HAHN

# Content


**Interesting news about HAHN**

**EuP Series**

EuP-Eco Design solutions
- Frame size EI 30
- Switch-Mode-Power-Supply of HS series

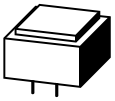
**BV 20 Series**

- Printed-Circuit-Board transformers frame size EE 20 (0.35 VA – 0.5 VA)

**EI 30 Series**

- Printed-Circuit-Board transformers frame size EI 30 (0.5 VA – 3.6 VA)
- Flat-type Printed-Circuit-Board transformers with small base areas

**EI Series**

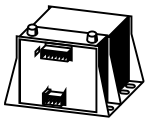


- Printed-Circuit-Board transformers frame size EI 38 – EI 96 (4.5 VA – 200 VA)

**UI Series**

- Printed-Circuit-Board Flat-type transformers frame size UI 21 – UI 48 (1.0 VA – 60 VA)

**RAST 5 Series**

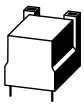


- Transformers with RAST 5 connecting technology frame size EI 48 – EI 84 (10.0 VA – 120 VA)

**Flyback converter/ SMPS-Converter**

- Flyback converters frame size EF 16/5 – 8 mm creeping distance
- Individual version 8 mm creeping distance
- Flyback converters frame size EF 20/5 – 4 mm creeping distance
- Individual version 4 mm creeping distance

**Ignition transformers**



- Ignition transformers
- Electronic ignition devices

**Coil program**

- Extensive range of customer-specific coils

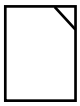
**Special solutions**

- Electrical Power Supply Facilities / Supply units
- Transformers Top-Hat-Rail Fixtures EI 48 – EI 78
- Transformers in open version, vacuum impregnated version
- Customer-specific winding goods / Fine-wire-coils

**HAHN worldwide**

- Your partner in charge in Germany
- HAHN's Distributors
- Your partner in charge abroad

**Appendix**

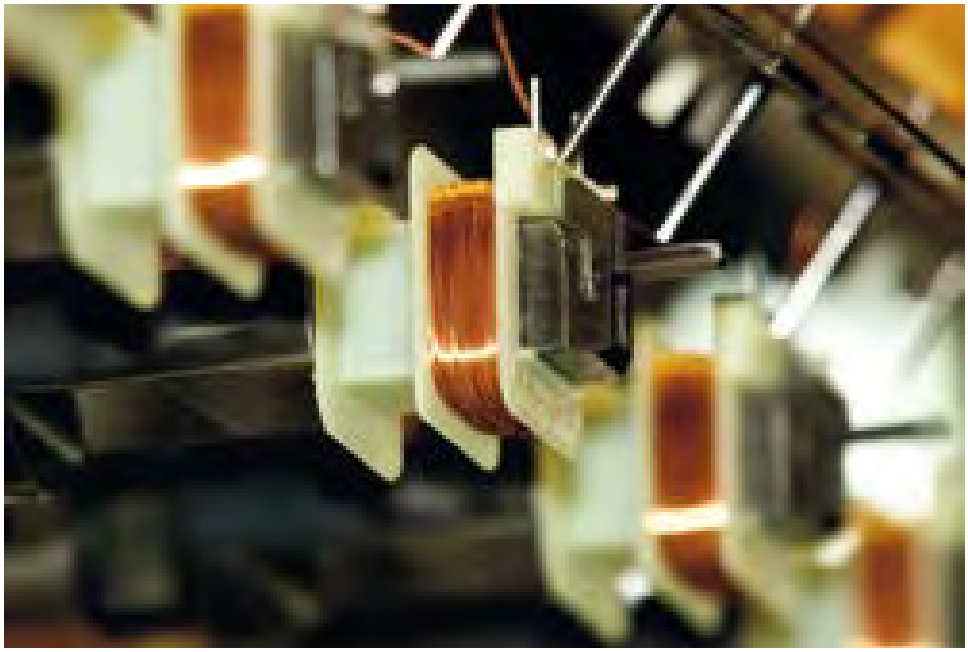


- Inquiry

**News**

# Content

**Interesting news about HAHN**



# HAHN Quality – Performance that builds trust.

## HAHN-History

This has been the corporate philosophy of the HAHN company since its foundation in 1949. Right from the start, it was the maxim of HAHN to supply products of high quality and to base all efforts on customer-requirements and satisfaction. Corporate growth has been achieved to a dynamic and reliable extent. The ongoing expansion of the manufacturing facilities furthered the improvement in quality and HAHN was able to invest in new products. Today, HAHN employs a workforce of approaching 500, which serve an international clientele in various industrial sectors. HAHN's principal aim is to continue to supply quality products and to provide reliable customer service and thus contribute to the success of its customers.

**1949**
- Founded on April 21st, the company was registered as an armature winding works, repair shop for electric motors, generators, electrical installations and the sale of domestic electrical appliances

**1969**
- September – commencement of small size transformer production in the storage space of the newly renovated electrical installation shop

**1971**
- Construction of the first new hall building of 700 square meters floor space

**1981**
- Opening of new production and warehouse hall of 1,600 total square meters floor space

**1985**
- Extension of the production floor space by some 600 square meters

**1990**
- Extension of the storage space by some 500 square meters

**1994**
- Removal of the final inspection and quality control facility and the standard transformer inventory into a new hall building of some 1,000 square meter floor space

**1995**
- A new raw materials' and semi-finished products' warehouse was constructed with a floor area of some 600 square meters

**1996**
- Award of the DIN EN ISO 9001:1994 certification
- New warehouse and goods' consignment facility was constructed with a floor space of some 600 square meters

**1998**
- Commissioning of the new manufacturing facility in Güsten
- Extension of the trading floor space by some 20,000 square meters
- Production capacity was extended by 20%
- A new reception area was opened

**2002**
- Award of the DIN EN ISO 9001:2000 certification for the locations at Hungen and Güsten in Germany

**2003**
- Approval/Authorization of an UL-Electro-Isolation-System class F (HAHN 155-1)
- Disposable and reusable packagings are given the designation 'Blue Angel'

**2004**
- A third manufacturing facility has been set up in the Ukraine

**2005**
- Starting production in our new manufacturing facility in Ukraine

**2008**
- Award of the DIN EN ISO 9001:2008 certification for the location at Hungen, Güsten and Ukraine
- Approval/Authorization of an UL-Electro-Isolation-System class B (HAHN 130-1)

**2009/2010**
- Hungen works – Site expansion with warehouse building transformed into high-bay warehouse, extended staff car park
- Güsten works – Further investments in automation
- Ukraine works – Continuous increase in production capacity

**2011/2012**
- Structure and beginning of production for ignition transformers at plant Güsten
- Approval/Authorization of 2nd UL-Electro-Isolation-System class F (HAHN 155-2)
- Update of the approvals according to DIN EN 61558-1/2005 and DIN EN 61558-2-6/2009 for all HAHN-Series-Products
- Continuous increase in production capacity

# HAHN Locations

**The parent company in Hungen, Germany**
All the business decisions of HAHN are taken here, just only half an hour away by car from Frankfurt's International Airport; in terms of a qualitative and consumer-oriented corporate cultural philosophy. New, user-friendly products are developed here. Progressive production technology for highest process quality and economically high volume is located here. All employees are trained to satisfy customer requirements all over the world.

**Production in Güsten, Saxony-Anhalt, Germany**
The rising demand for HAHN products in Eastern European countries made it necessary to transfer partial production into a region near the border in order to reduce logistical costs.

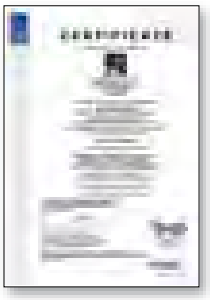
**3rd Production Plant in Novovolynsk (Ukraine)**
With foundation of the 3rd plant in Eastern Europe, HAHN removed the manual production from plant Hungen and Güsten to Novovolynsk. Custom-made and wage-intensive products made this step necessary to be as one of the leading transformer producer further more competitive on the constantly growing market.

Hungen/Hesse

Güsten/Saxony-Anhalt

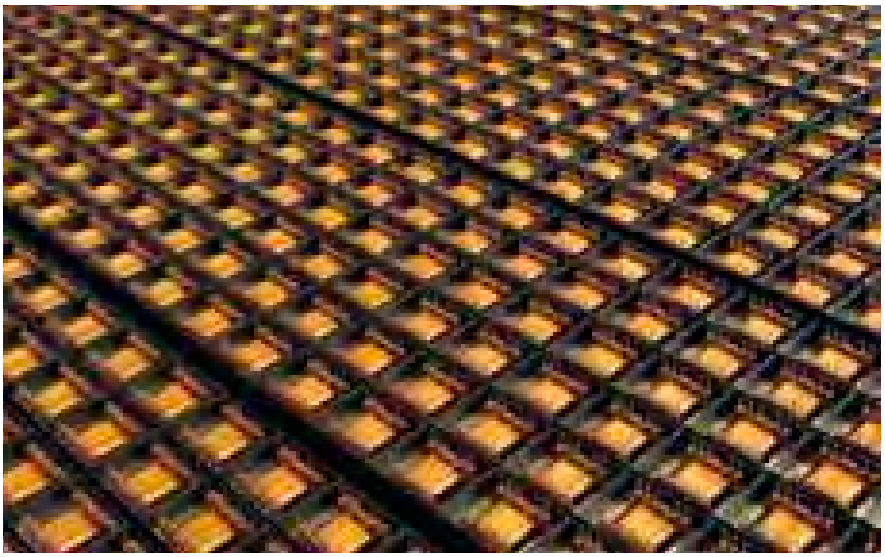
Novovolynsk (Ukraine)

# HAHN Electronic Component Parts

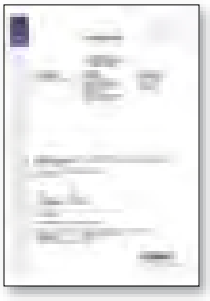


Quality awareness, product liability legislation and the growing demands of worldwide markets today make it necessary for equipment and appliance manufacturers to pass on these stringent requirements to their subcontractors and suppliers to ensure, that no component or assembly can become a critical weak spot. HAHN successfully meets these requirements. All products leaving the HAHN works have been manufactured of high grade, quality-controlled raw materials or semi-manufactures on the most modern production equipment. A quality management system meeting **DIN EN ISO 9001:2008** German and European standards provides the means for ensuring such high quality.

HAHN permanently maintains a large stock inventory of all items and sizes. Customers can take advantage of this service as required, by means of placing call orders – no matter what item of size is required – the comprehensive range from capacities 0.35 VA to 200.0 VA is always available. A detailed overview can be found on the following pages of this catalog.



HAHN has its own laboratory with TDAP the qualification for all the prerequisites, to carry out tests for VDE-marks, an expert's report or for certificates in an international procedure together with VDE-experts to carry out.

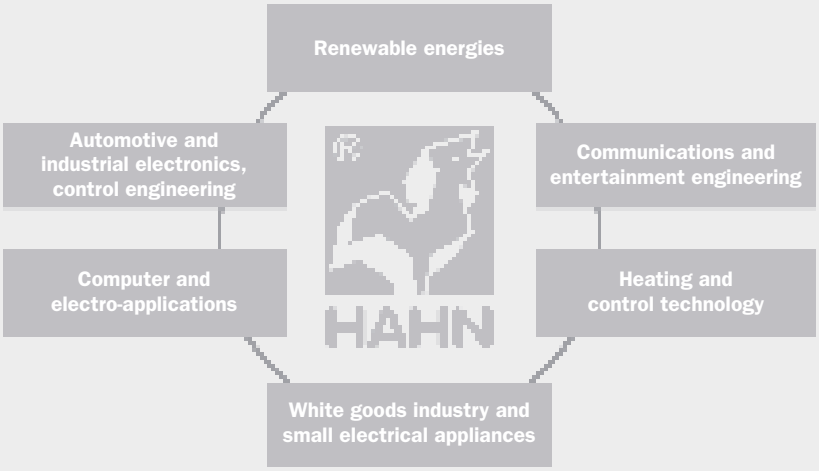


# More electrical safety and long service life for consumers' appliances

- Chokes
- Coils, custom-made coils
- Control transformers
- Current- and voltage converters
- Flat-type transformers
- Inductive assembly components
- Isolating transformers
- Mains transformers
- Printed circuit-board transformers
- Safety transformers
- Single-phase transformers
- Small size transformers
- SMPS-transformers
- Special transformers
- Three-phase transformers
- Ignition transformers and electronic ignition devices

All HAHN transformers carry a test certificate, so that customers obtain an assurance of maximum electrical safety and long service-life for their equipment and appliances. HAHN invites new customers and other interested parties to place their reliance on its quality products and services.

**Highest quality and customer-orientated services in all industries**



# Quality and economy in the production process

HAHN products are characterized by their performance and reliability. Ongoing in-house quality control management ensures uncompromising raw material selection and the highest standards of production with the corporate aim of achieving reliability and an optimum of economy and efficiency for customers.

To ensure the competitiveness of its products, HAHN attaches great importance to automation in production. Modern technology with automatic assembly lines, integrated quality control devices, transfer systems and ‘intelligent’ production equipment are the prerequisites for highly rationalised and flexible manufacturing facilities. This minimizes costs and positively influences the marketability of its products. All the corporate-related decisions of HAHN are thus taken from an economic and ecological viewpoint. HAHN already exceeds such requirements by implementing numerous appropriate measures of such a nature. For example, all works-internal movements are carried out with electric vehicles and in the areas of production and distribution, HAHN employs reusable packaging.

# All according to customer requirements

## Packed and consigned

In order to meet the requirements of any specific trade and industry, HAHN can provide practically any desired problem solution in the areas of packing and distribution. No matter whether customers require cases, cartons, polystyrene or plastic packagings – whether ‘just-in-time’ delivery, special forwarding services or self collection – HAHN can always provide customers with the right problem solution. The examples mentioned above meet current standards, whereby the new designed plastic tubes is worthy of special mention. The transformers can thus be extracted from a ‘magazine’ and inserted directly into customers’ production. ESD-conform packaging is contemporary and has come to stay on the European market. HAHN will, of course re-accept packagings returned in a usable condition. These can be cleaned and used again for further consignments to customers.

# Content

**EuP Series**

EuP ready!

EuP-Eco Design solutions
- Frame size EI 30
- Switch-Mode-Power-Supply of HS series

# Printed-Circuit-Board transformers

Output Power: 1.3 VA – 2.8 VA

**EI 30 EuP**

| | | | |
|---|---|---|---|
| 10 | DIN EN 61558-2-6 | VDE | 115801/124257 |
| VDE-Mark for Glow-Wire-Test | DIN EN 60 335-1 | VDE | 102961/84814 |
| | UL 5085-3 | UL | E177280 |
| | UL 5085-1 | UL | E98173 |
| | C22.2 | CSA | 99204 |

- according to REACH regulation
- according to RoHs regulation
- according to ErP regulation

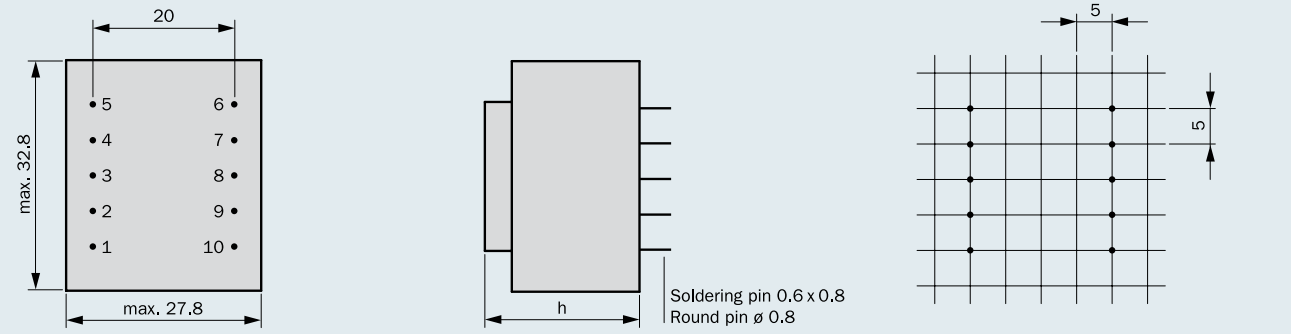
**EBPG EuP**

We have expanded our program for you in the course of EuP (Energy using Products).

The **EuP Serie 2013** of **HAHN** is perfect for applications of the electric power supply in electrical and electronic household and office equipment with “stand by” and “off” conditions. Already today where a reduced **power consumption** of $P_0 < 0,4$ W is required, the **EuP Serie 2013** of **HAHN** will be a solution.

- Primary voltages up to 250 V
- Secondary voltages 2 V to max. 38 V or 2x2 V to max. 2x19 V
- Output Power up to 2.8 VA
- Short-circuit-proof
- Temperature class ta 70 °C/F
- Vacuum-encapsulated, bobbin with dual chamber windings
- Per item tested quality with certificate
- Excellent temperature fluctuation resistance properties
- Self-extinguishing cast housing and sealing material
- Minimal size available

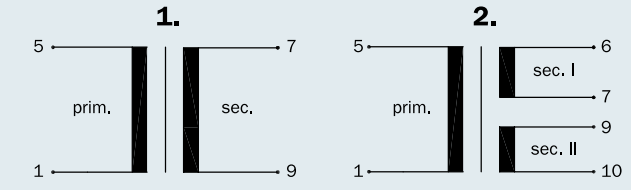
**Connecting pins**




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

**Connection scheme** (only connected pins are present)




2.) double voltage – bridge: 7 + 9, double current – bridge: 6 + 9/7 + 10

| Frame size/Core height | Output Power ta 70 °C/F | Size (h) | Weight | Packaging unit |
|---|---|---|---|---|
| BV EI 307 8... /11.5 mm | 1.3 VA | 22.1 mm | 0.076 kg | 50 pieces |
| BV EI 303 8... /12.5 mm | 1.5 VA | 23.8 mm | 0.081 kg | 50 pieces |
| BV EI 304 8... /15.5 mm | 2.1 VA | 26.8 mm | 0.099 kg | 50 pieces |
| BV EI 305 8... /18.0 mm | 2.3 VA | 29.5 mm | 0.111 kg | 50 pieces |
| BV EI 306 8... /23.0 mm | 2.8 VA | 34.0 mm | 0.135 kg | 50/40 pieces* |

* it depends on kind of packaging

# Printed-Circuit-Board transformers

Output Power: up to 2.8 VA

**EI 30 EuP**

## 1.3 VA ta 70 °C/F

Frame size/Core height
**BV EI 307 .... / 11.5 mm**

inherently short-circuit-proof

no load power loss
**< 0.4 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 307 8009 | 230 | 1–5 | 1 x 6 | 217 | 7–9 | 1 x 10.7 | 1 |
| BV EI 307 8011 | 230 | 1–5 | 1 x 9 | 144 | 7–9 | 1 x 15.7 | 1 |
| BV EI 307 8001 | 230 | 1–5 | 1 x 12 | 108 | 7–9 | 1 x 19.8 | 1 |
| BV EI 307 8002 | 230 | 1–5 | 2 x 12 | 54 | 6–7/9–10 | 2 x 19.8 | 2 |
| BV EI 307 8012 | 230 | 1–5 | 1 x 15 | 87 | 7–9 | 1 x 25.0 | 1 |

## 1.5 VA ta 70 °C/F

Frame size/Core height
**BV EI 303 .... / 12.5 mm**

inherently short-circuit-proof

no load power loss
**< 0.4 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 303 8008 | 230 | 1–5 | 1 x 9 | 167 | 7–9 | 1 x 14.0 | 1 |
| BV EI 303 8021 | 230 | 1–5 | 2 x 9 | 83 | 6–7/9–10 | 2 x 14.0 | 2 |
| BV EI 303 8023 | 230 | 1–5 | 1 x 12 | 125 | 7–9 | 1 x 18.8 | 1 |

## 2.1 VA ta 70 °C/F

Frame size/Core height
**BV EI 304 .... / 15.5 mm**

inherently short-circuit-proof

no load power loss
**< 0.4 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 304 8013 | 230 | 1–5 | 1 x 6 | 350 | 7–9 | 1 x 11.0 | 1 |
| BV EI 304 8024 | 230 | 1–5 | 1 x 7.5 | 280 | 7–9 | 1 x 13.9 | 1 |
| BV EI 304 8014 | 230 | 1–5 | 1 x 9 | 233 | 7–9 | 1 x 16.2 | 1 |
| BV EI 304 8005 | 230 | 1–5 | 1 x 12 | 175 | 7–9 | 1 x 20.5 | 1 |
| BV EI 304 8006 | 230 | 1–5 | 2 x 12 | 88 | 6–7/9–10 | 2 x 20.5 | 2 |
| BV EI 304 8015 | 230 | 1–5 | 1 x 15 | 140 | 7–9 | 1 x 27.0 | 1 |

## 2.3 VA ta 70 °C/F

Frame size/Core height
**BV EI 305 .... / 18.0 mm**

inherently short-circuit-proof

no load power loss
**< 0.4 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 305 8022 | 230 | 1–5 | 1 x 7.5 | 307 | 7–9 | 1 x 13.2 | 1 |
| BV EI 305 8019 | 230 | 1–5 | 1 x 9 | 255 | 7–9 | 1 x 16.0 | 1 |
| BV EI 305 8020 | 230 | 1–5 | 2 x 9 | 127 | 6–7/9–10 | 2 x 15.7 | 2 |

## 2.8 VA ta 70 °C/F

Frame size/Core height
**BV EI 306 .... / 23.0 mm**

inherently short-circuit-proof

no load power loss
**< 0.4 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 306 8016 | 230 | 1–5 | 1 x 6 | 467 | 7–9 | 1 x 10.5 | 1 |
| BV EI 306 8017 | 230 | 1–5 | 1 x 9 | 311 | 7–9 | 1 x 16.1 | 1 |
| BV EI 306 8003 | 230 | 1–5 | 1 x 12 | 233 | 7–9 | 1 x 21.4 | 1 |
| BV EI 306 8007 | 230 | 1–5 | 2 x 12 | 117 | 6–7/9–10 | 2 x 21.4 | 2 |
| BV EI 306 8018 | 230 | 1–5 | 1 x 15 | 187 | 7–9 | 1 x 26.1 | 1 |

# Switch-Mode-Power-Supply

HS series

| | | | |
|---|---|---|---|
| VDE-Mark for Glow-Wire-Test | **DIN EN 60 335-1** | **VDE** | on request |
| | **UL 5085-3** | **UL** | on request |
| | **UL 5085-1** | **UL** | on request |
| | **C22.2** | **CSA** | on request |

- according to REACH regulation
- according to RoHs regulation
- according to ErP regulation

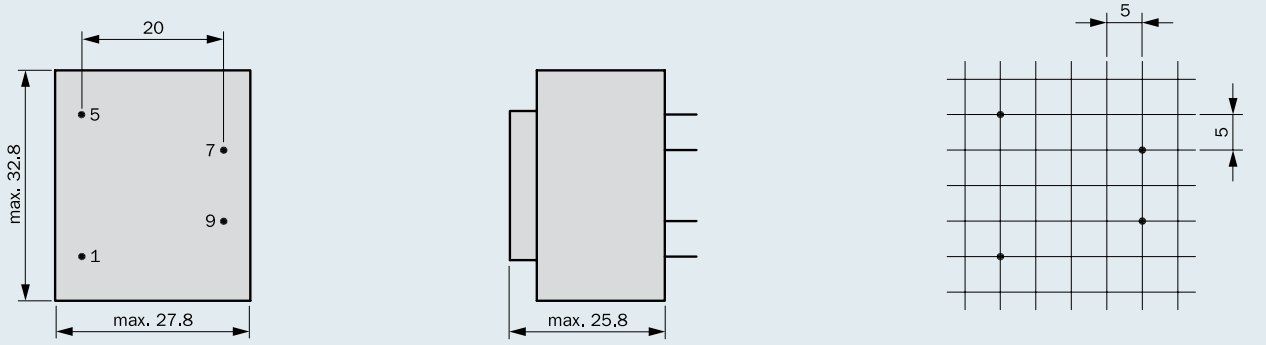
**EBPG EuP**

**Ecological in design** – and solutions based on switch mode technology developed by **HAHN**. Within the scope of the Eco-Design Directive for energy-using products, we have expanded our product portfolio for you.

The new **HS series** by **HAHN** incorporating switch mode technology has a no load power loss of **< 0.15 W** and an efficiency of > 70 %! It is ideal for applications within the broad input voltage range of 85 – 265 V for power supplies.

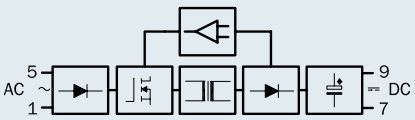
Design is short-circuit-proof and wiring is strictly isolated according to DIN EN 61558-2-16 and DIN EN 60950. All components are UL- and DIN EN 60335-compliant. The power of the safety extra-low output voltage is up to 3 W.

## Connecting pins




Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

## Connection scheme




**3.0 W**
**ta 70 °C/F**

inherently short-circuit-proof

no load power loss
**< 0.15 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V (DC) | Current sec. mA (DC) | Connecting pins sec. | Connection scheme |
|---|---|---|---|---|---|---|
| HS 40003 | 85 – 265 V | 1 – 5 | 1 x 3.3 | 900 | 7 – 9 | 1 |
| HS 40005 | 85 – 265 V | 1 – 5 | 1 x 5 | 600 | 7 – 9 | 1 |
| HS 40009 | 85 – 265 V | 1 – 5 | 1 x 9 | 333 | 7 – 9 | 1 |
| HS 40012 | 85 – 265 V | 1 – 5 | 1 x 12 | 250 | 7 – 9 | 1 |
| HS 40015 | 85 – 265 V | 1 – 5 | 1 x 15 | 200 | 7 – 9 | 1 |
| HS 40018 | 85 – 265 V | 1 – 5 | 1 x 18 | 167 | 7 – 9 | 1 |
| HS 40024 | 85 – 265 V | 1 – 5 | 1 x 24 | 125 | 7 – 9 | 1 |

# Content

**BV 20 Series**

- Printed-Circuit-Board transformers frame size EE 20 (0.35 VA – 0.5 VA)

**BV 20**

# Printed-Circuit-Board transformers

Output Power: 0.35 VA – 0.5 VA

# BV 20

| | | | |
|---|---|---|---|
| 10 | **DIN EN 61558-2-6** | **VDE** | 115642 |
| **VDE-Mark for Glow-Wire-Test** | **DIN EN 60 335-1** | **VDE** | 102961/84814 |
| | **UL 5085-3** | **UL** | on request |
| | **UL 5085-1** | **UL** | E98173 |
| | **C22.2** | **CSA** | 99204 |

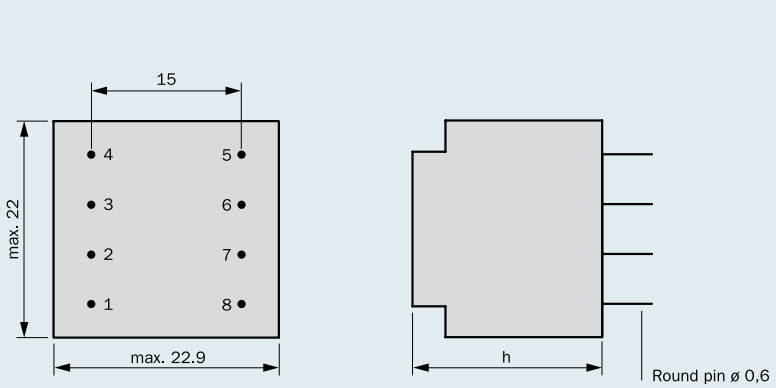
- according to REACH regulation
- according to RoHs regulation

- Minimal size available
- Primary voltages from 12 V to 250 V
- Secondary voltages from 4 V to 24 V or 2 x 3 V to 2 x 12 V
- Output Power up to 0.5 VA
- Further voltages on demand
- Inherently short-circuit-proof
- Vacuum-encapsulated, bobbin type with dual chamber windings
- Temperature class ta 70 °C/B
- High electrical safety and long service-life features
- Per item tested quality with certificate
- Excellent temperature fluctuation resistance properties
- Self-extinguishing cast housing and sealing material

Thanks to its minimal size the BV 20 is the ideal problem solution for appliance manufacturers requiring small components and who are not prepared to enter into any comprises as regards quality and performance demands. Processing with double-coated windings, special extreme heat-resistant epoxy insulating resins and self-extinguishing encapsulation housing materials give HAHN transformers extra electrical safety reserves enabling applications of extreme limits to be addressed.

The BV 20 with insulation class B properties is especially suitable for printed circuit boards, computer processors, other electronic applications, domestic appliances, telecommunications', lighting and photo technologies. Particularly in regard to competitiveness on international markets and the product liability of manufacturers, the BV 20 offers users the greatest functional electrical safety and long-life service by reason of its superior quality for their products.

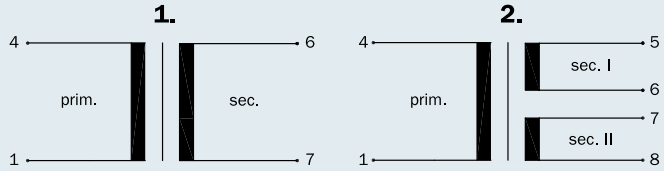
**Connecting pins**




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

**Connection scheme** (only connected pins are present)




2.) double voltage – bridge: 6 + 7, double current – bridge: 5 + 7/6 + 8

| Frame size/Core height | Output Power ta 70 °C/B | Size (h) | Weight | Packaging unit |
|---|---|---|---|---|
| BV 201 .... / 6 mm | 0.35 VA | 15 mm | 0.025 kg | 50/250 pieces* |
| BV 202 .... /10 mm | 0.50 VA | 19 mm | 0.035 kg | 50/250 pieces* |

* it depends on kind of packaging

## 0.35 VA ta 70 °C/B

Frame size/Core height
**BV 201..../ 6 mm**

inherently short-circuit-proof

no load power loss
**typ. 1.2 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV 201 0128 | 230 | 1–4 | 1 x 6 | 58 | 6–7 | 1 x 10.0 | 1 |
| BV 201 0142 | 230 | 1–4 | 2 x 6 | 29 | 5–6/7–8 | 2 x 10.6 | 2 |
| BV 201 0143 | 230 | 1–4 | 1 x 7.5 | 47 | 6–7 | 1 x 12.6 | 1 |
| BV 201 0136 | 230 | 1–4 | 1 x 9 | 39 | 6–7 | 1 x 14.4 | 1 |
| BV 201 0144 | 230 | 1–4 | 2 x 9 | 19 | 5–6/7–8 | 2 x 16.2 | 2 |
| BV 201 0145 | 230 | 1–4 | 1 x 12 | 29 | 6–7 | 1 x 20.8 | 1 |
| BV 201 0146 | 230 | 1–4 | 2 x 12 | 15 | 5–6/7–8 | 2 x 19.7 | 2 |
| BV 201 0147 | 230 | 1–4 | 1 x 15 | 23 | 6–7 | 1 x 26.1 | 1 |
| BV 201 0149 | 230 | 1–4 | 1 x 18 | 19 | 6–7 | 1 x 30.4 | 1 |
| BV 201 0150 | 230 | 1–4 | 1 x 21 | 17 | 6–7 | 1 x 36.0 | 1 |
| BV 201 0135 | 230 | 1–4 | 1 x 24 | 15 | 6–7 | 1 x 36.8 | 1 |

## 0.5 VA ta 70 °C/B

Frame size/Core height
**BV 202..../ 10 mm**

inherently short-circuit-proof

no load power loss
**typ. 1.5 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV 202 0154 | 230 | 1–4 | 1 x 6 | 83 | 6–7 | 1 x 10.2 | 1 |
| BV 202 0155 | 230 | 1–4 | 2 x 6 | 42 | 5–6/7–8 | 2 x 9.7 | 2 |
| BV 202 0156 | 230 | 1–4 | 1 x 7.5 | 67 | 6–7 | 1 x 12.8 | 1 |
| BV 202 0157 | 230 | 1–4 | 1 x 9 | 55 | 6–7 | 1 x 15.4 | 1 |
| BV 202 0158 | 230 | 1–4 | 2 x 9 | 28 | 5–6/7–8 | 2 x 15.4 | 2 |
| BV 202 0159 | 230 | 1–4 | 1 x 12 | 42 | 6–7 | 1 x 21.2 | 1 |
| BV 202 0160 | 230 | 1–4 | 2 x 12 | 21 | 5–6/7–8 | 2 x 21.2 | 2 |
| BV 202 0161 | 230 | 1–4 | 1 x 15 | 33 | 6–7 | 1 x 25.9 | 1 |
| BV 202 0162 | 230 | 1–4 | 1 x 18 | 28 | 6–7 | 1 x 30.9 | 1 |
| BV 202 0163 | 230 | 1–4 | 1 x 21 | 24 | 6–7 | 1 x 36.2 | 1 |
| BV 202 0164 | 230 | 1–4 | 1 x 24 | 21 | 6–7 | 1 x 41.2 | 1 |

# Content

**EI 30 Series**

- Printed-Circuit-Board transformers frame size EI 30 (0.5 VA – 3.6 VA)
- Flat-type Printed-Circuit-Board transformers with small base areas

# Printed-Circuit-Board transformers

Output Power: 0.5 VA – 3.6 VA

# EI 30

| | | | |
|---|---|---|---|
| 10 | **DIN EN 61558-2-6** | **VDE** | 115801/124257 |
| **VDE-Mark for Glow-Wire-Test** | **DIN EN 60 335-1** | **VDE** | 102961/84814 |
| | **UL 5085-3** | **UL** | E177280 |
| | **UL 5085-1** | **UL** | E98173 |
| | **C22.2** | **CSA** | 99204 |

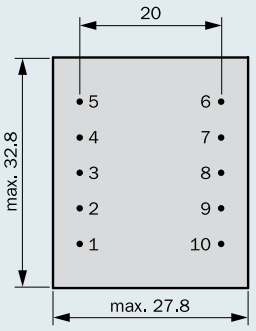
- according to REACH regulation
- according to RoHs regulation

- Primary voltages from 12 V to 250 V or 2 x 12 V to 2 x 125 V
- Secondary voltages from 2 V to max. 38 V or 2 x 2 V to max. 2 x 19 V
- Output Power up to 3.6 VA
- Short-circuit-proof
- Vacuum-encapsulated, bobbin with dual chamber windings
- Temperature class ta 40 °C/F and ta 70 °C/F
- Per item tested quality with certificate
- Excellent temperature fluctuation resistance properties
- Self-extinguishing cast housing and sealing material
- Minimal size available

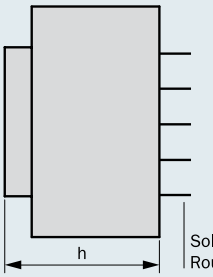
Several hundreds of types provide safety and long service-life for printed circuit boards, household appliances, leisure electronics, heating and control technology as well as in assembly techniques. Transformers for special requirements with lower open-circuit (no-load) loss capacity are also available in the range.

Enhanced customer benefit due to ongoing high quality standards throughout 40 years experience in transformer technology.

