

WEISUNG FÜR DIE HANDHABUNG DES SINAR SERVICE HANDBUCHES

- 1 Jede SINAR Service-Stelle erhält ein Exemplar des Service-Handbuches leihweise. Es bleibt jedoch Eigentum von SINAR AG SCHAFFHAUSEN.
- 2 Das Service-Handbuch ist durch die Service-Stelle auf dem neuesten Stand zu halten. SINAR liefert dazu periodisch die revidierten und neuesten Unterlagen.
- 3 Wird der Vertrag zwischen SINAR und der Vertretung, resp. Service-Stelle, aufgelöst, ist das Service-Handbuch nach Ablauf der Kündigungsfrist unverzüglich und vollständig an SINAR zurückzugeben.
- 4 Sämtliche Copy-Rechte an den Unterlagen bleiben SINAR vorbehalten.
- 5 Service-Handbuch-Unterlagen enthalten einen Teil wertvollen technischen SINAR Know-Hows. Die Unterlagen sind deshalb durch die Service-Stellen mit der entsprechenden Vertraulichkeit zu behandeln und vor unbefugter Einsicht zu schützen. SINAR behält sich ausdrücklich vor, eventuellen Missbrauch rechtlich zu verfolgen.
- 6 Periodisch sind Rapporte an SINAR zu senden über ausgeführte Reparaturen mit Angaben von Einzelheiten, wie genaue Artikelbezeichnung, Serie-Nr., Art und Ursache des Defektes, ausgeführte Reparaturen etc. Nur auf diese Weise können die Qualität und die laufende Optimierung der SINAR Produkte sichergestellt werden.
- 7 Anfragen an das Werk sind zu richten an P.W. Schlatter, SINAR AG SCHAFFHAUSEN

September 1986
Mii/zm

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| 1 | 0 | Allgemeine Hinweise | General instructions | Instructions générales |
| | 1 | SINAR p/s-Block | SINAR p/block s | SINAR p/bloc s |
| | 2 | SINAR f Mehrzweckstandarten SINAR handy | SINAR f Multipurpose standards SINAR handy | SINAR f Montants polyvalents SINAR handy |
| | 3 | SINAR e | SINAR e | SINAR e |
| | 4 | | | |
| 2 | 5 | Tragelemente Kassetten-Mattscheiben-Rahmen Reduktionsrahmen, Balgen | Rear carriers Glass holder carriers, Formal reducing adapters, Bellows | Montants arrières Dos, Adaptateurs pour reduction de format, Soufflets |
| | 6 | Rapidadapter | Rapid adapter | Adaptateur rapide |
| | 7 | | | |
| | 8 | | | |
| | 9 | SINAR Verschlüsse | SINAR Shutters | Obturbateurs SINAR |
| | 10 | Zubehör | Accessories | Accessoires |
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Introduction

This handbook serves for the maintenance of SINAR products. It is intended as an aid to the servicing engineer, so please pass it on to him.

Layout

Check lists, adjustment specifications and instruction sheets indicate practical procedures and correct settings. Trouble shooting charts permit efficient repair of faults, while exploded perspective drawings show the detailed construction and help in identifying spare parts.

Where necessary, the first exploded drawing of each group splits up the unit into assembly groups with the page number of the corresponding detailed drawing marked.

Alternatives

Components which are available in different versions for older and more recent units are compared on separate detailed drawings. Arrows are used to point out differences between alternative versions which might not be immediately obvious. This permits clear identification of the components required.

Changes

The Service Manual is periodically brought up-to-date with replacement sheets and/or supplementary sheets. To ensure that the handbook remains a reliable working aid at all times, strictly observe the instructions circulated to each agency.

Service report sheets

We are anxious to get full information on the types of faults arising in SINAR equipment. For each servicing operation on any SINAR equipment therefore please fill in a Service Report form. All completed forms should be sent to SINAR quarterly.

Copies can be retained for internal use (accounting etc.) of the servicing workshop. Special circular S 6 gives detailed information on the handling of these reports. Meticulously completed reports returned regularly to SINAR are valuable aids in improving the quality of SINAR products where necessary.

Instructions

Identification of item

Find the group of the item required from the contents list. With standards always check whether it is the front or rear standard.

Test on receipt

Check the adjustment force and settings with the aid of the appropriate sheets. This will indicate the type of repair needed.

SINAR p check lists

This shows the sequence of operations for dismantling (reverse sequence for assembly), the number of mounting elements and the correct tools as well as the page number of the instruction sheets for assembly and adjustment.

