

Insulated Enclosure KS 4400

with fixed or
pluggable screw or cage clamp terminals



KS 4401 KS 4402 KS 4403



KS 4461 KS 4404



KS 4405



KS 4406

Approvals and Markings



Your advantage

- modular, flexible, innovative
- large front print area and large pcb areas provide more space for your ideas
- maximum space utilisation
- various connection technologies
- distinctive design
- for automated and cost effective assembly
- customisation to customer requirements
- simplified approval procedure for standards acc. to UL 508 i.a.

Features

- Width 12.5 / 17.5 / 22.5 / 35 / 45 / 67.5 / 90 mm
- max. terminals 12 / 18 / 24 / 36 / 48 / 72 / 96 at 2,5 mm² cross section
- up to 30 terminals on three levels, per 22.5 mm module width.
- optional in-rail-bus system for quick and reliable data and energy transfer

Technical Data

Type:	KS 4401	KS 4402	KS 4403	KS 4461	KS 4404	KS 4405	KS 4406
Article number *):	0063996	0063997	0063987	0065514	0063988	0064140	0064142
Width [mm]:	12.5	17.5	22.5	35.0	45.0	67.5	90.0
Height / Depth [mm]:	107 / 120						

*) Standard enclosure, comprising:

Enclosure casings left/right; or. separator plate; front plate; mounting clip

Enclosure material:	PA-GF, black RAL 9011, light grey RAL7035 other colours on request
Front plate material:	PBT; light grey RAL7035, yellow RAL1021, red RAL3000, blue RAL5015, black RAL 9011 other colours on request
Terminals:	PA, black RAL9005, light grey RAL7035 other colours on request

Temperature stability	PA-GF, PA	PBT
complying with UL 746 B:	120 °C	120 °C
complying with Vicat ISO 306	Meth. B: 230 °C	145 °C
compl. with ISO 75-2	Meth. A: 225 °C	85 °C
	Meth. B: 235 °C	135 °C

Specific thermal resistance:	KS 4401	KS 4402	KS 4403	KS 4461	KS 4404	KS 4405	KS 4406
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	without ventilation slots						
individual module [K/W]:	16.8	15.5	13.5	11.8	10.0	7.2	5.2
20 mm distance [K/W]:	7.6	7.3	6.8	6.2	5.6	4.6	3.7
100 mm distance [K/W]:	6.5	6.1	5.5	5.0	4.5	3.9	3.5

	with ventilation slots						
individual module [K/W]:	15.5	12.5	9.3	7.6	6.0	3.7	2.3
20 mm distance [K/W]:	7.2	5.9	4.7	4.0	3.5	2.7	1.9
100 mm distance [K/W]:	6.2	5.1	4.1	3.7	3.2	2.5	1.8

Flame retardancy	PA	PBT
complying with UL 94:	V-0	V-0

Number of terminals:	KS 4401	KS 4402	KS 4403	KS 4461	KS 4404	KS 4405	KS 4406
	max. 12	max. 18	max. 24	max. 36	max. 48	max. 72	max. 96

Max. cross section for connection: see Product Overview GE02 "Terminals"

Insul. of wires or sleeve length:	7 mm
Fixing torque:	0.5 Nm
Wire fastening:	captive slotted screw M2.5
Max. contact resistance to printed circuit board:	10 mΩ

Insulation coordination / UL Data: see Product Overview GE02 "Terminals"

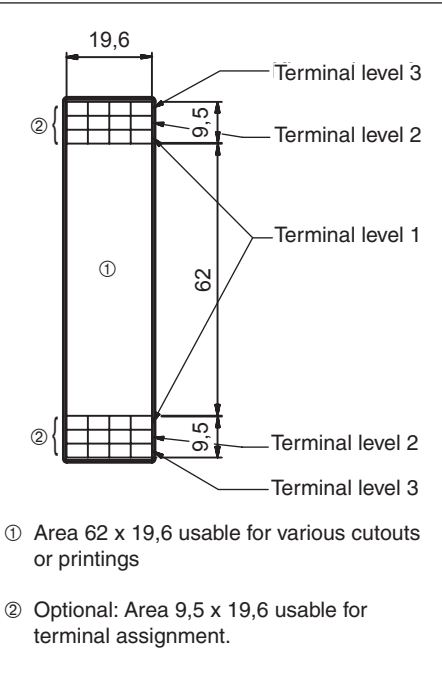
Inner connection: Terminal block can be machine soldered
Enclosure mounting: Snap-on clip on top hat rail IEC/EN 60 715

