

# LDG-A



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## Types

LDG-A-12 . . . max. 12 connections  
 LDG-A-14 . . . max. 14 connections  
 LDG-A-16 . . . max. 16 connections  
 LDG-A-30 . . . max. 30 connections  
 LDG-A-46 . . . max. 46 connections  
 LDG-A-70 . . . max. 70 connections

## General

The LDG-A series of enclosures are fully insulated enclosures according to the specifications of the machinery and automotive industries, with terminals protected against accidental contact in accordance with VDE 0100 Part 570, VDE 0160 Part 100 and VBG 4.

Designed for easy installation, these housings facilitate extremely rational equipment assembly with optimal utilization of space.

- Wave-solderable termination of the terminal blocks eliminates the need for hard (discrete) wiring and is cost-effective for higher volumes
- Pluggable termination via frame inserts for commercially available connectors

- Snap-together design speeds up assembly and eliminates the need for mechanical fasteners (no screws or bolts)
- Custom-loaded terminal blocks via blind plugs to meet nearly any virtually application's configuration and to reduce costs
- Custom cut-outs for e. g. switches and special signaling devices in covers and in blind inserts for special connector solutions
- Base part versions with ventilation slots for effective heat dissipation; all versions except LDG-A 14
- EMC compliant enclosure solutions achieved by inner shielding of base part and AI front cap
- Simple and safe operation achieved by recessed captive, self-locking, vibration resistant terminal screws, which prevent accidental contact.
- Complete assembly of the electronic module before being installed into the enclosure
- Compact, attractive design by means of structured surface and of space saving envelope, which makes it ideal for both DIN rail mounting or on any flat surface via screw or bolt with the integrated mounting feed
- Easy assembly and disassembly for servicing



Type	LDG-A-12	LDG-A-14	LDG-A-16	LDG-A-30	LDG-A-46	LDG-A-70
Degree of protection	IP20					
Base part	PC (30% GV), RAL 7032, UL 94 V-1					
Terminal block housing, cover and blind plug	PC UL 94 V-2					
Air distance / comparative figure of voltage	≥3mm / CTI 275	≥4mm / CTI 275				
Creepage / comparative figure of voltage	≥3,2mm / CTI 275	≥5mm / CTI 275				
Voltage rating	DIN VDE 0110		Has to be determined according to client-specific using case (degree of environmental pollution) according to VDE 0110			
material	steel, tin plated					
Terminal	wire size	max. 2,5mm <sup>2</sup>			max. 4mm <sup>2</sup>	
current rating	max. 16A		max. 20			
tightening torque	max. 0.4Nm					
material	Cu Sn6		Ms			
Terminal pin	plating	2µm Ni 5µm Sn	2µm Ni 5µm Sn			2µm Ni 5µm Sn
Temperature range	-40° C ... +110° C					
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				

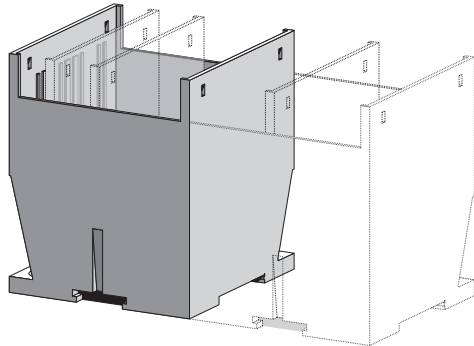
## Temperature load

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									

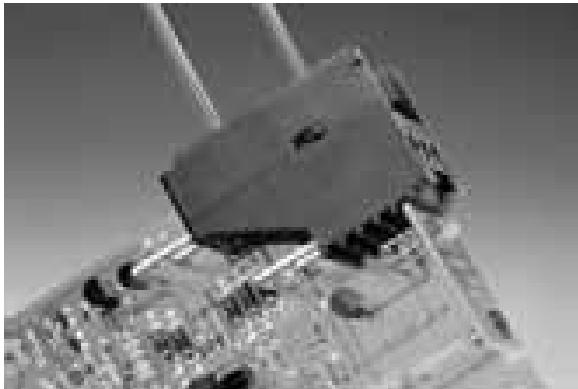
- A = Both side faces not obstructed, free airflow
- B = One side face blocked by obstruction, 0 mm away
- C = Both side face blocked by obstruction, 0 mm away

