



# 7 Cable entry systems for potentially explosive atmospheres



## Directive 94/9/EC (ATEX)

ATEX stands for „Atmosphère Explosible“ and is the short name for the European Directive 94/9/EC, regulating the market launch of explosion protected electrical and non-electrical devices, components and protection systems. Since July 1, 2003 in effect, it applies to all new equipment and protective devices. The directive is aimed at manufacturers and importers in the 27 member states of the EU as well as the 4 EFTA member states and Turkey.

The ATEX directive applies to all electrical and non-electrical equipment and protective systems intended for use in potentially explosive atmospheres.

Moreover, the directive includes controlling, monitoring or regulating equipment which may be located outside of explosive atmospheres, but ensures the safe operation of devices and safety systems inside.

The ATEX directive applies to all explosive industrial atmospheres, including mining. The directive describes basic safety and health requirements for equipment and components intended for use in potentially explosive atmospheres. It describes procedures to demonstrate conformity with the directive. Depending on the risk area in which the product is used, (conformity assessment procedures) requirements and procedures for assessing fulfillment are different.

Since 2003, every new Ex device must be certified according to the EU Directive, labeled with the CE marking and the special marks for prevention of explosions. icotek has certified a wide variety of products.

All devices, components and protective systems intended for use in potentially explosive atmospheres, have to comply with the European Directive 94/9/EC.

## Important notice!

**Only intended for fixed installation of cables!**

The cable entry is only suitable for fixed installation of cables where strain and torsional loading on the cable is not possible.

## The ATEX directive 94/9 EC regulates:

- Product approval
- Conformity procedure  
(consisting of EC type-examination, quality control and EC declaration of conformity)
- CE marking of conformity for equipment and protective systems

For use in potentially explosive atmospheres, icotek offers a wide range of cable entry systems for zones G (gas) and D (dust) in equipment group II, category 2, certified to the ATEX directive.

The icotek cable entry systems comply with the EU Directive 94/9/EC (ATEX) for equipment and protective systems intended for use in potentially explosive atmospheres of zones 1 and 21.

**For application in Ex atmospheres, cable inserts (finding use in various icotek ATEX products) can only be purchased in grey (RAL 7035).**



## Product group 7

Cable entry systems for potentially explosive atmospheres

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# 7

## KEL ATEX

### Cable entry frames



IP54



V2A anti-corrosive  
KEL 24 also available with V2A screws.



KEL 24 on request also available with threaded bushings.

### Product description

The KEL cable entry frames match exactly the cut-out dimensions for 10-, 16- or 24-pole standard industrial connectors. Either a cut out of 36 mm or 46 mm tall can be chosen depending on the cables being routed. This flexibility is perfect for pre-terminated cables. The KEL-B matches exactly the cut-out dimensions of 46x46 mm measuring instruments.

The split insert matching the cable diameter is placed around the cable and inserted into the cable entry frame.

### Advantages

- Warranty of pre-terminated cables remains
- Retrofitting and maintenance can be carried out easily and quickly
- High packing density, wide variety of frames and inserts
- Strain relief according EN 50262
- Vibration proof

### Specification

Material	Polyamide (PA)
Flame class	UL94-Vo, self-extinguishing
Protection class	IP54, with gasket and correct selection of the cable inserts
Temperature	- 30°C to + 90°C (static)
Equipment group	II
Category	2G, 3G, 2D
Zone	1 + 21
Test standard	EN 60079-0
Properties	Halogen-free, silicone-free
Height KEL	17 mm

