



# Enclosures LDG-A





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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 <sup>2</sup>		max. 4 mm <sup>2</sup>			
	current rating		max. 16 A			
tightening torque	max. 0.4 Nm					
	material		CuSn6			
Terminal pin plating	2 µm Ni		2 µm Ni			
	5 µm Sn		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 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
	75 x 22.5 x 110 mm					
Approvals	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	A	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									

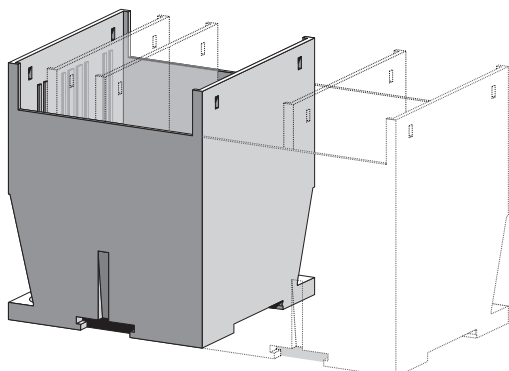
A = Both side faces not obstructed, free airflow

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

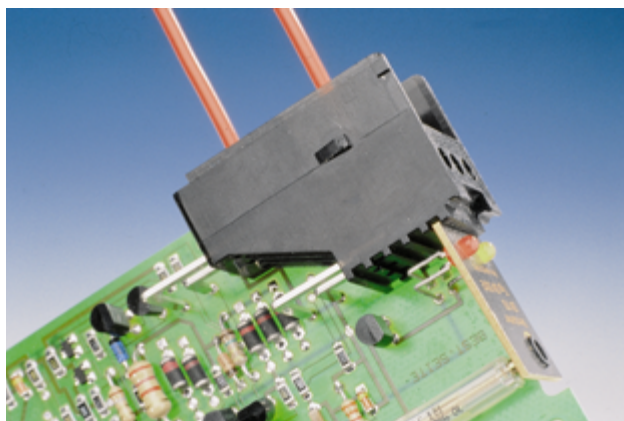
C = Both side face blocked by obstruction, 0 mm away

# 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.



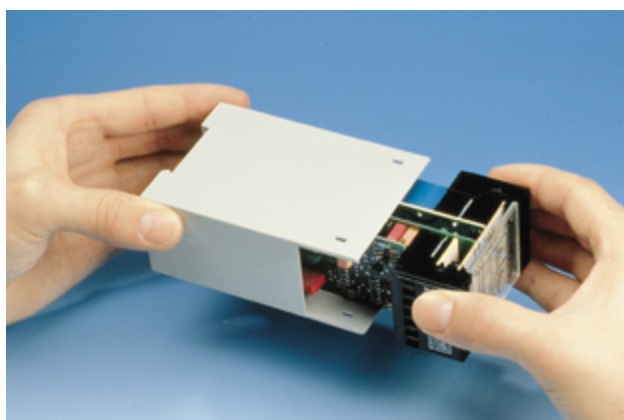
### Easy connecting technique

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.

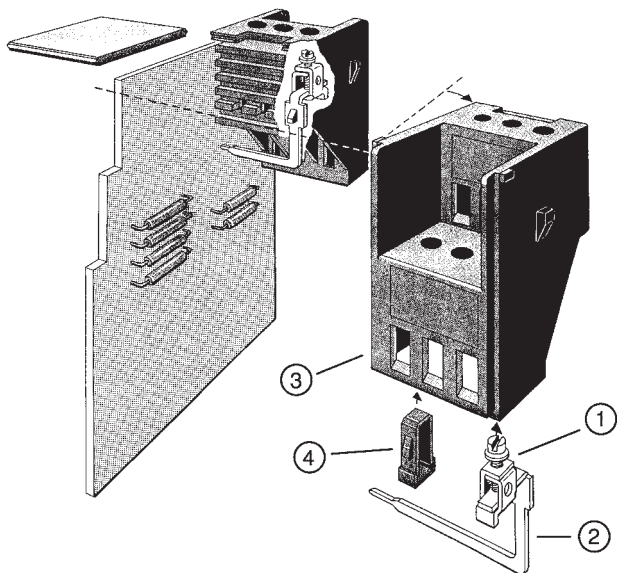


### Just snap them on

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.

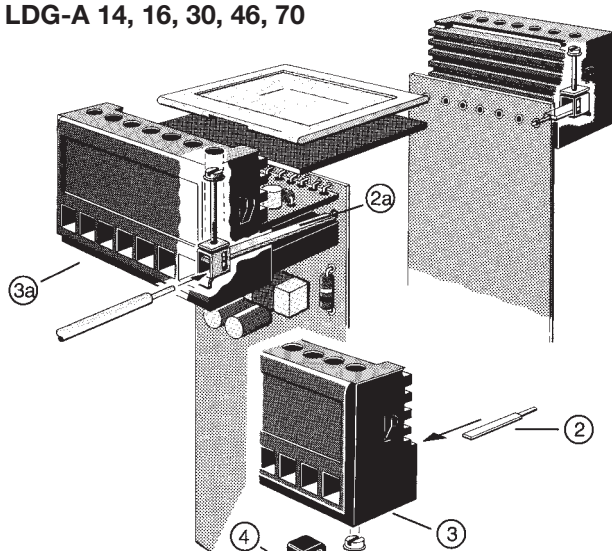
# Enclosures LDG-A

## Terminal block design and type overview



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

### LDG-A 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 12

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



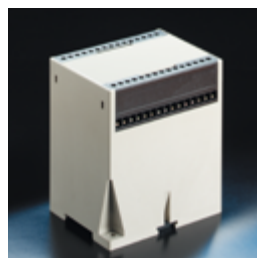
### LDG-A 14

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



### LDG-A 16

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



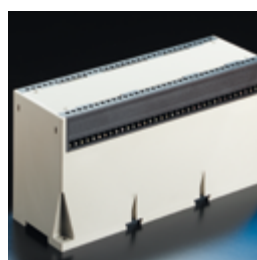
### LDG-A 30

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

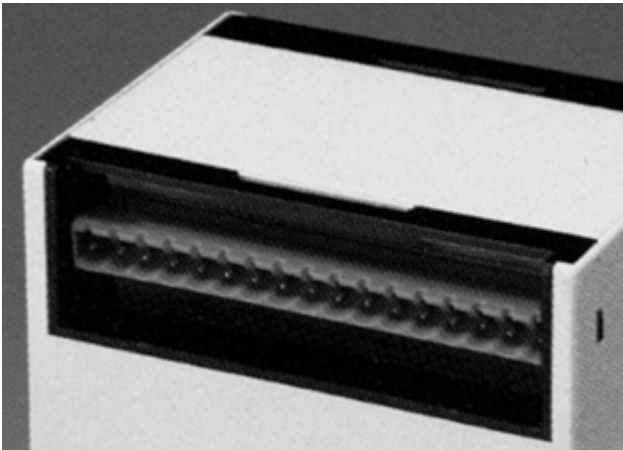
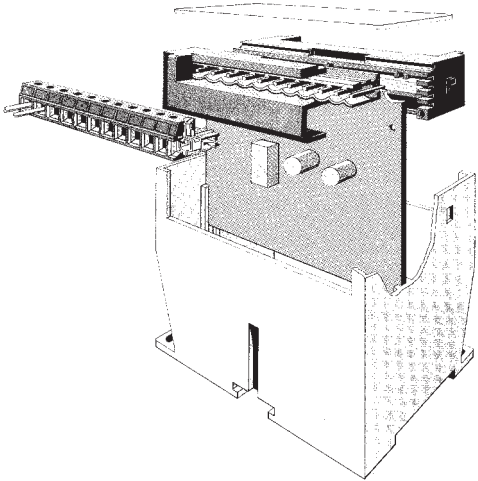