## 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.



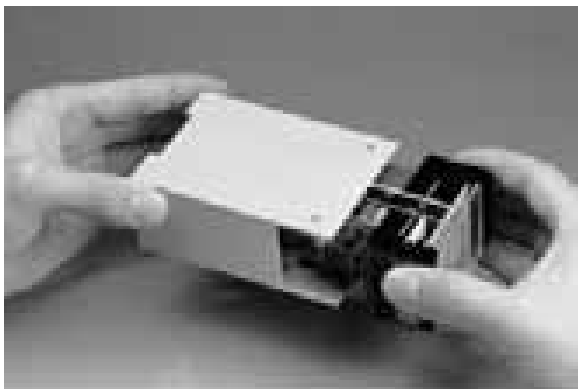
### Easy connecting technique

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



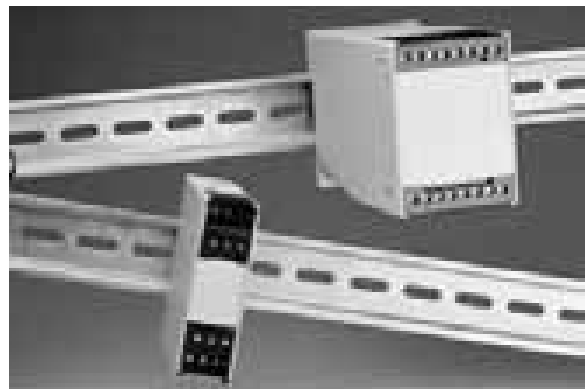
### Generously dimensioned stacking compartment

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



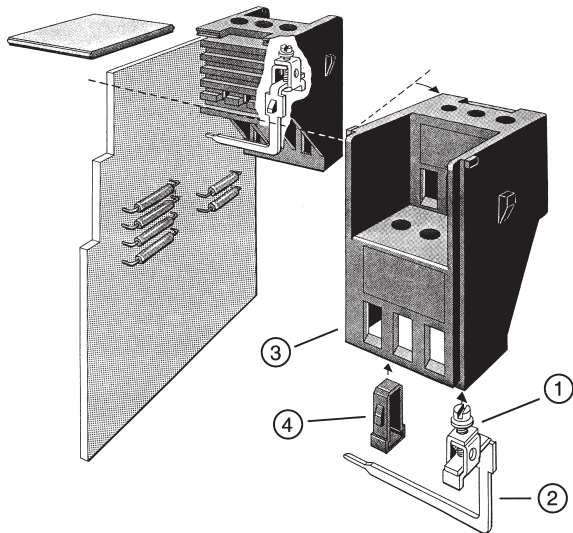
### Fast component-mounting and manufacturing times

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.

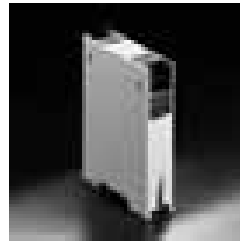


### Just snap them on

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.

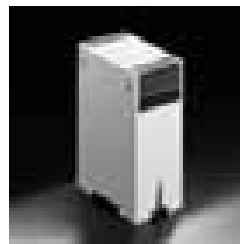


- 1 Terminal clamp
- 2 Terminal pin
- 3 Terminal block housing
- 4 Blind plug



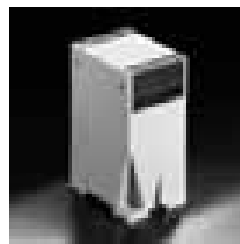
**LDG-A 12**

Length: 75 mm  
Width: 22.5 mm  
Height: 98,5 mm  
or 110 mm



**LDG-A 14**

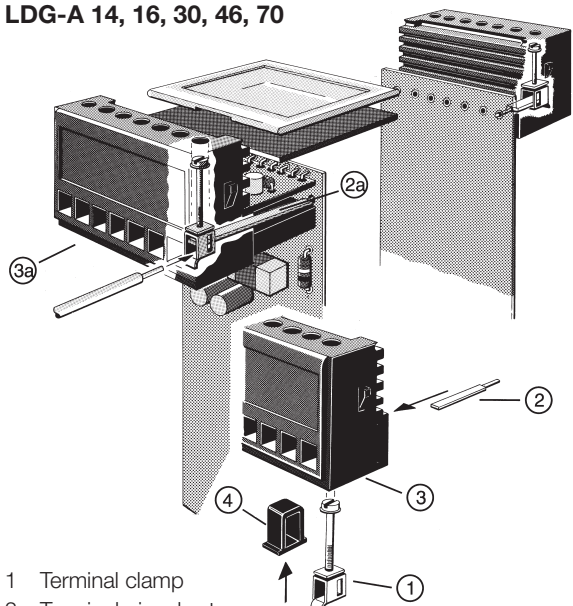
Length: 75 mm  
Width: 45 mm  
Height: 110 mm



