

LDG-A

Enclosures





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Types

- LDG-A-12, max. 12 screw clamp terminals
- LDG-A-14, max. 14 screw clamp terminals
- LDG-A-16, max. 16 screw clamp terminals
- LDG-A-30, max. 30 screw clamp terminals
- LDG-A-46, max. 46 screw clamp terminals
- LDG-A-70, max. 70 screw clamp terminals

General

The LDG-A series of enclosures are fully insulated enclosures. The screw clamp terminals are protected against accidental contact in accordance with VDE 0100 Part 570, VDE 0160 Part 100 and VBG 4. Designed for easy installation, these screw terminals can be soldered by wave, allowing the manufacturing of the PCB boards in one step.

Features

- Snap-in design for fast end assembly
- Complete assembly of the unit outside of the housing before end assembly
- Robust self locking vibration proof terminal block screws
- Protection against accidental human contact
- Transparent cover for LED indicators
- Suitable frame inserts for pluggable standard connectors
- Base parts with and without ventilation slots
- Base part metallized
- Compact and attractive design
- Wall and DIN rail mountable

| Type | LDG-A-12 | LDG-A-14 | LDG-A-16 | LDG-A-30 | LDG-A-46 | LDG-A-70 |
|---|--|------------------|------------------|------------------------|-------------------|-------------------|
| Degree of protection | IP20 | | | | | |
| Air distances | ≥ 3 mm | | | ≥ 4 mm | | |
| Creepage distances | ≥ 3.2 mm | | | ≥ 5 mm | | |
| Voltage rating (IEC 60664) | The permissible operating voltages depend on the customer application and on the applicable or specified safety requirements. Insulation coordination according to IEC 60664-1 has to be regarded for the complete electrical device. Therefore, the maximum creepage and clearance distances of the mated connectors are specified for consideration as a part of the whole current path. In practice, reductions in creepage or clearance distances may occur due to the conductive pattern of the printed board or the wiring used, and have to be taken into account separately. As a result the creepage and clearance distances for the application may be reduced compared to those of the connector. | | | | | |
| Screw clamp | steel, tin plated | | | | | |
| Terminal wire size | max. 2.5 mm ² | | | max. 4 mm ² | | |
| current rating | max. 16 A | | | max. 20 A | | |
| tightening torque | max. 0.4 Nm | | | | | |
| material | CuSn6 | | | Ms | | |
| Terminal pin plating | 2 µm Ni 5 µm Sn | | | 2 µm Ni 5 µm Sn | | |
| Temperature range | -40° C ... +110° C | | | | | |
| Base part | PC (30% GF), RAL 7032, UL 94 V-1 | | | | | |
| Terminal block housing, blind plug, cover | PC, UL 94 V-2 | | | | | |
| Frame insert and blind insert | PC, UL 94 V-0 | | | | | |
| Outside dimensions L x B x H | 75 x 22.5 x 98.5 mm 75 x 22.5 x 110 mm | 75 x 45 x 110 mm | 75 x 55 x 110 mm | 75 x 99.7 x 110 mm | 75 x 150 x 110 mm | 75 x 225 x 110 mm |
| Aprovaes UL | File E 84703 | | | | | |
| CSA | File LR 62504 | | | | | |

Temperature Range

| Enclosure Typ LDG-A- | Inside temperature 95° | | | | | | | | |
|----------------------------|------------------------|----|----|------|----|----|------|-----|----|
| | Ambient temperature | | | | | | | | |
| | 23°C | | | 50°C | | | 70°C | | |
| | A | B | C | A | B | C | A | B | C |
| 12 | 8 | 6 | 3 | 5 | 4 | 2 | 2,5 | 2 | 1 |
| 14 | 12 | 10 | 7 | 7 | 6 | 4 | 4 | 3 | 2 |
| 16 | 13 | 11 | 9 | 8 | 7 | 5 | 4 | 3,5 | 3 |
| 30 | 19 | 18 | 16 | 12 | 11 | 10 | 7 | 6 | 5 |
| 46 | 26 | 23 | 20 | 16 | 14 | 12 | 9 | 8 | 7 |
| 70 | 36 | 33 | 30 | 23 | 21 | 19 | 12 | 10 | 11 |
| Dissipation in W | | | | | | | | | |

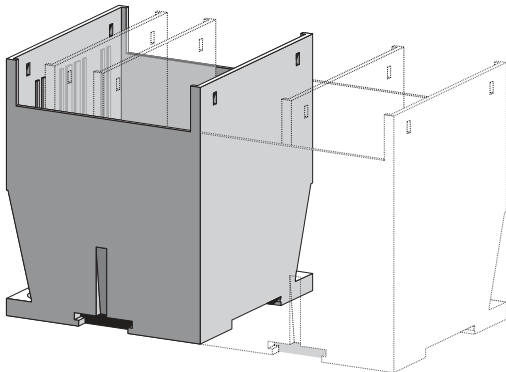
A = Both side faces not obstructed, free airflow