### Accessories

KT Cable inserts, grey Page 28 - 32

Type	Order No.	Cut-out	Protection class	Inserts KT small   large	PU
KEL 24 10 ATEX	49109	36 × 112 mm	IP54	10 -	10
KEL 24 10 ATEX with V2A screws	49109.200	36 × 112 mm	IP54	10 -	10
KEL 24 7 ATEX	49111	36 × 112 mm	IP54	6 1	10
KEL 24 7 ATEX with V2A screws	49111.200	36 × 112 mm	IP54	6 1	10
KEL 24 5 ATEX	49112	36 × 112 mm	IP54	5 -	10
KEL 24 5 ATEX with V2A screws	49112.200	36 × 112 mm	IP54	5 -	10
KEL 24 4 ATEX	49110	36 × 112 mm	IP54	2 2	10
KEL 24 4 ATEX with V2A screws	49110.200	36 × 112 mm	IP54	2 2	10
KEL 16 8 ATEX	49104	36 × 86 mm	IP54	8 -	10
KEL 16 8 ATEX with V2A screws	49104.200	36 × 86 mm	IP54	8 -	10
KEL 16 5 ATEX	49103	36 × 86 mm	IP54	4 1	10
KEL 16 5 ATEX with V2A screws	49103.200	36 × 86 mm	IP54	4 1	10
KEL 16 4 ATEX	49102	36 × 86 mm	IP54	4 -	10
KEL 16 4 ATEX mit V2A-Schrauben	49102.200	36 × 86 mm	IP54	4 -	10
KEL 16 2 ATEX	49101	36 × 86 mm	IP54	- 2	10
KEL 16 2 ATEX with V2A screws	49101.200	36 × 86 mm	IP54	- 2	10
KEL 10 6 ATEX	49108	36 × 65 mm	IP54	6 -	10
KEL 10 6 ATEX with V2A screws	49108.200	36 × 65 mm	IP54	6 -	10
KEL 10 3 ATEX	49107	36 × 65 mm	IP54	2 1	10
KEL 10 3 ATEX with V2A screws	49107.200	36 × 65 mm	IP54	2 1	10
KEL-B4 ATEX	49105	46 × 46 mm	IP54	4 -	10
KEL-B4 ATEX with V2A screws	49105.200	46 × 46 mm	IP54	4 -	10
KEL-B1 ATEX	49106	46 × 46 mm	IP54	- 1	10
KEL-B1 ATEX with V2A screws	49106.200	46 × 46 mm	IP54	- 1	10



# KEL-ER ATEX

## Cable entry frames



KEL-ER also available with V2A screws.



KEL-ER on request also available with threaded bushings.



Type	Order No.	Cut-out	Protection class	Inserts KT small   large	PU
KEL-ER 24 10 ATEX	49228	36 × 112 mm	IP65	10 -	10
KEL-ER 24 10 ATEX with V2A screws	49228.200	36 × 112 mm	IP65	10 -	10
KEL-ER 24 7 ATEX	49230	36 × 112 mm	IP65	6 1	10
KEL-ER 24 7 ATEX with V2A screws	49230.200	36 × 112 mm	IP65	6 1	10
KEL-ER 24 4 ATEX	49229	36 × 112 mm	IP65	2 2	10
KEL-ER 24 4 ATEX with V2A screws	49229.200	36 × 112 mm	IP65	2 2	10
KEL-ER 16 8 ATEX	49223	36 × 86 mm	IP65	8 -	10
KEL-ER 16 8 ATEX with V2A screws	49223.200	36 × 86 mm	IP65	8 -	10
KEL-ER 16 5 ATEX	49222	36 × 86 mm	IP65	4 1	10
KEL-ER 16 5 ATEX with V2A screws	49222.200	36 × 86 mm	IP65	4 1	10
KEL-ER 16 2 ATEX	49221	36 × 86 mm	IP65	- 2	10
KEL-ER 16 2 ATEX with V2A screws	49221.200	36 × 86 mm	IP65	- 2	10
KEL-ER 10 6 ATEX	49227	36 × 65 mm	IP65	6 -	10
KEL-ER 10 6 ATEX with V2A screws	49227.200	36 × 65 mm	IP65	6 -	10
KEL-ER 10 3 ATEX	49226	36 × 65 mm	IP65	2 1	10
KEL-ER 10 3 ATEX with V2A screws	49226.200	36 × 65 mm	IP65	2 1	10
KEL-ER-B4 ATEX	49224	46 × 46 mm	IP65	4 -	10
KEL-ER-B4 ATEX with V2A screws	49224.200	46 × 46 mm	IP65	4 -	10
KEL-ER-B1 ATEX	49225	46 × 46 mm	IP65	- 1	10
KEL-ER-B1 ATEX with V2A screws	49225.200	46 × 46 mm	IP65	- 1	10