**Easy service and device exchange**

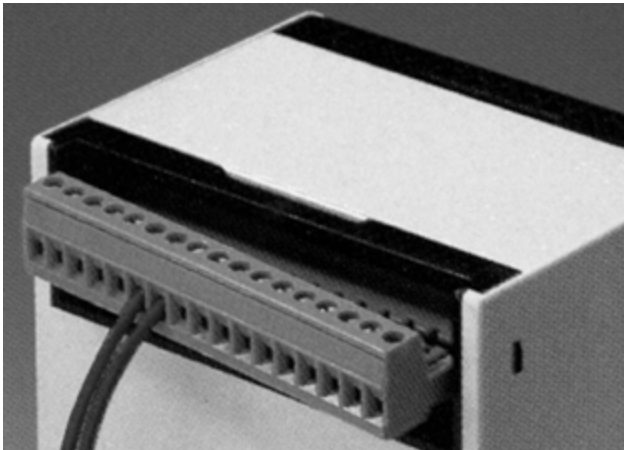
**Frame inserts** with cut-out for commercially available pluggable terminal connectors

**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.
<b>LDG-A-16</b> Frame insert with top cutout	black	<b>053869</b>
Frame insert with bottom cutout	black	<b>053870</b>
Blind insert	black	<b>053871</b>
<b>LDG-A-30</b> Frame insert with top cutout	black	<b>034769</b>
Frame insert with bottom cutout	black	<b>053164</b>
Blind insert	black	<b>053074</b>
<b>LDG-A-46</b> Frame insert with bottom insert	black	<b>054248</b>
Blind insert	black	<b>054249</b>
<b>LDG-A-70</b> Blind insert	black	<b>054730</b>

**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

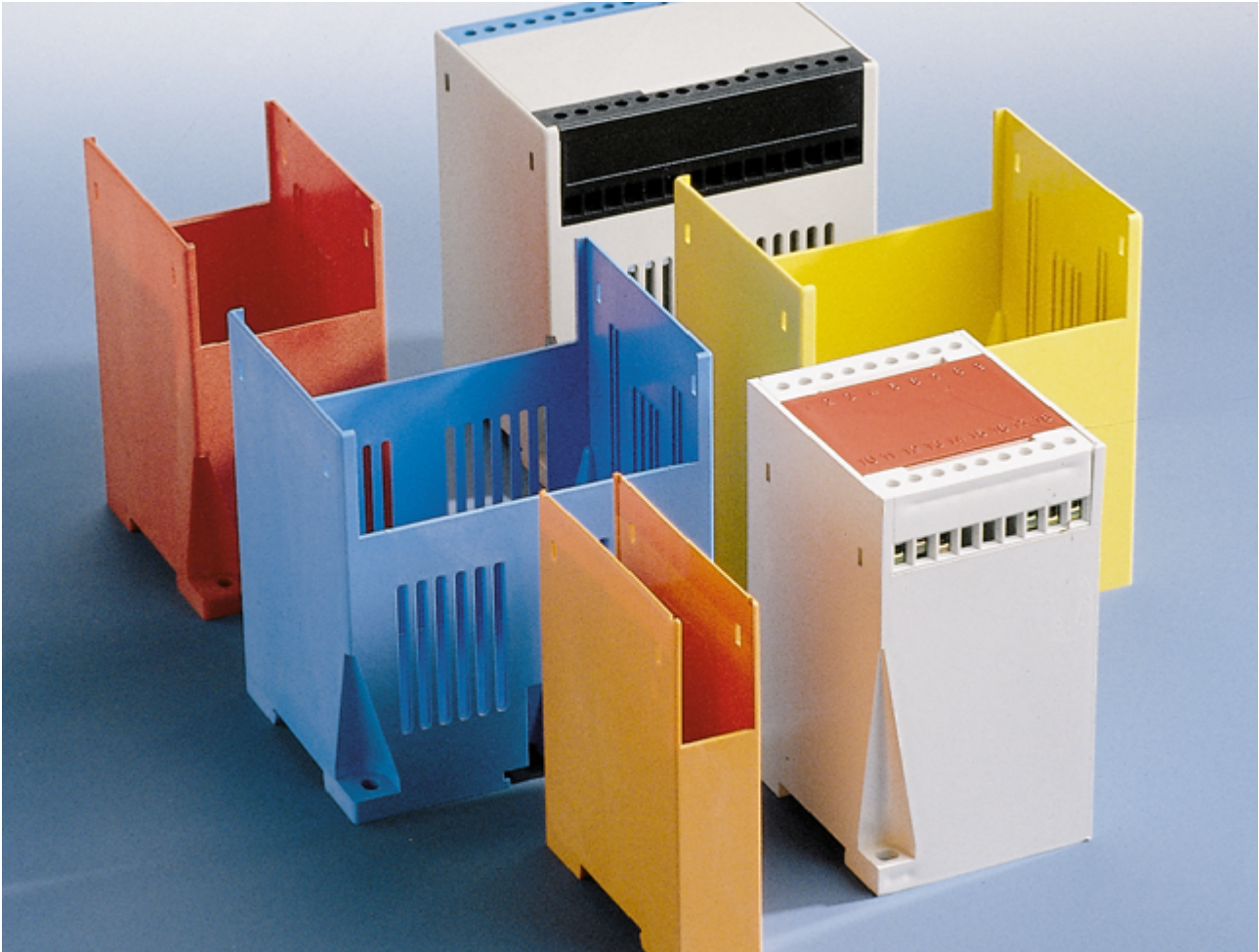


# Enclosures LDG-A

Flexibility for customized solutions



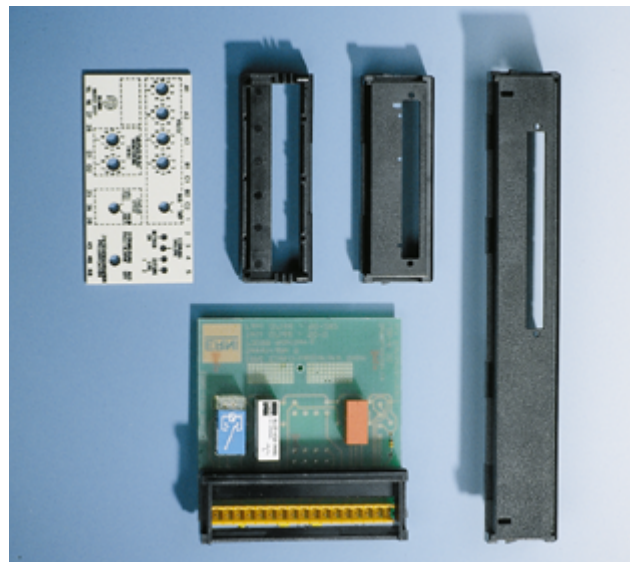
Various colors, e. g. company color for base part, cover or terminal block possible



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.
<b>Base part with ventilation slots</b>		
LDG-A-12	light grey	<b>114932</b>
LDG-A-16	light grey	<b>024870</b>
LDG-A-30	light grey	<b>434098</b>
LDG-A-46	light grey	<b>024080</b>
LDG-A-70	light grey	<b>424328</b>