B = One side face blocked by obstruction, 0 mm away

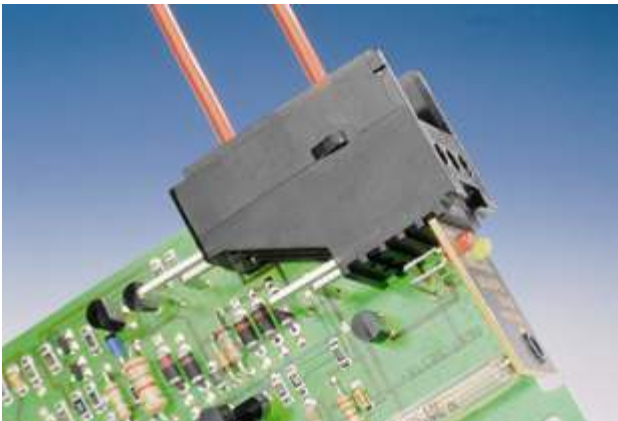
C = Both side face blocked by obstruction, 0 mm away

Enclosures LDG-A

The base for all applications



Fully-insulated enclosures in accordance with machinery and automotive industry standards, with shockproof terminals acc. to VDE 0100 and VBG 4.
Base part optionally with or without ventilation slots.
Enclosure surface with erosion-structure in attractive design.
Easy assembly and disassembly for servicing.



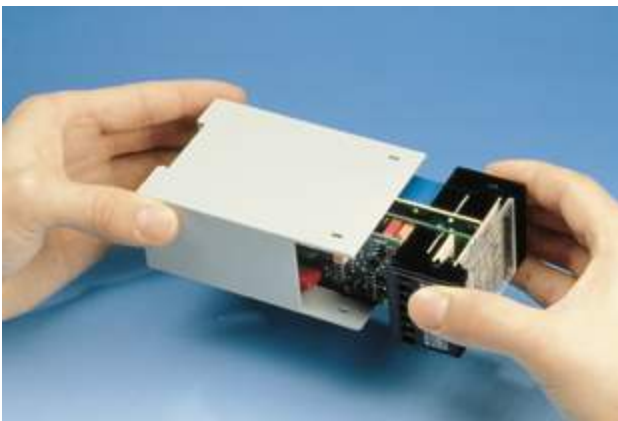
Easy connecting technique

From the connection cable via the terminal block to the PC board, the connection could not be more simple.



Generously dimensioned stacking compartment

Printed circuit boards can be stacked one above the other such that complex assemblies can be implemented in compact dimensions.



Fast component-mounting and manufacturing times

The PC board, with the mounted components and terminal blocks will be wave-soldered, in one work process and then completely assembled into the base part in one step.

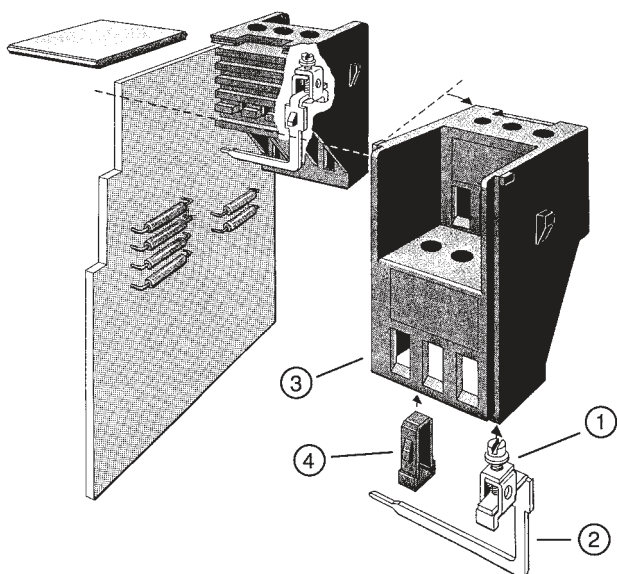


Just snap them on

LDG-A enclosures have a snap-on clip for easy snap-on assembly for standard DIN rails acc. to DIN 46277 and DIN EN 50022.

Enclosures LDG-A

Terminal block design and type overview



- 1 Terminal clamp
- 2 Terminal pin
- 3 Terminal block housing
- 4 Blind plug



LDG-A 12

Length: 75 mm
Width: 22.5 mm
Height: 98.5 mm
or 110 mm



LDG-A 14

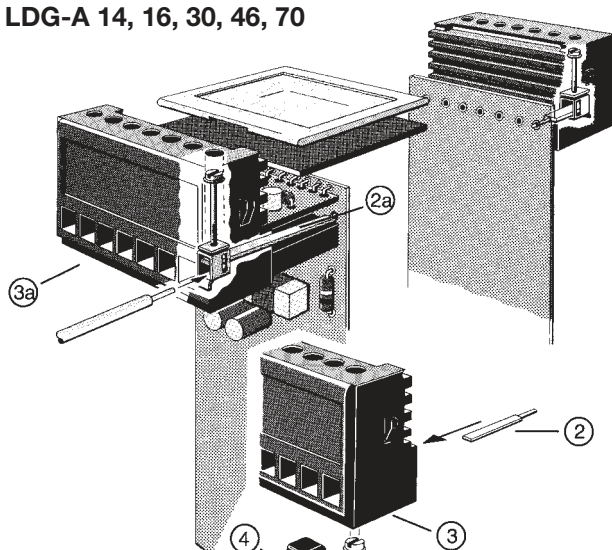
Length: 75 mm
Width: 45 mm
Height: 110 mm



