




## Empty enclosures in accordance with IEC 62208

- for customized solutions and individual applications
- for example for low-voltage switchgear and controlgear assemblies in accordance with the IEC 61439-series
- degree of protection IP 55-IP 65
- made from thermoplastics
- protection class II, 

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Further technical information can be found on the Internet  
[www.hensel-electric.de](http://www.hensel-electric.de) -> Products



**IEC 62208**

Enclosures for low-voltage switchgear and controlgear assemblies.  
General requirements

**General information**

The IEC 62208 standard applies to empty enclosures, prior to the incorporation of switchgear and controlgear components by the user, as supplied by the enclosure manufacturer.

It specifies general definitions, classifications, characteristics and test requirements of enclosures to be used as part of switchgear and controlgear assemblies (e.g. in accordance with the IEC 61439-series).



**Protection against electric shock**

In order to protect individuals in the event of faults against electric shock and the accompanying risks, enclosures are classified with protection class I (electrical earth) and protection class II (protection by total or reinforced insulation) according to IEC 61439, section 8.4.4. HENSEL empty enclosures are manufactured from insulating material and provide protection against electric shock according to protection class II.

**IP-Codes for protecting electrical equipment against dust and water**

Electrical equipment must be protected from external influences and conditions for safety reasons. The two-digit IP-Codes indicate to what extent the enclosure provides protection against hazardous parts and ingress of dust (1st digit) or water (2nd digit). For example IP 65: Electrical equipment inside the enclosure is protected against dust and harmful water and humidity.

Therefore the IP-Codes indicate the suitability of enclosures for different environmental conditions.



**Effects on the degree of protection (IP-Code) when devices are built in the lid**

If any switches, displays, push buttons or other equipment are built into the lid of an enclosure, the manufacturer must consider the effects on the degree of protection at that specific point.

The installation of electrical equipment into the lid, door or wall of an enclosure can reduce the degree of protection of the enclosure in that specific installation area depending on the degree of protection of the equipment and depending on additional measures for sealing the point of entry.

Example: The installation of an IP 44 socket into the lid of an IP 65 enclosure reduces the degree of protection in that specific area to IP 44. The enclosure itself still provides IP 65, but the manufacturer has to draw attention to the fact, that the socket only provides IP 44 for the area where it is installed.

**Operating and ambient conditions**

Empty enclosures according to IEC 62208 are applicable in ambient temperatures from -25 °C to +40 °C (outdoor installation) or from -5 °C to +40 °C (indoor installation).

The IEC 62208 requires the specification of the power dissipation capability  $P_{de}$  of the enclosures

**Temperature rise in enclosures and power dissipation**

In relationship with the outside temperatures the temperature rise inside of enclosures, caused by the flowing current and the power loss  $P_D$  of the installed electrical equipment, has to be considered.

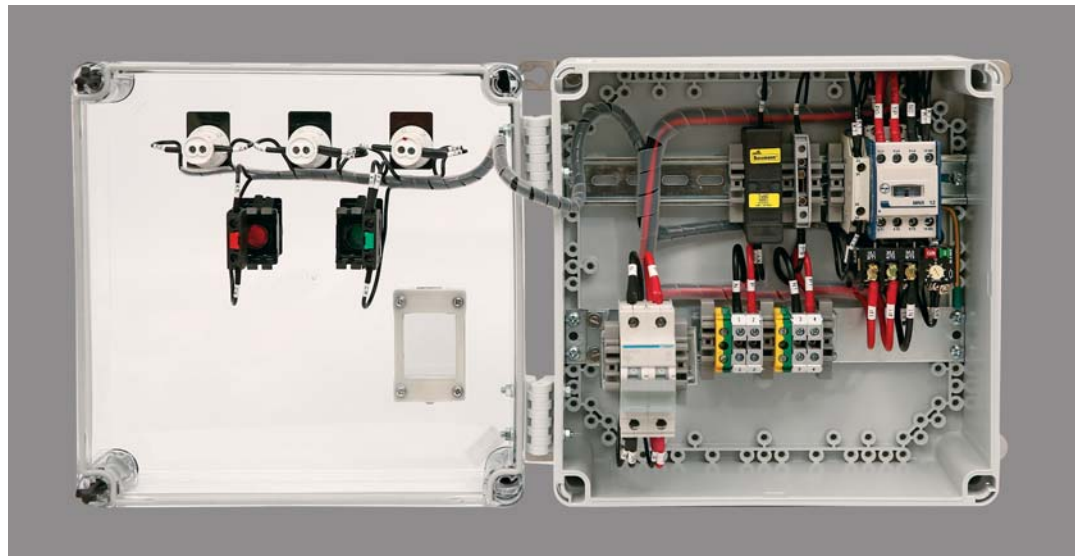
Most devices are designed for maximum ambient temperatures of +40 °C to +55 °C. Accordingly there may only be a narrow range for the temperature rise inside of the enclosure if the ambient temperature is close to the maximum operating temperature of the installed equipment.

The enclosure with its power dissipation capability  $P_{de}$  has to be able to dissipate the power loss  $P_D$  of the installed electrical equipment inside of the enclosure without exceeding the limits of operating and ambient temperatures.

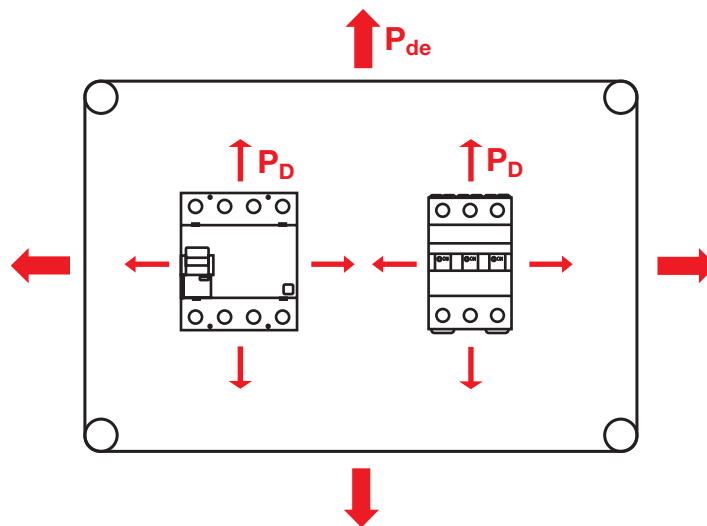
This ensures that the inside of an enclosure is not heated inadmissibly at a defined installed power loss and guarantees the operative readiness and reliable performance of the built-in electrical equipment.

The power dissipation  $P_D$  of the electrical equipment is given in the technical data of the respective manufacturers. The power dissipation capability  $P_{de}$  of Hensel empty enclosures are given in the technical data of this catalogue.

