Relay mounting systems

1MRK 514 001-BEN
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COMBIFLEX

(SE 94832)

RL

(SE 970140)

RE 500

(SE 950216)

Features

- Suitable for standard 19” rack, flush, semi-flush, projection or surface mounting
- Casing with different degree of protection, IP, available
- Plug-in for highest degree of freedom and flexibility at customer designed applications
- Wide range of accessories

Application

Each of the different mounting systems in the product range have been designed to fulfil the demands to cover all common protection functions within respective areas of application.

The COMBIFLEX system is primarily composed of stand-alone plug-in modular units that are combined into functional units and protection relays mounted on terminal bases. Connection of external wires is made with special socket leads. The COMBIFLEX modular system is primarily intended for 19” rack mounting in cubicles. Flush, semi-flush and surface mounting is possible by using special cases or accessories.

The RL system is a rack assembly system with plug-in cards and cassettes. External connection is made with special socket leads as with COMBIFLEX. The RL modular system is primarily intended for 19” rack mounting in cubicles.

The RE 500 system is a rack assembly system with plug-in cards. External connection is made on screw terminals in the back of the rack. 19” rack, flush, semi-flush and surface mounting is possible by using special accessories.

COMBIFLEX modular system

The modules are plugged in and then fastened by screws to terminal bases. The modules can be of different kind e.g. relays, converters, filters etc. They are built up in a uniform manner, with terminal pins on terminal plates and plastic cover, with fixed height and width dimensions. Height module U = 44.45 mm width module C = 7 mm. The most generally used module sizes are illustrated in Fig. 2.