### Product description

Split cable entry system for routing pre-terminated cables providing a protection class of IP65. Routing, sealing and providing strain relief for cable diameters from 2 to 15 mm (KT 2 - 14) and 16 to 34 mm (KT 16 - 34). The new cable entry system is easy to install. Cable inserts are placed into compartments and are securely fixed to the frame during assembly.

The KEL-ER frames match exactly the cutout dimensions for 24-, 16- and 10-pole standard industrial connectors. The KEL-ER B matches cut-out dimensions of 46×46 mm measuring instruments.

### Advantages

- Warranty of pre-terminated cables remains
- Retrofitting and maintenance can be carried out easily and quickly
- High packing density, wide variety of frames and inserts
- Strain relief according EN 50262
- Vibration proof

### Specification

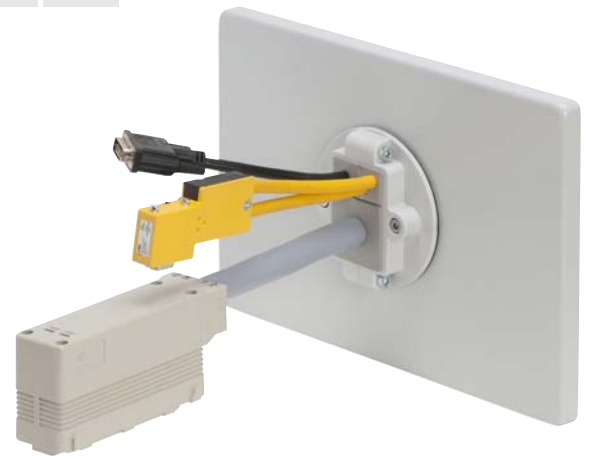
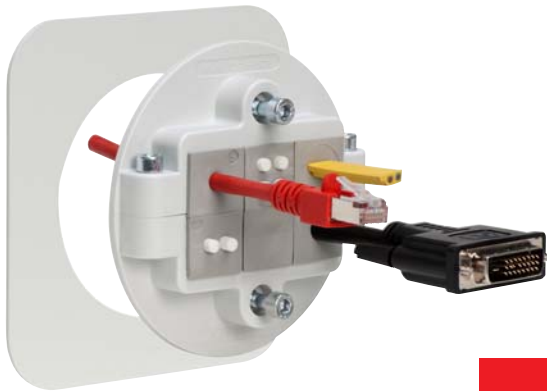
Material	Polyamide (PA)
Flame class	UL94-Vo, self-extinguishing
Protection class	IP65, with gasket and correct selection of single cable inserts
Temperature	- 30°C to + 90°C (static)
Equipment group	II
Category	2G, 3G, 2D
Zone	1 + 21
Test standard	EN 60079-0
Properties	Halogen-free, silicone-free
Height KEL-ER	17 mm

### Accessories

KT Cable inserts, grey Page 28 - 32

# KVT 80 ATEX

## Split cable glands



### Product description

The KVT 80 split cable glands are designed for routing and sealing pre-terminated cables.

By connecting the two half-shells with attached screws, the inserts provide sufficient pressure on the routed cables to obtain a high degree of strain relief. The KVT 80 can be fitted to wall thicknesses from 1.5mm to 10mm.