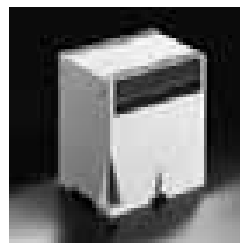
**LDG-A 16**

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

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

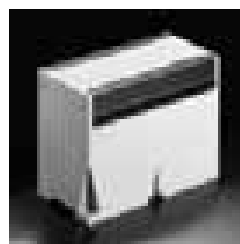


- 1 Terminal clamp
- 2 Terminal pin, short
- 2a Terminal pin, long
- 3 Terminal block housing, narrow
- 3a Terminal block housing, wide
- 4 Blind plug



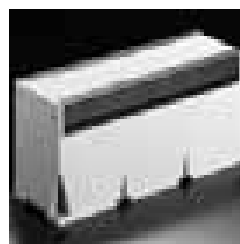
**LDG-A 30**

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

### Fully shielded enclosure achieved by metallized base part and Al front



The metallized inner side of the base part secures high EMI/RFI protection and ESD protection.

#### Ordering information

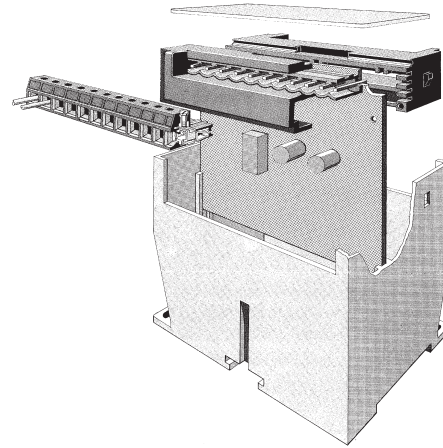
Description	Color	Part no.
<b>Base part metallized</b>		
LDG-A-12	light grey	<b>043852</b>
LDG-A-14	light grey	<b>043870</b>
LDG-A-16	light grey	<b>043806</b>
LDG-A-30	light grey	<b>043831</b>
LDG-A-46	light grey	<b>043800</b>
LDG-A-70	light grey	<b>043881</b>

### Easy service and device exchange

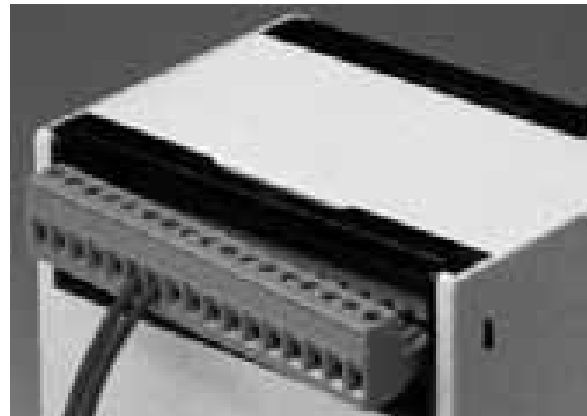
**Frame inserts** with cut-out for commercially available pluggable terminal connectors

**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.



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 plug	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**

