

Design and Manufacture of inductive components and ferrites for



industrial electronics



automotive electronics



lighting technology



consumer goods industry

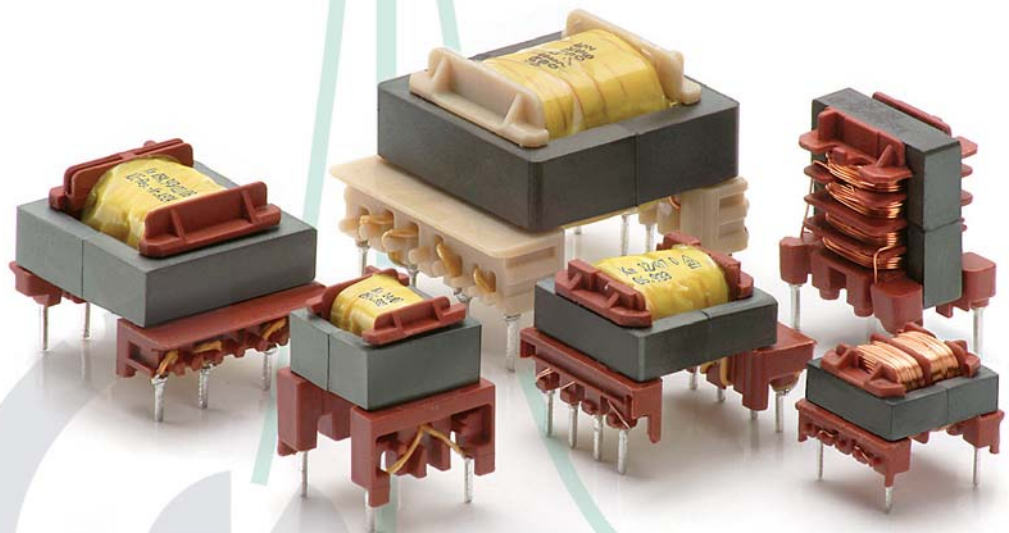


telecommunications/  
entertainment electronics



Kaschke Components  
GmbH

## Safety insulation transformers for **SmartPower** controller family



**We provide solutions**



# Kaschke SMPS Safety Transformers

## SmarterPower Supply Design

*“The concept of SmartPower is a challenge to the conventional solution of custom transformers by producing standard windings on a variety of power platforms.”*

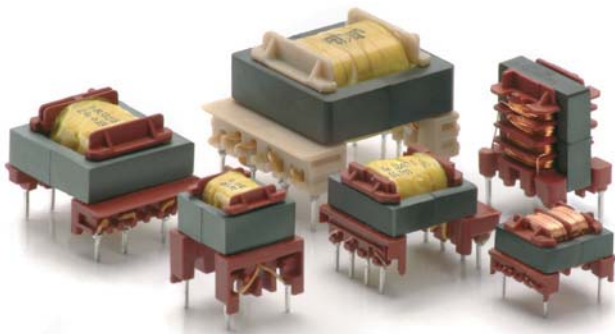
Josef Postert  
Head of Sales Kaschke Components GmbH

### Kaschke Plug & Play

With over 50 years of market experience we lead the way in the development of standard transformer solutions for SMPS control IC's. All of our designs meet the necessary safety and performance criteria listed below and are in active production fulfilling many applications.

**Safety Standards**

- EN 60065
- EN 60950
- EN 60335
- EN 61558
- EN 60938-2



### Important notes for any design

#### Safety

Having the correct and safe construction of an isolating transformer is vital. The transformer provides the main safety isolation barrier between lethal voltage and the end user. If you look at most EN safety standards they go into great detail on the specification of wound components. The qualification and design of safety rated parts are often difficult and time consuming.

**We provide solutions ✓**

#### Performance

With the integration of more control circuitry into the switching IC the most complex part of PSU design is often the transformer rather than the surrounding components. A poorly designed transformer will produce an inefficient and low performing power supply even with the best switching technology.