Creepage resistance:	Insulation type	CTI	Insulation group	PLC classification
Enclosure:	PA	550	II	1
	PBT	225	III a	3
Terminals	PA	600	I	0

Air gap and creepage distance: ≥ 4 mm IEC 60 664-1

Degree of protection		
Enclosure:	IP 40 (without ventilation slots)	IEC 60 529
	IP 30 (with ventilation slots)	IEC 60 529
Terminals:	IP 20	IEC 60 529
	contact protection complies with VBG 4	

Example print area



Technical Data

Print area
Front plate
Width [mm]:
Height [mm]:

KS 4401	KS 4402	KS 4403	KS 4461	KS 4404	KS 4405	KS 4406
9,6	14,6	19,6	32,0	42,0	64,5	87,0
81,8						

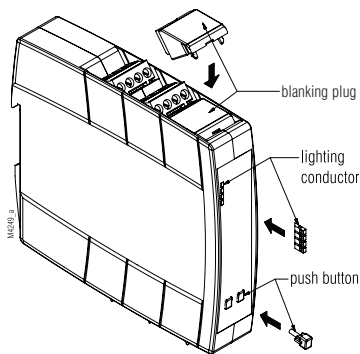
Printed circuit board: See printed circuit board design
Printed circuit board holder: bracket ribs

Net weight
Weight [g]:

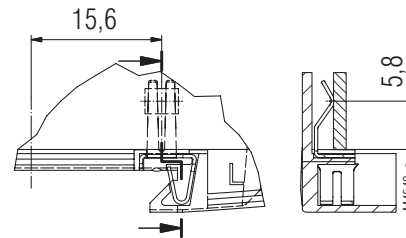
KS 4401	KS 4402	KS 4403	KS 4461	KS 4404	KS 4405	KS 4406
57 ¹⁾	62 ¹⁾	70 ¹⁾	83 ²⁾	96 ²⁾	122 ³⁾	148 ⁴⁾

- 1) Enclosure casings with standard front plate and mounting clip
- 2) Enclosure casings with separator plate, standard front plate and mounting clip
- 3) Enclosure casings, 2 x separator plate, standard front plate, 2 x mounting clip
- 4) Enclosure casings, 3 x separator plate, standard front plate, 2 x mounting clip

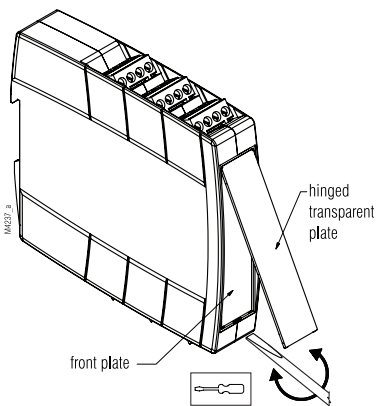
Accessories and further options



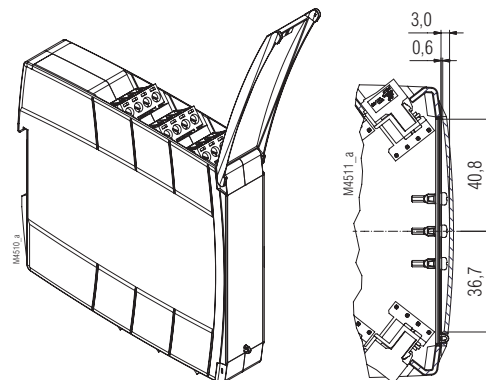
- KS4403-5-1: Blanking plug, black or light grey, to cover unused terminals
- KS4400-7-1: lighting conductor, 3 mm grid,
- KS4400-6-1: lighting conductor, 5 mm grid various lengths, on request
- KS4400-8-1: Test button, black, on request



Enclosures with earthing spring to the DIN-Rail



Enclosure with hinged transparent plate

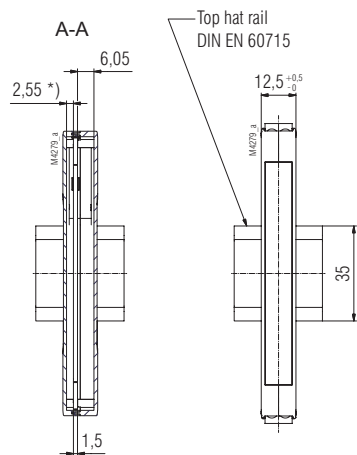


Enclosures with curved, transparent, front cover

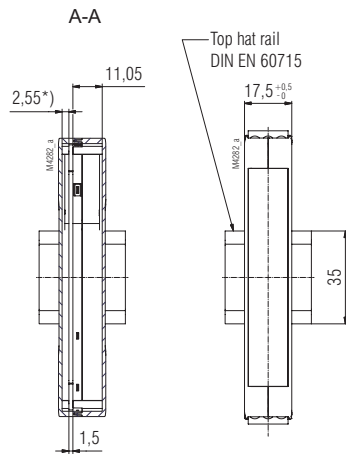
Further options:

- BUS compatible enclosure variants for use with DOLD's In-Rail-Bus-System
- As option with ventilation slots
- Other connections on request

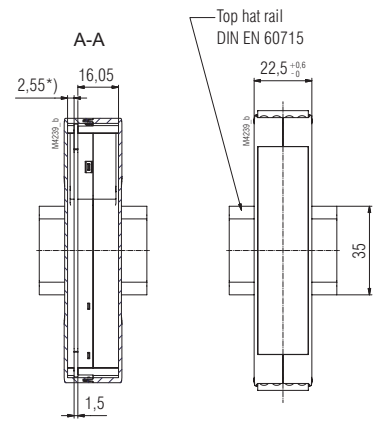
Dimensions standard enclosure KS 4401 - KS 4404 (IP 40)



*) 3,05 with printed circuit board thickness $t = 1$ mm



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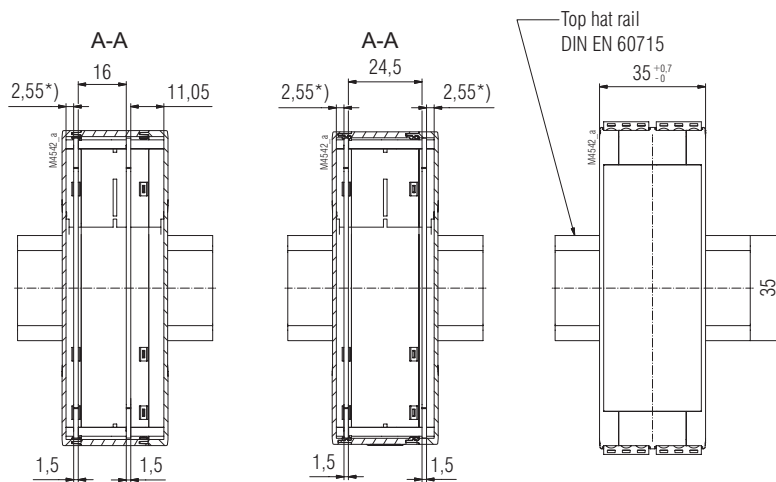