**A possible application for the power dissipation capability is the verification of temperature rise in accordance with IEC 61439-1, section 10.10.**

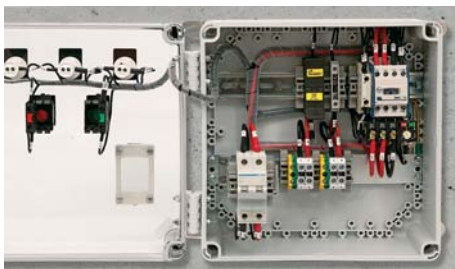
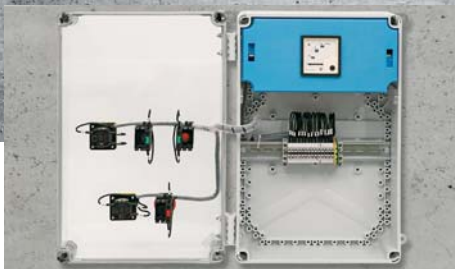
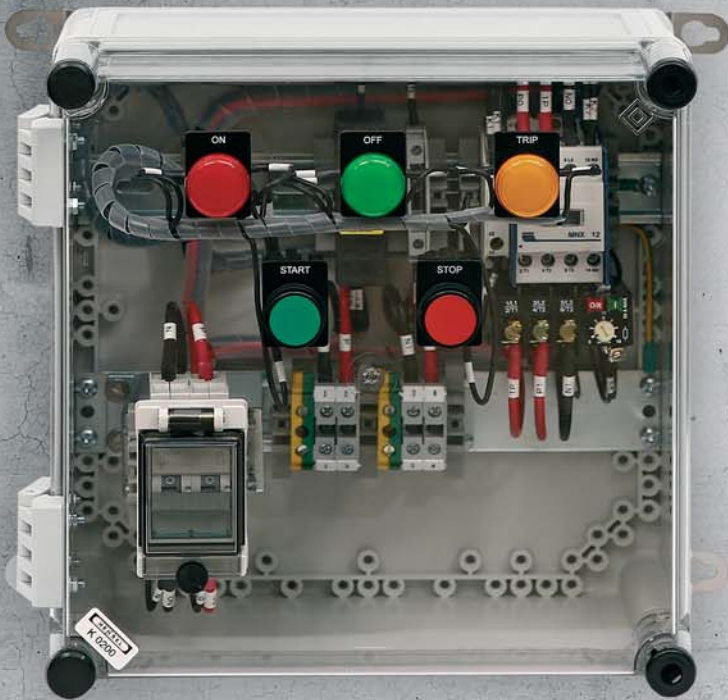


The temperature inside of enclosures rises by the flowing current and the power loss of the installed electrical equipment.




The enclosure with its power dissipation capability  $P_{de}$  has to be able to dissipate the power loss  $P_D$  of the installed electrical equipment inside of the enclosure without exceeding the limits of operating and ambient temperatures.

$P_{de}$  = power dissipation capability  
 $P_D$  = power dissipation



### Empty enclosures in accordance with IEC 62208

**For customized solutions and individual applications  
Compliance with the safety requirements of the applicable product  
standard (e.g. IEC 61439-series) is the responsibility of the assembly  
manufacturer and not of the enclosure manufacturer.**

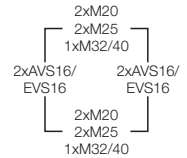
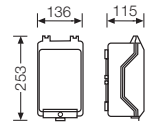
- For example for low-voltage switchgear and controlgear assemblies in accordance with IEC 61439-series
- For the installation of devices that must be operated externally, such as plug devices, push buttons and switches
- Installation of electrical equipment via DIN rails or mounting plates
- Cable entry via metric knockouts respectively by drilling individually using ESM grommets or AKM cable glands, see index cable entry systems
- Fasteners for tool operation as standard
- Screws made of stainless steel V2A
- Hinges for lids available for operating installation devices within a large area
- Material: PS polystyrene or PC polycarbonate
- Burning behaviour: Glow wire test in accordance with IEC 60695-2-11: 750 °C / 960 °C, flame-retardant, self-extinguishing
- Empty enclosures are equipment with protection class II,  in accordance with IEC 61439-1, section 8.4.4
- Degree of protection: IP 55, IP 65 with cable glands
- Colour: grey, RAL 7035



**KG 9001**

**Built-in dimensions W 101 x H 205 x D 95 mm**

- degree of protection: IP 55 (ESM), IP 65 (see index cable entry systems)
- for installation equipment on DIN rails or mounting plates (order separately)
- max. installation depth with built-in mounting plate 95 mm, with built-in DIN rail 89 mm
- with transparent hinged lid
- fastener for tool operation
- sealable
- cable entry via metric knockouts
- included cable entry:  
 2 ESM 25, sealing range Ø 9-17 mm and  
 1 ESM 32, sealing range Ø 9-23 mm



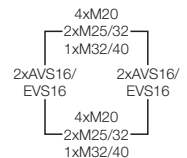
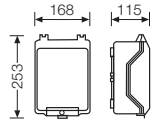
rated insulation voltage	$U_i = 1000$ V a.c.
impact strength	IK 08 (5 Joule)
static load	mounting plate or DIN rail = 1.3 kg lid = 1.2 kg
power dissipation capability at $\Delta\theta = 40$ K	$P_{de} = 16.5$ watts
relative power dissipation capability in watts per K	$P_{de} = 0.4125$ watts per K



**KG 9002**

**Built-in dimensions W 133 x H 205 x D 95 mm**

- degree of protection: IP 55 (ESM), IP 65 (see index cable entry systems)
- for installation equipment on DIN rails or mounting plates (order separately)
- max. installation depth with built-in mounting plate 95 mm, with built-in DIN rail 89 mm
- please order DIN rails or mounting plates additionally
- with transparent hinged lid
- fastener for tool operation
- sealable
- cable entry via metric knockouts
- included cable entry:  
 2 ESM 25, sealing range Ø 9-17 mm and  
 1 ESM 32, sealing range Ø 9-23 mm



rated insulation voltage	$U_i = 1000$ V a.c.
impact strength	IK 08 (5 Joule)
static load	mounting plate or DIN rail = 1.6 kg lid = 1.2 kg
power dissipation capability at $\Delta\theta = 40$ K	$P_{de} = 16.8$ watts
relative power dissipation capability in watts per K	$P_{de} = 0.42$ watts per K

Application:



KG empty enclosures with transparent lid



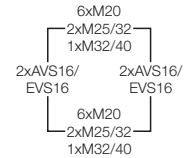
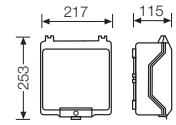
KG empty enclosures with opaque lid