**We provide solutions ✓**

#### Reliability

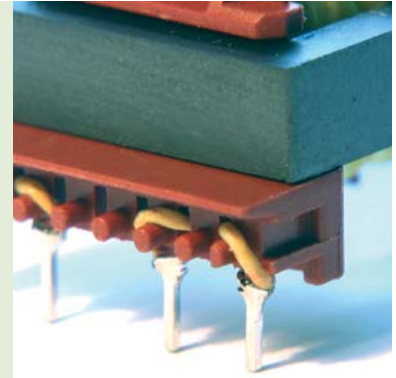
Repeatability is the critical component in all PSU designs. Variations in tolerance or quality can lead to expensive over design and field failure. The larger the production volume the larger the problem.

**We provide solutions ✓**

# We provide solutions

## Safety

- Integrated Safety Margin
- 3.75kV Primary to Secondary Isolation as Standard
- All parts use UL listed Materials
- Complies with EN Safety Standards



## Performance

- Kaschke Power Ferrite K2006 – Low Loss Material
- Optimized For Low Leakage Inductance
- Optimized For Low Inter-winding capacitance
- Shield Windings – Improved EMC performance



## Reliability

- Designed for manufacture
- 100 % Test
- Triple Insulated Wire On All Parts
- Fully Automated Production Process



## Simple To Design With

The parts that are listed, are our 'Standard Range', which we define as popular lines with multiple customers. This 'Standard Range' is continuously updated to keep up with the latest development in power supply silicon. Samples are available to customers free of charge, our default quantity is 2 pieces of any device. You can either contact the Kaschke UK office directly or complete the online enquiry form, we then despatch the same day.

- Free samples
- 50 piece pack sizes for prototyping
- Off-the-shelf stock
- Local distributor

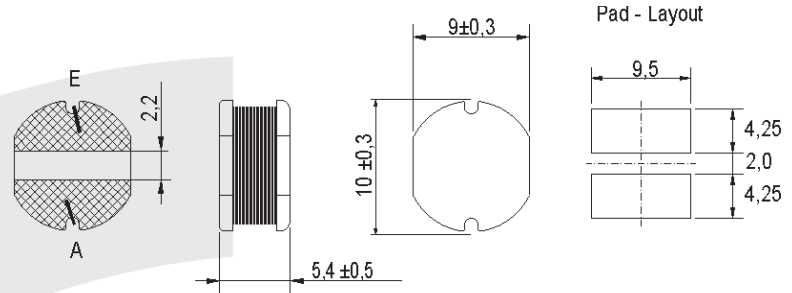


# Inductor Non Isolated AC-DC 0.2W–4W / Inductors For Use With LNK TN

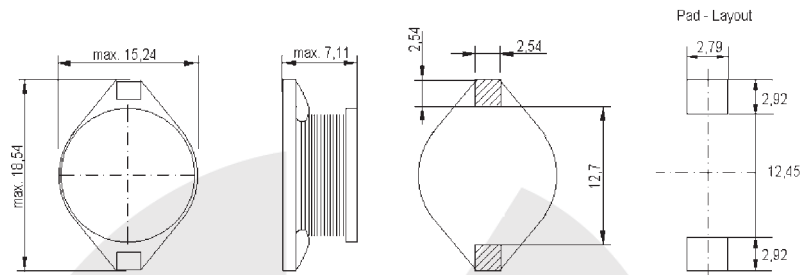
Power**	VIN	Output	Inductance	IC	Platform	Part Number
4 W	85-265 VAC	5-15V / 240mA	1 mH	LNK 302/4/5/6	SMD 10x9	167167
4 W	85-265 VAC	5-15V / 300mA	2.2 mH	LNK 302/4/5/6	SMD 10x9	167171
4 W	85-265 VAC	5-15V / 500mA	2.2 mH	LNK 302/4/5/6	SMD 18x15	167193
4 W	85-265 VAC	5-15V / 380mA	0.68 mH	LNK 302/4/5/6	8 mm Drum	036.423
4 W	85-265 VAC	5-15V / 290mA	1 mH	LNK 302/4/5/6	8 mm Drum	036.425
4 W	85-265 VAC	5-15V / 280mA	1.2 mH	LNK 302/4/5/6	8 mm Drum	036.426
4 W	85-265 VAC	5-15V / 150mA	1.5 mH	LNK 302/4/5/6	8 mm Drum	036.427

