
1	MSH25L	Multi-target holder for CISM and sport pistols	

2.3.4.3.2 Multi-target holder MSH25

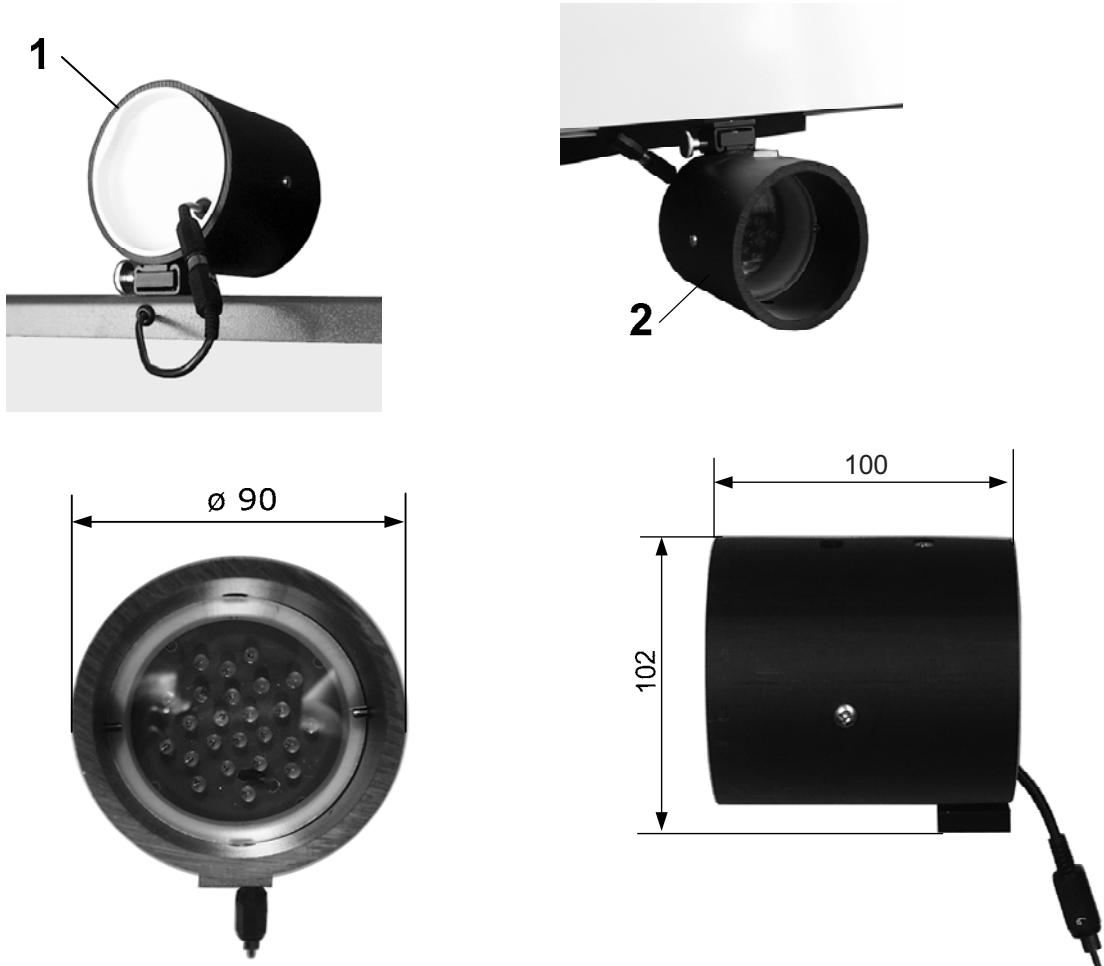
The multi-target holder MSH25 has been specially developed for Olympic Rapid Fire in which 5 targets are mounted and the distance from target centre to target centre must be 75cm. Except for Olympic Rapid Fire, one target must be removed for all 25m disciplines for which the ISSF regulations stipulate a distance of 100cm. In order that the conversion between the various disciplines can be carried out with the least possible difficulty and that all 5 targets can be used, we particularly recommend the use of the multi-target holder MSH25L for new installations. The short multi-target holder MSH25 should only be used when the use of the longer multi-target holder MSH25L is not possible because of construction circumstances.



Pos.	Article No.	Description	Rem.
1	MSH25	Multi-target holder for Olympic Rapid Fire pistols	

2.3.4.4 Light signals

The targets S25/50-LON are prepared for the installation of red/green light signals, as used for 25m disciplines. All cables are installed, the signals can be pushed into the prepared holders and the cables plugged in. The time control unit set TCU25-LTW-Set (*Chapter 4.1 Additional light signals*) is required for controlling the light signals.



Pos.	Article No.	Description	Rem.
1	RFP25D004	Light signal RED, (top)	
2	RFP25D005	Light signal GREEN, (bottom)	

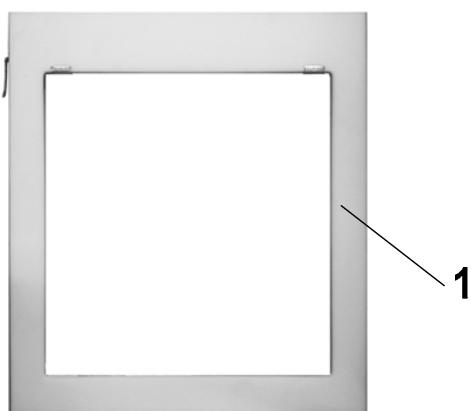
2.3.4.5 Reinforced front frame for large calibre ammunition

A reinforced front frame is necessary for the impact of the S25/50-LON with steel shell and big bore projectiles (up to a maximum of 600 Joules) and this must prevent ricochets and also protect the target. The following two models are available:

2.3.4.5.1 Reinforced front frame without integrated light signals

The impact protection consists of a steel frame as protection for the target and a high molecular thermoplastic shield as ricochet protection.

The reinforced front frame can be installed very simply in place of the aluminium frame.

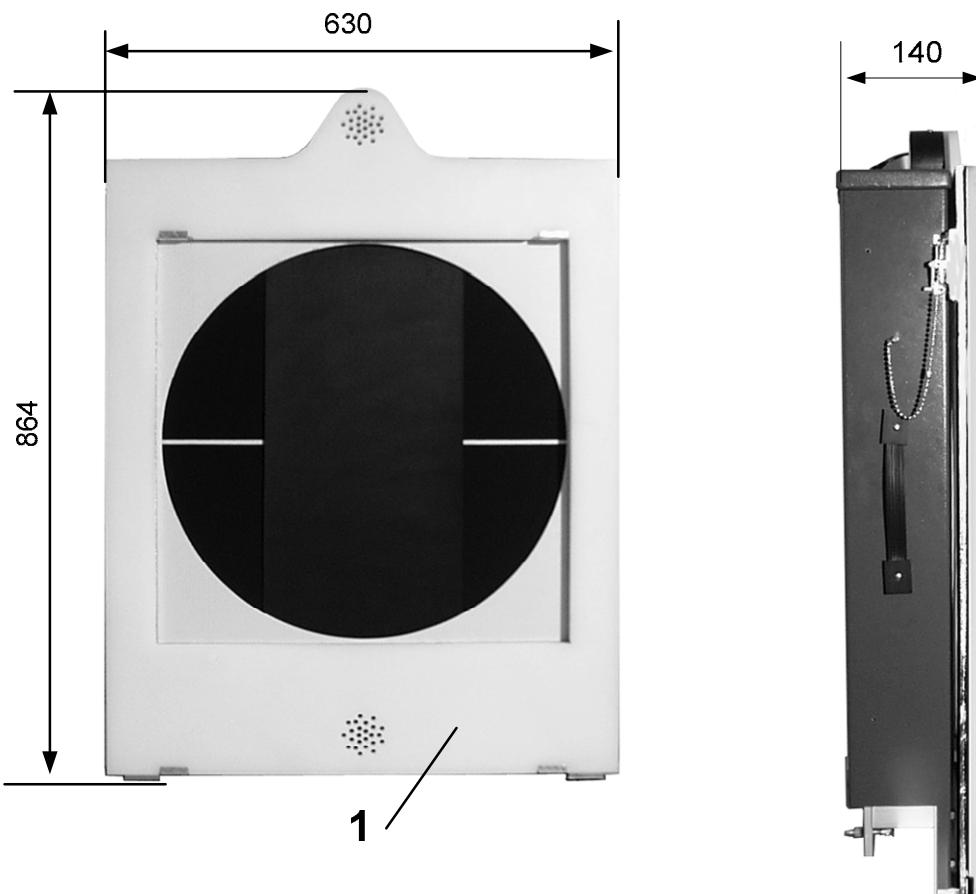


The reinforced front frame must not be used with wad cutter ammunition as there is a danger that the projectile can rebound.

Pos.	Article No.	Description	Rem.
1	S50D011	Reinforced front frame without S25/50 light signals	

2.3.4.5.2 Reinforced front frame with integrated light signal installation

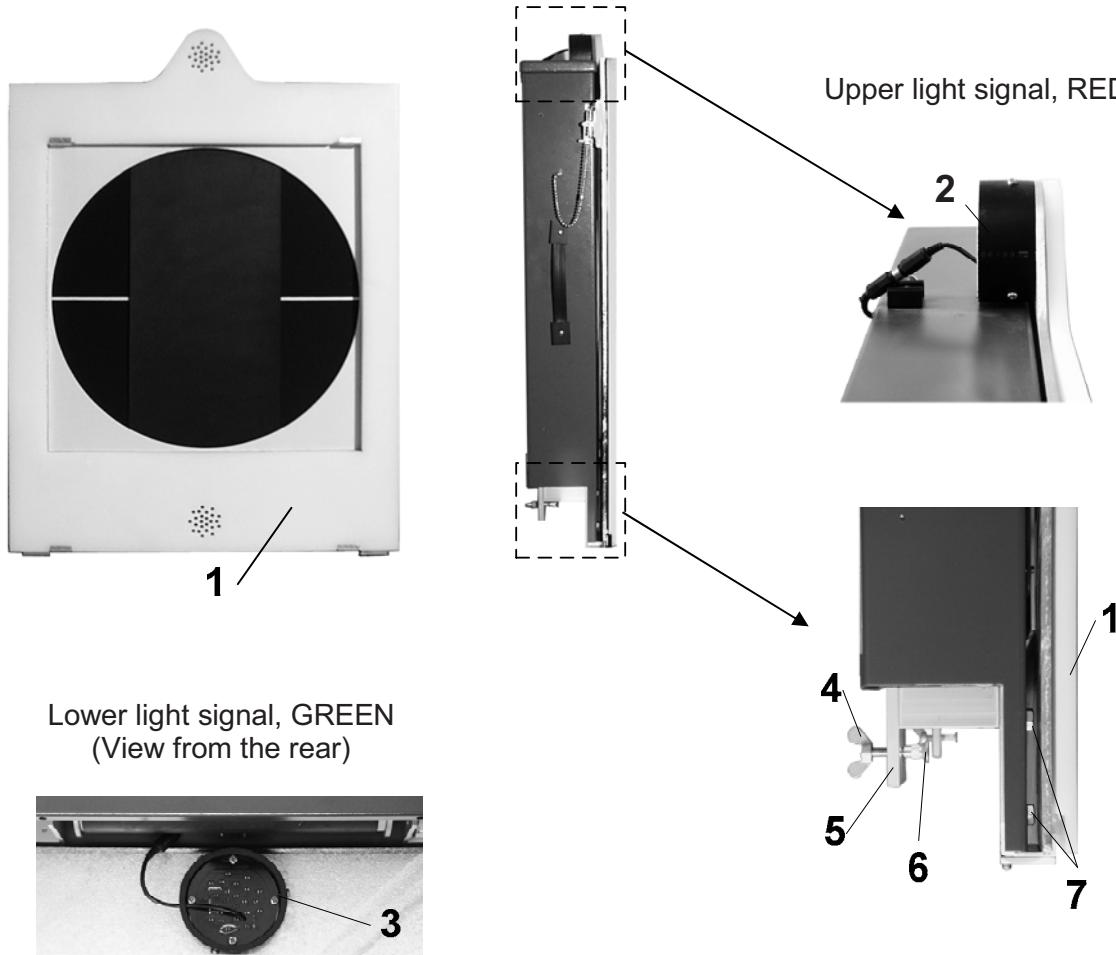
The reinforced front frame P25/50 consists of a steel frame with a high molecular thermoplastic shield as ricochet protection placed over it. The red/green light signals are protected and installed behind the frame. They are supplied together with the target holders and the reinforced front frame.



The reinforced front frame must not be used with wad cutter ammunition as there is a danger that the projectile can rebound.

Pos.	Article No.	Description	Rem.
1	PS25/50	Reinforced front frame with light signal installation	

2.3.4.5.3 Consumable and replacement supplies

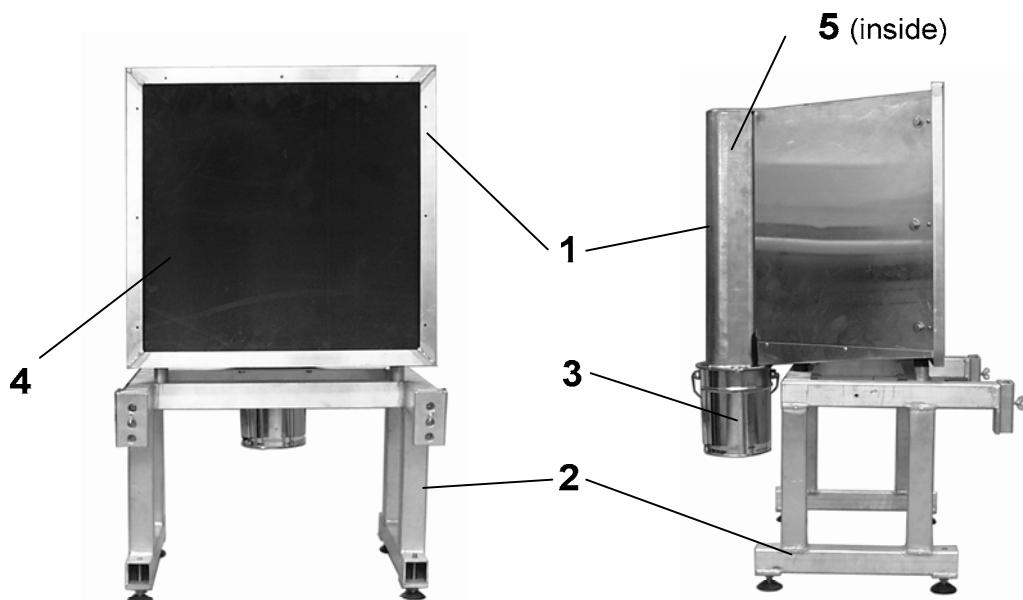


Pos.	Article No.	Description	Rem.
1	PS25/50A008	PE frame shield	
2	PS25/50D003	LED-print for upper light signal PS25/50 (red)	
3	PS25/50D004	LED-print for lower light signal PS25/50 (green)	
4	AMSFL06X35	Wing screw for target holder M6x35	
5	PS25/50A002	Rear holder	
6	AMA089	Thread caps to wing screw M6	
7	AMS6-08X16	Hexagonal socket screws M8x16	

2.3.4.6 S25/50-LON bullet trap for small calibre bullets

A special bullet trap has been developed for small bore weapons. This allows bullets to be caught in a very simple manner.

The bullet trap comprises a stand on which the bullet trap and the target are mounted.



Pos.	Article No.	Description	Rem.
1	KFS50	Bullet trap for target S50/RFP25	
2	KS50	Combined stand for target S50	

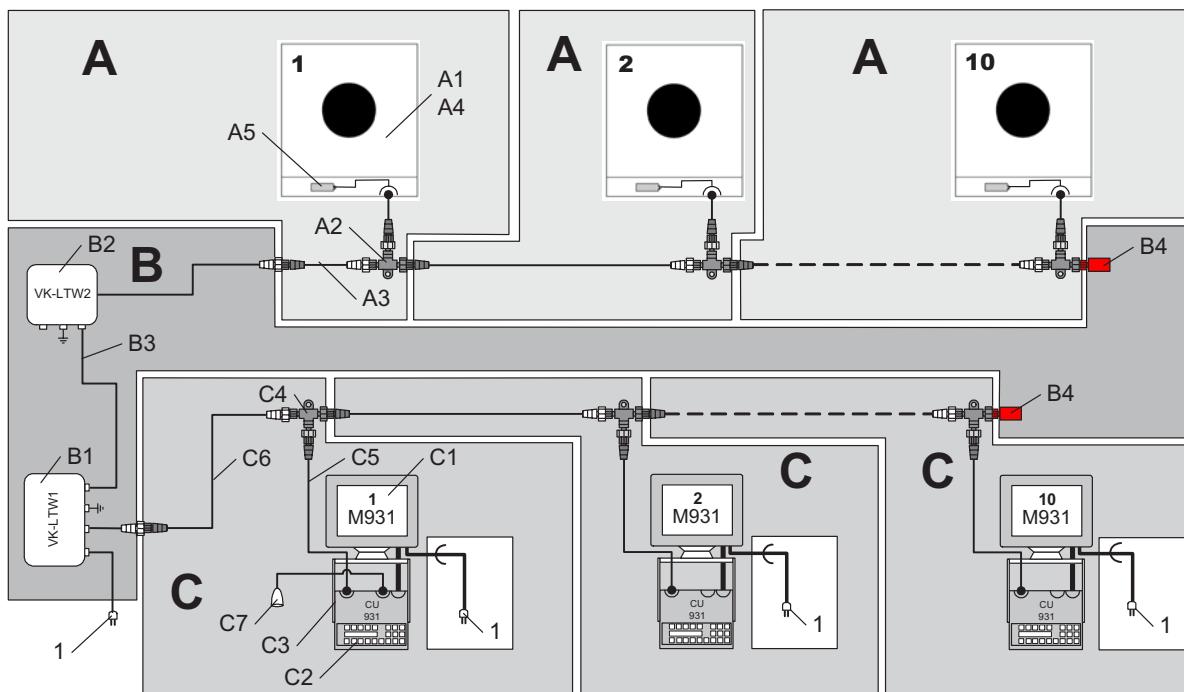
2.3.4.6.1 Consumables for bullet trap for small calibre bullets

Pos.	Article No.	Description	Rem.
3	AMA173	Galvanized bullet bucket ø160 / 148 x 195mm	
4	KFS50A009	Sound absorber plate 586 x 566 x 8mm	
5	KFS50D001	Pre-installed deflector	

2.4 Big bore rifle installations 100m, S110-LON

2.4.1 Installation overview S110-LON 100m

The installation is divided into 3 sets: a target set (A), a cable and power supply set (B) and a firing point set (C). Each lane requires a target set (A) and a firing point set (C). The cable and power supply set (B) is designed for a maximum of 10 lanes. In addition, power supply cables are required (connecting cable: device to country-specific plug) (Pos. 1). The division looks as follows:



Pos.	Article No.	Pcs.	Description	Chapter
A	S110-LTW-SET	1	Target set S110 LTW	
A1	S110-LON	1	S110 main target with LON measurement bar	2.4.2
A2	KL001-T	1	T-Adaptor fem, fem, male LTW IP67	3.2.4
A3	KL001-2.0	1	Cable LTW m – f 2.0m plug, black	3.2.6
A4	S100ANOR7	1	S100/S110 A front frame with bulls eye ø 24cm	2.4.4.1
A5	LMEB001V2	1	Print LON measurement electronics for S110	2.4.2.1
B	100M-LTW-SET	1	Cable and power supply set for 100m LTW	3.2.1.2
B1	VK-LTW1V0	1	Power supply for 10 lines 60W with LTW 230V	3.2.2
B2	VK-LTW2	1	Distribution box 2 LTW / light signal	3.2.3
B3	KV020-120	1	Cable firing point – target, 120m	3.2.8
B4	KL001-R	2	Terminating resistor, red, male LTW IP67	3.2.5
C	FP931-LTW-SET	1	Firing point set LTW	3.1.1
C1	M931	1	Monitor 9" VGA RAL 6003 / with logo	3.1.3
C2	CU931V0	1	Control unit	3.1.2
C3	HST931	1	Monitor holder for CU931, small	3.1.8.1
C4	KL001-T	1	T-Adaptor fem, fem, male LTW IP67	3.2.4
C5	KL003-2.0	1	Cable LTW m – RJ45 2.0m	3.2.7
C6	KL001-2.0	1	Cable LTW m – f 2.0m plug, black	3.2.6

Pos.	Article No.	Pcs.	Description	Chapter
C7	RC-ZOOM	1	Remote control for SA931 zoom	3.1.12
1	Reference		Country-specific power supply cable, 2m	3.2.10

2.4.2 Target S110-LON (replacement for S25/50-LON or S310-LON)

The measurement system for this target is fixed at the bottom in the protected region and thus ensures a high degree of operating safety and a long life. There are no measurement elements in the shooting field.

This target is used mostly as a replacement for the S25/50-LON and S310-LON targets. It is suitable for pistols for 20-50m or for big bore rifles from 50m.

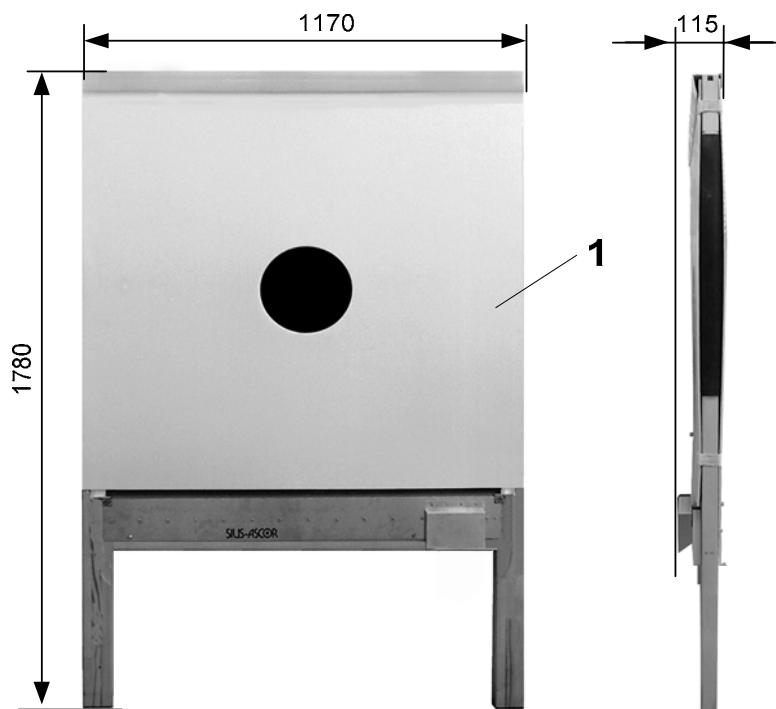
- **Replacement for target S25/S50-LON:** This may be necessary because the detection system is to be situated in the lower protected area and thus does not need an impact frame. In addition, the target has a larger target area of a maximum 1000 x 1000mm.
- **Replacement for target S310-LON:** This is used when space in the target place does not allow the installation of the S310-LON.