*) 3,05 with printed circuit board thickness $t = 1$ mm

KS 4401

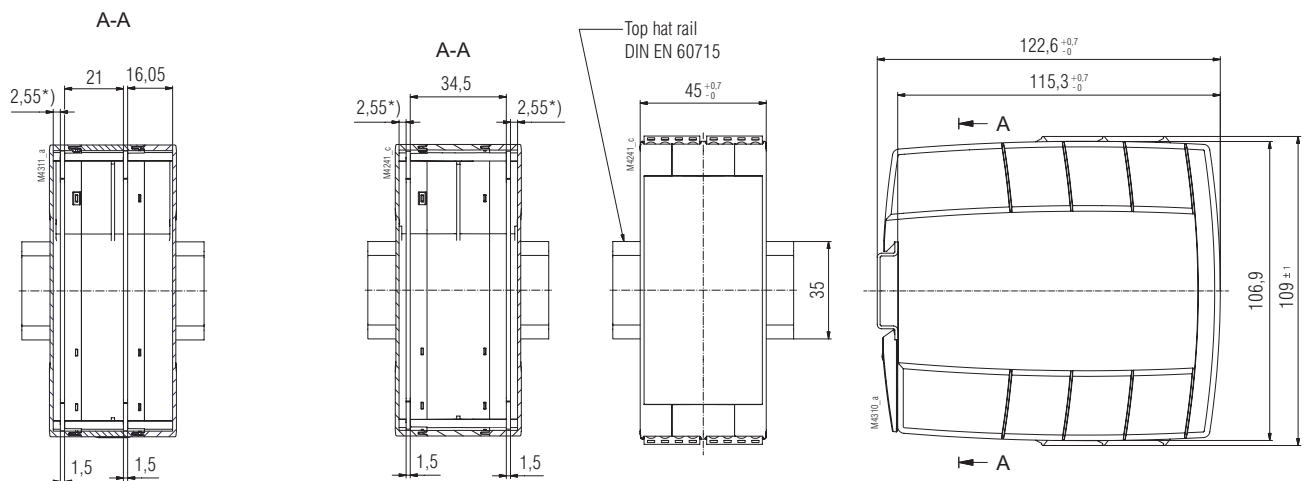
KS 4402

KS 4403



*) 3,05 with printed circuit board thickness $t = 1$ mm

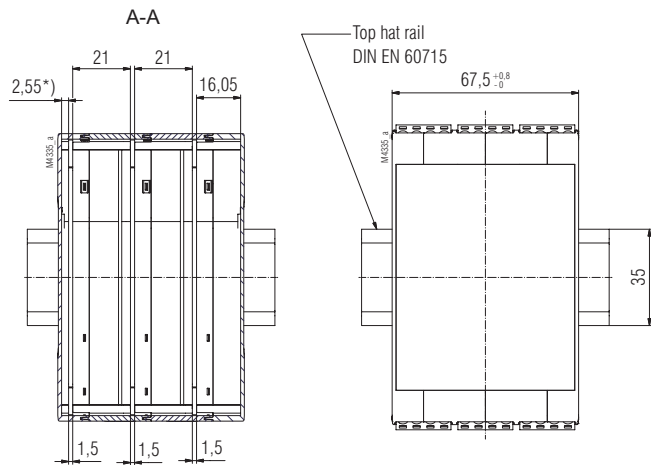
KS 4404



*) 3,05 with printed circuit board thickness $t = 1$ mm

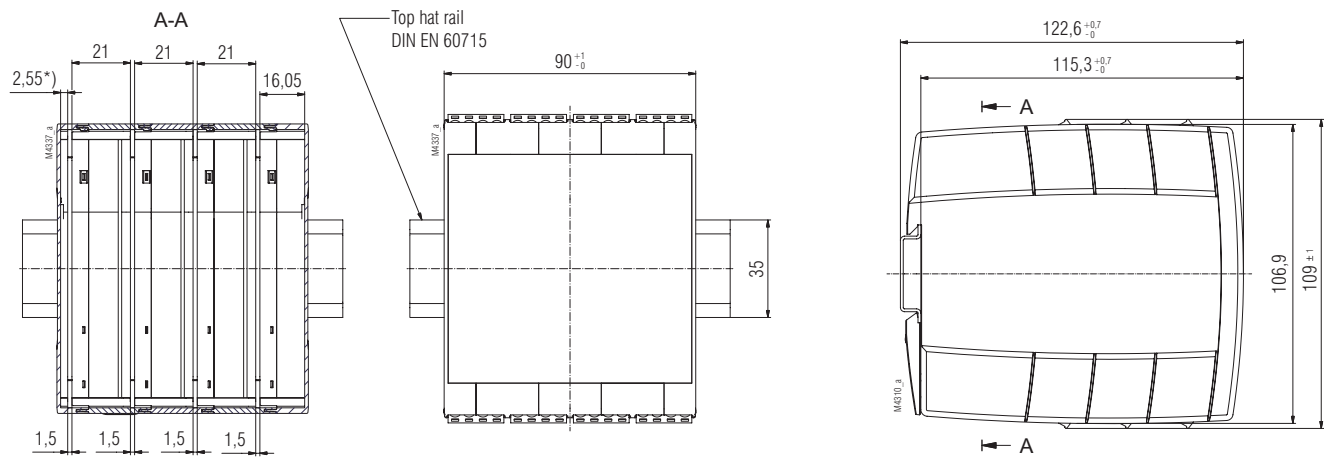
KS 4404

Dimensions standard enclosure KS 4405 - KS 4406 (IP 40)



*) 3,05 with printed circuit board thickness $t = 1$ mm

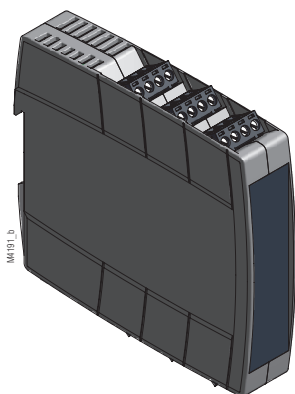
KS 4405



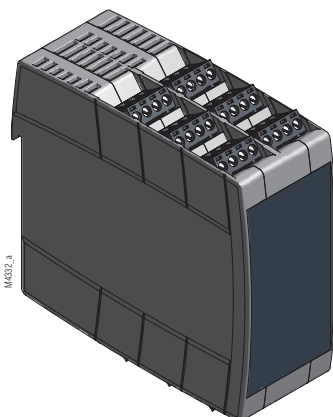
*) 3,05 with printed circuit board thickness $t = 1$ mm

KS 4406

Enclosure with ventilation slots (IP 30)