LDG-A 16

Length: 75 mm
Width: 55 mm
Height: 110 mm

LDG-A 14, 16, 30, 46, 70



- 1 Terminal clamp
- 2 Terminal pin, short
- 2a Terminal pin, long
- 3 Terminal block housing, narrow
- 3a Terminal block housing, wide
- 4 Blind plug



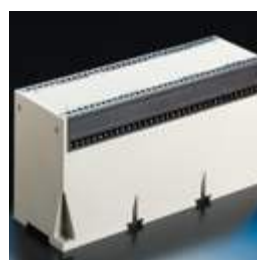
LDG-A 30

Length: 75 mm
Width: 99.7 mm
Height: 110 mm



LDG-A 46

Length: 75 mm
Width: 150 mm
Height: 110 mm



LDG-A 70

Length: 75 mm
Width: 225 mm
Height: 110 mm

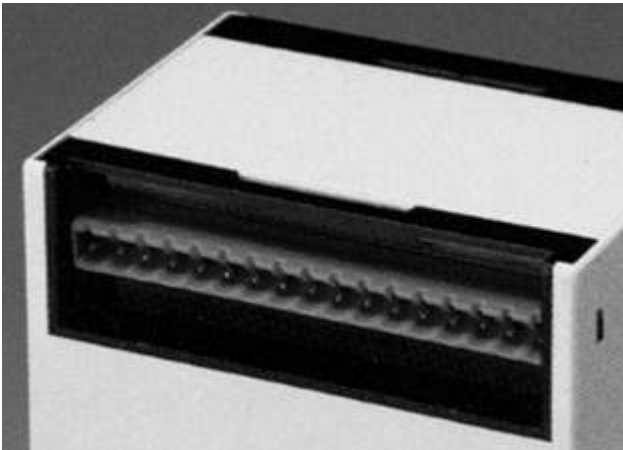
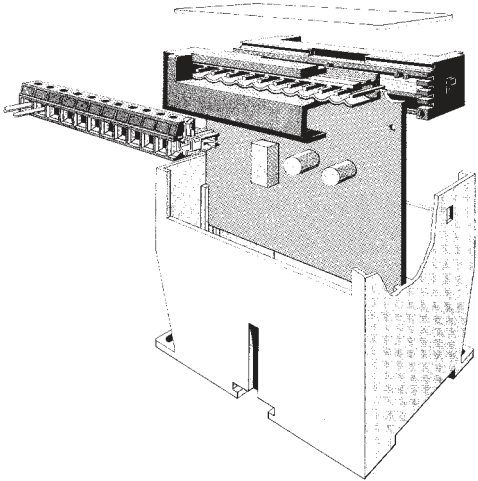


Easy service and device exchange

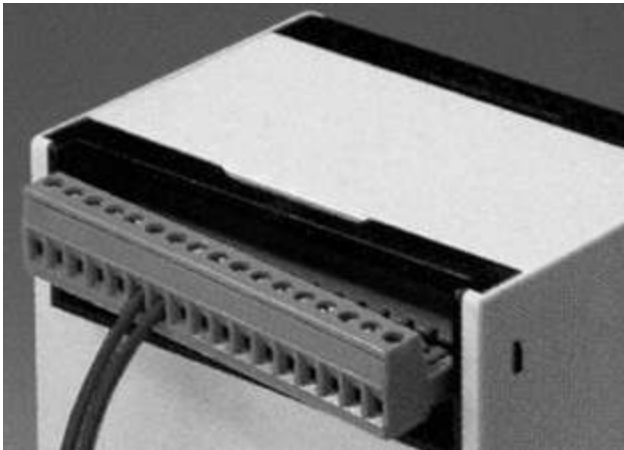
Frame inserts with cut-out for commercially available pluggable terminal connectors

Features:

- Used as assembly and guide element for the PC board with guides for transverse board and longitudinal board offset by 90°.
- Compact design for secure snap-on and safe fixing on the base part.
- Screw-on option for the cover.



Frame insert with top cutout for separate pin header. For maximum component space on the longitudinal board.



Connection of commercially available screw-plug connectors.

Ordering information

| Description | Color | Part no. |
|--|-------|---------------|
| LDG-A-16 Frame insert with top cutout | black | 053869 |
| Frame insert with bottom cutout | black | 053870 |
| Blind insert | black | 053871 |
| LDG-A-30 Frame insert with top cutout | black | 034769 |
| Frame insert with bottom cutout | black | 053164 |
| Blind insert | black | 053074 |
| LDG-A-46 Frame insert with bottom insert | black | 054248 |
| Blind insert | black | 054249 |
| LDG-A-70 Blind insert | black | 054730 |

Frame insert with top cutout for separate pin header. You will have the maximum component space on the PC board.

Frame insert with bottom cutout allows the assembly of a transverse board.

The **blind insert** provides for the full covering of the base part. Individual customized cutouts achieved by mechanical machining or special tool inserts are easy to be realized.