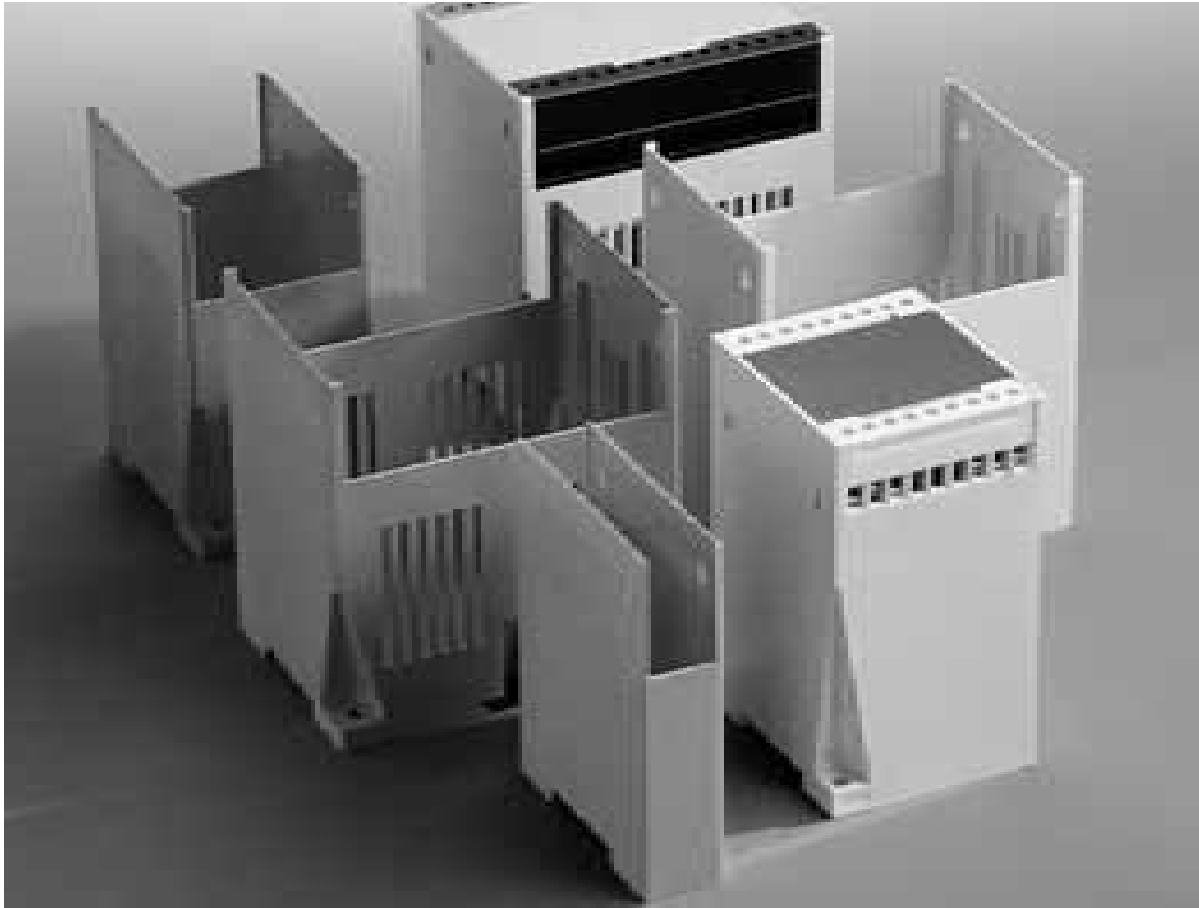
Material of plastic parts: PC  
UL 94 V-0  
Color: black  
special colors upon request  
Temperature range: -40°C up to +110°C

# Enclosures LDG-A

Flexibility for customized solutions



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



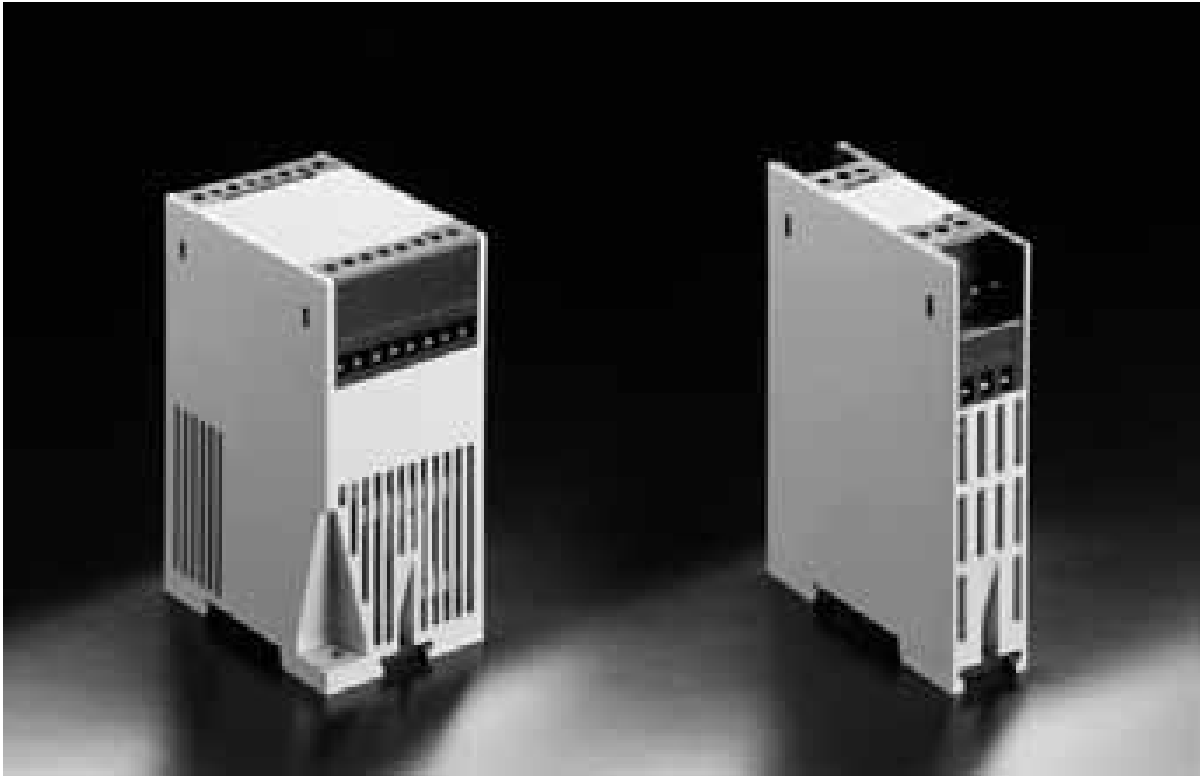
Cover in grey, black or transparent for display functions



Customized cutouts and holes in covers and blind inserts



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 with max. 12 terminals



The LDG-A-12 enclosure is capable of accommodating one lengthwise board and one crosswise circuit board. For the termination of the discrete wires 2 terminal blocks with max. 6 terminals each will be used. The outline of the terminal block is according to the base part.