# Enclosures LDG-A

## LDG-A 12



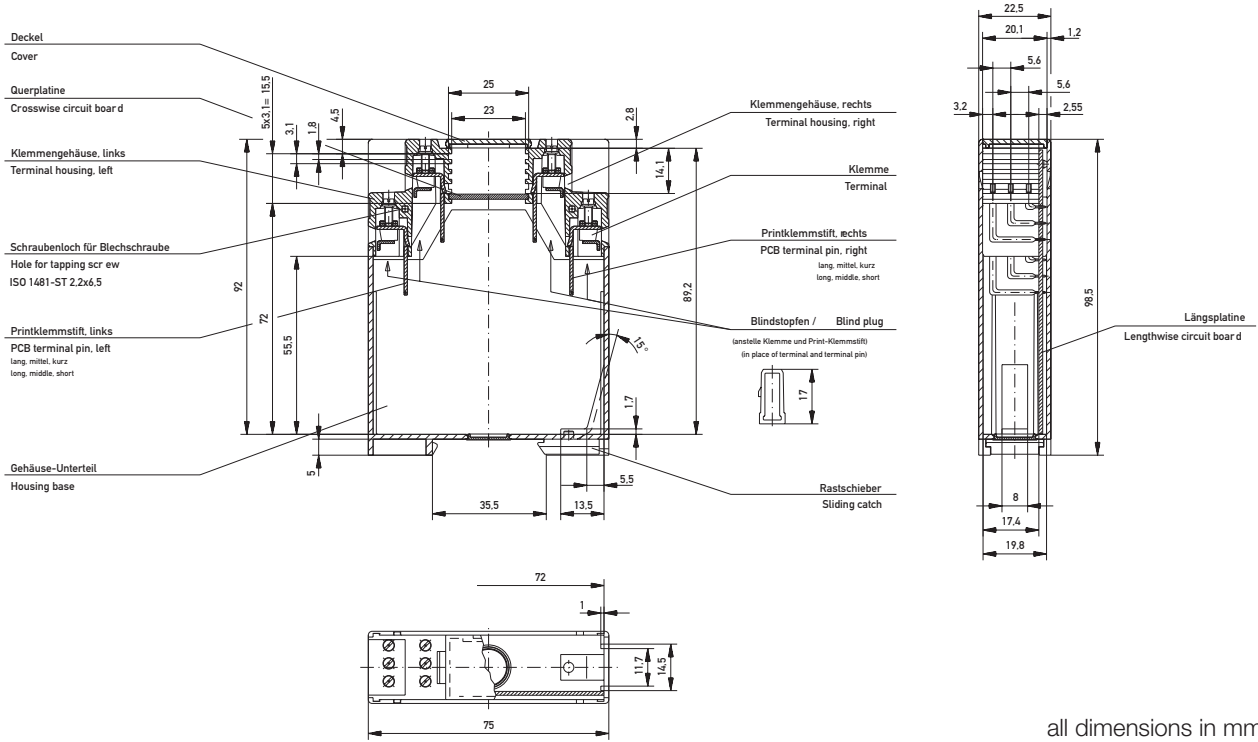
- For max. 12 screw clamp terminals, 6 on each side
- Partial loaded terminal blocks with blind plugs
- PCB board arrangement see drawing

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

### Ordering information

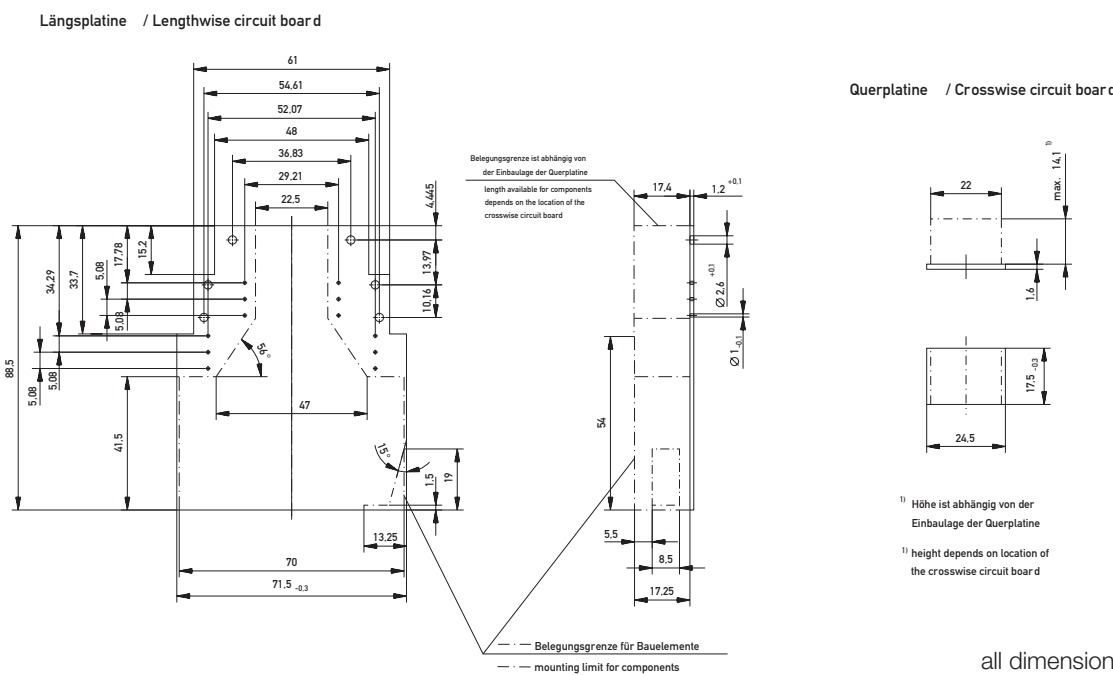
Description	Type	Color	Part Number
Base part 110 mm	w/o ventilation slot	light grey	<b>024082</b>
Base part 110 mm	with ventilation slot	light grey	<b>114932</b>
Base part 98,5 mm	w/o ventilation slot	light grey	<b>414470</b>
Cover		transparent	<b>414462</b>
Cover		light grey	<b>414463</b>
Terminal block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