Technical data

Material of plastic parts: PC
 UL 94 V-0
 Color: black
 special colors upon request
 Temperature range: -40°C up to +110°C

Enclosures LDG-A

Flexibility for customized solutions



Various colors, e. g. company color for base part, cover or terminal block possible



Cover in grey, black or transparent for display functions



Customized cutouts and holes in covers and blind inserts



Enclosures LDG-A

Versions with ventilation slots



Effective heat dissipation for electronic subassemblies with increased heating



Base part with ventilation slots

- available for enclosure versions LDG-A-12, LDG-A-16, LDG-A-30, LDG-A-46, LDG-A-70
- slot dimension: 42 x 3 mm
- additional data upon request

Ordering information

| Description | Color | Part no. |
|---|------------|---------------|
| Base part with ventilation slots | | |
| LDG-A-12 | light grey | 114932 |
| LDG-A-16 | light grey | 024870 |
| LDG-A-30 | light grey | 434098 |
| LDG-A-46 | light grey | 024080 |
| LDG-A-70 | light grey | 424328 |

Enclosures LDG-A

LDG-A 12



- For max. 12 screw clamp terminals, 6 on each side
- Partial loaded terminal blocks with blind plugs
- PCB board arrangement see drawing

Length: 75 mm
 Width: 22.5 mm
 Height: 98.5 mm or 110 mm

Ordering information

| Description | Type | Color | Part Number |
|------------------------------|-----------------------|-------------|---------------|
| Base part 110 mm | w/o ventilation slot | light grey | 024082 |
| Base part 110 mm | with ventilation slot | light grey | 114932 |
| Base part 98,5 mm | w/o ventilation slot | light grey | 414470 |
| Cover | | transparent | 414462 |
| Cover | | light grey | 414463 |
| Terminal block housing | right | black | 414453 |
| Terminal block housing | left | black | 414455 |
| Terminal pin | right, long | | 224082 |
| Terminal pin | right, medium | | 224079 |
| Terminal pin | right, short | | 224078 |
| Terminal pin | left, long | | 224081 |
| Terminal pin | left, medium | | 224077 |
| Terminal pin | left, short | | 224080 |
| Clamp, not assembled | | | 414469 |
| Terminal block, fully loaded | right | black | 043853 |
| Terminal block, fully loaded | left | black | 043860 |
| Blind plug | | black | 414466 |

Enclosures LDG-A

LDG-A 14



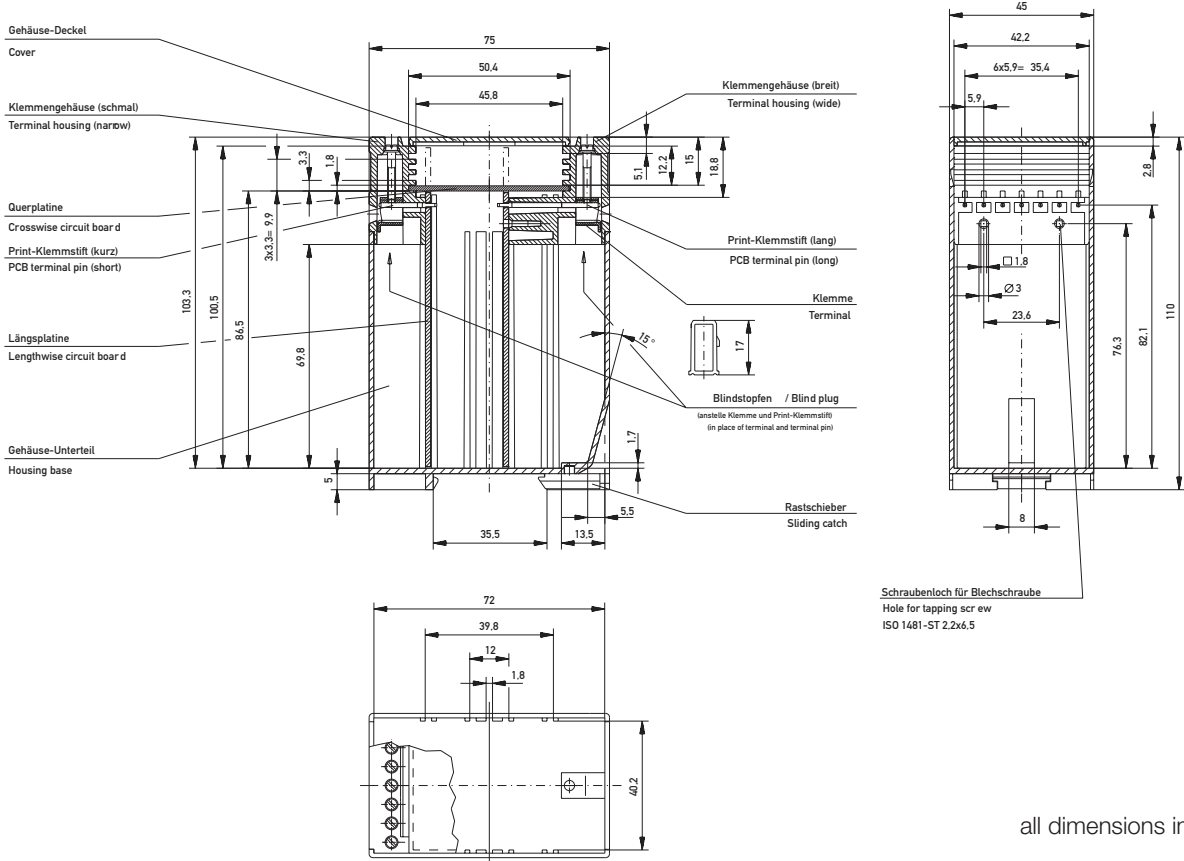
- For max. 14 screw clamp terminals , 7 on each side
- Partial loaded terminal blocks with blind plugs
- PCB board arrangement see drawing

