3 Strain relief & cable management

By using icotek strain relief systems the user can quickly assemble, organise and provide strain relief for cables according to EN 62444.

The systems can be used for organising and securing cables in machines, switch cabinets, enclosures and dynamic drag chains. Due to the wide variety of mounting requirements, options range from DIN rail snap-mount, C-rail to screw mount.

The strain relief plates are available in several sizes. The cable density can be greatly increased by using spacers for multilayer mounting.

Securing the cables is done quickly and inexpensively with standard cable ties. The shape of the strain relief securely holds cable tie and cable.

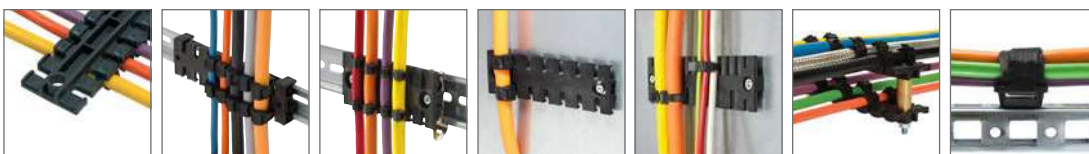High cable density, multilayer mounting possible

Fast and easy, partially tool-free mounting

Wide mounting type variety: DIN rail / C-rail snap mount, screw mount

Available in various sizes

Secure hold of the cable ties and cables, strain relief acc. to EN 62444

Product range

KZL

SF|ZL

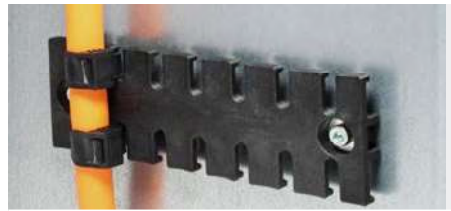ZL

ZL-AB

ZL 03 04 05

DH

KLB / KBH

Strain relief plates
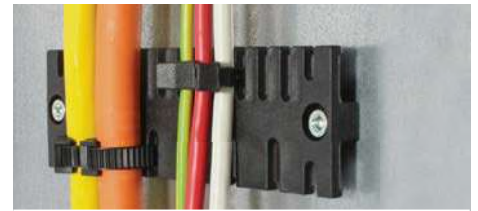for screw mount

ZL

110

Strain relief plates
for screw mount, with bushings

ZL-AB / ZL-MS

111

Strain relief plates
for screw mount, for various cable diameters

ZL 03 | 04 | 05

112

Strain relief plates
for 35 mm DIN rail / C-rail snap mount

KZL

113

Strain relief plates
for 35 mm DIN rail snap mount

SF|ZL

114

Spacers
for multilayer mounting of strain relief plates

DH

115

EMC Strain relief plates

KAFM-EMC

152

Shield plate for ZL strain relief plates

ZL|SB-EMC

153

Hook-and-loop cable ties
re-usable

KLKB / KLB

116

Holder for hook-and-loop cable ties
various mounting types

KBH

117

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icotek

ZL
Strain relief plates for screw assembly

Product description

The strain relief plate ZL is used for static or dynamic applications for organising and securing cables on machines, control panels or drag chains.

The design of the strain relief unit provides secure strain relief according to EN 62444. Mount of the cables or pneumatic tubing is easily done using cable ties.

For multilayer installation please use DH spacers, see Page 89.
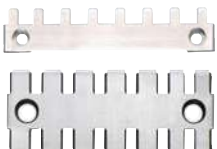
Advantages & benefits

- Strain relief according to EN 62444
- Easy assembly
- Cost-effective
- High cable density
- Wide variety of mounting options

Specifications

Material	**Polyamide (PA)**
Flame class	**UL94-V0, self-extinguishing**
Temperature	**- 40°C to + 140°C (static)**
Properties	**Halogen-free, silicone-free**

Accessories

Type	Order No.	Length L1	Length L2	No. of teeth	PU
ZL 39	32222	38.5 mm	19.5 mm	3	10
ZL 60	32224	59.5 mm	43.5 mm	4	10
ZL 70	32226	69.1 mm	43.5 mm	5	10
ZL 87	32228	86.5 mm	68 mm	6	10
ZL 103	32230	102.5 mm	84 mm	7	10
ZL 121	32232	121 mm	102.5 mm	8	10
ZL 140	32234	139.5 mm	121 mm	9	10
ZL 180	32236	180 mm	157 mm	12	10