!Caution!

The LON measurement electronics (2.4.2.1 LON measurement electronics) and the front frame (2.4.4 Accessories for S110-LON) must be ordered separately.

S110-LON specifications

Size (W x H x D):	1170 x 1780 x 115mm
Weight:	27.2 kg
Consumption:	7.6 W
Detection surface:	1000 x 1000mm



Pos.	Article No.	Description	Rem.
1	S110-LON	S110 main target with LON meas. bar	w/o LON meas. el.

2.4.2.1 LON measurement electronics for S110-LON

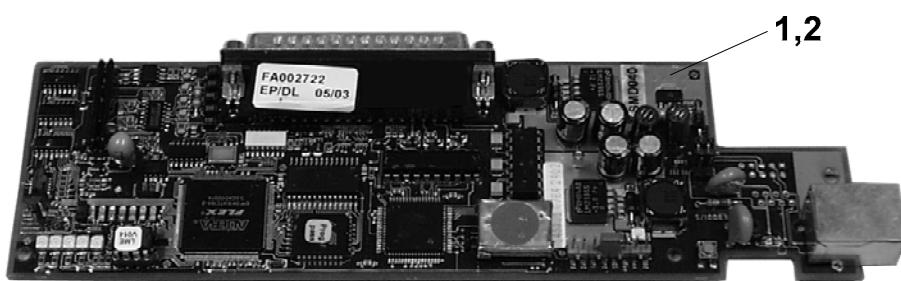
The LON measurement electronics evaluates the signals transmitted by the microphone and sends the information over the LON network to the control unit CU931. The measurement electronics are inserted in the lower area of the target. The correct variant must be selected depending on the type of weapon (calibre) and ammunition.

The variant Pos. 1 is used for small bore rifles and pistols.

The LON measurement electronics Pos. 2 must be used in the case where shooting also takes place with big bore rifles. In this case the use of pistols is not possible.

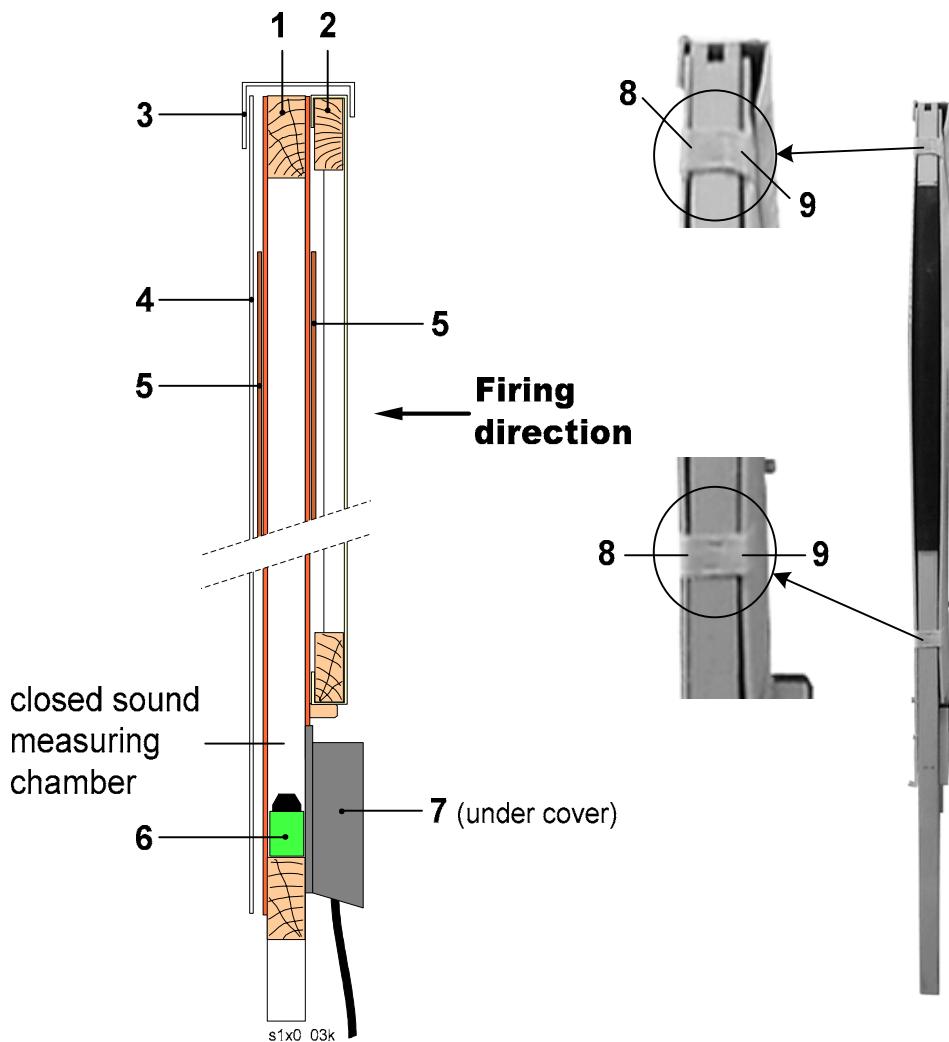
The mixed use of the variants on neighbouring targets is not possible because of the interference partitions.

We are happy to be of assistance for any queries.



Pos.	Article No.	Description	Rem.
1	LMEB001V2	Print LON measurement electronics S110 SB rifle / BB pistol	
2	LMEB001V4	Print LON-measurement electronics S110 SB / BB rifle	

2.4.3 Structure of the S110-LON



Pos.	Article No.	Description	Rem.
1	S110H	S110 main target w/o LON measurement bar	
2	Reference	Various front frames and target front masks	2.4.4 order separately
3	S100HA009	Rain protection	
4	S100AA011	Backing target	
5	S110HA006	Endless rubber band	
6	MS100-LON	LON measurement bar 1m	
7	Reference	Print LON measurement electronics	2.4.2.1 order separately
8	AMA021/9	Fixed velour fleece strip 9cm, main frame	
9	AMA023/16	Fixed velour bubble type strip 16cm, front frame	

The endless rubber band (Pos. 5) is pulled up if required e.g. when the centre is so shot away that the target covering can no longer form a closed chamber.

2.4.3.1 Repair material for target covering

Larger holes in the target covering arise from ricochets for example. They can cause incorrect measurements and must therefore be closed up. Repair material is available for this purpose.



1



2



3



4

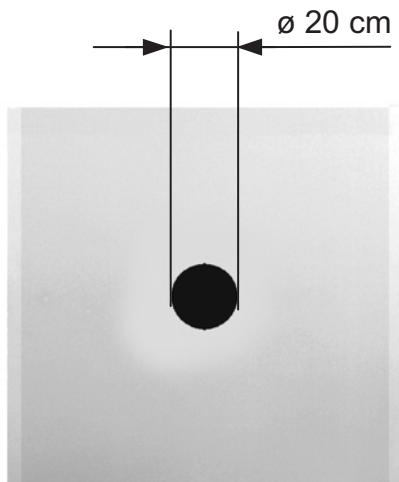
Pos.	Article No.	Description	Rem.
1	URE200ACT	Acetone 200ml	
2	URE-ELIX-CLEAN	Cleaning cloth	
3	UK20CA15G	Special glue CA15G 20g	
4	USX10QF	Ricochet repair patch (set of 10)	

2.4.4 Accessories for S110-LON

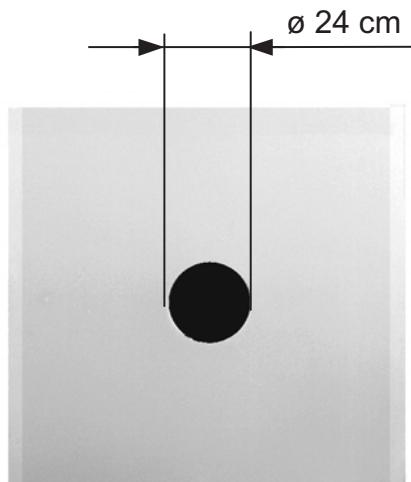
2.4.4.1 Front frame with circular target pictures (A targets)

For circular target pictures (A targets), front frames are used which are covered with top foil. These front frames are mounted on the main target with Velcro fastener.

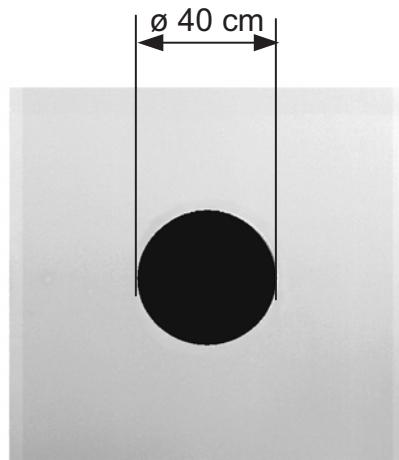
1. Front frame, bulls eye ø 20cm



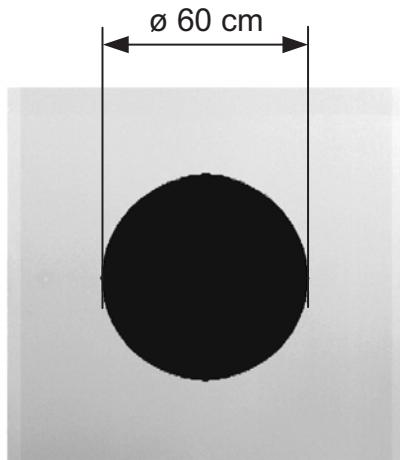
2. Front frame, bulls eye ø 24cm



3. Front frame, bulls eye ø 40cm



4. Front frame, bulls eye ø 60cm



Pos.	Article No.	Description	Rem.
1	S100A	Front frame S100, bulls eye ø 20cm	
2	S100ANOR7	Front frame S100, bulls eye ø 24cm	
3	S100ANOR8	Front frame S100, bulls eye ø 40cm	
4	S100ANOR9	Front frame S100, bulls eye ø 60cm	

2.4.4.2 Target front masks with hunting pictures

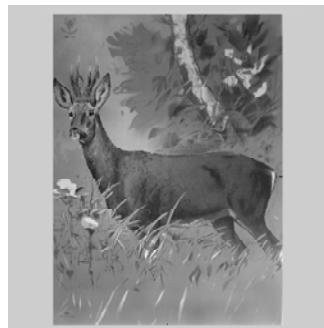
Polyethylene plates, on which can be printed better and more accurately, are used for hunting targets. The hunting targets chamois, roebuck, fox and wild boar can also be used on the target S310 with the aid of an adaptor plate.

The target front masks are mounted on the main target with Velcro fastener.

1. Chamois DJV4



2. Roebuck DJV1



3. Fox DJV3



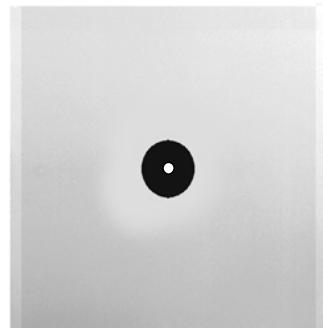
4. Wild boar DJV5



5. Reindeer DV-1, Norway



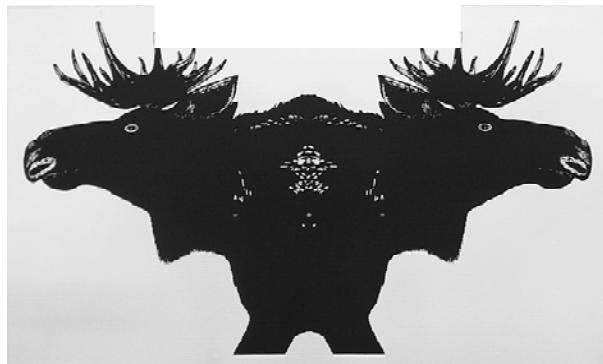
6. Calibrating target TS



7. Single elk, left



8. Elk DV-21, Norway



Pos.	Article No.	Description	Rem.
1	S100AA007V1	Target front mask, chamois DJV4, with ring div.	
2	S100AA008V1	Target front mask, buck DJV1, with ring divisions	
3	S100AA009V1	Target front mask, fox DJV3, with ring divisions	
4	S100AA010V1	Target front mask, boar DJV5, left, with ring div.	
5	S100AA012	Target front mask, reindeer DV-1, Norway	
6	S100AA016	Calibrating target for telescopic sight	
7	S100AA018	Target front mask, single elk, left	
8	S100AA013	Target front mask, elk DV-21, Norway	

2.4.4.3 Consumable and replacement supplies for target front masks

Worn-out target centres are covered with centre patches. Centre patches with ring divisions are used for DJV hunting pictures.

Examples of use:

Fox DJV3



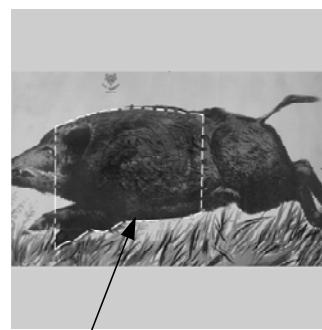
1. Centre patch fox

Roebuck DJV1



2. Centre patch roebuck

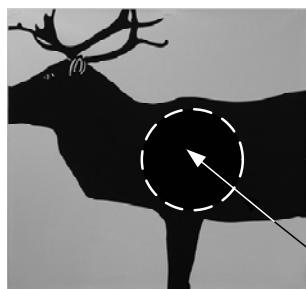
Wild boar DJV5



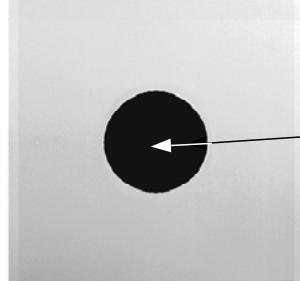
3. Centre patch wild boar (contoured)

The circular centre patches ø 20, 24, 40 and 60cm are used for repairing target centres of the A targets and the black hunting target pictures without ring divisions (elk DV-21, reindeer DV-1).

Reindeer DV-1



Circular target pictures



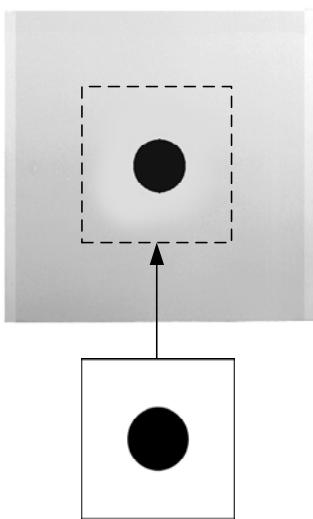
Elk DV-21, Norway



Centre patch
Pos. 5 = ø 20 cm
Pos. 6 = ø 24 cm
Pos. 7 = ø 40 cm
Pos. 8 = ø 60 cm

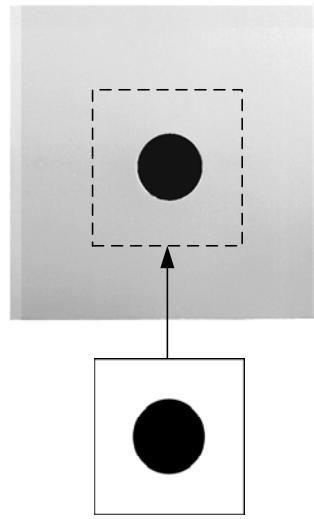
For strongly worn-out centres, target patches of quadratic top foil 50cm x 50cm are available so that the neighbouring parts affected by the holes can also be covered. A special centre patch 30 x 30cm is available for the calibration of the telescopic sights. It is usually glued on an A front frame.

A front frame ø 20 cm



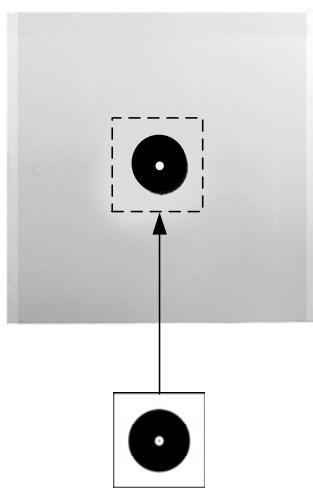
9. Centre patch ø 20 cm

A front frame ø 24 cm



10. Centre patch ø 24 cm

A front frame ø 20/24 cm



11. Calibrating patch for telescopic sight



12. Top foil glue, 0.5 kg



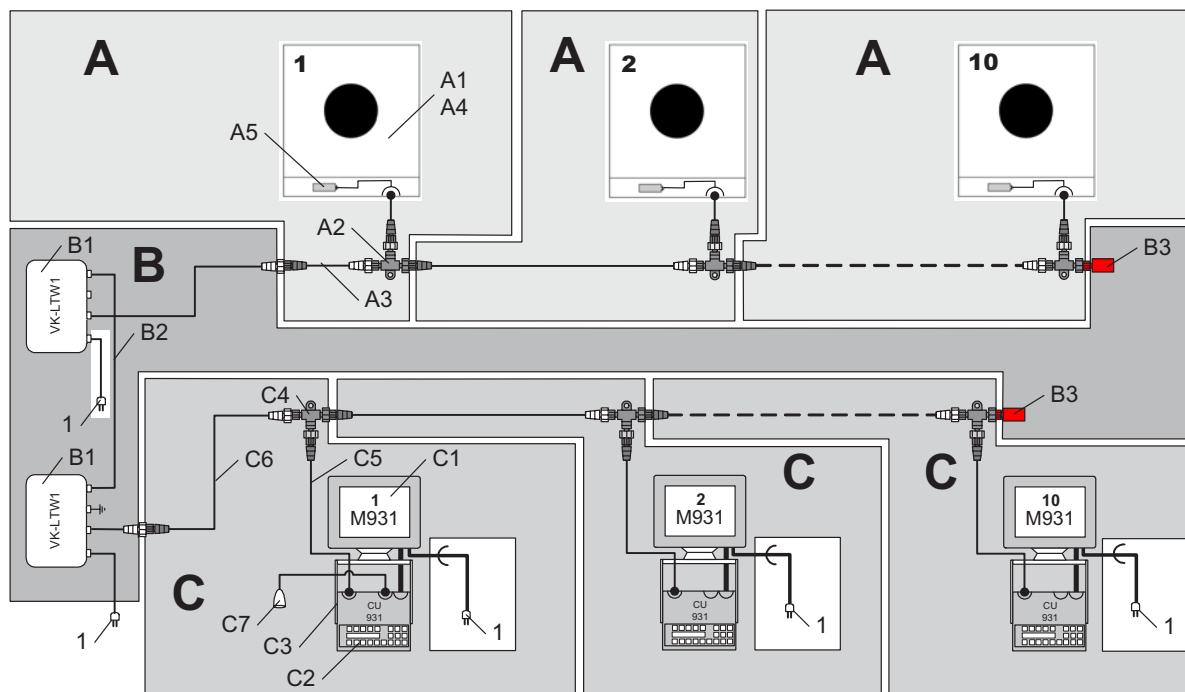
13. Top foil glue, 1.0 kg

Pos.	Article No.	Description	Rem.
1	S150JVFA005	Centre patch, fox, with ring divisions	30 x 30cm
2	S150JVBA007	Centre patch, roebuck, with ring divisions	30 x 30cm
3	S150JVKA011	Centre patch, boar, left, with ring divisions	Contoured
4	S150JVGA007	Centre patch, chamois, with ring divisions	30 x 30cm
5	S150AA015	Bulls eye PVC, ø 20cm	
6	S100AA015	Bulls eye PVC, ø 24cm	
7	S150AA008	Bulls eye PVC, ø 40cm	
8	S150AA009	Bulls eye PVC, ø 60cm	
9	S100D001	Bully eye on top foil, ø 20cm	50 x 50cm
10	S100AA019	Bully eye on top foil, ø 24cm	50 x 50cm
11	S150JVZA001	Calibrating patch on top foil, ø 20cm	30 x 30cm
12	UK0.5PVC	Top foil glue	0.5 kg
13	UK1PVC	Top foil glue	1 kg

2.5 Big bore rifle installations 300m, S310-LON

2.5.1 Installation overview S310-LON 300m

The installation is divided into 3 sets: a target set (A), a cable and power supply set (B) and a firing point set (C). Each lane requires a target set (A) and a firing point set (C). The cable and power supply set (B) is designed for a maximum of 10 lanes. In addition, power supply cables are required (connecting cable: device to country-specific plug) (Pos. 1). The division looks as follows:



Pos.	Article No.	Pcs.	Description	Chapter
A	S310-LTW-SET	1	Target set S310 LTW	
A1	S310-LONM0V0	1	Main target longitudinal leg (without LME)	2.5.2
A2	KL001-T	1	T-Adaptor fem, fem, male LTW IP67	3.2.4
A3	KL001-2.0	1	Cable LTW m – f 2.0m plug, black	3.2.6
A4	S150A	1	S310 A front frame with bulls eye ø 60cm	2.5.4.1
A5	LMEB001V3	1	Print LON measurement electronics for S310	2.5.2.1
B	300M-LTW-SET	1	Cable and power supply set for 300m LTW	3.2.1.3
B1	VK-LTW1V0	2	Power supply for 10 lines 60W with LTW 230V	3.2.2
B2	KV021-330	1	Cable firing point – target, 330m	3.2.8
B3	KL001-R	2	Terminating resistor, red, male LTW IP67	3.2.5
C	FP931-LTW-SET	1	Firing point set LTW	3.1.1
C1	M931	1	Monitor 9" VGA RAL 6003 / with logo	3.1.3
C2	CU931V0	1	Control unit	3.1.2
C3	HST931	1	Monitor holder for CU931, small	3.1.8.1
C4	KL001-T	1	T-Adaptor fem, fem, male LTW IP67	3.2.4
C5	KL003-2.0	1	Cable LTW m – RJ45 2.0m	3.2.7
C6	KL001-2.0	1	Cable LTW m – f 2.0m plug, black	3.2.6