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1. Guarantee provision

SINAR guarantees the perfect condition and functioning of every factory-new SINAR component for a period of *12 months from the date of invoice (*24 months for SINAR DIGITAL Shutters, Modules and SINARSIX-digital) and will at SINAR's option rectify or exchange the unit free of charge in case of a claim under this guarantee. No liability is accepted for indirect or consequential damages. The guarantee therefore does not cover any damage caused by the failure or faulty operation of the units. Claims under the guarantee do not exceed the original guarantee period.

The guarantee does not cover damage caused by chemical action, dirt, excessive moisture, heat or normal wear and tear.

The Agent agrees to perform the SINAR "World-Wide Warranty Service" on all SINAR products (including those not sold by him), in accordance with the aforementioned warranty, and to effect repairs.

2. Repair service in general

Basis is the SINAR Service Manual, which is continuously kept up to date by SINAR.

- A short description of the fault is absolutely necessary to be sent with repairs which are to be executed in our SINAR works.
- In case the fault cannot be clearly identified the instrument has to be sent to us inclusive of its accessories, e.g.:
 - Shutter / accumulator / release and automatic cable / synchro lead adapter
 - Module / module accumulator / module cable
 - SINARSIX-digital / release cable with short connection
- SINAR equipment, especially electronic instruments, have to be sent to us in their original packaging or in another equivalent packaging (antistatic plastic bag, shock-resistant packaging)

2.1 Repairs covered by the warranty are performed exclusively by SINAR (special arrangements may be made, if circumstances so warrant). Defective parts may be exchanged immediately by the Agent against new ones from his stock, provided the defect is definitely covered by the warranty and not caused by an accident or improper handling. SINAR in turn supplies replacement for the Agent's stock, upon receipt of the defective part. Shipping charges are carried each time by the sender. SINAR does not refund customs charges paid, so that the Agent has to absorb costs of customs formalities only. The guarantee becomes void if equipment is opened (cover screws sealed), altered, carelessly operated, modified or repaired by third parties - or if claims are not made in writing within the prescribed period of warranty.

2.2 Repairs which are not covered by the warranty (or caused by improper handling by the customer) will be performed by the Agent's service center. Special reference is made to the "on-the-spot repair": immediate replacement of defective components on a temporary or permanent exchange basis.

3. Special instructions for repair service of

SINAR/COPAL Shutter, SINARSIX, PROFI-select TTL, SINARSIX-digital and SINAR-rapid

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3.1 Repairs covered by the warranty. Arrangements with the manufacturers of these components require those repairs to be performed exclusively by the manufacturer. Defective instruments may be exchanged immediately by the Agent, against new ones from his stock, provided the defect is definitely covered by the warranty and not caused by an accident or improper handling. The defective part has to be returned to SINAR for repair. Shipping charges are carried by the sender each time. SINAR does not refund customs charges paid, but returns a factory-new piece bearing the same production number, so that the Agent has to be concerned about the customs formalities only.

3.2 Repairs after expiration of the warranty (or caused by improper handling by the customer) will be performed as follows:

3.2.1 SINAR/COPAL Shutters to one of the following repair centers:

| | |
|---------------------------------|------------------------------|
| SINAR LTD SCHAFFHAUSEN | COPAL EUROPE GmbH |
| CH-8245 Feuerthalen/Switzerland | Spaldingstrasse 110 |
| | D-2000 Hamburg 1 |
| COPAL COMPANY LTD. | |
| International Division | COPAL CORPORATION OF AMERICA |
| Shimura 2-16-20 | 58-25 Queens Blvd |
| Itabashi-ku | Woodside |
| Tokyo / JAPAN | USA-New York, N.Y. 11377 |

or minor defects can be repaired by the Agent himself.

3.2.2 SINARSIX, PROFI-select TTL and SINARSIX-digital

GOSSEN GmbH
Mess- und Regeltechnik
Postfach 1780
D-8520 Erlangen/Germany

(Direct repairs by GOSSEN are subject to shorter repair time)
or

SINAR LTD SCHAFFHAUSEN
CH-8245 Feuerthalen/Switzerland

or minor defects can be repaired by the Agent himself.

The measuring instruments are calibrated precisely. Any repairs on the instruments, particularly on the circuit, the contacts or the measuring cells must be done by the manufacturer exclusively, since highly specialized test equipment is needed to guarantee the necessary standard of accuracy.

3.2.3 SINAR-rapid

According to an agreement with the manufacturer of these components, repairs must be performed by the manufacturer exclusively, also if the warranty is already expired. The defective part has to be returned to SINAR for repair. Shipping charges are carried by the sender each time. SINAR does not refund customs charges paid, but returns a factory-new piece, so that the Agent has to be concerned about the customs formalities only.