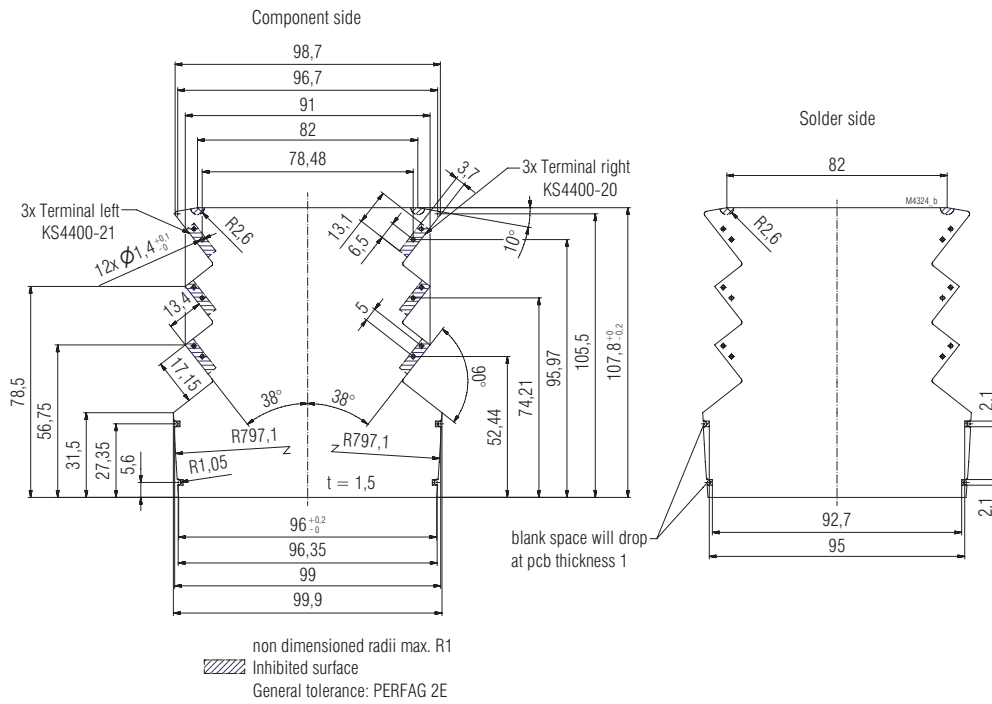


KS 4403



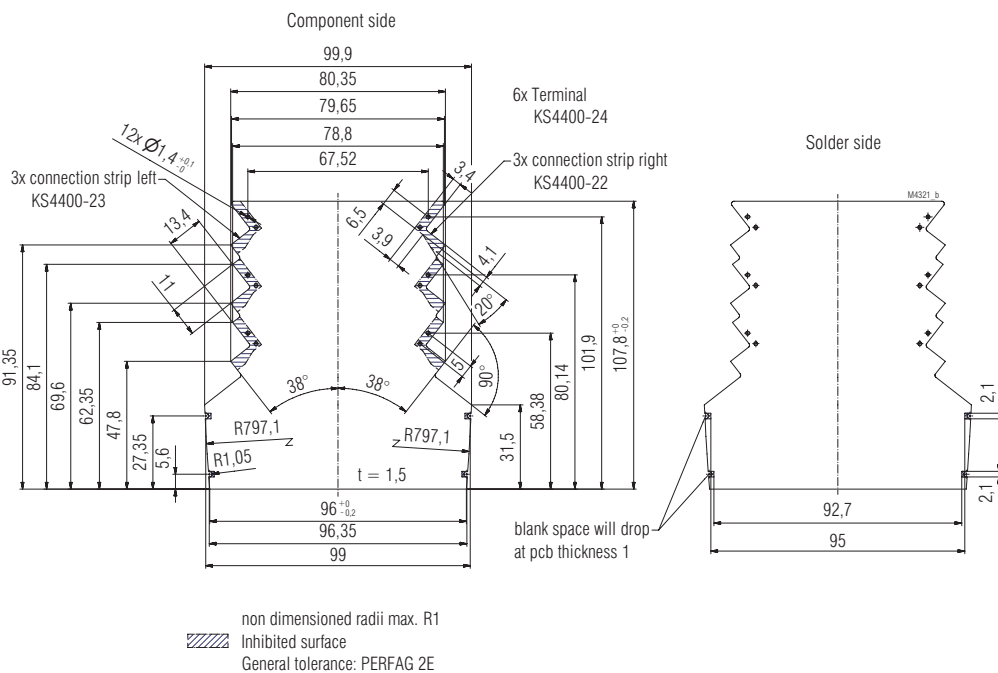
KS 4404

Printed circuit board design for fixed 2-pole terminals (pcb terminals)