For further technical datas, please visit [www.kaschke-smartpower.com](http://www.kaschke-smartpower.com)

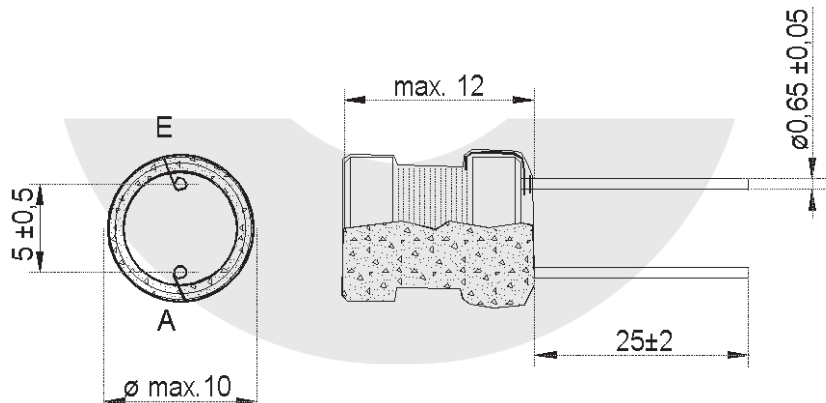
## SMD 10x9



## SMD 18x15



## 8 mm Drum 036.4xx & 036.2xx

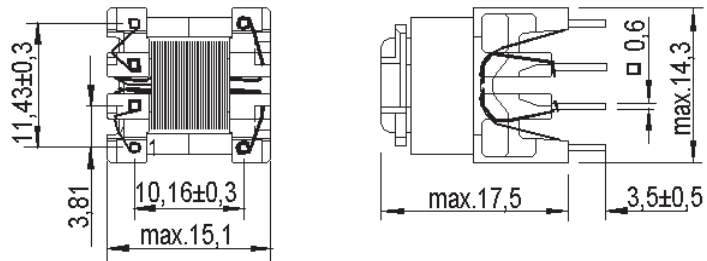


## Transformers AC-DC 0.5W–5W / For Use With LNK 520 & LNK XT & LNK LP

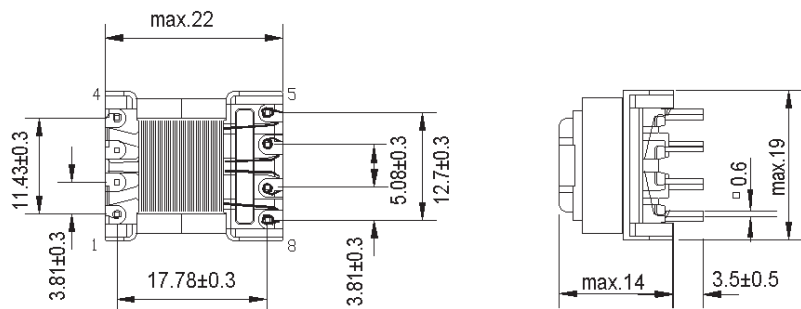
Power**	VIN	Output	Creepage	IC	Platform	Part Number
4 W	85-265 VAC	3-4V / 1A	≤ 6 mm	LNK 500/1	E13/6	096.901
4 W	85-265 VAC	5-6V / 0.75A	≤ 6 mm	LNK 500/1	E13/6	096.902
4 W	85-265 VAC	11-12V / 0.3A	≤ 6 mm	LNK 500/1	E13/6	096.903
4 W	85-265 VAC	14-15V / 0.2A	≤ 6 mm	LNK 500/1	E13/6	096.904
4 W	85-265 VAC	24V / 0.15A	≤ 6 mm	LNK 500/1	E13/6	096.905
4 W	85-265 VAC	12V/0.3A; 24V/0.15A	≤ 6 mm	LNK 500/1	E13/6	096.906*
4 W	85-265 VAC	3-4V / 1A	≤ 8 mm	LNK 500/1	E16/5	093.901
4 W	85-265 VAC	5-6V / 0.75A	≤ 8 mm	LNK 500/1	E16/5	093.902
4 W	85-265 VAC	10-12V / 0.3A	≤ 8 mm	LNK 500/1	E16/5	093.903
4 W	85-265 VAC	14-15V / 0.2A	≤ 8 mm	LNK 500/1	E16/5	093.904
4 W	85-265 VAC	5-6V / 0.75A	≤ 6 mm	LNK 520	E13/6	096.950
3 W	85-265 VAC	5-6V / 0.75A	Potted	LNK 520	E13/4	071.522