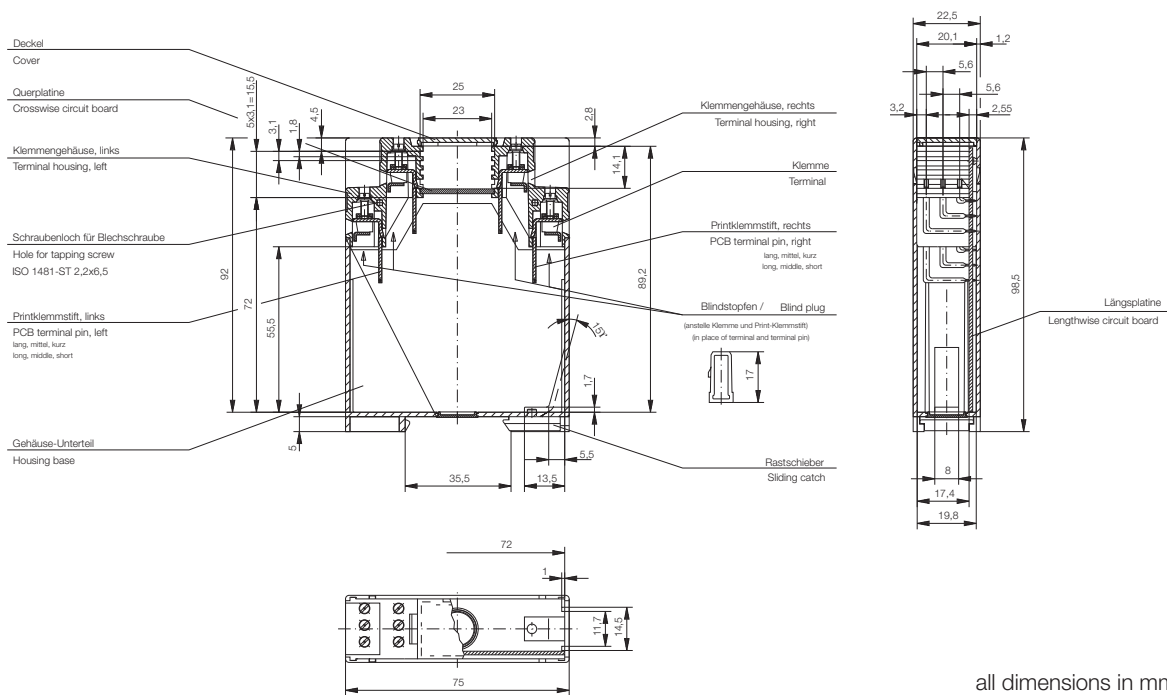
The two asymmetrical terminal block housings that can be screwed to the circuit board are each capable of accommodating up to six terminal pins and terminal clamps. Custom-loading of the terminal blocks is optionally possible. Not used terminal cavities will not be loaded and will be closed shockproof with blind plugs.

The LDG-A 12 is provided with a snap-on clip for easy assembly on DIN rails acc. to DIN 46 277 and EN 50 022. Base part available with ventilation slots for effective heat dissipation. Base part available with metallized inner side for EMC compliant enclosure solutions.