Dimensions: low height version



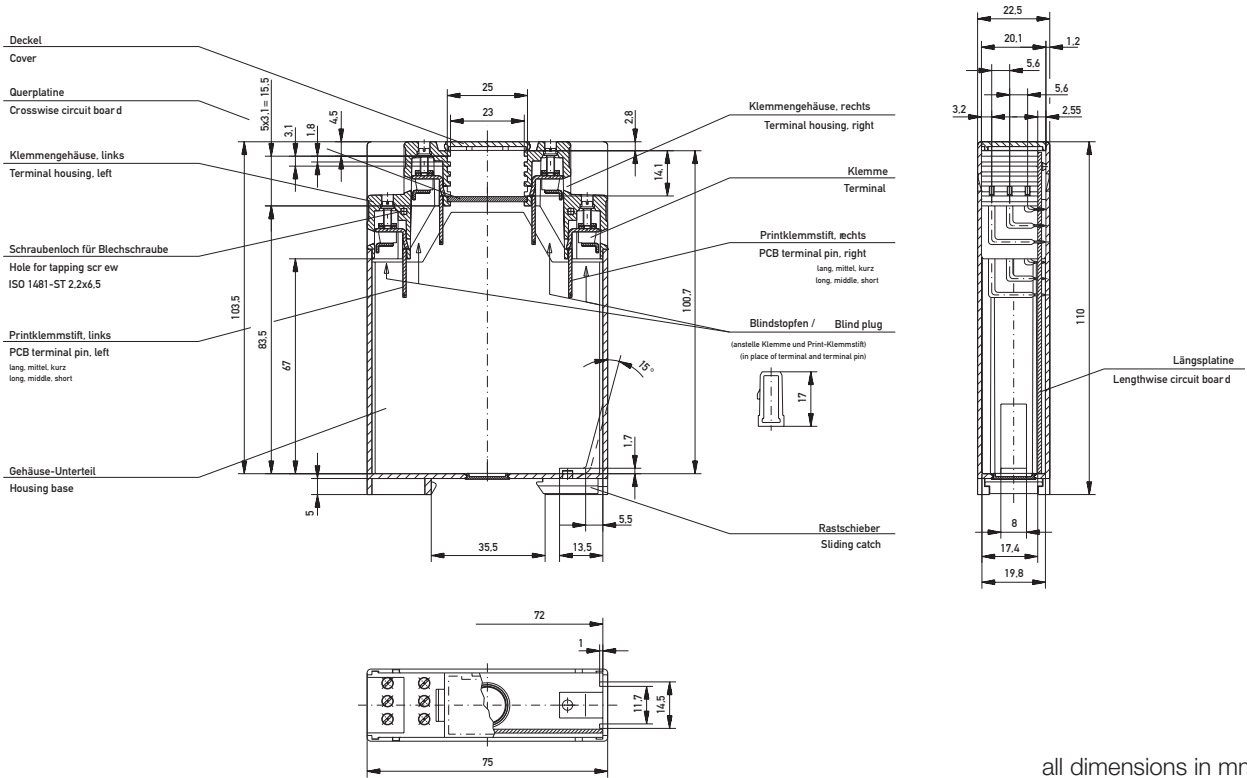
all dimensions in mm

Recommended PCB dimensions



all dimensions in mm

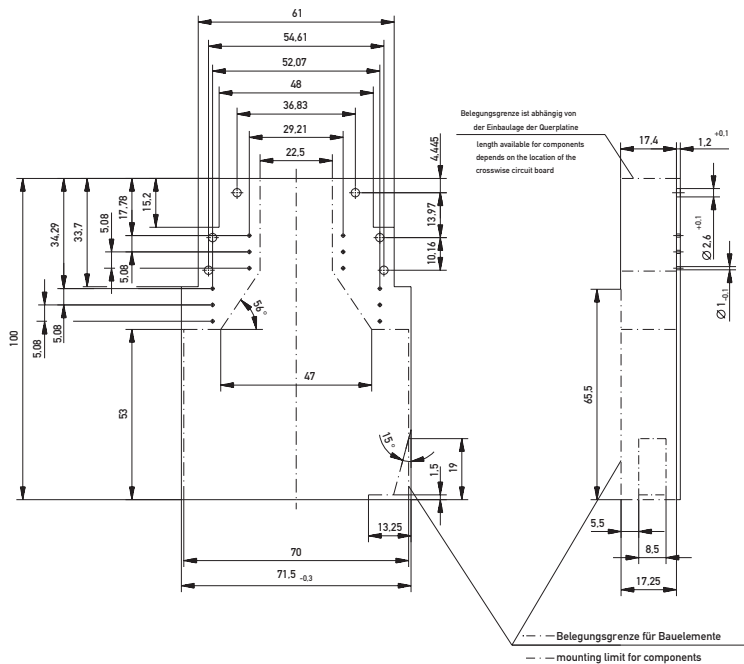
Dimensions: standard height version



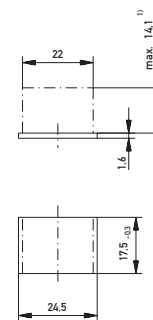
all dimensions in mm

Recommended PCB dimensions

Längsplatine / Lengthwise circuit board



Querplatine / Crosswise circuit board



<sup>1)</sup> Höhe ist abhängig von der Einbautiefe der Querplatine / height depends on location of the crosswise circuit board

all dimensions in mm



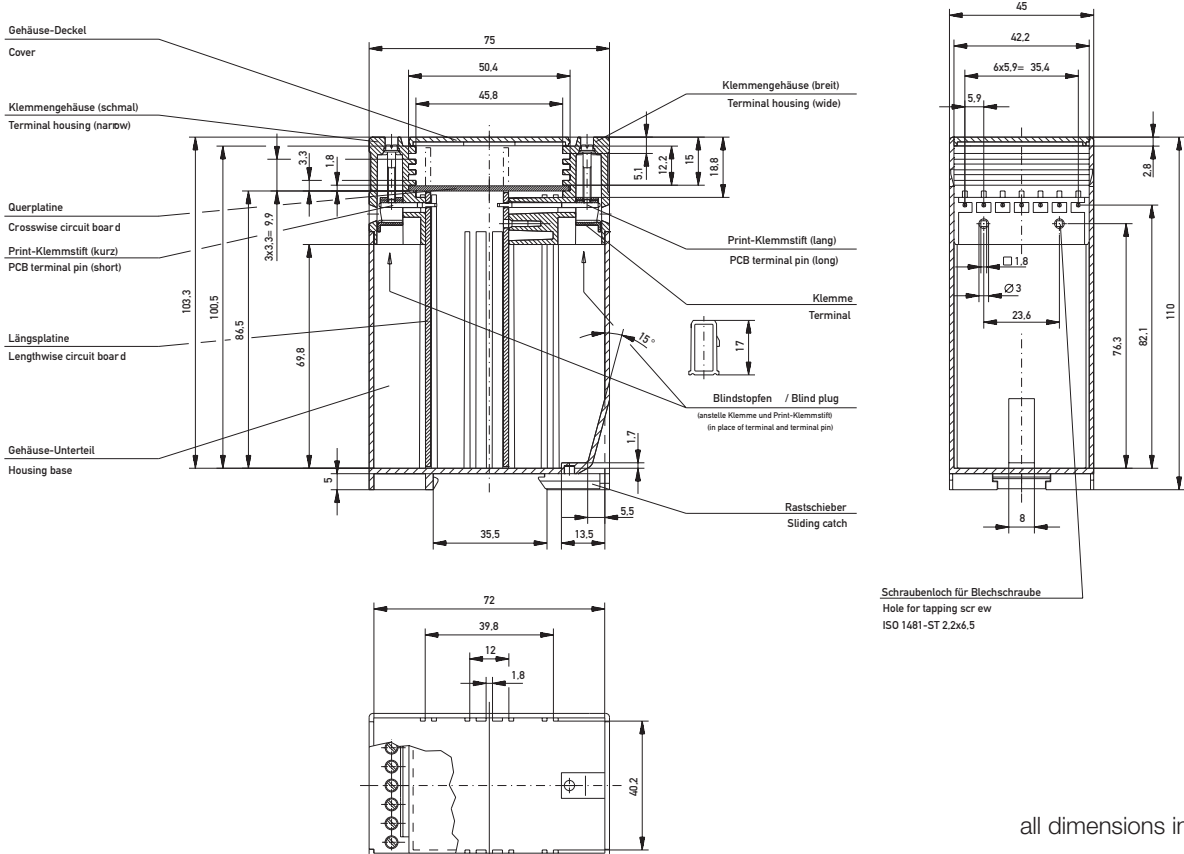
- For max. 14 screw clamp terminals , 7 on each side
- Partial loaded terminal blocks with blind plugs
- PCB board arrangement see drawing