### Advantages

- Insertion of pre-terminated cables
- Warranty of pre-terminated cables remains
- Easy and quick retrofitting and maintenance
- High packing density, wide variety
- Quick and easy assembly from the front side
- Strain relief according EN 50262

### Note

When mounting the KVT 80 on sheet metal, we recommend the following torque values:

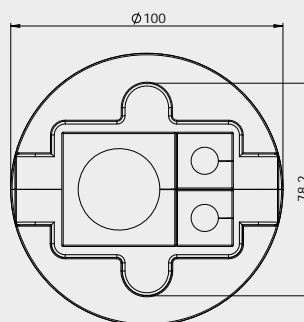
- 1.5 mm sheet = 1 Nm
- From 2.0 mm sheet = 1.5 Nm

### Specification

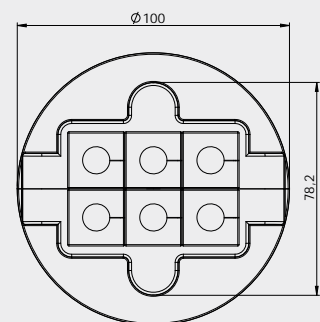
Material	Polycarbonate (PC)
Screws:	Stainless steel
Colour	<input type="checkbox"/> grey (similar RAL 7035) <input checked="" type="checkbox"/> black
Flame class	UL94-V0, self-extinguishing
Protection class	IP54, with gasket and correct selection of the cable inserts
Temperature	- 30°C to + 90°C (static)
Equipment group	II
Category	2G, 3G, 2D
Zone	1 + 21
Test standard	EN 60079-0
Properties	Halogen-free, silicone-free

### Accessories

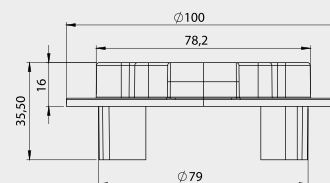
Type	Order No.	Cut-out	Protection class	Inserts KT	PU
				small   large	
KVT 80 3 ATEX	<input type="checkbox"/> 49120	Ø 80 mm	IP54	2 1	10
	<input checked="" type="checkbox"/> 49123				
KVT 80 6 ATEX	<input type="checkbox"/> 49121	Ø 80 mm	IP54	6 -	10
	<input checked="" type="checkbox"/> 49122				



KVT 80|3 ATEX



KVT 80|6 ATEX





# KEL-DPZ ATEX Cable entry plates



Membrane on front



Conical shape on back provides additional sealing and strain relief



Type	Order No.	Cut-out	Number of cables	Protection class	PU
KEL-DPZ 24 14 ATEX	☐ 49201 ■ 49211	36 × 112 mm	10× 3.2 - 6.5 mm 4× 16 - 22 mm	IP65	10
KEL-DPZ 24 15 ATEX	☐ 49205 ■ 49215	36 × 112 mm	15× 7.2 - 12 mm	IP65	10
KEL-DPZ 24 16 ATEX	☐ 49206 ■ 49216	36 × 112 mm	8× 3.2 - 6.5 mm 4× 5.0 - 9.7 mm 2× 9.0 - 16.2 mm 2× 16 - 22 mm	IP65	10
KEL-DPZ 24 17 ATEX	☐ 49202 ■ 49212	36 × 112 mm	6× 3.2 - 6.5 mm 6× 5.0 - 10.2 mm 5× 9.0 - 16.2 mm	IP65	10
KEL-DPZ 24 25 ATEX	☐ 49203 ■ 49213	36 × 112 mm	12× 3.2 - 6.5 mm 7× 4.8 - 9.7 mm 6× 7.5 - 12.0 mm	IP65	10
KEL-DPZ 24 32 ATEX	☐ 49207 ■ 49217	36 × 112 mm	21× 3.2 - 6.5 mm 8× 5.0 - 10.2 mm 3× 7.5 - 12.0 mm	IP65	10
KEL-DPZ 24 42 ATEX	☐ 49204 ■ 49214	36 × 112 mm	42× 3.2 - 6.5 mm	IP65	10
KEL-DPZ 24 121 ATEX	☐ 49208 ■ 49218	36 × 112 mm	119× 1.5 - 2.6 mm 2× 2.5 - 5.0 mm	IP65	10
KEL-DPZ-B 13 ATEX	☐ 49311 ■ 49317	46 × 46 mm	8× 3.2 - 6.5 mm 4× 5.0 - 10.2 mm 1× 16 - 22 mm	IP66	10
KEL-DPZ-B 17 ATEX	☐ 49312 ■ 49318	46 × 46 mm	10× 3.2 - 6.5 mm 4× 5.0 - 10.2 mm 2× 7.5 - 12 mm 1× 9.0 - 16.2 mm	IP66	10
KEL-DPZ-B 25 ATEX	☐ 49313 ■ 49319	36 × 112 mm	25× 3.2 - 6.5 mm	IP66	10
KEL-DPZ-E 112 7 ATEX	☐ 49301 ■ 49306	18 × 112 mm	7× 7.5 - 12 mm	IP66	10
KEL-DPZ-E 112 21 ATEX	☐ 49302 ■ 49307	18 × 112 mm	21× 3.2 - 6.5 mm	IP66	10