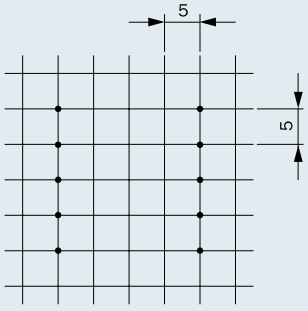
**Connecting pins**




View looking onto pins

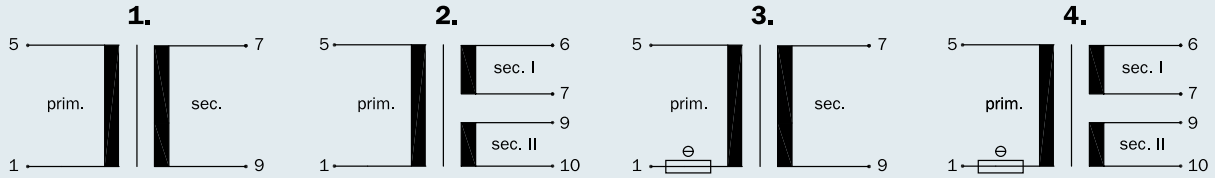



Soldering pin 0.6 x 0.8
Round pin ø 0.8




Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

**Connection scheme** (only connected pins are present)




2.) double voltage – bridge: 7 + 9, double current – bridge: 6 + 9/7 + 10

| Frame size/ Core height | Output Power ta 40 °C/F | Output Power ta 70 °C/F | Output Power ta 70 °C/F with thermo-fuse | Height (h) | Weight | Packaging unit |
|---|---|---|---|---|---|---|
| BV EI 301 .... / 5.5 mm | 0.6 VA | 0.5/0.7 VA | 0.65 VA | 15.2 mm | 0.044 kg | 50 pieces |
| BV EI 302 .... /10.5 mm | 1.8 VA | 1.5 VA | 1.8 VA | 21.8 mm | 0.070 kg | 50 pieces |
| BV EI 307 .... /11.5 mm | 2.2 VA | 1.8 VA | 1.8 VA | 22.1 mm | 0.076 kg | 50 pieces |
| BV EI 303 .... /12.5 mm | 2.3 VA | 1.9 VA | 2.3 VA | 23.8 mm | 0.081 kg | 50 pieces |
| BV EI 304 .... /15.5 mm | 2.6 VA | 2.1 VA | 2.4 VA | 26.8 mm | 0.099 kg | 50 pieces |
| BV EI 305 .... /18.0 mm | 3.0 VA | 2.3 VA | 2.7 VA | 29.5 mm | 0.111 kg | 50 pieces |
| BV EI 306 .... /23.0 mm | 3.6 VA | 3.0 VA | 3.4 VA | 34.0 mm | 0.135 kg | 50/40 pieces* |

* it depends on kind of packaging

## 0.5 VA ta 70 °C/F

Frame size/Core height
**BV EI 301..../ 5.5 mm**

inherently short-circuit-proof

no load power loss
**type. 1.0 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 301 3005 | 230 | 1–5 | 1 x 6 | 83 | 7–9 | 1 x 10.2 | 1 |
| BV EI 301 3538 | 230 | 1–5 | 2 x 6 | 41 | 6–7/9–10 | 2 x 10.1 | 2 |
| BV EI 301 3017 | 230 | 1–5 | 1 x 7.5 | 67 | 7–9 | 1 x 12.2 | 1 |
| BV EI 301 3970 | 230 | 1–5 | 2 x 7.5 | 33 | 6–7/9–10 | 2 x 11.7 | 2 |
| BV EI 301 2911 | 230 | 1–5 | 1 x 9 | 56 | 7–9 | 1 x 14.7 | 1 |
| BV EI 301 3172 | 230 | 1–5 | 2 x 9 | 28 | 6–7/9–10 | 2 x 13.3 | 2 |
| BV EI 301 2824 | 230 | 1–5 | 1 x 12 | 42 | 7–9 | 1 x 18.0 | 1 |
| BV EI 301 3971 | 230 | 1–5 | 2 x 12 | 21 | 6–7/9–10 | 2 x 18.7 | 2 |
| BV EI 301 2845 | 230 | 1–5 | 1 x 15 | 33 | 7–9 | 1 x 22.8 | 1 |
| BV EI 301 2741 | 230 | 1–5 | 2 x 15 | 17 | 6–7/9–10 | 2 x 23.3 | 2 |
| BV EI 301 2967 | 230 | 1–5 | 1 x 18 | 28 | 7–9 | 1 x 26.0 | 1 |
| BV EI 301 3020 | 230 | 1–5 | 1 x 21 | 24 | 7–9 | 1 x 30.6 | 1 |
| BV EI 301 2807 | 230 | 1–5 | 1 x 24 | 21 | 7–9 | 1 x 35.5 | 1 |

## 0.7 VA ta 70 °C/F

Frame size/Core height
**BV EI 301..../ 5.5 mm**

inherently short-circuit-proof

no load power loss
**type. 2.3 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 301 3582 | 230 | 1–5 | 1 x 6 | 117 | 7–9 | 1 x 10.3 | 1 |
| BV EI 301 3583 | 230 | 1–5 | 2 x 6 | 58 | 6–7/9–10 | 2 x 10.5 | 2 |
| BV EI 301 3584 | 230 | 1–5 | 1 x 7.5 | 94 | 7–9 | 1 x 12.7 | 1 |
| BV EI 301 3585 | 230 | 1–5 | 2 x 7.5 | 47 | 6–7/9–10 | 2 x 12.7 | 2 |
| BV EI 301 3586 | 230 | 1–5 | 1 x 9 | 78 | 7–9 | 1 x 14.6 | 1 |
| BV EI 301 3587 | 230 | 1–5 | 2 x 9 | 39 | 6–7/9–10 | 2 x 14.6 | 2 |
| BV EI 301 3588 | 230 | 1–5 | 1 x 12 | 58 | 7–9 | 1 x 19.5 | 1 |
| BV EI 301 3589 | 230 | 1–5 | 2 x 12 | 29 | 6–7/9–10 | 2 x 19.5 | 2 |
| BV EI 301 3590 | 230 | 1–5 | 1 x 15 | 47 | 7–9 | 1 x 24.5 | 1 |
| BV EI 301 3591 | 230 | 1–5 | 2 x 15 | 23 | 6–7/9–10 | 2 x 24.5 | 2 |
| BV EI 301 3592 | 230 | 1–5 | 1 x 18 | 39 | 7–9 | 1 x 28.3 | 1 |
| BV EI 301 3593 | 230 | 1–5 | 1 x 21 | 33 | 7–9 | 1 x 32.9 | 1 |
| BV EI 301 3594 | 230 | 1–5 | 1 x 24 | 29 | 7–9 | 1 x 37.8 | 1 |

## 0.65 VA ta 70 °C/F

Frame size/Core height
**BV EI 301..../ 5.5 mm**

non inherently short-circuit-proof with thermo-fuse

no load power loss
**type. 2.3 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 301 7002 | 230 | 1–5 | 1 x 6 | 108 | 7–9 | 1 x 10.5 | 3 |
| BV EI 301 7003 | 230 | 1–5 | 2 x 6 | 54 | 6–7/9–10 | 2 x 10.5 | 4 |
| BV EI 301 7004 | 230 | 1–5 | 1 x 7.5 | 87 | 7–9 | 1 x 13.0 | 3 |
| BV EI 301 7005 | 230 | 1–5 | 2 x 7.5 | 43 | 6–7/9–10 | 2 x 13.0 | 4 |
| BV EI 301 7006 | 230 | 1–5 | 1 x 9 | 72 | 7–9 | 1 x 15.4 | 3 |
| BV EI 301 7007 | 230 | 1–5 | 2 x 9 | 36 | 6–7/9–10 | 2 x 15.4 | 4 |
| BV EI 301 7008 | 230 | 1–5 | 1 x 12 | 54 | 7–9 | 1 x 20.4 | 3 |
| BV EI 301 7009 | 230 | 1–5 | 2 x 12 | 27 | 6–7/9–10 | 2 x 20.4 | 4 |
| BV EI 301 7010 | 230 | 1–5 | 1 x 15 | 43 | 7–9 | 1 x 24.9 | 3 |
| BV EI 301 7011 | 230 | 1–5 | 2 x 15 | 21 | 6–7/9–10 | 2 x 24.9 | 4 |
| BV EI 301 7012 | 230 | 1–5 | 1 x 18 | 36 | 7–9 | 1 x 30.1 | 3 |
| BV EI 301 7013 | 230 | 1–5 | 1 x 21 | 31 | 7–9 | 1 x 35.1 | 3 |
| BV EI 301 7014 | 230 | 1–5 | 1 x 24 | 27 | 7–9 | 1 x 40.0 | 3 |

## 1.8 VA ta 40 °C/F

Frame size/Core height
**BV EI 302..../ 10.5 mm**

inherently short-circuit-proof

no load power loss
**type. 2.2 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 302 2000 | 230 | 1–5 | 1 x 6 | 300 | 7–9 | 1 x 8.8 | 1 |
| BV EI 302 2005 | 230 | 1–5 | 2 x 6 | 150 | 6–7/9–10 | 2 x 8.8 | 2 |
| BV EI 302 3021 | 230 | 1–5 | 1 x 7.5 | 240 | 7–9 | 1 x 10.7 | 1 |
| BV EI 302 3562 | 230 | 1–5 | 2 x 7.5 | 120 | 6–7/9–10 | 2 x 11.0 | 2 |
| BV EI 302 2001 | 230 | 1–5 | 1 x 9 | 200 | 7–9 | 1 x 12.6 | 1 |
| BV EI 302 2006 | 230 | 1–5 | 2 x 9 | 100 | 6–7/9–10 | 2 x 13.0 | 2 |
| BV EI 302 2002 | 230 | 1–5 | 1 x 12 | 150 | 7–9 | 1 x 16.9 | 1 |
| BV EI 302 2007 | 230 | 1–5 | 2 x 12 | 75 | 6–7/9–10 | 2 x 18.3 | 2 |
| BV EI 302 2003 | 230 | 1–5 | 1 x 15 | 120 | 7–9 | 1 x 21.2 | 1 |
| BV EI 302 2008 | 230 | 1–5 | 2 x 15 | 60 | 6–7/9–10 | 2 x 21.8 | 2 |
| BV EI 302 2004 | 230 | 1–5 | 1 x 18 | 100 | 7–9 | 1 x 25.4 | 1 |
| BV EI 302 3022 | 230 | 1–5 | 1 x 21 | 86 | 7–9 | 1 x 30.4 | 1 |
| BV EI 302 2990 | 230 | 1–5 | 1 x 24 | 75 | 7–9 | 1 x 34.5 | 1 |

## 1.5 VA ta 70 °C/F

Frame size/Core height
**BV EI 302..../ 10.5 mm**

inherently short-circuit-proof

no load power loss
**type. 1.4 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 302 2020 | 230 | 1–5 | 1 x 6 | 250 | 7–9 | 1 x 8.2 | 1 |
| BV EI 302 2025 | 230 | 1–5 | 2 x 6 | 125 | 6–7/9–10 | 2 x 8.4 | 2 |
| BV EI 302 3058 | 230 | 1–5 | 1 x 7.5 | 200 | 7–9 | 1 x 10.5 | 1 |
| BV EI 302 3561 | 230 | 1–5 | 2 x 7.5 | 100 | 6–7/9–10 | 2 x 10.5 | 2 |
| BV EI 302 2021 | 230 | 1–5 | 1 x 9 | 166 | 7–9 | 1 x 12.1 | 1 |
| BV EI 302 2026 | 230 | 1–5 | 2 x 9 | 83 | 6–7/9–10 | 2 x 12.4 | 2 |
| BV EI 302 2022 | 230 | 1–5 | 1 x 12 | 125 | 7–9 | 1 x 16.6 | 1 |
| BV EI 302 2027 | 230 | 1–5 | 2 x 12 | 62 | 6–7/9–10 | 2 x 16.6 | 2 |
| BV EI 302 2023 | 230 | 1–5 | 1 x 15 | 100 | 7–9 | 1 x 20.7 | 1 |
| BV EI 302 2028 | 230 | 1–5 | 2 x 15 | 50 | 6–7/9–10 | 2 x 20.7 | 2 |
| BV EI 302 2024 | 230 | 1–5 | 1 x 18 | 83 | 7–9 | 1 x 24.5 | 1 |
| BV EI 302 2029 | 230 | 1–5 | 2 x 18 | 41 | 6–7/9–10 | 2 x 24.8 | 2 |
| BV EI 302 3059 | 230 | 1–5 | 1 x 21 | 71 | 7–9 | 1 x 28.6 | 1 |
| BV EI 302 2989 | 230 | 1–5 | 1 x 24 | 62 | 7–9 | 1 x 33.5 | 1 |

## 1.8 VA ta 70 °C/F

Frame size/Core height
**BV EI 302..../ 10.5 mm**

non inherently short-circuit-proof with thermo-fuse

no load power loss
**type. 2.1 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 302 7015 | 230 | 1–5 | 1 x 6 | 300 | 7–9 | 1 x 9.8 | 3 |
| BV EI 302 7016 | 230 | 1–5 | 2 x 6 | 150 | 6–7/9–10 | 2 x 10.6 | 4 |
| BV EI 302 7017 | 230 | 1–5 | 1 x 7.5 | 240 | 7–9 | 1 x 12.2 | 3 |
| BV EI 302 7018 | 230 | 1–5 | 2 x 7.5 | 120 | 6–7/9–10 | 2 x 13.4 | 4 |
| BV EI 302 7019 | 230 | 1–5 | 1 x 9 | 200 | 7–9 | 1 x 14.6 | 3 |
| BV EI 302 7020 | 230 | 1–5 | 2 x 9 | 100 | 6–7/9–10 | 2 x 15.9 | 4 |
| BV EI 302 7021 | 230 | 1–5 | 1 x 12 | 150 | 7–9 | 1 x 19.4 | 3 |
| BV EI 302 7022 | 230 | 1–5 | 2 x 12 | 75 | 6–7/9–10 | 2 x 20.9 | 4 |
| BV EI 302 7023 | 230 | 1–5 | 1 x 15 | 120 | 7–9 | 1 x 24.3 | 3 |
| BV EI 302 7024 | 230 | 1–5 | 2 x 15 | 60 | 6–7/9–10 | 2 x 24.8 | 4 |
| BV EI 302 7025 | 230 | 1–5 | 1 x 18 | 100 | 7–9 | 1 x 29.2 | 3 |
| BV EI 302 7026 | 230 | 1–5 | 1 x 21 | 86 | 7–9 | 1 x 34.1 | 3 |
| BV EI 302 7027 | 230 | 1–5 | 1 x 24 | 75 | 7–9 | 1 x 38.8 | 3 |

**1.8 VA**
**ta 70 °C/F**

Frame size/Core height
**BV EI 307 .... /**
**11.5 mm**

inherently
short-circuit-
proof

no load power loss
**type. 1.0 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 307 3842 | 230 | 1–5 | 1 x 6 | 300 | 7–9 | 1 x 9.7 | 1 |
| BV EI 307 3843 | 230 | 1–5 | 2 x 6 | 150 | 6–7/9–10 | 2 x 9.4 | 2 |
| BV EI 307 3844 | 230 | 1–5 | 1 x 7.5 | 240 | 7–9 | 1 x 12.7 | 1 |
| BV EI 307 3845 | 230 | 1–5 | 2 x 7.5 | 120 | 6–7/9–10 | 2 x 12.4 | 2 |
| BV EI 307 3846 | 230 | 1–5 | 1 x 9 | 200 | 7–9 | 1 x 14.5 | 1 |
| BV EI 307 3847 | 230 | 1–5 | 2 x 9 | 100 | 6–7/9–10 | 2 x 14.3 | 2 |
| BV EI 307 3801 | 230 | 1–5 | 1 x 12 | 150 | 7–9 | 1 x 18.7 | 1 |
| BV EI 307 3848 | 230 | 1–5 | 2 x 12 | 75 | 6–7/9–10 | 2 x 18.9 | 2 |
| BV EI 307 3849 | 230 | 1–5 | 1 x 15 | 120 | 7–9 | 1 x 24.5 | 1 |
| BV EI 307 3850 | 230 | 1–5 | 2 x 15 | 60 | 6–7/9–10 | 2 x 24.5 | 2 |
| BV EI 307 3851 | 230 | 1–5 | 1 x 18 | 100 | 7–9 | 1 x 28.4 | 1 |
| BV EI 307 3852 | 230 | 1–5 | 1 x 21 | 86 | 7–9 | 1 x 33.4 | 1 |
| BV EI 307 3853 | 230 | 1–5 | 1 x 24 | 75 | 7–9 | 1 x 37.9 | 1 |

**1.8 VA**
**ta 70 °C/F**

Frame size/Core height
**BV EI 307 .... /**
**11.5 mm**

non inherently
short-circuit-
proof
with thermo-fuse

no load power loss
**type. 1.1 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 307 7079 | 230 | 1–5 | 1 x 6 | 300 | 7–9 | 1 x 9.8 | 3 |
| BV EI 307 7080 | 230 | 1–5 | 2 x 6 | 150 | 6–7/9–10 | 2 x 9.8 | 4 |
| BV EI 307 7081 | 230 | 1–5 | 1 x 7.5 | 240 | 7–9 | 1 x 12.9 | 3 |
| BV EI 307 7082 | 230 | 1–5 | 2 x 7.5 | 120 | 6–7/9–10 | 2 x 13.2 | 4 |
| BV EI 307 7083 | 230 | 1–5 | 1 x 9 | 200 | 7–9 | 1 x 14.7 | 3 |
| BV EI 307 7084 | 230 | 1–5 | 2 x 9 | 100 | 6–7/9–10 | 2 x 15.2 | 4 |
| BV EI 307 7085 | 230 | 1–5 | 1 x 12 | 150 | 7–9 | 1 x 19.4 | 3 |
| BV EI 307 7086 | 230 | 1–5 | 2 x 12 | 75 | 6–7/9–10 | 2 x 20.1 | 4 |
| BV EI 307 7087 | 230 | 1–5 | 1 x 15 | 120 | 7–9 | 1 x 24.1 | 3 |
| BV EI 307 7088 | 230 | 1–5 | 2 x 15 | 60 | 6–7/9–10 | 2 x 24.1 | 4 |
| BV EI 307 7089 | 230 | 1–5 | 1 x 18 | 100 | 7–9 | 1 x 28.9 | 3 |
| BV EI 307 7090 | 230 | 1–5 | 1 x 21 | 86 | 7–9 | 1 x 34.8 | 3 |
| BV EI 307 7091 | 230 | 1–5 | 1 x 24 | 75 | 7–9 | 1 x 38.5 | 3 |

## 2.3 VA ta 40 °C/F

Frame size/Core height
**BV EI 303 .... / 12.5 mm**

inherently short-circuit-proof

no load power loss
**type. 2.0 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 303 2010 | 230 | 1–5 | 1 x 6 | 383 | 7–9 | 1 x 8.5 | 1 |
| BV EI 303 2015 | 230 | 1–5 | 2 x 6 | 191 | 6–7/9–10 | 2 x 9.4 | 2 |
| BV EI 303 3611 | 230 | 1–5 | 1 x 7.5 | 307 | 7–9 | 1 x 11.4 | 1 |
| BV EI 303 3612 | 230 | 1–5 | 2 x 7.5 | 153 | 6–7/9–10 | 2 x 12.4 | 2 |
| BV EI 303 2011 | 230 | 1–5 | 1 x 9 | 255 | 7–9 | 1 x 12.9 | 1 |
| BV EI 303 2016 | 230 | 1–5 | 2 x 9 | 127 | 6–7/9–10 | 2 x 14.6 | 2 |
| BV EI 303 2012 | 230 | 1–5 | 1 x 12 | 191 | 7–9 | 1 x 17.4 | 1 |
| BV EI 303 2017 | 230 | 1–5 | 2 x 12 | 95 | 6–7/9–10 | 2 x 18.7 | 2 |
| BV EI 303 2013 | 230 | 1–5 | 1 x 15 | 153 | 7–9 | 1 x 21.6 | 1 |
| BV EI 303 2018 | 230 | 1–5 | 2 x 15 | 76 | 6–7/9–10 | 2 x 23.5 | 2 |
| BV EI 303 2014 | 230 | 1–5 | 1 x 18 | 127 | 7–9 | 1 x 25.8 | 1 |
| BV EI 303 3563 | 230 | 1–5 | 1 x 21 | 110 | 7–9 | 1 x 30.2 | 1 |
| BV EI 303 2991 | 230 | 1–5 | 1 x 24 | 96 | 7–9 | 1 x 34.3 | 1 |

## 1.9 VA ta 70 °C/F

Frame size/Core height
**BV EI 303 .... / 12.5 mm**

inherently short-circuit-proof

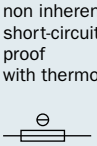
no load power loss
**type. 1.2 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 303 2030 | 230 | 1–5 | 1 x 6 | 316 | 7–9 | 1 x 8.6 | 1 |
| BV EI 303 2035 | 230 | 1–5 | 2 x 6 | 158 | 6–7/9–10 | 2 x 9.3 | 2 |
| BV EI 303 3060 | 230 | 1–5 | 1 x 7.5 | 253 | 7–9 | 1 x 11.0 | 1 |
| BV EI 303 2095 | 230 | 1–5 | 2 x 7.5 | 126 | 6–7/9–10 | 2 x 12.3 | 2 |
| BV EI 303 2031 | 230 | 1–5 | 1 x 9 | 211 | 7–9 | 1 x 12.9 | 1 |
| BV EI 303 2036 | 230 | 1–5 | 2 x 9 | 105 | 6–7/9–10 | 2 x 13.9 | 2 |
| BV EI 303 2032 | 230 | 1–5 | 1 x 12 | 158 | 7–9 | 1 x 17.2 | 1 |
| BV EI 303 2037 | 230 | 1–5 | 2 x 12 | 79 | 6–7/9–10 | 2 x 18.5 | 2 |
| BV EI 303 2033 | 230 | 1–5 | 1 x 15 | 126 | 7–9 | 1 x 21.5 | 1 |
| BV EI 303 2038 | 230 | 1–5 | 2 x 15 | 63 | 6–7/9–10 | 2 x 22.0 | 2 |
| BV EI 303 2034 | 230 | 1–5 | 1 x 18 | 105 | 7–9 | 1 x 25.8 | 1 |
| BV EI 303 3013 | 230 | 1–5 | 1 x 21 | 90 | 7–9 | 1 x 30.0 | 1 |
| BV EI 303 2100 | 230 | 1–5 | 1 x 24 | 79 | 7–9 | 1 x 35.5 | 1 |

## 2.3 VA ta 70 °C/F

Frame size/Core height
**BV EI 303 .... / 12.5 mm**

non inherently short-circuit-proof with thermo-fuse



no load power loss
**type. 2.0 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 303 7028 | 230 | 1–5 | 1 x 6 | 383 | 7–9 | 1 x 9.4 | 3 |
| BV EI 303 7029 | 230 | 1–5 | 2 x 6 | 191 | 6–7/9–10 | 2 x 9.7 | 4 |
| BV EI 303 7030 | 230 | 1–5 | 1 x 7.5 | 306 | 7–9 | 1 x 11.3 | 3 |
| BV EI 303 7031 | 230 | 1–5 | 2 x 7.5 | 153 | 6–7/9–10 | 2 x 12.2 | 4 |
| BV EI 303 7032 | 230 | 1–5 | 1 x 9 | 256 | 7–9 | 1 x 13.8 | 3 |
| BV EI 303 7033 | 230 | 1–5 | 2 x 9 | 128 | 6–7/9–10 | 2 x 14.3 | 4 |
| BV EI 303 7034 | 230 | 1–5 | 1 x 12 | 191 | 7–9 | 1 x 17.4 | 3 |
| BV EI 303 7035 | 230 | 1–5 | 2 x 12 | 96 | 6–7/9–10 | 2 x 19.1 | 4 |
| BV EI 303 7036 | 230 | 1–5 | 1 x 15 | 153 | 7–9 | 1 x 22.3 | 3 |
| BV EI 303 7037 | 230 | 1–5 | 2 x 15 | 76 | 6–7/9–10 | 2 x 23.7 | 4 |
| BV EI 303 7038 | 230 | 1–5 | 1 x 18 | 128 | 7–9 | 1 x 26.4 | 3 |
| BV EI 303 7039 | 230 | 1–5 | 1 x 21 | 110 | 7–9 | 1 x 30.5 | 3 |
| BV EI 303 7040 | 230 | 1–5 | 1 x 24 | 96 | 7–9 | 1 x 34.0 | 3 |

## 2.6 VA ta 40 °C/F

Frame size/Core height
**BV EI 304 .... / 15.5 mm**

inherently short-circuit-proof

no load power loss
**type. 1.0 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 304 2040 | 230 | 1–5 | 1 x 6 | 434 | 7–9 | 1 x 10.4 | 1 |
| BV EI 304 2045 | 230 | 1–5 | 2 x 6 | 217 | 6–7/9–10 | 2 x 10.8 | 2 |
| BV EI 304 3564 | 230 | 1–5 | 1 x 7.5 | 346 | 7–9 | 1 x 12.5 | 1 |
| BV EI 304 2840 | 230 | 1–5 | 2 x 7.5 | 173 | 6–7/9–10 | 2 x 12.5 | 2 |
| BV EI 304 2041 | 230 | 1–5 | 1 x 9 | 289 | 7–9 | 1 x 15.9 | 1 |
| BV EI 304 2046 | 230 | 1–5 | 2 x 9 | 145 | 6–7/9–10 | 2 x 16.2 | 2 |
| BV EI 304 2042 | 230 | 1–5 | 1 x 12 | 217 | 7–9 | 1 x 21.7 | 1 |
| BV EI 304 2047 | 230 | 1–5 | 2 x 12 | 108 | 6–7/9–10 | 2 x 22.4 | 2 |
| BV EI 304 2043 | 230 | 1–5 | 1 x 15 | 174 | 7–9 | 1 x 27.4 | 1 |
| BV EI 304 2044 | 230 | 1–5 | 1 x 18 | 145 | 7–9 | 1 x 30.9 | 1 |
| BV EI 304 2995 | 230 | 1–5 | 1 x 21 | 123 | 7–9 | 1 x 32.1 | 1 |
| BV EI 304 2992 | 230 | 1–5 | 1 x 24 | 108 | 7–9 | 1 x 41.7 | 1 |

## 2.1 VA ta 70 °C/F

Frame size/Core height
**BV EI 304 .... / 15.5 mm**

inherently short-circuit-proof

no load power loss
**type. 0.7 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 304 2080 | 230 | 1–5 | 1 x 6 | 350 | 7–9 | 1 x 10.5 | 1 |
| BV EI 304 2085 | 230 | 1–5 | 2 x 6 | 175 | 6–7/9–10 | 2 x 11.2 | 2 |
| BV EI 304 2889 | 230 | 1–5 | 1 x 7.5 | 280 | 7–9 | 1 x 13.7 | 1 |
| BV EI 304 2773 | 230 | 1–5 | 2 x 7.5 | 140 | 6–7/9–10 | 2 x 14.2 | 2 |
| BV EI 304 2081 | 230 | 1–5 | 1 x 9 | 234 | 7–9 | 1 x 16.0 | 1 |
| BV EI 304 2086 | 230 | 1–5 | 2 x 9 | 117 | 6–7/9–10 | 2 x 16.2 | 2 |
| BV EI 304 2082 | 230 | 1–5 | 1 x 12 | 175 | 7–9 | 1 x 21.5 | 1 |
| BV EI 304 2087 | 230 | 1–5 | 2 x 12 | 88 | 6–7/9–10 | 2 x 22.0 | 2 |
| BV EI 304 2083 | 230 | 1–5 | 1 x 15 | 140 | 7–9 | 1 x 26.5 | 1 |
| BV EI 304 2084 | 230 | 1–5 | 1 x 18 | 117 | 7–9 | 1 x 30.0 | 1 |
| BV EI 304 2843 | 230 | 1–5 | 1 x 21 | 100 | 7–9 | 1 x 33.4 | 1 |
| BV EI 304 2868 | 230 | 1–5 | 1 x 24 | 88 | 7–9 | 1 x 37.3 | 1 |

## 2.4 VA ta 70 °C/F

Frame size/Core height
**BV EI 304 .... / 15.5 mm**

non inherently short-circuit-proof with thermo-fuse

no load power loss
**type. 1.0 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 304 7041 | 230 | 1–5 | 1 x 6 | 400 | 7–9 | 1 x 10.6 | 3 |
| BV EI 304 7042 | 230 | 1–5 | 2 x 6 | 200 | 6–7/9–10 | 2 x 10.1 | 4 |
| BV EI 304 7043 | 230 | 1–5 | 1 x 7.5 | 320 | 7–9 | 1 x 13.2 | 3 |
| BV EI 304 7044 | 230 | 1–5 | 2 x 7.5 | 160 | 6–7/9–10 | 2 x 13.2 | 4 |
| BV EI 304 7045 | 230 | 1–5 | 1 x 9 | 266 | 7–9 | 1 x 16.3 | 3 |
| BV EI 304 7046 | 230 | 1–5 | 2 x 9 | 133 | 6–7/9–10 | 2 x 16.9 | 4 |
| BV EI 304 7047 | 230 | 1–5 | 1 x 12 | 200 | 7–9 | 1 x 21.8 | 3 |
| BV EI 304 7048 | 230 | 1–5 | 2 x 12 | 100 | 6–7/9–10 | 2 x 21.8 | 4 |
| BV EI 304 7049 | 230 | 1–5 | 1 x 15 | 160 | 7–9 | 1 x 26.7 | 3 |
| BV EI 304 7095 | 230 | 1–5 | 2 x 15 | 80 | 6–7/9–10 | 2 x 24.7 | 4 |
| BV EI 304 7050 | 230 | 1–5 | 1 x 18 | 133 | 7–9 | 1 x 32.6 | 3 |
| BV EI 304 7051 | 230 | 1–5 | 1 x 21 | 114 | 7–9 | 1 x 37.2 | 3 |
| BV EI 304 7052 | 230 | 1–5 | 1 x 24 | 100 | 7–9 | 1 x 42.3 | 3 |

## 3.0 VA ta 40 °C/F

Frame size/Core height
**BV EI 305..../ 18.0 mm**

inherently short-circuit-proof

no load power loss
**type. 1.0 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 305 2050 | 230 | 1–5 | 1 x 6 | 500 | 7–9 | 1 x 10.7 | 1 |
| BV EI 305 2055 | 230 | 1–5 | 2 x 6 | 250 | 6–7/9–10 | 2 x 10.7 | 2 |
| BV EI 305 3565 | 230 | 1–5 | 1 x 7.5 | 400 | 7–9 | 1 x 13.7 | 1 |
| BV EI 305 2922 | 230 | 1–5 | 2 x 7.5 | 200 | 6–7/9–10 | 2 x 13.7 | 2 |
| BV EI 305 2051 | 230 | 1–5 | 1 x 9 | 334 | 7–9 | 1 x 17.3 | 1 |
| BV EI 305 2056 | 230 | 1–5 | 2 x 9 | 167 | 6–7/9–10 | 2 x 15.7 | 2 |
| BV EI 305 2052 | 230 | 1–5 | 1 x 12 | 250 | 7–9 | 1 x 20.3 | 1 |
| BV EI 305 2057 | 230 | 1–5 | 2 x 12 | 125 | 6–7/9–10 | 2 x 20.3 | 2 |
| BV EI 305 2053 | 230 | 1–5 | 1 x 15 | 200 | 7–9 | 1 x 26.7 | 1 |
| BV EI 305 2054 | 230 | 1–5 | 1 x 18 | 167 | 7–9 | 1 x 32.5 | 1 |
| BV EI 305 2188 | 230 | 1–5 | 1 x 21 | 143 | 7–9 | 1 x 35.7 | 1 |
| BV EI 305 2993 | 230 | 1–5 | 1 x 24 | 125 | 7–9 | 1 x 42.0 | 1 |

## 2.3 VA ta 70 °C/F

Frame size/Core height
**BV EI 305..../ 18.0 mm**

inherently short-circuit-proof

no load power loss
**type. 0.8 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 305 2878 | 230 | 1–5 | 1 x 6 | 383 | 7–9 | 1 x 11.6 | 1 |
| BV EI 305 2882 | 230 | 1–5 | 2 x 6 | 192 | 6–7/9–10 | 2 x 10.9 | 2 |
| BV EI 305 2893 | 230 | 1–5 | 1 x 7.5 | 307 | 7–9 | 1 x 15.2 | 1 |
| BV EI 305 2894 | 230 | 1–5 | 2 x 7.5 | 153 | 6–7/9–10 | 2 x 13.0 | 2 |
| BV EI 305 2879 | 230 | 1–5 | 1 x 9 | 255 | 7–9 | 1 x 17.6 | 1 |
| BV EI 305 2866 | 230 | 1–5 | 2 x 9 | 127 | 6–7/9–10 | 2 x 16.1 | 2 |
| BV EI 305 2800 | 230 | 1–5 | 1 x 12 | 192 | 7–9 | 1 x 21.4 | 1 |
| BV EI 305 2847 | 230 | 1–5 | 2 x 12 | 96 | 6–7/9–10 | 2 x 21.5 | 2 |
| BV EI 305 2805 | 230 | 1–5 | 1 x 15 | 153 | 7–9 | 1 x 28.2 | 1 |
| BV EI 305 2844 | 230 | 1–5 | 2 x 15 | 76 | 6–7/9–10 | 2 x 24.5 | 2 |
| BV EI 305 2851 | 230 | 1–5 | 1 x 18 | 128 | 7–9 | 1 x 32.4 | 1 |
| BV EI 305 2772 | 230 | 1–5 | 1 x 21 | 110 | 7–9 | 1 x 38.4 | 1 |
| BV EI 305 2874 | 230 | 1–5 | 1 x 24 | 96 | 7–9 | 1 x 45.4 | 1 |

## 2.7 VA ta 70 °C/F

Frame size/Core height
**BV EI 305..../ 18.0 mm**

non inherently short-circuit-proof with thermo-fuse

no load power loss
**type. 1.0 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 305 7053 | 230 | 1–5 | 1 x 6 | 450 | 7–9 | 1 x 10.9 | 3 |
| BV EI 305 7054 | 230 | 1–5 | 2 x 6 | 225 | 6–7/9–10 | 2 x 10.3 | 4 |
| BV EI 305 7055 | 230 | 1–5 | 1 x 7.5 | 360 | 7–9 | 1 x 13.7 | 3 |
| BV EI 305 7056 | 230 | 1–5 | 2 x 7.5 | 180 | 6–7/9–10 | 2 x 13.4 | 4 |
| BV EI 305 7057 | 230 | 1–5 | 1 x 9 | 300 | 7–9 | 1 x 16.2 | 3 |
| BV EI 305 7058 | 230 | 1–5 | 2 x 9 | 150 | 6–7/9–10 | 2 x 16.8 | 4 |
| BV EI 305 7059 | 230 | 1–5 | 1 x 12 | 225 | 7–9 | 1 x 20.7 | 3 |
| BV EI 305 7060 | 230 | 1–5 | 2 x 12 | 112 | 6–7/9–10 | 2 x 22.1 | 4 |
| BV EI 305 7061 | 230 | 1–5 | 1 x 15 | 180 | 7–9 | 1 x 26.6 | 3 |
| BV EI 305 7062 | 230 | 1–5 | 2 x 15 | 90 | 6–7/9–10 | 2 x 24.6 | 4 |
| BV EI 305 7063 | 230 | 1–5 | 1 x 18 | 150 | 7–9 | 1 x 33.0 | 3 |
| BV EI 305 7064 | 230 | 1–5 | 1 x 21 | 128 | 7–9 | 1 x 37.6 | 3 |
| BV EI 305 7065 | 230 | 1–5 | 1 x 24 | 112 | 7–9 | 1 x 42.9 | 3 |