ZL 180

3
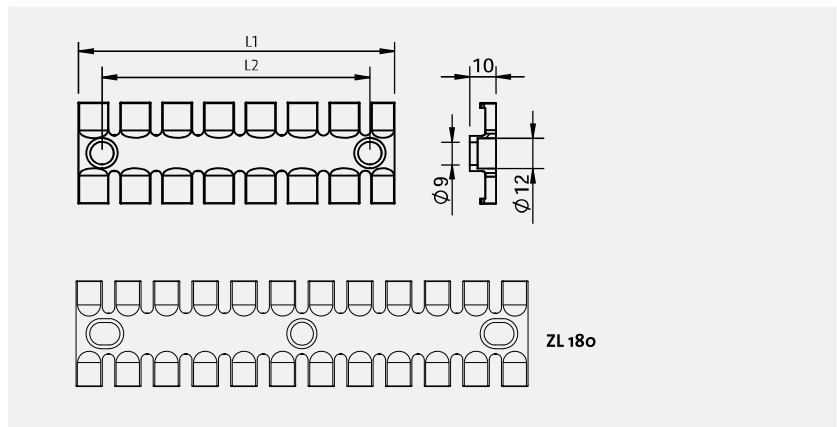
ZL-AB | ZL-MS
Strain relief plates
for screw assembly
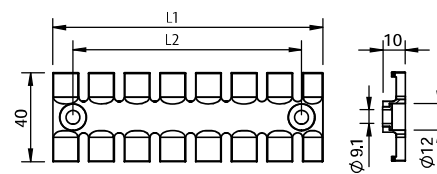

Inlay bushings also available in brass.

Product description

The strain relief plate ZL-AB / ZL-MS is used for static or dynamic applications for organising and securing cables on machines, control panels or drag chains.

By using aluminium / brass nuts for the screw holes, a better fit of the strain relief plate is achieved, even in high vibration environments.

Advantages & benefits

- Strain relief according to EN 62444
- Easy assembly
- Cost-effective
- High cable density
- Wide variety of mounting options

Type	Order No. for M4 screws	Order No. for M5 screws	Order No. for M6 screws	Length L1	Length L2	No. of teeth	PU
ZL 39 AB ZL 39 MS	▢ 32270	▢ 32280 ▨ 32360	▢ 32290	38.5 mm	19.5 mm	3	10
ZL 60 AB ZL 60 MS	▢ 32271	▢ 32281 ▨ 32361	▢ 32291	59.5 mm	43.5 mm	4	10
ZL 70 AB ZL 70 MS	▢ 32272	▢ 32282 ▨ 32362	▢ 32292	69.1 mm	43.5 mm	5	10
ZL 87 AB ZL 87 MS	▢ 32273	▢ 32283 ▨ 32363	▢ 32293	86.5 mm	68 mm	6	10
ZL 103 AB ZL 103 MS	▢ 32275	▢ 32284 ▨ 32364	▢ 32294	102.5 mm	84 mm	7	10
ZL 121 AB ZL 121 MS	▢ 32277	▢ 32285 ▨ 32365	▢ 32295	121 mm	102.5 mm	8	10
ZL 140 AB ZL 140 MS	▢ 32274	▢ 32286 ▨ 32366	▢ 32296	139.5 mm	121 mm	9	10
ZL 180 AB ZL 180 MS	▢ 32276	▢ 32287 ▨ 32367	▢ 32297	180 mm	157 mm	12	10

Specifications

Material	ZL: Polyamide (PA) Bushing: ▢ Aluminium (ZL-AB) ▨ Brass (ZL-MS)
Flame class	UL94-V0, self-extinguishing
Temperature	- 40°C to + 140°C (static)
Properties	Halogen-free, silicone-free

Accessories

icotek

ZL 03 | 04 | 05
Strain relief plates
for screw assembly

Product description

Strain relief plates ZL feature different comb widths. Thus providing a multi-purpose product for various cable sizes.

The design of the strain relief unit provides secure strain relief according to EN 62444. Mount of the cables or pneumatic tubing is easily done using cable ties.
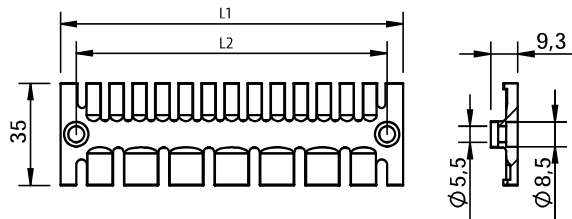
Advantages & benefits

- Strain relief according to EN 62444
- Easy assembly
- Cost-effective
- High cable density
- Wide variety of mounting options

Specifications

Material	**Polyamide (PA)**
Flame class	**UL94-V0, self-extinguishing**
Temperature	**- 40°C to + 140°C (static)**
Properties	**Halogen-free, silicone-free**

Accessories

DH Spacers   115

Type	Order No.	Length L1	Length L2	No. of teeth	PU
ZL 03	32112	63.4 mm	42 mm	4|7	10
ZL 04	32114	95 mm	74.5 mm	6|11	10
ZL 05	32116	119 mm	108 mm	7|13	10