## Product description

KEL-DPZ 24, KEL-DPZ-B and KEL-DPZ-E cable entry plates are designed to route and seal standard cables (from 3.2 mm to 22 mm in diameter) in limited space.

Simply push standard cables through the thin membrane and it's immediately sealed (IP65 / IP66) and strain relieved.

The assembly of the KEL-DPZ with cables or pneumatic hoses can be done within seconds. Simply put a small slit in the thin membrane and push the cable through.

## Advantages

- Assembly within seconds
- High packing density
- Dual sealing of cables according to IP65 / IP66
- Automatic seal and strain relief for the cable

## Specification

Material	Frame: Polyamide (PA) Sealing plate: Elastomer
Colour	☐ grey (similar RAL 7035) ■ black
Protection class	IP65
Flame class	UL94-Vo, self-extinguishing
Temperature	- 30°C to + 90°C (static)
Equipment group	II
Category	2G, 3G, 2D
Zone	1 + 21
Test standard	EN 60079-0
Properties	Halogen-free, silicone-free



# KEL-DPZ ATEX

## Cable entry plates, round



Membrane on front



Conical shape on back provides additional sealing and strain relief

### Product description

KEL-DPZ round entry plates are designed to route and seal standard cables (from 3.2 mm to 22 mm in diameter) in limited space. The assembly of the KEL-DPZ with cables or pneumatic hoses can be done within seconds. Simply push standard cables through the thin membrane and it's immediately sealed (IP68) and strain relieved.

The round versions of the KEL-DPZ series have a thread to fit in metric cut-outs from M32 to M63. Thus cut-outs for standard metric cable glands can be used.

### Advantages

- Assembly within seconds
- High packing density
- Dual sealing of cables according IP68
- Automatic seal and strain relief for the cable
- Suitable for standard or metric cut-outs
- Polyamide locknuts are included in the shipment

### Specification

Material	Thread frame: Polyamide (PA) Sealing plate: Elastomer
Colour	■ grey (similar RAL 7035) ■ black
Flame class	UL94-Vo, self-extinguishing
Protection class	IP68 (certified according to DIN EN 60529:2000-09)
Temperature	- 30°C to + 90°C (static)
Equipment group	II
Category	2G, 3G, 2D
Zone	1 + 21
Test standard	EN 60079-0
Properties	Halogen-free, silicone-free
Thread length	14 mm
Exceeds cut-out	8 mm