Length: 75 mm
 Width: 45 mm
 Height: 110 mm

Ordering information

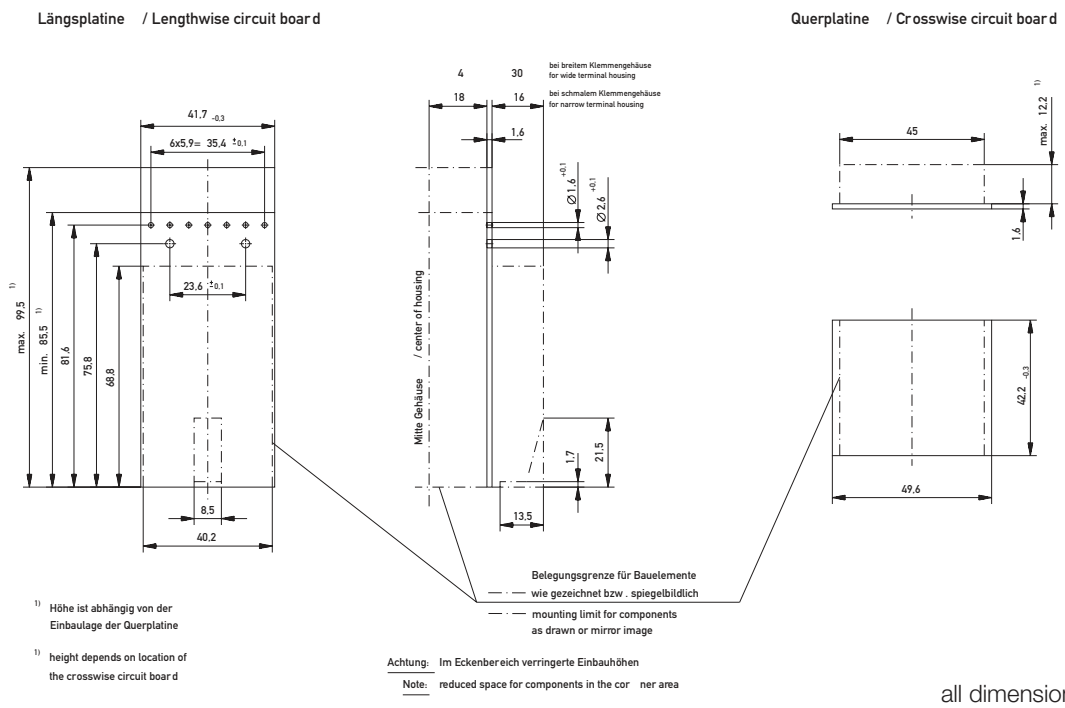
| Description | Type | Color | Part Number |
|------------------------------|-----------------------|-------------|---------------|
| Base part | w/o ventilation slots | light grey | 423280 |
| Cover | | light grey | 423273 |
| Cover | | transparent | 423272 |
| Cover | | black | 423274 |
| Terminal block housing | narrow | black | 423275 |
| Terminal block housing | wide | black | 423277 |
| Terminal pin | short | | 224076 |
| Terminal pin | long | | 224074 |
| Clamp, not assembled | | | 154562 |
| Terminal block, fully loaded | narrow | black | 914810 |
| Terminal block, fully loaded | wide | black | 914820 |
| Blind plug | | black | 103006 |

Dimensions



all dimensions in mm

Recommended PCB dimensions



all dimensions in mm



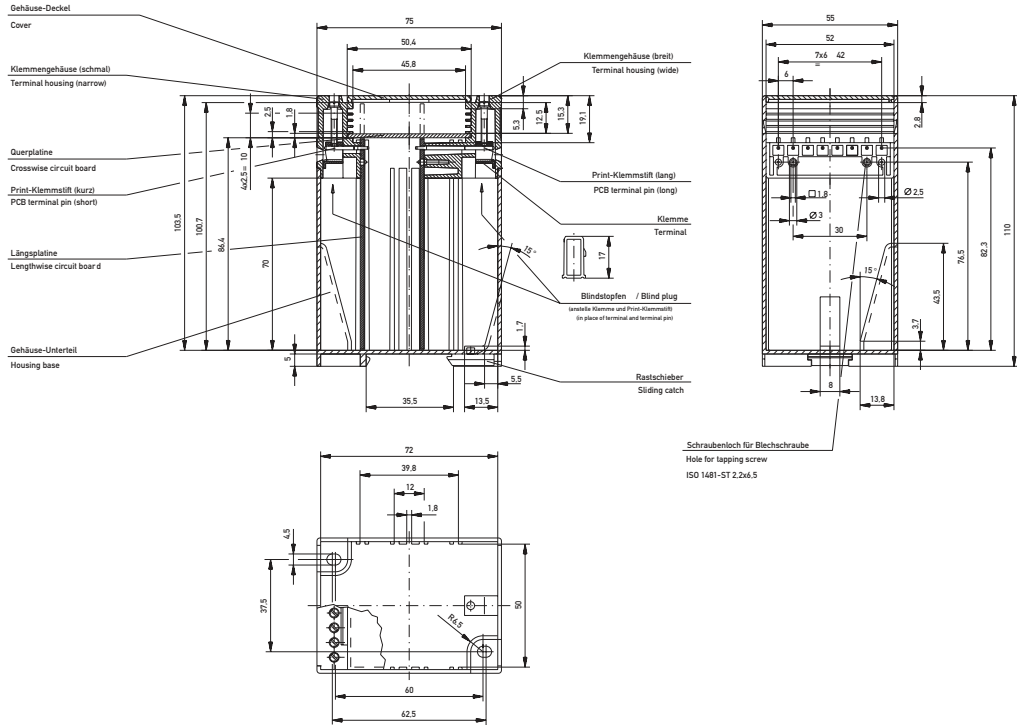
- For max. 16 screw clamp terminals, 8 on each side
- Partial loaded terminal blocks with blind plugs
- PCB board arrangement see drawing
- Special frames for pluggable standard connectors available