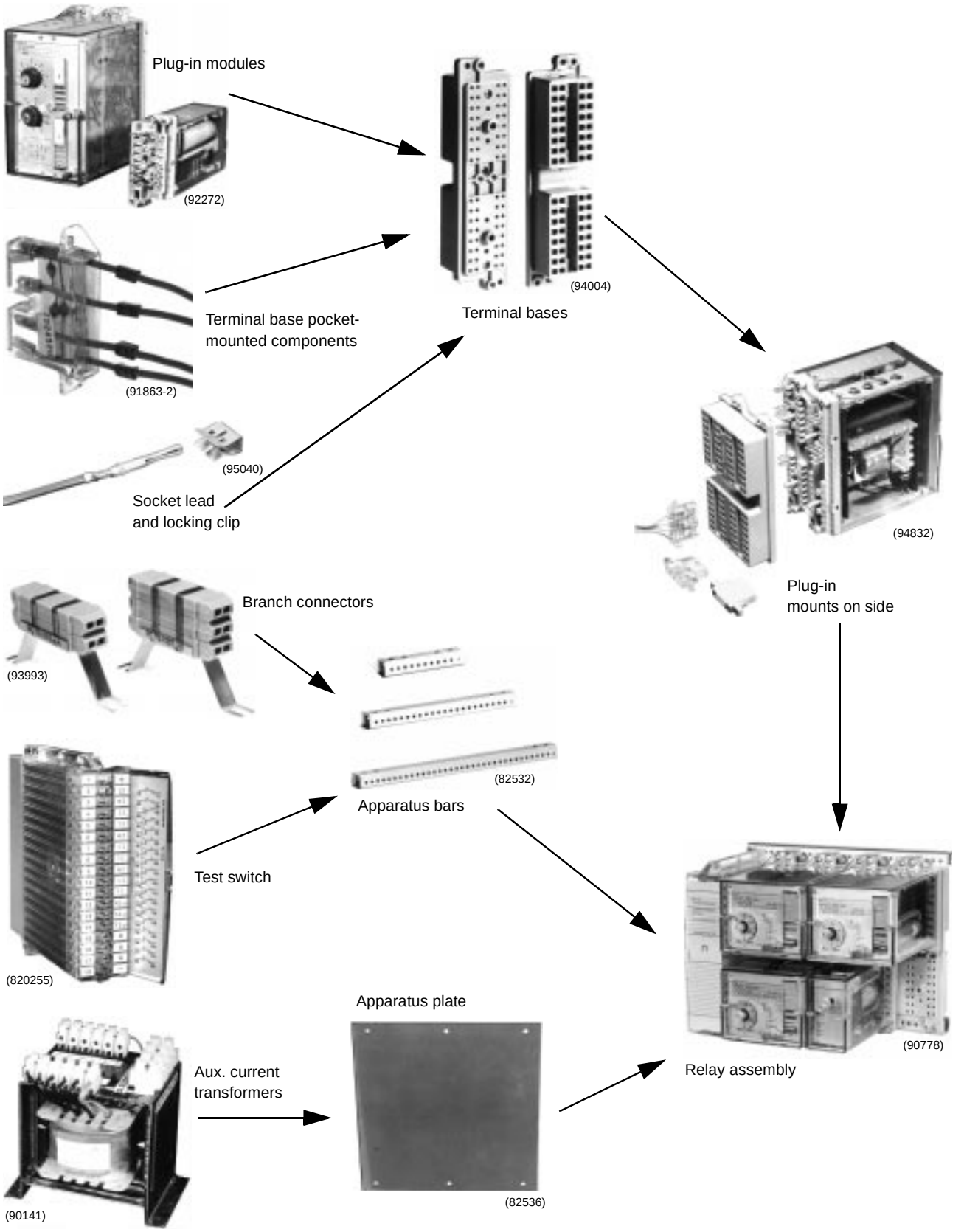

Fig. 1 COMBIFLEX modular system; assembling and installation alternatives

Surface-mounted terminal bases
Rear connection

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Support case
Panel base

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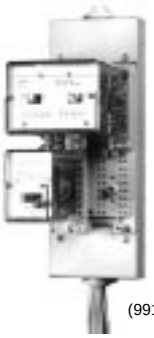
Surface-mounted Panel bases
Front connection



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Relays on terminal bases with RXZ 2
and RXZ 4, DIN rail adaptation

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Alternative with RXZ 2
and side-mounted
terminal blocks

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Case RHGX

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Flush or semi-flush mounted case

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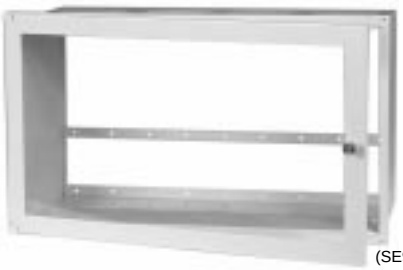
Case RHGS



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Cubicle mounted or flush-mounted
19” equipment frame

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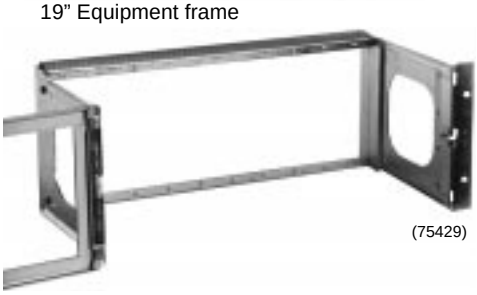
19” Equipment frame



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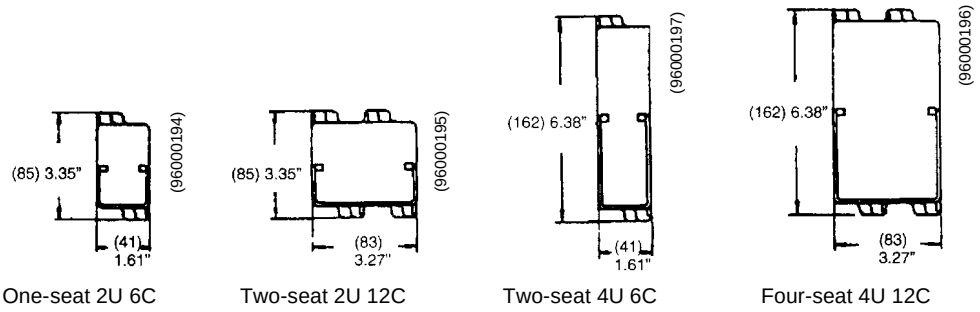
COMBIFLEX modular system (cont'd)

Components which cannot be built into plug-in units (e.g. transformers, resistors, etc.) can be fixed to apparatus plates, the height and width of which correspond to the COMBIFLEX modular system. Some components e.g. the test switch, RTXP 18, are fixed directly to the apparatus bars.