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

### Ordering information

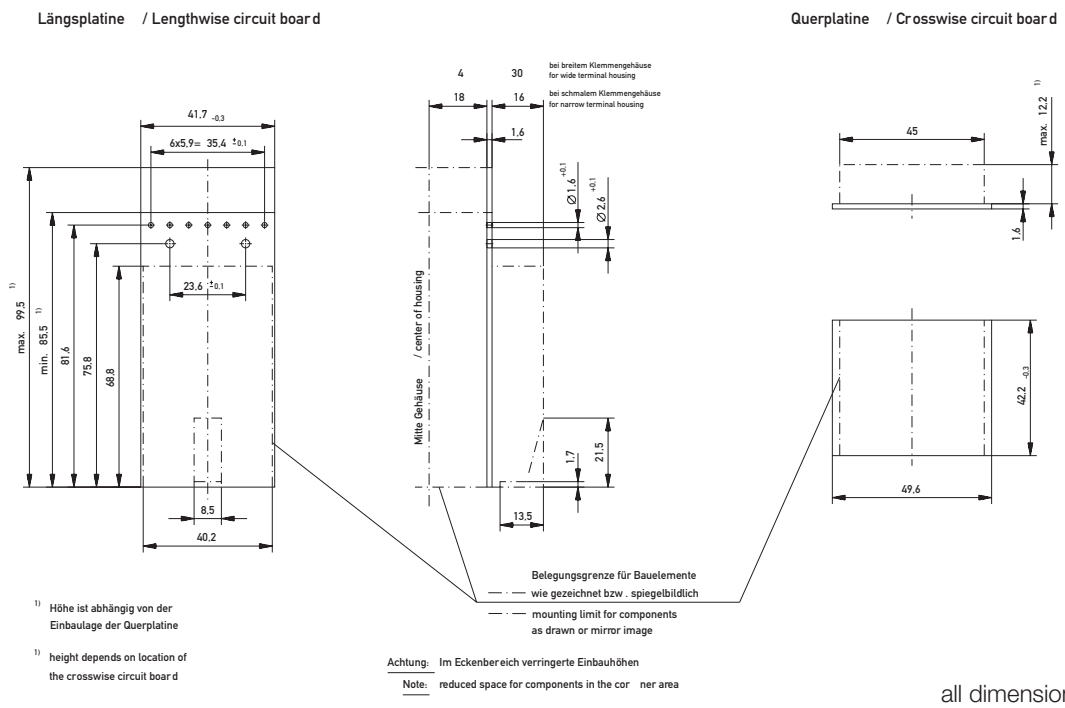
Description	Type	Color	Part Number
Base part	w/o ventilation slots	light grey	<b>423280</b>
Cover		light grey	<b>423273</b>
Cover		transparent	<b>423272</b>
Cover		black	<b>423274</b>
Terminal block housing	narrow	black	<b>423275</b>
Terminal block housing	wide	black	<b>423277</b>
Terminal pin	short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

Dimensions

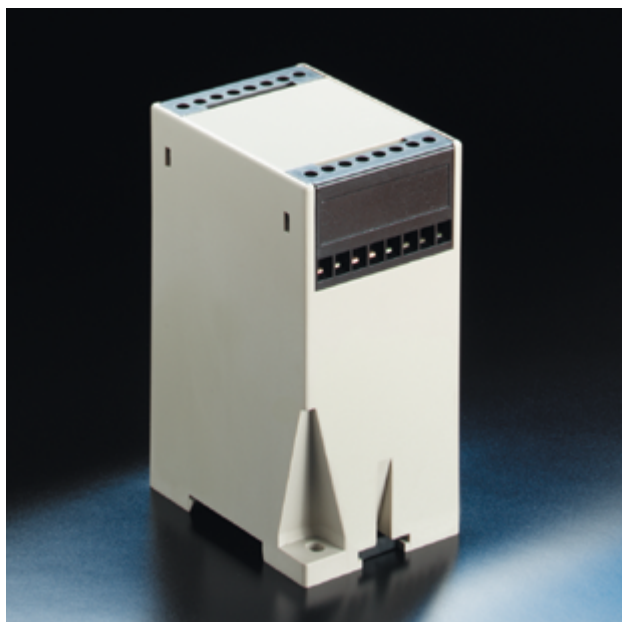


all dimensions in mm

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

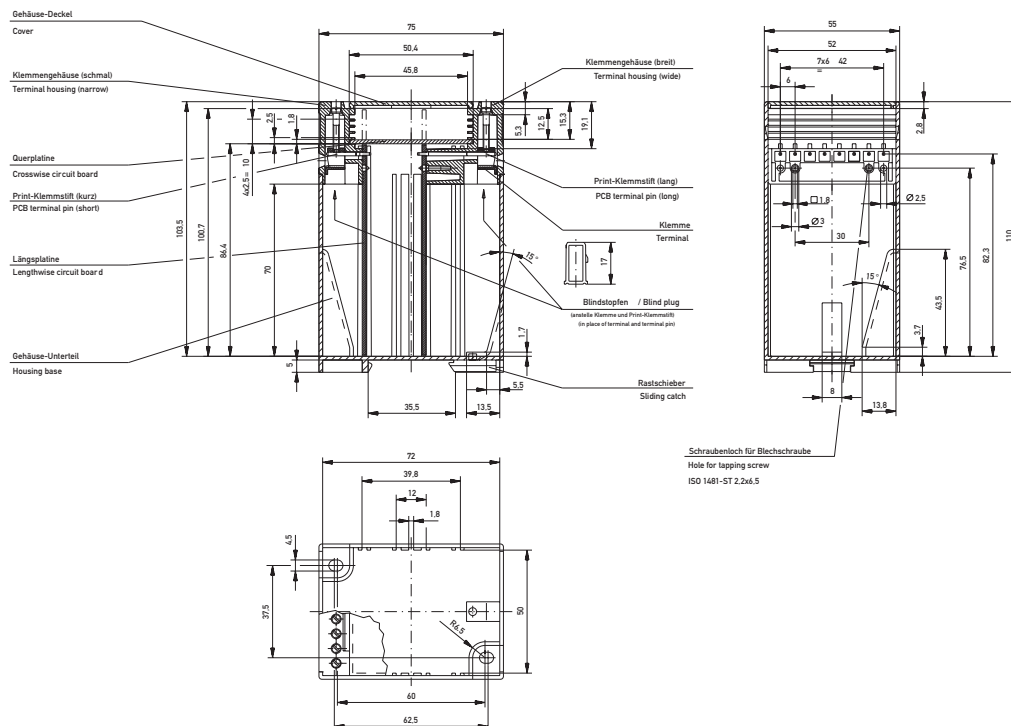
Length: 75 mm  
Width: 55 mm  
Height: 110 mm