## 3.6 VA ta 40 °C/F

Frame size/Core height
**BV EI 306 .... / 23.0 mm**

inherently short-circuit-proof

no load power loss
**type. 1.3 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 306 3595 | 230 | 1–5 | 1 x 6 | 600 | 7–9 | 1 x 10.8 | 1 |
| BV EI 306 3596 | 230 | 1–5 | 2 x 6 | 300 | 6–7/9–10 | 2 x 10.8 | 2 |
| BV EI 306 3597 | 230 | 1–5 | 1 x 7.5 | 480 | 7–9 | 1 x 13.3 | 1 |
| BV EI 306 3598 | 230 | 1–5 | 2 x 7.5 | 240 | 6–7/9–10 | 2 x 13.3 | 2 |
| BV EI 306 3599 | 230 | 1–5 | 1 x 9 | 400 | 7–9 | 1 x 15.7 | 1 |
| BV EI 306 3600 | 230 | 1–5 | 2 x 9 | 200 | 6–7/9–10 | 2 x 15.7 | 2 |
| BV EI 306 3601 | 230 | 1–5 | 1 x 12 | 300 | 7–9 | 1 x 21.0 | 1 |
| BV EI 306 3602 | 230 | 1–5 | 2 x 12 | 150 | 6–7/9–10 | 2 x 21.0 | 2 |
| BV EI 306 3603 | 230 | 1–5 | 1 x 15 | 240 | 7–9 | 1 x 24.5 | 1 |
| BV EI 306 3604 | 230 | 1–5 | 2 x 15 | 120 | 6–7/9–10 | 2 x 24.5 | 2 |
| BV EI 306 3605 | 230 | 1–5 | 1 x 18 | 200 | 7–9 | 1 x 31.4 | 1 |
| BV EI 306 3606 | 230 | 1–5 | 1 x 21 | 171 | 7–9 | 1 x 35.5 | 1 |
| BV EI 306 3607 | 230 | 1–5 | 1 x 24 | 150 | 7–9 | 1 x 42.0 | 1 |

## 3.0 VA ta 70 °C/F

Frame size/Core height
**BV EI 306 .... / 23.0 mm**

inherently short-circuit-proof

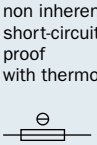
no load power loss
**type. 0.8 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 306 3359 | 230 | 1–5 | 1 x 6 | 500 | 7–9 | 1 x 10.5 | 1 |
| BV EI 306 3360 | 230 | 1–5 | 2 x 6 | 250 | 6–7/9–10 | 2 x 10.5 | 2 |
| BV EI 306 3361 | 230 | 1–5 | 1 x 7.5 | 400 | 7–9 | 1 x 12.7 | 1 |
| BV EI 306 3362 | 230 | 1–5 | 2 x 7.5 | 200 | 6–7/9–10 | 2 x 12.7 | 2 |
| BV EI 306 3363 | 230 | 1–5 | 1 x 9 | 333 | 7–9 | 1 x 15.9 | 1 |
| BV EI 306 3364 | 230 | 1–5 | 2 x 9 | 167 | 6–7/9–10 | 2 x 15.9 | 2 |
| BV EI 306 3365 | 230 | 1–5 | 1 x 12 | 250 | 7–9 | 1 x 20.3 | 1 |
| BV EI 306 3366 | 230 | 1–5 | 2 x 12 | 125 | 6–7/9–10 | 2 x 20.3 | 2 |
| BV EI 306 3367 | 230 | 1–5 | 1 x 15 | 200 | 7–9 | 1 x 23.8 | 1 |
| BV EI 306 3368 | 230 | 1–5 | 2 x 15 | 100 | 6–7/9–10 | 2 x 24.0 | 2 |
| BV EI 306 3369 | 230 | 1–5 | 1 x 18 | 167 | 7–9 | 1 x 29.2 | 1 |
| BV EI 306 3371 | 230 | 1–5 | 1 x 21 | 143 | 7–9 | 1 x 34.3 | 1 |
| BV EI 306 3372 | 230 | 1–5 | 1 x 24 | 125 | 7–9 | 1 x 38.4 | 1 |

## 3.4 VA ta 70 °C/F

Frame size/Core height
**BV EI 306 .... / 23.0 mm**

non inherently short-circuit-proof with thermo-fuse



no load power loss
**type. 1.3 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 306 7066 | 230 | 1–5 | 1 x 6 | 566 | 7–9 | 1 x 11.0 | 3 |
| BV EI 306 7067 | 230 | 1–5 | 2 x 6 | 283 | 6–7/9–10 | 2 x 10.7 | 4 |
| BV EI 306 7068 | 230 | 1–5 | 1 x 7.5 | 453 | 7–9 | 1 x 13.6 | 3 |
| BV EI 306 7069 | 230 | 1–5 | 2 x 7.5 | 226 | 6–7/9–10 | 2 x 12.4 | 4 |
| BV EI 306 7070 | 230 | 1–5 | 1 x 9 | 378 | 7–9 | 1 x 16.0 | 3 |
| BV EI 306 7071 | 230 | 1–5 | 2 x 9 | 189 | 6–7/9–10 | 2 x 16.8 | 4 |
| BV EI 306 7072 | 230 | 1–5 | 1 x 12 | 283 | 7–9 | 1 x 21.0 | 3 |
| BV EI 306 7073 | 230 | 1–5 | 2 x 12 | 141 | 6–7/9–10 | 2 x 22.1 | 4 |
| BV EI 306 7074 | 230 | 1–5 | 1 x 15 | 226 | 7–9 | 1 x 26.0 | 3 |
| BV EI 306 7075 | 230 | 1–5 | 2 x 15 | 113 | 6–7/9–10 | 2 x 24.6 | 4 |
| BV EI 306 7076 | 230 | 1–5 | 1 x 18 | 189 | 7–9 | 1 x 32.2 | 3 |
| BV EI 306 7077 | 230 | 1–5 | 1 x 21 | 162 | 7–9 | 1 x 37.5 | 3 |
| BV EI 306 7078 | 230 | 1–5 | 1 x 24 | 141 | 7–9 | 1 x 43.1 | 3 |

# Flat-type Printed-Circuit-Board transformers with small base areas

## Output Power: 1.6 VA–8.0 VA

# EI 34

| | | | |
|---|---|---|---|
| | **DIN EN 61558** | **VDE** | on request |
| **VDE-Mark for Glow-Wire-Test** | **DIN EN 60 335-1** | **VDE** | 102961/84814 |
| | **UL 5085-3** | **UL** | on request |
| | **UL 5085-1** | **UL** | on request |
| | **C22.2** | **CSA** | on request |

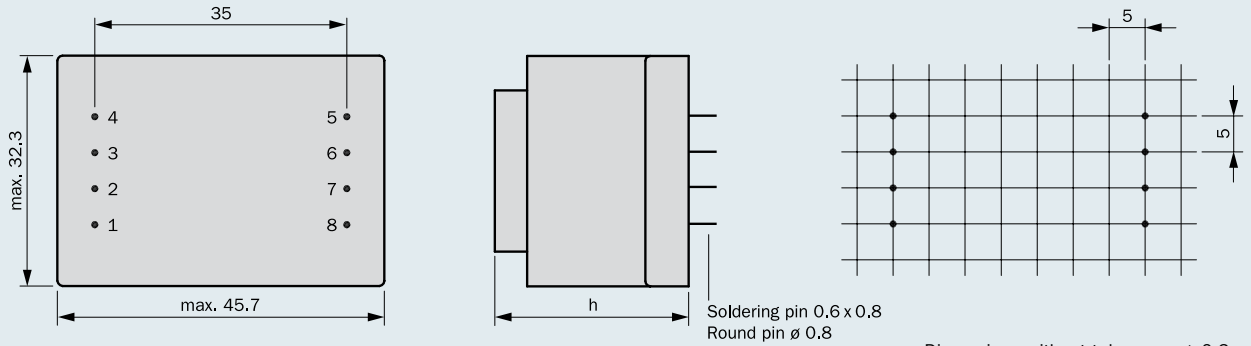
- according to REACH regulation
- according to RoHs regulation

- Primary voltages up to 230 V
- Secondary voltages from 2 V to max. 38 V
- Output Power up to 8.0 VA
- Temperature class ta 70 °C
- Short-circuit-proof
- Vacuum-encapsulated, bobbin with dual chamber windings
- Per item tested quality with certificate
- Excellent temperature fluctuation resistance properties
- Self-extinguishing cast housing and sealing material
- Minimal size available

The EI 34 Series provides solutions for applications requiring low heights and a small base areas. HAHN offers rapid and economic problem solutions for customer applications especially developed by our experienced R&D development engineers. The EI 34 Transformers meet the stringent requirements of the DIN EN 61558 and DIN VDE 0570 standards. Short-circuit-proof and non short-circuit-proof transformers are available in five different stacking heights. Outputs from 1.6 VA to 8.0 VA, at an ambient temperature of 70 °C, are supplyable to meet customer requirements in encapsulated versions.

HAHN has established itself on the market as a reliable and innovative supplier with its application-oriented solutions.

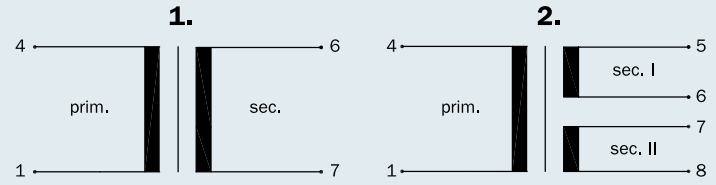
**Connecting pins**




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

**Connection scheme** (only connected pins are present)




2.) double voltage – bridge: 6 + 7, double current – bridge: 5 + 7/6 + 8

| Frame size/Core height | Output Power ta 70 °C/B inherently short-circuit-proof | Output Power ta 70 °C/B non short-circuit-proof | Height (h) | Weight |
|---|---|---|---|---|
| BV EI 341 .... / 5.5 mm | 1.6 VA | – | 16.2 mm | 75 g |
| BV EI 342 .... / 7.5 mm | 2.0 VA | – | 18.1 mm | 90 g |
| BV EI 343 .... /10.5 mm | 2.4 VA | 3.0 VA | 21.0 mm | 120 g |
| BV EI 344 .... /16.5 mm | – | 5.0 VA | 26.9 mm | 165 g |
| BV EI 345 .... /26.0 mm | – | 8.0 VA | 36.7 mm | 245 g |

# Flat-type Printed-Circuit-Board transformers with small base areas

## EI 34

Output Power: up to 2.4 VA

### 1.6 VA ta 70 °C/B

Frame size/Core height
**BV EI 341..../ 5.5 mm**

inherently short-circuit-proof

no load power loss
**type. 1.7 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 341 0001 | 230 | 1–4 | 1 x 6 | 266 | 6–7 | 1 x 10.0 | 1 |
| BV EI 341 0002 | 230 | 1–4 | 2 x 6 | 133 | 5–6/7–8 | 2 x 9.7 | 2 |
| BV EI 341 0003 | 230 | 1–4 | 1 x 7.5 | 213 | 6–7 | 1 x 12.8 | 1 |
| BV EI 341 0004 | 230 | 1–4 | 2 x 7.5 | 107 | 5–6/7–8 | 2 x 13.5 | 2 |
| BV EI 341 0005 | 230 | 1–4 | 1 x 9 | 178 | 6–7 | 1 x 15.1 | 1 |
| BV EI 341 0006 | 230 | 1–4 | 2 x 9 | 89 | 5–6/7–8 | 2 x 15.1 | 2 |
| BV EI 341 0007 | 230 | 1–4 | 1 x 12 | 133 | 6–7 | 1 x 19.6 | 1 |
| BV EI 341 0008 | 230 | 1–4 | 2 x 12 | 67 | 5–6/7–8 | 2 x 20.3 | 2 |
| BV EI 341 0009 | 230 | 1–4 | 1 x 15 | 107 | 6–7 | 1 x 25.5 | 1 |
| BV EI 341 0010 | 230 | 1–4 | 2 x 15 | 53 | 5–6/7–8 | 2 x 24.7 | 2 |
| BV EI 341 0011 | 230 | 1–4 | 1 x 18 | 89 | 6–7 | 1 x 30.1 | 1 |
| BV EI 341 0012 | 230 | 1–4 | 1 x 21 | 76 | 6–7 | 1 x 35.6 | 1 |
| BV EI 341 0013 | 230 | 1–4 | 1 x 24 | 67 | 6–7 | 1 x 39.6 | 1 |

### 2.0 VA ta 70 °C/B

Frame size/Core height
**BV EI 342..../ 7.5 mm**

inherently short-circuit-proof

no load power loss
**type. 1.0 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 342 0014 | 230 | 1–4 | 1 x 6 | 333 | 6–7 | 1 x 10.7 | 1 |
| BV EI 342 0015 | 230 | 1–4 | 2 x 6 | 167 | 5–6/7–8 | 2 x 10.7 | 2 |
| BV EI 342 0016 | 230 | 1–4 | 1 x 7.5 | 266 | 6–7 | 1 x 13.5 | 1 |
| BV EI 342 0017 | 230 | 1–4 | 2 x 7.5 | 133 | 5–6/7–8 | 2 x 13.5 | 2 |
| BV EI 342 0018 | 230 | 1–4 | 1 x 9 | 222 | 6–7 | 1 x 15.6 | 1 |
| BV EI 342 0019 | 230 | 1–4 | 2 x 9 | 111 | 5–6/7–8 | 2 x 16.1 | 2 |
| BV EI 342 0020 | 230 | 1–4 | 1 x 12 | 167 | 6–7 | 1 x 21.4 | 1 |
| BV EI 342 0021 | 230 | 1–4 | 2 x 12 | 83 | 5–6/7–8 | 2 x 21.4 | 2 |
| BV EI 342 0022 | 230 | 1–4 | 1 x 15 | 133 | 6–7 | 1 x 27.0 | 1 |
| BV EI 342 0024 | 230 | 1–4 | 1 x 18 | 111 | 6–7 | 1 x 31.4 | 1 |
| BV EI 342 0025 | 230 | 1–4 | 1 x 21 | 95 | 6–7 | 1 x 37.6 | 1 |
| BV EI 342 0026 | 230 | 1–4 | 1 x 24 | 84 | 6–7 | 1 x 43.2 | 1 |

### 2.4 VA ta 70 °C/B

Frame size/Core height
**BV EI 343..../ 10.5 mm**

inherently short-circuit-proof

no load power loss
**type. 0.7 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 343 0027 | 230 | 1–4 | 1 x 6 | 400 | 6–7 | 1 x 10.4 | 1 |
| BV EI 343 0028 | 230 | 1–4 | 2 x 6 | 200 | 5–6/7–8 | 2 x 10.4 | 2 |
| BV EI 343 0029 | 230 | 1–4 | 1 x 7.5 | 320 | 6–7 | 1 x 13.3 | 1 |
| BV EI 343 0030 | 230 | 1–4 | 2 x 7.5 | 160 | 5–6/7–8 | 2 x 13.3 | 2 |
| BV EI 343 0031 | 230 | 1–4 | 1 x 9 | 267 | 6–7 | 1 x 16.1 | 1 |
| BV EI 343 0032 | 230 | 1–4 | 2 x 9 | 134 | 5–6/7–8 | 2 x 15.4 | 2 |
| BV EI 343 0033 | 230 | 1–4 | 1 x 12 | 200 | 6–7 | 1 x 20.8 | 1 |
| BV EI 343 0034 | 230 | 1–4 | 2 x 12 | 100 | 5–6/7–8 | 2 x 20.2 | 2 |
| BV EI 343 0035 | 230 | 1–4 | 1 x 15 | 160 | 6–7 | 1 x 26.8 | 1 |
| BV EI 343 0037 | 230 | 1–4 | 1 x 18 | 134 | 6–7 | 1 x 31.2 | 1 |
| BV EI 343 0038 | 230 | 1–4 | 1 x 21 | 114 | 6–7 | 1 x 35.9 | 1 |
| BV EI 343 0039 | 230 | 1–4 | 1 x 24 | 100 | 6–7 | 1 x 41.2 | 1 |

# Flat-type Printed-Circuit-Board transformers with small base areas

## EI 34

Output Power: up to 8.0 VA

### 3.0 VA ta 70 °C/B

Frame size/Core height
**BV EI 343 .... / 10.5 mm**

non short-circuit-proof

no load power loss
**type. 1.2 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 343 0040 | 230 | 1–4 | 1 x 6 | 500 | 6–7 | 1 x 10.1 | 1 |
| BV EI 343 0041 | 230 | 1–4 | 2 x 6 | 250 | 5–6/7–8 | 2 x 10.1 | 2 |
| BV EI 343 0042 | 230 | 1–4 | 1 x 7.5 | 400 | 6–7 | 1 x 12.3 | 1 |
| BV EI 343 0043 | 230 | 1–4 | 2 x 7.5 | 200 | 5–6/7–8 | 2 x 12.8 | 2 |
| BV EI 343 0044 | 230 | 1–4 | 1 x 9 | 333 | 6–7 | 1 x 14.6 | 1 |
| BV EI 343 0045 | 230 | 1–4 | 2 x 9 | 167 | 5–6/7–8 | 2 x 14.6 | 2 |
| BV EI 343 0046 | 230 | 1–4 | 1 x 12 | 250 | 6–7 | 1 x 19.1 | 1 |
| BV EI 343 0047 | 230 | 1–4 | 2 x 12 | 125 | 5–6/7–8 | 2 x 19.1 | 2 |
| BV EI 343 0048 | 230 | 1–4 | 1 x 15 | 200 | 6–7 | 1 x 23.5 | 1 |
| BV EI 343 0049 | 230 | 1–4 | 2 x 15 | 100 | 5–6/7–8 | 2 x 24.5 | 2 |
| BV EI 343 0050 | 230 | 1–4 | 1 x 18 | 167 | 6–7 | 1 x 27.7 | 1 |
| BV EI 343 0051 | 230 | 1–4 | 1 x 21 | 143 | 6–7 | 1 x 31.9 | 1 |
| BV EI 343 0052 | 230 | 1–4 | 1 x 24 | 125 | 6–7 | 1 x 36.5 | 1 |

### 5.0 VA ta 70 °C/B

Frame size/Core height
**BV EI 344 .... / 16.5 mm**

non short-circuit-proof

no load power loss
**type. 1.3 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 344 0053 | 230 | 1–4 | 1 x 6 | 834 | 6–7 | 1 x 8.7 | 1 |
| BV EI 344 0054 | 230 | 1–4 | 2 x 6 | 417 | 5–6/7–8 | 2 x 8.7 | 2 |
| BV EI 344 0055 | 230 | 1–4 | 1 x 7.5 | 667 | 6–7 | 1 x 11.0 | 1 |
| BV EI 344 0056 | 230 | 1–4 | 2 x 7.5 | 334 | 5–6/7–8 | 2 x 11.0 | 2 |
| BV EI 344 0057 | 230 | 1–4 | 1 x 9 | 555 | 6–7 | 1 x 12.6 | 1 |
| BV EI 344 0058 | 230 | 1–4 | 2 x 9 | 278 | 5–6/7–8 | 2 x 12.6 | 2 |
| BV EI 344 0059 | 230 | 1–4 | 1 x 12 | 417 | 6–7 | 1 x 17.3 | 1 |
| BV EI 344 0060 | 230 | 1–4 | 2 x 12 | 208 | 5–6/7–8 | 2 x 16.5 | 2 |
| BV EI 344 0061 | 230 | 1–4 | 1 x 15 | 334 | 6–7 | 1 x 21.6 | 1 |
| BV EI 344 0062 | 230 | 1–4 | 2 x 15 | 167 | 5–6/7–8 | 2 x 21.6 | 2 |
| BV EI 344 0063 | 230 | 1–4 | 1 x 18 | 278 | 6–7 | 1 x 25.4 | 1 |
| BV EI 344 0064 | 230 | 1–4 | 1 x 21 | 238 | 6–7 | 1 x 29.6 | 1 |
| BV EI 344 0065 | 230 | 1–4 | 1 x 24 | 208 | 6–7 | 1 x 31.8 | 1 |

### 8.0 VA ta 70 °C/B

Frame size/Core height
**BV EI 345 .... / 26.0 mm**

non short-circuit-proof

no load power loss
**type. 1.7 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 345 0066 | 230 | 1–4 | 1 x 6 | 1332 | 6–7 | 1 x 8.2 | 1 |
| BV EI 345 0067 | 230 | 1–4 | 2 x 6 | 667 | 5–6/7–8 | 2 x 8.2 | 2 |
| BV EI 345 0068 | 230 | 1–4 | 1 x 7.5 | 1067 | 6–7 | 1 x 10.3 | 1 |
| BV EI 345 0069 | 230 | 1–4 | 2 x 7.5 | 533 | 5–6/7–8 | 2 x 10.3 | 2 |
| BV EI 345 0070 | 230 | 1–4 | 1 x 9 | 888 | 6–7 | 1 x 11.6 | 1 |
| BV EI 345 0071 | 230 | 1–4 | 2 x 9 | 444 | 5–6/7–8 | 2 x 11.6 | 2 |
| BV EI 345 0072 | 230 | 1–4 | 1 x 12 | 667 | 6–7 | 1 x 15.7 | 1 |
| BV EI 345 0073 | 230 | 1–4 | 2 x 12 | 333 | 5–6/7–8 | 2 x 15.7 | 2 |
| BV EI 345 0074 | 230 | 1–4 | 1 x 15 | 533 | 6–7 | 1 x 20.6 | 1 |
| BV EI 345 0075 | 230 | 1–4 | 2 x 15 | 267 | 5–6/7–8 | 2 x 20.6 | 2 |
| BV EI 345 0076 | 230 | 1–4 | 1 x 18 | 444 | 6–7 | 1 x 23.1 | 1 |
| BV EI 345 0077 | 230 | 1–4 | 1 x 21 | 380 | 6–7 | 1 x 26.8 | 1 |
| BV EI 345 0078 | 230 | 1–4 | 1 x 24 | 334 | 6–7 | 1 x 30.4 | 1 |

# Content

**EI Series**

- Printed-Circuit-Board transformers
  frame size EI 38 – EI 96 (4.5 VA – 200 VA)

**EI**

# Printed-Circuit-Board transformers

Output Power: 4.5 VA

# EI 38

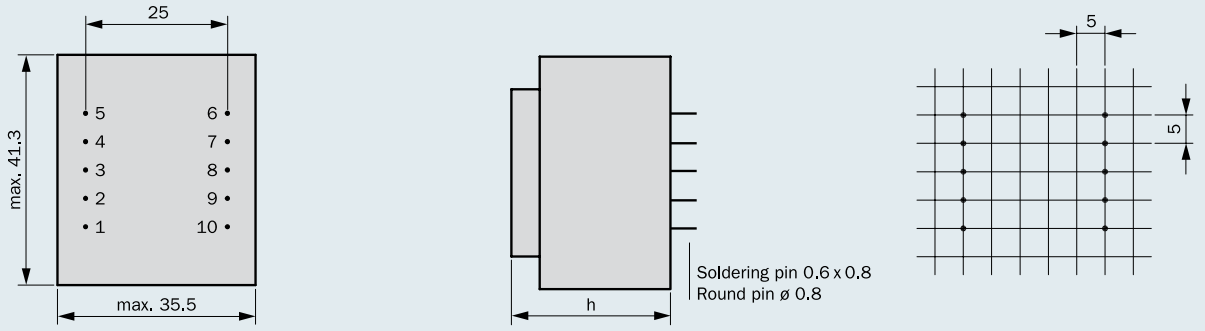
| | | | |
|---|---|---|---|
| 10 | **DIN EN 61558-2-6** | **VDE** | 119359 |
| VDE-Mark for Glow-Wire-Test | **DIN EN 60 335-1** | **VDE** | 102961/84814 |
| | **UL 5085-3** | **UL** | on request |
| | **UL 5085-1** | **UL** | E98173 |
| | **C22.2** | **CSA** | 1290235 |

- according to REACH regulation
- according to RoHs regulation

- Output Power up to 4.5 VA
- Non short-circuit-proof at temperature class ta 70 °C/B
- Standard type cast housing “0”
- Excellent temperature fluctuation resistance properties
- High electrical safety and long service-life features
- High voltage resistance
- Self-extinguishing cast housing and sealing material
- Per item tested quality with certificate

Protection extern secondary by:
- Micro fuse according to IEC 127 or
- PTC resistance

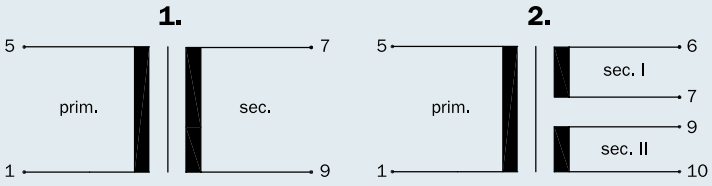
**Connecting pins**




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

**Connection scheme** (only connected pins are present)




2.) double voltage – bridge: 7 + 9, double current – bridge: 6 + 9/7 + 10

| Frame size/Core height | Output Power ta 70 °C/B | Height (h) | Weight | Packaging unit |
|---|---|---|---|---|
| BV EI 382 .... /13.6 mm | 4.5 VA | 28.1 mm | 0.150 kg | 32/40 pieces* |

* it depends on kind of packaging

# Printed-Circuit-Board transformers

Output Power: 4.5 VA

# EI 38

**4.5 VA**
**ta 70 °C/B**

Frame size/Core height
**BV EI 382..../**
**13.6 mm**

non short-circuit-proof

no load power loss
**type. 1.5 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 382 1185 | 230 | 1–5 | 1 x 6 | 750 | 7–9 | 1 x 9.7 | 1 |
| BV EI 382 1186 | 230 | 1–5 | 2 x 6 | 375 | 6–7/9–10 | 2 x 9.2 | 2 |
| BV EI 382 1187 | 230 | 1–5 | 1 x 7.5 | 600 | 7–9 | 1 x 10.6 | 1 |
| BV EI 382 1188 | 230 | 1–5 | 2 x 7.5 | 300 | 6–7/9–10 | 2 x 11.0 | 2 |
| BV EI 382 1189 | 230 | 1–5 | 1 x 9 | 500 | 7–9 | 1 x 13.0 | 1 |
| BV EI 382 1190 | 230 | 1–5 | 2 x 9 | 250 | 6–7/9–10 | 2 x 13.0 | 2 |
| BV EI 382 1191 | 230 | 1–5 | 1 x 12 | 375 | 7–9 | 1 x 17.0 | 1 |
| BV EI 382 1192 | 230 | 1–5 | 2 x 12 | 187 | 6–7/9–10 | 2 x 18.4 | 2 |
| BV EI 382 1193 | 230 | 1–5 | 1 x 15 | 300 | 7–9 | 1 x 20.8 | 1 |
| BV EI 382 1194 | 230 | 1–5 | 2 x 15 | 150 | 6–7/9–10 | 2 x 21.2 | 2 |
| BV EI 382 1195 | 230 | 1–5 | 1 x 18 | 250 | 7–9 | 1 x 24.4 | 1 |
| BV EI 382 1196 | 230 | 1–5 | 2 x 18 | 125 | 6–7/9–10 | 2 x 24.9 | 2 |
| BV EI 382 1267 | 230 | 1–5 | 1 x 21 | 215 | 7–9 | 1 x 29.0 | 1 |
| BV EI 382 1197 | 230 | 1–5 | 1 x 24 | 187 | 7–9 | 1 x 33.5 | 1 |

# Printed-Circuit-Board transformers

Output Power: 2.5 VA – 9.0 VA

# EI 38

| | | | |
|---|---|---|---|
| | **DIN EN 61558-2-6** | **VDE** | on request |
| VDE-Mark for Glow-Wire-Test | **DIN EN 60 335-1** | **VDE** | on request |
| | **UL 5085-3** | **UL** | on request |
| | **UL 5085-1** | **UL** | on request |
| | **C22.2** | **CSA** | on request |

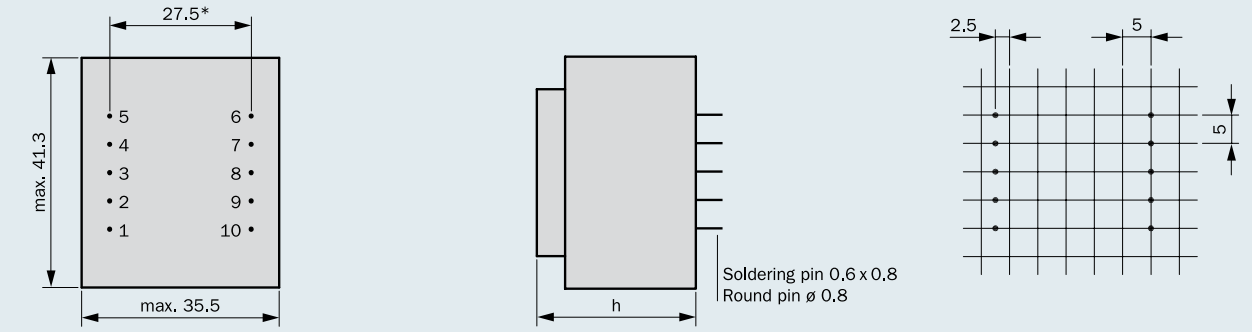
- according to REACH regulation
- according to RoHs regulation

## Individual version!

Parallel to the cataloged EI 38 series transformers. HAHN also produces other variants. e.g. with integrated thermo fuse or thermo switch. other housing-. fixing- and connective options as well as non-encapsulated transformers.

| Frame size/Core height | Output Power ta 70 °C/B | Height (h) | Weight | Packaging unit |
|---|---|---|---|---|
| BV EI 381 .... / 7.5 mm | 2.5 VA | 22.1 mm | 0.100 kg | 40 pieces |
| BV EI 382 .... /13.6 mm | 4.5 VA | 28.1 mm | 0.150 kg | 40 pieces |
| BV EI 383 .... /16.5 mm | 6.0 VA | 30.8 mm | 0.190 kg | 60 pieces |
| BV EI 384 .... /28.0 mm | 9.0 VA | 42.8 mm | 0.280 kg | – |

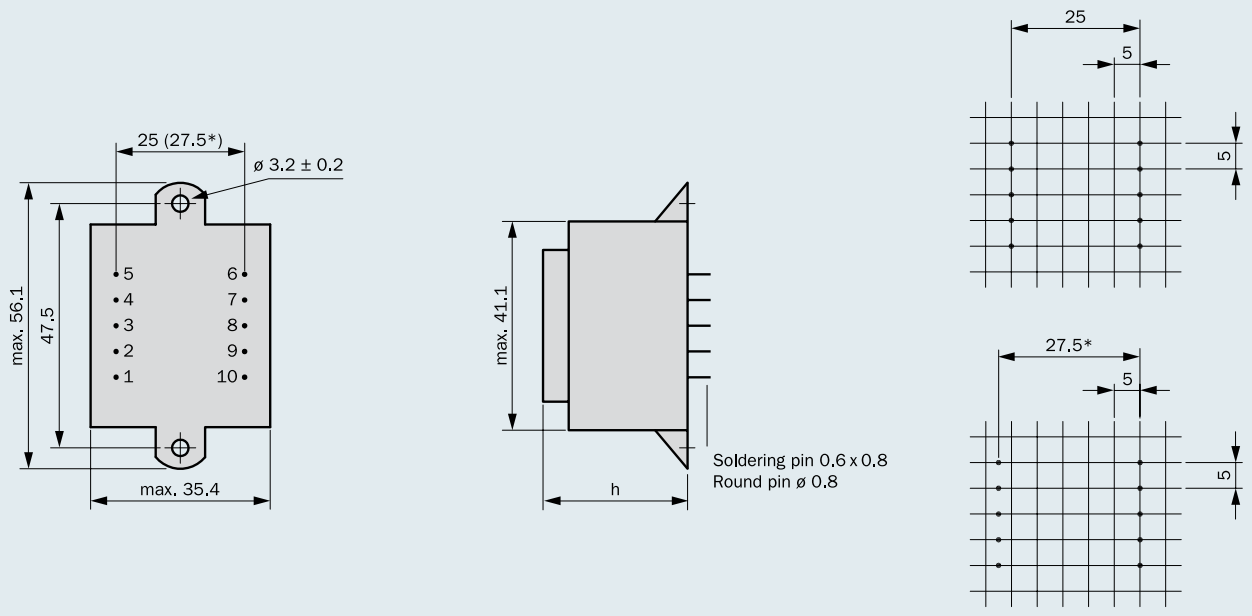
**Type cast housing “0”**




View looking onto pins
* alternative version with connecting grid 27.5 mm

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

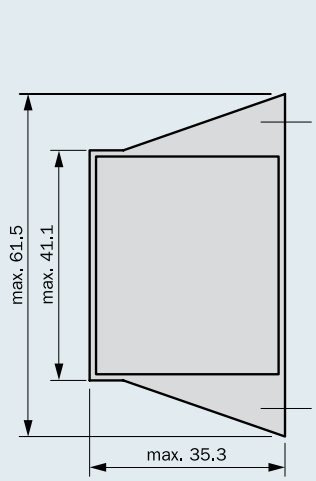
**Type cast housing “K” with 2 fixing straps**



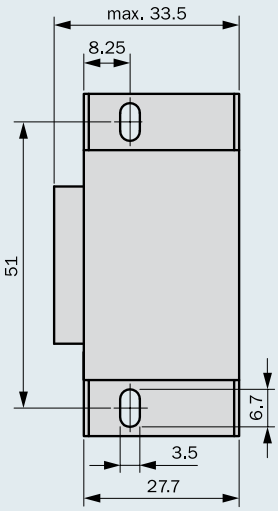

View looking onto pins
* alternative version with connecting grid 27.5 mm

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

**Type cast housing “SV” for upright mounting**




View looking onto pins




Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

# Printed-Circuit-Board transformers

Output Power: 6.0 VA

# EI 42

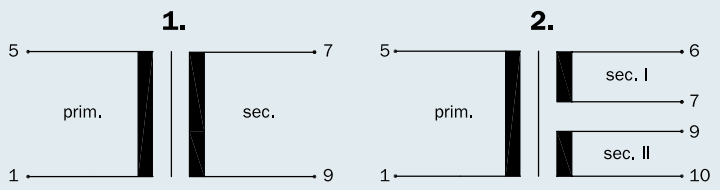
| | | | |
|---|---|---|---|
| 10 | **DIN EN 61558-2-6** | **VDE** | 119359 |
| VDE-Mark for Glow-Wire-Test | **DIN EN 60 335-1** | **VDE** | 102961/84814 |
| | **UL 5085-3** | **UL** | on request |
| | **UL 5085-1** | **UL** | E98173 |
| | **C22.2** | **CSA** | on request |

- according to REACH regulation
- according to RoHs regulation

- Output Power up to 6.0 VA
- Non short-circuit-proof at temperature class ta 70 °C/B
- Standard type cast housing “K” and “O”
- Excellent temperature fluctuation resistance properties
- High electrical safety and long service life features
- High voltage resistance
- Self-extinguishing cast housing and sealing material
- Per item tested quality with certificate

Protection extern secondary by:
- Micro fuse according to IEC 127 or
- PTC resistance