**KG 9003**

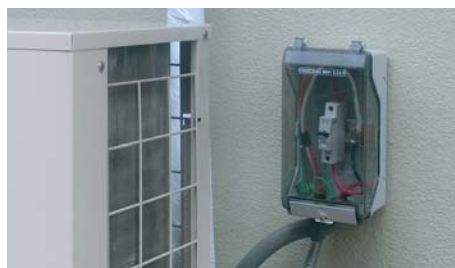
**Built-in dimensions W 182 x H 205 x D 95 mm**

- degree of protection: IP 55 (ESM), IP 65 (see index cable entry systems)
- for installation equipment on DIN rails or mounting plates (order separately)
- max. installation depth with built-in mounting plate 95 mm, with built-in DIN rail 89 mm
- please order DIN rails or mounting plates additionally
- with transparent hinged lid
- fastener for tool operation
- sealable
- cable entry via metric knockouts
- included cable entry:  
 2 ESM 25, sealing range Ø 9-17 mm and  
 1 ESM 32, sealing range Ø 9-23 mm



rated insulation voltage	$U_i = 1000 \text{ V a.c.}$
impact strength	IK 08 (5 Joule)
static load	mounting plate or DIN rail = 1.6 kg lid = 1.6 kg
power dissipation capability at $\Delta\theta = 40 \text{ K}$	$P_{de} = 17.6 \text{ watts}$
relative power dissipation capability in watts per K	$P_{de} = 0.44 \text{ watts per K}$

Application



Application

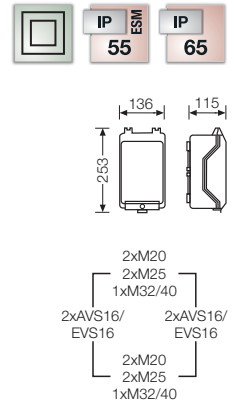




**KG 9001 IN**

**Built-in dimensions W 101 x H 205 x D 95 mm**

- degree of protection: IP 55 (ESM), IP 65 (see index cable entry systems)
- for installation equipment on DIN rails or mounting plates (order separately)
- max. installation depth with built-in mounting plate 95 mm, with built-in DIN rail 89 mm
- with opaque hinged lid
- fastener for tool operation
- sealable
- cable entry via metric knockouts
- included cable entry:  
 2 ESM 25, sealing range Ø 9-17 mm and  
 1 ESM 32, sealing range Ø 9-23 mm



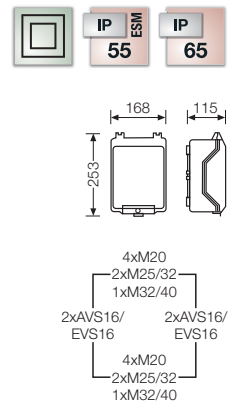
rated insulation voltage	$U_i = 1000 \text{ V a.c.}$
impact strength	IK 08 (5 Joule)
static load	mounting plate or DIN rail = 1.3 kg lid = 1.2 kg
power dissipation capability at $\Delta\theta = 40 \text{ K}$	$P_{de} = 16.5 \text{ watts}$
relative power dissipation capability in watts per K	$P_{de} = 0.4125 \text{ watts per K}$



**KG 9002 IN**

**Built-in dimensions W 133 x H 205 x D 95 mm**

- degree of protection: IP 55 (ESM), IP 65 (see index cable entry systems)
- for installation equipment on DIN rails or mounting plates (order separately)
- max. installation depth with built-in mounting plate 95 mm, with built-in DIN rail 89 mm
- with opaque hinged lid
- fastener for tool operation
- sealable
- cable entry via metric knockouts
- included cable entry:  
 2 ESM 25, sealing range Ø 9-17 mm and  
 1 ESM 32, sealing range Ø 9-23 mm



rated insulation voltage	$U_i = 1000 \text{ V a.c.}$
impact strength	IK 08 (5 Joule)
static load	mounting plate or DIN rail = 1.6 kg lid = 1.2 kg
power dissipation capability at $\Delta\theta = 40 \text{ K}$	$P_{de} = 16.8 \text{ watts}$
relative power dissipation capability in watts per K	$P_{de} = 0.42 \text{ watts per K}$

Application:



KG empty enclosures with transparent lid



KG empty enclosures with opaque lid

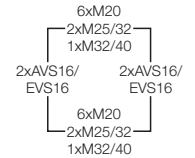
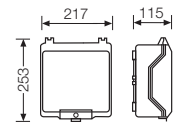




**KG 9003 IN**

**Built-in dimensions W 182 x H 205 x D 95 mm**

- degree of protection: IP 55 (ESM), IP 65 (see index cable entry systems)
- for installation equipment on DIN rails or mounting plates (order separately)
- max. installation depth with built-in mounting plate 95 mm, with built-in DIN rail 89 mm
- with opaque hinged lid
- fastener for tool operation
- sealable
- cable entry via metric knockouts
- included cable entry:  
 2 ESM 25, sealing range Ø 9-17 mm and  
 1 ESM 32, sealing range Ø 9-23 mm



rated insulation voltage	$U_i = 1000 \text{ V a.c.}$
impact strength	IK 08 (5 Joule)
static load	mounting plate or DIN rail = 1.6 kg lid = 1.6 kg
power dissipation capability at $\Delta\theta = 40 \text{ K}$	$P_{de} = 17.6 \text{ watts}$
relative power dissipation capability in watts per K	$P_{de} = 0.44 \text{ watts per K}$

Application



Application

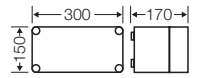




**K 0100**

**Built-in dimensions W 275 x H 125 x D 150 mm**

- enclosure size 1, type Mi
- for installation equipment on DIN rails or mounting plates (order separately)
- max. installation depth with built-in mounting plate 146 mm, with built-in DIN rail 135 mm
- with transparent lid
- lid fasteners for tool operation
- sealable
- box walls without knockouts
- optional hinges for device installation in the lid
- external brackets for wall fixing as accessories



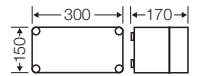
rated insulation voltage	$U_i = 690 \text{ V a.c.} / 1000 \text{ V d.c.}$
impact strength	IK 08 (5 Joule)
static load	mounting plate or DIN rail = 3.2 kg lid = 1.3 kg
power dissipation capability at $\Delta\theta = 40 \text{ K}$	$P_{de} = 33 \text{ watts}$
relative power dissipation capability in watts per K	$P_{de} = 0.825 \text{ watts per K}$