Length: 75 mm
Width: 55 mm
Height: 110 mm

Ordering information

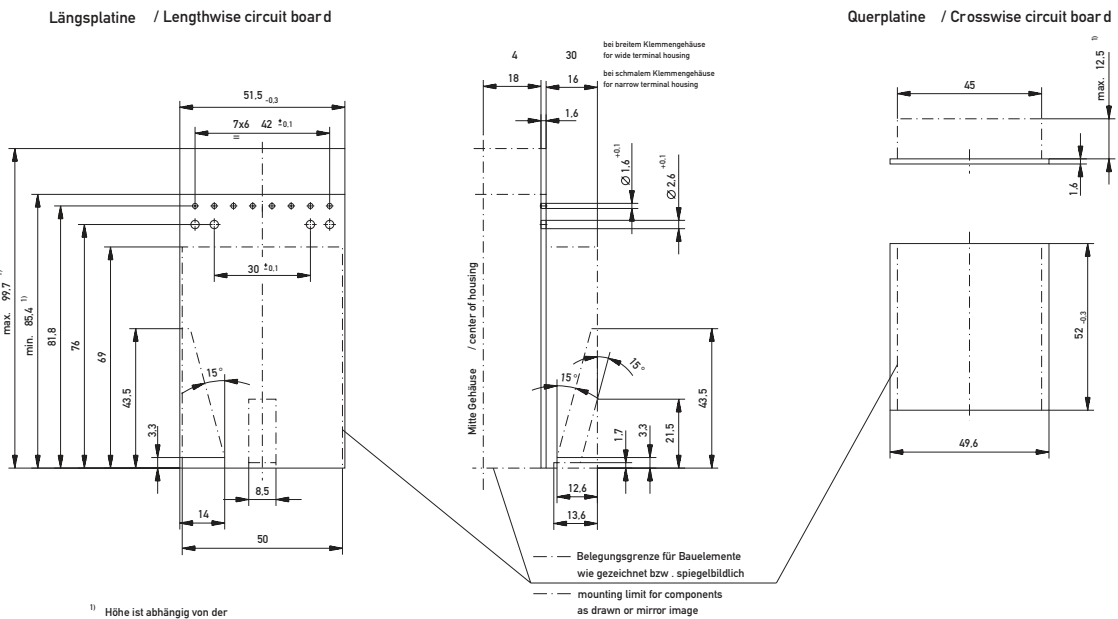
| Description | Type | Color | Part Number |
|---------------------------------------|------------------------|-------------|---------------|
| Base part | w/o ventilation slots | light grey | 414124 |
| Base part | with ventilation slots | light grey | 024870 |
| Cover | | light grey | 014415 |
| Cover | | transparent | 014416 |
| Cover | | black | 014417 |
| Terminal block housing | narrow | black | 103031 |
| Terminal block housing | narrow | blue | 103033 |
| Terminal block housing | wide | black | 103032 |
| Terminal block housing | wide | blue | 103034 |
| Terminal pin | short | | 224076 |
| Terminal pin | long | | 224074 |
| Clamp, not assembled | | | 154562 |
| Terminal block, fully loaded | narrow | black | 914830 |
| Terminal block, fully loaded | wide | black | 914840 |
| Blind plug | | black | 103006 |
| Frame insert for pluggable connectors | Top cutout | black | 053869 |
| Frame insert for pluggable connectors | Bottom cutout | black | 053870 |
| Blind insert | | black | 053871 |

Dimensions



all dimensions in mm

Recommended PCB dimensions



¹⁾ Höhe ist abhängig von der Einbaulage der Querplatine
²⁾ height depends on location of the crosswise circuit board

Achtung: Im Eckenbereich verringerte Einbauhöhen
 Note: reduced space for components in the corner area

all dimensions in mm

Enclosures LDG-A

LDG-A 30



- For max. 30 screw clamp terminals, 15 on each side
- Partial loaded terminal blocks with blind plugs
- PCB board arrangement see drawing

Usage of standard connectors

- Special frames for pluggable standard connectors available
- Pitch of 5.08 mm allows connection of 17 wires on each side