Pos.	Article No.	Pcs.	Description	Chapter
C7	RC-ZOOM	1	Remote control for SA931 zoom	3.1.12
1	Reference		Country-specific power supply cable, 2m	3.2.10

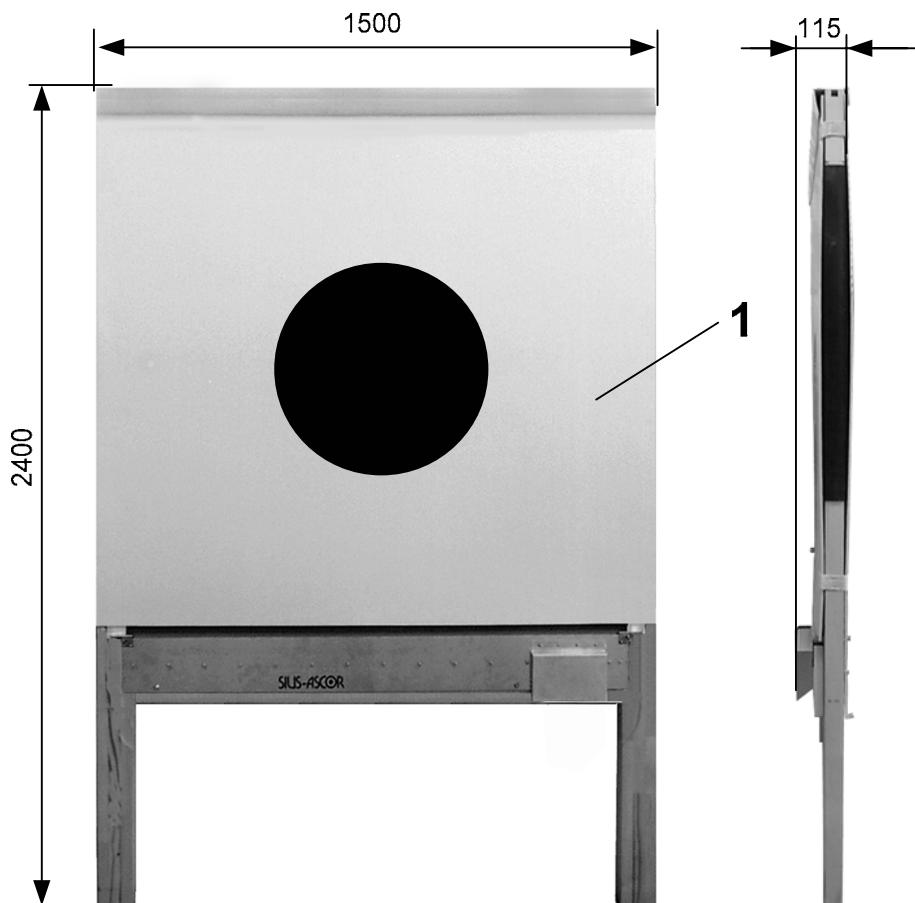
2.5.2 Target S310-LON for big bore rifles

The target S310-LON is designed for distances of 300 till 600m for big bore rifles. The measurement system is situated at the bottom in the safe area thus ensuring a high degree of operating safety and long life.

The target is supplied without LON measurement electronics (2.5.2.1 LON measurement electronics for S310-LON) and front frame (2.5.4 Accessories for S310-LON).

S310-LON specifications

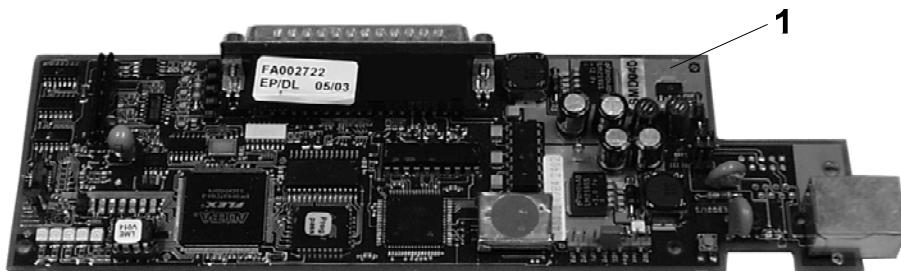
Size (W x H x D):	1500 x 2400 x 115mm
Weight:	41 kg
Consumption:	7.6 W
Detection surface:	1330 x 1330mm



Pos.	Article No.	Description	Rem.
1	S310-LONM0V0	Main target longitudinal leg with measurement bar (without LME)	

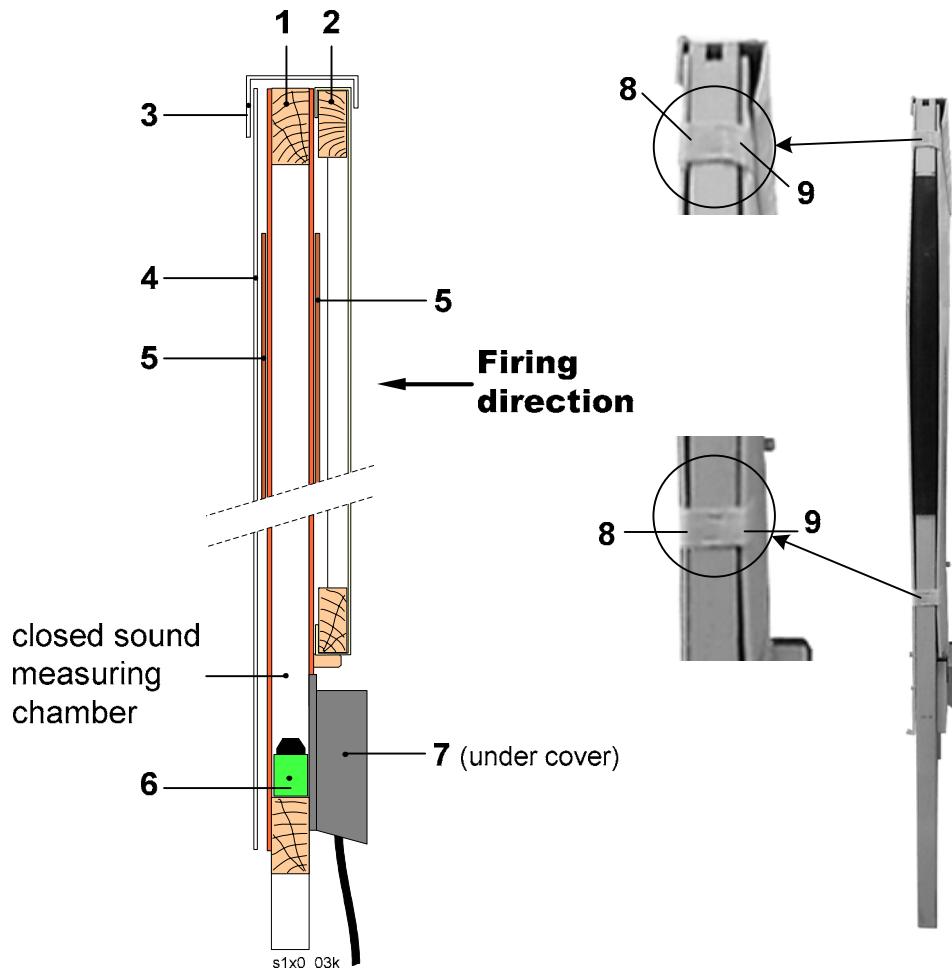
2.5.2.1 LON measurement electronics for S310-LON

The LON measurement electronics evaluates the signals transmitted by the microphone and sends the information over the LON network to the control unit CU931. The measurement electronics is inserted in the lower area of the target.



Pos.	Article No.	Description	Rem.
1	LMEB001V3	Print LON measurement electronics for S310	

2.5.3 Structure of the S310-LON



Pos.	Article No.	Description	Rem.
1	S310D001	Main frame longitudinal leg (without LME and measurement bar)	
2	Reference	Various front frames and target front masks	2.5.4 order separately
3	S150HA006	Rubber profile rain protection	
4	S150AA033	Backing target	
5	S150HA008	Endless rubber strip 80cm	
6	MS150-LON-V1	LON measurement bar 1.33m	
7	LMEB001V3	Print LON measurement electronics for S310	2.5.4 order separately
8	AMA021/9	Fixed velour fleece strip 9cm, main frame	
9	AMA023/16	Fixed velour bubble type strip 16cm, front frame	

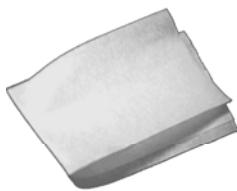
The endless rubber band (Pos. 5) is pulled up if required, e.g. when the centre is shot at in such a way that the target covering can no longer form a closed chamber.

2.5.3.1 Repair material for target covering

Larger holes in the target covering arise from ricochets for example. They can cause incorrect measurements and must therefore be closed up. Repair material is available for this purpose.



1



2



3



4

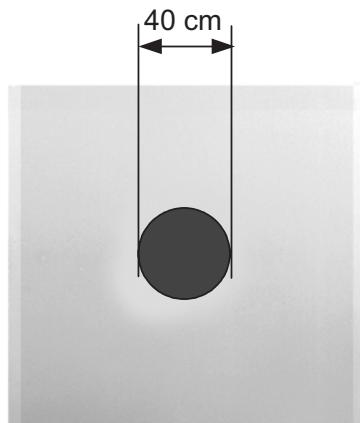
Pos.	Article No.	Description	Rem.
1	URE200ACT	Acetone 200ml	
2	URE-ELIX-CLEAN	Cleaning cloth	
3	UK20CA15G	Special glue CA15G 20g	
4	USX10QF	Ricochet repair patch (set of 10)	

2.5.4 Accessories for S310-LON

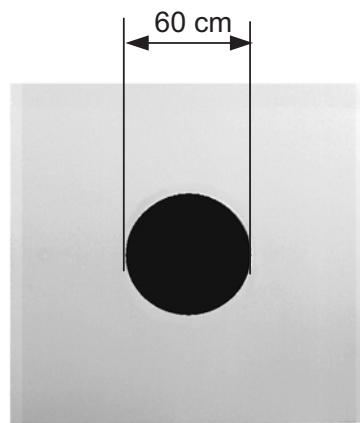
2.5.4.1 Front frame with circular target pictures (A targets)

For circular target pictures (A targets) front frames are used which are covered with top foil. These front frames are mounted on the main target with Velcro fastener.

1. Front frame, bulls eye ø 40cm



2. Front frame, bulls eye ø 60cm

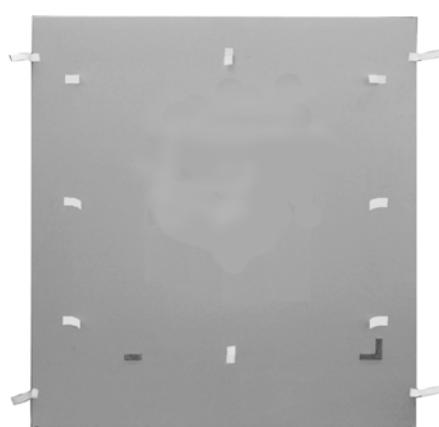


Pos.	Article No.	Description	Rem.
1	S150A/40	Front frame S150, bulls eye ø 40cm	
2	S150A	Front frame S150, bulls eye ø 60cm	

2.5.4.2 Target front masks with hunting pictures

Polyethylene plates, which can be printed better and more accurately, are used for hunting targets. The hunting targets are mounted on the target S310 with the aid of an adaptor plate.

1. Adaptor plate empty



Example of installation:
Adaptor plate with hunting picture

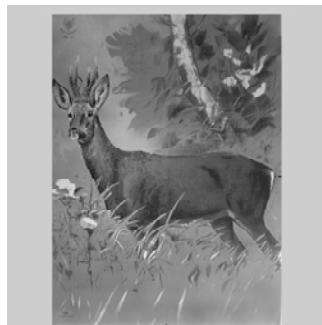


The hunting pictures used are the same target front masks as used for the target S110. Only the elk target (Pos. 8) is mounted directly on the main frame without adaptor plate.

2. Chamois DJV4



3. Roebuck DJV1



4. Fox DJV3



5. Wild boar DJV5



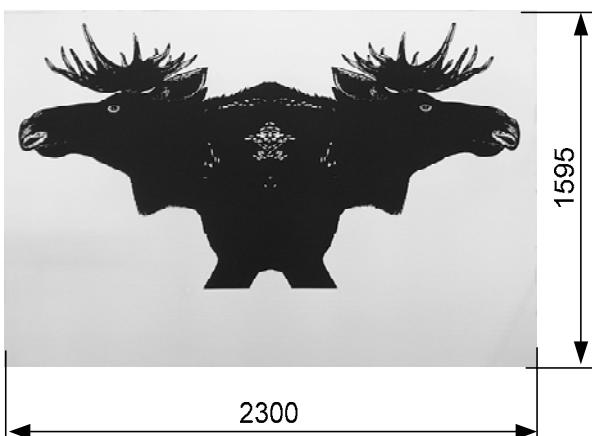
6. Reindeer DV-1, Norway



7. Calibrating target TS



8. Elk DV-21, Norway



Pos.	Article No.	Description	Rem.
1	S150AA034	Adaptor plate S310 for S110 hunting targets	
2	S100AA007V1	Target front mask, chamois DJV4, with ring div.	
3	S100AA008V1	Target front mask, buck DJV1, with ring divisions	
4	S100AA009V1	Target front mask, fox DJV3, with ring divisions	
5	S100AA010V1	Target front mask, boar DJV5, with ring divisions	
6	S100AA012	Target front mask, reindeer DV-1, Norway	
7	S100AA016	Calibrating target for telescopic sight	
8	S150AA031	Target front mask, elk DV-21, Norway	

2.5.4.3 Consumable and replacement supplies for target front masks

Worn-out target centres are covered with centre patches. Centre patches with ring divisions are used for DJV hunting pictures.

Examples of use:

Fox DJV3



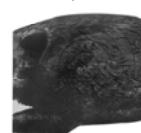
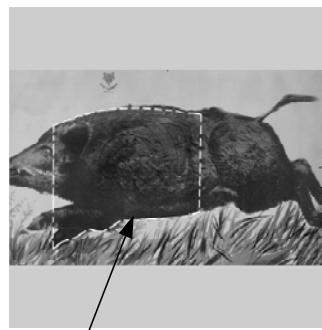
1. Centre patch fox

Roebuck DJV1



2. Centre patch roebuck

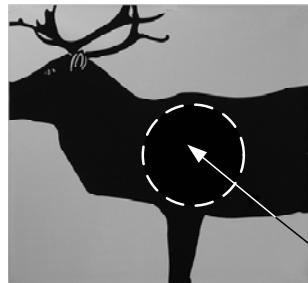
Wild boar DJV5



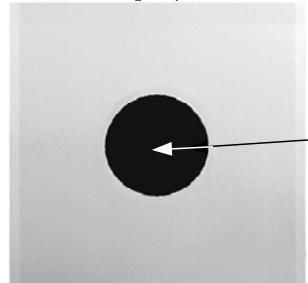
3. Centre patch wild boar (contoured)

The circular centre patches ø 20, 24, 40 and 60cm are used for repairing target centres of the A targets and the black hunting target pictures without ring divisions (elk DV-21, reindeer DV-1).

Reindeer DV-1



Circular target pictures

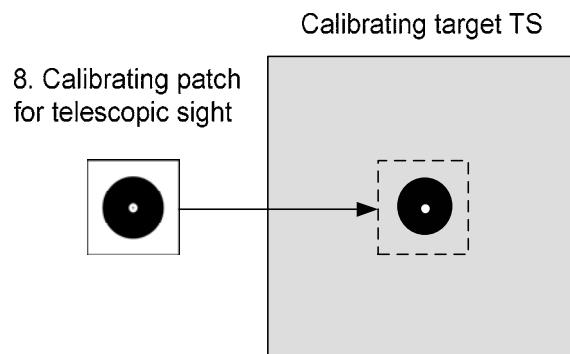


Elk DV-21, Norway



Centre patch
Pos. 5 = ø 20 cm
Pos. 6 = ø 40 cm
Pos. 7 = ø 60 cm

Calibrating patches on top foil 30 x 30cm are available to repair strongly worn-out calibrating targets.



9. Top foil glue, 0.5 kg



10. Top foil glue, 1.0 kg

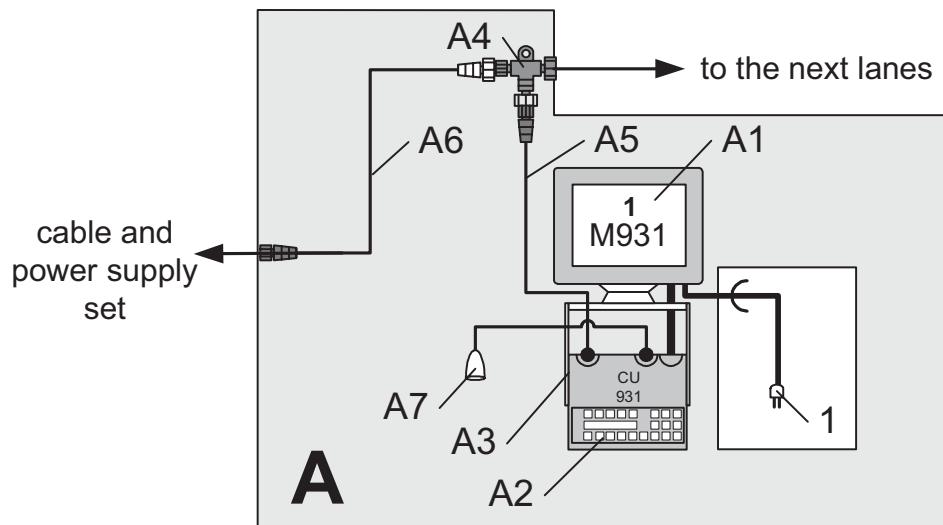
Pos.	Article No.	Description	Rem.
1	S150JVFA005	Centre patch, fox, with ring divisions	30 x 30cm
2	S150JVBA007	Centre patch, buck, with ring divisions	30 x 30cm
3	S150JVKA011	Centre patch, boar, left, with ring divisions	contoured
4	S150JVGA007	Centre patch, chamois, with ring divisions	30 x 30cm
5	S150AA015	Bulls eye PVC, ø 20cm	
6	S150AA008	Bulls eye PVC, ø 40cm	
7	S150AA009	Bulls eye PVC, ø 60cm	
8	S150JVZA001	Calibrating patch on top foil, ø 20cm	30 x 30cm
9	UK0.5PVC	Top foil glue	0.5 kg
10	UK1PVC	Top foil glue	1 kg

3 SA931 basic installation: Monitor, power supply and cables

3.1 Firing point components

3.1.1 Firing point set FP931-LTW-SET

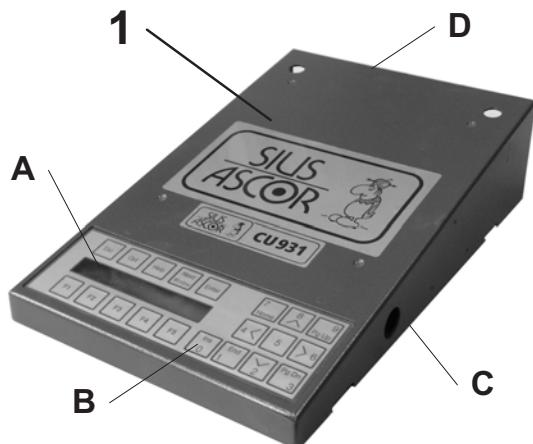
The firing point set includes all devices and parts required for the operation of individual lanes at the shooting place.



Pos.	Article No.	Pcs.	Description	Chapter
A	FP931-LTW-SET	1	Firing point set LTW	
A1	M931	1	Monitor 9" VGA RAL 6003 / with logo	3.1.3
A2	CU931V0	1	Control unit	3.1.2
A3	HST931	1	Monitor holder for CU931, small	3.1.8.1
A4	KL001-T	1	T-Adaptor fem, fem, male LTW IP67	3.2.4
A5	KL003-2.0	1	Cable LTW m – RJ45 2.0m	3.2.7
A6	KL001-2.0	1	Cable LTW m – f 2.0m plug, black	3.2.6
A7	RC-ZOOM	1	Remote control for SA931 zoom	3.1.12
1	Reference		Country-specific power supply cable, 2m	3.2.10

3.1.2 Control unit CU931

The control unit CU931 is the control device of the firing lane. Targets, programs and settings are selected here and, if required, shown on the display. The commands are entered either by means of the keyboard or by means of the remote control (PC or RC931).

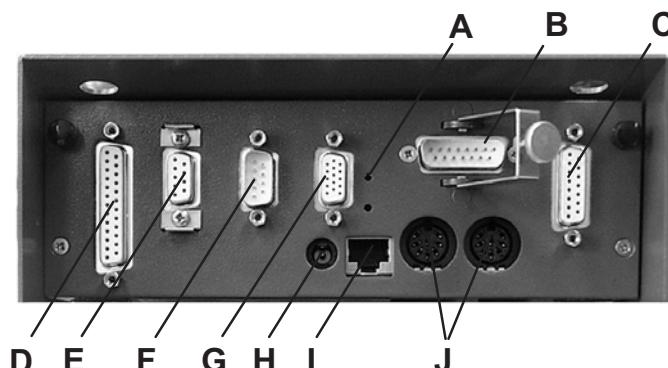


CU931 specifications

Size (W x H x D):	190 x 77 x 295mm
Weight:	1.05 kg
Consumption:	3 W

- A = LC Display
- B = Keyboard
- C = Connection barcode reader
- D = Other connections

The rear side of the CU931 contains the connections for the links to various devices and neighbouring lanes.