**K 0101**

**Built-in dimensions W 275 x H 125 x D 150 mm**

- enclosure size 1, type Mi
- for installation equipment on DIN rails or mounting plates (order separately)
- max. installation depth with built-in mounting plate 146 mm, with built-in DIN rail 135 mm
- with opaque lid
- lid fasteners for tool operation
- sealable
- box walls without knockouts
- optional hinges for device installation in the lid
- external brackets for wall fixing as accessories



rated insulation voltage	$U_i = 690 \text{ V a.c.} / 1000 \text{ V d.c.}$
impact strength	IK 08 (5 Joule)
static load	mounting plate or DIN rail = 3.2 kg lid = 1.3 kg
power dissipation capability at $\Delta\theta = 40 \text{ K}$	$P_{de} = 33 \text{ watts}$
relative power dissipation capability in watts per K	$P_{de} = 0.825 \text{ watts per K}$

Application:



Empty enclosures with installed equipment on DIN rail and mounting plate



DIN rails for equipment or terminals with clip-on mounting



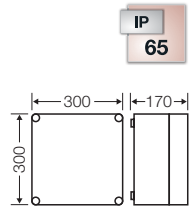
Mounting plates



**K 0200**

**Built-in dimensions W 275 x H 275 x D 150 mm**

- enclosure size 2, type Mi
- for installation equipment on DIN rails or mounting plates (order separately)
- max. installation depth with built-in mounting plate 146 mm, with built-in DIN rail 135 mm
- with transparent lid
- lid fasteners for tool operation
- sealable
- box walls without knockouts
- optional hinges for device installation in the lid
- external brackets for wall fixing as accessories



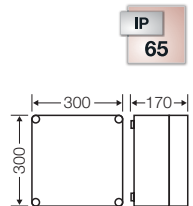
rated insulation voltage	$U_i = 690 \text{ V a.c.} / 1000 \text{ V d.c.}$
impact strength	IK 08 (5 Joule)
static load	mounting plate or DIN rail = 6.5 kg lid = 1.6 kg
power dissipation capability at $\Delta\theta = 40 \text{ K}$	$P_{de} = 53 \text{ watts}$
relative power dissipation capability in watts per K	$P_{de} = 1.325 \text{ watts per K}$



**K 0201**

**Built-in dimensions W 275 x H 275 x D 150 mm**

- enclosure size 2, type Mi
- for installation equipment on DIN rails or mounting plates (order separately)
- max. installation depth with built-in mounting plate 146 mm, with built-in DIN rail 135 mm
- with opaque lid
- lid fasteners for tool operation
- sealable
- box walls without knockouts
- optional hinges for device installation in the lid
- external brackets for wall fixing as accessories

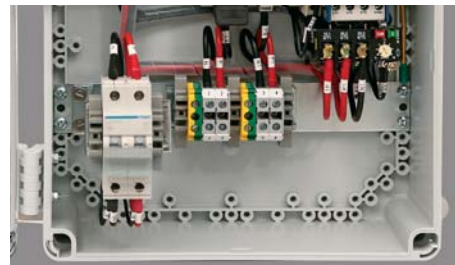


rated insulation voltage	$U_i = 690 \text{ V a.c.} / 1000 \text{ V d.c.}$
impact strength	IK 08 (5 Joule)
static load	mounting plate or DIN rail = 6.5 kg lid = 1.6 kg
power dissipation capability at $\Delta\theta = 40 \text{ K}$	$P_{de} = 53 \text{ watts}$
relative power dissipation capability in watts per K	$P_{de} = 1.325 \text{ watts per K}$

DIN rails for equipment or terminals with clip-on mounting



Mounting plates for equipment



**Empty enclosures in accordance with IEC 62208 for customized solutions and individual applications box walls without knockouts**

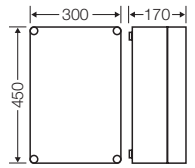


**K 0300**

**Built-in dimensions W 275 x H 425 x D 150 mm**

- enclosure size 3, type Mi
- for installation equipment on DIN rails or mounting plates (order separately)
- max. installation depth with built-in mounting plate 146 mm, with built-in DIN rail 135 mm
- with transparent lid
- lid fasteners for tool operation
- sealable
- box walls without knockouts
- optional hinges for device installation in the lid
- external brackets for wall fixing as accessories

IP  
65



rated insulation voltage	$U_i = 690 \text{ V a.c.} / 1000 \text{ V d.c.}$
impact strength	IK 08 (5 Joule)
static load	mounting plate or DIN rail = 9.2 kg lid = 3.2 kg
power dissipation capability at $\Delta\theta = 40 \text{ K}$	$P_{de} = 71 \text{ watts}$
relative power dissipation capability in watts per K	$P_{de} = 1.775 \text{ watts per K}$

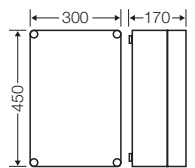


**K 0301**

**Built-in dimensions W 275 x H 425 x D 150 mm**

- enclosure size 3, type Mi
- for installation equipment on DIN rails or mounting plates (order separately)
- max. installation depth with built-in mounting plate 146 mm, with built-in DIN rail 135 mm
- with opaque lid
- lid fasteners for tool operation
- sealable
- box walls without knockouts
- optional hinges for device installation in the lid
- external brackets for wall fixing as accessories

IP  
65



rated insulation voltage	$U_i = 690 \text{ V a.c.} / 1000 \text{ V d.c.}$
impact strength	IK 08 (5 Joule)
static load	mounting plate or DIN rail = 9.2 kg lid = 3.2 kg
power dissipation capability at $\Delta\theta = 40 \text{ K}$	$P_{de} = 71 \text{ watts}$
relative power dissipation capability in watts per K	$P_{de} = 1.775 \text{ watts per K}$

Application:



Empty enclosures with installed equipment on DIN rail and mounting plate



DIN rails for equipment or terminals with clip-on mounting



Mounting plates

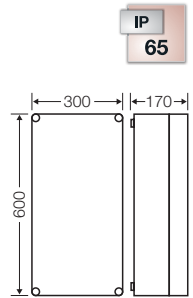
**Empty enclosures in accordance with IEC 62208 for customized solutions and individual applications box walls without knockouts**



**K 0400**

**Built-in dimensions W 275 x H 575 x D 150 mm**

- enclosure size 4, type Mi
- for installation equipment on DIN rails or mounting plates (order separately)
- max. installation depth with built-in mounting plate 146 mm, with built-in DIN rail 135 mm
- with transparent lid
- lid fasteners for tool operation
- sealable
- box walls without knockouts
- optional hinges for device installation in the lid
- external brackets for wall fixing as accessories



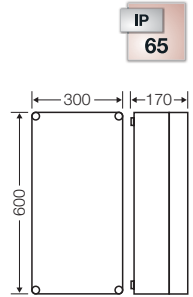
rated insulation voltage	$U_i = 690 \text{ V a.c.} / 1000 \text{ V d.c.}$
impact strength	IK 08 (5 Joule)
static load	mounting plate or DIN rail = 9.2 kg lid = 3.2 kg
power dissipation capability at $\Delta\theta = 40 \text{ K}$	$P_{de} = 93 \text{ watts}$
relative power dissipation capability in watts per K	$P_{de} = 2,325 \text{ watts per K}$