### Ordering information

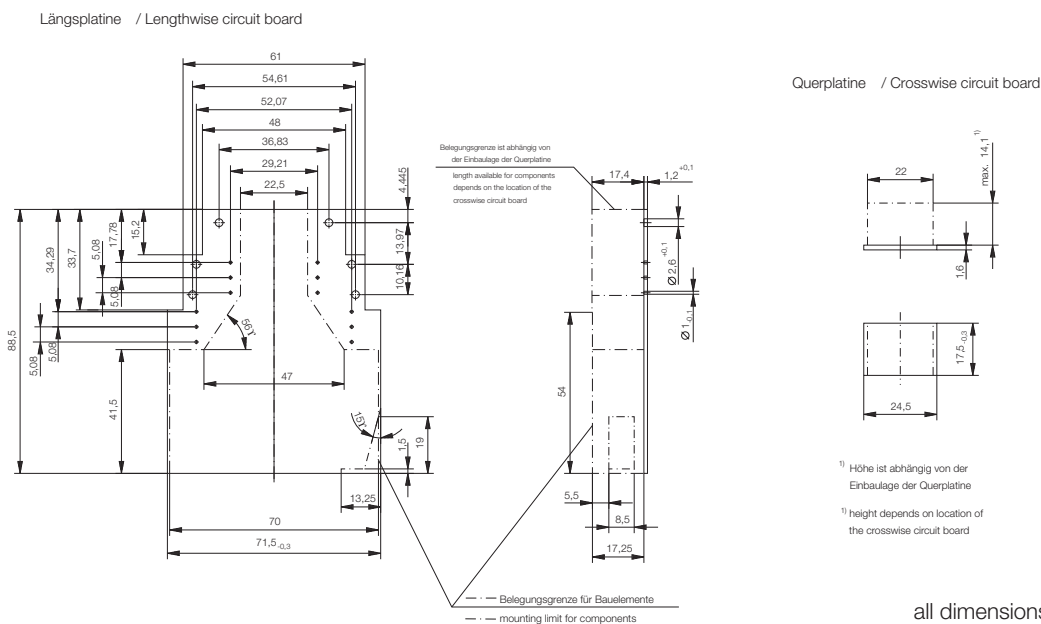
Description	Type	Color	Part no.
Base part 110 mm	w/o ventilation slot	light grey	<b>024082</b>
Base part 110 mm	with ventilation slot	light grey	<b>114932</b>
Base part 98,5 mm	w/o ventilation slot	light grey	<b>414470</b>
Cover		transparent	<b>414462</b>
Cover		light grey	<b>414463</b>
Terminal block 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>
Al front cover			<b>053126</b>

Dimensions: low height version



all dimensions in mm

Recommended PCB dimensions



all dimensions in mm





The LDG-A-14 enclosure is capable of accommodating one lengthwise board and one crosswise circuit board. For the termination of the discrete wires 2 terminal blocks with max. 7 terminals each will be used. The outline of the terminal block is according to the base part.

The two asymmetrical terminal block housings that can be screwed to the circuit board are each capable of accommodating up to six terminal pins and terminal clamps. Custom-loading of the terminal blocks is optionally possible. Not used terminal cavities will not be loaded and will be closed shockproof with blind plugs. Fixation via 2 holes acc. to DIN 46 121 and DIN 43 660 or quick snap-on assembly on DIN rails acc. to DIN 46 277 and EN 50 022.

Base part available with metallized inner side for EMC compliant enclosure solutions.

### Ordering information

Description	Type	Color	Part no.
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>
Adapter plate for screw-mounting			<b>424140</b>
Al front cap			<b>053145</b>





The LDG-A-16 enclosure is capable of accommodating one lengthwise board and one crosswise circuit board. For the termination of the discrete wires 2 terminal blocks with max. 8 terminals each will be used. The outline of the terminal block is according to the base part.

The two asymmetrical terminal block housings that can be screwed to the circuit board are each capable of accommodating up to six terminal pins and terminal clamps. Custom-loading of the terminal blocks is optionally possible. Not used terminal cavities will not be loaded and will be closed shockproof with blind plugs. Fixation via 2 holes acc. to DIN 46 121 and DIN 43 660 or quick snap-on assembly on DIN rails acc. to DIN 46 277 and EN 50 022.

Frame inserts for commercially available pluggable terminals. Base part available with ventilation slots for effective heat dissipation. Base part available with metallized inner side for EMC compliant enclosure solutions.

### Ordering information

Description	Type	Color	Part no.
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 plug		black	<b>053871</b>
Al front cover			<b>053146</b>





The LDG-A-30 enclosure is capable of accommodating one lengthwise board and one crosswise circuit board. For the termination of the discrete wires 2 terminal blocks with

max. 15 terminals each will be used. The outline of the terminal block is according to the base part.

The two asymmetrical terminal block housings that can be screwed to the circuit board are each capable of accommodating up to six terminal pins and terminal clamps. Custom-loading of the terminal blocks is optionally possible. Not used terminal cavities will not be loaded and will be closed shockproof with blind plugs.

Fixation via 2 holes acc. to DIN 46 121 and DIN 43 660 or quick snap-on assembly on DIN rails acc. to DIN 46 277 and EN 50 022.

Frame inserts for commercially available pluggable terminals. Base part available with ventilation slots for effective heat dissipation. Base part available with metallized inner side for EMC compliant enclosure solutions.