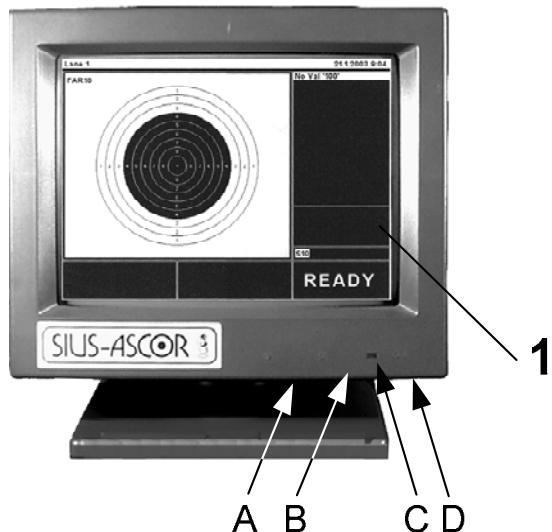


- | | |
|-------------------------------------------------------|------------------------------------|
| A = Service buttons
Top: mode, bottom: LON service | F = Interface RS232 |
| B = Monitor M93 | G = Monitor, VGA b/w |
| C = Matrix printer D93 | H = Power supply 24V DC |
| D = Graphic printer D931-SP | I = RJ45 LonBus / power supply 24V |
| E = Shot indication / remote control / VGA monitor | J = Remote control / zoom |

Pos.	Article No.	Description	Rem.
1	CU931V0	Control unit	

3.1.3 Monitor M931

The 9" monitor M931 is the screen for the programs, system messages and results during shooting. The monitor is connected with the control unit CU931. In addition, it requires a country-specific cable for power supply (110/230V).



M931 specifications

Size (W x H x D):	245x 245 x 245mm
Weight:	3.7 kg
Consumption:	30 W

- A = Brightness
- B = Contrast
- C = Power control
- D = Power switch

Pos.	Article No.	Description	Rem.
1	M931	Monitor 9" VGA	
2	Reference	Country-specific power supply cable, 2m	3.2.10

3.1.4 Thermal printer D931-SP

The thermal printer D931-SP is a graphic printer for thermal paper. The printer prints out the final results, the contents of the screen, and also the test results if desired.

It is directly connected to the control unit with the cable in Pos. 2. The power supply is by means of a power supply device with a country-specific cable. The cable between the control unit and the printer must not be longer than 2m.



D931-SP specifications

Size (W x H x D):	185 x 104 x 203mm
Weight:	865 g
Consumption:	3 / 10 W (Standby / Printing)



Example of use

Pos.	Article No.	Description	Rem.
1	D931-SP	Thermal printer 110 / 220V for SA931	including power supply
2	CEBT931	Thermal printer cable, parallel	
3	Reference	Country-specific power supply cable, 2m	3.2.10

3.1.5 Consumable for thermal printer D931-SP



Pos.	Article No.	Description	Rem.
1	AAG048	Thermal paper roll, white	

3.1.6 Spectator monitor M1421

An additional VGA monitor can be connected to each firing point set to work in parallel with the shooting monitor. Depending on the model of the monitor, a large public can follow the competition shot by shot in graphic display.

In the case of a separate installation of the control unit and shooting monitor, the spectator's monitor can be plugged in directly to the control unit (*Chapter 3.1.13 Separate installation of monitor and control unit*).

Otherwise an adaptor cable (Pos. 2) is used.

In addition, the monitor requires a country-specific power supply cable (Pos. 3). (110V/230V)



M1421 specifications

Size (W x H x D):	240 x 254 x 270mm
Weight:	3.8 kg
Consumption:	110 W

Pos.	Article No.	Description	Rem.
1	M1421	Monitor 14" VGA RAL 6003	
2*	KV017-L	Adaptor cable CU931 – VGA monitor	
3	Reference	Country-specific power supply cable, 2m	3.2.10

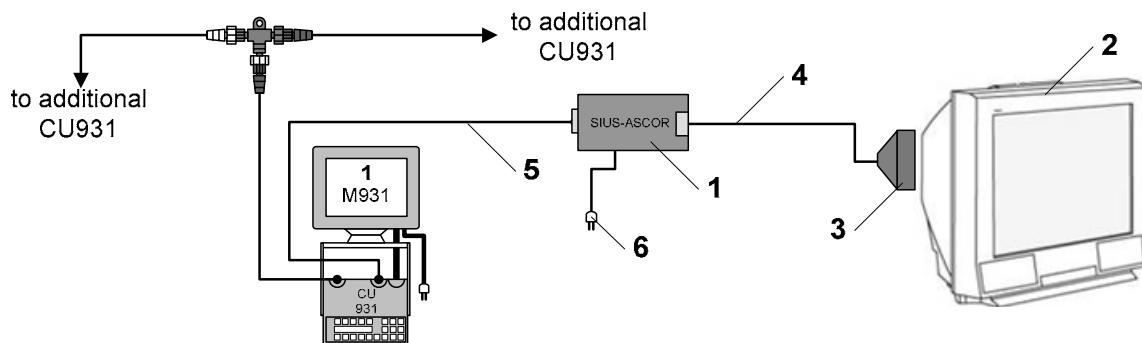
* L = length [m] to order. Available are 2, 4, 6, 8, 10 and 12m

3.1.7 VGA-PAL converter AAG151

Any desired TV can be used as the spectator's monitor in place of a VGA spectator's monitor. For this, in addition to the PAL-TV, a VGA-PAL converter is required.

Using the cable KV017-L, the converter can be connected like the spectator's monitor to the control unit. The other side can be connected to the TV.

The lengths of the cables of Pos. 4 and Pos. 5 must be given when ordering.



Pos.	Article No.	Description	Rem.
1	AAG151	VGA Converter Lite VGA > TV signal	
2	AAG152	29" TV set	
3	AE208	Audio/video scart adaptor	
4*	KS030-L	Cable video signal Chinch – Chinch 75R	Max. 80m
5*	KV017-L	Adaptor cable CU931 – VGA monitor	Max. 30m
6	Reference	Country-specific power supply cable, 2m	3.2.10

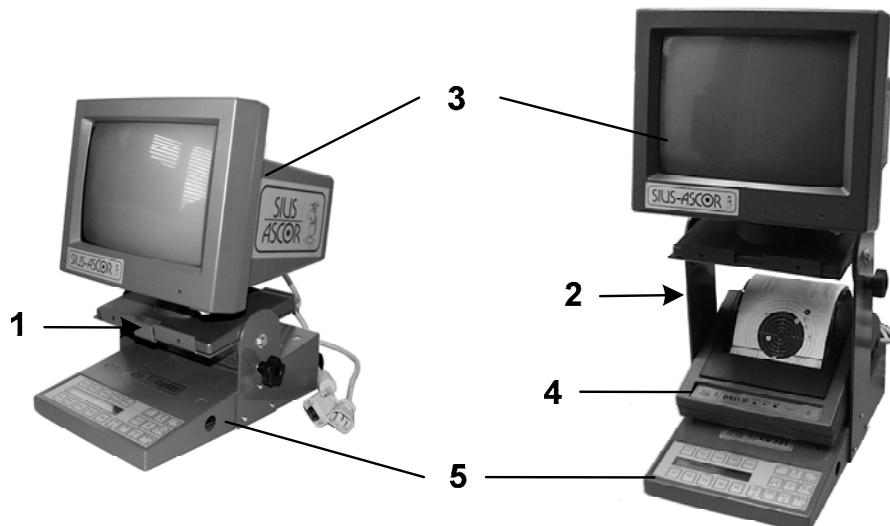
* L = length [m] to order. Practically all lengths can be supplied up to the maximum values specified.

3.1.8 Monitor holder and device pedestal

3.1.8.1 Monitor holder HST931

The monitor holder HST931 is included in the firing point set. It is used to combine the monitor M931 with the control unit CU931.

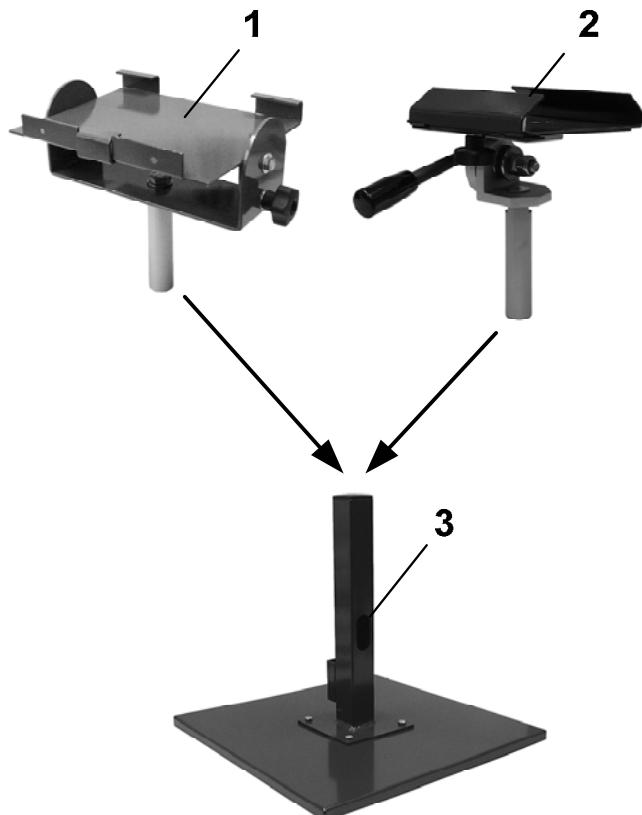
If the printer D931-SP is also used, the holder HST931V1 with the large side plates is used.



Pos.	Article No.	Description	Rem.
1	HST931	Monitor holder for CU931, small	
2	HST931V1	Monitor holder for CU931, large	
3	M931	Monitor 9"	3.1.3
4	D931-SP	Thermal printer 110 / 220V for SA931	3.1.4
5	CU931V0	Control unit CU931	3.1.2

3.1.8.2 Monitor holder without CU931

To set up the monitor without CU931, monitor holders to be placed on a device pedestal are available. They can be set up close to the shooter or the spectators or, they also can be mounted on the loading table.



Monitor holder specifications

HTB931V1:

Size (W x H x D): 220 x 170 x
155 mm

Weight:

0.6 kg

HTM14:

Size (W x H x D): 120 x 200 x
170 mm

Weight:

1.1 kg



Example of use

Pos.	Article No.	Description	Rem.
1	HTB931V1	Monitor holder, complete	
2	HTM14	Swivel monitor holder	
3	Reference	Various device pedestals	3.1.8.3

3.1.8.3 Device pedestals

Several different device pedestals are available for the monitor holders HST931V1 or HTM14 and for the target S10-LON. These differ mainly as regards their height (135, 200, 320 and 1200mm).

On the top, they are equipped with guide rings (internal $\varnothing = 22\text{mm}$) into which the devices are inserted and can be fixed with the fixing bolt with star grip (only BSS10). The small monitor pedestals can be fixed directly to the floor or installed on a ground plate (Pos. 4). The ground plate provides sufficient stability and thus ensures mobile utility (e.g. for left and right shooting). The floor pedestal (Pos. 5) is already equipped with ground plate and levelling bolts.

Device pedestals specifications

SK135 / SK200:

Size (W x H x D): 35 x 145 / 210 x 35 mm
Weight: 0.78 kg / 0.92 kg

BP9:

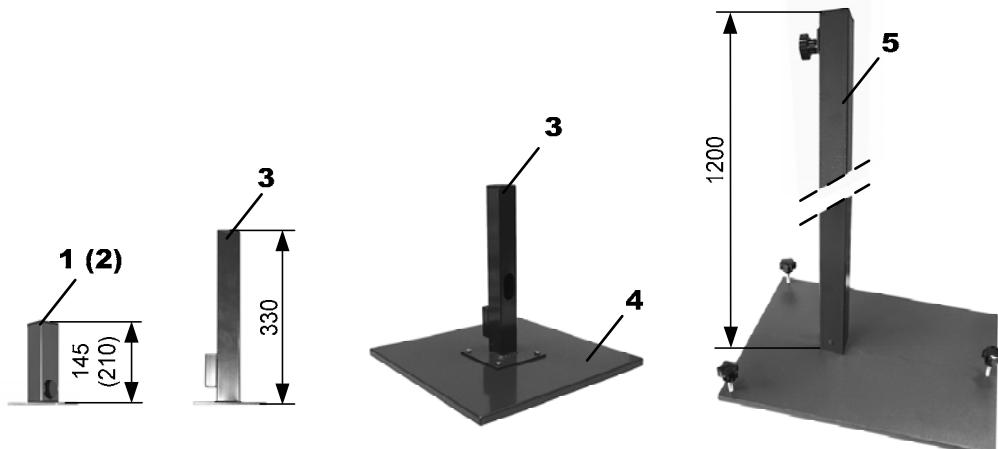
Size (W x H x D): 400 x 10 x 300 mm
Weight: 1 kg

SK320

Size (W x H x D): 35 x 330 x 35 mm
Weight: 1.2kg

BSS10:

Size (W x H x D): 400 x 1200 x 30 mm
Weight: 11.7 kg



Pos.	Article No.	Description	Rem.
1	SK135	Device pedestal SK135	
(2)	SK200	Device pedestal SK200	
3	SK320	Device pedestal SK320	
4	BP9	Ground plate BP9	
5	BSS10	Floor pedestal (ground plate + device pedestal)	

3.1.9 Shot sensor for big bore rifles C88RV1

The shot sensor differentiates the shots of the own lane from shots of other lanes (cross shots, target errors). The corresponding display is shown on the monitor.

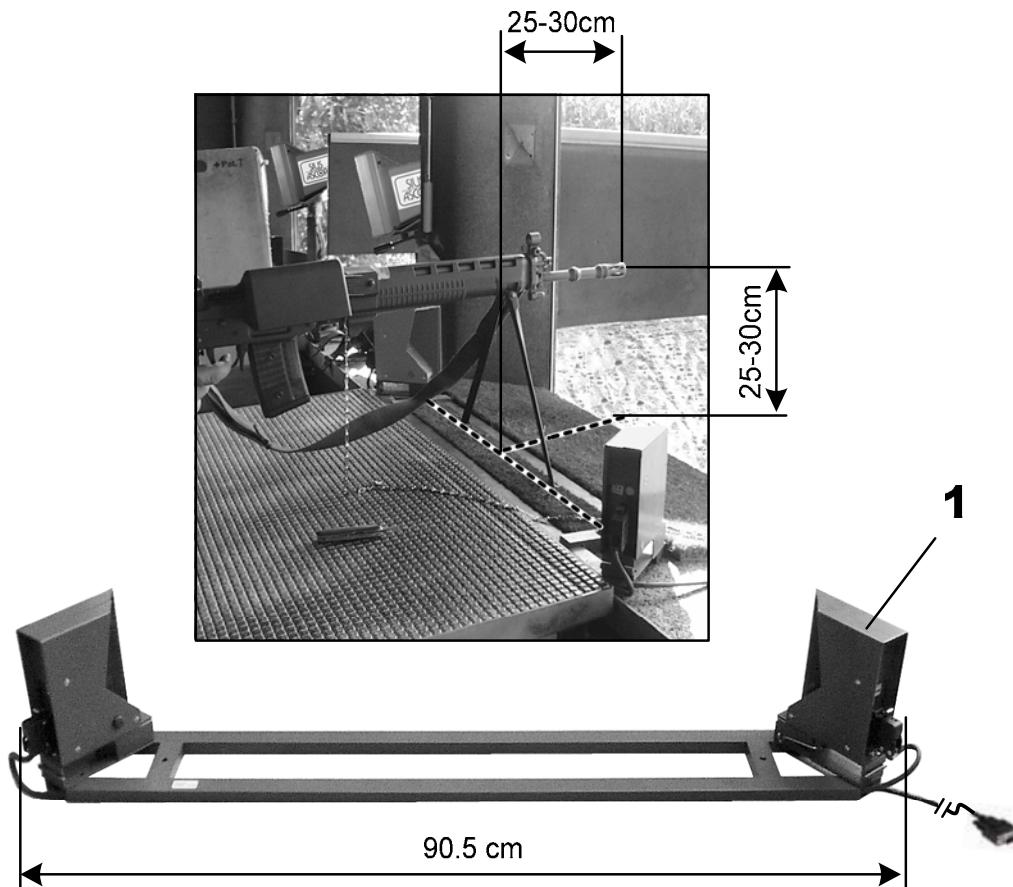
The shot sensor can only be used for big bore rifles with muzzle flash.

It is plugged directly into the control unit CU931 or, for separate setting up of the monitor and control unit, into multiple connector MD921.

For **perfect functioning** of the shot sensor, the **distance between weapon nozzle and sensors is especially important**. Also care must be taken that the **direct rays of the sun** from outside can be eliminated.

C88RV1 specifications

Size (W x H x D): 905 x 190 x 150 mm
Weight: 3.2 kg



Pos.	Article No.	Description	Rem.
1	C88RV1	Shot sensor, cable on right side, D-sub plug	

3.1.10 Crosstalk separators for the shot sensor

We recommend the installation of crosstalk separators between the individual lanes for firing points equipped with shot sensors. These prevent the acoustic and optical triggering of shots onto neighbouring lanes.

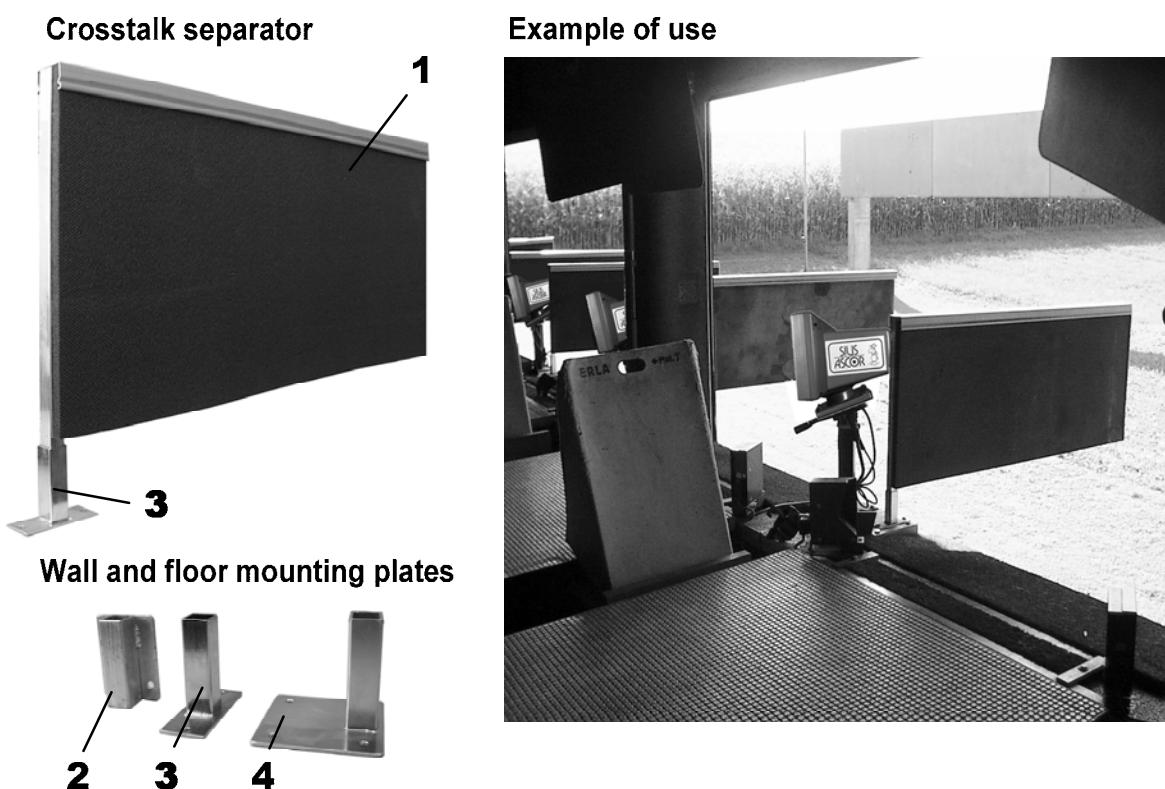
Three different sizes of crosstalk separators are available.

The big ground plate from **Pos. 4** should be used for fixing the **large separator** (Pos. 1.3). For the other separators all plates can be used.

Crosstalk separator specifications

<i>UES88:</i>	<i>Weight:</i>	2.95 kg
<i>UEM88:</i>	<i>Weight:</i>	7.3 kg
<i>UEH88:</i>	<i>Weight:</i>	8.3 kg

(including weight of UEHH88A001)



Pos.	Article No.	Description	Rem.
1.1	UES88	Crosstalk separator small 90 x 40 x 4cm	
1.2	UEM88	Crosstalk separator medium 110 x 90 x 4cm	
1.3	UEH88	Crosstalk separator big 70 x 160 x 4cm	
2	UEWH88	Wall mounting plate for crosstalk separators	
3	UEBH88	Small ground plate for crosstalk separators	
4	UEHH88A001	Big ground plate for crosstalk separators	

3.1.11 Remote control RC931

The remote control RC931 can be plugged into the CU931 or the multiple connector MD921 (*Chapter 3.1.13 Separate installation of monitor and control unit*).

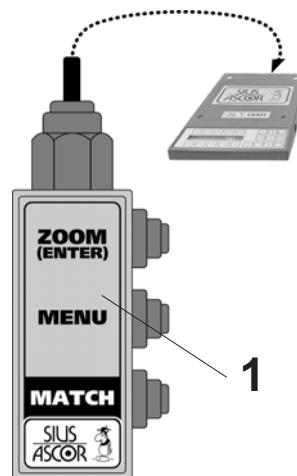
It permits the control of important functions directly from the position of the shooter.

ZOOM: Selects the next zoom level.

MENU: Activating this, calls up the menu on the screen in which the following functions can be selected among others:

- Delete screen
- Print hard copy

MATCH: Switches from "Practice" to "Match" operation.



Pos.	Article No.	Description	Rem.
1	RC931	Remote control RC931	

3.1.12 Remote control RC-ZOOM

The cable with the zoom button is plugged into the control unit CU931 or the multiple connector MD921. Activating this selects the zoom level on the monitor.