### Ordering information

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

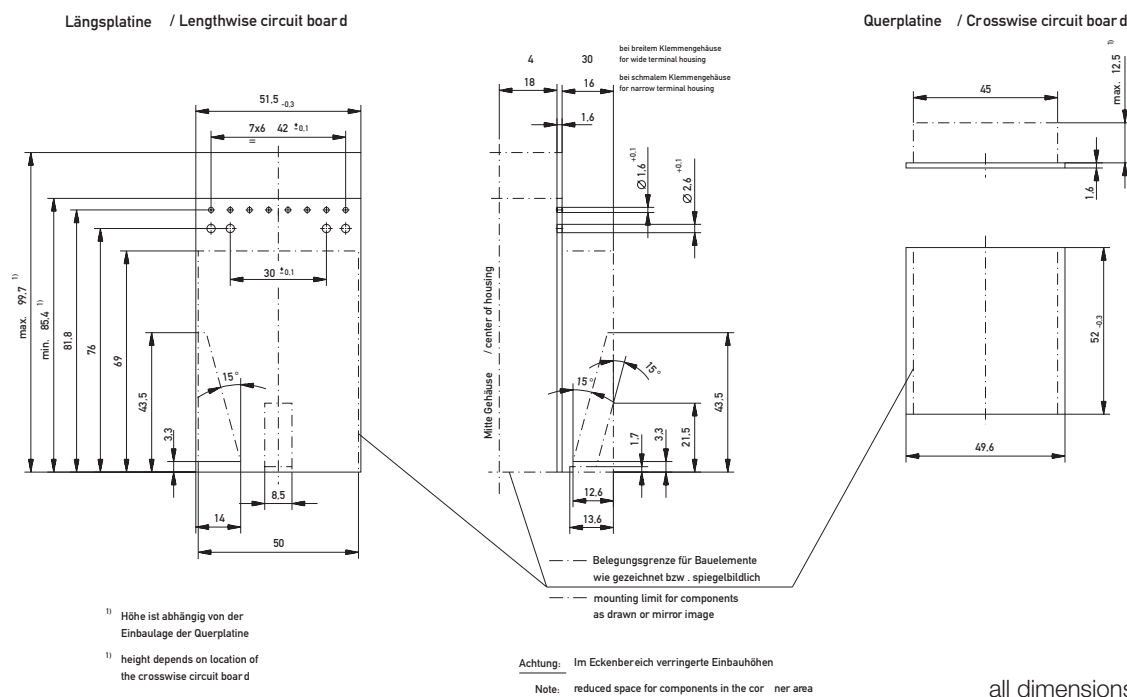


### Dimensions



all dimensions in mm

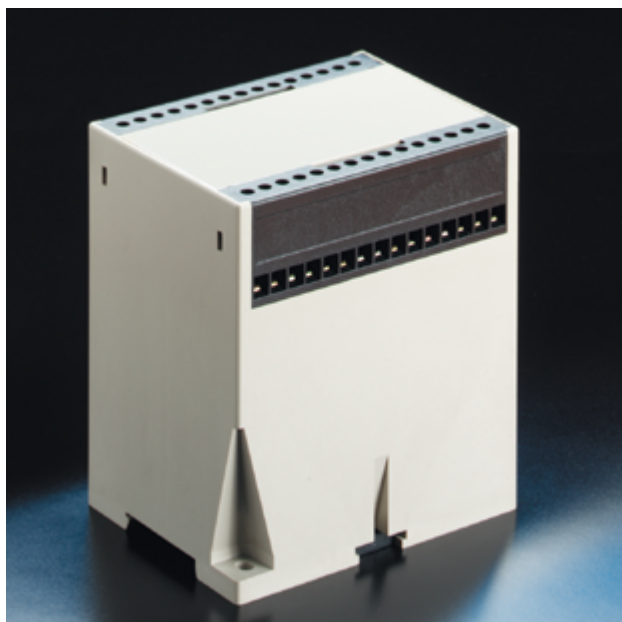
### Recommended PCB dimensions



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

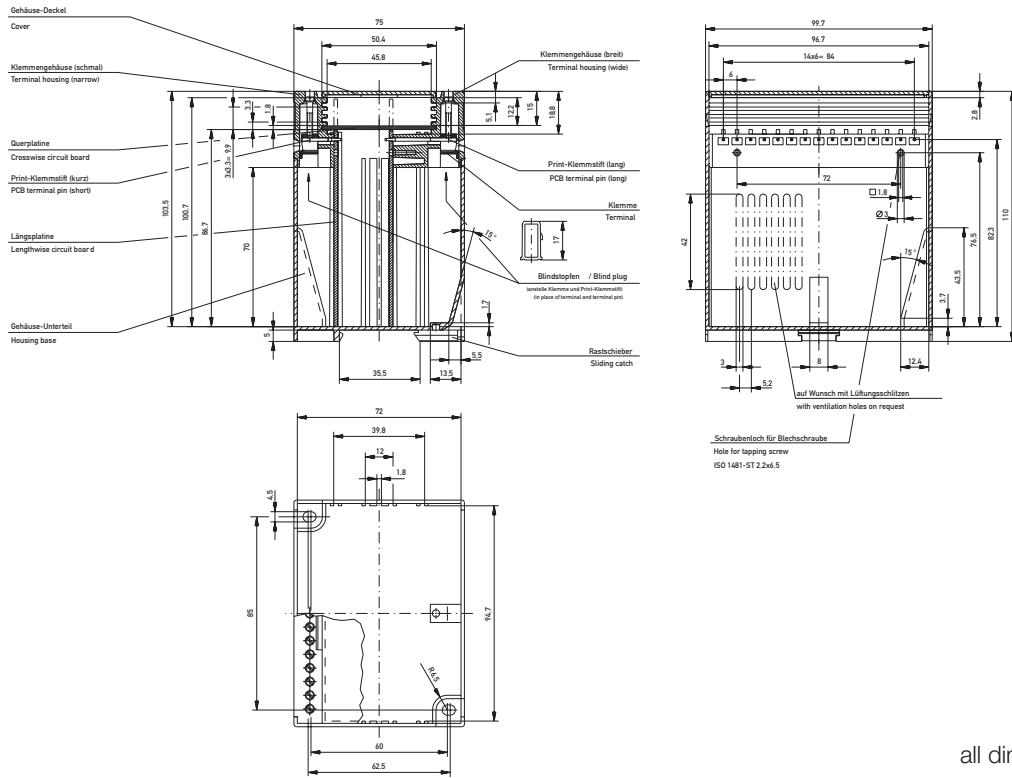
- Special frames for pluggable standard connectors available
- Pitch of 5.08 mm allows connection of 17 wires on each side

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

### Ordering information

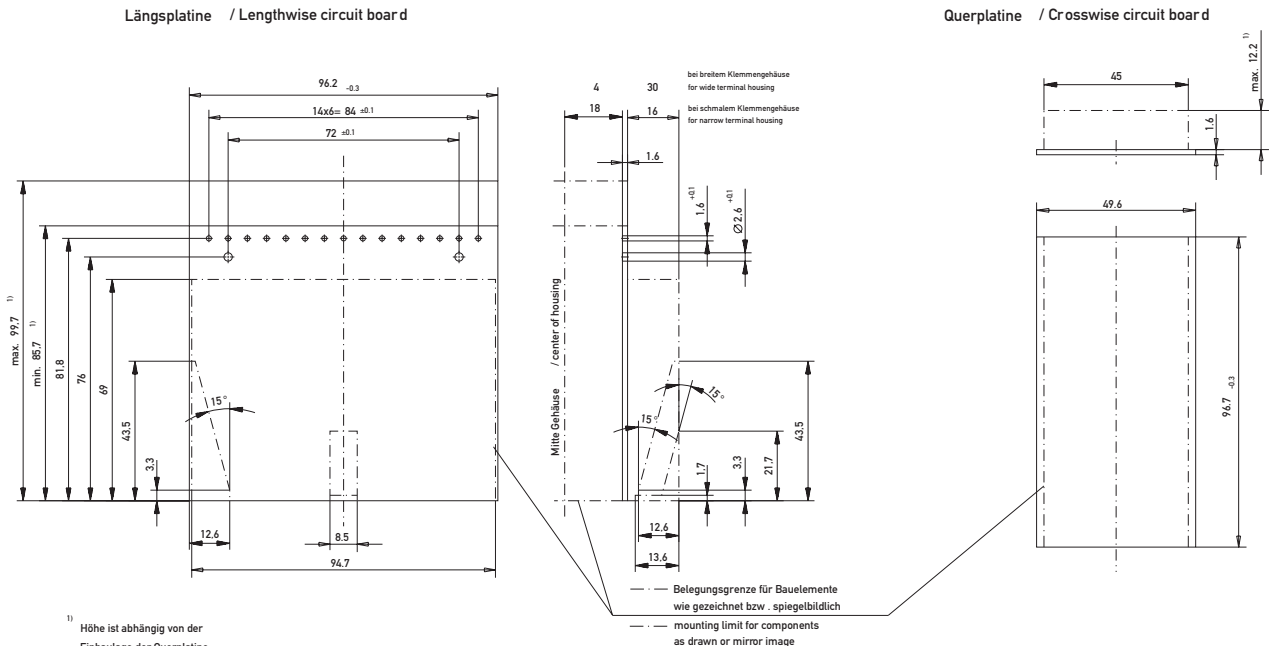
Description	Type	Color	Part Number
Base part	w/o ventilation slots	light grey	<b>414165</b>
Base part	with ventilation slots	light grey	<b>434098</b>
Cover		light grey	<b>413962</b>
Cover		transparent	<b>413963</b>
Cover		black	<b>413964</b>
Terminal block housing	narrow	black	<b>413966</b>
Terminal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