### Ordering information

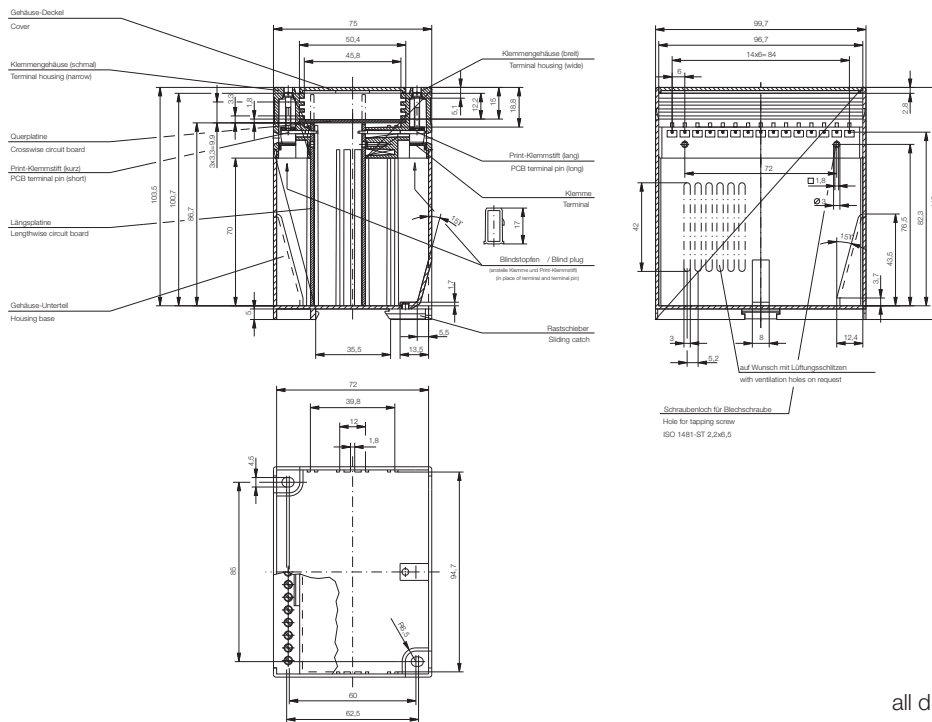
Description	Type	Color	Part no.
Base part	w/o ventilation slots	light grey	<b>414165</b>
Base part	with ventilation slots	light grey	<b>434098</b>
Cover		light grey	<b>413962</b>
Cover		transparent	<b>413963</b>
Cover		black	<b>413964</b>
Terminal block housing	narrow	black	<b>413966</b>
Terminal block 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 plug		black	<b>053074</b>
Al front cover			<b>044868</b>