4 W	85-265 VAC	10-12V / 0.3A	≤ 6 mm	LNK 520	E13/6	096.951
3 W	85-265 VAC	24V / 0.125A	≤ 6 mm	LNK 520	E13/6	096.952
3 W	85-265 VAC	5-7V / 0.75A	≤ 6 mm	LNK 562/3/4	E13/6	096.970
3 W	85-265 VAC	12-14V / 0.2A	≤ 6 mm	LNK 562/3/4	E13/6	096.971
2.8 W	85-265 VAC	5-7V / 0.75A	≤ 6 mm	LNK 362	E13/6	096.840
2.8 W	85-265 VAC	10-12V / 0.3A	≤ 6 mm	LNK 363	E13/6	096.841
2.8 W	85-265 VAC	13.7V / 0.3A	≤ 6 mm	LNK 363	E13/6	096.842
2.8 W	85-265 VAC	15-18V / 0.15A	≤ 6 mm	LNK 363	E13/6	096.843
4.5 W	85-265 VAC	5-7V / 0.4A	≤ 6 mm	LNK 363	E13/6	096.940
4.5 W	85-265 VAC	9-12V / 0.7A	≤ 6 mm	LNK 363	E13/6	096.941
4.5 W	85-265 VAC	13.7V / 0.7A	≤ 6 mm	LNK 363	E13/6	096.942
4.5 W	85-265 VAC	15-18V / 0.25A	≤ 6 mm	LNK 363	E13/6	096.943
6 W	85-265 VAC	5-7V / 0.4A	≤ 8 mm	LNK 364	E16/5	093.940
6 W	85-265 VAC	9-12V / 0.7A	≤ 8 mm	LNK 364	E16/5	093.941
6 W	85-265 VAC	13.7V / 0.7A	≤ 8 mm	LNK 364	E16/5	093.942
6 W	85-265 VAC	15-18V / 0.33A	≤ 8 mm	LNK 364	E16/5	093.943

For further technical datas, please visit [www.kaschke-smartpower.com](http://www.kaschke-smartpower.com)

E13/6



E16/5



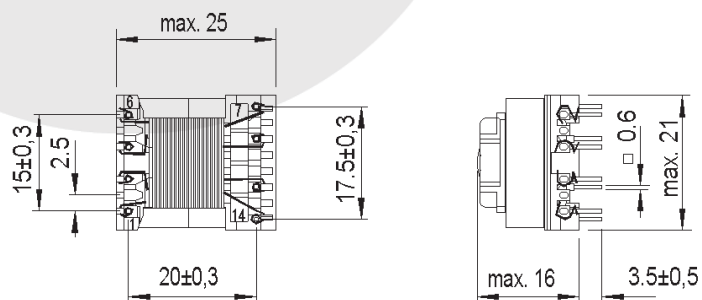
## Transformers AC-DC 3W–28W / For Use With TNYII & TNYIII