One-seat 2U 6C | Two-seat 2U 12C | Two-seat 4U 6C | Four-seat 4U 12C

Fig. 2 Module sizes

The purpose of the terminal bases is to support the plug-in unit and bring electrical contact between the unit and the socket-equipped leads. Terminal base RX 2H is shown in Fig. 3.

When front connection is required the panel bases RXZ 21 and RXZ 41 are used. When mounting on terminal bars is required bases RXZ 1, RXZ 2H, RXZ 2 or RXZ 4 are used.

Fig. 4 shows relays mounted on panel base RXZ 41 and on terminal bar.

Fig. 3 Terminal bases

Fig. 4 Front-connected panel base/terminal bars

The terminal bases can be mounted in different ways, either directly to an apparatus frame in an equipment frame or to apparatus bars which then can be placed in an equipment frame Fig. 5, or in a case Fig. 6.

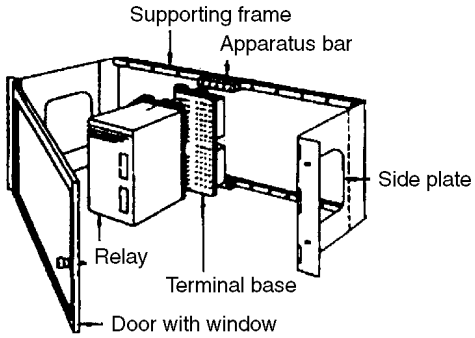


Fig. 5 Equipment frames

Type RGHS

Fig. 6 Cases

Connections between plug-in units are made with socket-equipped plug-in leads. Electrical connections are made directly from the male terminal pin of the unit to the female terminal socket crimped to the lead, see Fig. 7.

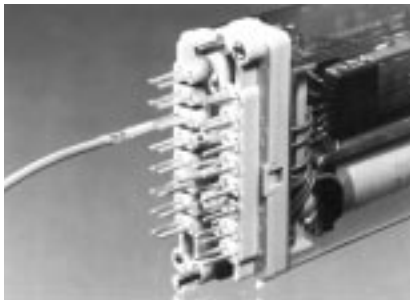

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Fig. 7 Electrical connection between plug-in unit and socket lead

The pins on the unit are normally connected in pairs inside the unit which permits branching of each electrical point.

The method of connection with socket-equipped leads is used for all COMBIFLEX parts which contain locking clips. Fig. 8, Fig. 9, Fig. 10 and Fig. 11 illustrates this principle. When the socket lead is inserted into a terminal base, Fig. 8, where a plug-in unit has been inserted, the socket will enclose the pin on the unit and is secured by the locking clip inside the terminal base, Fig. 9. The socket lead can only be disconnected with the aid of a clip-spreading tool, extractor RTXD, Fig. 10 and Fig. 11.


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Fig. 8 Lead retention clip details


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Fig. 9 Lead retention clip details


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Fig. 10 Lead retention clip details

COMBIFLEX modular system (cont'd)

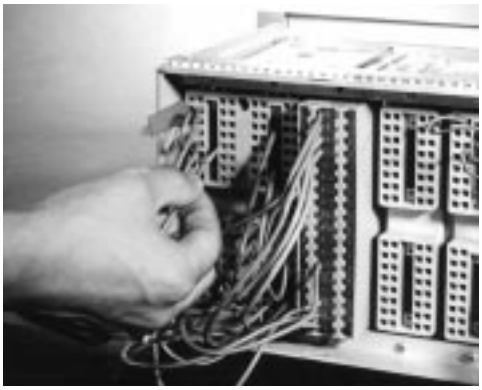

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Fig. 11 Rear view of terminal base

This method of connection is both rapid and reliable. Pins, sockets and locking clips are protected against inadvertent contact and the tensile strength of the joint between socket and lead is exceptionally high.