KZL
Strain relief plates for mounting rails

Typ	Best.Nr.	Length L1	Length L2	No. of teeth	VE
KZL 11	32250	11.5 mm	–	1	10
KZL 39	32260	38.5 mm	28.3 mm	3	10
KZL 80	32262	79.5 mm	68 mm	6	10
KZL 140	32264	139.5 mm	128.1 mm	9	10
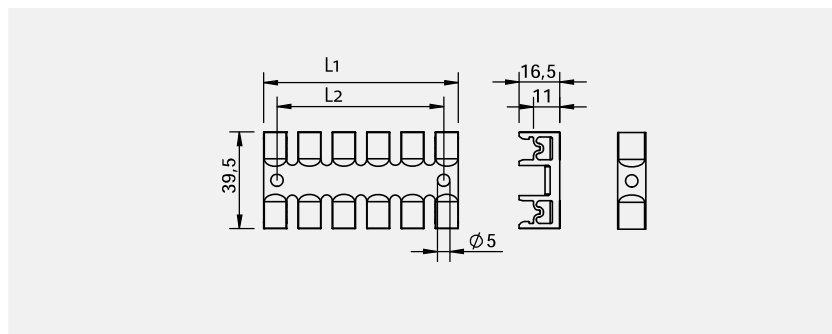
Product description

The strain relief plate KZL is used for static or dynamic applications for organising and securing cables on machines, control panels or drag chains.

The design of the strain relief unit provides secure strain relief according to EN 62444. Mount of the cables or pneumatic tubing is easily done using cable ties.

KZL Strain relief plates can be mounted on 30 mm DIN rails (C-rails) and 35 mm DIN rails.

Advantages & benefits

- Strain relief according to EN 62444
- Easy assembly
- Cost-effective
- High cable density
- Wide variety of mounting options

Specifications

Material	**Polyamide (PA)**
Flame class	**UL94-V0, self-extinguishing**
Temperature	**- 40°C to + 140°C (static)**
Properties	**Halogen-free, silicone-free**

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SF|ZL
Strain relief plates
for 35 mm DIN rail

Product description

The strain relief plate SF|ZL is used for assembly on 35 mm DIN rails. It can be used for strain relief of cables and conduits.

The SF|ZL range is based upon the strain relief plate ZL, which is mounted on snap feet for 35 mm DIN rails.

Advantages & benefits

- Strain relief according to EN 62444
- Easy assembly
- Cost-effective
- High cable density
- Wide variety of mounting options

Specifications

Material	**ZL: Polyamide (PA)**
	SF-foot: Spring steel
Flame class	**UL94-V0, self-extinguishing**
Temperature	**- 40°C to + 140°C (static)**
Properties	**Halogen-free, silicone-free**

Accessories

Type	Order No.	Length L1	Length L2	No. of teeth	PU
SF|ZL 39	32351	38.5 mm	19.5 mm	3	10
SF|ZL 60	32352	59.5 mm	43.5 mm	4	10
SF|ZL 70	32353	69.1 mm	43.5 mm	5	10
SF|ZL 87	32354	86.5 mm	68 mm	6	10
SF|ZL 103	32355	102.5 mm	84 mm	7	10
SF|ZL 121	32356	121 mm	102.5 mm	8	10
SF|ZL 140	32357	139.5 mm	121 mm	9	10
SF|ZL 180	32358	180 mm	157 mm	12	10

SF|ZL 180

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DH
Spacers

U-washer DIN 125

Distance bushing
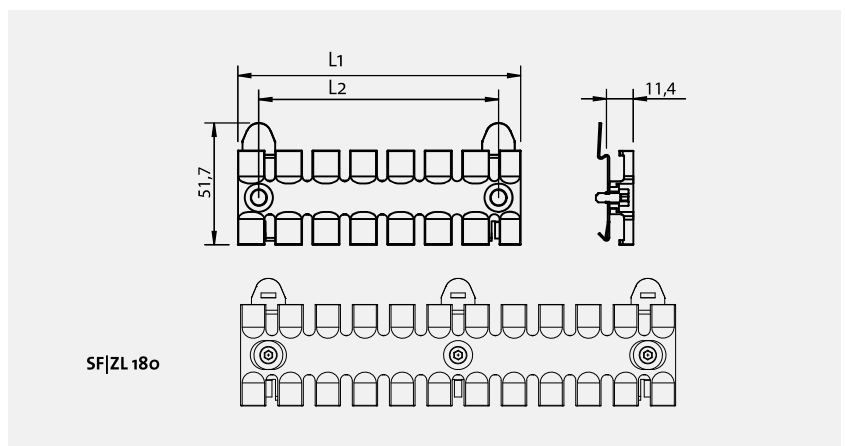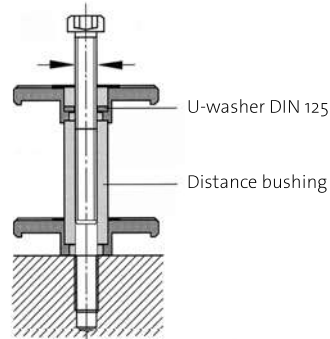
Type	Order No.	Fits with	Length	Diameter		PU
				inner	outer	
DH 30	32251	ZL 03 | 04 | 05	30 mm	5.2 mm	8.5 mm	10
DH 32	32252	ZL	32 mm	6.2 mm	12 mm	10

Product description

Due to DH spacers strain relief plates can be mounted in multi-layers to achieve an increase of the cable density.