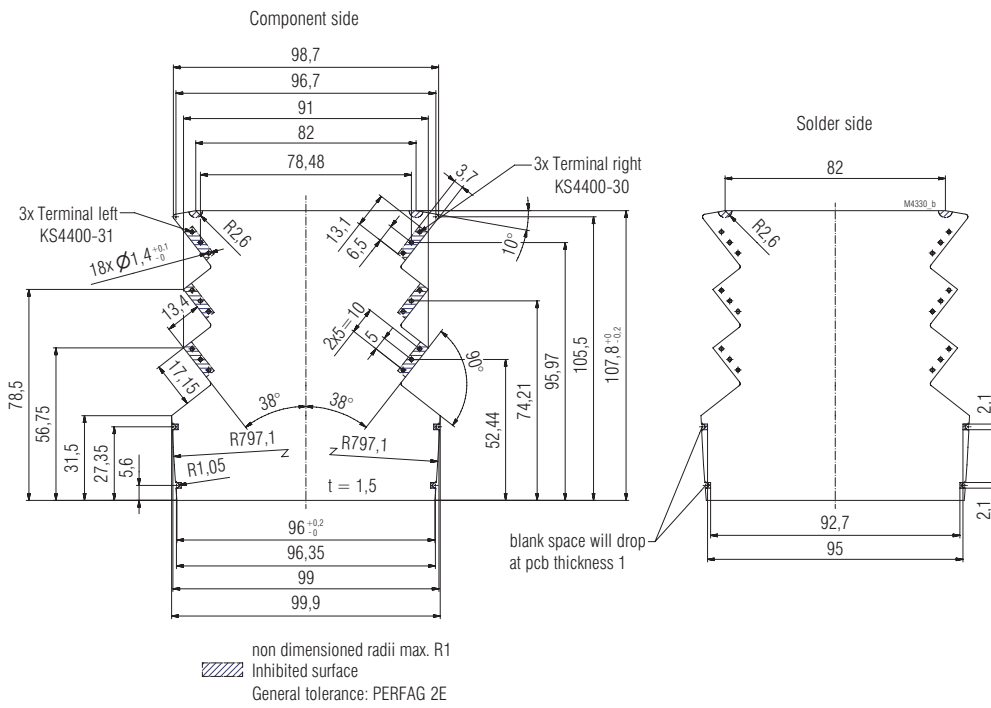
KS 4401

Printed circuit board design for pluggable 2-pole terminals



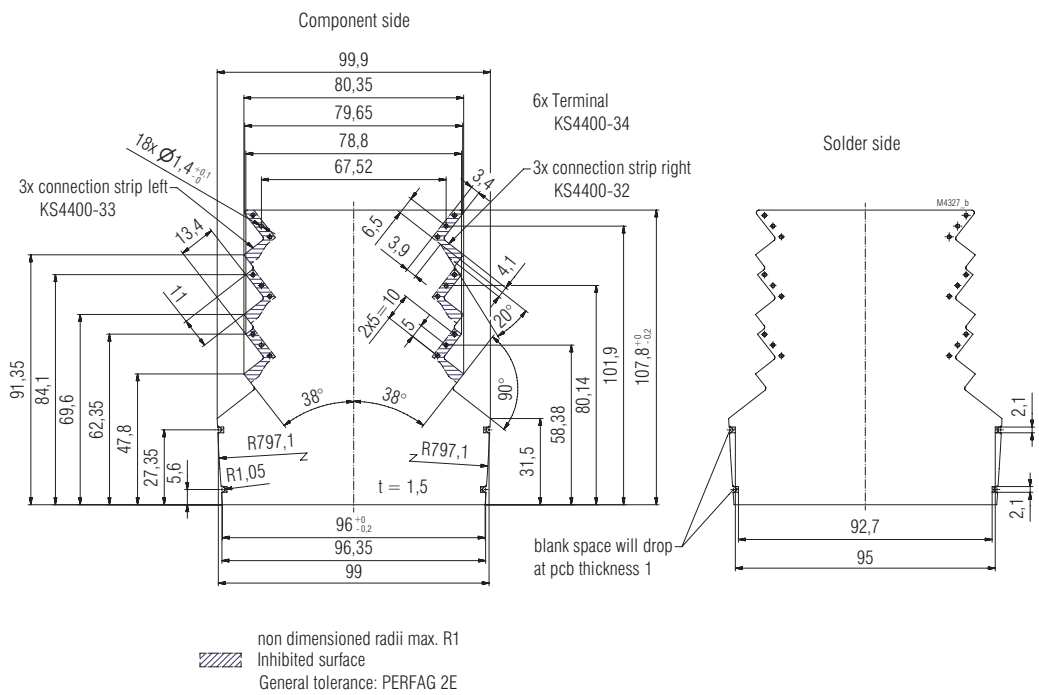
KS 4401

Printed circuit board design for fixed 3-pole terminals (pcb terminals)