Type	Order No.	Number of cables	Thread metric	External diameter DA	PU
KEL-DPZ 32 4 ATEX	■ 49420 ■ 49440	3× 3.2 - 6.5 mm 1× 7.2 - 12.5 mm	M 32	44 mm	10
KEL-DPZ 32 4-2 ATEX	■ 49421 ■ 49441	4× 5.0 - 9.5 mm	M 32	44 mm	10
KEL-DPZ 32 7 ATEX	■ 49422 ■ 49442	7× 3.2 - 6.5 mm	M 32	44 mm	10
KEL-DPZ 40 8 ATEX	■ 49423 ■ 49443	4× 3.2 - 6.5 mm 4× 5.0 - 10.2 mm	M 40	52 mm	10
KEL-DPZ 50 8 ATEX	■ 49424 ■ 49444	5× 5.0 - 10.2 mm 3× 7.2 - 12.5 mm	M 50	62 mm	10
KEL-DPZ 50 10 ATEX	■ 49425 ■ 49445	7× 3.2 - 6.5 mm 2× 5.0 - 10.2 mm 1× 16.0 - 22.2 mm	M 50	62 mm	10
KEL-DPZ 50 12 ATEX	■ 49426 ■ 49446	4× 3.2 - 6.5 mm 8× 5.0 - 10.2 mm	M 50	62 mm	10
KEL-DPZ 50 19 ATEX	■ 49428 ■ 49448	19× 3.2 - 6.5 mm	M 50	62 mm	10
KEL-DPZ 50 78 ATEX	■ 49427 ■ 49447	76× 1.5 - 2.6 mm 2× 2.5 - 5.0 mm	M 50	62 mm	10
KEL-DPZ 63 9 ATEX	■ 49429 ■ 49449	1× 3.2 - 6.5 mm 3× 5.0 - 10.2 mm 4× 9.0 - 16.2 mm 1× 16.0 - 22.2 mm	M 63	75 mm	10
KEL-DPZ 63 13 ATEX	■ 49430 ■ 49450	4× 3.2 - 6.5 mm 4× 5.0 - 10.2 mm 5× 9.0 - 16.2 mm	M 63	75 mm	10
KEL-DPZ 63 35 ATEX	■ 49431 ■ 49451	35× 3.2 - 6.5 mm	M 63	75 mm	10



# KEL-DPF ATEX

## Cable entry inserts



Type	Order No.	Thread metric	Clamping range	External dimension	PU
KEL-DPF 25 3-17 ATEX	<input type="checkbox"/> 49401 <input checked="" type="checkbox"/> 49410	M 25	3 - 17 mm	39 mm	5
KEL-DPF 32 6-24 ATEX	<input type="checkbox"/> 49402 <input checked="" type="checkbox"/> 49411	M 32	6 - 24 mm	46 mm	5
KEL-DPF 40 11-32 ATEX	<input type="checkbox"/> 49403 <input checked="" type="checkbox"/> 49412	M 40	11 - 32 mm	54 mm	5
KEL-DPF 50 17-42 ATEX	<input type="checkbox"/> 49404 <input checked="" type="checkbox"/> 49413	M 50	17 - 42 mm	64 mm	5
KEL-DPF 63 23-55 ATEX	<input type="checkbox"/> 49405 <input checked="" type="checkbox"/> 49414	M 63	23 - 55 mm	77 mm	5

### Product description

The KEL-DPF was developed particularly for routing large or unknown size of service cables into the switch cabinet. Due to the flexibility and unique pyramid shape, cable entry and flexible positioning is much easier compared to using conventional cable glands.

- Cutting of DPF inserts:
- Cable diameter less 25%
  - The corresponding diameters are marked on the insert

### Advantages

- Assembly within seconds
- It is possible to install rigid cables at angles
- Suitable for standard or metric cut-outs
- Polyamide locknuts are included in the shipment

### Specification

Material	Thread frame: Polyamide (PA) Pyramid: Elastomer
Colour	<input type="checkbox"/> grey (similar RAL 7035) <input checked="" type="checkbox"/> black
Flame class	UL94-Vo, self-extinguishing
Protection class	IP68 (certified according to DIN EN 60529:2000-09)
Temperature	- 30°C to + 90°C (static)
Equipment group	II
Category	2G, 3G, 2D
Zone	1 + 21
Test standard	EN 60079-0
Properties	Halogen-free, silicone-free
Thread length	14 mm