Advantages & benefits

■ Increase of cable density

Specifications

Material   **Aluminium**

Compatible with

ZL Strain relief plates   110
ZL 03|04|05 Strain relief plates   112

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icotek

KLKB / KLB
Hook-and-loop cable ties

Product description

Cable ties with hook-and-loop fasteners are a more and more common fixing mode for cables. They are used instead of standard cable ties, because they can be easily closed and opened several times. The soft material is gentle on cables, especially where vibrations are present.

Hook-and-loop cable ties are available individually (KLKB) in four different sizes or as a continuous roll (KLB) in four different sizes.

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Advantages

- Reusable
- Adaptable
- The cable tie material is gentle on cables, especially if there are vibrations

Specifications

Material	**Polypropylene + Velours PA**
Colour	**black**
Flame class	**UL94-V2**
Temperature	**- 30°C to + 80°C**

Accessories

Type	Size [mm]			Order No.	PU
	L	W1	W2		
KLKB 200 × 7 bk (PU 100 = 1 reel)	200	13	7	61021	100
KLKB 200 × 7 bk on reel (750 pcs.)	200	13	7	61025	1
KLKB 200 × 13 bk (PU 100 = 1 reel)	200	20	13	61022	100
KLKB 200 × 13 bk on reel (750 pcs.)	200	20	13	61026	1
KLKB 230 × 13 bk (PU 100 = 1 reel)	230	20	13	61023	100
KLKB 230 × 13 bk on reel (750 pcs.)	230	20	13	61027	1
KLKB 300 × 17 bk (PU 100 = 1 reel)	300	25	17	61024	100
KLKB 300 × 17 bk on reel (750 pcs.)	300	25	17	61028	1
KLB 10 bk			10	61011	25 m
KLB 15 bk			15	61012	25 m
KLB 20 bk			20	61013	25 m
KLB 25 bk			25	61014	25 m

KBH
Holder for hook-and-loop fastener

(Ø 4,5)

10,5

12,5

23

23
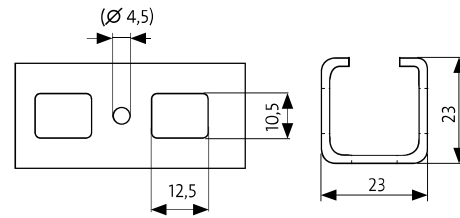
23 × 23 mm mounting rail

Description	Type		Order No.	fits KLKB | KLB	Compatible with	PU
Holder for hook-and-loop fastener, screwable						
	KBH-S	■	61019	KLKB 200 × 7 KLKB 200 × 13 KLB 10	23 × 23 mm mounting rail	100
	KBH-SB	■	61002	KLKB 200 × 7	universal	100
Holder for hook-and-loop fastener, pluggable						
	KBH-R	■	61018	KLKB 200 × 7 KLKB 200 × 13 KLB 10	23 × 23 mm mounting rail	100
	KBH-RBA nc	☐	61003	KLKB 200 × 7	drill-hole Ø 6 mm	100
	KBH-RBB	■	61004	KLKB 200 × 7	drill-hole Ø 6.5 mm	100

* Only KBH-S / KBH-R

Product description

These holders can be used in combination with cable ties with hook-and-loop fastener KLKB and hook-and-loop tape KLB.

Large variety of holders provides unique and numerous mounting possibilities.

Advantages

- Assembly within seconds
- Secure hold
- Flexible usage

Specifications KBH-S / KBH-R

Material	**Polyamide (PA)**
Colour	**■ black**
Flame class	**UL94-V0, self-extinguishing**
Temperature	**- 40°C to + 110°C**
Properties	**Halogen-free, silicone-free**

Specifications KBH-SB / KBH-RBA

Material	**Polyamide (PA)**
Colour	**■ black (KBH-SB)**
	☐ nc (KBH-RBA)
Flame class	**UL94-V2**
Temperature	**- 40°C to + 85°C (short-term to 110°C)**

Specifications KBH-RBB

Material	**Polyamide (PA)**
Colour	**■ black**
Temperature	**- 40°C to + 120°C**

Compatible with

KLKB / KLB Cable ties with hook-and-loop fastener 116

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