4. Special conditions and instructions

4.1 DIGITAL Shutter

- For all repairs a conductive table-mat with an attached ribbon for the wrist is required, in order to avoid electrostatic charges damaging the ICs. This set can be ordered from SINAR. (109.05.587)
- An adjusting device for the exposure times is needed for repairs on the SINAR DIGITAL Shutter. This is exclusively available with SINAR. (105.00.001-009)
- Repairs on the print itself, such as soldering and exchange of components must be performed by SINAR exclusively. (Exception: Triac for flash synchronisation → soldering-iron earthed).
- A mounting device for the insertion of the slide switches and cover plates can be ordered with SINAR. (109.05.566)
- The following repairs on the DIGITAL Shutter can be performed by the service centers:
 - Exchange of blades (No. 2x24)
 - Blade bearing (No. 23)
 - Exchange of the damping elements (No. 43/44)
 - Replacement of driver of aperture drive ring (No. 48)
 - Exchange of brake solenoids (No. 22)
 - Exchange of brake units (No. 41/42)
 - Exchange of master circuit board exclusively with SINAR LTD (No. 15)
 - Exchange of drive unit exclusively with SINAR LTD (No. 08)
 - Replacement of Triac (no. 174.04.000)

4.2 Module 1 and 2

- For all repairs a conductive table mat with an attached ribbon for the wrist is required, in order to avoid electrostatic charges damaging the ICs. This set can be ordered with SINAR. (109.05.587)
- Exchange Print only
Repairs on the print itself, such as soldering and exchange of components must be performed by SINAR exclusively.
- Due to highly specialized test equipment needed for the conversion of Module 1 to Module 2, this must be performed at the factory exclusively. Therefore no deliveries of the respective spare parts are made, in order to prevent third parties from doing this conversion themselves.

4.3 Shutter and module accumulator

- in any case, use prescribed fuses only

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| Symbol | Meaning |
|---------------|---|
| | 72515 (72510), apply a thin layer with a painter brush Replacement for Molykote DX |
| | <u>LOSOLD</u> 6308-510 " |
| | <u>MOLYKOTE</u> BR 2 (black), " |
| | <u>MOEBIUS</u> 8200, " |
| | <u>LOCTITE</u> No. 221, apply little only on-the screw thread |
| | <u>LOCTITE</u> No. 241, " |
| | <u>LOCTITE</u> No. 270, " |
| | <u>LOCTITE</u> No. 243, " |
| | <u>LOCTITE</u> No. 638, " |
| Note: | If parts of secured with <u>LOCTITE</u> are difficult to disassemble, heat part to approx. 150°C e.g. with a hot-air fan or a heat on the screw head. |
| | <u>White lacquer</u> , apply after fastening on the screw head |
| | <u>Black lacquer</u> , " |
| | <u>Nail Lacquer</u> (colourless), " |
| | <u>Vaseline</u> (white), " |
| | <u>Adhesive 3m-847</u> , apply a thin layer on both surfaces, let dry for approx. 10 min. and join together. |
| Note: | Soften by applying a drop of <u>acetone</u> , before trying to remove the respective part. |
| | <u>Light trapping materials</u> |
| | Tools and devices contained in group 1900, corresponding tools are applicable also. |
| | Indicates pre-assemblies containing all drawn parts within the frame, available as spare parts. |
| | Indicates sheet-no. with further details of respective part. |
| | Points out differences of various models, instructions and remarks. |

No. 5

Vis:

Date: 6.86

as les précédentes éditions. / Remp

Ersetzt alle bisherigen Ausgaben. / Remp

places all previous issues. /

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|------------------------------------|---|
| Lubricating points and screw seals | Appropriate instructions are indicated in the <u>exploded drawings</u> . These also clearly show the detailed construction of the equipment. |
| Trouble shooting charts | This facilitates systematic tracing of faults and indicates repair instructions. |
| Spare parts | Each spare part in the exploded drawing carries a figure No., running from 01 onwards. The order No. is marked on the back of the appropriate sheet. Pre-assembled units or components available in different versions carry the page number on which all components involved are listed. A group of framed components is a pre-assembly group which can be ordered by the appropriate order No. Where an individual component has no order No., it is not available on its own; the appropriate assembly must be ordered. This also applies to all parts not drawn out in detail. |
| Spare parts and price list | All SINAR components are listed in numerical order by order Nos. and marked with prices in SFR. (Swiss Francs). The column "Application" shows where (page number) the appropriate part is used. |
| Delivery of serviced equipment | Always carry out a final pre-delivery check. This involves testing all operations and checking for correct adjustment force and settings. |
| Tools | A list of standard and special tools and accessories is given for setting up and extending SINAR servicing workshops. Each tool has its own order No. for ordering from SINAR. |

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