**K 0401**

**Built-in dimensions W 275 x H 575 x D 150 mm**

- enclosure size 4, type Mi
- for installation equipment on DIN rails or mounting plates (order separately)
- max. installation depth with built-in mounting plate 146 mm, with built-in DIN rail 135 mm
- with opaque lid
- lid fasteners for tool operation
- sealable
- box walls without knockouts
- optional hinges for device installation in the lid
- external brackets for wall fixing as accessories

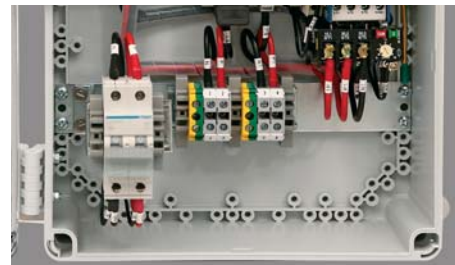


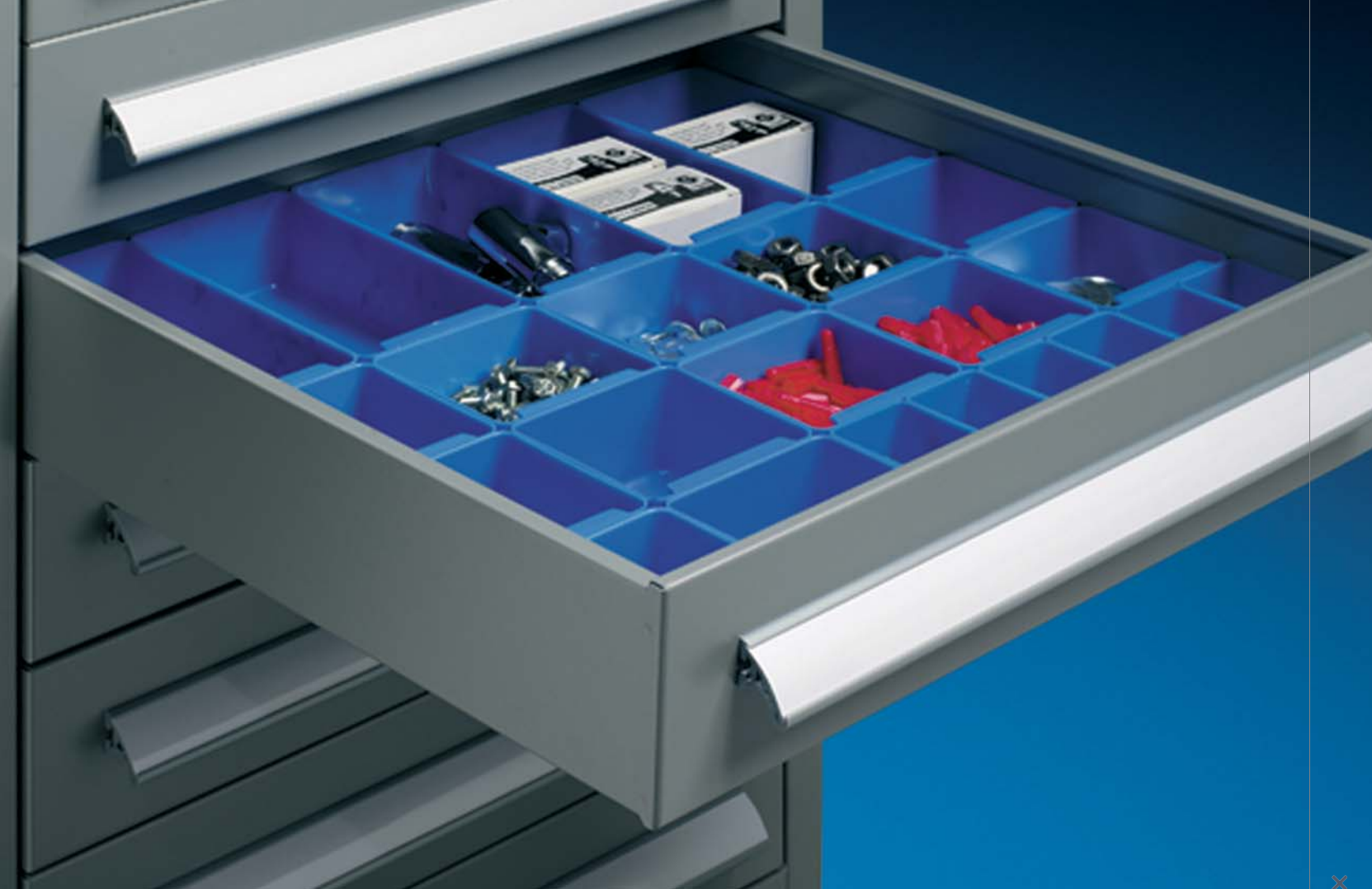
rated insulation voltage	$U_i = 690 \text{ V a.c.} / 1000 \text{ V d.c.}$
impact strength	IK 08 (5 Joule)
static load	mounting plate or DIN rail = 9.2 kg lid = 3.2 kg
power dissipation capability at $\Delta\theta = 40 \text{ K}$	$P_{de} = 93 \text{ watts}$
relative power dissipation capability in watts per K	$P_{de} = 2,325 \text{ watts per K}$

DIN rails for equipment or terminals with clip-on mounting



Mounting plates for equipment





## Empty enclosures in accordance with IEC 62208

### Accessories

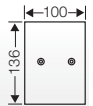
KG empty enclosures: DIN rails, mounting plates, PE/N terminals	388
K empty enclosures: DIN rails, mounting plates	389 - 390
Converting sets for lid operation or sealing	391
Locking device insertion, lid locks, triangle lid fastener, triangle key	391
Hinges for lids	392



**KG MP 01**

**Mounting plate for KG 9001**

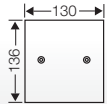
- material laminated paper, coated
- material thickness 4 mm
- with fixing screws



**KG MP 02**

**Mounting plate for KG 9002**

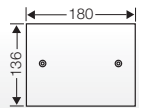
- material laminated paper, coated
- material thickness 4 mm
- with fixing screws



**KG MP 03**

**Mounting plate for KG 9003**

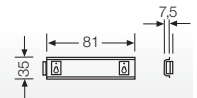
- material laminated paper, coated
- material thickness 4 mm
- with fixing screws



**KG TS 01**

**DIN rail for KG 9001**

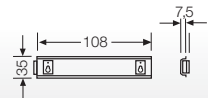
- in accordance with DIN EN 60715
- for equipment or terminals with clip-on mounting
- with fixing screws



**KG TS 02**

**DIN rail for KG 9002**

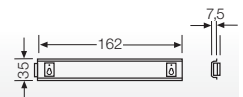
- in accordance with DIN EN 60715
- for equipment or terminals with clip-on mounting
- with fixing screws



**KG TS 03**

**DIN rail for KG 9003**

- in accordance with DIN EN 60715
- for equipment or terminals with clip-on mounting
- with fixing screws



**KG PN 01**

**PE and N terminal**

- for KG 9001
- per PE/N number x cross section 3 x 25 mm<sup>2</sup>, 3 x 4 mm<sup>2</sup> Cu, screw-type terminal

rated insulation voltage U<sub>i</sub> = 400 V a.c.