Length: 75 mm
 Width: 99.7 mm
 Height: 110 mm

Ordering information

| Description | Type | Color | Part Number |
|---------------------------------------|------------------------|-------------|---------------|
| Base part | w/o ventilation slots | light grey | 414165 |
| Base part | with ventilation slots | light grey | 434098 |
| Cover | | light grey | 413962 |
| Cover | | transparent | 413963 |
| Cover | | black | 413964 |
| Terminal block housing | narrow | black | 413966 |
| Terminal block housing | narrow | blue | 413965 |
| Terminal block housing | wide | black | 413968 |
| Terminal block housing | wide | blue | 413967 |
| Terminal pin | short | | 224076 |
| Terminal pin | long | | 224074 |
| Clamp, not assembled | | | 154562 |
| Terminal block, fully loaded | narrow | black | 914850 |
| Terminal block, fully loaded | wide | black | 914860 |
| Blind plug | | black | 103006 |
| Frame insert for pluggable connectors | Top cutout | black | 034769 |
| Frame insert for pluggable connectors | Bottom cutout | black | 053164 |
| Blind insert | | black | 053074 |



- For max. 46 screw clamp terminals, 23 on each side
- Partial loaded terminal blocks with blind plugs
- PCB board arrangement see drawing

Usage of standard connectors

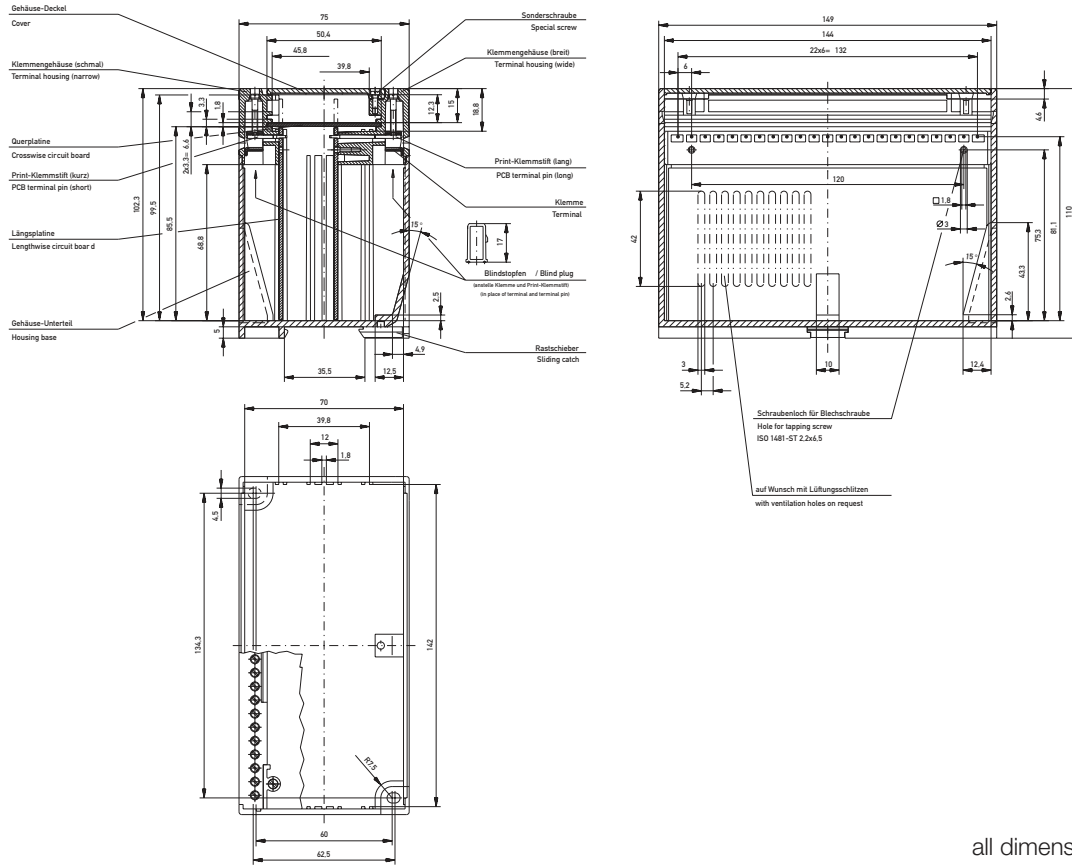
- Special frames for pluggable standard connectors available
- Pitch of 5.08 mm allows connection of 26 wires on each side