# Enclosures LDG-A

## LDG-A 30 with max. 30 terminals

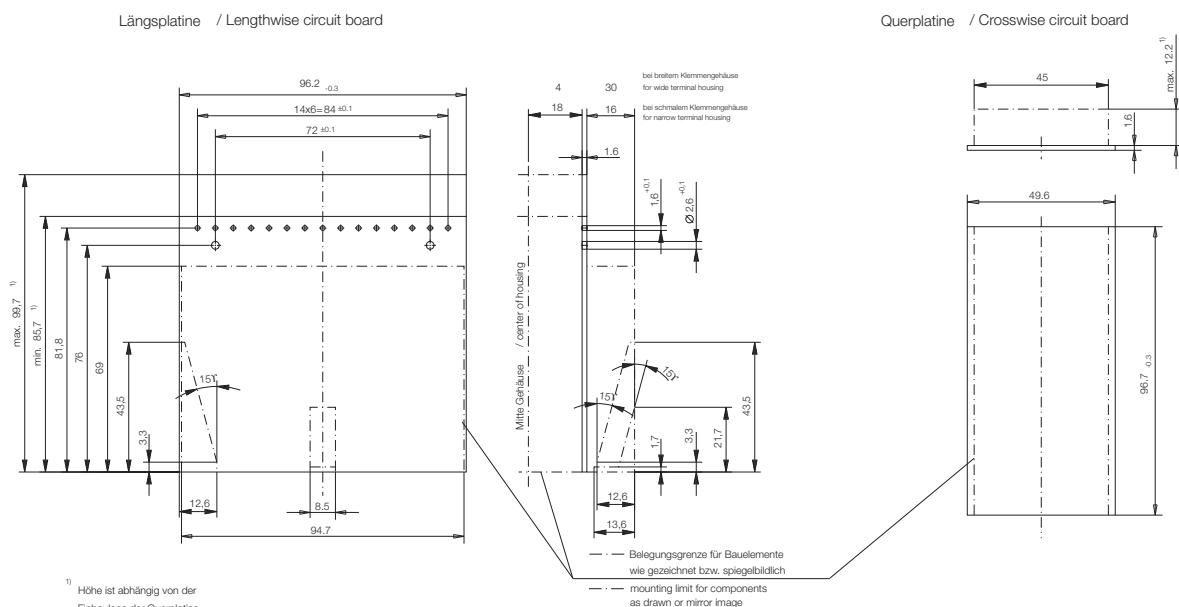


### Dimensions

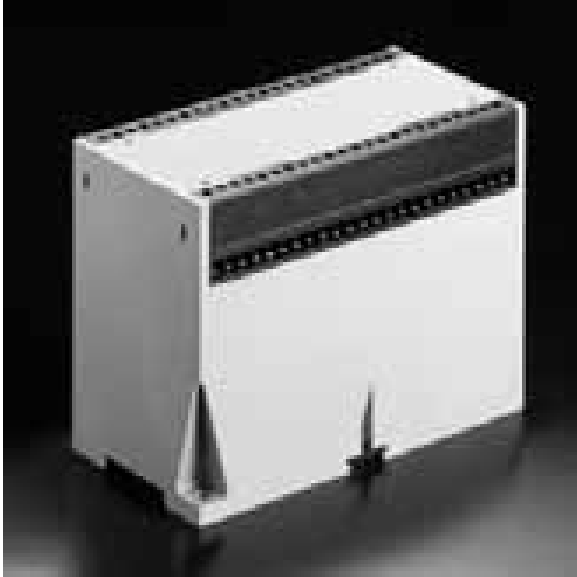


all dimensions in mm

### Recommended PCB dimensions



all dimensions in mm



The LDG-A-46 enclosure is capable of accommodating one lengthwise board and one crosswise circuit board. For the termination of the discrete wires 2 terminal blocks with max. 23 terminals each will be used. The outline of the terminal block is according to the base part.

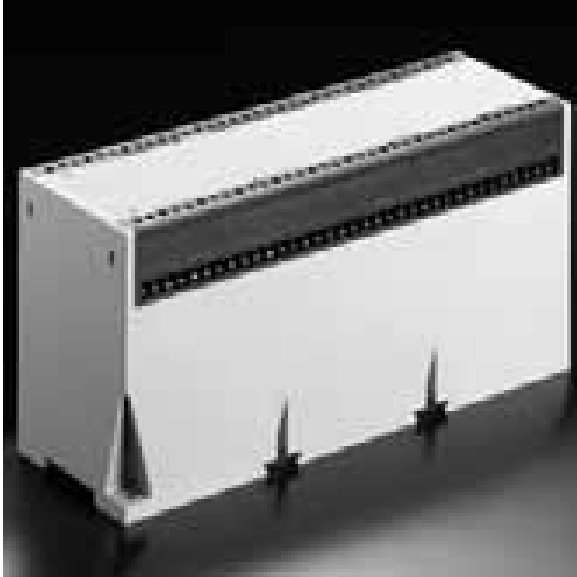
The two asymmetrical terminal block housings that can be screwed to the circuit board are each capable of accommodating up to six terminal pins and terminal clamps. Custom-loading of the terminal blocks is optionally possible. Not used terminal cavities will not be loaded and will be closed shockproof with blind plugs. Fixation via 2 holes acc. to DIN 46 121 and DIN 43 660 or quick snap-on assembly on DIN rails acc. to DIN 46 277 and EN 50 022.

Frame inserts for commercially available pluggable terminals. Base part available with ventilation slots for effective heat dissipation. Base part available with metallized inner side for EMC compliant enclosure solutions.

### Ordering information

Description	Type	Color	Part no.
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 plug		black	<b>054249</b>
Al front cover			<b>404142</b>





The LDG-A-70 enclosure is capable of accommodating one lengthwise board and one crosswise circuit board. For the termination of the discrete wires 2 terminal blocks with

max. 35 terminals each will be used. The outline of the terminal block is according to the base part.

The two asymmetrical terminal block housings that can be screwed to the circuit board are each capable of accommodating up to six terminal pins and terminal clamps. Custom-loading of the terminal blocks is optionally possible. Not used terminal cavities will not be loaded and will be closed shockproof with blind plugs.

Fixation via 2 holes acc. to DIN 46 121 and DIN 43 660 or quick snap-on assembly on DIN rails acc. to DIN 46 277 and EN 50 022.

Frame inserts for commercially available pluggable terminals. Base part available with ventilation slots for effective heat dissipation. Base part available with metallized inner side for EMC compliant enclosure solutions.

### Ordering information

Description	Type	Color	Part no.
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 plug		black	<b>054730</b>
Al front cover		black	<b>053148</b>