Each terminal base which accepts ac current circuits is equipped with type RTXK short-circuiting connectors, Fig. 12. These are spring loaded, silver-plated contact assemblies which are normally kept in open position by a guide pin on the unit. When the module is withdrawn from the terminal base, these contacts short the current circuits before the module terminal pins separate from their associated terminal sockets in the terminal base

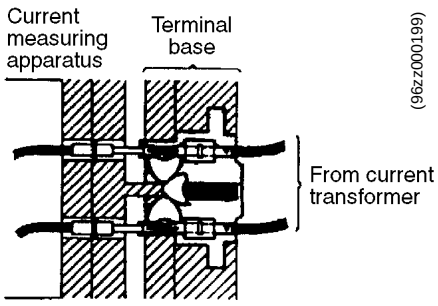

Fig. 12 Short-circuiting connector RTXK

The RTXG pin/socket connector, Fig. 13, is used for rapid and simple connection and disconnection of bunched socket leads and multicore cables; for example those between apparatus groups and individual cubicles.

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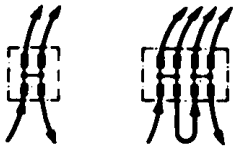
Fig. 13 Pin/socket connector RTXG

The RTXC branch connector, Fig. 14, is used both for branch connection of socket leads and to increase the number of connections that can be made to a terminal on the terminal base.

The space-saving cross connectors, Fig. 15, are available with blocks of 20, 40, 60, 80 and 100 branch connectors. The RTXC 100 can be mounted in approximately the same panel space required by the conventional 12 point screw driven terminal block. RTXC 100 provides 100 electrically isolated connection points, each point having the capacity for the connection of up to four external leads.



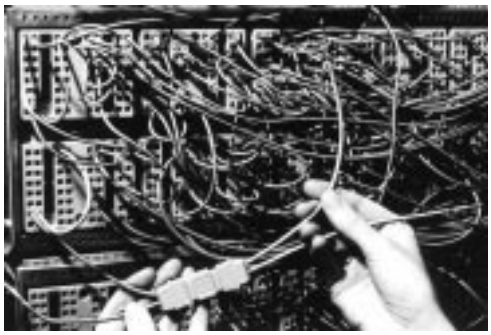


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Fig. 14 Branch connector RTXC

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Fig. 15 Cross connectors RTXC

RL Mounting system

The RL mounting system consists of a frame work (rack) in which either plug-in units or cassettes having plug-in units can be inserted. The frame work is in general intended for mounting in a relay or control cubicle provided with a hinged frame (19” system).

The standard frame work is 6U (1U = 44.45 mm) high and is divided into 84 TE (1 TE = 5.08 mm) in width.

The RL mounting system meets IEC 297 and DIN 41 494 requirements. On the upper back of the framework and the cassettes, is a mother board, for making internal connections.

The lower half is intended for external connections, made by means of external connectors.

COMBIFLEX units and test switches can be installed in the frame work by means of different fastening devices.

A plug-in unit consists of one or more printed circuit boards which are attached to a front plate. One or more plug-in units in a framework often comprise a larger functional unit. Smaller functional units are often comprised of plug-in units in cassettes. The cassettes are 6U high and the width 14, 21, 28 or 42 TE. The cassettes are plugged in from the front.

At the rear of the framework external connections are made. The connection system is of COMBIFLEX type.

RL Mounting system (cont'd)

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RE 500 Mounting system

The RE 500 mounting systems consists of a metal sheet case in which printed board assembly are inserted. The case is intended for mounting in a relay or control cubicle (19" system), or in a panel or surface mounting.

The standard case is 6U (1U = 44.45 mm) high.

The RE 500 mounting system meets IEC 297 and DIN 41 494 requirements. On the lower front of the case, is a mother board, for making internal connections. The back of the case is intended for external connections, made by means of external screw connectors.

COMBIFLEX units and test switches can be installed adjacent to the case by means of different fastening devices using the series RHGS modular cases.

(SE 950216)

References

Dimensions	1MRK 514 004-BEN
COMBIFLEX	1MRK 513 003-BEN
Series RE 500	1MRK 514 003-BEN

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