**Connection scheme** (only connected pins are present)

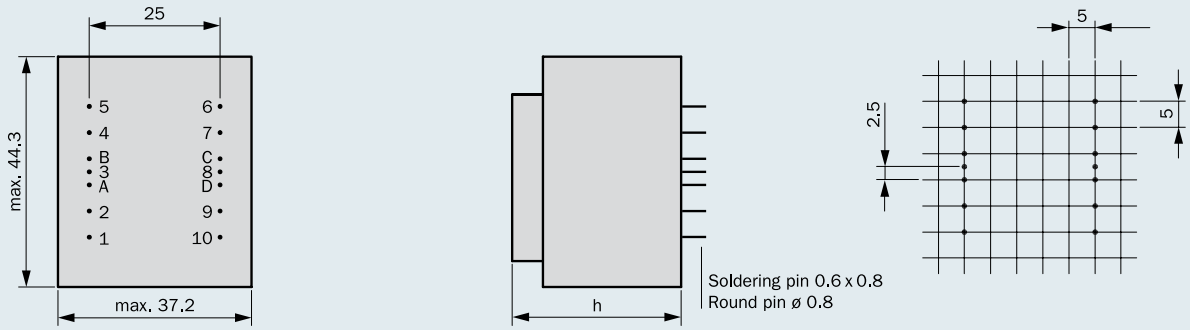



2.) double voltage – bridge: 7 + 9, double current – bridge: 6 + 9/7 + 10

| Frame size/Core height | Output Power ta 70 °C/B | Height (h) | Weight | Packaging unit |
|---|---|---|---|---|
| BV EI 422 .... /14.8 mm | 6.0 VA | 32.3 mm | 0.200 kg | 40/50 pieces* |

* it depends on kind of cast housing

**Connecting pins** type cast housing “0”




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

**Type cast housing “0”**

**6.0 VA**
**ta 70 °C/B**

Frame size/Core height
**BV EI 422..../**
**14.8 mm**

non short-circuit-proof

no load power loss
**type. 1.3 W**

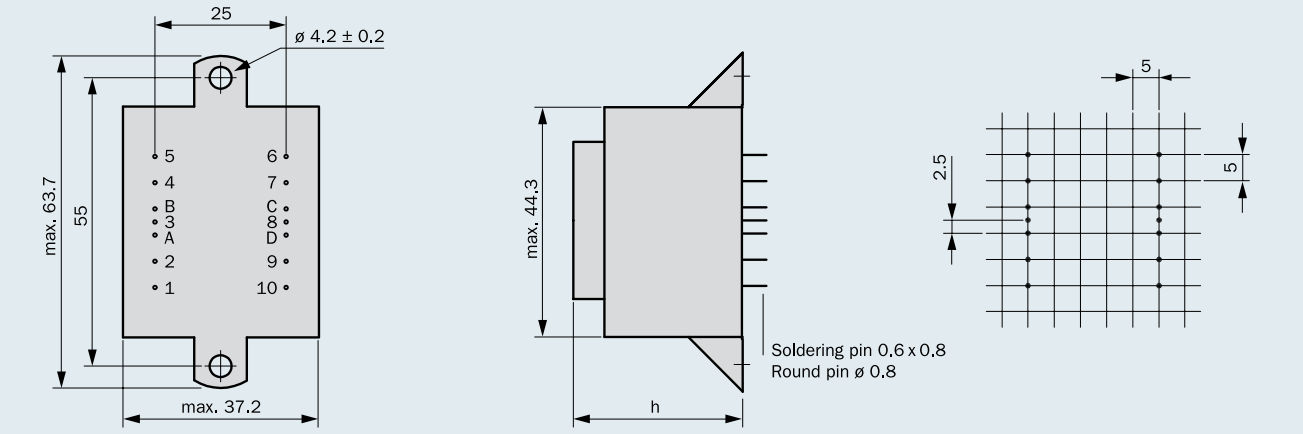
| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 422 1320 | 230 | 1 – 5 | 1 x 6 | 1000 | 7–9 | 1 x 8.7 | 1 |
| BV EI 422 1298 | 230 | 1 – 5 | 2 x 6 | 500 | 6–7/9–10 | 2 x 8.7 | 2 |
| BV EI 422 1303 | 230 | 1 – 5 | 1 x 7.5 | 800 | 7–9 | 1 x 10.9 | 1 |
| BV EI 422 1304 | 230 | 1 – 5 | 2 x 7.5 | 400 | 6–7/9–10 | 2 x 10.9 | 2 |
| BV EI 422 1285 | 230 | 1 – 5 | 1 x 9 | 667 | 7–9 | 1 x 13.0 | 1 |
| BV EI 422 1281 | 230 | 1 – 5 | 2 x 9 | 334 | 6–7/9–10 | 2 x 13.0 | 2 |
| BV EI 422 1275 | 230 | 1 – 5 | 1 x 12 | 500 | 7–9 | 1 x 16.7 | 1 |
| BV EI 422 1260 | 230 | 1 – 5 | 2 x 12 | 250 | 6–7/9–10 | 2 x 16.7 | 2 |
| BV EI 422 1276 | 230 | 1 – 5 | 1 x 15 | 400 | 7–9 | 1 x 20.2 | 1 |
| BV EI 422 1305 | 230 | 1 – 5 | 2 x 15 | 200 | 6–7/9–10 | 2 x 20.6 | 2 |
| BV EI 422 1289 | 230 | 1 – 5 | 1 x 18 | 334 | 7–9 | 1 x 24.6 | 1 |
| BV EI 422 1306 | 230 | 1 – 5 | 2 x 18 | 167 | 6–7/9–10 | 2 x 24.6 | 2 |
| BV EI 422 1355 | 230 | 1 – 5 | 1 x 21 | 285 | 7–9 | 1 x 27.1 | 1 |
| BV EI 422 1307 | 230 | 1 – 5 | 1 x 24 | 250 | 7–9 | 1 x 30.8 | 1 |

# Printed-Circuit-Board transformers

Output Power: 6.0 VA

# EI 42

**Connecting pins** type cast housing “K” with 2 fixing straps




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

**Type cast housing “K”**

**6.0 VA**
**ta 70 °C/B**

Frame size/Core height
**BV EI 422..../ 14.8 mm**

non short-circuit-proof

no load power loss
**type. 1.3 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 422 1218 | 230 | 1 – 5 | 1 x 6 | 1000 | 7–9 | 1 x 8.7 | 1 |
| BV EI 422 1219 | 230 | 1 – 5 | 2 x 6 | 500 | 6–7/9–10 | 2 x 8.7 | 2 |
| BV EI 422 1220 | 230 | 1 – 5 | 1 x 7.5 | 800 | 7–9 | 1 x 10.9 | 1 |
| BV EI 422 1221 | 230 | 1 – 5 | 2 x 7.5 | 400 | 6–7/9–10 | 2 x 10.9 | 2 |
| BV EI 422 1222 | 230 | 1 – 5 | 1 x 9 | 667 | 7–9 | 1 x 13.0 | 1 |
| BV EI 422 1223 | 230 | 1 – 5 | 2 x 9 | 334 | 6–7/9–10 | 2 x 13.0 | 2 |
| BV EI 422 1224 | 230 | 1 – 5 | 1 x 12 | 500 | 7–9 | 1 x 16.7 | 1 |
| BV EI 422 1225 | 230 | 1 – 5 | 2 x 12 | 250 | 6–7/9–10 | 2 x 16.7 | 2 |
| BV EI 422 1226 | 230 | 1 – 5 | 1 x 15 | 400 | 7–9 | 1 x 20.2 | 1 |
| BV EI 422 1227 | 230 | 1 – 5 | 2 x 15 | 200 | 6–7/9–10 | 2 x 20.6 | 2 |
| BV EI 422 1228 | 230 | 1 – 5 | 1 x 18 | 334 | 7–9 | 1 x 24.6 | 1 |
| BV EI 422 1229 | 230 | 1 – 5 | 2 x 18 | 167 | 6–7/9–10 | 2 x 24.6 | 2 |
| BV EI 422 1354 | 230 | 1 – 5 | 1 x 21 | 285 | 7–9 | 1 x 27.1 | 1 |
| BV EI 422 1230 | 230 | 1 – 5 | 1 x 24 | 250 | 7–9 | 1 x 30.8 | 1 |

# Printed-Circuit-Board transformers

Output Power: 3.0 VA – 10.0 VA

# EI 42

| | | | |
|---|---|---|---|
| 10 | **DIN EN 61558-2-6** | **VDE** | on request |
| **VDE-Mark for Glow-Wire-Test** | **DIN EN 60 335-1** | **VDE** | on request |
| | **UL 5085-3** | **UL** | on request |
| | **UL 5085-1** | **UL** | on request |
| | **C22.2** | **CSA** | on request |

- according to REACH regulation
- according to RoHs regulation

## Individual version!

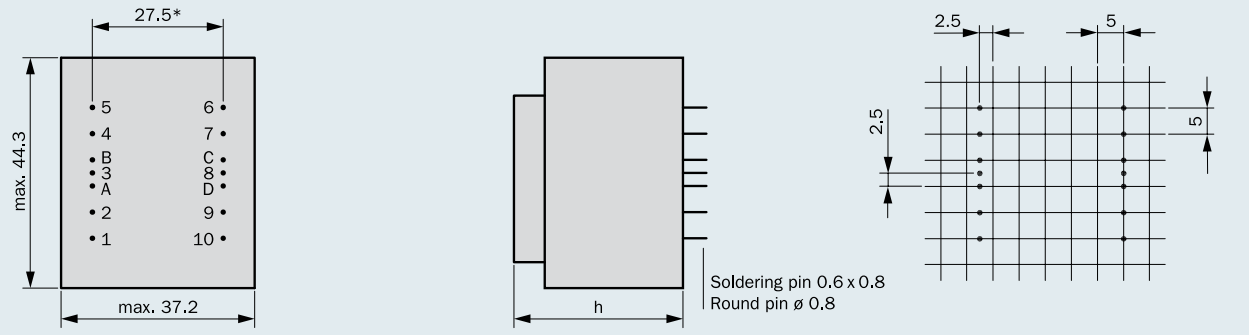
Parallel to the cataloged EI 42 series transformers, HAHN also produces other variants, e.g. with integrated thermo fuse or thermo switch, other housing-, fixing- and connective options as well as non-encapsulated transformers.

| Frame size/Core height | Output Power ta 70 °C/B | Height (h) | Weight | Packaging unit |
|---|---|---|---|---|
| BV EI 421 .... / 8.5 mm | 3.0 VA | 26.2 mm | 0.120 kg | 40/50 pieces** |
| BV EI 422 .... /14.8 mm | 6.0 VA | 32.3 mm | 0.200 kg | 40/50 pieces** |
| BV EI 423 .... /20.0 mm* | 10.0 VA | 38.0 mm | 0.250 kg | 50 pieces |

* only type cast housing "0"

** it depends on kind of cast housing

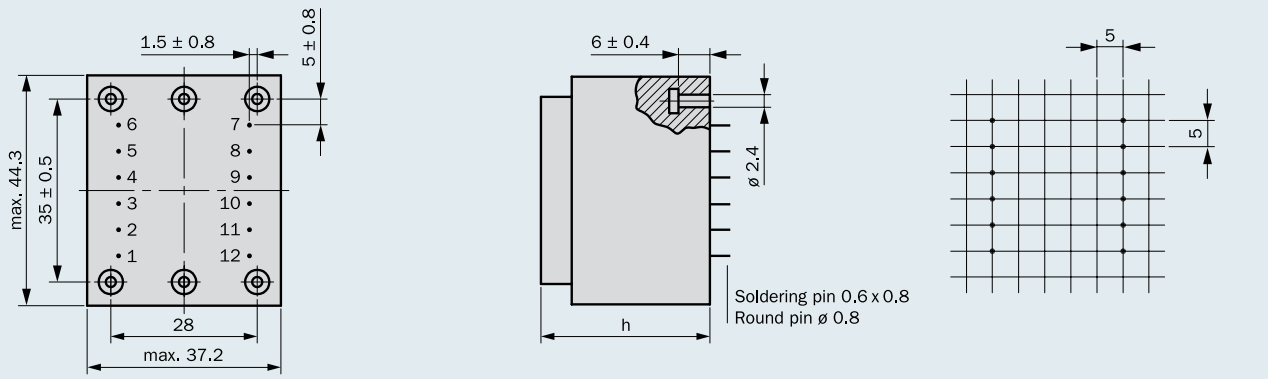
**Connecting pins** type cast housing "0"




View looking onto pins
* alternative version with connecting grid 27.5 mm

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

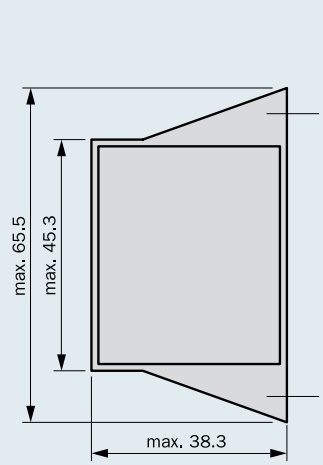
**Connecting pins** type cast housing "0" with fixing band



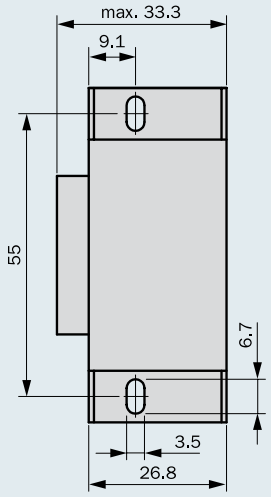

View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

**Connecting pins** type cast housing “SV” for upright mounting




View looking onto pins




Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

# Printed-Circuit-Board transformers

Output Power: 7.0 VA – 15.0 VA

# EI 48

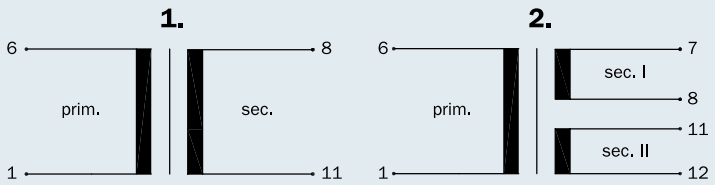
| | | | |
|---|---|---|---|
| 10 | **DIN EN 61558-2-6** | **VDE** | 108266 |
| VDE-Mark for Glow-Wire-Test | **DIN EN 60 335-1** | **VDE** | 102961/84814 |
| | **UL 5085-3** | **UL** | on request |
| | **UL 5085-1** | **UL** | E98173 |
| | **C22.2** | **CSA** | on request |

- according to REACH regulation
- according to RoHs regulation

- Output Power up to 15.0 VA
- Non short-circuit-proof at temperature class ta 70 °C/B
- Standard type cast housing “K” and “0”
- Excellent temperature fluctuation resistance properties
- High electrical safety and long service-life features
- High voltage resistance
- Self-extinguishing cast housing and sealing material
- Per item tested quality with certificate

Protection extern secondary by:
- Micro fuse according to IEC 127 or
- PTC resistance

**Connection scheme** (only connected pins are present)



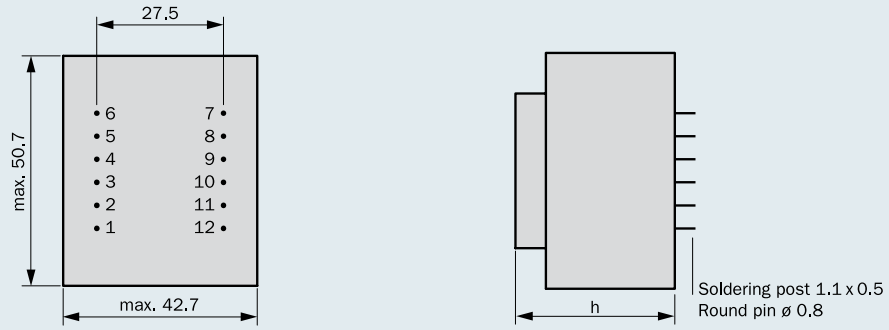

2.) double voltage – bridge: 8 + 11, double current – bridge: 7 + 11/8 + 12

| Frame size/Core height | Output power ta 70 °C/B | Height (h) | Weight | Packaging unit |
|---|---|---|---|---|
| BV EI 480 .... /12.5 mm* | 7.0 VA | 30.2 ± 0.5 mm | 0.250 kg | 27/40 pieces** |
| BV EI 481 .... /16.8 mm | 10.0 VA | 34.6 ± 0.5 mm | 0.300 kg | 27/40 pieces** |
| BV EI 482 .... /20.5 mm | 12.0 VA | 38.5 ± 0.5 mm | 0.350 kg | 27/40 pieces** |
| BV EI 483 .... /25.5 mm | 15.0 VA | 43.5 ± 0.5 mm | 0.450 kg | 27/40 pieces** |

* only type cast housing ’0‘

** it depends on kind of cast housing

**Connecting pins** type cast housing "0"




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

**Type cast housing "0"**

## 7.0 VA ta 70 °C/B

Frame size/Core height
**BV EI 480..../ 12.5 mm**

non short-circuit-proof

no load power loss
**type. 2.3 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 480 1385 | 230 | 1–6 | 1 x 6 | 1167 | 8–11 | 1 x 7.9 | 1 |
| BV EI 480 1386 | 230 | 1–6 | 2 x 6 | 583 | 7–8/11–12 | 2 x 7.9 | 2 |
| BV EI 480 1387 | 230 | 1–6 | 1 x 7.5 | 933 | 8–11 | 1 x 9.8 | 1 |
| BV EI 480 1388 | 230 | 1–6 | 2 x 7.5 | 467 | 7–8/11–12 | 2 x 9.8 | 2 |
| BV EI 480 1389 | 230 | 1–6 | 1 x 9 | 788 | 8–11 | 1 x 11.8 | 1 |
| BV EI 480 1390 | 230 | 1–6 | 2 x 9 | 388 | 7–8/11–12 | 2 x 11.8 | 2 |
| BV EI 480 1391 | 230 | 1–6 | 1 x 12 | 583 | 8–11 | 1 x 15.8 | 1 |
| BV EI 480 1392 | 230 | 1–6 | 2 x 12 | 292 | 7–8/11–12 | 2 x 15.8 | 2 |
| BV EI 480 1393 | 230 | 1–6 | 1 x 15 | 467 | 8–11 | 1 x 19.5 | 1 |
| BV EI 480 1394 | 230 | 1–6 | 2 x 15 | 233 | 7–8/11–12 | 2 x 19.5 | 2 |
| BV EI 480 1395 | 230 | 1–6 | 1 x 18 | 389 | 8–11 | 1 x 23.3 | 1 |
| BV EI 480 1396 | 230 | 1–6 | 2 x 18 | 195 | 7–8/11–12 | 2 x 23.3 | 2 |
| BV EI 480 1397 | 230 | 1–6 | 1 x 21 | 333 | 8–11 | 1 x 27.5 | 1 |
| BV EI 480 1398 | 230 | 1–6 | 1 x 24 | 292 | 8–11 | 1 x 31.3 | 1 |

**Type cast housing "0"**

## 10.0 VA ta 70 °C/B

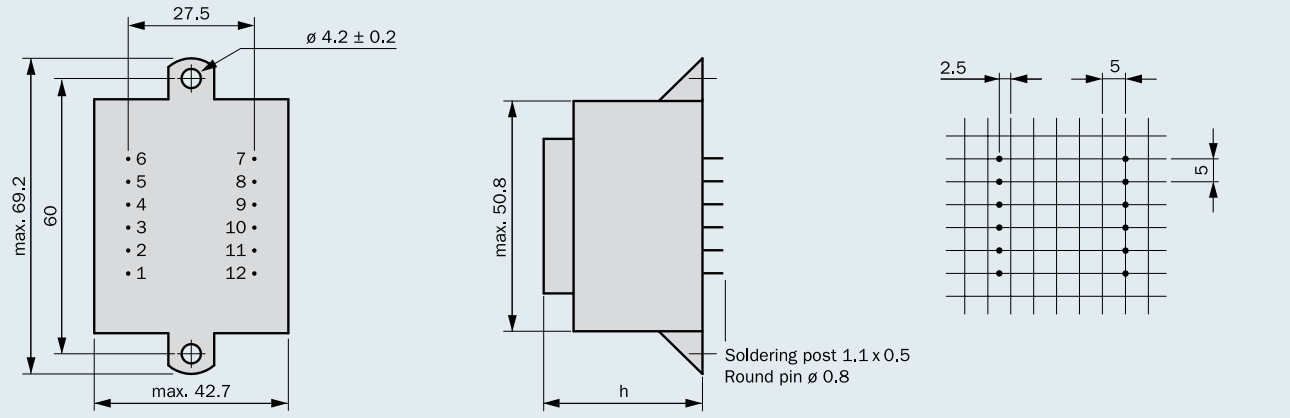
Frame size/Core height
**BV EI 481..../ 16.8 mm**

non short-circuit-proof

no load power loss
**type. 2.0 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 481 1325 | 230 | 1–6 | 1 x 6 | 1667 | 8–11 | 1 x 7.6 | 1 |
| BV EI 481 1305 | 230 | 1–6 | 2 x 6 | 833 | 7–8/11–12 | 2 x 7.6 | 2 |
| BV EI 481 1312 | 230 | 1–6 | 1 x 7.5 | 1333 | 8–11 | 1 x 9.8 | 1 |
| BV EI 481 1326 | 230 | 1–6 | 2 x 7.5 | 667 | 7–8/11–12 | 2 x 9.8 | 2 |
| BV EI 481 1291 | 230 | 1–6 | 1 x 9 | 1111 | 8–11 | 1 x 11.5 | 1 |
| BV EI 481 1271 | 230 | 1–6 | 2 x 9 | 556 | 7–8/11–12 | 2 x 11.5 | 2 |
| BV EI 481 1295 | 230 | 1–6 | 1 x 12 | 834 | 8–11 | 1 x 15.5 | 1 |
| BV EI 481 1327 | 230 | 1–6 | 2 x 12 | 417 | 7–8/11–12 | 2 x 15.3 | 2 |
| BV EI 481 1323 | 230 | 1–6 | 1 x 15 | 667 | 8–11 | 1 x 18.6 | 1 |
| BV EI 481 1324 | 230 | 1–6 | 2 x 15 | 333 | 7–8/11–12 | 2 x 18.6 | 2 |
| BV EI 481 1307 | 230 | 1–6 | 1 x 18 | 556 | 8–11 | 1 x 22.3 | 1 |
| BV EI 481 1328 | 230 | 1–6 | 2 x 18 | 278 | 7–8/11–12 | 2 x 22.3 | 2 |
| BV EI 481 1381 | 230 | 1–6 | 1 x 21 | 477 | 8–11 | 1 x 25.1 | 1 |
| BV EI 481 1329 | 230 | 1–6 | 1 x 24 | 417 | 8–11 | 1 x 28.7 | 1 |

**Connecting pins** type cast housing “K” with 2 fixing straps




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

**Type cast housing “K”**

**10.0 VA ta 70 °C/B**

Frame size/Core height
**BV EI 481..../ 16.8 mm**

non short-circuit-proof

no load power loss
**type. 2.0 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 481 1142 | 230 | 1–6 | 1 x 6 | 1667 | 8–11 | 1 x 7.6 | 1 |
| BV EI 481 1134 | 230 | 1–6 | 2 x 6 | 833 | 7–8/11–12 | 2 x 7.6 | 2 |
| BV EI 481 1182 | 230 | 1–6 | 1 x 7.5 | 1333 | 8–11 | 1 x 9.8 | 1 |
| BV EI 481 1188 | 230 | 1–6 | 2 x 7.5 | 667 | 7–8/11–12 | 2 x 9.8 | 2 |
| BV EI 481 1167 | 230 | 1–6 | 1 x 9 | 1111 | 8–11 | 1 x 11.5 | 1 |
| BV EI 481 1118 | 230 | 1–6 | 2 x 9 | 556 | 7–8/11–12 | 2 x 11.5 | 2 |
| BV EI 481 1172 | 230 | 1–6 | 1 x 12 | 834 | 8–11 | 1 x 15.5 | 1 |
| BV EI 481 1119 | 230 | 1–6 | 2 x 12 | 417 | 7–8/11–12 | 2 x 15.3 | 2 |
| BV EI 481 1184 | 230 | 1–6 | 1 x 15 | 667 | 8–11 | 1 x 18.6 | 1 |
| BV EI 481 1120 | 230 | 1–6 | 2 x 15 | 333 | 7–8/11–12 | 2 x 18.6 | 2 |
| BV EI 481 1185 | 230 | 1–6 | 1 x 18 | 556 | 8–11 | 1 x 22.3 | 1 |
| BV EI 481 1192 | 230 | 1–6 | 2 x 18 | 278 | 7–8/11–12 | 2 x 22.3 | 2 |
| BV EI 481 1273 | 230 | 1–6 | 1 x 21 | 477 | 8–11 | 1 x 25.1 | 1 |
| BV EI 481 1186 | 230 | 1–6 | 1 x 24 | 417 | 8–11 | 1 x 28.7 | 1 |

**Type cast housing “K”**

**12.0 VA ta 70 °C/B**

Frame size/Core height
**BV EI 482..../ 20.5 mm**

non short-circuit-proof

no load power loss
**type. 1.8 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 482 1231 | 230 | 1–6 | 1 x 6 | 2000 | 8–11 | 1 x 8.3 | 1 |
| BV EI 482 1232 | 230 | 1–6 | 2 x 6 | 1000 | 7–8/11–12 | 2 x 8.3 | 2 |
| BV EI 482 1233 | 230 | 1–6 | 1 x 7.5 | 1600 | 8–11 | 1 x 10.6 | 1 |
| BV EI 482 1236 | 230 | 1–6 | 2 x 7.5 | 800 | 7–8/11–12 | 2 x 10.6 | 2 |
| BV EI 482 1237 | 230 | 1–6 | 1 x 9 | 1333 | 8–11 | 1 x 12.4 | 1 |
| BV EI 482 1238 | 230 | 1–6 | 2 x 9 | 667 | 7–8/11–12 | 2 x 12.4 | 2 |
| BV EI 482 1239 | 230 | 1–6 | 1 x 12 | 1000 | 8–11 | 1 x 16.3 | 1 |
| BV EI 482 1240 | 230 | 1–6 | 2 x 12 | 500 | 7–8/11–12 | 2 x 16.3 | 2 |
| BV EI 482 1241 | 230 | 1–6 | 1 x 15 | 800 | 8–11 | 1 x 19.9 | 1 |
| BV EI 482 1242 | 230 | 1–6 | 2 x 15 | 400 | 7–8/11–12 | 2 x 19.9 | 2 |
| BV EI 482 1243 | 230 | 1–6 | 1 x 18 | 667 | 8–11 | 1 x 23.5 | 1 |
| BV EI 482 1234 | 230 | 1–6 | 2 x 18 | 333 | 7–8/11–12 | 2 x 23.5 | 2 |
| BV EI 482 1382 | 230 | 1–6 | 1 x 21 | 572 | 8–11 | 1 x 26.1 | 1 |
| BV EI 482 1244 | 230 | 1–6 | 1 x 24 | 500 | 8–11 | 1 x 30.3 | 1 |

**Type cast housing "K"**

**15.0 VA**
**ta 70 °C/B**

Frame size/Core height
**BV EI 483..../ 25.5 mm**

non short-circuit-proof

no load power loss
**type. 2.5 W**

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 483 1260 | 230 | 1–6 | 1 x 6 | 2500 | 8–11 | 1 x 7.8 | 1 |
| BV EI 483 1257 | 230 | 1–6 | 2 x 6 | 1250 | 7–8/11–12 | 2 x 7.8 | 2 |
| BV EI 483 1258 | 230 | 1–6 | 1 x 7.5 | 2000 | 8–11 | 1 x 9.5 | 1 |
| BV EI 483 1245 | 230 | 1–6 | 2 x 7.5 | 1000 | 7–8/11–12 | 2 x 9.5 | 2 |
| BV EI 483 1246 | 230 | 1–6 | 1 x 9 | 1667 | 8–11 | 1 x 12.0 | 1 |
| BV EI 483 1247 | 230 | 1–6 | 2 x 9 | 833 | 7–8/11–12 | 2 x 12.0 | 2 |
| BV EI 483 1248 | 230 | 1–6 | 1 x 12 | 1250 | 8–11 | 1 x 15.9 | 1 |
| BV EI 483 1249 | 230 | 1–6 | 2 x 12 | 625 | 7–8/11–12 | 2 x 15.9 | 2 |
| BV EI 483 1250 | 230 | 1–6 | 1 x 15 | 1000 | 8–11 | 1 x 19.1 | 1 |
| BV EI 483 1251 | 230 | 1–6 | 2 x 15 | 500 | 7–8/11–12 | 2 x 19.1 | 2 |
| BV EI 483 1252 | 230 | 1–6 | 1 x 18 | 833 | 8–11 | 1 x 22.8 | 1 |
| BV EI 483 1259 | 230 | 1–6 | 2 x 18 | 417 | 7–8/11–12 | 2 x 22.8 | 2 |
| BV EI 483 1302 | 230 | 1–6 | 1 x 21 | 714 | 8–11 | 1 x 26.0 | 1 |
| BV EI 483 1253 | 230 | 1–6 | 1 x 24 | 625 | 8–11 | 1 x 30.6 | 1 |

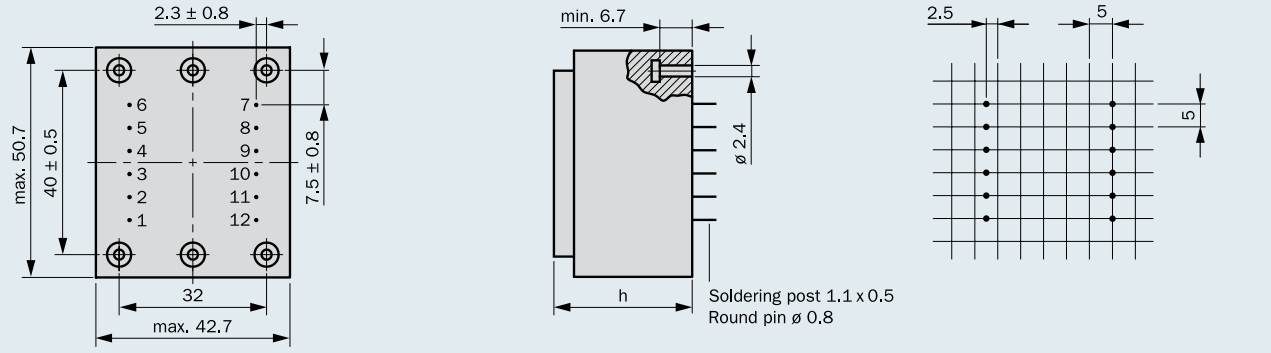
| | | | |
|---|---|---|---|
| 10 | **DIN EN 61558-2-6** | **VDE** | on request |
| VDE-Mark for Glow-Wire-Test | **DIN EN 60 335-1** | **VDE** | 102961/84814 |
| | **UL 5085-3** | **UL** | on request |
| | **UL 5085-1** | **UL** | on request |
| | **C22.2** | **CSA** | on request |

- according to REACH regulation
- according to RoHs regulation

## Individual version!

Parallel to the cataloged EI 48 series transformers, HAHN also produces other variants, e.g. with integrated thermo fuse or thermo switch, other housing-, fixing- and connective options as well as non-encapsulated transformers.