Length: 75 mm
Width: 150 mm
Height: 110 mm

Ordering information

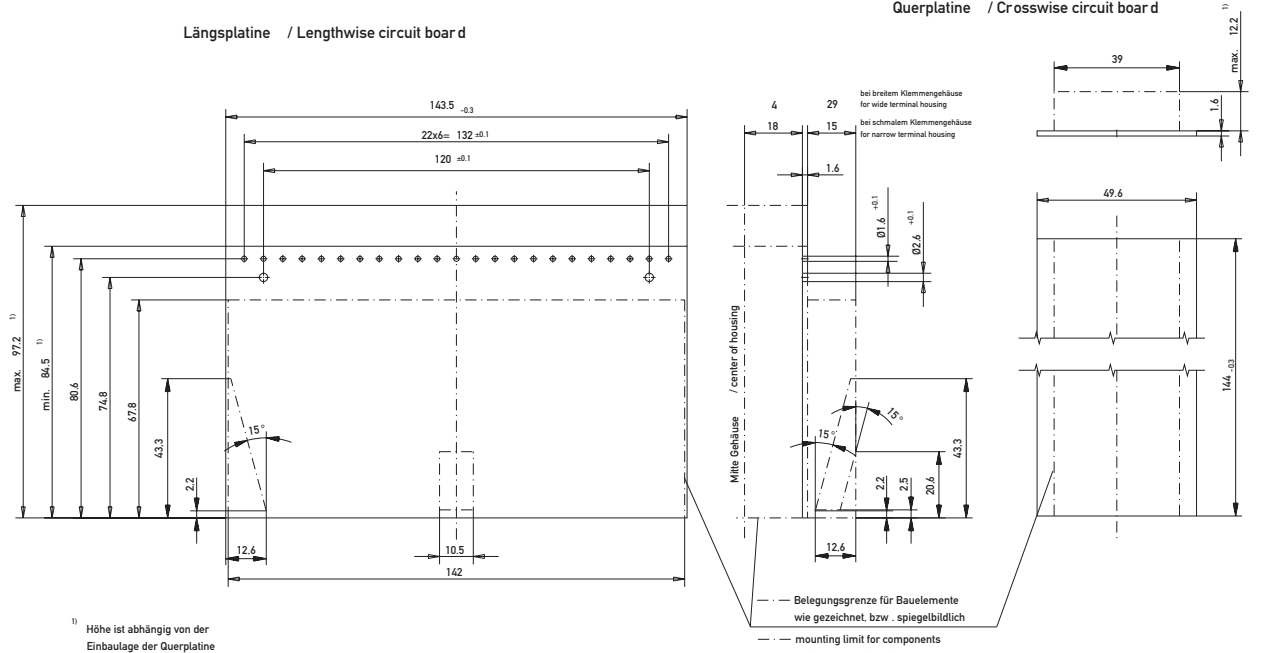
| Description | Type | Color | Part Number |
|---------------------------------------|------------------------|-------------|---------------|
| Base part | w/o ventilation slots | light grey | 024078 |
| Base part | with ventilation slots | light grey | 024080 |
| Cover | | light grey | 014818 |
| Cover | | transparent | 014819 |
| Cover | | black | 014820 |
| Terminal block housing | narrow | black | 014649 |
| Terminal block housing | wide | black | 014790 |
| Terminal pin | short | black | 224076 |
| Terminal pin | long | black | 224074 |
| Clamp, not assembled | | | 154562 |
| Terminal block, fully loaded | narrow | black | 914890 |
| Terminal block, fully loaded | wide | black | 914900 |
| Blind plug | | black | 103006 |
| Frame insert for pluggable connectors | Bottom cutout | black | 054248 |
| Blind insert | | black | 054249 |

Dimensions



all dimensions in mm

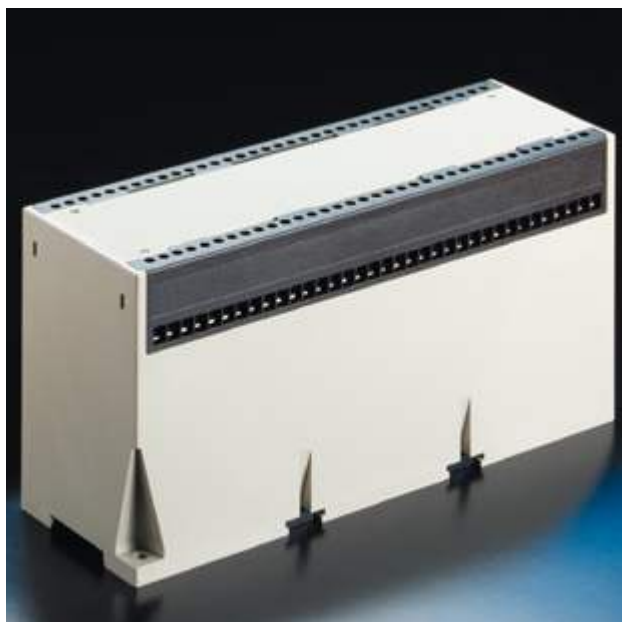
Recommended PCB dimensions



¹⁾ Höhe ist abhängig von der Einbaulage der Querplatine
¹⁾ height depends on location of the crosswise circuit board

Achtung: Im Eckenbereich verringerte Einbauhöhen
Note: reduced space for components in the corner area

all dimensions in mm



- For max. 70 screw clamp terminals, 35 on each side, clamp pitch 6 mm
- Partial loaded terminal blocks with blind plugs
- PCB board arrangement see drawing

Usage of standard connectors

- Special frames for pluggable standard connectors available
- Pitch of 5.08 mm allows connection of 41 wires on each side

Length: 75 mm
Width: 225 mm
Height: 110 mm

Ordering information

| Description | Type | Color | Part Number |
|------------------------------|------------------------|-------------|---------------|
| Base part | w/o ventilation slots | light grey | 424327 |
| Base part | with ventilation slots | light grey | 424328 |
| Cover | | light grey | 424243 |
| Cover | | transparent | 424244 |
| Cover | | black | 424245 |
| Terminal block housing | narrow | black | 424240 |
| Terminal block housing | narrow | blue | 424239 |
| Terminal block housing | wide | black | 424242 |
| Terminal block housing | wide | blue | 424241 |
| Terminal pin | short | | 224076 |
| Terminal pin | long | | 224074 |
| Clamp, not assembled | | | 154562 |
| Terminal block, fully loaded | narrow | black | 914870 |
| Terminal block, fully loaded | wide | black | 914880 |
| Blind plug | | black | 103006 |
| Blind insert | | black | 054730 |



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