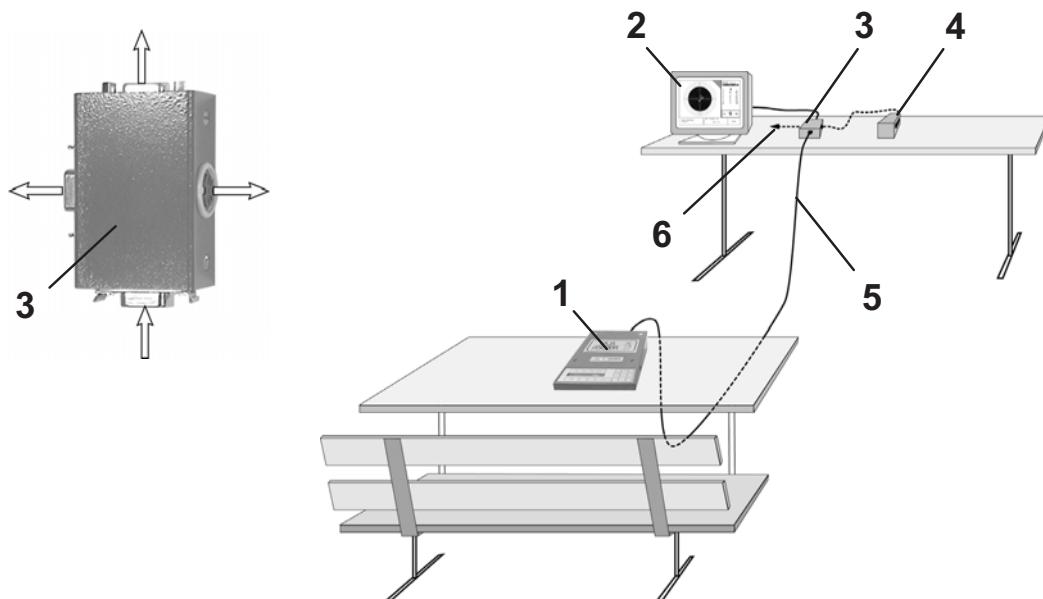


Pos.	Article No.	Description	Rem.
1	RC-ZOOM	Remote control for SA931 zoom	

3.1.13 Separate installation of monitor and control unit

With the aid of a multiple connector (Pos. 3) and a cable (Pos. 5), it is possible to set up the monitor and the control unit separately (monitor at the shooter's place and control unit at the warner's table).

In addition, further shot sensors (Pos. 6) and remote controls or zoom heads (Pos. 4) can also be plugged into the multiple connector D921.



Pos.	Article No.	Description	Rem.
1	CU931V0	Control unit	3.1.2
2	M931	Monitor 9" VGA	3.1.3
3	MD921	Multiple connector for the separated set up of monitor and control unit	
4.1	RC931	Remote control RC931	3.1.11
4.2	RC-ZOOM	Remote control for SA931 zoom	3.1.12
5*	KV014-L	Connection cable CU931 – MD921	Max. 30m
6	C88RV1	Shot sensor, cable on right side, D-sub plug	3.1.9

* L = length [m] to order. Almost all lengths up to 30m are available.

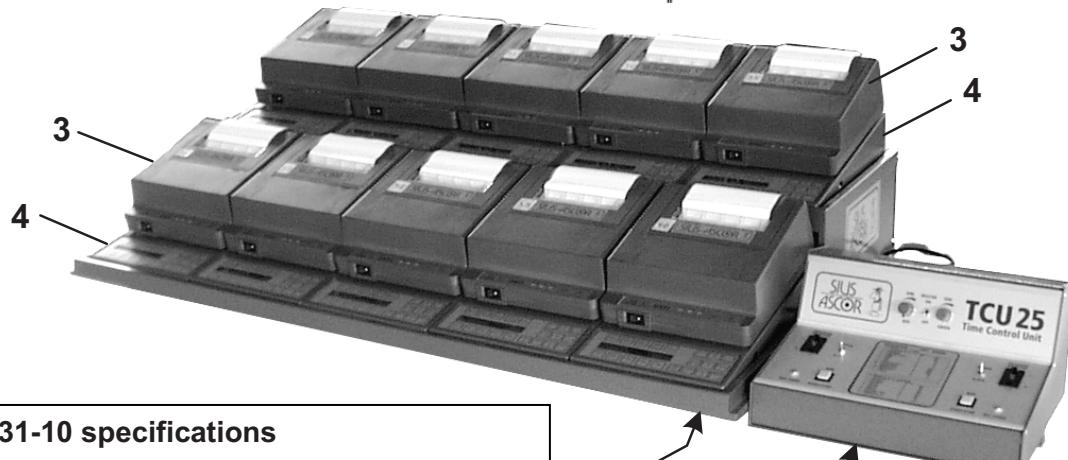
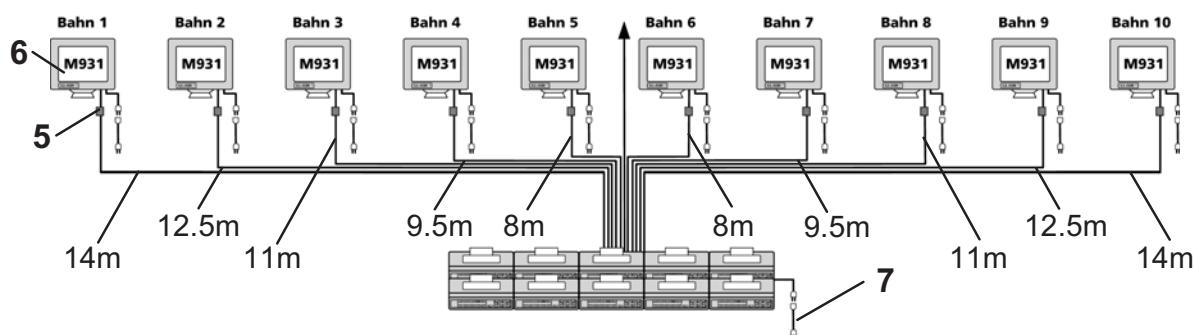
3.1.14 Central command desk ZBP931-10

The central command desk permits compact assembly and cabling of up to 10 control units and printers. It contains the cabling, power supply, power distribution for the printers and the cables to the monitors. In addition, multiple connectors are required to which the monitors, shot sensors and remote controls can be connected.

The lengths of the monitor cables are shown in the diagram below. (There are always two cables of the same length).

To record several desks with a single data acquisition PC, an erection position and the cabling for the necessary router is available (*Chapter 4.2.4 Router*).

Optionally, a time control unit set (*Chapter 4.1 Additional light signals*) can be added so that the light signals of the 25m installation can also be operated centrally from the command desk. For this purpose, a tray for the TCU25 (Pos. 2) is required which can be inserted at the right of the central command desk.



ZBP931-10 specifications

Size (W x H x D):	100 (+ 32) x 15 x 65 cm
Weight:	20 kg
Consumption:	450 W (+ 80 W)

Pos.	Article No.	Description	Rem.
1a	ZBP931-10V0	SA931 central command desk, 230 V	
1b	ZBP931-10V1	SA931 central command desk, 110 V	
2	ZBP921A008	Tray for TCU25	
3	D931-SP	Thermal printer 110 / 220V for SA931	3.1.4
4	CU931V0	Control unit CU931	3.1.2
5	MD921	Multiple connector	3.1.13
6	M931	Monitor 9" VGA RAL 6003 / with logo	3.1.3
7	Reference	Country-specific power supply cable, 2m	3.2.10

3.2 Power supply and cables

The LTW cables provide clean and reliable cabling. The plug connections are locked with bayonet connectors and are thus protected against dust and moisture (IP 67).

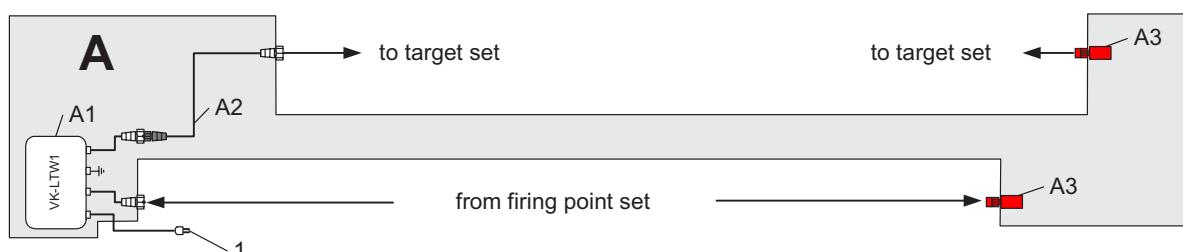
3.2.1 Installation overview for cable and power supply sets

A cable and power supply set is designed for a maximum of 10 lanes.

Various sets are available depending on the required distances. Depending on the type of cabling, the individual sets can be divided into three groups. Within a group, the sets differ only in the required cable length.

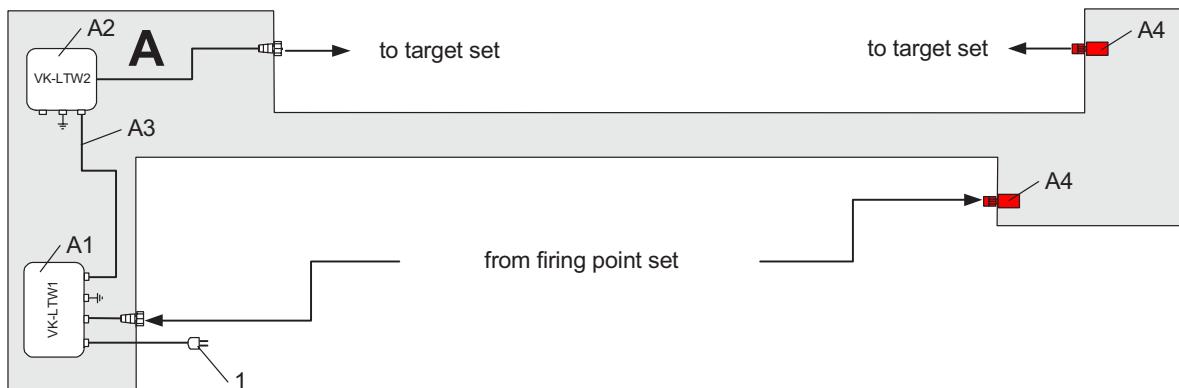
Country-specific power supply cables (Pos. 1) are required in order to use a set.

3.2.1.1 Cable and power supply set for 10, 25 and 50m LTW



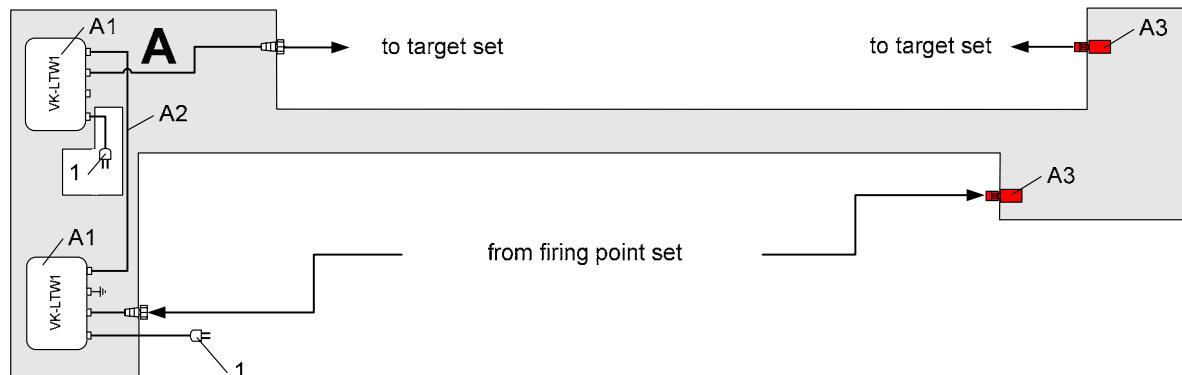
Pos.	Article No.	Pcs.	Description	Chapter
A	10M-LTW-SET	1	Cable and power supply set for 25m LTW	
A1	VK-LTW1V0	1	Power supply for 10 lines 60W with LTW 230V	3.2.2
A2	KL001-20.0	1	Cable LTW m – f 2.0m plug, black	3.2.6
A3	KL001-R	2	Terminating resistor, red, male LTW IP67	3.2.5
A	25M-LTW-SET	1	Cable and power supply set for 25m LTW	
A1	VK-LTW1V0	1	Power supply for 10 lines 60W with LTW 230V	3.2.2
A2	KL001-40.0	1	Cable LTW m – f 40.0m plug, black	3.2.6
A3	KL001-R	2	Terminating resistor, red, male LTW IP67	3.2.5
A	50M-LTW-SET	1	Cable and power supply set for 50m LTW	
A1	VK-LTW1V0	1	Power supply for 10 lines 60W with LTW 230V	3.2.2
A2	KL001-65.0	1	Cable LTW m – f 65.0m plug, black	3.2.6
A3	KL001-R	2	Terminating resistor, red, male LTW IP67	3.2.5
1	Reference		Country-specific power supply cable, 2m	3.2.10

3.2.1.2 Cable and power supply set for 100m LTW



Pos.	Article No.	Pcs.	Description	Chapter
A	100M-LTW-SET	1	Cable and power supply set for 100m LTW	
A1	VK-LTW1V0	1	Power supply for 10 lines 60W with LTW 230V	3.2.2
A2	VK-LTW2	1	Distribution box 2 LTW / light signal	3.2.3
A3	KV020-120	1	Cable firing point – target, 120m	3.2.9
A4	KL001-R	2	Terminating resistor, red, male LTW IP67	3.2.5
1	Reference		Country-specific power supply cable, 2m	3.2.10

3.2.1.3 Cable and power supply set for 300m LTW



Pos.	Article No.	Pcs.	Description	Chapter
A	300M-LTW-SET	1	Cable and power supply set for 300m LTW	
A1	VK-LTW1V0	2	Power supply for 10 lines 60W with LTW 230V	3.2.2
A2	KV021-330	1	Cable firing point – target, 330m	3.2.8
A3	KL001-R	2	Terminating resistor, red, male LTW IP67	3.2.5
1	Reference		Country-specific power supply cable, 2m	3.2.10

3.2.2 Distributor box VK-LTW1

The distributor box VK-LTW1 contains the power supply and the fuses of the devices in the shooting lanes and, if necessary, in the target place. In addition, it also contains all the connecting clamps for connecting the firing point to the targets.

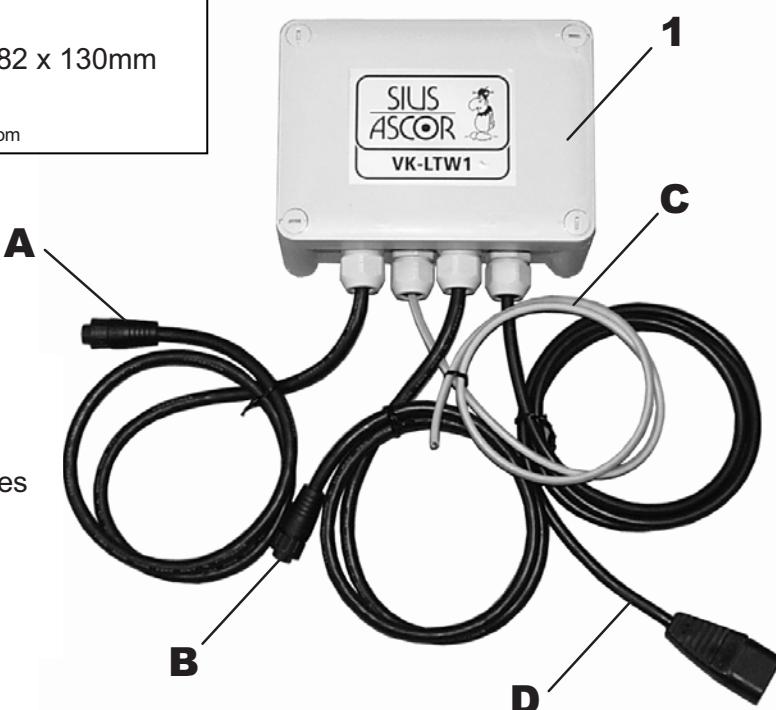
The distributor box requires its own power supply. It is equipped with a connecting cable (D) to which a country-specific power cable can be plugged.

(Cable lengths: approximately 1m)

VK-LTW1 specifications

Size (W x H x D):	175 x 82 x 130mm
Weight:	2 kg
Consumption:	70 W _{nom}

- A = From firing point
- B = To the targets or to the distribution boxes
- C = Earth connection for fuses
- D = Earth connection to the country-specific power supply cables

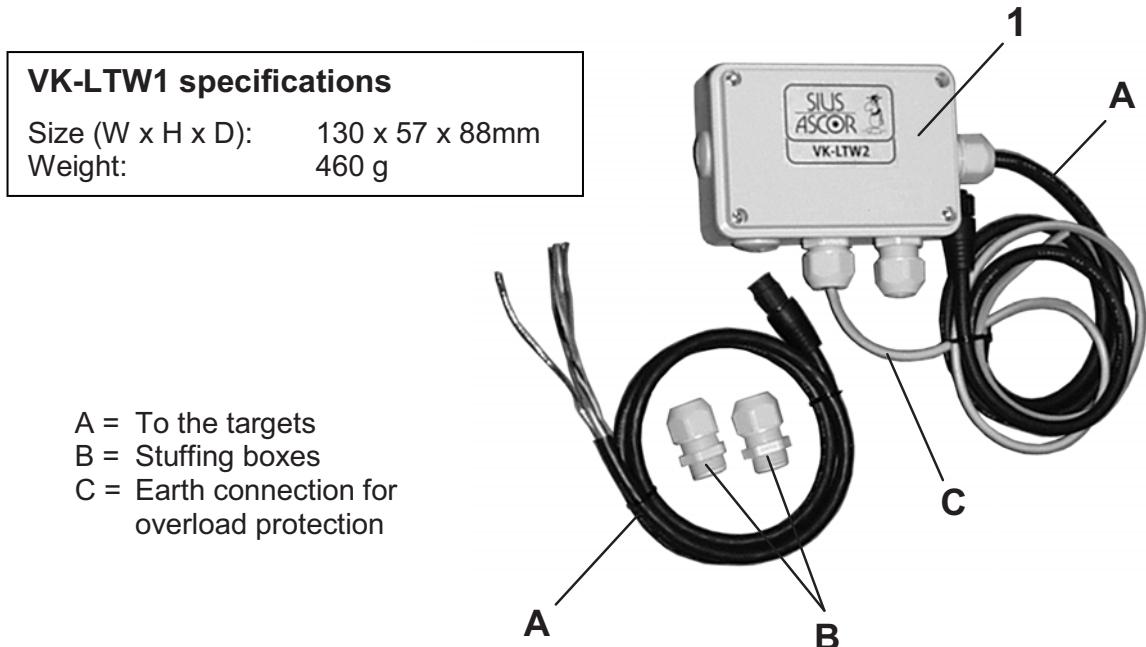


Pos.	Article No.	Description	Rem.
1	VK-LTW1V0	LTw1 distributor box (power supply 230V)	
1	VK-LTW1V1	LTw1 distributor box (power supply 110V)	

3.2.3 Distributor box VK-LTW2

VK-LTW2 finds its use as a distributor box for light signals and in cases in which no prepared cable from the firing point can be used for the power supply. The VK-LTW2 also contains a fuse.

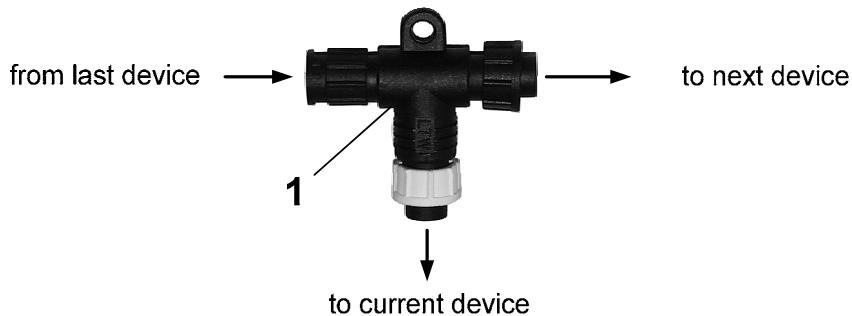
As this box can be used in different cases (see *Chapter 3.2.1.2 Cable and power supply set for 100m LTW and 4.1.1 Installation overview for additional light signals*), a cable KL005 (A) and two stuffing boxes (B) are provided loose.



Pos.	Article No.	Description	Rem.
1	VK-LTW2	Distributor box VK-LTW2	

3.2.4 T-Adaptor KL001-T

The cabling at the target side and at the firing point is arranged with the aid of the T-Adaptors. Device and connector cables are connected with this to the next device.



Pos.	Article No.	Description	Rem.
1	KL001-T	T-Adaptor male, female, female LTW IP67	

3.2.5 Terminating resistor KL001-R

At the last device (target and CU931), it is necessary to connect a terminating resistance in place of the connecting cable to the next device. The bus must be closed off at both ends.



Pos.	Article No.	Description	Rem.
1	KL001-R	Terminating resistor, red, male LTW IP67	

3.2.6 LTW male-female cable KL001-L

The LTW cables are prepared with the plug (male) and coupling (female). They are used for all connections.



For distances greater than 65m, not only the cable length but also the whole type and method of cabling must be adapted. (see *Chapter 3.2.1 Installation overview for cable and power supply sets*)

Pos.	Article No.	Description	Rem.
1.1	KL001-2.0	Shielded cable, male, female, length = 2.0m	
1.2	KL001-3.0	Shielded cable, male, female, length = 3.0m	
1.3	KL001-4.0	Shielded cable, male, female, length = 4.0m	
1.4	KL001-20.0	Shielded cable, male, female, length = 20.0m	
1.5	KL001-40.0	Shielded cable, male, female, length = 40.0m	
1.6	KL001-65.0	Shielded cable, male, female, length = 65.0m	

3.2.7 LTW male-RJ45 cable KL003-2.0

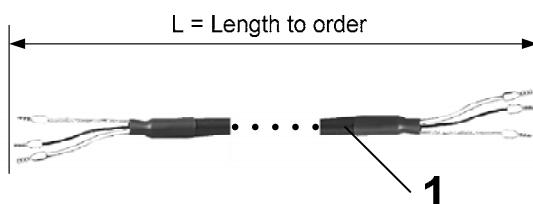
These cables are prepared with an LTW plug (male) and RJ45 connection. They are used with all devices with RJ45 connections. (CU931 for example)



Pos.	Article No.	Description	Rem.
1	KL003-2.0	Shielded cable, male RJ45, Length = 2.0m	

3.2.8 Cable firing point - target < 1400m KV021-L

A separate power supply is required for the target with distances above 100m. For this reason, only the LON bus is connected with a two-strand shielded cable (Pos. 1). The cable is also suitable for lying in the ground.