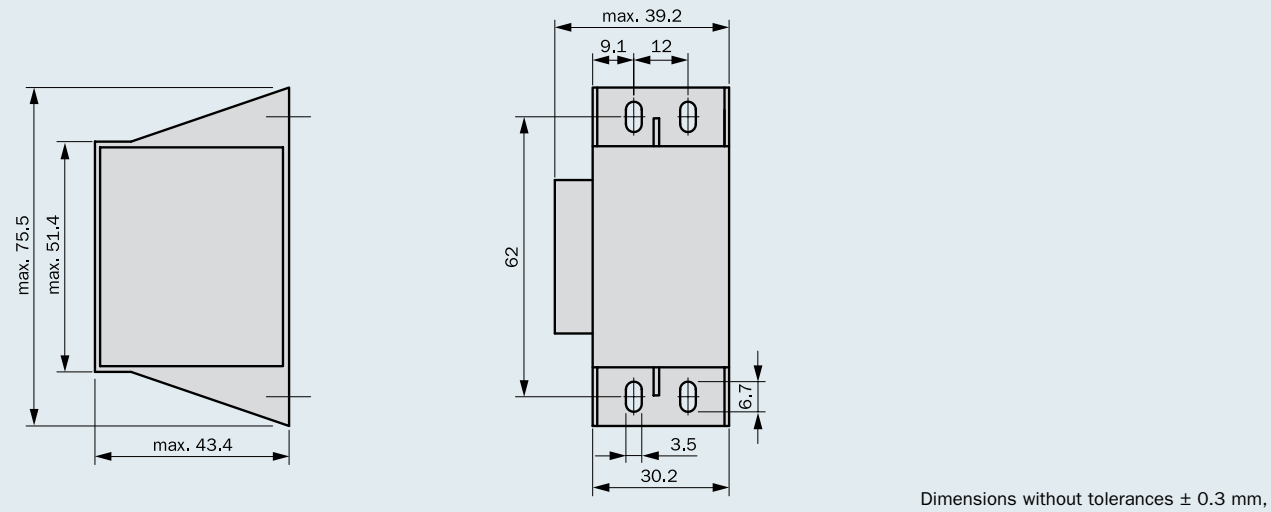
**Type cast housing “0” with fixing band**




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

**Type cast housing “SV” for upright mounting**




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

# Printed-Circuit-Board transformers

Output Power: 12.0 VA – 22.0 VA

# EI 54

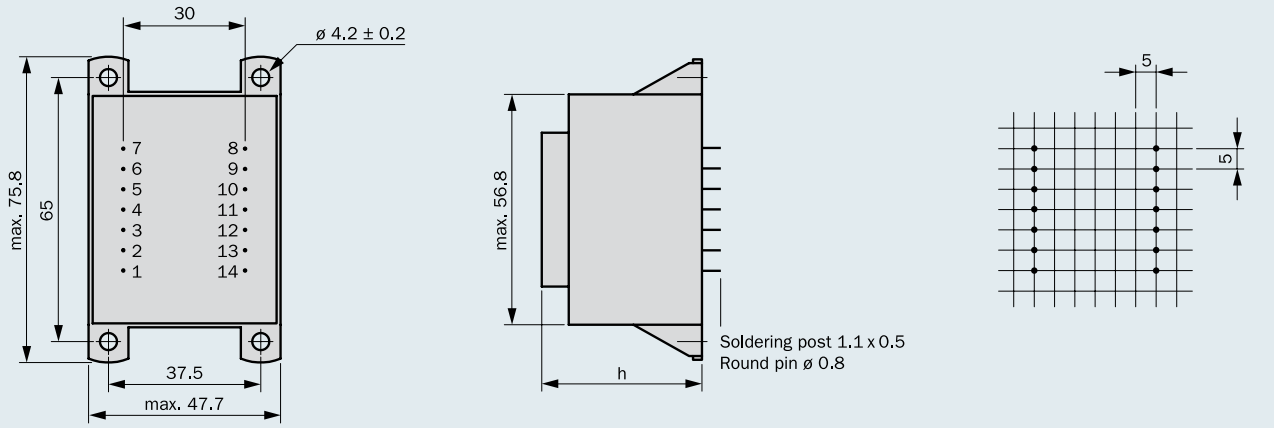
| | | | |
|---|---|---|---|
| 10 | **DIN EN 61558-2-6** | **VDE** | 108267 |
| VDE-Mark for Glow-Wire-Test | **DIN EN 60 335-1** | **VDE** | 102961/84814 |
| | **UL 5085-3** | **UL** | on request |
| | **UL 5085-1** | **UL** | E98173 |
| | **C22.2** | **CSA** | on request |

- according to REACH regulation
- according to RoHs regulation

- Output Power up to 22.0 VA
- Non short-circuit-proof at temperature class ta 70 °C/B
- Standard type cast housing “KK”
- Excellent temperature fluctuation resistance properties
- High electrical safety and long service-life features
- High voltage resistance
- Self-extinguishing cast housing and sealing material
- Per item tested quality with certificate

Protection extern secondary by:
- Micro fuse according to IEC 127 or
- PTC resistance

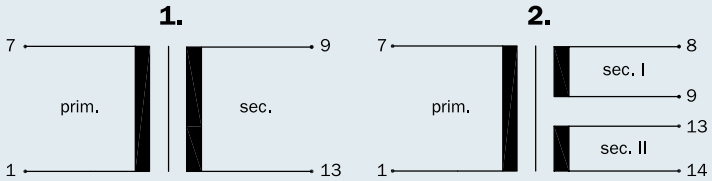
**Type cast housing “KK” with 4 fixing straps**




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

**Connection scheme** (only connected pins are present)




2.) double voltage – bridge: 9 + 13, double current – bridge: 8 + 13/9 + 14

| Frame size/Core height | Output Power ta 70 °C/B | Height (h) | Weight | Packaging unit |
|---|---|---|---|---|
| BV EI 540 .... /14.0 mm* | 12.0 VA | 35.0 ± 0.5 mm | 0.350 kg | 24 pieces** |
| BV EI 541 .... /18.8 mm | 16.0 VA | 38.8 ± 0.5 mm | 0.400 kg | 24 pieces** |
| BV EI 542 .... /23.0 mm | 20.0 VA | 43.2 ± 0.5 mm | 0.500 kg | 24 pieces** |
| BV EI 543 .... /25.5 mm | 22.0 VA | 47.4 ± 0.5 mm | 0.550 kg | 24 pieces** |

* only type cast housing ‘0‘

** it depends on kind of cast housing

## 12.0 VA ta 70 °C/B

Frame size/Core height **BV EI 540 .... / 14.0 mm**

non short-circuit-proof

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 540 1137 | 230 | 1–7 | 1 x 6 | 2000 | 9–13 | 1 x 8.1 | 1 |
| BV EI 540 1138 | 230 | 1–7 | 2 x 6 | 1000 | 8–9/13–14 | 2 x 8.1 | 2 |
| BV EI 540 1139 | 230 | 1–7 | 1 x 7.5 | 1600 | 9–13 | 1 x 9.9 | 1 |
| BV EI 540 1140 | 230 | 1–7 | 2 x 7.5 | 800 | 8–9/13–14 | 2 x 9.9 | 2 |
| BV EI 540 1141 | 230 | 1–7 | 1 x 9 | 1333 | 9–13 | 1 x 12.2 | 1 |
| BV EI 540 1142 | 230 | 1–7 | 2 x 9 | 667 | 8–9/13–14 | 2 x 12.2 | 2 |
| BV EI 540 1143 | 230 | 1–7 | 1 x 12 | 1000 | 9–13 | 1 x 15.8 | 1 |
| BV EI 540 1144 | 230 | 1–7 | 2 x 12 | 500 | 8–9/13–14 | 2 x 15.8 | 2 |
| BV EI 540 1145 | 230 | 1–7 | 1 x 15 | 800 | 9–13 | 1 x 19.4 | 1 |
| BV EI 540 1146 | 230 | 1–7 | 2 x 15 | 400 | 8–9/13–14 | 2 x 19.4 | 2 |
| BV EI 540 1147 | 230 | 1–7 | 1 x 18 | 667 | 9–13 | 1 x 23.5 | 1 |
| BV EI 540 1148 | 230 | 1–7 | 2 x 18 | 334 | 8–9/13–14 | 2 x 23.5 | 2 |
| BV EI 540 1149 | 230 | 1–7 | 1 x 24 | 500 | 9–13 | 1 x 30.6 | 1 |

## 16.0 VA ta 70 °C/B

Frame size/Core height **BV EI 541 .... / 18.8 mm**

non short-circuit-proof

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 541 1121 | 230 | 1–7 | 1 x 6 | 2667 | 9–13 | 1 x 7.9 | 1 |
| BV EI 541 1128 | 230 | 1–7 | 2 x 6 | 1334 | 8–9/13–14 | 2 x 7.9 | 2 |
| BV EI 541 1122 | 230 | 1–7 | 1 x 7.5 | 2134 | 9–13 | 1 x 9.7 | 1 |
| BV EI 541 1129 | 230 | 1–7 | 2 x 7.5 | 1067 | 8–9/13–14 | 2 x 9.7 | 2 |
| BV EI 541 1123 | 230 | 1–7 | 1 x 9 | 1778 | 9–13 | 1 x 11.7 | 1 |
| BV EI 541 1130 | 230 | 1–7 | 2 x 9 | 889 | 8–9/13–14 | 2 x 11.7 | 2 |
| BV EI 541 1124 | 230 | 1–7 | 1 x 12 | 1333 | 9–13 | 1 x 15.2 | 1 |
| BV EI 541 1131 | 230 | 1–7 | 2 x 12 | 667 | 8–9/13–14 | 2 x 15.2 | 2 |
| BV EI 541 1125 | 230 | 1–7 | 1 x 15 | 1067 | 9–13 | 1 x 19.1 | 1 |
| BV EI 541 1132 | 230 | 1–7 | 2 x 15 | 534 | 8–9/13–14 | 2 x 19.1 | 2 |
| BV EI 541 1126 | 230 | 1–7 | 1 x 18 | 889 | 9–13 | 1 x 22.3 | 1 |
| BV EI 541 1150 | 230 | 1–7 | 2 x 18 | 445 | 8–9/13–14 | 2 x 22.3 | 2 |
| BV EI 541 1110 | 230 | 1–7 | 1 x 24 | 667 | 9–13 | 1 x 29.1 | 1 |

## 20.0 VA ta 70 °C/B

Frame size/Core height **BV EI 542 .... / 23.0 mm**

non short-circuit-proof

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 542 1151 | 230 | 1–7 | 1 x 6 | 3334 | 9–13 | 1 x 7.7 | 1 |
| BV EI 542 1152 | 230 | 1–7 | 2 x 6 | 1667 | 8 – 9/13 – 14 | 2 x 7.7 | 2 |
| BV EI 542 1153 | 230 | 1–7 | 1 x 7.5 | 2667 | 9–13 | 1 x 9.5 | 1 |
| BV EI 542 1154 | 230 | 1–7 | 2 x 7.5 | 1334 | 8 – 9/13 – 14 | 2 x 9.5 | 2 |
| BV EI 542 1155 | 230 | 1–7 | 1 x 9 | 2223 | 9–13 | 1 x 11.4 | 1 |
| BV EI 542 1156 | 230 | 1–7 | 2 x 9 | 1112 | 8–9/13–14 | 2 x 11.4 | 2 |
| BV EI 542 1157 | 230 | 1–7 | 1 x 12 | 1667 | 9–13 | 1 x 15.0 | 1 |
| BV EI 542 1158 | 230 | 1–7 | 2 x 12 | 834 | 8–9/13–14 | 2 x 15.0 | 2 |
| BV EI 542 1159 | 230 | 1–7 | 1 x 15 | 1334 | 9–13 | 1 x 18.6 | 1 |
| BV EI 542 1160 | 230 | 1–7 | 2 x 15 | 667 | 8–9/13–14 | 2 x 18.6 | 2 |
| BV EI 542 1161 | 230 | 1–7 | 1 x 18 | 1112 | 9–13 | 1 x 21.8 | 1 |
| BV EI 542 1162 | 230 | 1–7 | 2 x 18 | 556 | 8–9/13–14 | 2 x 21.8 | 2 |
| BV EI 542 1163 | 230 | 1–7 | 1 x 24 | 834 | 9–13 | 1 x 29.5 | 1 |

**22.0 VA**
**ta 70 °C/B**

Frame size/Core height
**BV EI 543 .... /**
**25.5 mm**

non short-circuit-proof

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 543 1166 | 230 | 1–7 | 1 x 6 | 3667 | 9–13 | 1 x 7.4 | 1 |
| BV EI 543 1167 | 230 | 1–7 | 2 x 6 | 1834 | 8–9/13–14 | 2 x 7.4 | 2 |
| BV EI 543 1168 | 230 | 1–7 | 1 x 7.5 | 2934 | 9–13 | 1 x 8.9 | 1 |
| BV EI 543 1169 | 230 | 1–7 | 2 x 7.5 | 1467 | 8–9/13–14 | 2 x 8.9 | 2 |
| BV EI 543 1170 | 230 | 1–7 | 1 x 9 | 2445 | 9–13 | 1 x 10.7 | 1 |
| BV EI 543 1171 | 230 | 1–7 | 2 x 9 | 1223 | 8–9/13–14 | 2 x 10.7 | 2 |
| BV EI 543 1172 | 230 | 1–7 | 1 x 12 | 1834 | 9–13 | 1 x 14.5 | 1 |
| BV EI 543 1173 | 230 | 1–7 | 2 x 12 | 917 | 8–9/13–14 | 2 x 14.5 | 2 |
| BV EI 543 1174 | 230 | 1–7 | 1 x 15 | 1467 | 9–13 | 1 x 17.9 | 1 |
| BV EI 543 1175 | 230 | 1–7 | 2 x 15 | 734 | 8–9/13–14 | 2 x 17.9 | 2 |
| BV EI 543 1176 | 230 | 1–7 | 1 x 18 | 1223 | 9–13 | 1 x 21.0 | 1 |
| BV EI 543 1177 | 230 | 1–7 | 2 x 18 | 612 | 8–9/13–14 | 2 x 21.0 | 2 |
| BV EI 543 1178 | 230 | 1–7 | 1 x 24 | 917 | 9–13 | 1 x 28.0 | 1 |

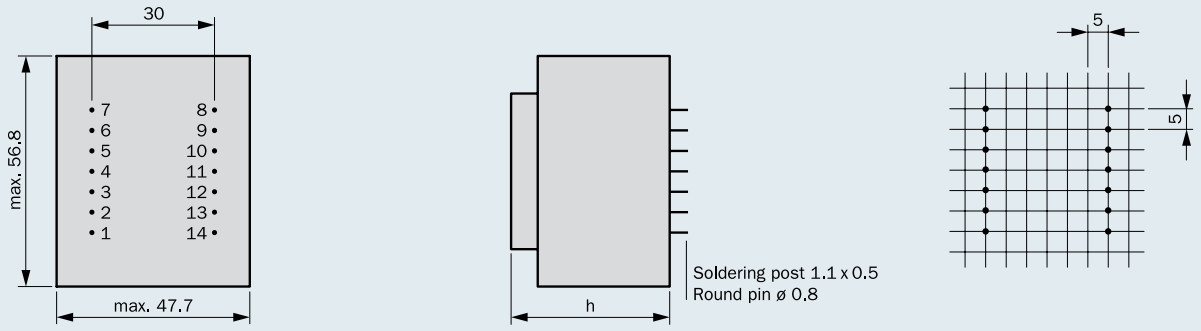
| | | | |
|---|---|---|---|
| 10 | **DIN EN 61558-2-6** | **VDE** | on request |
| VDE-Mark for Glow-Wire-Test | **DIN EN 60 335-1** | **VDE** | on request |
| | **UL 5085-3** | **UL** | on request |
| | **UL 5085-1** | **UL** | on request |
| | **C22.2** | **CSA** | on request |

- according to REACH regulation
- according to RoHs regulation

## Individual version!

Parallel to the cataloged EI 54 series transformers, HAHN also produces other variants, e.g. with integrated thermo fuse or thermo switch, other housing-, fixing- and connective options as well as non-encapsulated transformers.

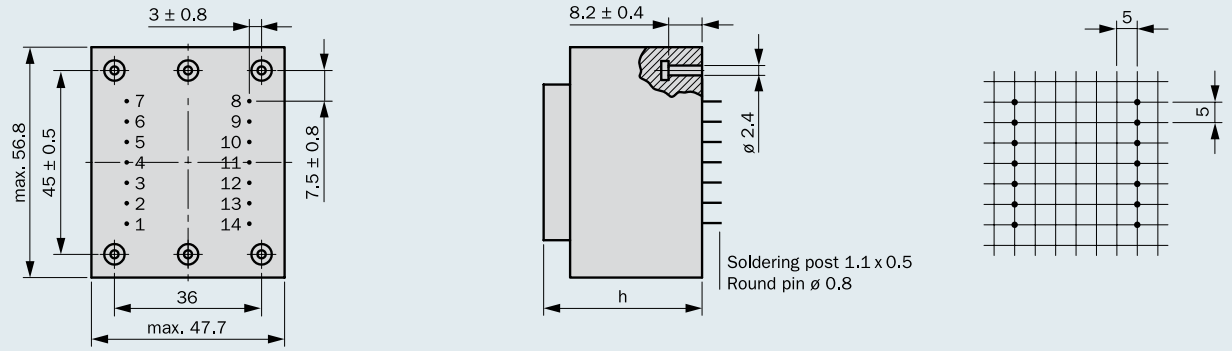
**Type cast housing “0”**




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

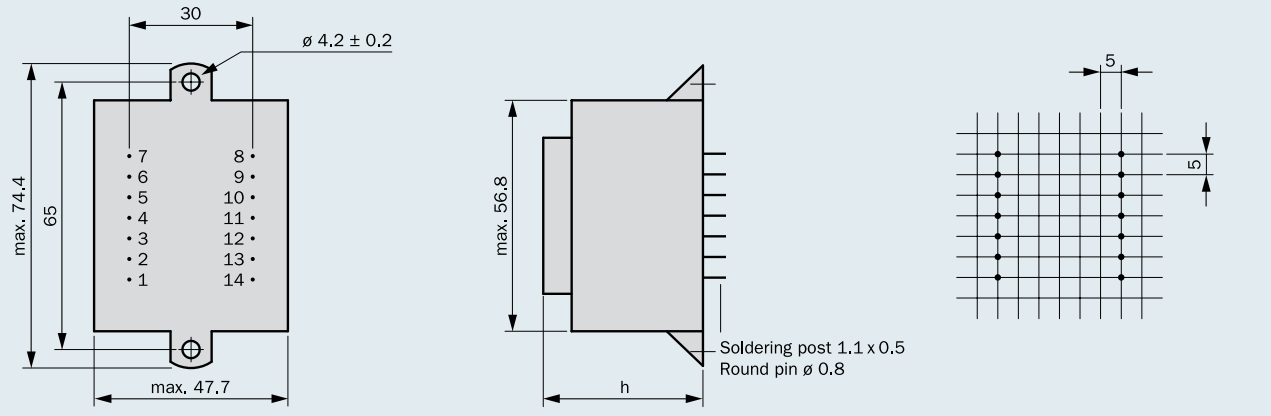
**Type cast housing “0” with fixing band**




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

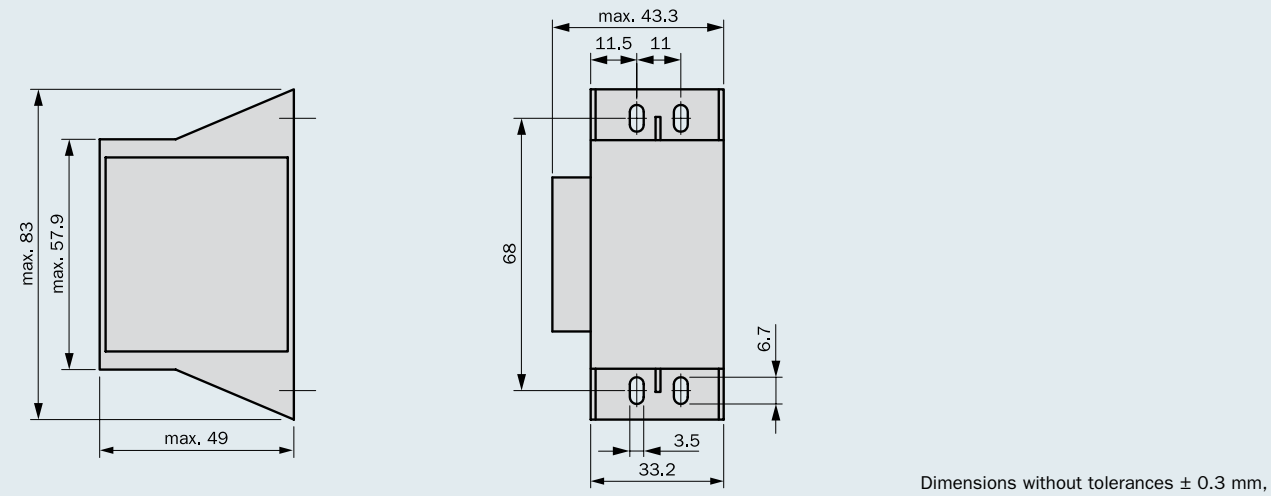
**Type cast housing “K” with 2 fixing straps**




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

**Type cast housing “SV” for upright mounting**




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

# Printed-Circuit-Board transformers

Output Power: 17.0 VA – 35.0 VA

# EI 60

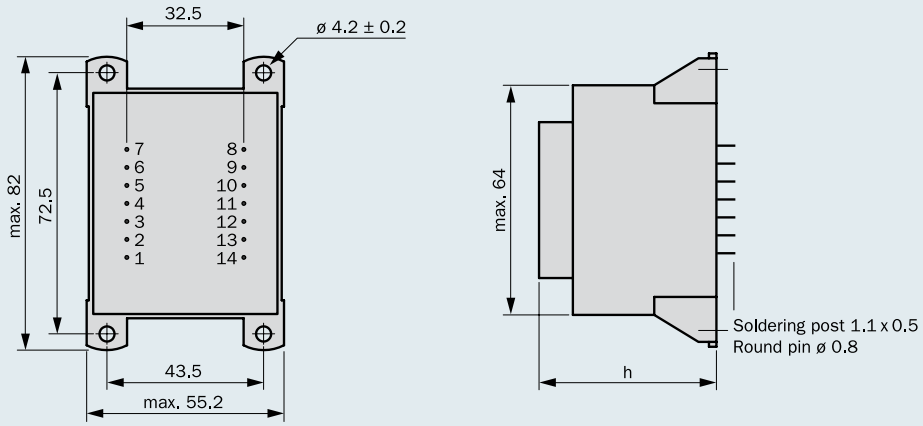
| | | | |
|---|---|---|---|
| 10 | **DIN EN 61558-2-6** | **VDE** | 110044 |
| **VDE-Mark for Glow-Wire-Test** | **DIN EN 60 335-1** | **VDE** | 102961/84814 |
| | **UL 5085-3** | **UL** | on request |
| | **UL 5085-1** | **UL** | E98173 |
| | **C22.2** | **CSA** | on request |

- according to REACH regulation
- according to RoHs regulation

- Output Power up to 35.0 VA
- Non short-circuit-proof at temperature class ta 70 °C/B
- Standard type cast housing “KK”
- Excellent temperature fluctuation resistance properties
- High electrical safety and long service-life features
- High voltage resistance
- Self-extinguishing cast housing and sealing material
- Per item tested quality with certificate

Protection extern secondary by:
- Micro fuse according to IEC 127 or
- PTC resistance

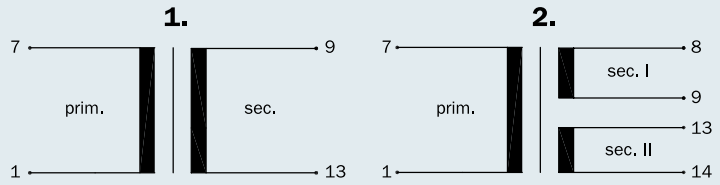
**Connecting pins** type cast housing “KK” with 4 fixing straps




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

**Connection scheme** (only connected pins are present)




2.) double voltage – bridge: 9 + 13, double current – bridge: 8 + 13/9 + 14

| Frame size/Core height | Output Power ta 70 °C/B | Height (h) | Weight | Packaging unit |
|---|---|---|---|---|
| BV EI 600 .... /16.0 mm* | 17.0 VA | 40.5 ± 0.5 mm | 0.450 kg | 18 pieces |
| BV EI 601 .... /21.0 mm | 20.0 VA | 44.7 ± 0.5 mm | 0.600 kg | 18 pieces |
| BV EI 602 .... /25.5 mm | 28.0 VA | 49.2 ± 0.5 mm | 0.700 kg | 18 pieces |
| BV EI 603 .... /30.5 mm | 30.0 VA | 54.2 ± 0.5 mm | 0.800 kg | 18 pieces |
| BV EI 604 .... /35.0 mm | 35.0 VA | 57.3 ± 0.5 mm | 0.900 kg | 18 pieces |

*only type cast housing ‘0‘

## 17.0 VA ta 70 °C/B

Frame size/Core height
**BV EI 600 .... / 16.0 mm**

non short-circuit-proof

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 600 1050 | 230 | 1–7 | 1 x 6 | 2834 | 9–13 | 1 x 7.4 | 1 |
| BV EI 600 1051 | 230 | 1–7 | 2 x 6 | 1417 | 8–9/13–14 | 2 x 7.4 | 2 |
| BV EI 600 1052 | 230 | 1–7 | 1 x 7.5 | 2267 | 9–13 | 1 x 9.3 | 1 |
| BV EI 600 1053 | 230 | 1–7 | 2 x 7.5 | 1134 | 8–9/13–14 | 2 x 9.3 | 2 |
| BV EI 600 1054 | 230 | 1–7 | 1 x 9 | 1889 | 9–13 | 1 x 11.1 | 1 |
| BV EI 600 1055 | 230 | 1–7 | 2 x 9 | 945 | 8–9/13–14 | 2 x 11.1 | 2 |
| BV EI 600 1056 | 230 | 1–7 | 1 x 12 | 1417 | 9–13 | 1 x 15.2 | 1 |
| BV EI 600 1057 | 230 | 1–7 | 2 x 12 | 708 | 8–9/13–14 | 2 x 15.2 | 2 |
| BV EI 600 1058 | 230 | 1–7 | 1 x 15 | 1134 | 9–13 | 1 x 18.2 | 1 |
| BV EI 600 1065 | 230 | 1–7 | 2 x 15 | 567 | 8–9/13–14 | 2 x 18.7 | 2 |
| BV EI 600 1072 | 230 | 1–7 | 1 x 18 | 944 | 9–13 | 1 x 21.9 | 1 |
| BV EI 600 1061 | 230 | 1–7 | 2 x 18 | 472 | 8–9/13–14 | 2 x 21.9 | 2 |
| BV EI 600 1062 | 230 | 1–7 | 1 x 24 | 708 | 9–13 | 1 x 28.9 | 1 |

## 20.0 VA ta 70 °C/B

Frame size/Core height
**BV EI 601 .... / 21.0 mm**

non short-circuit-proof

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 601 1069 | 230 | 1–7 | 1 x 6 | 3334 | 9–13 | 1 x 7.0 | 1 |
| BV EI 601 1070 | 230 | 1–7 | 2 x 6 | 1667 | 8–9/13–14 | 2 x 7.0 | 2 |
| BV EI 601 1071 | 230 | 1–7 | 1 x 7.5 | 2667 | 9–13 | 1 x 8.8 | 1 |
| BV EI 601 1059 | 230 | 1–7 | 2 x 7.5 | 1334 | 8–9/13–14 | 2 x 8.8 | 2 |
| BV EI 601 1060 | 230 | 1–7 | 1 x 9 | 2223 | 9–13 | 1 x 10.5 | 1 |
| BV EI 601 1042 | 230 | 1–7 | 2 x 9 | 1111 | 8–9/13–14 | 2 x 10.5 | 2 |
| BV EI 601 1046 | 230 | 1–7 | 1 x 12 | 1667 | 9–13 | 1 x 14.2 | 1 |
| BV EI 601 1043 | 230 | 1–7 | 2 x 12 | 834 | 8–9/13–14 | 2 x 14.2 | 2 |
| BV EI 601 1064 | 230 | 1–7 | 1 x 15 | 1334 | 9–13 | 1 x 17.0 | 1 |
| BV EI 601 1044 | 230 | 1–7 | 2 x 15 | 667 | 8–9/13–14 | 2 x 17.0 | 2 |
| BV EI 601 1066 | 230 | 1–7 | 1 x 18 | 1111 | 9–13 | 1 x 20.5 | 1 |
| BV EI 601 1068 | 230 | 1–7 | 2 x 18 | 556 | 8–9/13–14 | 2 x 20.5 | 2 |
| BV EI 601 1067 | 230 | 1–7 | 1 x 24 | 834 | 9–13 | 1 x 27.6 | 1 |

## 28.0 VA ta 70 °C/B

Frame size/Core height
**BV EI 602 .... / 25.5 mm**

non short-circuit-proof

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 602 1011 | 230 | 1–7 | 1 x 6 | 4667 | 9–13 | 1 x 7.1 | 1 |
| BV EI 602 1018 | 230 | 1–7 | 2 x 6 | 2334 | 8–9/13–14 | 2 x 7.1 | 2 |
| BV EI 602 1012 | 230 | 1–7 | 1 x 7.5 | 3734 | 9–13 | 1 x 8.8 | 1 |
| BV EI 602 1019 | 230 | 1–7 | 2 x 7.5 | 1867 | 8–9/13–14 | 2 x 8.8 | 2 |
| BV EI 602 1013 | 230 | 1–7 | 1 x 9 | 3111 | 9–13 | 1 x 10.6 | 1 |
| BV EI 602 1020 | 230 | 1–7 | 2 x 9 | 1556 | 8–9/13–14 | 2 x 10.6 | 2 |
| BV EI 602 1014 | 230 | 1–7 | 1 x 12 | 2334 | 9–13 | 1 x 14.4 | 1 |
| BV EI 602 1021 | 230 | 1–7 | 2 x 12 | 1167 | 8–9/13–14 | 2 x 14.4 | 2 |
| BV EI 602 1015 | 230 | 1–7 | 1 x 15 | 1867 | 9–13 | 1 x 17.8 | 1 |
| BV EI 602 1022 | 230 | 1–7 | 2 x 15 | 934 | 8–9/13–14 | 2 x 17.8 | 2 |
| BV EI 602 1016 | 230 | 1–7 | 1 x 18 | 1556 | 9–13 | 1 x 20.5 | 1 |
| BV EI 602 1076 | 230 | 1–7 | 2 x 18 | 778 | 8–9/13–14 | 2 x 20.5 | 2 |
| BV EI 602 1017 | 230 | 1–7 | 1 x 24 | 1167 | 9–13 | 1 x 27.4 | 1 |

## 30.0 VA ta 70 °C/B

Frame size/Core height
**BV EI 603 .... / 30.5 mm**

non short-circuit-proof

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 603 1023 | 230 | 1–7 | 1 x 6 | 5000 | 9–13 | 1 x 7.0 | 1 |
| BV EI 603 1030 | 230 | 1–7 | 2 x 6 | 2500 | 8–9/13–14 | 2 x 7.0 | 2 |
| BV EI 603 1024 | 230 | 1–7 | 1 x 7.5 | 4000 | 9–13 | 1 x 8.7 | 1 |
| BV EI 603 1031 | 230 | 1–7 | 2 x 7.5 | 2000 | 8–9/13–14 | 2 x 8.7 | 2 |
| BV EI 603 1025 | 230 | 1–7 | 1 x 9 | 3334 | 9–13 | 1 x 10.2 | 1 |
| BV EI 603 1032 | 230 | 1–7 | 2 x 9 | 1667 | 8–9/13–14 | 2 x 10.2 | 2 |
| BV EI 603 1026 | 230 | 1–7 | 1 x 12 | 2500 | 9–13 | 1 x 13.7 | 1 |
| BV EI 603 1034 | 230 | 1–7 | 2 x 12 | 1250 | 8–9/13–14 | 2 x 13.7 | 2 |
| BV EI 603 1027 | 230 | 1–7 | 1 x 15 | 2000 | 9–13 | 1 x 16.8 | 1 |
| BV EI 603 1035 | 230 | 1–7 | 2 x 15 | 1000 | 8–9/13–14 | 2 x 16.8 | 2 |
| BV EI 603 1028 | 230 | 1–7 | 1 x 18 | 1667 | 9–13 | 1 x 20.3 | 1 |
| BV EI 603 1080 | 230 | 1–7 | 2 x 18 | 834 | 8–9/13–14 | 2 x 20.3 | 2 |
| BV EI 603 1029 | 230 | 1–7 | 1 x 24 | 1250 | 9–13 | 1 x 27.0 | 1 |

## 35.0 VA ta 70 °C/B

Frame size/Core height
**BV EI 604 .... / 35.0 mm**

non short-circuit-proof

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 604 1082 | 230 | 1–7 | 1 x 6 | 5834 | 9–13 | 1 x 7.0 | 1 |
| BV EI 604 1083 | 230 | 1–7 | 2 x 6 | 2917 | 8–9/13–14 | 2 x 7.0 | 2 |
| BV EI 604 1084 | 230 | 1–7 | 1 x 7.5 | 4667 | 9–13 | 1 x 8.7 | 1 |
| BV EI 604 1085 | 230 | 1–7 | 2 x 7.5 | 2334 | 8–9/13–14 | 2 x 8.7 | 2 |
| BV EI 604 1086 | 230 | 1–7 | 1 x 9 | 3889 | 9–13 | 1 x 10.3 | 1 |
| BV EI 604 1087 | 230 | 1–7 | 2 x 9 | 1994 | 8–9/13–14 | 2 x 10.3 | 2 |
| BV EI 604 1088 | 230 | 1–7 | 1 x 12 | 2917 | 9–13 | 1 x 13.9 | 1 |
| BV EI 604 1089 | 230 | 1–7 | 2 x 12 | 1458 | 8–9/13–14 | 2 x 13.9 | 2 |
| BV EI 604 1090 | 230 | 1–7 | 1 x 15 | 2334 | 9–13 | 1 x 17.1 | 1 |
| BV EI 604 1091 | 230 | 1–7 | 2 x 15 | 1167 | 8–9/13–14 | 2 x 17.1 | 2 |
| BV EI 604 1092 | 230 | 1–7 | 1 x 18 | 1994 | 9–13 | 1 x 20.3 | 1 |
| BV EI 604 1093 | 230 | 1–7 | 2 x 18 | 972 | 8–9/13–14 | 2 x 20.3 | 2 |
| BV EI 604 1094 | 230 | 1–7 | 1 x 24 | 1458 | 9–13 | 1 x 26.9 | 1 |

# Printed-Circuit-Board transformers

Output Power: 17.0 VA – 35.0 VA

# EI 60

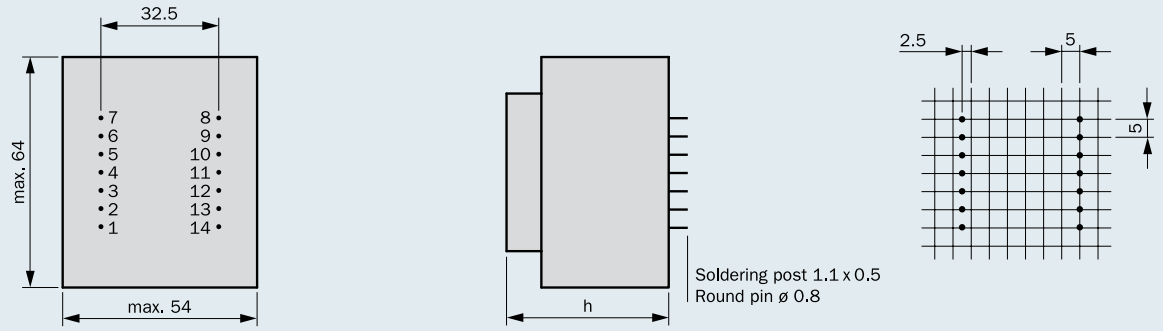
| | | | |
|---|---|---|---|
| 10 | **DIN EN 61558-2-6** | **VDE** | on request |
| VDE-Mark for Glow-Wire-Test | **DIN EN 60 335-1** | **VDE** | on request |
| | **UL 5085-3** | **UL** | on request |
| | **UL 5085-1** | **UL** | on request |
| | **C22.2** | **CSA** | on request |

- according to REACH regulation
- according to RoHs regulation

## Individual version!

Parallel to the cataloged EI 60 series transformers, HAHN also produces other variants, e.g. with integrated thermo fuse or thermo switch, other housing-, fixing- and connective options as well as non-encapsulated transformers.