**KG PN 02**

**PE and N terminal**

- for KG 9002
- PE+N x cross section 3 x 25 mm<sup>2</sup>, 5 x 4 mm<sup>2</sup> Cu, screw-type terminal

rated insulation voltage U<sub>i</sub> = 400 V a.c.



**KG PN 03**

**PE and N terminal**

- for KG 9003
- per PE/N number x cross section 4 x 25 mm<sup>2</sup>, 7 x 4 mm<sup>2</sup> Cu, screw-type terminal

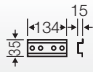
rated insulation voltage U<sub>i</sub> = 400 V a.c.



**Mi TS 15**

**DIN rail**  
**length 134 mm**

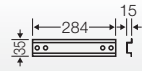
- in accordance with DIN EN 60715
- for Mi-Empty boxes sizes 1, 6
- for equipment or terminals with clip-on mounting
- with fixing screws



**Mi TS 30**

**DIN rail**  
**length 284 mm**

- in accordance with DIN EN 60715
- for Mi-Empty boxes sizes 1, 2, 3, 4, 6, 8
- for equipment or terminals with clip-on mounting
- with fixing screws



**Mi TS 45**

**DIN rail**  
**length 434 mm**

- in accordance with DIN EN 60715
- for Mi-Empty boxes sizes 3, 6
- for equipment or terminals with clip-on mounting
- with fixing screws



**Mi TS 60**

**DIN rail**  
**length 584 mm**

- in accordance with DIN EN 60715
- for Mi-Empty boxes sizes 4, 6, 8
- for equipment or terminals with clip-on mounting
- with fixing screws



Application:



DIN rails for equipment or terminals with clip-on mounting





**Mi MP 1**

**Mounting plate**  
**W 259 x H 115 mm**

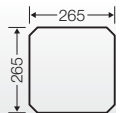
- material thickness 4 mm
- for Mi-Empty boxes sizes 1, 2, 3, 4, 6
- with fixing screws



**Mi MP 2**

**Mounting plate**  
**W 265 x H 265 mm**

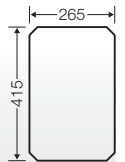
- material thickness 4 mm
- for Mi-Empty boxes sizes 2, 3, 4, 6, 8
- with fixing screws



**Mi MP 3**

**Mounting plate**  
**W 265 x H 415 mm**

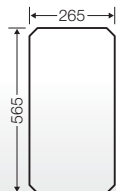
- material thickness 4 mm
- for Mi-Empty boxes sizes 3, 4, 6
- with fixing screws



**Mi MP 4**

**Mounting plate**  
**W 265 x H 565 mm**

- material thickness 4 mm
- for Mi-Empty boxes sizes 4, 6, 8
- with fixing screws



Application:



Mounting plates



**Mi PL 2**

**Sealing cap**

- 2 sealing caps for converting the lid fasteners



**Mi SR 4**

**Conversion set for manual operation on tool operation**

- 4 fastening covers



**Mi SN 4**

**Conversion set for converting lid fasteners from tool to manual operation**

- 4 manual actuators



**Mi DV 01**

**Locking device insertion**

- only in connection with Mi PL 2, Mi SR 4 or Mi SN 4



**Mi ZS 11**

**Lid lock with locking device I for Mi boxes sizes 1 to 6**

- Is being used instead of fasteners for hand or tool operation in order to prevent unauthorised opening of the lids
- consisting of: cylinder lock, keys, locking device insertion, dust cover



**Mi ZS 12**

**Lid lock with locking device II for Mi boxes sizes 1 to 6**

- Is being used instead of fasteners for hand or tool operation in order to prevent unauthorised opening of the lids
- consisting of: cylinder lock, keys, locking device insertion, dust cover



**Mi DR 04**

**Lid fastener for tool operation triangle 8 mm**

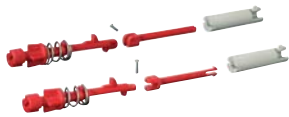
- is used instead of fasteners for hand- or tool operation, in order to make unauthorized opening of lids more difficult
- 4 locking devices with triangle 8 mm and key



**DS 1**

**Triangular key 8 mm**





**Mi ZS 20**  
**Mi hinge for lids**  
**for Mi boxes sizes 1, 2, 3, 4**

- For operating installation device within a large area. The lid keeps permanently connected to the box.
- When assembling several boxes, the insertion can only be carried out for the external boxes.



**Mi ZS 30**  
**Hinge for lids**

- for empty boxes K 0xxx
- with lamellar plugs for 2 lid fixing tubes
- The lid keeps permanently connected to the box



**Mi ZS 40**  
**Mi hinge for lids**  
**for Mi boxes sizes 1 to 8**

- For operating installation device within a large area. The lid keeps permanently connected to the box.
- Wall connectors or flanges are necessary for assembly
- Not applicable in boxes with covers



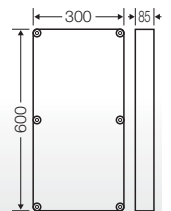
**Mi ZS 60**  
**Mi hinge for lids**  
**for Mi boxes sizes 4 and 8 with extension frame**

- For operating installation device within a large area. The lid keeps permanently connected to the box.
- Wall connectors or flanges are necessary for assembly
- Not applicable in boxes with covers



**Mi ZR 4**  
**Extension frame**  
**for enclosure size 4**

- for extension of the installation depth by 85 mm
- degree of protection IP 65 is maintained with use of up to two extension frames
- inclusive fixing material



Application:



Mi hinges for lids enable to operate installation devices within a large area



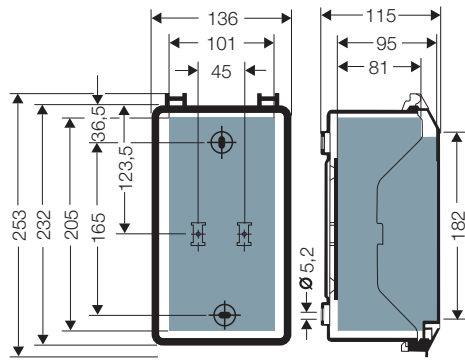
## Empty enclosures in accordance with IEC 62208