Dimensions



all dimensions in mm

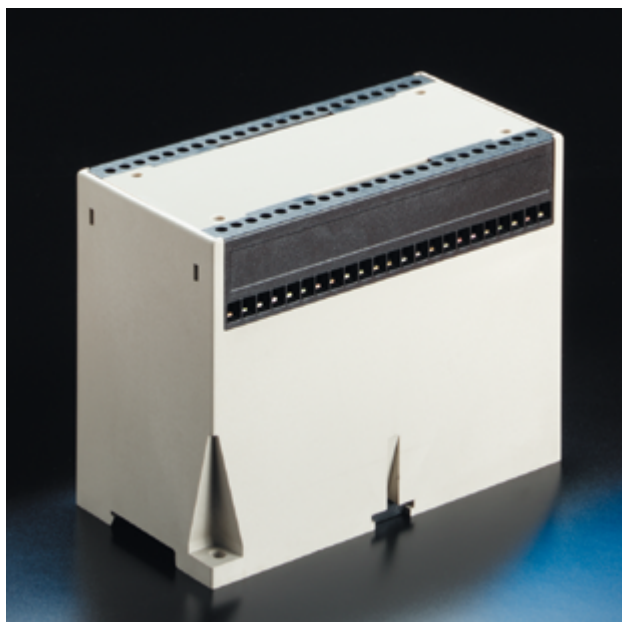
Recommended PCB dimensions



<sup>1)</sup> Höhe ist abhängig von der Einbaulage der Querplatine  
<sup>1)</sup> 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. 46 screw clamp terminals, 23 on each side
- Partial loaded terminal blocks with blind plugs
- PCB board arrangement see drawing

Usage of standard connectors

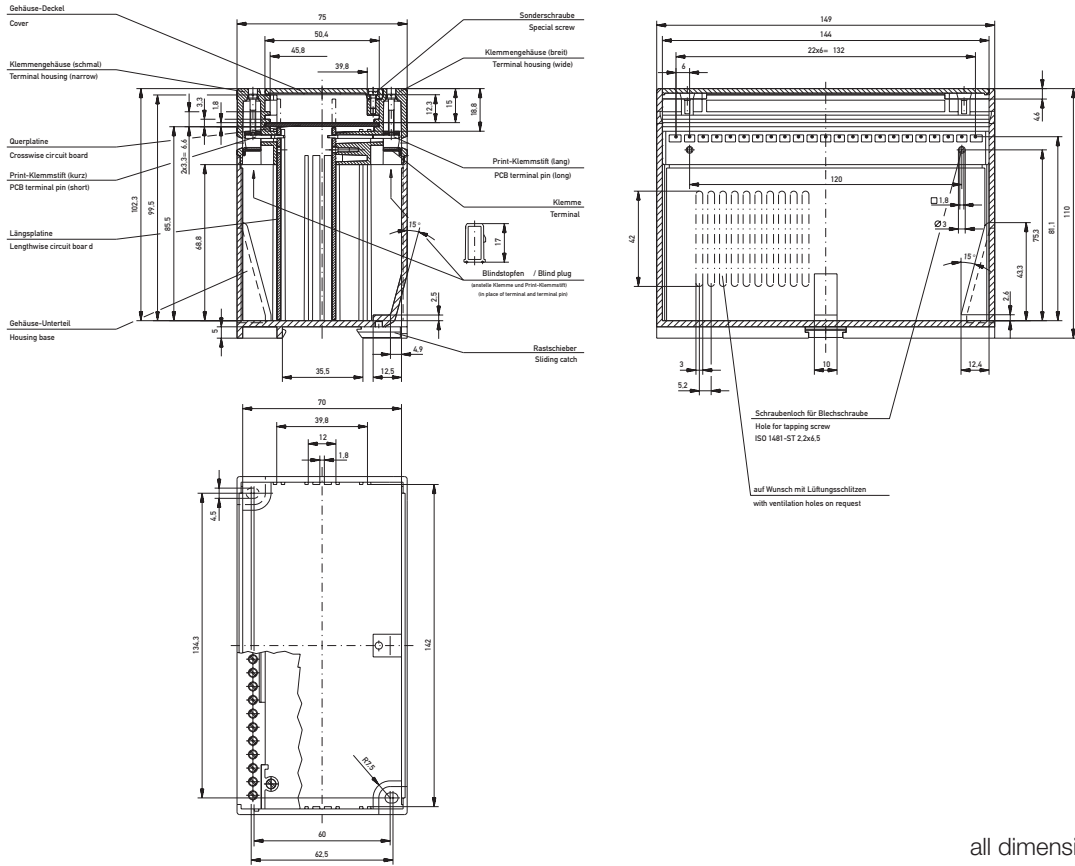
- Special frames for pluggable standard connectors available
- Pitch of 5.08 mm allows connection of 26 wires on each side

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

### Ordering information

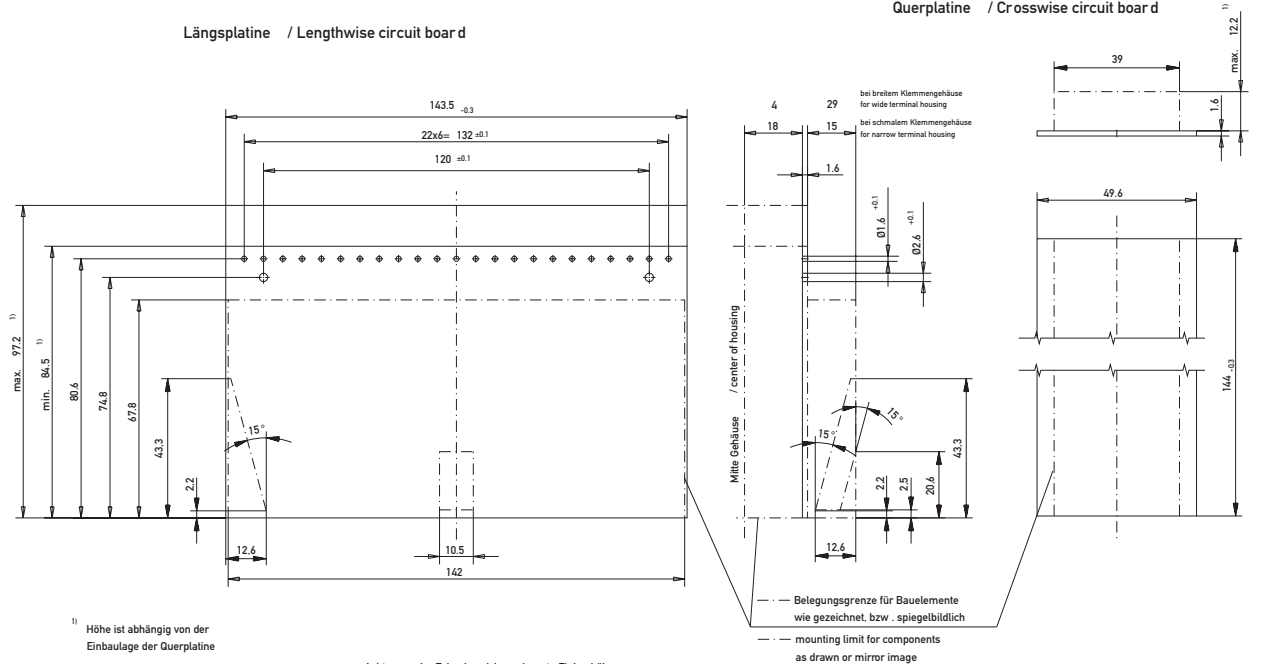
Description	Type	Color	Part Number
Base part	w/o ventilation slots	light grey	<b>024078</b>
Base part	with ventilation slots	light grey	<b>024080</b>
Cover		light grey	<b>014818</b>
Cover		transparent	<b>014819</b>
Cover		black	<b>014820</b>
Terminal block housing	narrow	black	<b>014649</b>
Terminal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