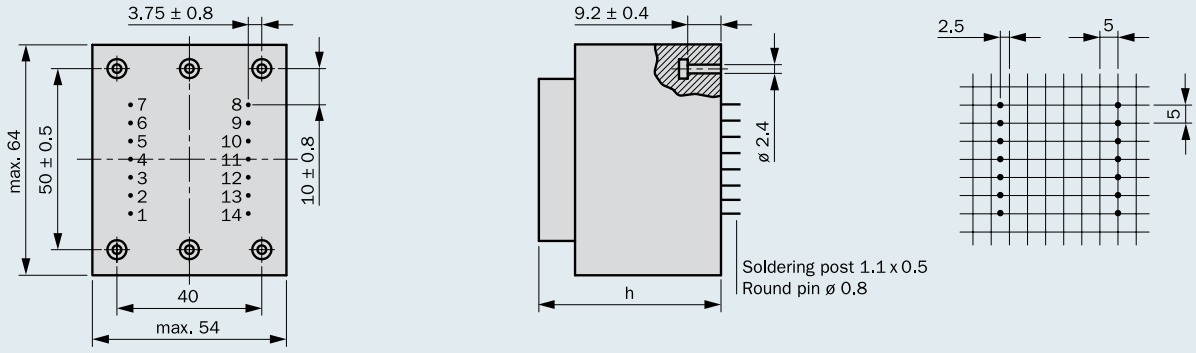
**Type cast housing “0”**




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

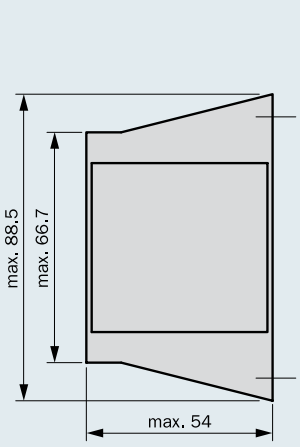
**Type cast housing “0” with fixing band**

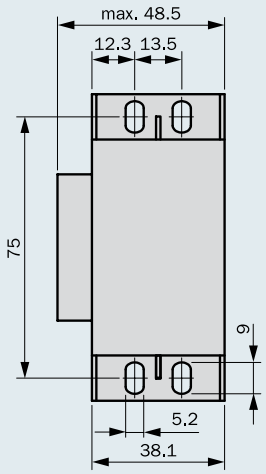



View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

**Type cast housing “SV” with fixing band**




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

# Printed-Circuit-Board transformers

Output Power: 17.0 VA – 50.0 VA

# EI 66

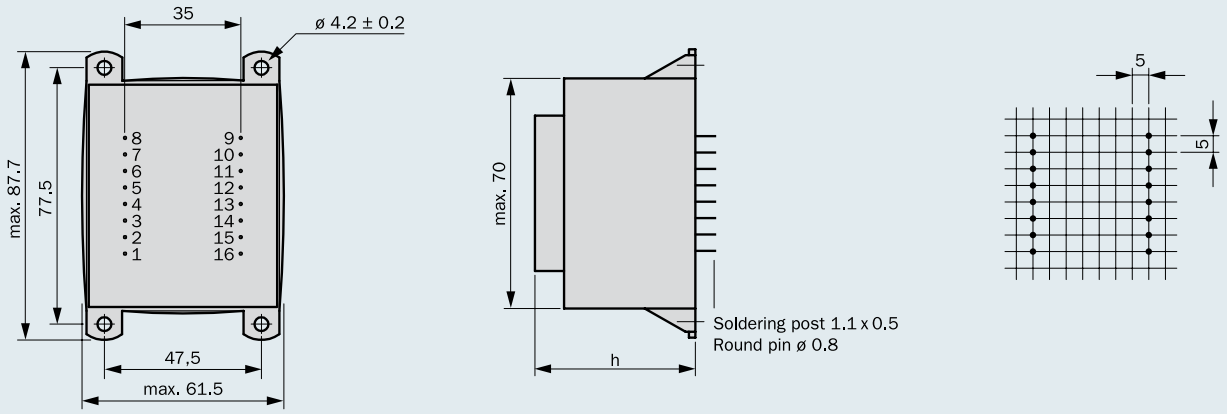
| | | | |
|---|---|---|---|
| 10 | **DIN EN 61558-2-6** | **VDE** | 108268 |
| **VDE-Mark for Glow-Wire-Test** | **DIN EN 60 335-1** | **VDE** | 102961/84814 |
| | **UL 5085-3** | **UL** | on request |
| | **UL 5085-1** | **UL** | on request |
| | **C22.2** | **CSA** | 1486889 |

- according to REACH regulation
- according to RoHs regulation

- Output Power up to 50.0 VA
- Non short-circuit-proof at temperature class ta 70 °C/B
- Standard type cast housing “KK”
- Excellent temperature fluctuation resistance properties
- High electrical safety and long service-life features
- High voltage resistance
- Self-extinguishing cast housing and sealing material
- Per item tested quality with certificate

Protection extern secondary by:
- Micro fuse according to IEC 127 or
- PTC resistance

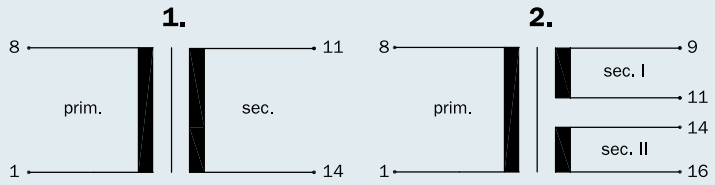
**Connecting pins** type cast housing “KK” with 4 fixing straps




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

**Connection scheme** (present only connected pins)




2.) double voltage – bridge: 11 + 14, double current – bridge: 9 + 14/11 + 16

| Frame size/Core height | Output Power ta 70 °C/B | Height (h) | Weight | Packaging unit |
|---|---|---|---|---|
| BV EI 660 .... /12.0 mm | 17.0 VA | 38.5 ± 0.5 mm | 0.500 kg | 16 pieces |
| BV EI 661 .... /18.0 mm | 25.0 VA | 44.5 ± 0.5 mm | 0.700 kg | 16 pieces |
| BV EI 662 .... /23.0 mm | 33.0 VA | 48.5 ± 0.5 mm | 0.800 kg | 16 pieces |
| BV EI 663 .... /30.0 mm | 44.0 VA | 55.8 ± 0.5 mm | 0.950 kg | 16 pieces |
| BV EI 664 .... /34.8 mm | 47.0 VA | 60.2 ± 0.5 mm | 1.000 kg | 16 pieces |
| BV EI 665 .... /40.0 mm | 50.0 VA | 66.5 ± 0.5 mm | 1.200 kg | 16 pieces |

## 17.0 VA ta 70 °C/B

Frame size/Core height **BV EI 660 .... / 12.0 mm**

non short-circuit-proof

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 660 1060 | 230 | 1–8 | 1 x 6 | 2833 | 11–14 | 1 x 7.4 | 1 |
| BV EI 660 1061 | 230 | 1–8 | 2 x 6 | 1417 | 9–11/14–16 | 2 x 7.7 | 2 |
| BV EI 660 1062 | 230 | 1–8 | 1 x 7.5 | 2267 | 11–14 | 1 x 9.1 | 1 |
| BV EI 660 1063 | 230 | 1–8 | 2 x 7.5 | 1133 | 9–11/14–16 | 2 x 9.1 | 2 |
| BV EI 660 1064 | 230 | 1–8 | 1 x 9 | 1889 | 11–14 | 1 x 10.8 | 1 |
| BV EI 660 1065 | 230 | 1–8 | 2 x 9 | 944 | 9–11/14–16 | 2 x 10.8 | 2 |
| BV EI 660 1066 | 230 | 1–8 | 1 x 12 | 1417 | 11–14 | 1 x 14.4 | 1 |
| BV EI 660 1067 | 230 | 1–8 | 2 x 12 | 708 | 9–11/14–16 | 2 x 14.2 | 2 |
| BV EI 660 1068 | 230 | 1–8 | 1 x 15 | 1133 | 11–14 | 1 x 18.0 | 1 |
| BV EI 660 1069 | 230 | 1–8 | 2 x 15 | 567 | 9–11/14–16 | 2 x 17.8 | 2 |
| BV EI 660 1070 | 230 | 1–8 | 1 x 18 | 944 | 11–14 | 1 x 21.0 | 1 |
| BV EI 660 1071 | 230 | 1–8 | 2 x 18 | 472 | 9–11/14–16 | 2 x 21.7 | 2 |
| BV EI 660 1072 | 230 | 1–8 | 1 x 24 | 708 | 11–14 | 1 x 28.0 | 1 |

## 25.0 VA ta 70 °C/B

Frame size/Core height **BV EI 661 .... / 18.0 mm**

non short-circuit-proof

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 661 1073 | 230 | 1–8 | 1 x 6 | 4167 | 11–14 | 1 x 7.3 | 1 |
| BV EI 661 1074 | 230 | 1–8 | 2 x 6 | 2083 | 9–11/14–16 | 2 x 7.3 | 2 |
| BV EI 661 1075 | 230 | 1–8 | 1 x 7.5 | 3333 | 11–14 | 1 x 9.0 | 1 |
| BV EI 661 1076 | 230 | 1–8 | 2 x 7.5 | 1667 | 9–11/14–16 | 2 x 9.0 | 2 |
| BV EI 661 1077 | 230 | 1–8 | 1 x 9 | 2778 | 11–14 | 1 x 10.9 | 1 |
| BV EI 661 1078 | 230 | 1–8 | 2 x 9 | 1389 | 9–11/14–16 | 2 x 10.6 | 2 |
| BV EI 661 1079 | 230 | 1–8 | 1 x 12 | 2083 | 11–14 | 1 x 13.9 | 1 |
| BV EI 661 1080 | 230 | 1–8 | 2 x 12 | 1042 | 9–11/14–16 | 2 x 13.9 | 2 |
| BV EI 661 1081 | 230 | 1–8 | 1 x 15 | 1667 | 11–14 | 1 x 17.4 | 1 |
| BV EI 661 1082 | 230 | 1–8 | 2 x 15 | 833 | 9–11/14–16 | 2 x 17.4 | 2 |
| BV EI 661 1083 | 230 | 1–8 | 1 x 18 | 1389 | 11–14 | 1 x 20.9 | 1 |
| BV EI 661 1084 | 230 | 1–8 | 2 x 18 | 694 | 9–11/14–16 | 2 x 20.5 | 2 |
| BV EI 661 1085 | 230 | 1–8 | 1 x 24 | 1042 | 11–14 | 1 x 27.9 | 1 |

## 33.0 VA ta 70 °C/B

Frame size/Core height **BV EI 662 .... / 23.0 mm**

non short-circuit-proof

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 662 1086 | 230 | 1–8 | 1 x 6 | 5500 | 11–14 | 1 x 7.0 | 1 |
| BV EI 662 1087 | 230 | 1–8 | 2 x 6 | 2750 | 9–11/14–16 | 2 x 7.0 | 2 |
| BV EI 662 1088 | 230 | 1–8 | 1 x 7.5 | 4400 | 11–14 | 1 x 8.5 | 1 |
| BV EI 662 1089 | 230 | 1–8 | 2 x 7.5 | 2200 | 9–11/14–16 | 2 x 8.5 | 2 |
| BV EI 662 1090 | 230 | 1–8 | 1 x 9 | 3667 | 11–14 | 1 x 10.3 | 1 |
| BV EI 662 1091 | 230 | 1–8 | 2 x 9 | 1833 | 9–11/14–16 | 2 x 10.3 | 2 |
| BV EI 662 1092 | 230 | 1–8 | 1 x 12 | 2750 | 11–14 | 1 x 14.0 | 1 |
| BV EI 662 1093 | 230 | 1–8 | 2 x 12 | 1375 | 9–11/14–16 | 2 x 14.0 | 2 |
| BV EI 662 1094 | 230 | 1–8 | 1 x 15 | 2200 | 11–14 | 1 x 16.9 | 1 |
| BV EI 662 1095 | 230 | 1–8 | 2 x 15 | 1100 | 9–11/14–16 | 2 x 16.9 | 2 |
| BV EI 662 1096 | 230 | 1–8 | 1 x 18 | 1833 | 11–14 | 1 x 20.1 | 1 |
| BV EI 662 1097 | 230 | 1–8 | 2 x 18 | 917 | 9–11/14–16 | 2 x 20.1 | 2 |
| BV EI 662 1098 | 230 | 1–8 | 1 x 24 | 1375 | 11–14 | 1 x 26.8 | 1 |

## 44.0 VA ta 70 °C/B

Frame size/Core height
**BV EI 663..../ 30.0 mm**

non short-circuit-proof

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 663 1099 | 230 | 1–8 | 1 x 6 | 7333 | 11–14 | 1 x 6.8 | 1 |
| BV EI 663 1100 | 230 | 1–8 | 2 x 6 | 3667 | 9–11/14–16 | 2 x 6.8 | 2 |
| BV EI 663 1101 | 230 | 1–8 | 1 x 7.5 | 5867 | 11–14 | 1 x 8.8 | 1 |
| BV EI 663 1102 | 230 | 1–8 | 2 x 7.5 | 2933 | 9–11/14–16 | 2 x 8.6 | 2 |
| BV EI 663 1103 | 230 | 1–8 | 1 x 9 | 4889 | 11–14 | 1 x 10.5 | 1 |
| BV EI 663 1104 | 230 | 1–8 | 2 x 9 | 2444 | 9–11/14–16 | 2 x 10.3 | 2 |
| BV EI 663 1105 | 230 | 1–8 | 1 x 12 | 3667 | 11–14 | 1 x 13.7 | 1 |
| BV EI 663 1106 | 230 | 1–8 | 2 x 12 | 1833 | 9–11/14–16 | 2 x 13.7 | 2 |
| BV EI 663 1107 | 230 | 1–8 | 1 x 15 | 2933 | 11–14 | 1 x 17.2 | 1 |
| BV EI 663 1108 | 230 | 1–8 | 2 x 15 | 1467 | 9–11/14–16 | 2 x 17.2 | 2 |
| BV EI 663 1109 | 230 | 1–8 | 1 x 18 | 2444 | 11–14 | 1 x 20.2 | 1 |
| BV EI 663 1110 | 230 | 1–8 | 2 x 18 | 1222 | 9–11/14–16 | 2 x 20.2 | 2 |
| BV EI 663 1111 | 230 | 1–8 | 1 x 24 | 1833 | 11–14 | 1 x 26.9 | 1 |

## 47.0 VA ta 70 °C/B

Frame size/Core height
**BV EI 664..../ 34.8 mm**

non short-circuit-proof

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 664 1112 | 230 | 1–8 | 1 x 6 | 7833 | 11–14 | 1 x 7.3 | 1 |
| BV EI 664 1113 | 230 | 1–8 | 2 x 6 | 3917 | 9–11/14–16 | 2 x 7.1 | 2 |
| BV EI 664 1114 | 230 | 1–8 | 1 x 7.5 | 6267 | 11–14 | 1 x 8.6 | 1 |
| BV EI 664 1115 | 230 | 1–8 | 2 x 7.5 | 3133 | 9–11/14–16 | 2 x 8.6 | 2 |
| BV EI 664 1116 | 230 | 1–8 | 1 x 9 | 5222 | 11–14 | 1 x 10.1 | 1 |
| BV EI 664 1117 | 230 | 1–8 | 2 x 9 | 2611 | 9–11/14–16 | 2 x 10.1 | 2 |
| BV EI 664 1118 | 230 | 1–8 | 1 x 12 | 3917 | 11–14 | 1 x 13.4 | 1 |
| BV EI 664 1119 | 230 | 1–8 | 2 x 12 | 1960 | 9–11/14–16 | 2 x 13.4 | 2 |
| BV EI 664 1120 | 230 | 1–8 | 1 x 15 | 3133 | 11–14 | 1 x 16.4 | 1 |
| BV EI 664 1121 | 230 | 1–8 | 2 x 15 | 1570 | 9–11/14–16 | 2 x 16.4 | 2 |
| BV EI 664 1122 | 230 | 1–8 | 1 x 18 | 2610 | 11–14 | 1 x 19.7 | 1 |
| BV EI 664 1123 | 230 | 1–8 | 2 x 18 | 1306 | 9–11/14–16 | 2 x 19.7 | 2 |
| BV EI 664 1124 | 230 | 1–8 | 1 x 24 | 1958 | 11–14 | 1 x 26.3 | 1 |

## 50.0 VA ta 70 °C/B

Frame size/Core height
**BV EI 665..../ 40.0 mm**

non short-circuit-proof

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV EI 665 1125 | 230 | 1–8 | 1 x 6 | 8333 | 11–14 | 1 x 6.9 | 1 |
| BV EI 665 1126 | 230 | 1–8 | 2 x 6 | 4167 | 9–11/14–16 | 2 x 6.7 | 2 |
| BV EI 665 1127 | 230 | 1–8 | 1 x 7.5 | 6667 | 11–14 | 1 x 8.5 | 1 |
| BV EI 665 1128 | 230 | 1–8 | 2 x 7.5 | 3333 | 9–11/14–16 | 2 x 8.5 | 2 |
| BV EI 665 1129 | 230 | 1–8 | 1 x 9 | 5556 | 11–14 | 1 x 10.0 | 1 |
| BV EI 665 1130 | 230 | 1–8 | 2 x 9 | 2778 | 9–11/14–16 | 2 x 10.0 | 2 |
| BV EI 665 1131 | 230 | 1–8 | 1 x 12 | 4167 | 11–14 | 1 x 13.0 | 1 |
| BV EI 665 1132 | 230 | 1–8 | 2 x 12 | 2083 | 9–11/14–16 | 2 x 13.0 | 2 |
| BV EI 665 1133 | 230 | 1–8 | 1 x 15 | 3333 | 11–14 | 1 x 16.4 | 1 |
| BV EI 665 1134 | 230 | 1–8 | 2 x 15 | 1667 | 9–11/14–16 | 2 x 16.4 | 2 |
| BV EI 665 1135 | 230 | 1–8 | 1 x 18 | 2778 | 11–14 | 1 x 19.7 | 1 |
| BV EI 665 1136 | 230 | 1–8 | 2 x 18 | 1388 | 9–11/14–16 | 2 x 19.7 | 2 |
| BV EI 665 1137 | 230 | 1–8 | 1 x 24 | 2083 | 11–14 | 1 x 26.1 | 1 |

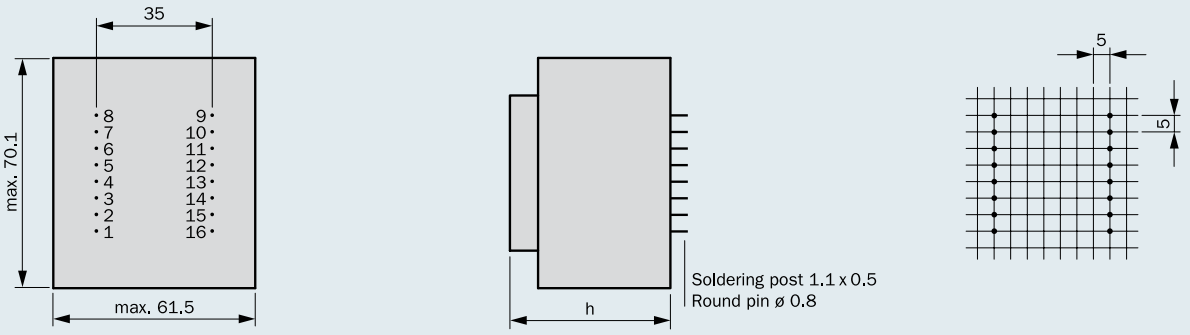
| | | | |
|---|---|---|---|
| 10 | **DIN EN 61558-2-6** | **VDE** | on request |
| VDE-Mark for Glow-Wire-Test | **DIN EN 60 335-1** | **VDE** | on request |
| | **UL 5085-3** | **UL** | on request |
| | **UL 5085-1** | **UL** | on request |
| | **C22.2** | **CSA** | on request |

- according to REACH regulation
- according to RoHs regulation

## Individual version!

Parallel to the cataloged EI 66 series transformers, HAHN also produces other variants, e.g. with integrated thermo fuse or thermo switch, other housing-, fixing- and connective options as well as non-encapsulated transformers.

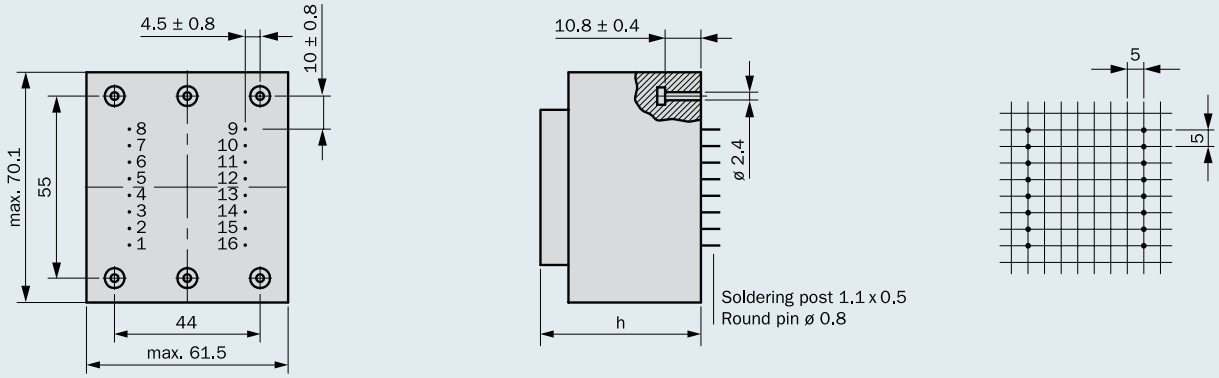
**Type cast housing “0”**




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

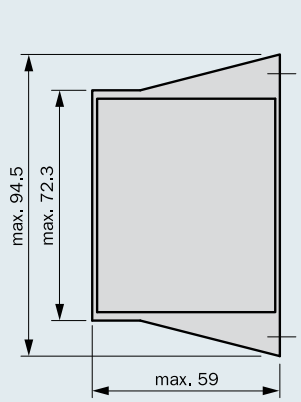
**Type cast housing “0” with fixing band**



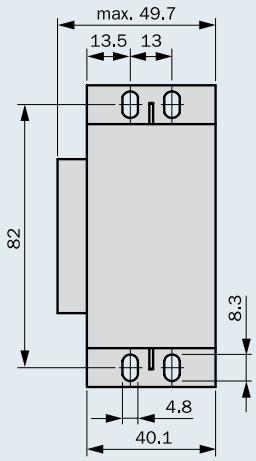

View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

**Type cast housing “SV” for upright mounting**




View looking onto pins




Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

# Printed-Circuit-Board transformers

Output Power: 50.0 VA – 70.0 VA

# EI 78

| | | | |
|---|---|---|---|
| 10 | **DIN EN 61558-2-6** | **VDE** | on request |
| VDE-Mark for Glow-Wire-Test | **DIN EN 60 335-1** | **VDE** | on request |
| | **UL 5085-3** | **UL** | on request |
| | **UL 5085-1** | **UL** | on request |
| | **C22.2** | **CSA** | on request |

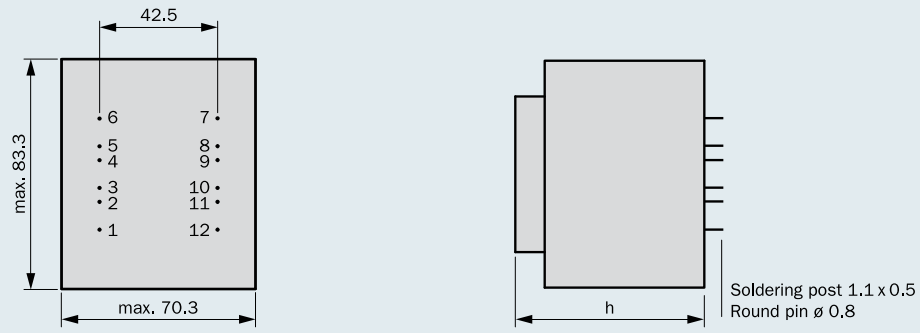
- according to REACH regulation
- according to RoHs regulation

## Individual version!

Custom-made models are available on request, e.g. with or without mounting brackets, other heights, pin configurations or connections.

| Frame size/Core height | Output Power ta 70 °C/B | Height (h) | Weight |
|---|---|---|---|
| BV EI 781 .... /27.5 mm | 50.0 VA | 59.0 ± 0.5 mm | 1.250 kg |
| BV EI 782 .... /36.5 mm | 60.0 VA | 68.0 ± 0.5 mm | 1.500 kg |
| BV EI 783 .... /40.5 mm | 70.0 VA | 72.0 ± 0.5 mm | 1.700 kg |

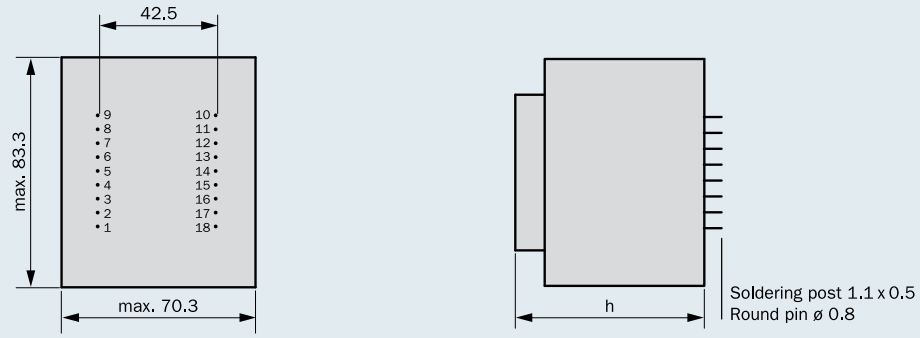
**Type cast housing “0” with 12 connection pins**




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

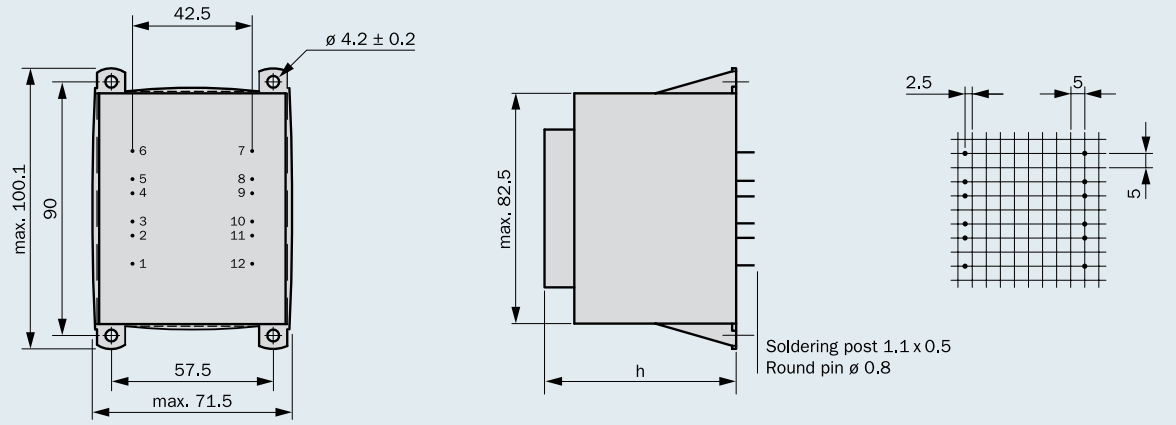
**Type cast housing “0” with 18 connection pins**




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

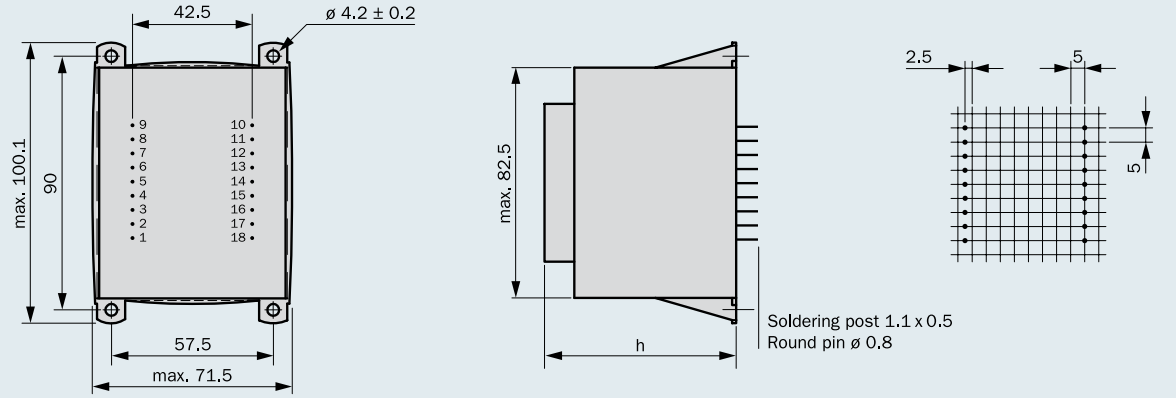
### Type cast housing “KK” with 12 connection pins




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

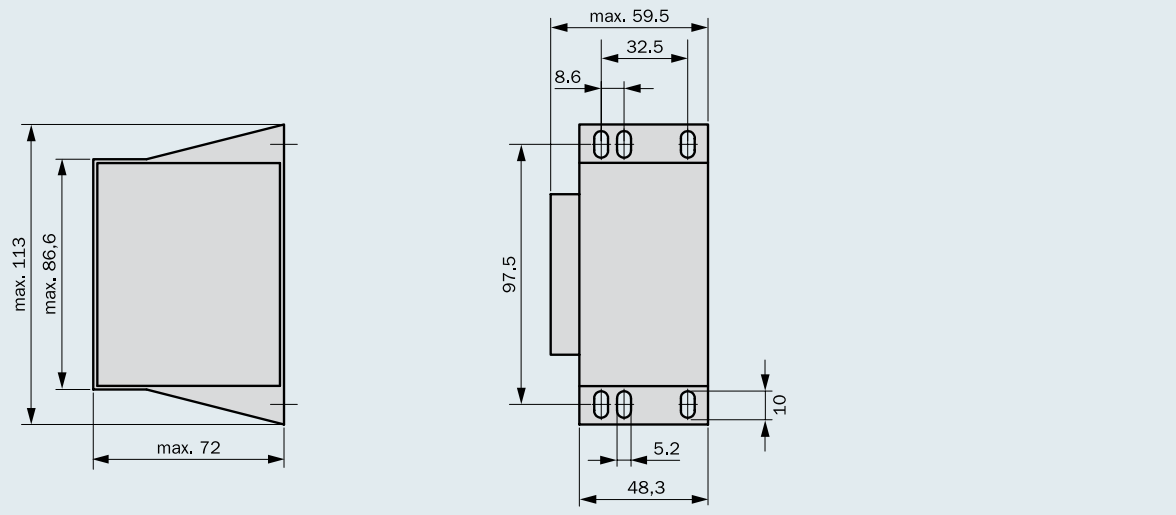
### Type cast housing “KK” with 18 connection pins




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

### Type cast housing “SV” for upright mounting




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

# Printed-Circuit-Board transformers

Output Power: 75.0 VA – 100.0 VA

# EI 84

| | | | |
|---|---|---|---|
| | **DIN EN 61558-2-6** | **VDE** | on request |
| VDE-Mark for Glow-Wire-Test | **DIN EN 60 335-1** | **VDE** | on request |
| | **UL 5085-3** | **UL** | on request |
| | **UL 5085-1** | **UL** | on request |
| | **C22.2** | **CSA** | on request |

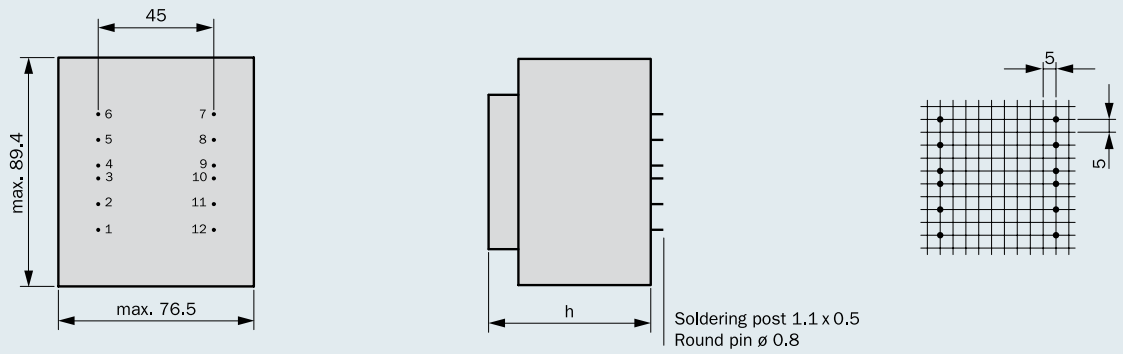
- according to REACH regulation
- according to RoHs regulation

## Individual version!

Custom-made models are available on request, e.g. with or without mounting brackets, other heights, pin configurations or connections.

| Frame size/Core height | Output Power ta 70 °C/B | Height (h) | Weight |
|---|---|---|---|
| BV EI 841 .... /29.5 mm | 75.0 VA | 38.5 ± 0.5 mm | 1.600 kg |
| BV EI 842 .... /43.5 mm | 100.0 VA | 44.5 ± 0.5 mm | 2.100 kg |

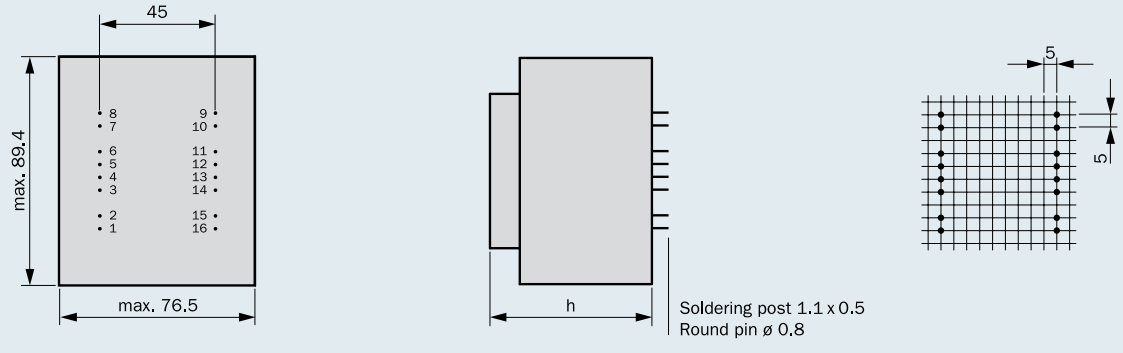
**Type cast housing “0” with 12 connection pins**




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

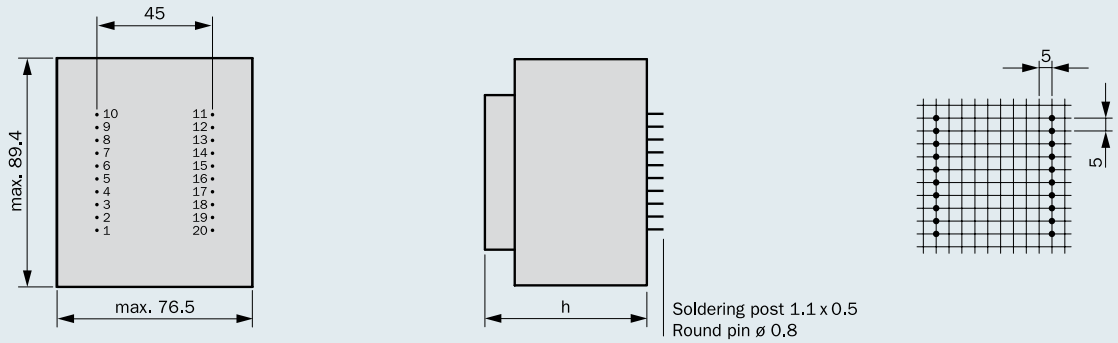
**Type cast housing “0” with 16 connection pins**




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

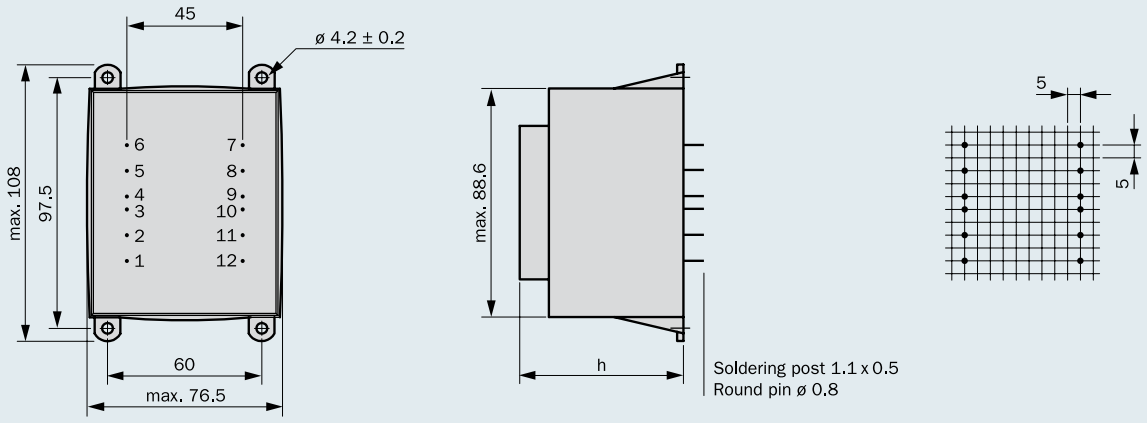
### Type cast housing “0” with 20 connection pins




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

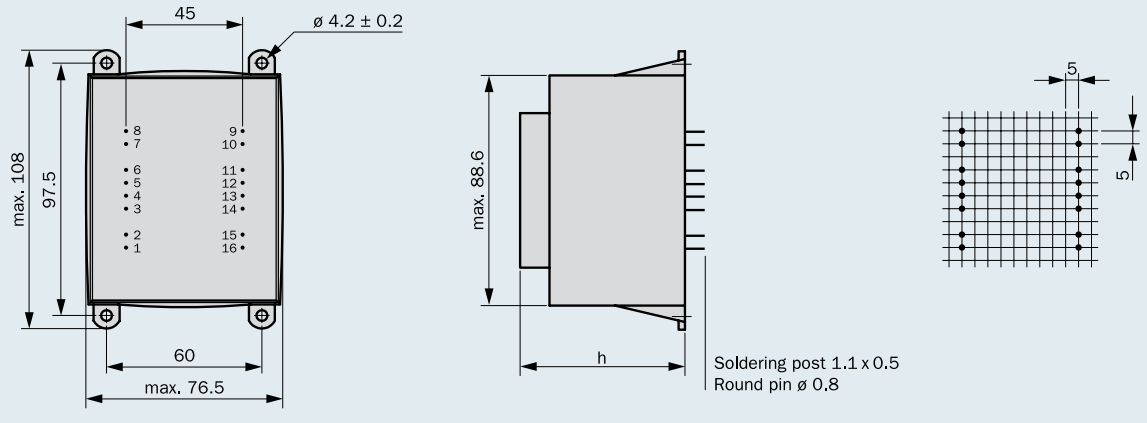
### Type cast housing “KK” with 12 connection pins