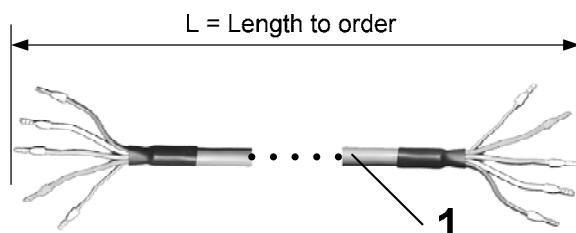
The end of the article number (-L) must be replaced by the desired length when ordering. The cable can be provided to any length.

Pos.	Article No.	Description	Rem.
1	KV021-L	Cable-LON	

3.2.9 Cable firing point - target < 100m KV020-L

No independent power supply is required for distances up to 100m. Four-strand shielded cables are used for bus and power supply.

If, however, a cable is required that exceeds the 65m in length or no pre-assembled cable can be used, then the cable KV020-L is used. This is connected on the target side to the distributor box VK-LTW2.

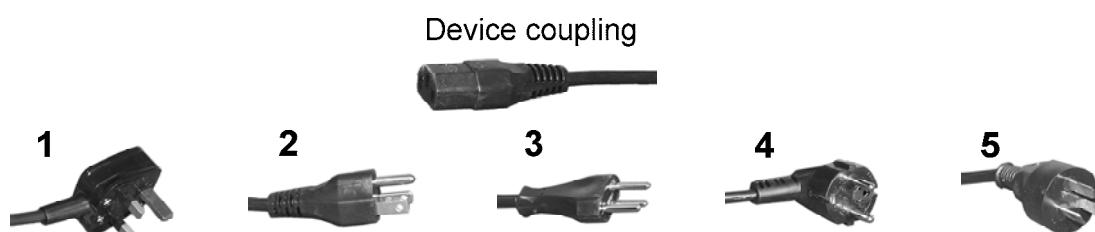


The end of the article number (-L) must be replaced by the desired length when ordering (e.g. KV020-60 for 60m). The cable is available in any length.

Pos.	Article No.	Description	Rem.
1	KV020-L	Cable, firing point – targets <100m	

3.2.10 Country-specific power supply cables

Most of the commercially available devices are equipped with standardized connectors. These do not fit into the country-specific sockets. The connection between device and socket is achieved with the use of country-specific power supply cables. This is provided with the device coupling on one side and with a country-specific plug on the other side.



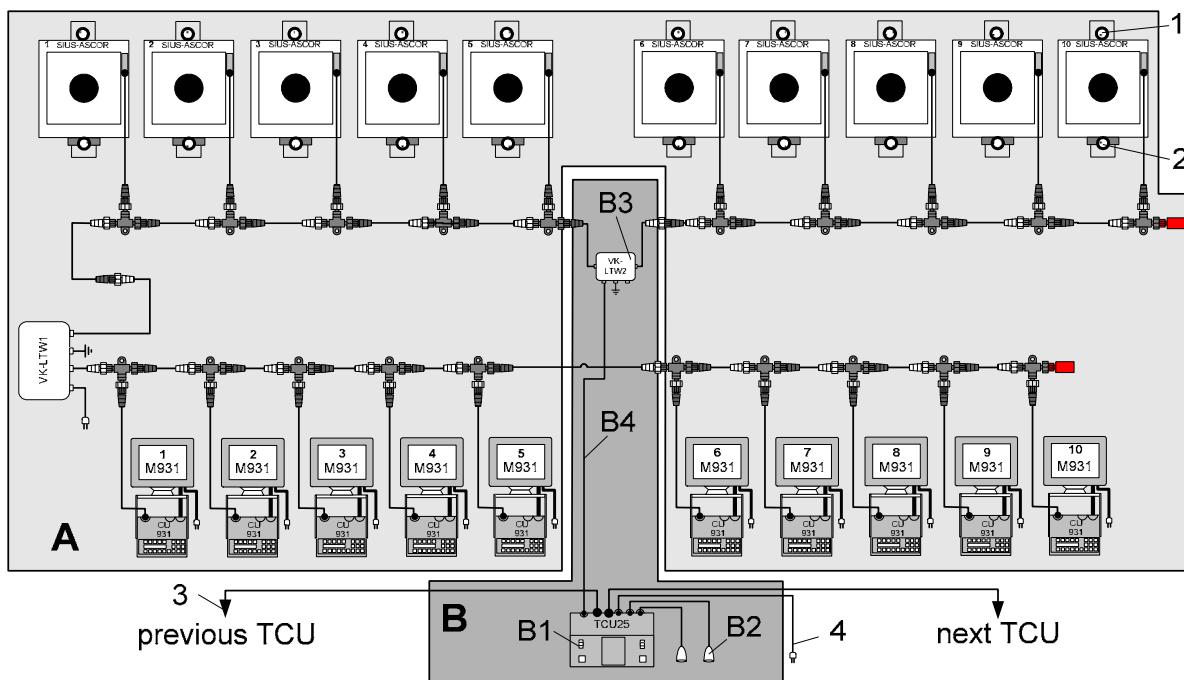
Pos.	Article No.	Description	Rem.
1	AA101	Power supply cable with GB plug, 2m	
2	AA102	Power supply cable with USA plug, 2m	
3	AA109	Power supply cable with CH plug, 2m	
4	AA110	Power supply cable with Euro plug, 2m	
5	AA126	Power supply cable with AUS plug, 2m	

4 Basic installation of SA931 accessories

4.1 Additional light signals

4.1.1 Installation overview for additional light signals

For the 25m pistol disciplines, the targets are equipped with red/green light signals (see 2.3.4.4 *Light signals*). The time control set TCU25-LTW-SET (B) is used for controlling these light signals. This set contains all parts required for the control of light signals for 10 targets. An additional time control set is required for an extra 10 targets or a separate distributor box (Pos. B3) with a distributor cable. Several time control units (TCU25) can be connected and synchronized with the cable (Pos. 3). The desired length of this cable must be specified when ordering.



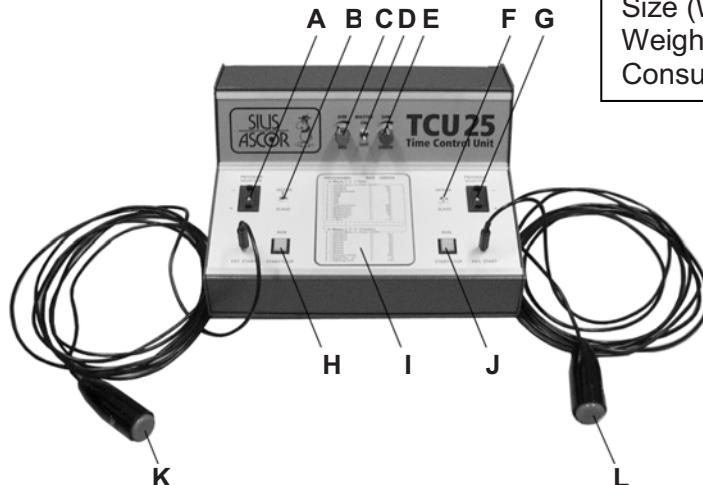
Pos.	Article No.	Pcs.	Description	Chapter
A	Reference	1	Basic SA931 LTW	2
	S25/50-LTW-SET		Target set S25/50 LTW	2.3.1
	25M-LTW-SET		Cable and power supply set for 25m LTW	3.2.1.1
	FP931-LTW-SET		Firing point set LTW	3.1.1
B	TCU25-LTW-SET	1	Time control set 25m LTW	
B1	TCU25	1	Time control unit 25m installation	4.1.2
B2	TCUA501	2	Cable with external start button	
B3	VK-LTW2	1	Distribution box 2 LTW / light signal	3.2.3
B4	KT014-40	1	TCU cable for VJ45LS, 40m	
1	RFP25D004	1	Light signal RED (upper)	2.3.4.4
2	RFP25D005	1	Light signal GREEN (lower)	2.3.4.4
3	KP016-20	1	Bus connecting cable TCU-TCU	
4	Reference		Country-specific power supply cable, 2m	3.2.10

4.1.2 Time control unit TCU25

The time control unit TCU25 controls the red/green light signal installation of the targets for 25m disciplines. One device can control the light signals for a maximum of 40 targets.

The brightness of the red and green lights can be adjusted separately at the time control unit. All the international 25m pistol disciplines in accordance with ISSF and CISM are programmed in the time control unit. The device contains two independent channels. Each channel can control from 5 to a maximum of 20 targets.

In addition, a country-specific cable (Pos. 2) for the power supply is required.



TCU25 specifications

Size (W x H x D):	300 x 160 x 300mm
Weight:	3.8 kg
Consumption:	150 W _{max}

Program overview:

- A = Program selection channel 1 (left channel)
- B = Operation INTERN/SLAVE channel 1
- C = Brightness controller RED
- D = Master ON/OFF
- E = Brightness controller GREEN
- F = Operation INTERN/SLAVE channel 2
- G = Program selection channel 2 (right channel)
- H = Start channel 1
- I = Program (see right)
- J = Start channel 2
- K = External start button channel 1
- L = External start button channel 2

PROGRAMS	RED	GREEN
→ Menu 1 ☀ (1 Flash)		
0 = «Select Menu 2»; Press «START»	7"	150"
1 = Standard	7"	20"
2 = Standard	7"	10"
3 = Standard/CISM	7"	8"
4 = CISM	7"	6"
5 = CISM	7"	4"
6 = OSP	3"	8"
7 = OSP	3"	6"
8 = OSP	3"	4"
9 = Precision Pistol	7"	300"
A = Malfunction.	7"	240"
B = Malfunction.	7"	180"
C = Malfunction.	7"	120"
D = Malfunction.	7"	60"
E = Rapid Fire	7"	3"
F = 1 Shot	3"	1.2"
→ Menu 2 ☀ ☀ (2 Flashes)		
0 = «Select Menu 1»; Press «START»	7"	150"
1 = Standard	7"	20"
2 = Standard	7"	10"
3 = Standard	7"	30"
4 = Special	7"	40"
5 = Special	7"	50"
6 = Special	7"	60"
7 = Special	7"	90"
8 = Special	7"	360"
9 = Precision Pistol	7"	3"
A = Rapid Fire 5 x	7"	120"
F = Sighting malf.	7"	

The program usually starts
in "Menu 1".

Pos.	Article No.	Description	Rem.
1	TCU25	Time control unit 25m installation	
2	Reference	Country-specific power supply cable, 2m	3.2.10

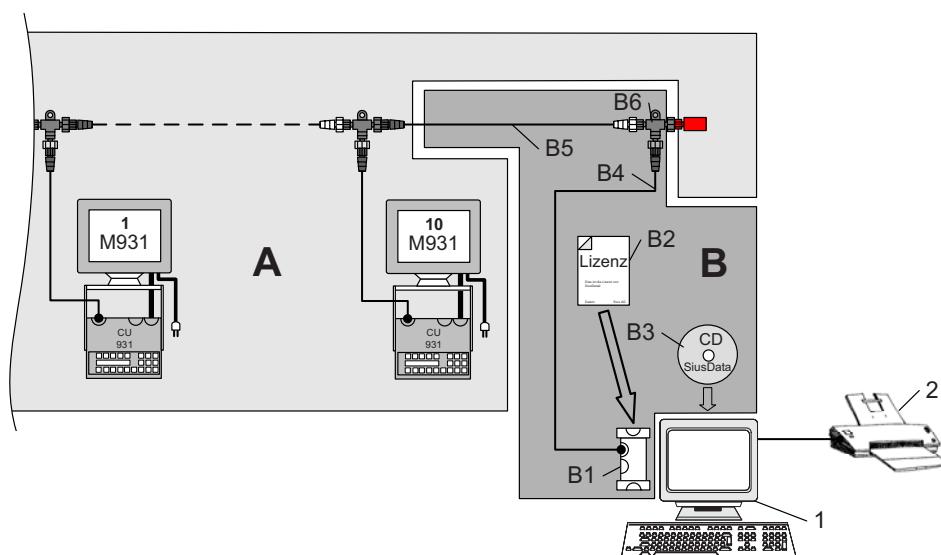
4.2 Additional PC for data acquisition

4.2.1 Installation overview data acquisition for 1-10 lanes

The shooting data of up to 10 lanes can be transmitted directly over a LON interface to a PC or a notebook.

The **SiusData^R** program must be installed on the PC. It is supplied on a CD ROM together with the driver for the LON interface. Installation and start-up is only possible with the corresponding licence.

The data can be printed out on a printer.



Pos.	Article No.	Pcs.	Description	Chapter
A	Reference	1	Basic SA931 LTW	3.1
B	SIUSDATA-LTW-SET	1	SiusData data acquisition set for LTW	
B1	AAG111	1	XLON-USB	4.2.3
B2	SIUSDATAA001	1	Licence for SiusData (on XLON-USB)	4.2.5
B3	CD001	1	Sius Software Collection CD with cover	4.2.5
B4	KL004-2.0	1	SIUS-DATA connection cable for LTW 2m	
B5	KL001-20.0	1	Cable LTW m – f 20.0m plug, black	3.2.6
B6	KL001-T	1	T-Adaptor fem, fem, male LTW IP67	3.2.4
1	PC586NET	1	Windows PC with current hardware	
2	PC-PRINTER01	1	Printer (600 dpi laser printer)	

4.2.2 Installation overview data acquisition for more than 10 lanes

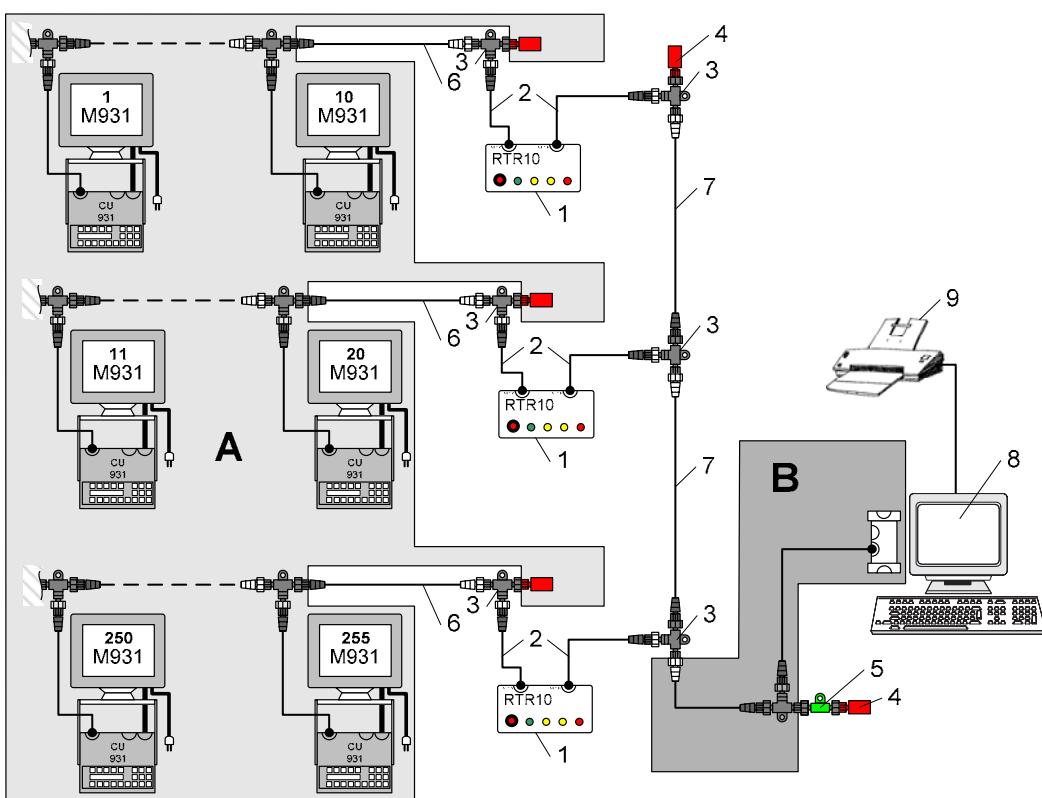
A system is designed in such a way that a maximum of 10 lanes can be connected directly over a XLON-USB to the PC or notebook. A larger number of lanes has to be grouped into segments of 10 lanes.

The individual segments are forwarded over a router to the backbone network on which the PC is situated.

From the picture and the resulting article information, it can be seen that the number of articles in positions 1, 2, 3, 6 and 7 must be adapted in accordance with the number of segments. The quantity of the itemised articles contains only the material for connecting one segment to the backbone network.

The cables in Pos. 6/7 are available in various lengths.

We will be happy to advise you with regard to other variants.



Pos.	Article No.	Pcs.	Description	Chapter
A	Reference	1	Basic SA931 LTW	2
B	SIUSDATA-LTW-SET	1	Data acquisition set SiusData for LTW	4.2.1
1	RTR10/FTT10	1	LON Router comp. FTT10-FTT10	4.2.4
2	KL003-2.0	2	Cable LTW m RJ45 2m	3.2.7
3	KL001-T	2	T-Adaptor fem, fem, male LTW IP67	3.2.4
4	KL001-R	2	Terminating resistor, red, male LTW IP67	3.2.5
5	KL001-I	1	I-Adaptor fem, fem LTW IP67	
6*	KL001-L	1	Cable LTW m – f length L, plug black	3.2.6
7*	KL001-L	1	Cable LTW m – f, length L, plug black	3.2.6
8	PC586NET	1	Windows PC with current hardware	

Pos.	Article No.	Pcs.	Description	Chapter
9	PC-PRINTER01	1	Printer (600 dpi laser printer)	

* L = length [m] to order. Available in lengths of 2, 3, 4, 20, 40 and 65m

4.2.3 LON-PC interface

The XLON-USB is an adaptor that allows PCs or laptops to be connected to a LON network. This external device is connected to the universal bus (USB). The driver for this can be found on the "Sius Software Collection CD". The licence number required for the operation of **SiusData^R** is printed on the underside of the XLON-USB.

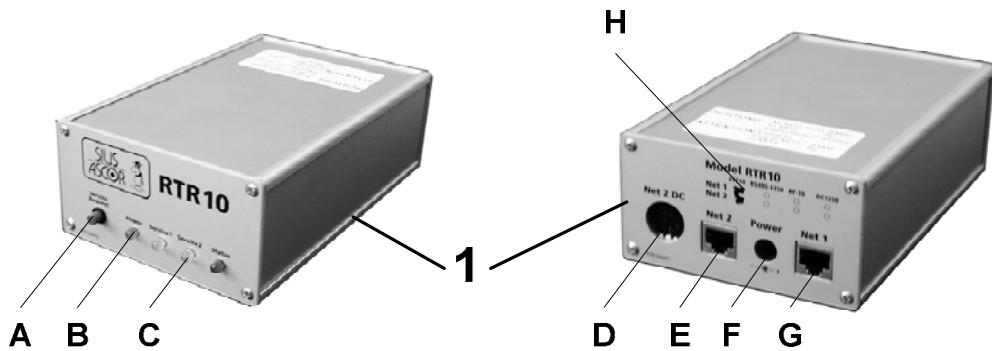
The XLON-USB requires no additional power supply.



Pos.	Article No.	Description	Rem.
1	AAG111	XLON-USB	

4.2.4 Router RTR10

For reasons of operational safety, signal load and power supply, only a maximum of 10 lanes may be installed on a segment. A second segment must be set up for more than 10 lanes. Individual segments can be connected to the LON interface of the PC using routers. Central data acquisition and ranking lists of the whole installation are thus possible.



- A = Service button
- B = Voltage display
- C = Service and status displays
- D = Service connection
- E = Network 2
- F = Power supply
- G = Network 1 (+ power supply)
- H = Router configuration

RTR10/FTT10 specifications

Size (W x H x D):	106 x 57 x 164mm
Weight:	370 g
Consumption:	1 W

Pos.	Article No.	Description	Rem.
1	RTR10/FTT10	LON Router comp. FTT10 – FTT10	

4.2.5 Data acquisition program SiusData®

SiusData® is a data acquisition program with which the shooting data of the SA931 generation can be recorded on a computer or a notebook.

It progressively imports the shooting data and presents it in a grid format. Actual operation is not required. One person can thus supervise the whole shooting operation and import the data into Excel.

Functions:

- Acquisition and processing of shots (practice and match)
- Display of exceptions (zeros, target errors, etc.)
- Control overview, individual view, participant overview
- Simultaneous remote control of all control units (command shooting)
- Comfortable preview and printer functions for individual lanes
- ATOS data export for shooting accountabilities
- Data security and reconstitution
- Checking SSV licence numbers

The following picture is displayed during the course of the program:

Lan	Ac	Name	Starting	NAT	Sighters	1	2	3	4	5	6	7	8	9	10	11	12	13
1	⊕	KASSOUMI	470	GRE	<20 10.5>	10	10	0.0	10	10	10	10	10	10	10	10	10	10
2	⊕	SALUKVADZE	556	GEO	<19 10.5>	10	10	10	10	0.0	10	10	10	10	10	10	10	10
3	⊕ X	SEKARIĆ	820	YUG		10	10	10	10	10	10	10	10	10	10	10	10	10
4	⊕ X	KUBALA	11	AUT		10	10	10	10	10	10	10	10	10	10	10	10	10
5	⊕ X	CALLAHAN	349	USA		10	10	10	0.0	10	10	10	10	10	10	10	10	10
6	⊕	MONKBAJAR	790	MGL	<20 10.6>	10	10	10	10	10	10	10	10	10	10	10	10	10
7	⊕	GALOUSO	408	BLR	<19 10.7>	10	10	10	10	10	10	10	10	10	10	10	10	10
8	⊕ X	BERTON	1030	FRA		10	10	10	10	10	10	10	10	10	10	10	10	10
9	⊕ X	ASHOUMOVA	448	AZE		10	10	10	10	10	10	10	10	10	10	10	10	10
10	⊕ X	KOKOREVA	113	RUS		0.0	10	10	10	10	10	10	10	10	10	10	10	10
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		
19																		
20																		
996																		
997																		
998																		
999																		

A = Lane status (stop, practice, match)

B = Reporting particular events: e.g. zeros or impermissible shots

C = Shooter information (name, starting number, nationality)

D = Shooting data

SiusData® is not a ranking list program, but purely a data acquisition program.