### Dimensions



all dimensions in mm

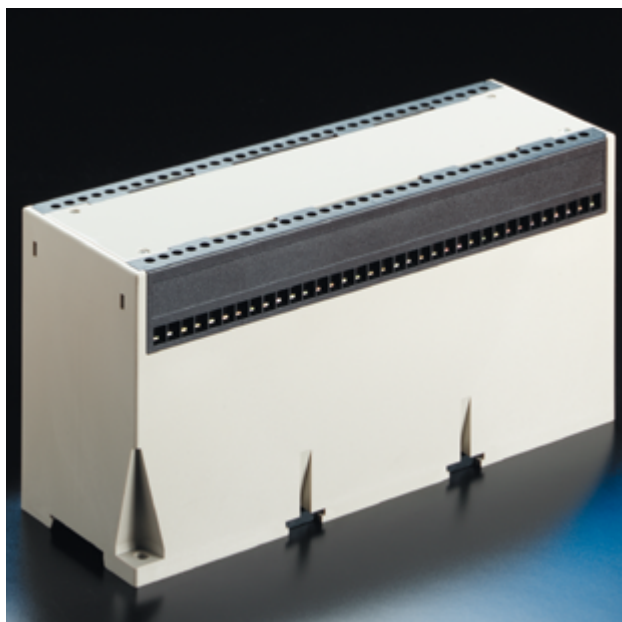
### Recommended PCB dimensions



all dimensions in mm

# Enclosures LDG-A

## LDG-A 70



- 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

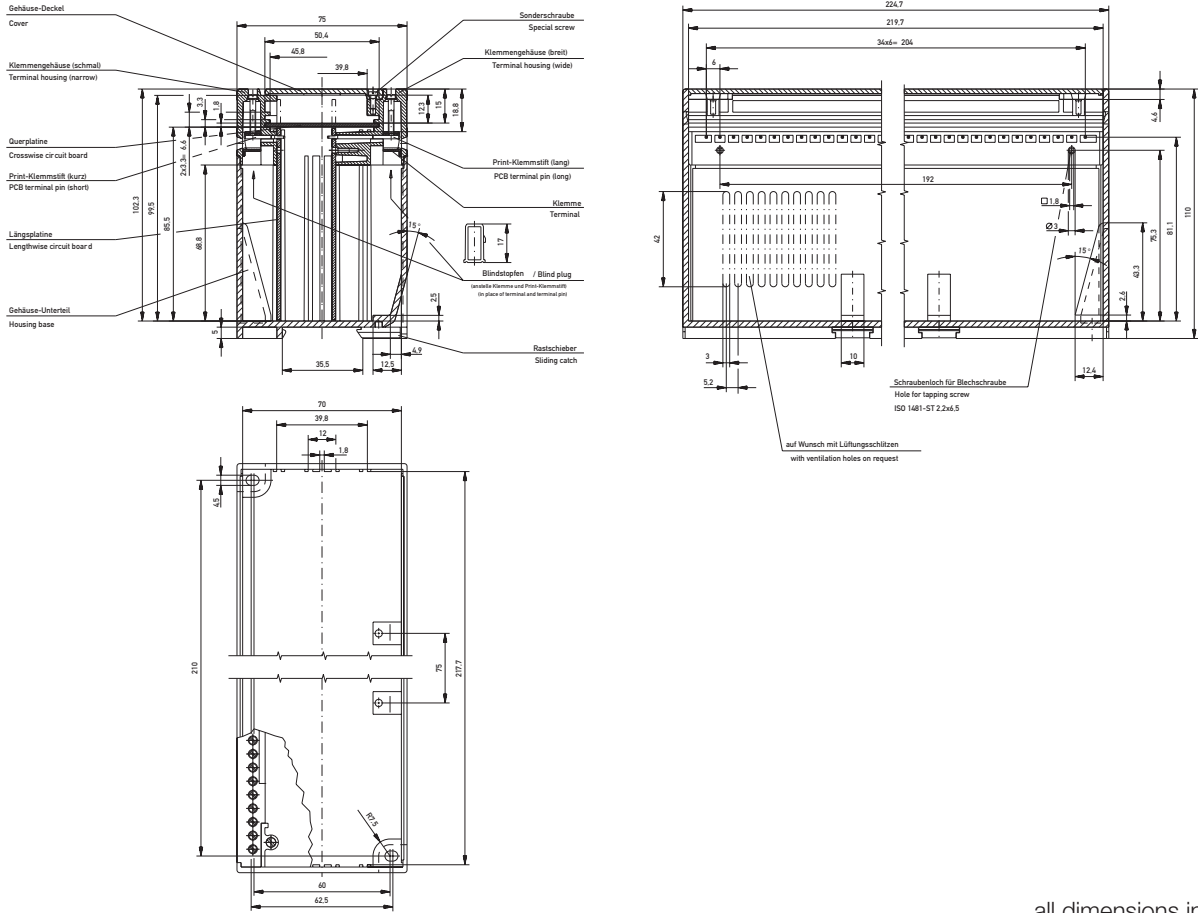
- Special frames for pluggable standard connectors available
- Pitch of 5.08 mm allows connection of 41 wires on each side

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

### Ordering information

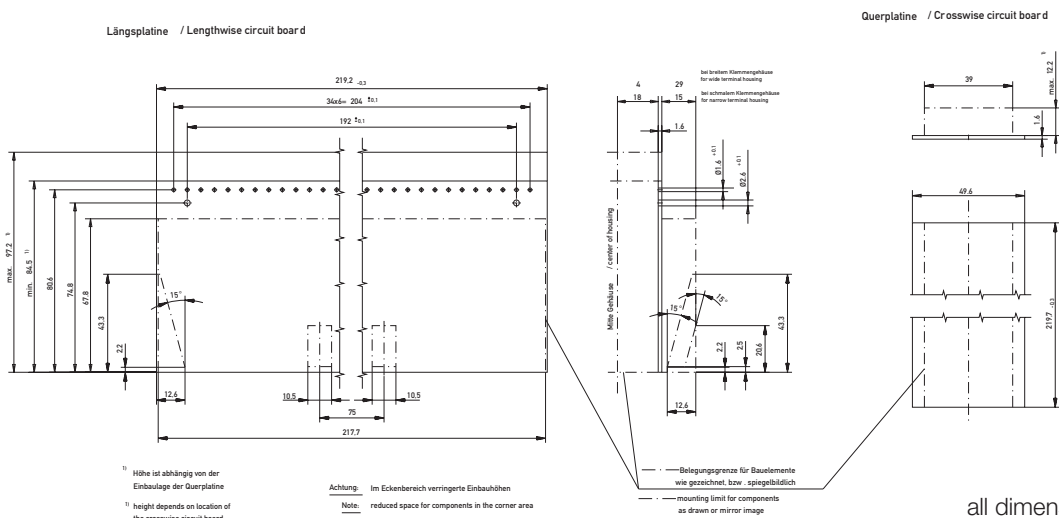
Description	Type	Color	Part Number
Base part	w/o ventilation slots	light grey	<b>424327</b>
Base part	with ventilation slots	light grey	<b>424328</b>
Cover		light grey	<b>424243</b>
Cover		transparent	<b>424244</b>
Cover		black	<b>424245</b>
Terminal block housing	narrow	black	<b>424240</b>
Terminal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

### Dimensions



all dimensions in mm

### Recommended PCB dimensions



all dimensions in mm



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