	Power**	VIN	Output 1	Output 2	Creepage	IC	Platform	Part Number
VDE	1.5 W	85-265 VAC	6V / 0.1A	6V / 0.1A	≤ 8 mm	TNY 263	E16/5	063.928*
	3 W	85-265 VAC	12V / 0.25A		≤ 6 mm	TNY 263	E13/6	096.931
	3 W	85-265 VAC	24V / 0.125A		≤ 6 mm	TNY 263	E13/6	096.932
VDE	3 W	85-265 VAC	6V / 0.25A	6V / 0.25A	≤ 8 mm	TNY 263/4	E16/5	063.929*
	3 W	85-265 VAC	6V / 0.5A		≤ 8 mm	TNY 263/4	E16/5	093.932
	3 W	85-265 VAC	15V / 0.2A		≤ 8mm	TNY 263	E16/5	093.934
	3 W	85-265 VAC	24V / 0.12A		≤ 8 mm	TNY 263/4	E16/5	093.935
	4 W	195-265 VAC	5V-6V / 0.6A		≤ 6 mm	TNY 263/4	E13/6	096.930
	4 W	195-265 VAC	18V / 0.3A		≤ 6 mm	TNY 263/4	E13/6	096.929
	4 W	195-265 VAC	15V / 0.13A	24V / 0.1A	≤ 6 mm	TNY263/4	E13/6	096.928
VDE	6 W	85-265 VAC	12V / 0.25A	12V / 0.25A	≤ 8 mm	TNY 263/4	E16/5	063.930*
VDE	6 W	85-265 VAC	6V / 0.5A	6V / 0.25A	≤ 8 mm	TNY 265/ 6/274	E16/5	063.931*
VDE	6 W	85-265 VAC	12V / 0.25A	12V / 0.25A	≤ 8 mm	TNY 265/ 6/274	E16/5	063.932*
	8 W	85-265 VAC	5-7V / 0.6A	5-7V / 0.6A	≤ 8 mm	TNY 276	E16/5	093.830*
	8 W	85-265 VAC	8-12V / 0.4A	8-12V / 0.8A	≤ 8 mm	TNY 275/6/7	E16/5	093.831*
	8 W	85-265 VAC	12-15V / 0.6A		≤ 8 mm	TNY 275/6/7	E16/5	093.832*
	8 W	85-265 VAC	28V / 0.28A		≤ 8 mm	TNY 275/6/7	E16/5	093.833*
VDE	9 W	85-265 VAC	6V / 0.75A	6V / 0.75A	≤ 8 mm	TNY 267/ 277	E16/5	063.933*
VDE	9 W	85-265 VAC	12V / 0.36A	12V / 0.36A	≤ 8 mm	TNY 267/ 277	E16/5	063.934*
	9 W	85-265 VAC	12V / 0.4A	5V / 0.9A	≤ 8 mm	TNY 267/ 277	E16/5	093.203
	14 W	85-265 VAC	5V / 0.8A	24V / 0.4A	≤ 8 mm	TNY 267/ 277	E20/6	094.944
VDE	18 W	195-265 VAC	6V / 1,5A	6V / 1,5A	≤ 8 mm	TNY 268/ 278	E20/6	094.940*
VDE	18 W	195-265 VAC	12V / 0.75A	12V / 0.75A	≤ 8 mm	TNY 268/ 278	E20/6	094.941*
VDE	18 W	195-265VAC	24V / 0.5A	6V / 1A	≤ 8 mm	TNY 268/ 278	E20/6	094.942
VDE	18 W	195-265 VAC	18V / 0,5A	18V / 0,5A	≤ 8 mm	TNY 268/ 278	E20/6	094.943*
	28 W	85-265 VAC	6V / 2.1A	6V / 2.1A	≤ 8 mm	TNY 280	E25/7	095.930*
	28 W	85-265 VAC	13.8V / 1A	13.8V / 1A	≤ 8 mm	TNY 280	E25/7	095.931

For further technical datas, please visit [www.kaschke-smartpower.com](http://www.kaschke-smartpower.com)

Please note all outputs can be regulated to +/- 10%

E20/6



Drawings E13/6 & E16/5 please see page 5.