### Technical details

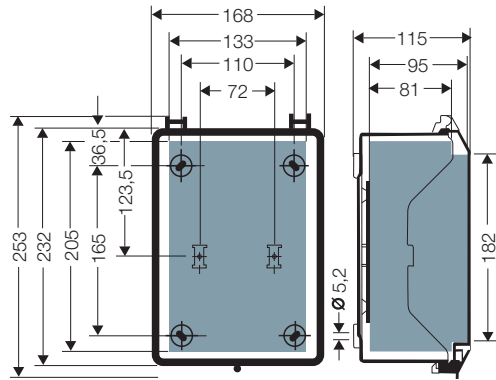
Dimensions in mm	394 - 395
Power dissipation	396
Operating and ambient conditions	397

Technical details  
Dimensions in mm

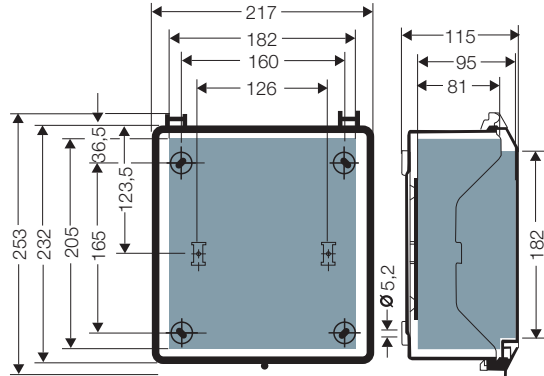
Dimensions of the interior installation depth with installed mounting plates.



KG 9001  
KG 9001 IN



KG 9002  
KG 9002 IN

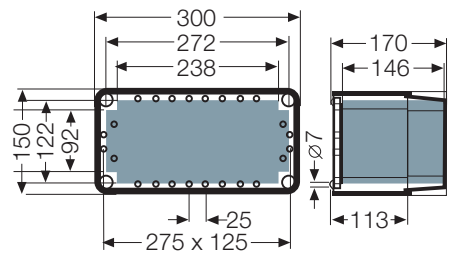


KG 9003  
KG 9003 IN

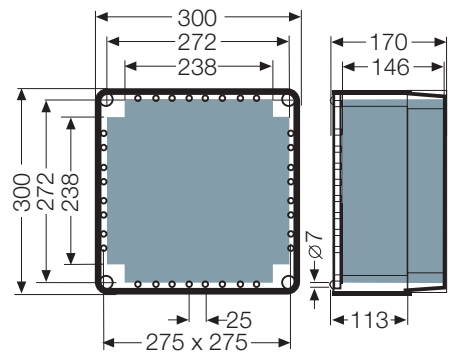
 = usable installation space with mounted cable glands

Technical details  
Dimensions in mm

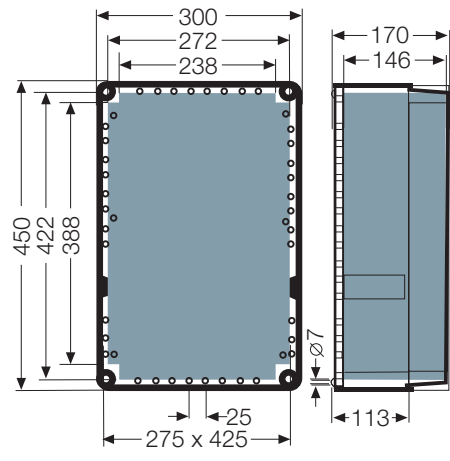
Dimensions of the interior installation depth with installed mounting plates.