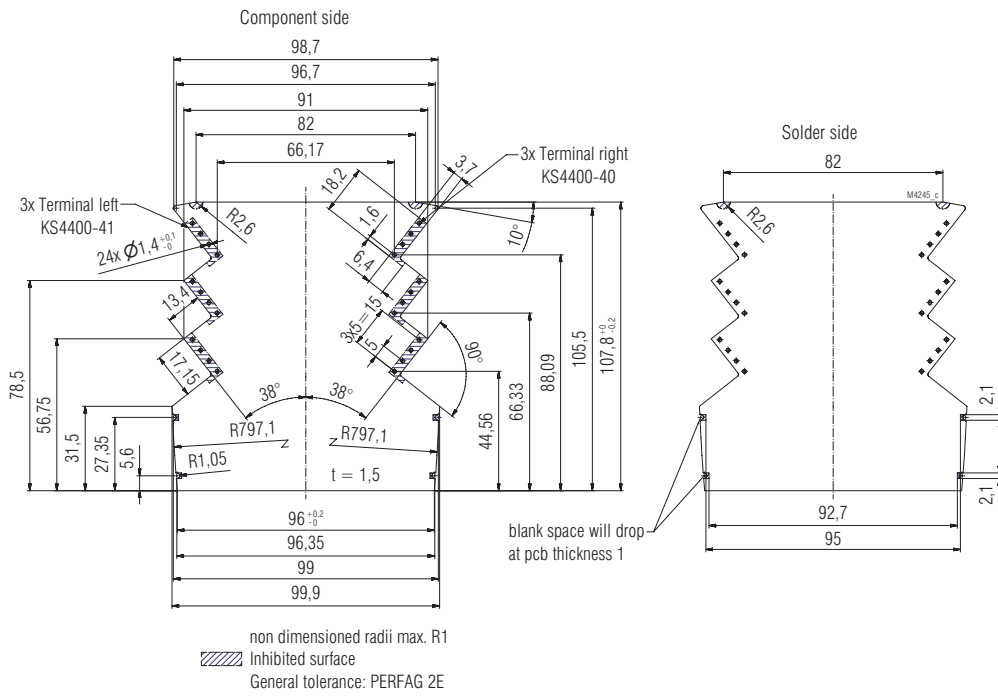
KS 4402

Printed circuit board design for pluggable 3-pole terminals



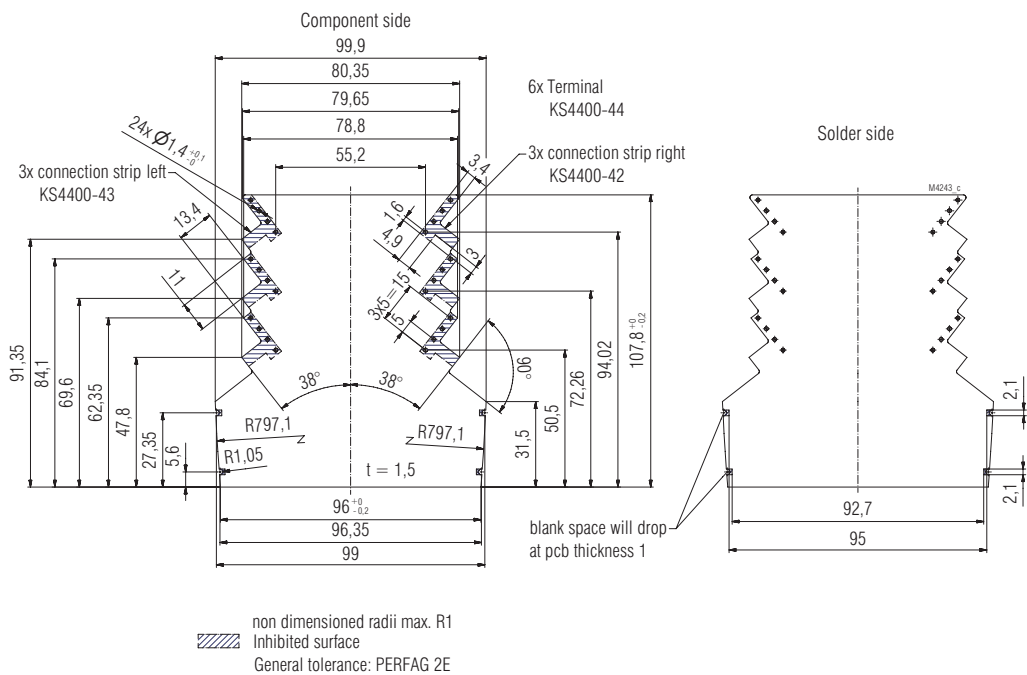
KS 4461, KS 4402

Printed circuit board design for fixed 4-pole terminals (pcb terminals)