The SiusRank® program is available for rank listing and covers all ISSF competitions (*Chapter 4.2.6 Ranking list program*).

Shooting data can also be imported into an Excel table and then processed. The ranking list can be created and printed out by means of totals fields and sorting.

Minimum PC requirements:

- Win98/ME/2000/XP operating system, browser installed for help files
- At least 10MB free harddisk space
- 1 USB interface for XLON-USB
- Microsoft Excel 97 or 2003 (only for further processing of the shooting data)

Pos.	Article No.	Description	Rem.
	CD001	Sius Software Collection CD with cover	
	SIUSDATAA001	Licence for SiusData (on XLON-USB)	

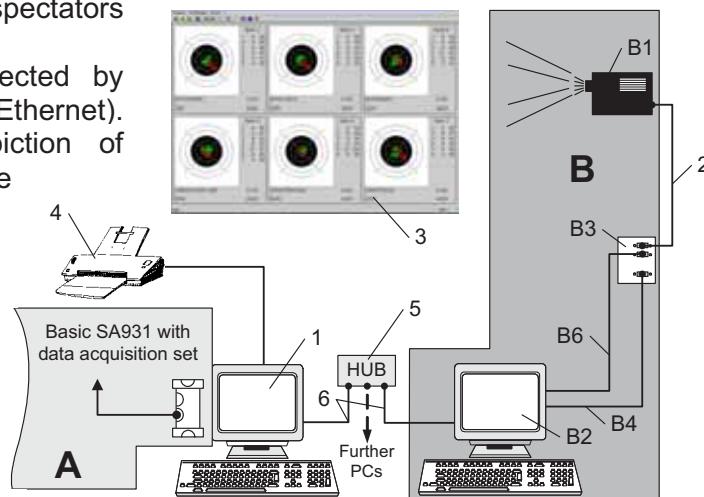
Displaying data with SiusView®:

With the use of **SiusView®**, target pictures with shots can be displayed on a second PC (Pos. B2) and made visible to the spectators using a projector.

The two computers are interconnected by means of a standard network (Ethernet). **SiusView®** also permits the depiction of several target pictures at the same time. The views can be cyclically changed. **SiusView®** can be found on the **SiusData®** CD.

The length of the connection cable to the projector (Pos. 2) can be selected according to use.

SiusView® does not show ranking!



Pos.	Article No.	Pcs.	Description	Chapter
A	Reference	1	Basic SA931 LTW	2
B	LCD-SHOW-SET	1	LCD Video projector incl. PC & software	
B1	LCD-SHOW02	1	LCD video projector	
B2	PC586NET	1	Windows PC with current hardware	
B3	PCVGA-SPLIT	1	VGA splitter 2 outputs up to 65m	4.2.7
B4	KV012-1	1	Cable extension VGA/RGB, 1m	
1	PC586NET	1	Windows PC with current hardware	
2*	KV012-L	1	Cable extension VGA/RGB, 1m	
3	LCD-BOARD01	1	Projection screen with pedestal	
4	PC-PRINTER01	1	Printer (600 dpi laser printer)	
5	PCHUB-4-100	1	Hub Ethernet 4 x RJ45, 10/100 Mbit/s	
6	AA203-2	2	Shielded cable RJ45, grey	

* L = length [m] to order. Available in lengths of 1, 2, 3, 4, 6, 10, 20, 25, 30 and 50m.

Depending on your needs various LCD-SHOW-SETS (Pos. B) and projection screen models (Pos. 3) are available. We will be happy to advise you.

For an introduction to this program, we recommend participating in a software course lasting several days on our premises. We are happy to be of assistance if you require further details.

4.2.6 Ranking list program SiusRank^R

SiusRank^R is a well-known ranking program for all ISSF and CISM elimination and qualification competitions.

Parallel to the shooting data acquisition of **SiusData^R**, the **SiusRank^R** puts the processing of such data in the foreground (both applications run on the same PC). During the competitions, current rankings can be continuously output according to averages and can be displayed on the monitor of a second PC and/or a projector. (→**TvBox^R**)

SiusRank^R supports the import and export of starting lists and ranking lists to Microsoft Excel which ensures that the preparation for a competition is much easier. The rankings can be printed out in Word whereby it can be processed further without any problems. It is possible to insert sponsor logos at any time.

SiusRank^R runs on Win98/ME/2000/XP. We recommend using this version on a PC with a screen resolution of at least 1024 x 768 pixels.

Datasets are displayed in the form of tables in this program. The following picture shows an extract of a ranking list.

The screenshot displays two windows of the SiusRank software. The main window is titled 'BROWSE NOMODIFY Finrank V:3.23-XP-NODRAW' and shows a detailed ranking list with columns for Rec, COLOUR, MS, RA, FP, FRLY, STNR, NAME, NAT, FTG, TOT, and various scores from F1 to F15, along with Final and Diff values. The data includes entries for CHEN (CHN), ERDOS (HUN), FUJIKUSHIMA (JPN), HYKOVA (CZE), JANIS (KOR), KOUSNETSOVA (RUS), MEYERHOFF (DEN), SHAPIALEVICH (BLR), WOODWARD (AUS), and YRSALIEVA (KGZ). The bottom window is a 'Finalshotnumber --> 2 Relaynr.: 0 Championstrophy Rifle Mixed' dialog box with buttons for CLEAR MONITORS AND SPECTATORDISPLAY, GET DATA, RANKLIST TO SPECTATORSDISPLAY, MANUAL CORRECTIONS, and BACK TO MAINMENU.

The program operates in English. However, the title and printouts can also be output in German by selecting a set-up parameter.

Pos.	Article No.	Description	Rem.
	CD003	SiusRank incl. Sius Software Collection CD	

Displaying data with the **TvBox^R**:

A second PC is required in order to display the results calculated with **SiusRank^R**. The PCs are interconnected by means of a RS232 interface. The elimination and qualification rankings are shown in a text screen on the **TvBox^R** PC (Pos. B2).

During finals, the total target overview, the individual target view, the ranking as well as the medal view can be shown.

The monitor signal of the **TvBox^R** PC can be transmitted via a VGA distributor (splitter) to a spectator projector.

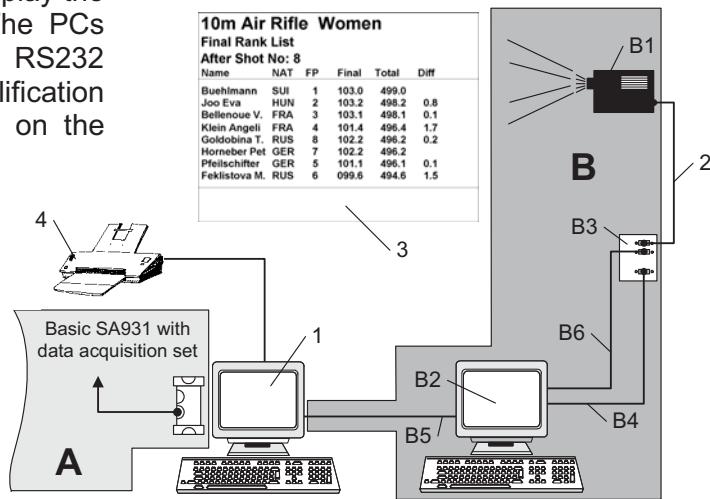
Connecting cables for the projector (Pos. 2) are available in various lengths.

10m Air Rifle Women

Final Rank List

After Shot No: 8

Name	NAT	FP	Final	Total	Diff
Bushmann	SUI	1	103.0	499.0	
Joo Eva	HUN	2	103.2	498.2	0.8
Bellenoue V.	FRA	3	103.1	498.1	0.1
Klein Angeli	FRA	4	101.4	496.4	1.7
Goldobina T.	RUS	8	102.2	496.2	0.2
Horneber Pet	GER	7	102.2	496.2	
Pfeilschiffer	GER	5	101.1	496.1	0.1
Feklistova M.	RUS	6	099.6	494.6	1.5



The **TvBox^R** is controlled by **SiusRank^R**!

Pos.	Article No.	Pcs.	Description	Chapter
A	Reference	1	Basic SA931 LTW	2
B	LCD-SHOW-SET	1	LCD video projector incl. PC & software	
B1	LCD-SHOW02	1	LCD video projector	
B2	PC586NET	1	Windows PC with current hardware	
B3	PCVGA-SPLIT	1	VGA splitter 2 outputs to 65m	4.2.7
B4	KV012-1	1	Cable extension VGA/RGB, 1m	
B5	KP034-2	1	Cable connection PC-RS232 crossed, 2m	
B6	-	1	Existing monitor cable	
1	PC586NET	1	Windows PC with current hardware	
2*	KV012-L	1	Cable extension VGA/RGB	
3	LCD-BOARD01	1	Projection screen with pedestal	
4	PC-PRINTER01	1	Printer (600 dpi laser printer)	

* L = length [m] to order. Available in lengths of 1, 2, 3, 4, 6, 10, 20, 25, 30 and 50m

Depending on your needs various **LCD-SHOW-SETS** (Pos. B) and projection screen models (Pos. 3) are available. We will be happy to advise you.

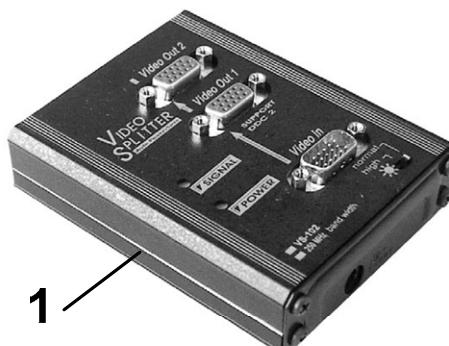
For an introduction to this program, we recommend participating in a software course lasting several days on our premises. We are happy to be of assistance if you require further details.

4.2.7 VGA splitter

For large events, it is often a requirement to project current rankings onto a large screen via a projector.

A VGA splitter can be used to display the results on the monitor on the one hand, and by means of a projector onto a screen on the other hand. Splitters with 2 or 4 outputs are available depending on the number of end devices to be connected.

The individual splitters require a suitable power supply which is included in delivery.



PCVGA-SPLIT specifications

Size (W x H x D):	104 x 98 x 24mm
Weight:	520 g
Consumption:	3 W
Connections:	1 input 2 outputs



PCVGA-SPLIT-4 specifications

Size (W x H x D):	224 x 152 x 52mm
Weight:	1700 g
Consumption:	3 W
Connections:	1 input 4 outputs

Pos.	Article No.	Description	Rem.
1	PCVGA-SPLIT	VGA splitter, 2 outputs up to 65m	
2	PCVGA-SPLIT-4	VGA splitter, 4 outputs up to 60m	

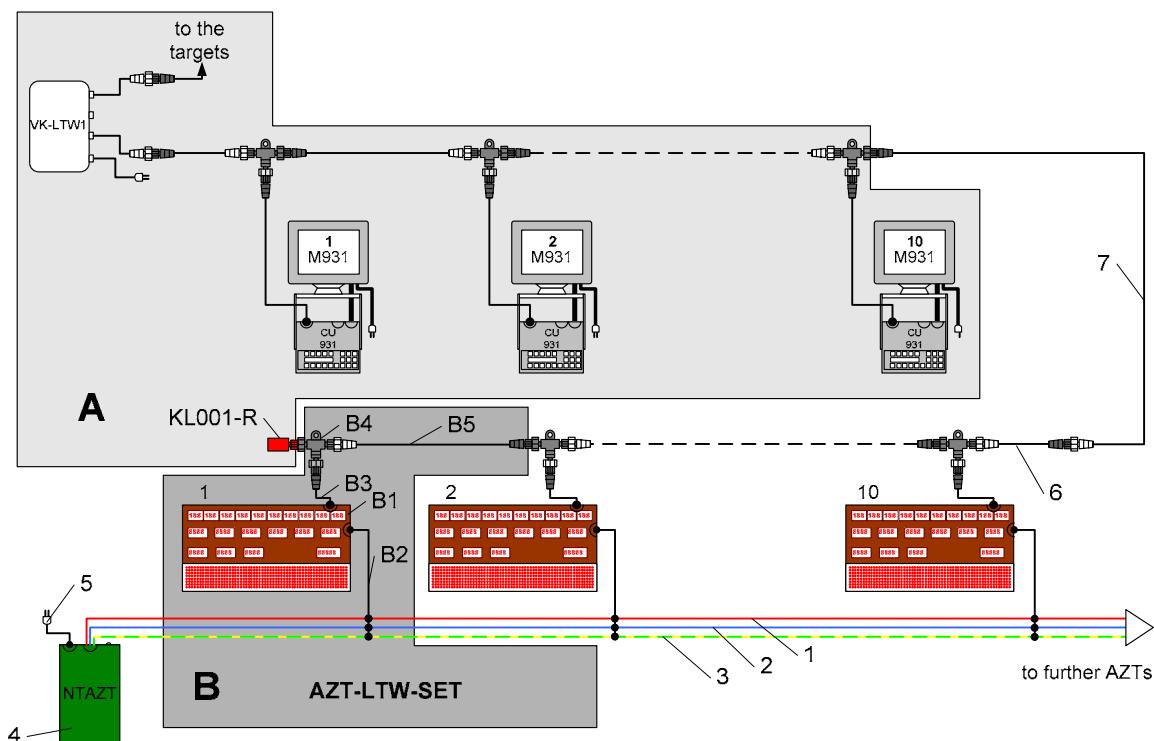
4.3 Additional match scoreboard

The match scoreboards were developed so that the spectators can follow a match shot by shot. A board, on which the last 10 shot values, the last 6 shot series, the intermediate total of the individual positions and the overall total are displayed, can be fixed either behind or above each contestant.

4.3.1 Match scoreboard installation overview

In the AZT set, all the parts that are required for the control of an individual scoreboard are included. However, the power supply (Pos. 4) and the corresponding wiring (Pos. 1-3) are required in addition.

Two different display boards are available (Pos. B1): AZT03-LON with inserts for the shooter's data on cardboard as well as AZT06-LON with LED text which obtains the data from the acquisition PC. The data on the respective shooters consists of start number, name and nationality.



Pos.	Article No.	Pcs.	Description	Chapter
A	Reference	1	Basic SA931 LTW	2
	Reference	10	Target sets LTW	2
	Reference	1	Cable and power supply sets LTW	3.2
	FP931-LTW-SET	10	Firing point set LTW	3.1.1
B	AZT03-LTW-SET	1	Scoreboard set LTW	
B1	AZT03-LON	1	Match scoreboard LON	4.3.2
B2	KP021-2.0	1	Power cable AZT03/06, 2.0m	4.3.4
B3	KL003-2.0	1	Cable LTW m -RJ45, 2.0m	3.2.7
B4	KL001-T	1	T-Adaptor fem, fem, male LTW IP67	3.2.4
B5	KL001-2.0	1	Cable LTW m – f 2.0m plug, black	3.2.6

Pos.	Article No.	Pcs.	Description	Chapter
B	AZT06-LTW-SET		Scoreboard set LTW names	
B1	AZT06-LON		Match scoreboard names LON	4.3.3
B2	KP021-2.0	1	Power cable AZT03/06, 2m	4.3.4
B3	KL003-2.0	1	Cable LTW m -RJ45, 2.0m	3.2.7
B4	KL001-T	1	T-Adaptor fem, fem, male LTW IP67	3.2.4
B5	KL001-2.0	1	Cable LTW m – f 2.0m plug, black	3.2.6
1 ^{*1}	AK017-L	1	Wiring TF 4.0mm ² red, length to order	4.3.4
2 ^{*1}	AK016-L	1	Wiring TF 4.0mm ² light blue, length to order	4.3.4
3 ^{*1}	AK073-L	1	Wiring TF 4.0mm ² yellow/green, len. to order	4.3.4
4	NTAZT-LON	1	Power supply for scoreboard 630 VA	4.3.4
5	Reference	1	Country-specific power supply cable, 2m	3.2.10
6 ^{*2}	KL001-L	1	Cable LTW m – f length to order	3.2.6
7	KL001-2.0	1	Cable LTW m – f 2.0m plug, black	3.2.6

^{*1} L = length [m] to order. Available in any length.

^{*2} L = length [m] to order. Available in lengths of 2, 3, 4, 20, 40 and 65m

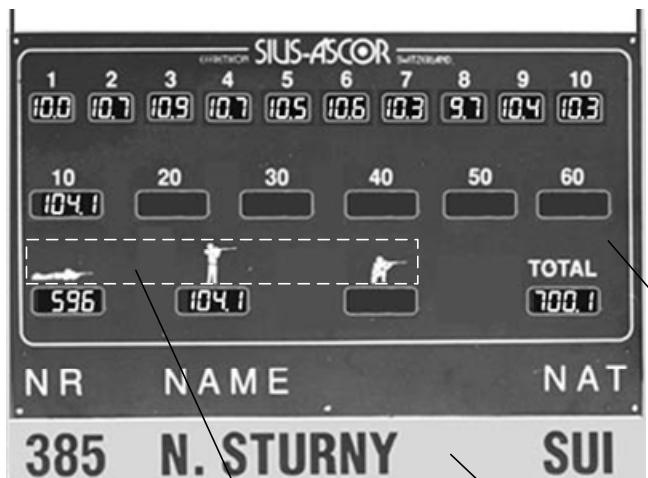
4.3.2 Match scoreboard AZT03-LON

The match scoreboard AZT03-LON is designed for all 10, 50 and 300 metre disciplines (total fields: lying, standing, kneeling) and for all 25 metre pistol disciplines (total fields: Stage 1, Stage 2 and Stage 3). The markings of the total fields are printed on the front and rear sides of a small steel plate (A) that is fixed with magnets. This small plate is mounted in accordance with the current discipline.

The shooter's data (start number, name, nationality) is written on cardboard (B) and inserted at the bottom of the board.

AZT03-LON specifications

Size (W x H x D):	800 x 500 (+100) x 60mm
Weight:	8 kg
Consumption:	36 W _{max}



* A = Small steel plate with indication of the position totals or stages

B = Cardboard insert with shooter's data (800 x 100mm)

***A: Steel plate:** 10, 50, 300m: lying, standing, kneeling



25m-pistol-disciplines: Stage 1, Stage 2, Stage 3



Pos.	Article No.	Description	Rem.
1	AZT03-LON	Match scoreboard LON	

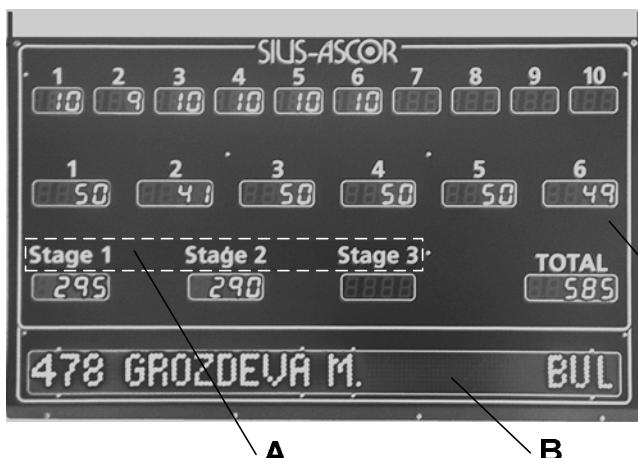
4.3.3 Match scoreboard AZT06-LON

The match scoreboard AZT06-LON is designed for all 10, 50 and 300 metre disciplines (total fields, lying, standing, kneeling) and for all 25 metre pistol disciplines (total fields: Stage 1, Stage 2 and Stage 3). The markings of the total fields are printed on the front and rear sides of a small steel plate (A) that is fixed with magnets. This small plate is mounted in accordance with the current discipline.

The shooter's data (start number, name, nationality) which are stored in the data acquisition PC, are shown with LEDs on the scoreboard.

AZT03-LON specifications

Size (W x H x D):	800 x 500 x 60 mm
Weight:	8 kg
Consumption:	54 W _{max}



* A = Small steel plate with indication of the position totals or stages

B = LED text with shooter's data (controlled by PC)

1

***A: Steel plate:** 10, 50, 300m: lying, standing, kneeling



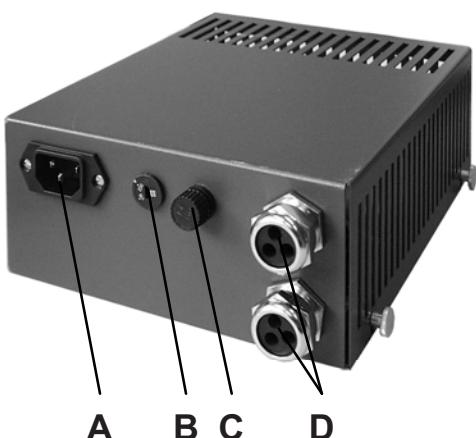
25m-pistol-disciplines: Stage 1, Stage 2, Stage 3



Pos.	Article No.	Description	Rem.
1	AZT06-LON	Match scoreboard names LON	

4.3.4 Power supply NTAZT-LON

The scoreboards require their own power supply, the NTAZT-LON. A power supply has sufficient power for a maximum of 12 scoreboards. The device can be switched over for an input voltage of 110 or 230 V and is connected to the power supply with a country-specific cable.