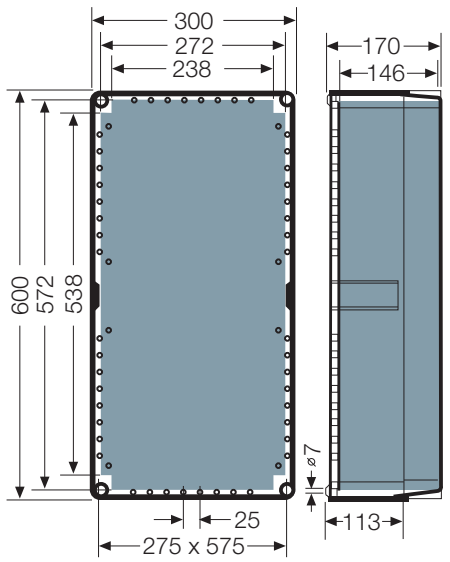
K 0100  
K 0101



K 0200  
K 0201



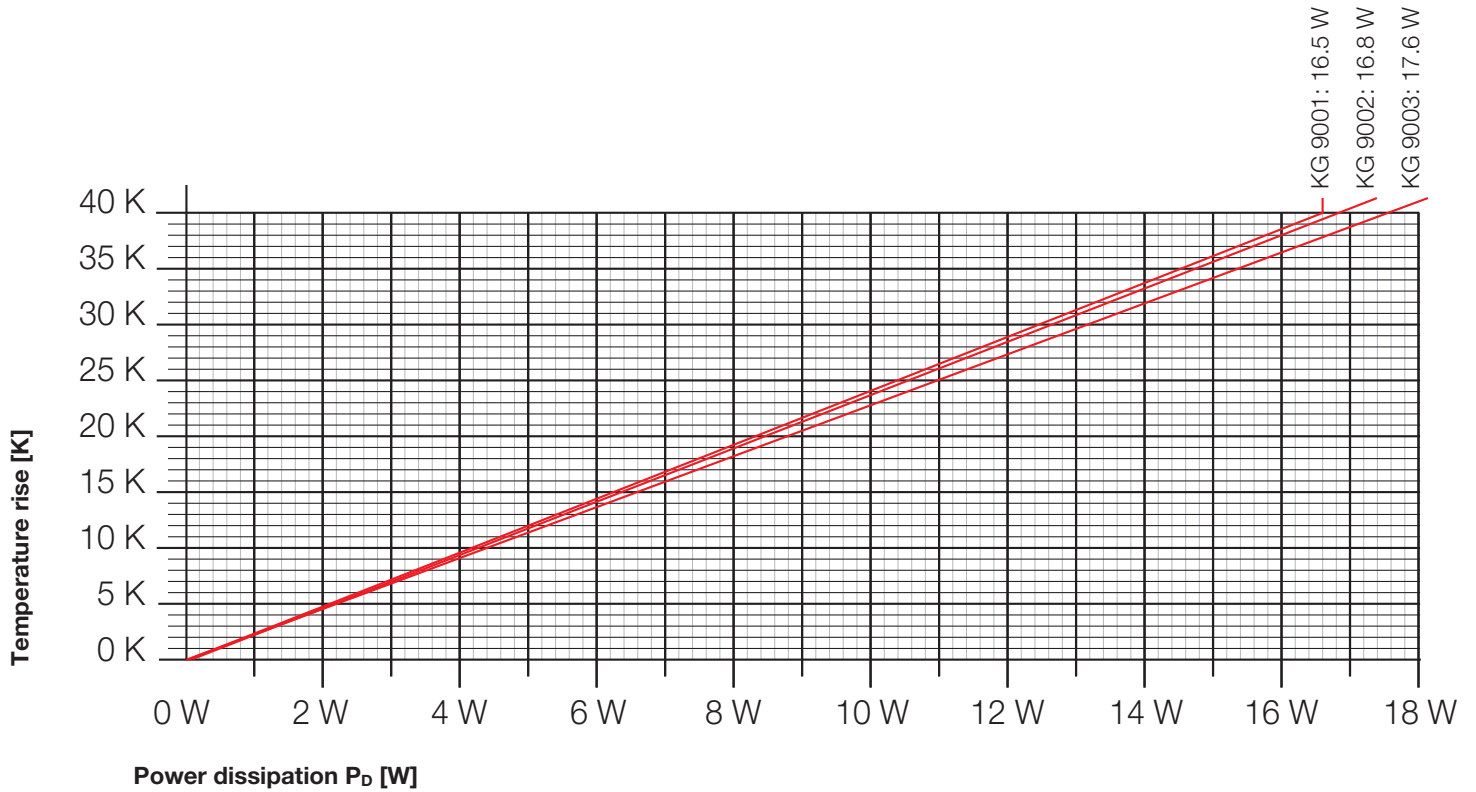
K 0300  
K 0301



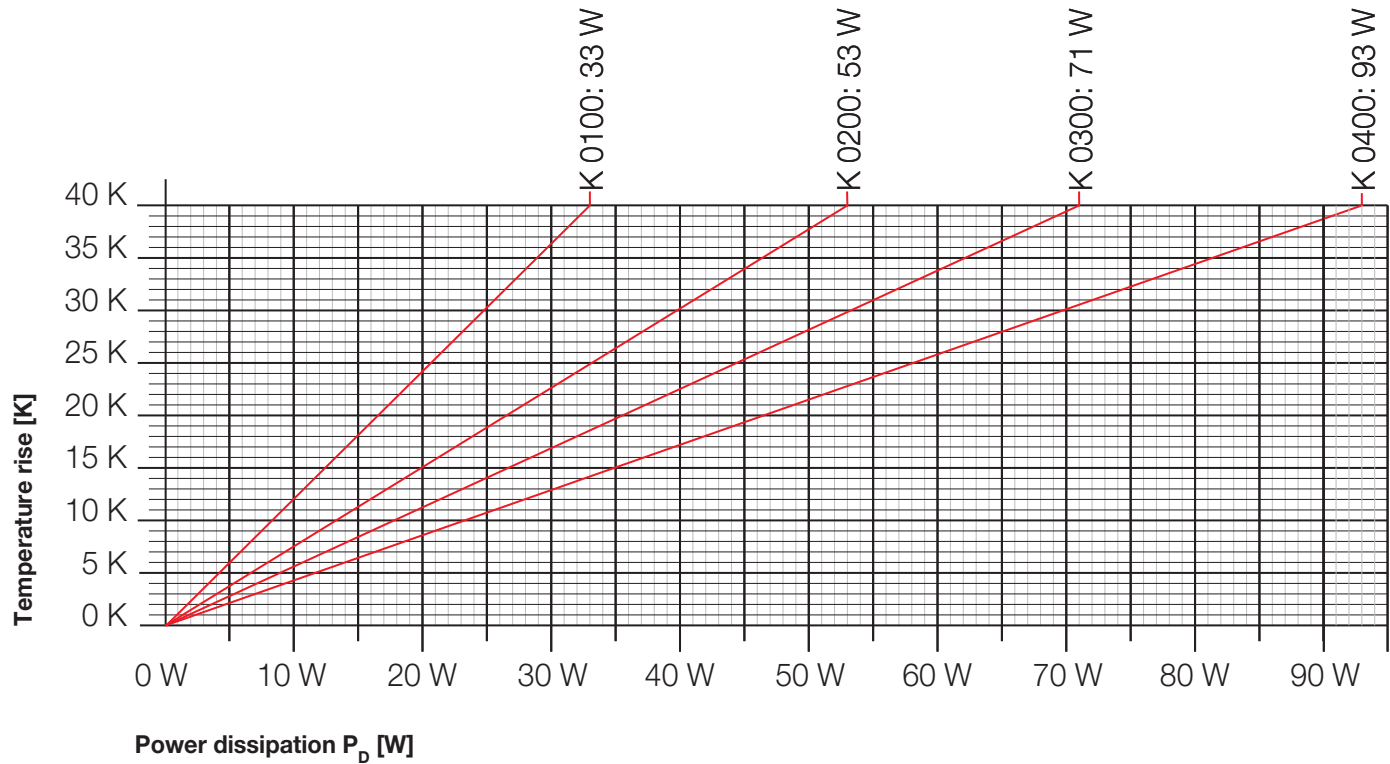
K 0400  
K 0401

= usable installation space with mounted cable glands

KG empty enclosures: temperature rise ( $\Delta\theta$ ) by power dissipation of electrical devices



K empty enclosures: temperature rise ( $\Delta\theta$ ) by power dissipation of electrical devices



Power dissipation  $P_D$  [W]

Technical details  
Operating and ambient conditions

	Empty enclosures KG ....	Empty enclosures K ....
<b>Application area</b>	<b>Suitable for indoor installation and outdoor installation, protected against weather influences</b> However, pay attention to the climatic effects on the installed equipment , for example, high or low ambient temperatures or formation of condensed water see technical information	
<b>Ambient temperature</b>		
- Average value over 24 hours	+35 °C	+35 °C
- Maximum value	+40 °C	+40 °C
- Minimum value	-25 °C	-25 °C
<b>Relative humidity</b>		
- short-time	–	50% at 40 °C 100% at 25 °C
<b>Fire protection</b> in the event of internal faults	Demands placed on electrical devices from standards and laws:  Minimum requirements - Glow wire test in accordance with IEC 60695-2-11: - (650 ± 15) °C for boxes and cable glands	
<b>Burning behaviour</b>		
- Glow wire test IEC 60 695-2-11	750 °C	960 °C
- UL Subject 94	V-2 flame-retardant self-extinguishing	V-2 flame-retardant self-extinguishing
<b>Degree of protection against mechanical load</b>	IK 08 (5 Joule)	IK 08 (5 Joule)
<b>Toxic behaviour</b>	halogen-free <sup>1)</sup> silicone-free	halogen-free <sup>1)</sup> silicone-free
	<sup>1)</sup> "Halogen-free" in accordance with IEC 60754-2" Common test methods for cables - Determination of the amount of halogen acid gas".  <b>For material properties see Technical details.</b>	