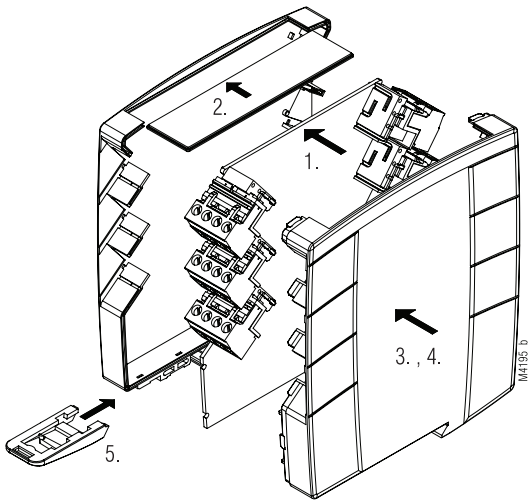
KS 4403, KS 4404, KS 4405, KS 4406

Printed circuit board design for pluggable 4-pole terminals



KS 4403, KS 4404, KS 4405, KS 4406

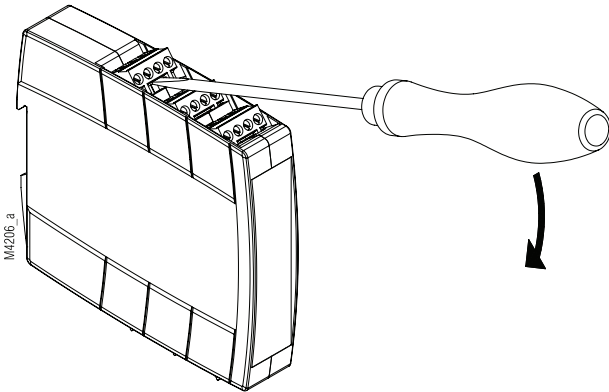
Notes on housing assembly



Assembly of enclosure

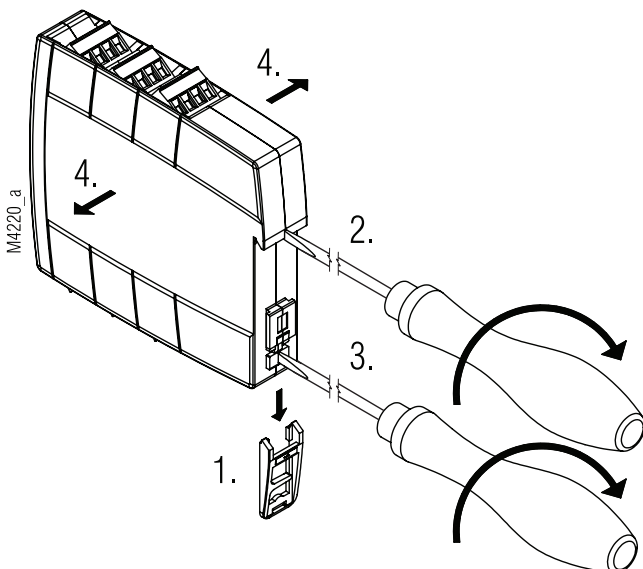
1. With terminals fitted, place the pcb in the first enclosure casing.
2. Slide the front plate in the slot in the first enclosure casing.
3. Place the first enclosure casing flat and line-up the second casing so that the front plate slides into the slot.
4. Manually close both casings until they snap together.
5. Insert the DIN-rail mounting clip into the base of the enclosure.

Notes on housing disassembly



Disassembly of terminals

1. Place screwdriver in the gap between the terminals
2. Pull the screwdriver downwards



Disassembly of enclosure

1. With a screwdriver, lift up the plastic spring of the mounting clip.
 - 1.1 Use the screwdriver to lever off the clip.
- 2.1 Place the screwdriver in the slot located on the DIN-rail hanger.
 - 2.2 Rotate the screwdriver to loosen the first snap connection.
- 3.1 Place the screwdriver in the slot located near the clip position.
 - 3.2 Rotate the screwdriver to loosen all other snap connections
4. Manually part the enclosure casings.