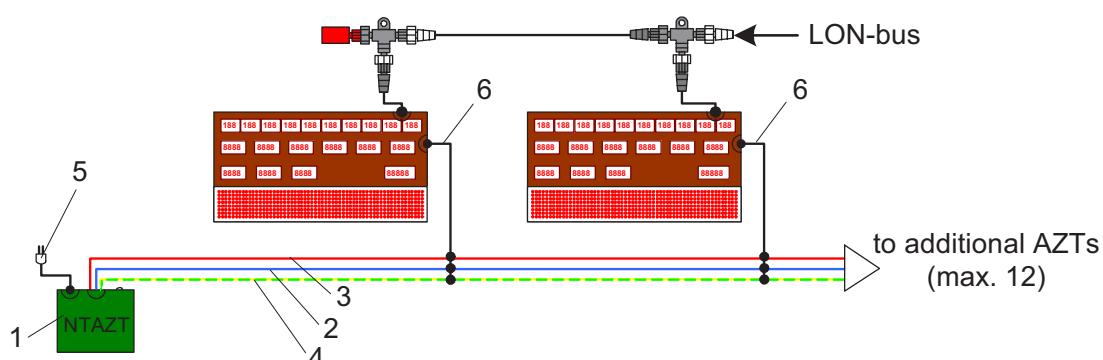


NTAZT-LON specifications

Size (W x H x D):	244 x 187 x 76 mm
Weight:	5.95 kg
Consumption:	630 W

- A = Power supply cable 2m (Pos. 5)
- B = Voltage switch
- C = Fuse housing
- D = Stuffing connection for wiring

The distribution is by means of three supply strands 4mm² Pos. 2, 3, 4 (length as desired). The splicing clamps (Pos. 6) are connected to this wiring and are supplied with every AZT set (*Chapter 4.3.1 Match scoreboard installation overview*). The power supply is designed for a maximum of 12 lanes.



Pos.	Article No.	Description	Rem.
1	NTAZT-LON	Power supply for scoreboard 630 VA	
2	AK016-L	Wire TF 4.0mm ² , light blue	
3	AK017-L	Wire TF 4.0mm ² , red	
4	AK073-L	Wire TF 4.0mm ² , yellow/green	
5	Reference	Country-specific power supply cable, 2m	3.2.10
6	KP021-2.0	Power cable AZT03/06, 2m	

4.4 Additional switch box for several distances

A shooting installation can be arranged in such a manner that different targets and distances can be shot from one position.

As a central component, a switch box is used with which the individual distances to the targets can be switched.

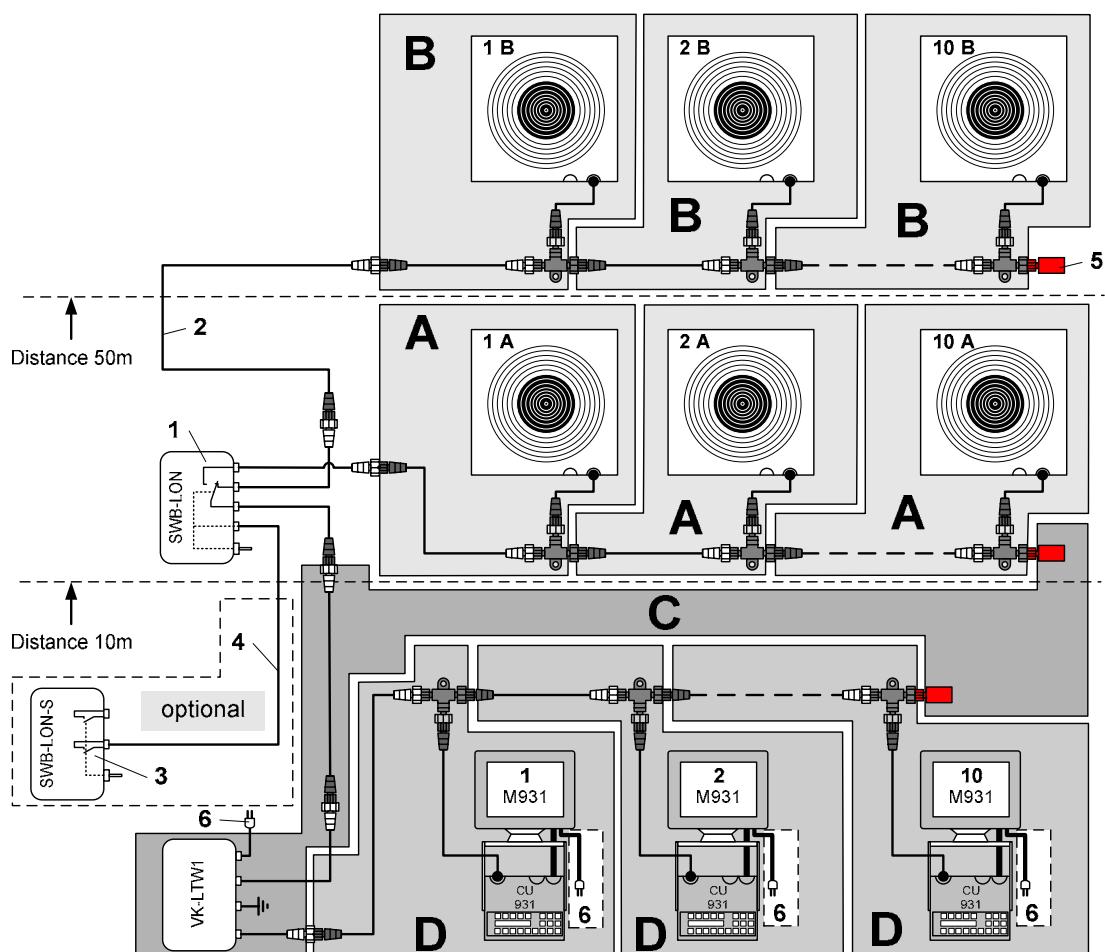
Many installation combinations are possible, depending on the needs which differ according to the type of target, the number of lanes or the number and length of the shooting distances. Two examples are discussed in more detail below: One installation with two and another with three shooting distances. For installations other to those shown, the lengths of the connecting cables must be adapted.

We are happy to advise you with regard to any other installation combination.

4.4.1 Installation example with 2 distances

Basically, there are two options to switch between the respective distances in an installation which has targets for several shooting distances. For short distances, the switch-over can be undertaken directly via a switch box (Pos. 1). For greater distances between the shooting position and the target, it is recommended to undertake the switch-over indirectly by means of an additional key box (Pos. 3) (optional). The switch-over between the two distances can thus be undertaken from the firing point.

In the following example, an installation with shooting distances of 10m and 50m is shown.



Pos.	Article No.	Pcs.	Description	Chapter
A	S10-LTW-SET	10	Target set (air rifle / air pistol LTW)	2.1.1
B	S25/50-LTW-SET	10	Target set S25/50 LTW	2.3.1
C	10M-LTW-SET	1	Cable and power supply set for 25m LTW	3.2.1.1
D	FP931-LTW-SET	10	Firing point set LTW	3.1.1
1	SWB-LON	1	Switch box LON LTW	4.4.3
2	KL001-40.0	1	Cable LTW m – f 2.0m plug, black	3.2.6
3*	SWB-LON-S	1	Key box ext. Switch for Switchbox	4.4.4
4*	KV021-20	1	Shielded cable 2 x 0.5mm ² 20mcm	3.2.8
5	KL001-R	1	Terminating resistor, red, male LTW JP67 (Already included in Article No. SWB-LON)	3.2.5
6	Reference	1	Country-specific power supply cable, 2m	3.2.10

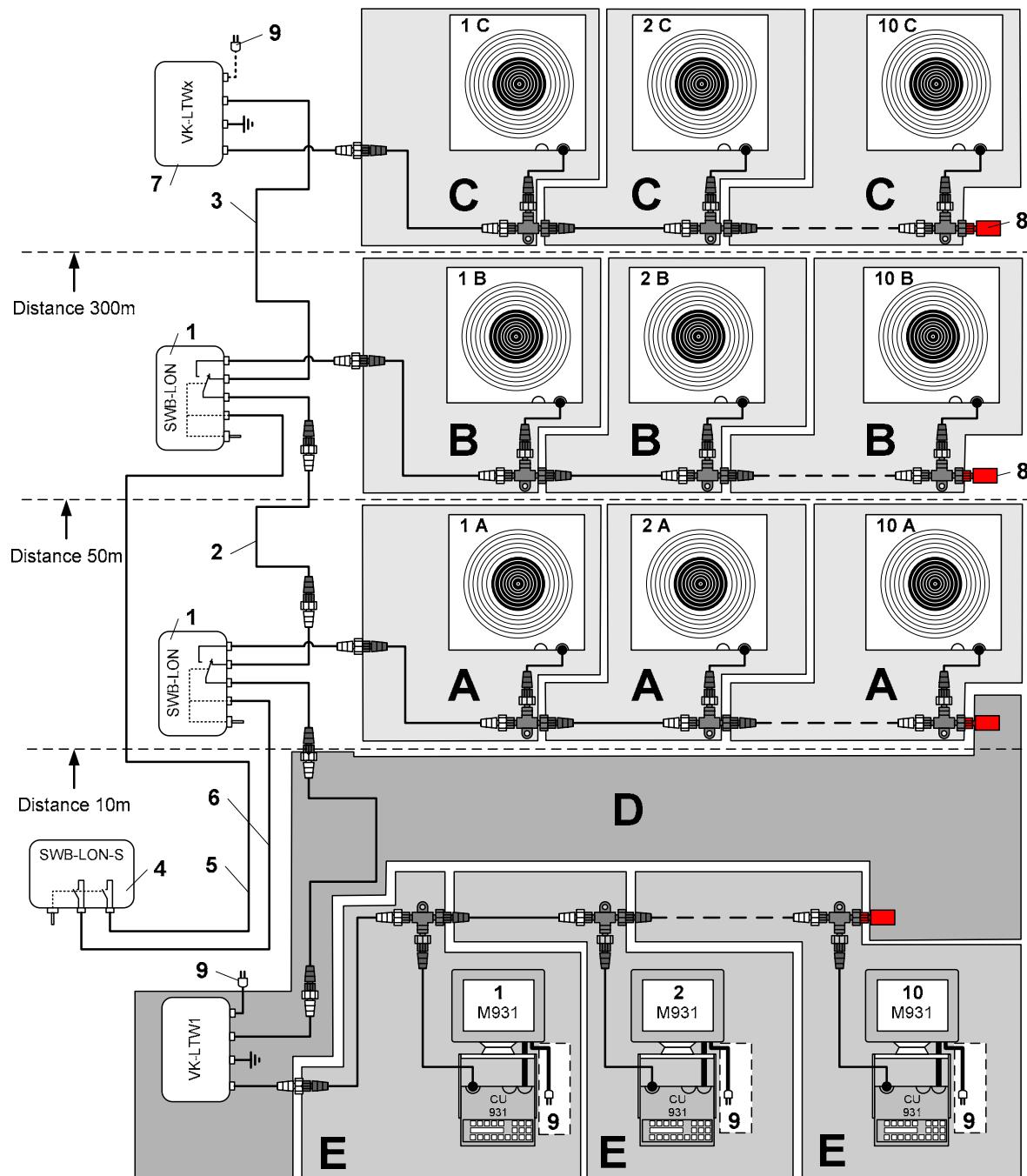
* (Optional) installation can only be equipped for short distances without KeyBox and corresponding connection cables.

4.4.2 Installation example with 3 distances

In contrast to a shooting installation which is used over several distances that do not exceed 100m, installation combinations over greater distances require an additional distributor box (Pos. 7).

The distributor box shown in this example has a power supply that ensures that data transmission between the target and the firing point also functions for the specified 300m.

In the following example, an installation with shooting distances of 10m, 50m and 300m is shown.



Pos.	Article No.	Pcs.	Description	Chapter
A	S10-LTW-SET	10	Target set (air rifle / air pistol LTW)	2.1.1
B	S25/50-LTW-SET	10	Target set S25/50 LTW	2.3.1
C	S310-LTW-SET	10	Target set S310 LTW	2.5.1
D	10M-LTW-SET	1	Cable and power supply set for 10m LTW	3.2.1.1
E	FP931-LTW-SET	10	Firing point set LTW	3.1.1
1	SWB-LON	2	Switch box LON LTW	4.4.3
2	KL001-40.0	1	Cable LTW m – f 2.0m plug, black	3.2.6
3	KV021-275		Shielded cable LON 2 x 0.5mm ² 275m	3.2.8
4	SWB-LON-S	1	Key box ext. Switch for Switchbox	4.4.4
5	KV021-60		Shielded cable LON 2 x 0.5mm ² 60m	3.2.8
6	KV021-20	1	Shielded cable 2 x 0.5mm ² LON 20m	3.2.8
7	VK-LTW1V0	1	Power supply for 10 lines, 60W with LTW 230V	3.2.2
8	KL001-R	2	Terminating resistor, red, male LTW JP67 (Already included in Article No. SWB-LON)	3.2.5
9	Reference		Country-specific power supply cable, 2m	3.2.10

4.4.3 Switch box SWB-LON

The switch box SWB-LON can be used to switch over the network in combined installations with several shooting distances (e.g. 10m air rifle or pistol and 50m small bore rifle or pistol). For short distances, the SWB-LON can also be installed at the firing point. In this case, additional network cables for the individual distances are required.



SWB-LON specifications

Size (W x H x D): 165 x 76 x 135 mm
Weight: 542 g

Pos.	Article No.	Description	Rem.
1	SWB-LON-V2	Switch box LON LTW, equipped with ext. contact LTW	

4.4.4 Remote control for switch box SWB-LON-S

For larger distances, the use of the key box SWB-LON-S is recommended. The switch-over between the various shooting distances can then be carried out by means of a key from the firing point by remote control.



SWB-LON-S specifications

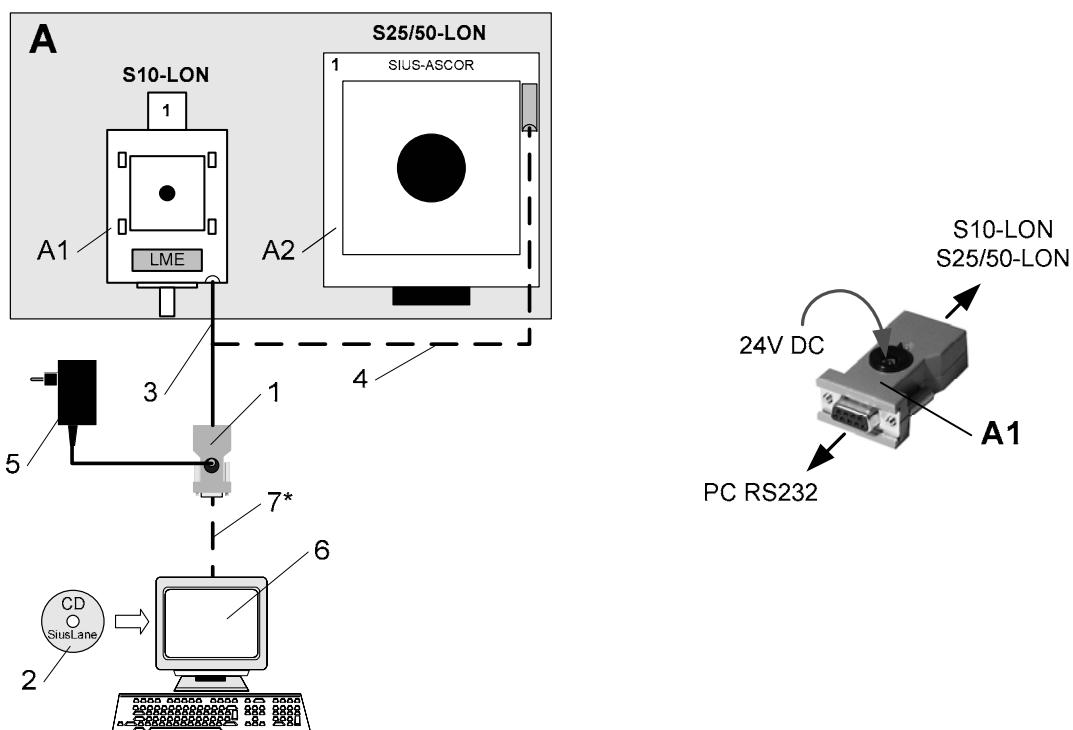
Size (W x H x D): 165 x 87 x 135 mm
Weight: 525 g

Pos.	Article No.	Description	Rem.
1	SWB-LON-S	Switch box S (with key)	

4.5 Connecting the target to a PC with SiusLane^R

4.5.1 Installation overview of SiusLane^R

SiusLane^R provides an economical option of compiling a scoring system. The principle consists in displaying and evaluating shooting data from a SIUS target (S10-LON or S25/50-LON) on a commercially available computer or notebook. The processing of the shooting data is carried out by the SiusLane^R display program. This is supplied on a CD ROM and can be installed on an already existing Windows PC. A cable suitable for the target in use must be selected from the position 3 and 4 connecting cables.



Pos.	Article No.	Pcs.	Description	Chapter
A	-		Target sets for 10 or 25/50m	
A1	S10-LTW-SET	1	Target set (air rifle / air pistol LTW)	2.1.1
A2	S25/50-LTW-SET	1	Target set S25/50 LTW	2.3.1
1	VJ45-232	1	Adaptor for RS232 interface	
2	SIL001	1	SiusLane evaluation program (CD)	4.5.2
3	KV022-15	1	SiusLane connecting cable, 15m (for S10)	
4.1	KV022-30	1	SiusLane connecting cable, 30m (for S25)	
4.2	KV022-60	1	SiusLane connecting cable, 60m (for S50)	
5	NT931-2	1	Power supply, Euro plug	
6	PC586NET	1	Windows PC with current hardware	
7*	KP036-2	1	RS232 extension cable, 2m (optional)	

* Depending on the type of notebook or PC, the use of the RS232 connecting cable (Pos. 7) is recommended in order to distance the adaptor from the device.

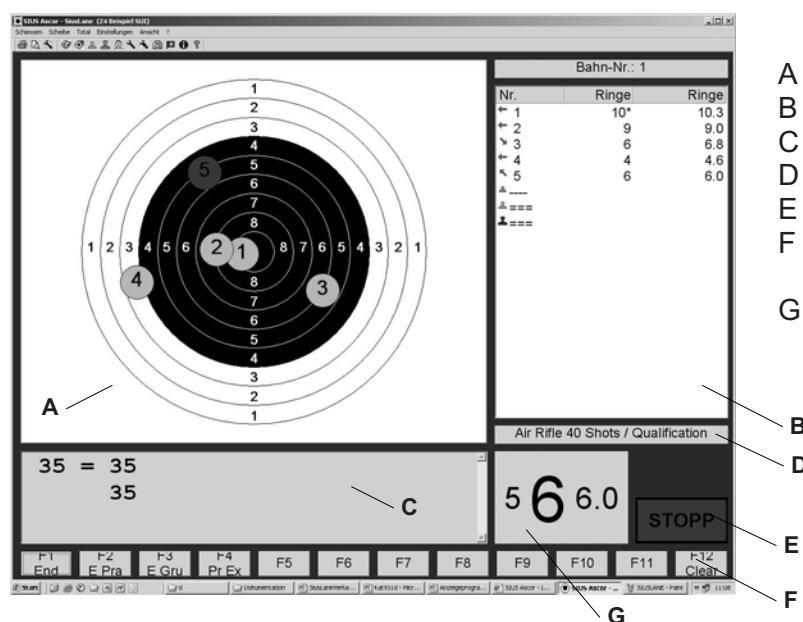
4.5.2 Display program SiusLane^R

The evaluation program SIL001 is responsible for visualising, controlling and monitoring the installation cabled with **SiusLane^R**. This is a program that must be installed on a connected PC or laptop.

Minimum requirements of the PC:

- Win98/ME/2000/XP operating system,
- Browser installed for help files
- At least 5MB harddisk space
- A free serial RS232 interface

The main user interface of **SiusLane^R** that is visible during shooting is presented as follows:



- A = Display of the score position
- B = Shot number with value
- C = Display of totals / subtotals
- D = Type of shooting
- E = Status display (stop, ready)
- F = Freely programmable keys (F1 to F12)
- G = Value of the last shot

Functions:

- Target enlargement function (Zoom)
- Comfortable preview and printer functions
- Secondary shooting evaluation in rings or divisions
- Target pictures: Air rifle or pistol, small bore rifle or pistol and others
- Shooting data: Name field (name, first name), start number, club
- Archiving the data with the option to process further
- Independent translation of the program into other languages (Standard languages: German, English, French, Spanish)

Limitations compared with SA931 basic installation:

As this is a simplified and inexpensive installation configuration, not all the functions available in SA931 are implemented.

(No shot sensor, no AZT control, no Olympic Rapid Fire, no barcodes)

Pos.	Article No.	Description	Rem.
	SIL001	SiusLane evaluation program (CD)	

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6 Guarantee Terms

6.1 Guarantee

With this user guarantee, SIUS guarantees that no material and product defects will occur for all devices from the time of the first purchase for the period of 1 (ONE) YEAR.

If, during the period of guarantee, defects occur that can be attributed to material or manufacturing faults, in accordance with the conditions mentioned below, SIUS or the country representative will repair, or (at the discretion of SIUS) replace the defective parts free of charge in terms of work and materials. SIUS retains the right (at its sole discretion) to replace spare parts of defective products either by reconditioned spare parts or replacement spare parts and lower priced products by new or replacement products.

6.2 Conditions

1. This guarantee is only valid if the original invoice or cash receipt (showing purchase date, product type and name of representative) are produced together with the defective product. SIUS retains the right to refuse free guarantee performance when these documents are not produced or if the information contained therein is incomplete or illegible.
2. The guarantee does not include or compensate for any damage that occurs as a result of the device having been altered or adapted, without the prior written agreement of SIUS, in order to correspond to the technical or safety regulations of a country that is not the country for which the product was originally developed and manufactured.
3. This guarantee is invalid when the type or serial number of the product has been changed, deleted, removed or rendered illegible.
4. This guarantee does not cover any of the following points:
 - a) Regular maintenance and repair or replacement of parts caused by normal wear and tear.
 - b) Any changes or adaptation in order to suit the product, without the prior written permission of SIUS, for a purpose that is different to that mentioned in the operating instructions.
 - c) Costs of transport, travelling for home service and all transport risks that are connected directly or indirectly with this guarantee.
 - d) Damage to this device caused by:
 1. Unprofessional use, especially (a) use of this device for a purpose other than its intended one or use under non-adherence to the operating and maintenance instructions by SIUS and (b) the connection or use of this product in a manner that, in the country in which the device is used, does not correspond to the applicable technical or safety regulations and (c) unsuitable or unprofessionally installed software.
 2. Repairs by Service Centres or Service Dealers that are not authorized by SIUS or repairs carried out by the customer.
 3. Accidents, lightning strikes, water, fire, insufficient ventilation or other causes outside the powers of SIUS.
 4. Defects in the system into which this product is installed.
5. This guarantee in no case covers resultant damage of any type that is caused by the defective functioning or the failure of the system(s).

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