## Transformers AC-DC 20W–100W / For Use With Topswitch

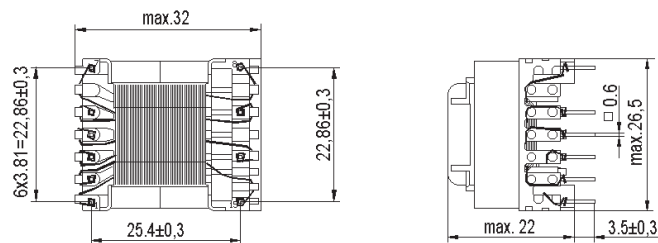
VDE  
VDE  
VDE

Power**	VIN	Output 1	Output 2	Creepage	Platform	IC	Part Number
22 W	85-265 VAC	5V / 0,25A	12V / 1,2A	≤ 8 mm	EF20/6	TOP 242/3	094.932
22 W	85-265 VAC	5-6V / 3,6A	12V / 1,8A	≤ 8 mm	EF20/6	TOP 242/3	094.931
22 W	85-265 VAC	5V / 0,8A	24V / 0,8A	≤ 8 mm	EF20/6	TOP 242/3	094.930
22 W	85-265 VAC	12V / 0,9A	12V / 0,9A	≤ 8 mm	EF20/6	TOP 242/3	094.929*
38 W	85-265 VAC	14-15V / 1,3A	14-15V / 1,3A	≤ 8 mm	E25/7	TOP 244	095.952*
34 W	85-265 VAC	24V / 1,0A	5V / 2,5A	≤ 8 mm	E25/7	TOP 244	095.953
34 W	85-265 VAC	5V / 2,5A	12V / 1,8A	≤ 8 mm	E25/7	TOP 244	095.954
45 W	85-265 VAC	30V / 0,75A	30V / 0,75A	≤ 8 mm	E25/7	TOP 245	095.951*
45 W	85-265 VAC	12V / 1,9A	12V / 1,9A	≤ 8 mm	E25/7	TOP 245	095.956*
50 W	85-265 VAC	5V / 2,5A	24V / 1,5A	≤ 6 mm	E30/7	TOP 246	066.930
48 W	85-265 VAC	13,8V / 3,5A		≤ 6 mm	E30/7	TOP 245	066.932
68 W	85-265 VAC	13-15V / 4,5A		≤ 8 mm	E36/11	TOP 247	067.043
56 W	195-265 VAC	28V / 2A		≤ 6 mm	E30/7	TOP 247	066.931
96 W	195-265 VAC	27-30V / 1,6A	27-30V/1,6A	≤ 8 mm	E36/11	TOP 247	067.039
96 W	195-265 VAC	24V / 4A		≤ 8 mm	E36/11	TOP 247	067.050

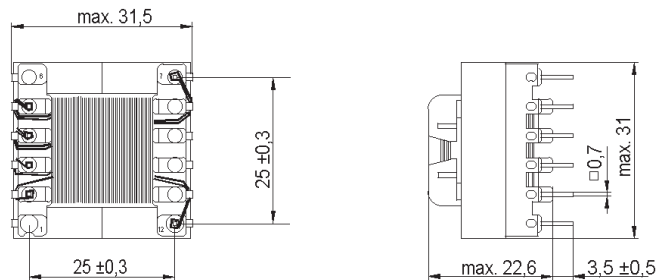
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Please note all outputs can be regulated to +/- 10%

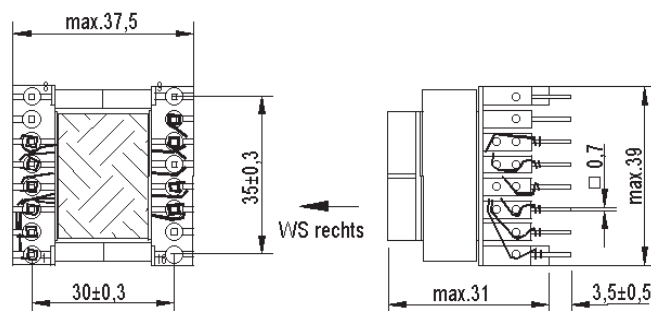
### E25/7



### E30/7



### E36/11



\*Note:

Multiple outputs can be connected in series or in parallel as long as the maximum power of the transformer is not exceeded. Please see web site or data sheets for possible configurations.