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

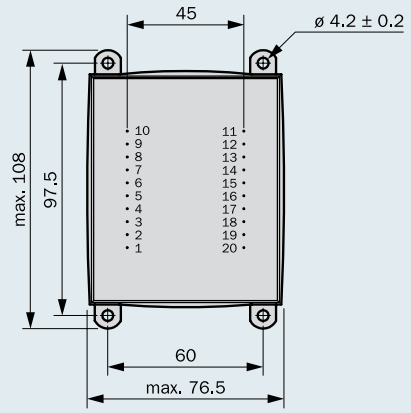
### Type cast housing “KK” with 16 connection pins



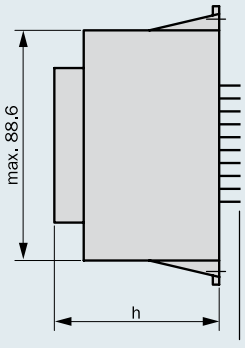

View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

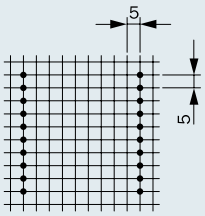
**Type cast housing “KK” with 20 connection pins**




View looking onto pins

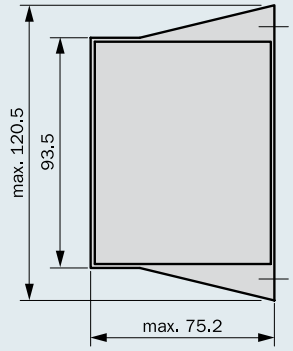



Soldering post 1.1 x 0.5
Round pin ø 0.8

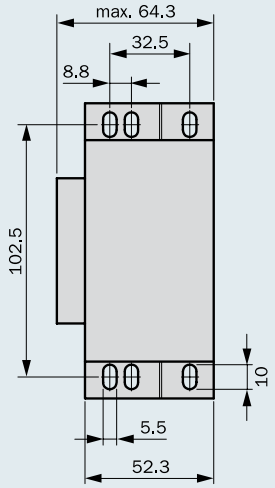



Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

**Type cast housing “SV” for upright mounting**




View looking onto pins




Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

# Printed-Circuit-Board transformers

Output Power: 130.0 VA – 200.0 VA

# EI 96

| | | | |
|---|---|---|---|
| 10 | **DIN EN 61558-2-6** | **VDE** | on request |
| VDE-Mark for Glow-Wire-Test | **DIN EN 60 335-1** | **VDE** | on request |
| | **UL 5085-3** | **UL** | on request |
| | **UL 5085-1** | **UL** | on request |
| | **C22.2** | **CSA** | on request |

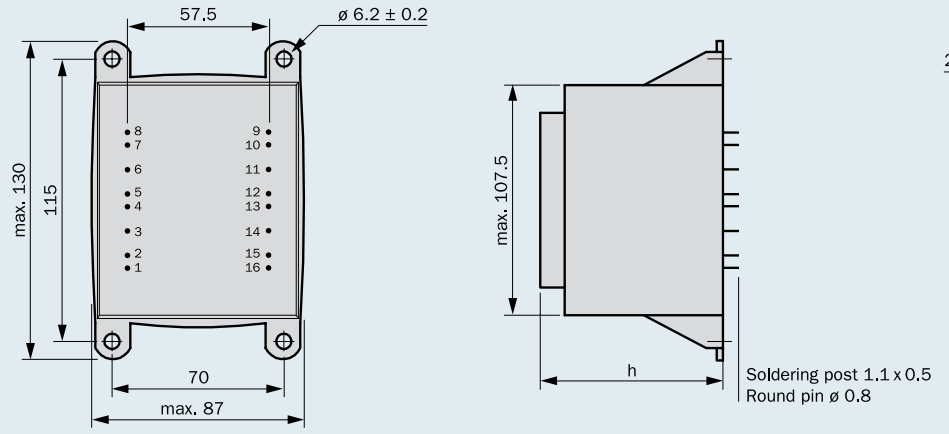
- according to REACH regulation
- according to RoHs regulation

## Individual version!

Custom-made models are available on request, e.g. with or without mounting brackets, other heights, pin configurations or connections.

| Frame size/Core height | Output Power ta 70 °C/B | Height (h) | Weight |
|---|---|---|---|
| BV EI 961 .... /35.7 mm | 130.0 VA | 60.2 ± 0.5 mm | 2.600 kg |
| BV EI 962 .... /45.5 mm | 160.0 VA | 70.0 ± 0.5 mm | 3.800 kg |
| BV EI 963 .... /59.7 mm | 200.0 VA | 84.0 ± 0.5 mm | 4.600 kg |

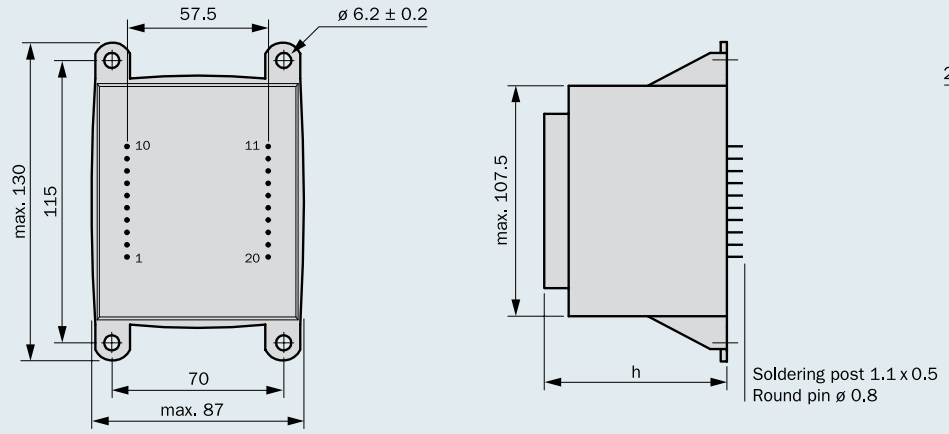
**Type cast housing “KK” with 16 connection pins**




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

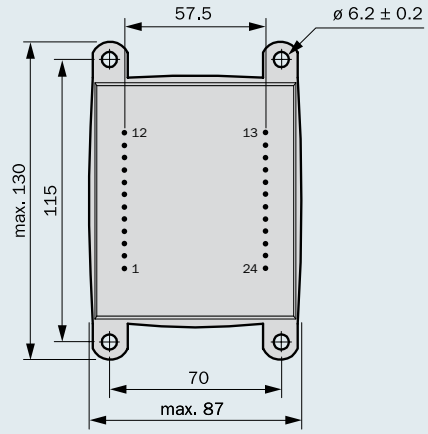
**Type cast housing “KK” with 20 connection pins**



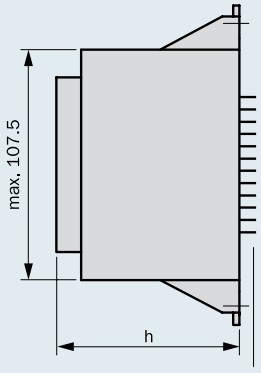

View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

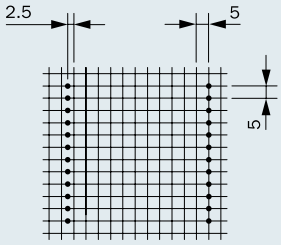
### Type cast housing “KK” with 24 connection pins




View looking onto pins

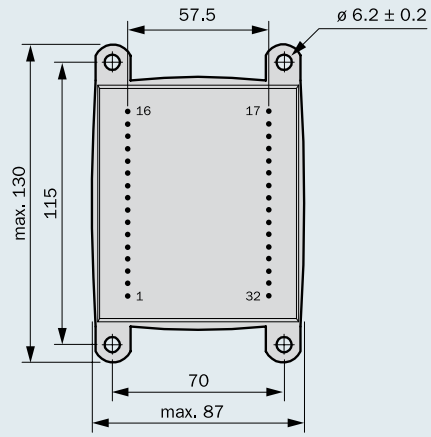



Soldering post 1.1 x 0.5
Round pin ø 0.8

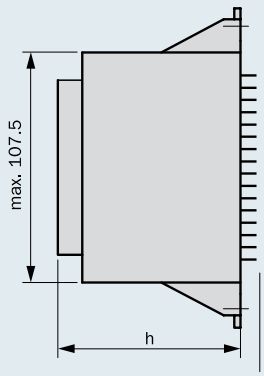



Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

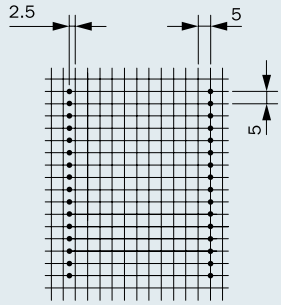
### Type cast housing “KK” with 32 connection pins




View looking onto pins

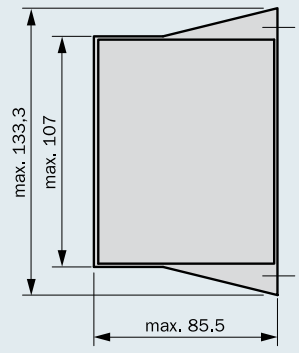



Soldering post 1.1 x 0.5
Round pin ø 0.8

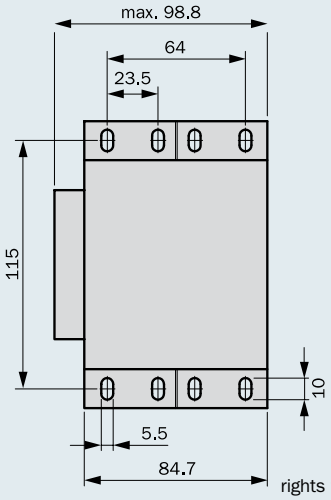



Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

### Type cast housing “SV” for upright mounting



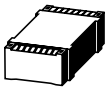

View looking onto pins




Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

# Content

**UI Series**



- Printed-Circuit-Board Flat-type transformers frame size UI 21 – UI 48 (1.0 VA – 60 VA)

**UI**

# Printed-Circuit-Board Flat-type transformers

## Output Power: 1.0 VA

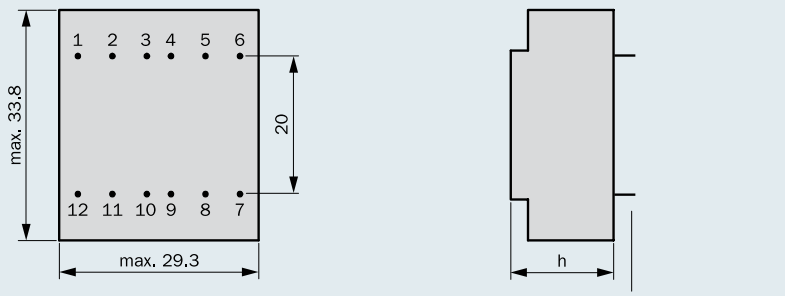
# UI 21

| | | | |
|---|---|---|---|
| 05 KEMA KEUR | **DIN EN 61558** | **DEKRA** | 2147944.01 |
| VDE-Mark for Glow-Wire-Test | **DIN EN 60 335-1** | **VDE** | 102961/84814 |
| | **UL 5085-3** | **UL** | on request |
| | **UL 5085-1** | **UL** | E98173 |
| | **C22.2** | **CSA** | 1077600 |

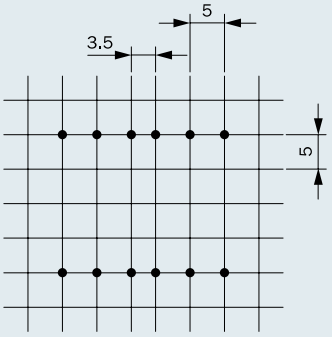
- according to REACH regulation
- according to RoHs regulation

- Output Power up to 1.0 VA
- Temperature class ta 70 °C/B
- Inherently short-circuit-proof
- Excellent temperature fluctuation resistance properties
- Vacuum-encapsulated, bobbin type with dual chamber windings
- High electrical safety and long service-life features
- High voltage resistance
- Self-extinguishing cast housing and sealing material
- Per item tested quality with certificate

**Connecting pins**




View looking onto pins

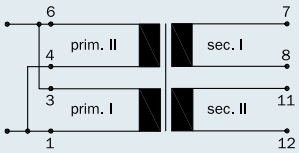



Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

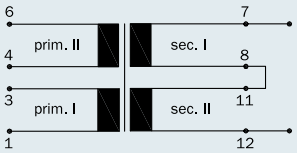
**Connection scheme** (only connected pins are present)

**1.**
Primary 230 V

**2.**
Primary 115 V

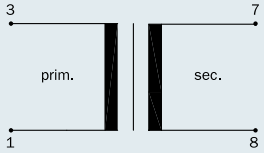



**3.**
Sekundary double voltage




**4.**
Sekundary double current

**5.**
Primary 230 V




Test voltage: up to 6000 V

| Frame size/Core height | Output Power ta 70 °C/B | Size (h) | Weight | Packaging unit |
|---|---|---|---|---|
| BV UI 21 .... /7.3 mm | 1.0 VA | 14.9 mm | 0.050 kg | 40 pieces |

# Printed-Circuit-Board
# Flat-type transformers

Output Power: 1.0 VA

UI 21

**1.0 VA**
**ta 70 °C/B**

Frame size/Core height
**BV UI 21.... /**
**7.3 mm**

inherently short-circuit-proof

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV UI 21 0011 | 230 | 1–3 | 1 x 3 | 333 | 7–8 | 1 x 4.7 | 5 |
| BV UI 21 0012 | 230 | 1–3 | 1 x 6 | 166 | 7–8 | 1 x 10.4 | 5 |
| BV UI 21 0013 | 230 | 1–3 | 1 x 7.5 | 133 | 7–8 | 1 x 12.9 | 5 |
| BV UI 21 0014 | 230 | 1–3 | 1 x 9 | 111 | 7–8 | 1 x 14.4 | 5 |
| BV UI 21 0015 | 230 | 1–3 | 1 x 10 | 100 | 7–8 | 1 x 15.4 | 5 |
| BV UI 21 0016 | 230 | 1–3 | 1 x 12 | 83 | 7–8 | 1 x 20.4 | 5 |
| BV UI 21 0017 | 230 | 1–3 | 1 x 15 | 67 | 7–8 | 1 x 24.6 | 5 |
| BV UI 21 0018 | 230 | 1–3 | 1 x 18 | 56 | 7–8 | 1 x 29.1 | 5 |
| BV UI 21 0019 | 230 | 1–3 | 1 x 21 | 47 | 7–8 | 1 x 34.0 | 5 |
| | | | | | | | |
| BV UI 21 0001 | 2 x 115 | 1–3/4–6 | 2 x 3 | 166 | 7–8/11–12 | 2 x 5.8 | 1–4 |
| BV UI 21 0002 | 2 x 115 | 1–3/4–6 | 2 x 6 | 83 | 7–8/11–12 | 2 x 11.4 | 1–4 |
| BV UI 21 0008 | 2 x 115 | 1–3/4–6 | 2 x 7.5 | 67 | 7–8/11–12 | 2 x 13.1 | 1–4 |
| BV UI 21 0003 | 2 x 115 | 1–3/4–6 | 2 x 9 | 56 | 7–8/11–12 | 2 x 17.1 | 1–4 |
| BV UI 21 0009 | 2 x 115 | 1–3/4–6 | 2 x 10 | 50 | 7–8/11–12 | 2 x 17.4 | 1–4 |
| BV UI 21 0004 | 2 x 115 | 1–3/4–6 | 2 x 12 | 41 | 7–8/11–12 | 2 x 21.8 | 1–4 |

# Printed-Circuit-Board
# Flat-type transformers

## Output Power: 3.0 VA – 16.0 VA

# UI 30

| | | | |
|---|---|---|---|
| KEMA KEUR | **DIN EN 61558** | **DEKRA** | 2147944.01 |
| VDE-Mark for Glow-Wire-Test | **DIN EN 60 335-1** | **VDE** | 102961/84814 |
| | **UL 5085-3** | **UL** | on request |
| | **UL 5085-1** | **UL** | E98173 |
| | **C22.2** | **CSA** | 1077600 |

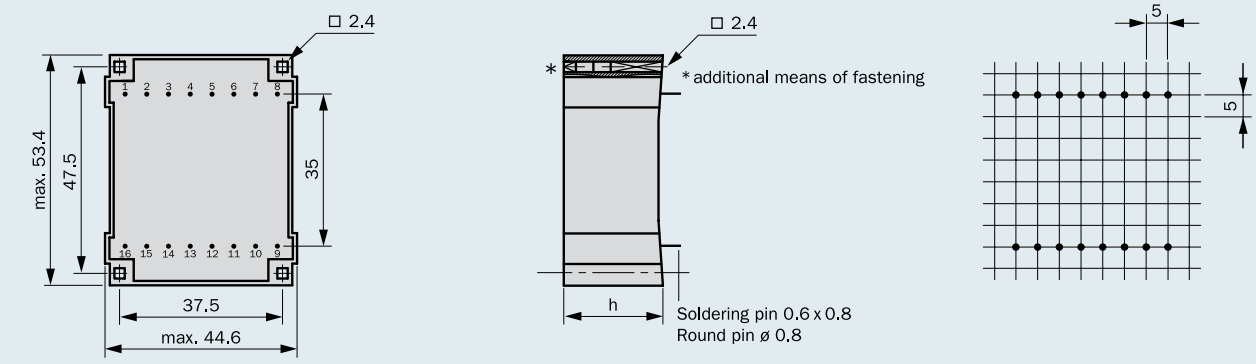
- according to REACH regulation
- according to RoHs regulation

- Output Power up to 16.0 VA
- Temperature class ta 70 °C/B, but non short-circuit-proof
- Vacuum-encapsulated, bobbin type with dual chamber windings
- Excellent temperature fluctuation resistance properties
- High electrical safety and long service-life features
- High voltage resistance up to 6000 V
- Self-extinguishing cast housing and sealing material
- Per item tested quality with certificate

Protection extern secondary by:
- Micro fuse according to IEC 127 or
- PTC resistance

Parallel to the cataloged UI 30 series transformers, HAHN also produces other variants, e.g. with integrated thermo fuse or thermo switch.

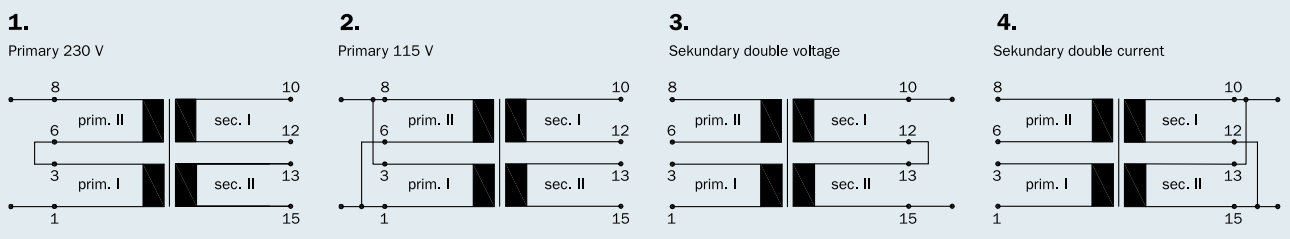
**Connecting pins**




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

**Connection scheme** (only connected pins are present)




Test voltage: up to 6000 V

| Frame size/Core height | Output Power ta 70 °C/B | Size (h) | Weight | Packaging unit |
|---|---|---|---|---|
| BV UI 301 .... / 5.5 mm | 3.0 VA | 17.8 mm | 0.130 kg | 18/24 pieces* |
| BV UI 302 .... / 7.5 mm | 4.0 VA | 19.8 mm | 0.150 kg | 18/24 pieces* |
| BV UI 303 .... / 10.5 mm | 6.0 VA | 22.8 mm | 0.180 kg | 18/24 pieces* |
| BV UI 304 .... / 16.5 mm | 10.0 VA | 28.8 mm | 0.260 kg | 15/18 pieces* |
| BV UI 305 .... / 26.0 mm | 16.0 VA | 37.6 mm | 0.370 kg | 15/18 pieces* |

* it depends on kind of packaging

# Printed-Circuit-Board
# Flat-type transformers

## Output Power: up to 16.0 VA

### 3.0 VA ta 70 °C/B

Frame size/Core height **BV UI 301 .... / 5.5 mm**

non short-circuit-proof

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV UI 301 0167 | 2 x 115 | 1–3/6–8 | 2 x 6 | 250 | 10–12/13–15 | 2 x 7.9 | 1–4 |
| BV UI 301 0168 | 2 x 115 | 1–3/6–8 | 2 x 9 | 167 | 10–12/13–15 | 2 x 14.0 | 1–4 |
| BV UI 301 0133 | 2 x 115 | 1–3/6–8 | 2 x 12 | 126 | 10–12/13–15 | 2 x 18.4 | 1–4 |
| BV UI 301 0166 | 2 x 115 | 1–3/6–8 | 2 x 15 | 100 | 10–12/13–15 | 2 x 22.8 | 1–4 |

### 4.0 VA ta 70 °C/B

Frame size/Core height **BV UI 302 .... / 7.5 mm**

non short-circuit-proof

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV UI 302 0164 | 2 x 115 | 1–3/6–8 | 2 x 6 | 333 | 10–12/13–15 | 2 x 10.1 | 1–4 |
| BV UI 302 0161 | 2 x 115 | 1–3/6–8 | 2 x 9 | 222 | 10–12/13–15 | 2 x 13.5 | 1–4 |
| BV UI 302 0144 | 2 x 115 | 1–3/6–8 | 2 x 12 | 166 | 10–12/13–15 | 2 x 20.2 | 1–4 |
| BV UI 302 0165 | 2 x 115 | 1–3/6–8 | 2 x 15 | 133 | 10–12/13–15 | 2 x 24.9 | 1–4 |

### 6.0 VA ta 70 °C/B

Frame size/Core height **BV UI 303 .... / 10.5 mm**

non short-circuit-proof

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV UI 303 0162 | 2 x 115 | 1–3/6–8 | 2 x 6 | 500 | 10–12/13–15 | 2 x 9.0 | 1–4 |
| BV UI 303 0179 | 2 x 115 | 1–3/6–8 | 2 x 7.5 | 400 | 10–12/13–15 | 2 x 11.4 | 1–4 |
| BV UI 303 0158 | 2 x 115 | 1–3/6–8 | 2 x 9 | 334 | 10–12/13–15 | 2 x 12.8 | 1–4 |
| BV UI 303 0145 | 2 x 115 | 1–3/6–8 | 2 x 12 | 250 | 10–12/13–15 | 2 x 17.2 | 1–4 |
| BV UI 303 0163 | 2 x 115 | 1–3/6–8 | 2 x 15 | 200 | 10–12/13–15 | 2 x 21.8 | 1–4 |

### 10.0 VA ta 70 °C/B

Frame size/Core height **BV UI 304 .... / 16.5 mm**

non short-circuit-proof

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV UI 304 0155 | 2 x 115 | 1–3/6–8 | 2 x 6 | 833 | 10–12/13–15 | 2 x 8.7 | 1–4 |
| BV UI 304 0129 | 2 x 115 | 1–3/6–8 | 2 x 7.5 | 667 | 10–12/13–15 | 2 x 10.0 | 1–4 |
| BV UI 304 0153 | 2 x 115 | 1–3/6–8 | 2 x 9 | 555 | 10–12/13–15 | 2 x 12.4 | 1–4 |
| BV UI 304 0154 | 2 x 115 | 1–3/6–8 | 2 x 12 | 416 | 10–12/13–15 | 2 x 16.0 | 1–4 |
| BV UI 304 0136 | 2 x 115 | 1–3/6–8 | 2 x 15 | 333 | 10–12/13–15 | 2 x 19.7 | 1–4 |
| BV UI 304 0159 | 2 x 115 | 1–3/6–8 | 2 x 18 | 277 | 10–12/13–15 | 2 x 23.4 | 1–4 |

### 16.0 VA ta 70 °C/B

Frame size/Core height **BV UI 305 .... / 26.0 mm**

non short-circuit-proof

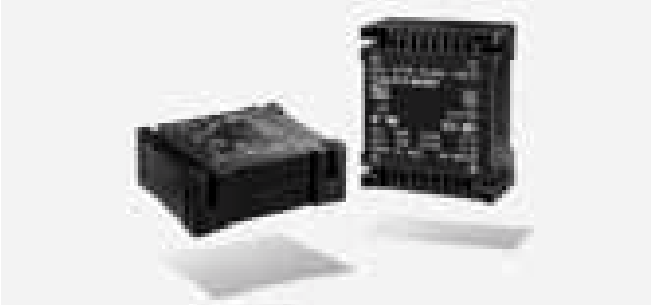
| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV UI 305 0147 | 2 x 115 | 1–3/6–8 | 2 x 6 | 1330 | 10–12/13–15 | 2 x 7.5 | 1–4 |
| BV UI 305 0148 | 2 x 115 | 1–3/6–8 | 2 x 9 | 888 | 10–12/13–15 | 2 x 10.9 | 1–4 |
| BV UI 305 0149 | 2 x 115 | 1–3/6–8 | 2 x 12 | 666 | 10–12/13–15 | 2 x 14.6 | 1–4 |
| BV UI 305 0150 | 2 x 115 | 1–3/6–8 | 2 x 15 | 533 | 10–12/13–15 | 2 x 18.0 | 1–4 |
| BV UI 305 0151 | 2 x 115 | 1–3/6–8 | 2 x 18 | 444 | 10–12/13–15 | 2 x 21,5 | 1–4 |
| BV UI 305 0152 | 2 x 115 | 1–3/6–8 | 2 x 21 | 380 | 10–12/13–15 | 2 x 25,0 | 1–4 |

# Printed-Circuit-Board Flat-type transformers

# UI 39

## Output Power: 10.0 VA – 30.0 VA

| | | | |
|---|---|---|---|
| KEMA KEUR | **DIN EN 61558** | **DEKRA** | 2147944.01 |
| VDE-Mark for Glow-Wire-Test | **DIN EN 60 335-1** | **VDE** | 102961/84814 |
| | **UL 5085-3** | **UL** | on request |
| | **UL 5085-1** | **UL** | E98173 |
| | **C22.2** | **CSA** | 1077600 |



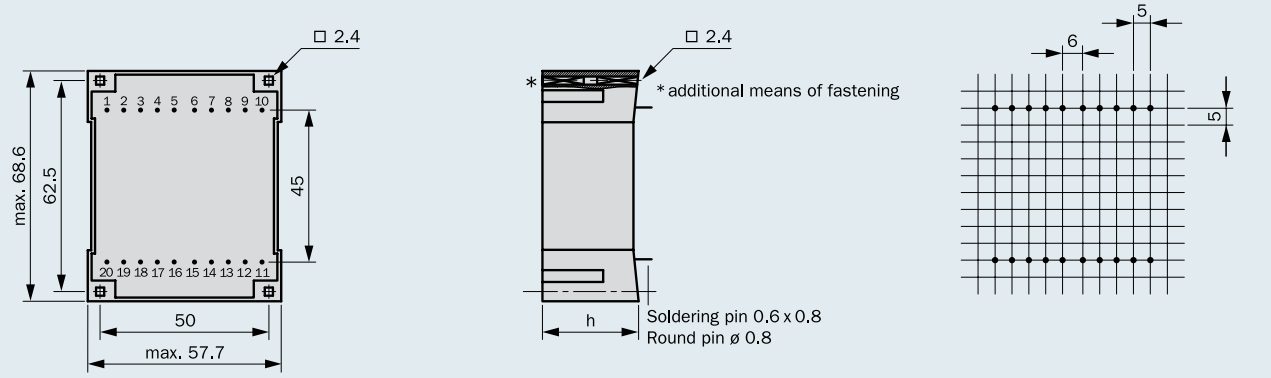
- according to REACH regulation
- according to RoHs regulation

- Output Power up to 30.0 VA
- Temperature class ta 70 °C/B, non short-circuit-proof
- Vacuum encapsulated, bobbin type with dual chamber windings
- Excellent temperature fluctuation resistance properties
- High electrical safety and long service-life features
- High voltage resistance up to 6000 V
- Self-extinguishing cast housing and sealing material
- Per item tested quality with certificate

Protection extern secondary by:
- Micro fuse according to IEC 127 or
- PTC resistance

Parallel to the cataloged UI 39 series transformers, HAHN also produces other variants, e.g. with integrated thermo fuse or thermo switch.

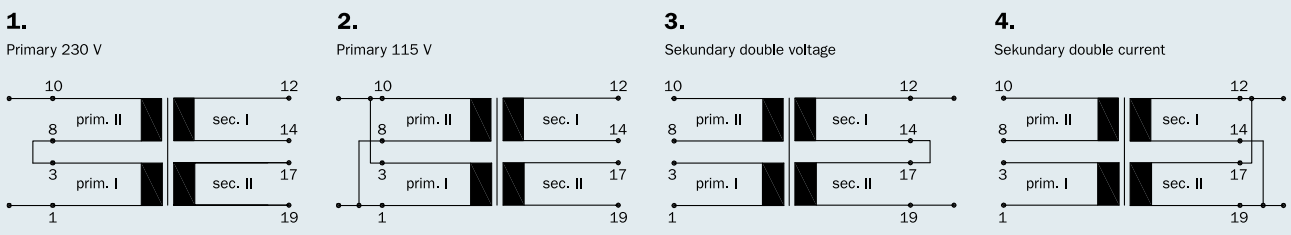
**Connecting pins**




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

**Connection scheme** (only connected pins are present)




Test voltage: up to 6000 V

| Frame size/Core height | Output Power ta 70 °C/B | Size (h) | Weight | Packaging unit |
|---|---|---|---|---|
| BV UI 392 .... / 8.0 mm | 10.0 VA | 23.0 mm | 0.290 kg | 8/15 pieces* |
| BV UI 393 .... /10.2 mm | 14.0 VA | 25.2 mm | 0.330 kg | 8/15 pieces* |
| BV UI 394 .... /13.5 mm | 18.0 VA | 28.5 mm | 0.390 kg | 8/15 pieces* |
| BV UI 395 .... /17.0 mm | 24.0 VA | 32.0 mm | 0.460 kg | 8/15 pieces* |
| BV UI 396 .... /21.0 mm | 30.0 VA | 36.0 mm | 0.550 kg | 8/15 pieces* |

* it depends on kind of packaging

# Printed-Circuit-Board
# Flat-type transformers

## Output Power: up to 30.0 VA

### 10.0 VA ta 70 °C/B

Frame size/Core height **BV UI 392 .... / 8.0 mm**

non short-circuit-proof

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV UI 392 0092 | 2 x 115 | 1–3/8–10 | 2 x 6 | 833 | 12–14/17–19 | 2 x 8.2 | 1–4 |
| BV UI 392 0076 | 2 x 115 | 1–3/8–10 | 2 x 9 | 556 | 12–14/17–19 | 2 x 11.9 | 1–4 |
| BV UI 392 0093 | 2 x 115 | 1–3/8–10 | 2 x 12 | 416 | 12–14/17–19 | 2 x 16.4 | 1–4 |
| BV UI 392 0077 | 2 x 115 | 1–3/8–10 | 2 x 15 | 333 | 12–14/17–19 | 2 x 19.3 | 1–4 |
| BV UI 392 0094 | 2 x 115 | 1–3/8–10 | 2 x 18 | 277 | 12–14/17–19 | 2 x 23.8 | 1–4 |

### 14.0 VA ta 70 °C/B

Frame size/Core height **BV UI 393 .... / 10.2 mm**

non short-circuit-proof

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV UI 393 0085 | 2 x 115 | 1–3/8–10 | 2 x 6 | 1166 | 12–14/17–19 | 2 x 8.0 | 1–4 |
| BV UI 393 0074 | 2 x 115 | 1–3/8–10 | 2 x 9 | 778 | 12–14/17–19 | 2 x 12.0 | 1–4 |
| BV UI 393 0081 | 2 x 115 | 1–3/8–10 | 2 x 12 | 583 | 12–14/17–19 | 2 x 15.6 | 1–4 |
| BV UI 393 0078 | 2 x 115 | 1–3/8–10 | 2 x 15 | 467 | 12–14/17–19 | 2 x 19.9 | 1–4 |
| BV UI 393 0062 | 2 x 115 | 1–3/8–10 | 2 x 18 | 389 | 12–14/17–19 | 2 x 23.7 | 1–4 |

### 18.0 VA ta 70 °C/B

Frame size/Core height **BV UI 394 .... / 13.5 mm**

non short-circuit-proof

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV UI 394 0086 | 2 x 115 | 1–3/8–10 | 2 x 6 | 1500 | 12–14/17–19 | 2 x 8.0 | 1–4 |
| BV UI 394 0110 | 2 x 115 | 1–3/8–10 | 2 x 7.5 | 1200 | 12–14/17–19 | 2 x 9.8 | 1–4 |
| BV UI 394 0063 | 2 x 115 | 1–3/8–10 | 2 x 9 | 1000 | 12–14/17–19 | 2 x 12.0 | 1–4 |
| BV UI 394 0087 | 2 x 115 | 1–3/8–10 | 2 x 12 | 750 | 12–14/17–19 | 2 x 15.5 | 1–4 |
| BV UI 394 0088 | 2 x 115 | 1–3/8–10 | 2 x 15 | 600 | 12–14/17–19 | 2 x 19.6 | 1–4 |
| BV UI 394 0075 | 2 x 115 | 1–3/8–10 | 2 x 18 | 500 | 12–14/17–19 | 2 x 23.2 | 1–4 |

### 24.0 VA ta 70 °C/B

Frame size/Core height **BV UI 395 .... / 17.0 mm**

non short-circuit-proof

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV UI 395 0089 | 2 x 115 | 1–3/8–10 | 2 x 6 | 2000 | 12–14/17–19 | 2 x 7.4 | 1–4 |
| BV UI 395 0190 | 2 x 115 | 1–3/8–10 | 2 x 7.5 | 1600 | 12–14/17–19 | 2 x 9.3 | 1–4 |
| BV UI 395 0098 | 2 x 115 | 1–3/8–10 | 2 x 9 | 1333 | 12–14/17–19 | 2 x 11.0 | 1–4 |
| BV UI 395 0091 | 2 x 115 | 1–3/8–10 | 2 x 12 | 1000 | 12–14/17–19 | 2 x 14.7 | 1–4 |
| BV UI 395 0083 | 2 x 115 | 1–3/8–10 | 2 x 15 | 800 | 12–14/17–19 | 2 x 18.2 | 1–4 |
| BV UI 395 0099 | 2 x 115 | 1–3/8–10 | 2 x 18 | 666 | 12–14/17–19 | 2 x 22.0 | 1–4 |
| BV UI 395 0100 | 2 x 115 | 1–3/8–10 | 2 x 21 | 571 | 12–14/17–19 | 2 x 25.0 | 1–4 |

### 30.0 VA ta 70 °C/B

Frame size/Core height **BV UI 396 .... / 21.0 mm**

non short-circuit-proof

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV UI 396 0101 | 2 x 115 | 1–3/8–10 | 2 x 6 | 2500 | 12–14/17–19 | 2 x 7.3 | 1–4 |
| BV UI 396 0187 | 2 x 115 | 1–3/8–10 | 2 x 7.5 | 2000 | 12–14/17–19 | 2 x 9.0 | 1–4 |
| BV UI 396 0102 | 2 x 115 | 1–3/8–10 | 2 x 9 | 1666 | 12–14/17–19 | 2 x 10.7 | 1–4 |
| BV UI 396 0079 | 2 x 115 | 1–3/8–10 | 2 x 12 | 1250 | 12–14/17–19 | 2 x 14.1 | 1–4 |
| BV UI 396 0103 | 2 x 115 | 1–3/8–10 | 2 x 15 | 1000 | 12–14/17–19 | 2 x 17.6 | 1–4 |
| BV UI 396 0080 | 2 x 115 | 1–3/8–10 | 2 x 18 | 833 | 12–14/17–19 | 2 x 21.2 | 1–4 |

# Printed-Circuit-Board Flat-type transformers

## Output Power: 40.0 VA – 60.0 VA

# UI 48

| | | | |
|---|---|---|---|
| KEMA KEUR | **DIN EN 61558** | **DEKRA** | 2147944.01 |
| VDE-Mark for Glow-Wire-Test | **DIN EN 60 335-1** | **VDE** | 102961/84814 |
| | **UL 5085-3** | **UL** | on request |
| | **UL 5085-1** | **UL** | E98173 |
| | **C22.2** | **CSA** | 1077600 |

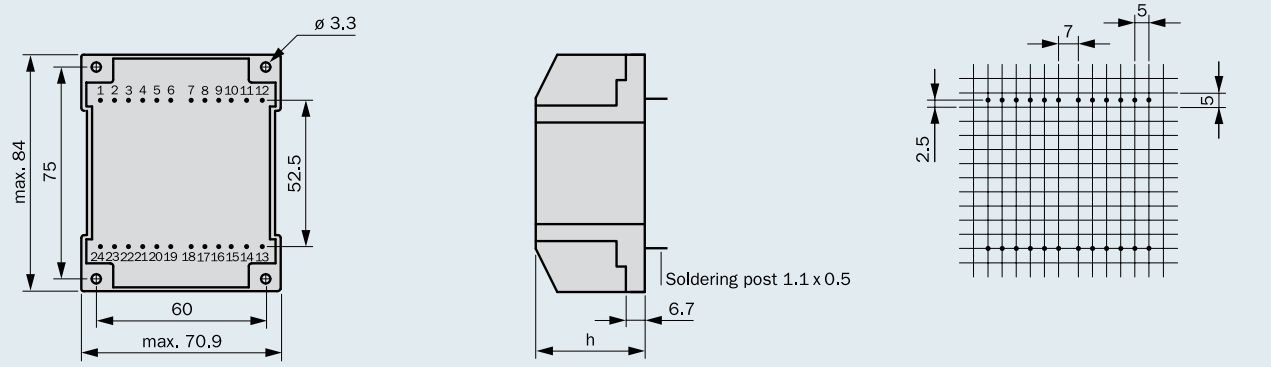
- according to REACH regulation
- according to RoHs regulation

- Output Power up to 60.0 VA
- Temperature class ta 70 °C/B, non short-circuit-proof
- Excellent temperature fluctuation resistance properties
- Vacuum-encapsulated, bobbin type with dual chamber windings
- High electrical safety and long service-life features
- High voltage resistance up to 6000 V
- Self-extinguishing cast housing and sealing material
- Per item tested quality with certificate

Protection extern secondary by:
- Micro fuse according to IEC 127 or
- PTC resistance

Parallel to the cataloged UI 48 series transformers, HAHN also produces other variants, e.g. with integrated thermo fuse or thermo switch.