\*\*Note:

The "Power" shown is the nominal power of the supply. It may vary depending on the design of the circuit.

## Filters Common Mode & Differential / For Use With LNK/ TNY/ Topswitch

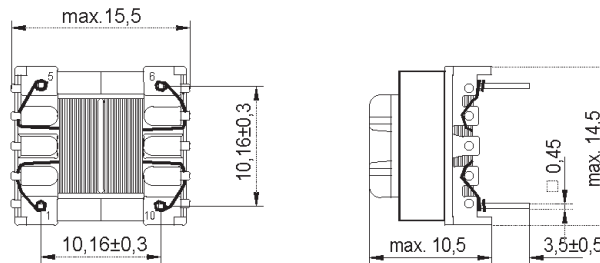
VDE  
VDE  
VDE

I rms	Values	VIN	Filter Type	Platform	Part Number
0.8 A	22 mH	85-265 VAC	Common Mode	E20-CM	094.916
0.6 A	15 mH	85-265 VAC	Common Mode	E16-CM	093.259
0.5 A	27 mH	85-265 VAC	Common Mode	E16-CM	093.267
0.4 A	39 mH	85-265 VAC	Common Mode	E16-CM	093.551
0.28 A	22 mH	85-265 VAC	Common Mode	E13/4-CM	071.923
0.26 A	27 mH	85-265 VAC	Common Mode	E13/4-CM	071.924
0.24 A	33 mH	85-265 VAC	Common Mode	E13/4-CM	071.925
0.8 A	330 uH	85-265 VAC	Differential	8 mm Drum	036.619
1 A	220 uH	85-265 VAC	Differential	8 mm Drum	036.617
1.7 A	100 uH	85-265 VAC	Differential	8 mm Drum	036.613
5.6 A	10 uH	0-60 V DC	Output	8 mm Drum	036.601
7.0 A	4.7 uH	0-60 V DC	Output	10 mm Drum	034.151
4 A	3.3 uH	0-60 V DC	Output	8 mm Drum	036.242*
3.4 A	4.7 uH	0-60 V DC	Output	8 mm Drum	036.238*
3.3 A	6.8 uH	0-60 V DC	Output	8 mm Drum	036.230*
3.2 A	10 uH	0-60 V DC	Output	8 mm Drum	036.401*

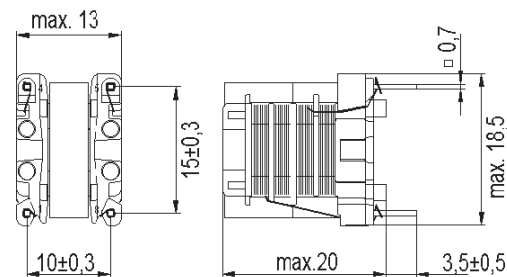
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\*Drawings please see page 4.

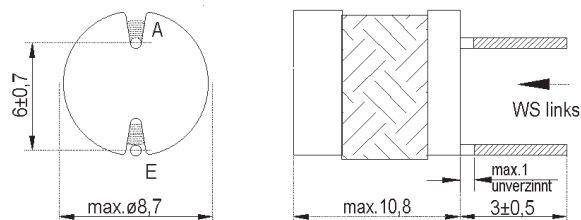
### E13/4-CM



### E16/5-CM



### 8 mm Drum 03



All information given without liability. If you require further information about our products, do not hesitate to contact our representatives, or visit our homepage, [www.kaschke.de](http://www.kaschke.de).

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