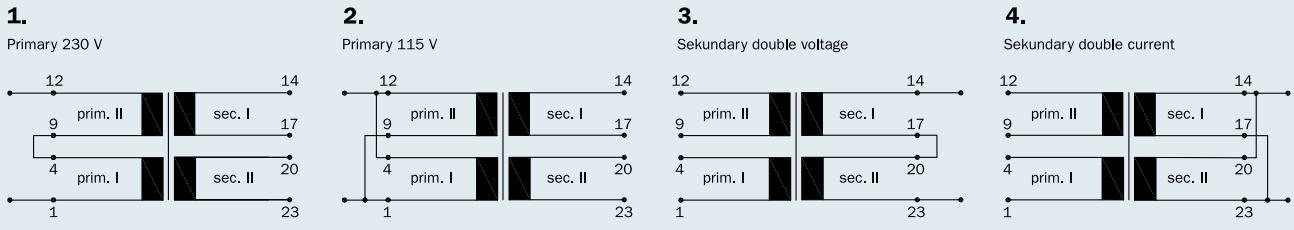
**Connecting pins**




View looking onto pins

Dimensions without tolerances ± 0.3 mm, rights to make alterations and improvements hereby reserved

**Connection scheme** (only connected pins are present)




Test voltage: up to 6000 V

| Frame size/Core height | Output Power ta 70 °C/B | Size (h) | Weight | Packaging unit |
|---|---|---|---|---|
| BV UI 481 .... /17.0 mm | 40.0 VA | 38.7 mm | 0.780 kg | 10 pieces |
| BV UI 482 .... /26.0 mm | 60.0 VA | 47.9 mm | 1.100 kg | 10 pieces |

**40.0 VA**
**ta 70 °C/B**

Frame size/Core height
**BV UI 481 .... /**
**17.0 mm**

non short-circuit-proof

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV UI 481 0001 | 2 x 115 | 1–4/9–12 | 2 x 6 | 3333 | 14–17/20–23 | 2 x 7.3 | 1–4 |
| BV UI 481 0002 | 2 x 115 | 1–4/9–12 | 2 x 9 | 2222 | 14–17/20–23 | 2 x 10.8 | 1–4 |
| BV UI 481 0003 | 2 x 115 | 1–4/9–12 | 2 x 12 | 1666 | 14–17/20–23 | 2 x 14.3 | 1–4 |
| BV UI 481 0004 | 2 x 115 | 1–4/9–12 | 2 x 15 | 1333 | 14–17/20–23 | 2 x 17.7 | 1–4 |
| BV UI 481 0005 | 2 x 115 | 1–4/9–12 | 2 x 18 | 1111 | 14–17/20–23 | 2 x 21.7 | 1–4 |

**60.0 VA**
**ta 70 °C/B**

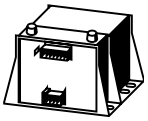
Frame size/Core height
**BV UI 482 .... /**
**26.0 mm**

non short-circuit-proof

| Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage V | Current sec. mA | Connecting pins sec. | No-load voltage V | Connection scheme |
|---|---|---|---|---|---|---|---|
| BV UI 482 0007 | 2 x 115 | 1–4/9–12 | 2 x 6 | 5000 | 14–17/20–23 | 2 x 7.3 | 1–4 |
| BV UI 482 0008 | 2 x 115 | 1–4/9–12 | 2 x 9 | 3333 | 14–17/20–23 | 2 x 10.5 | 1–4 |
| BV UI 482 0009 | 2 x 115 | 1–4/9–12 | 2 x 12 | 2500 | 14–17/20–23 | 2 x 14.0 | 1–4 |
| BV UI 482 0010 | 2 x 115 | 1–4/9–12 | 2 x 15 | 2000 | 14–17/20–23 | 2 x 17.5 | 1–4 |
| BV UI 482 0011 | 2 x 115 | 1–4/9–12 | 2 x 18 | 1666 | 14–17/20–23 | 2 x 21.1 | 1–4 |
| BV UI 482 0012 | 2 x 115 | 1–4/9–12 | 2 x 21 | 1428 | 14–17/20–23 | 2 x 24.5 | 1–4 |

# Content

**RAST 5 Series**



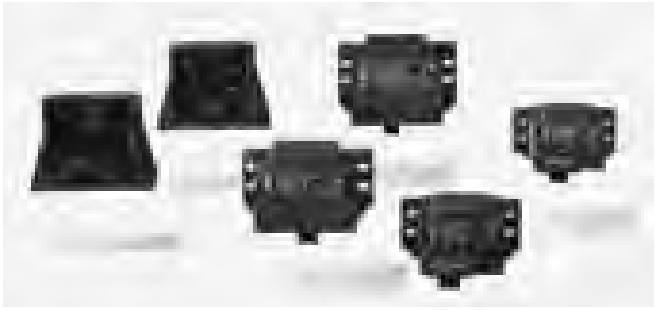
- Transformers with RAST 5 connecting technology
  frame size EI 48 – EI 84 (10.0 VA – 120 VA)

# Transformers
Output Power:
10.0 VA – 120.0 VA

# RAST 5

| | | | |
|---|---|---|---|
| 10 | **DIN EN 61558-2-6** | **VDE** | on request |
| VDE-Mark for Glow-Wire-Test | **DIN EN 60 335-1** | **VDE** | 102961/84814 |
| | **UL 5085-3** | **UL** | on request |
| | **UL 5085-1** | **UL** | on request |
| | **C22.2** | **CSA** | on request |

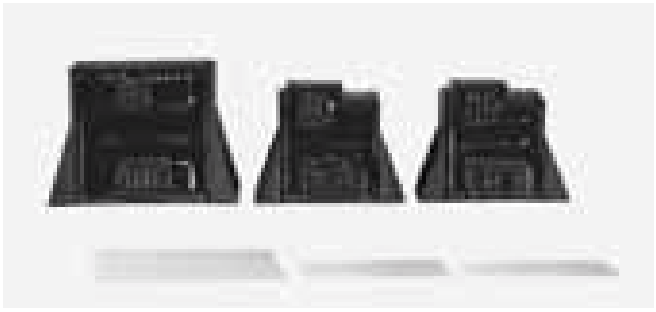
- according to REACH regulation
- according to RoHs regulation



- High Output Power up to 120.0 VA
- Primary voltages from 12 V to 400 V
- Secondary voltages from 6 V to 24 V or 2 x 6 V to 2 x 24 V
- Minimal size available
- Vacuum-encapsulated, bobbin with dual chamber windings
- Per item tested quality with certificate
- Temperature class ta 70 °C/B meeting VDE 0570/DIN EN 61558 regulations
- High electrical safety and long service-life features
- Excellent temperature fluctuation resistance properties
- Self-extinguishing cast housing and sealing material

**RAST 5 Transformers frame size EI 48 to EI 84.**
All transformers of the RAST 5 series are equipped with a variable user-friendly parallel-wired connector to VDE 0627/ PM 906 (Regulations of the Association of German Electrical Engineers). This greatly facilitates the assembly of the components by as much as a third. It only remains to attach the lead connectors to the primary and secondary sides. The tedious and time-consuming routines of soldering, screw-attachment or individual plug-ins is no longer required. Especially coded connectors with form guides ensure proper assembly. Confusion in connecting up routines is impossible, even for a layman. Lead connectors are prefabricated, thus also reducing costs.

The RAST 5 interconnective techniques developed by HAHN for transformers provide makers of electrical and white goods with assured economical- and electrical safety aspects in the manufacture of appliances.

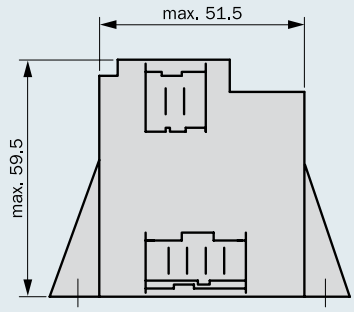


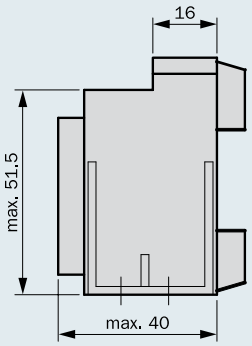
# Transformers

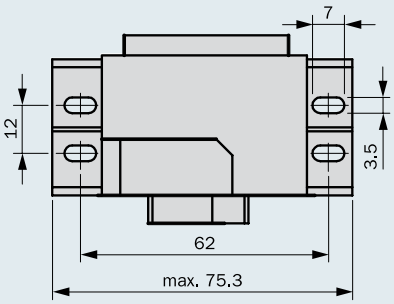
Output Power:
10.0 VA – 16.0 VA

| Frame size | Output Power ta 70 °C/B |
|---|---|
| EI 48/16.8 | 10.0 VA |
| EI 48/20.5 | 12.0 VA |
| EI 54/18.8 | 16.0 VA |

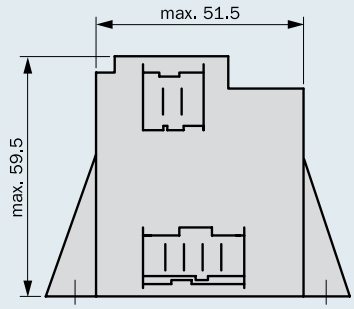
**Connecting pins** Version EI 48/16.8

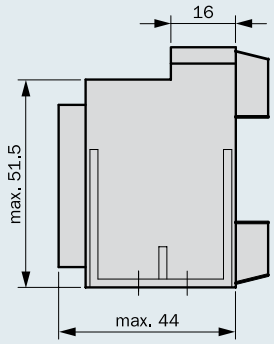


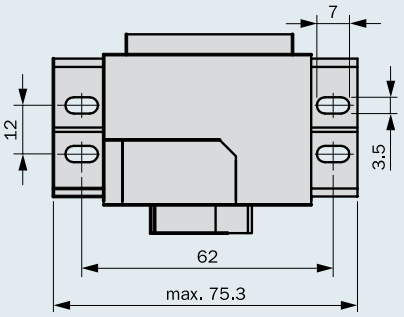



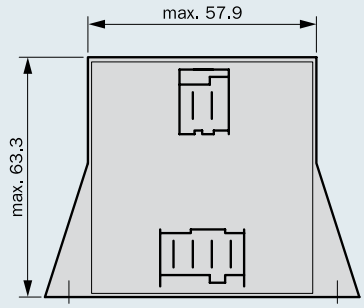

**Connecting pins** Version EI 48/20.5

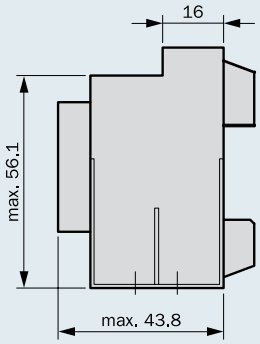


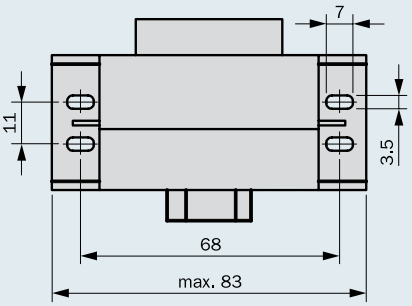




**Connecting pins** Version EI 54/18.8



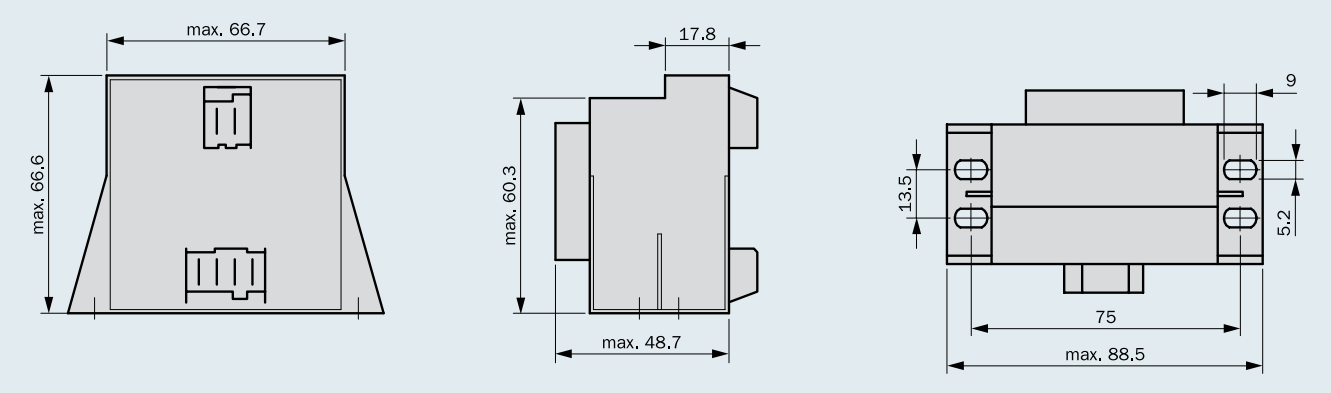
# Transformers

## Output Power:
## 20.0 VA – 40.0 VA

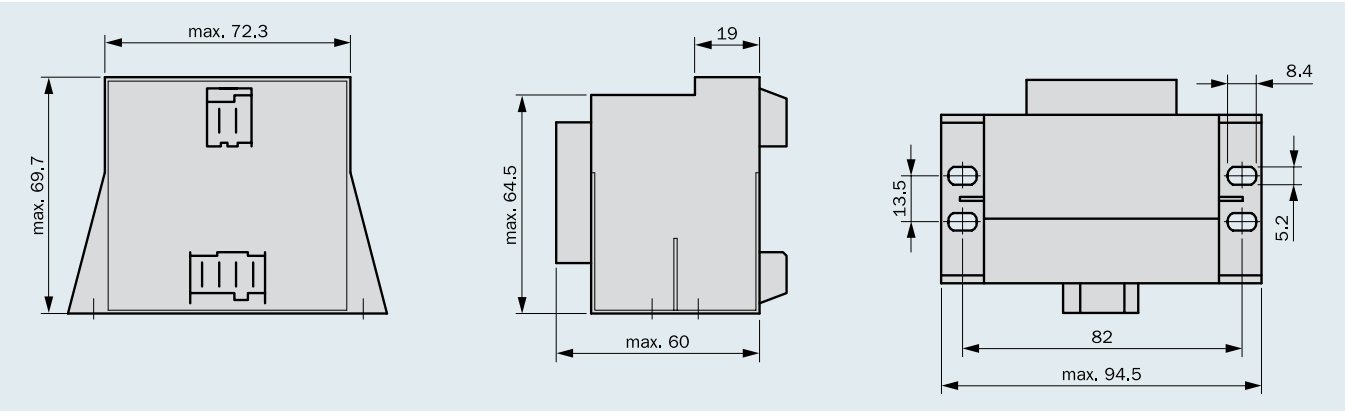
| Frame size | Output Power ta 70 °C/B |
|---|---|
| EI 60 / 21.0 | 20.0 VA |
| EI 66 / 30.0 | 40.0 VA |

**Maximum Convenience combined with cogent Quality.** Equipped with service- and user-friendly connective techniques plus the usual quality benefits of the EI transformer series. Designed to customer requirements – capacities from 10.0 VA to 120.0 VA. Temperature class ta 70 °C/B. Vacuum encapsulated items are, subjected of course to 100 % quality control.

**Connecting pins** Version EI 60 / 21.0




**Connecting pins** Version EI 66 / 30.0



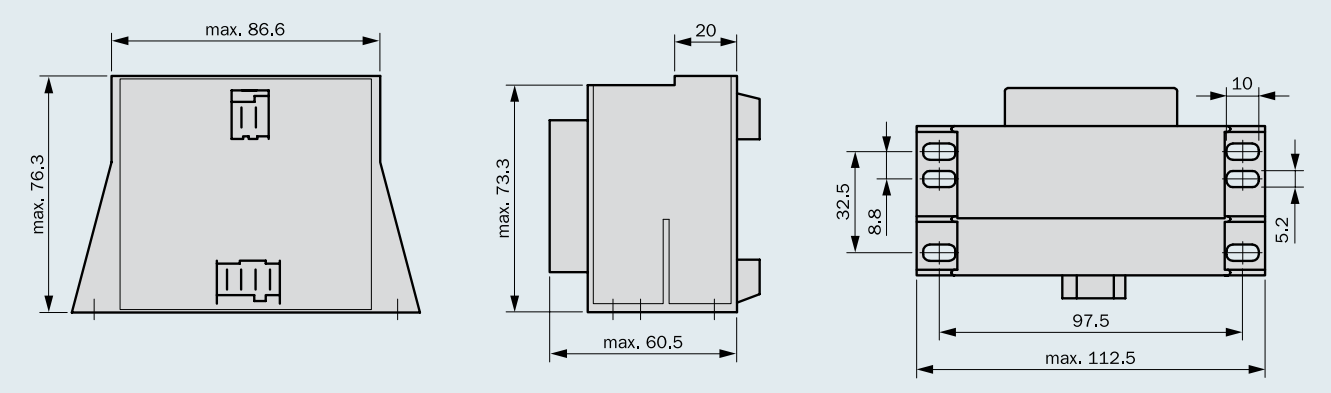
# Transformers
## Output Power:
## 50.0 VA – 120.0 VA

# RAST 5

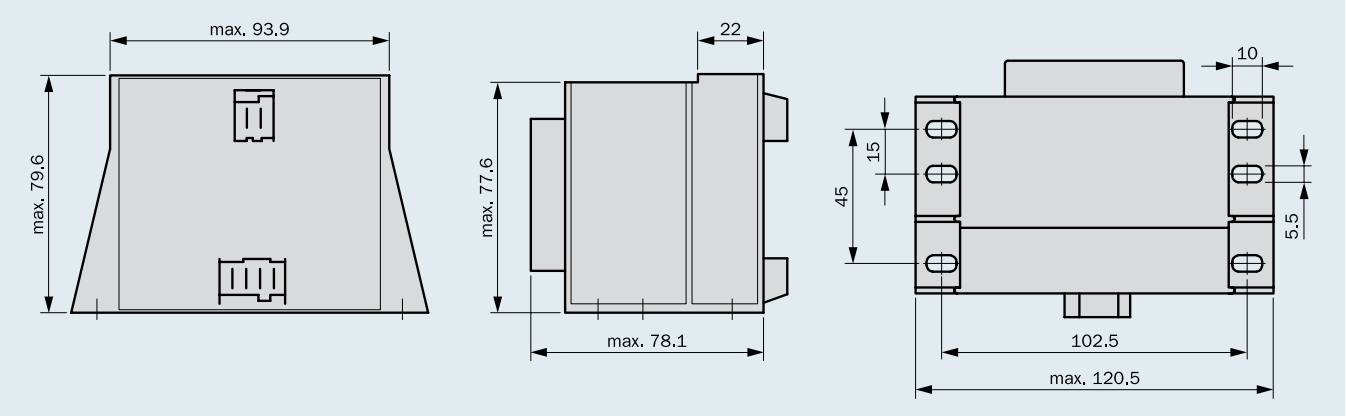
| Frame size | Output Power ta 70 °C/B |
|---|---|
| EI 78/27.5 | 50.0 VA |
| EI 84/43.5 | 120.0 VA |

**Maximum Convenience combined with cogent Quality.** Equipped with service- and user-friendly connective techniques plus the usual quality benefits of the EI transformer series. Designed to customer requirements – capacities from 10.0 VA to 120.0 VA. Temperature class ta 70 °C/B. Vacuum encapsulated items are, subjected of course to 100 % quality control.

**Connecting pins** Version EI 78/27.5




**Connecting pins** Version EI 84/43.5



# Content

**Flyback converter / SMPS-Converter**

- Flyback converters frame size EF 16/5 – 8 mm creeping distance
- Individual version 8 mm creeping distance
- Flyback converters frame size EF 20/5 – 4 mm creeping distance
- Individual version 4 mm creeping distance

# Flyback converters for Switch Mode Power Supplies

EF

**HAHN flyback converters with the following characteristics:**
- Construction to DIN EN 61 558, DIN EN 60 950
- Operational frequency 10–500 kHz
- Increased creeping distance 12 mm possible

**Insulating material classification**
- E/120 °C
- B/130 °C (optional)
- F/155 °C (optional)
- UL 94–V0 (optional)
- 100 % unleaded

**100 % piece inspections**
- Inductivity
- Turns ratio
- Winding direction
- Voltage resistance (50 Hz/1 s)

Switch Mode Power Supplies with HAHN flyback converters – can be employed for lower and middle range capacities with the structural size quantities EF 12.6 to EF 30.0. Through the use of high-quality of core materials it is possible to reach working frequencies up to the MHZ-area.

Considerable know-how and specialist experience in transformer technology for open, encapsulated, impregnated or vacuum encapsulated converters are guarantees for HAHN quality and optimum customer benefit.

Current developments in electronic components involve ever shorter research and development time periods and every greater manufacturing reliability.

HAHN has the opportunity of optimally developing flyback converters for well known manufacturers of regulator controllers, e.g. Power Integration, Infinion, Philips or ON Semiconductor as customer-specific components. These were all rapid-, economic- and high quality problem solutions from HAHN.

| Frame size | Output Power* |
|---|---|
| EF 12.6/4 | up to 5 W |
| EF 16/5 | up to 9 W |
| EF 20/6 | up to 20 W |
| EF 25/7 | up to 45 W |
| EF 30/7 | up to 70 W |

* dependent on input voltage range and switch governor type

# Flyback converters for Switch Mode Power Supplies

## EF 16/5

Output Power: 5 – 7 W

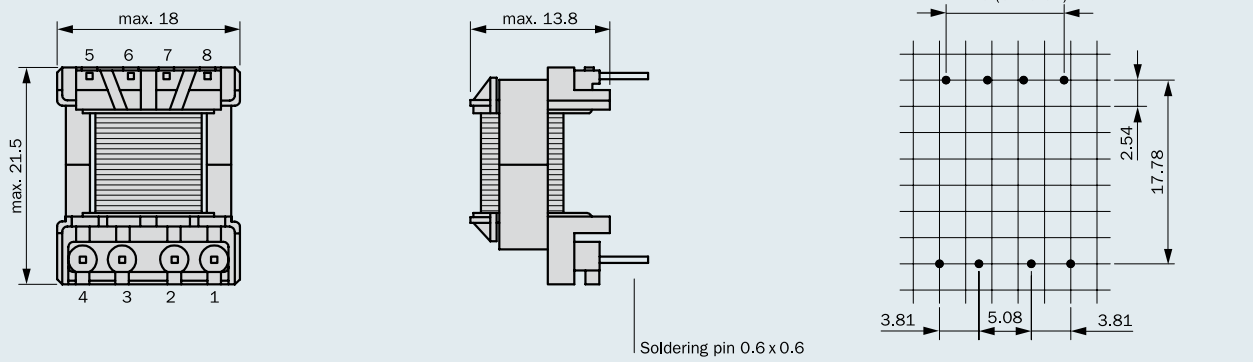
| | | | |
|---|---|---|---|
| 10 | **DIN EN 61 558** | **VDE** | on request |
| **VDE-Mark for Glow-Wire-Test** | **DIN EN 60 335-1** | **VDE** | on request |
| | **UL 5085-3** | **UL** | on request |
| | **UL 5085-1** | **UL** | on request |
| | **C22.2** | **CSA** | on request |

- according to REACH regulation
- according to RoHs regulation

**Technical Specifications**
- Construction to DIN EN 61 558, DIN EN 60 950
- Creeping distance 8 mm min.
- 100 % unleaded
- UL listed materials
- Insulating material classification B (130 °C)
- Two outputs for connection in parallel or in series (*)

**100 % piece inspection**
- Inductance
- Turns ratio
- Winding direction
- Voltage resistance (50 Hz / 1 s)

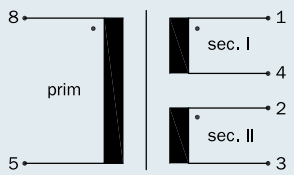
**Connecting pins**




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

**Connection scheme** (only connected pins are present)




double voltage – bridge: 4 + 2, double current – bridge: 1 + 2/4 + 3

# Flyback converters for Switch Mode Power Supplies

EF 16/5

Output Power: 5 – 7 W

| 5 W | Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage I V | Current sec. I mA | Connecting pins sec. I | Secondary voltage II V | Current sec. II mA | Connecting pins sec. II |
|---|---|---|---|---|---|---|---|---|---|
| TinySwitch-II® Product family TNY 264 | V 50100* | 85 – 265 | 5 – 8 | 3 | 830 | 1 – 4 | 3 | 830 | 2 – 3 |
| | V 50101* | 85 – 265 | 5 – 8 | 9 | 280 | 1 – 4 | 9 | 280 | 2 – 3 |
| | V 50102* | 85 – 265 | 5 – 8 | 12 | 210 | 1 – 4 | 12 | 210 | 2 – 3 |
| | V 50103* | 85 – 265 | 5 – 8 | 15 | 170 | 1 – 4 | 15 | 170 | 2 – 3 |

* Two outputs for connection in parallel or in series

| 5 W | Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage I V | Current sec. I mA | Connecting pins sec. I | Secondary voltage II V | Current sec. II mA | Connecting pins sec. II |
|---|---|---|---|---|---|---|---|---|---|
| TinySwitch-II® Product family TNY 266 | V 50104 | 85 – 265 | 5 – 8 | 12 | 390 | 1 – 2 | 3.3 | 100 | 3 – 4 |
| | V 50105 | 85 – 265 | 5 – 8 | 24 | 195 | 1 – 2 | 3.3 | 100 | 3 – 4 |
| | V 50106 | 85 – 265 | 5 – 8 | 12 | 375 | 1 – 2 | 5 | 100 | 3 – 4 |
| | V 50107 | 85 – 265 | 5 – 8 | 24 | 187 | 1 – 2 | 5 | 100 | 3 – 4 |

| 7 W | Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage I V | Current sec. I mA | Connecting pins sec. I | Secondary voltage II V | Current sec. II mA | Connecting pins sec. II |
|---|---|---|---|---|---|---|---|---|---|
| TinySwitch-III® Product family TNY 276 | V 50110* | 85 – 265 | 5 – 8 | 3 | 1170 | 1 – 4 | 3 | 1170 | 2 – 3 |
| | V 50111* | 85 – 265 | 5 – 8 | 9 | 390 | 1 – 4 | 9 | 390 | 2 – 3 |
| | V 50112* | 85 – 265 | 5 – 8 | 12 | 290 | 1 – 4 | 12 | 290 | 2 – 3 |
| | V 50113* | 85 – 265 | 5 – 8 | 15 | 230 | 1 – 4 | 15 | 230 | 2 – 3 |

* Two outputs for connection in parallel or in series

| 7 W | Order No. | Primary voltage V | Connecting pins prim. | Seconda-ry voltage I V | Current sec. I mA | Connecting pins sec. I | Secondary voltage II V | Current sec. II mA | Connecting pins sec. II |
|---|---|---|---|---|---|---|---|---|---|
| TinySwitch-III® Product family TNY 276 | V 50114 | 85 – 265 | 5 – 8 | 12 | 555 | 1 – 2 | 3.3 | 100 | 3 – 4 |
| | V 50115 | 85 – 265 | 5 – 8 | 24 | 277 | 1 – 2 | 3.3 | 100 | 3 – 4 |
| | V 50116 | 85 – 265 | 5 – 8 | 12 | 540 | 1 – 2 | 5 | 100 | 3 – 4 |
| | V 50117 | 85 – 265 | 5 – 8 | 24 | 270 | 1 – 2 | 5 | 100 | 3 – 4 |

# Flyback converters for Switch Mode Power Supplies

## EF 20/6

Output Power: 8–16 W

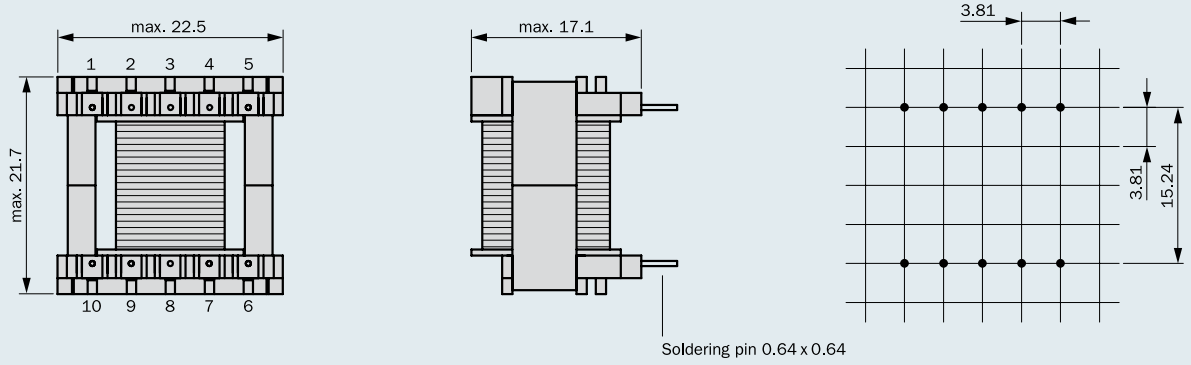
| | | | |
|---|---|---|---|
| 10 | **DIN EN 61 558** | **VDE** | on request |
| **VDE-Mark for Glow-Wire-Test** | **DIN EN 60 335-1** | **VDE** | on request |
| | **UL 5085-3** | **UL** | on request |
| | **UL 5085-1** | **UL** | on request |
| | **C22.2** | **CSA** | on request |

- according to REACH regulation
- according to RoHs regulation

**Technical Specifications**
- Construction to DIN EN 61 558, DIN EN 60 950
- Creeping distance 4 mm min.
- 100 % unleaded
- UL listed materials
- Insulating material classification E (120 °C)
- Two outputs for connection in parallel or in series(*)

**100 % piece inspection**
- Inductance
- Turns ratio
- Winding direction
- Voltage resistance (50 Hz/1 s)

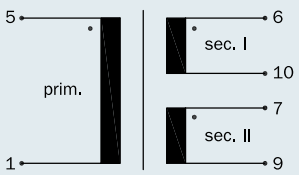
**Connecting pins**




View looking onto pins

Dimensions without tolerances ± 0.3 mm,
rights to make alterations and improvements hereby reserved

**Connection scheme** (only connected pins are present)




double voltage – bridge: 10 + 7, double current – bridge: 6 + 7/10 + 9

# Flyback converters for Switch Mode Power Supplies

EF 20/6

Output Power: 8–16 W

| 8 W | Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage I V | Current sec. I mA | Connecting pins sec. I | Secondary voltage II V | Current sec. II mA | Connecting pins sec. II |
|---|---|---|---|---|---|---|---|---|---|
| **TinySwitch-II® Product Family TNY 267** | V 50200* | 85 – 265 | 1 – 5 | 3 | 1330 | 6 – 10 | 3 | 1330 | 7 – 9 |
| | V 50201* | 85 – 265 | 1 – 5 | 9 | 440 | 6 – 10 | 9 | 440 | 7 – 9 |
| | V 50202* | 85 – 265 | 1 – 5 | 12 | 330 | 6 – 10 | 12 | 330 | 7 – 9 |
| | V 50203* | 85 – 265 | 1 – 5 | 15 | 270 | 6 – 10 | 15 | 270 | 7 – 9 |

* Two outputs for connection in parallel or in series

| 8 W | Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage I V | Current sec. I mA | Connecting pins sec. I | Secondary voltage II V | Current sec. II mA | Connecting pins sec. II |
|---|---|---|---|---|---|---|---|---|---|
| **TinySwitch-II® Product Family TNY 267** | V 50204 | 85 – 265 | 1 – 5 | 12 | 640 | 6 – 7 | 3.3 | 100 | 9 – 10 |
| | V 50205 | 85 – 265 | 1 – 5 | 24 | 320 | 6 – 7 | 3.3 | 100 | 9 – 10 |
| | V 50206 | 85 – 265 | 1 – 5 | 12 | 625 | 6 – 7 | 5 | 100 | 9 – 10 |
| | V 50207 | 85 – 265 | 1 – 5 | 24 | 312 | 6 – 7 | 5 | 100 | 9 – 10 |

| 16 W | Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage I V | Current sec. I mA | Connecting pins sec. I | Secondary voltage II V | Current sec. II mA | Connecting pins sec. II |
|---|---|---|---|---|---|---|---|---|---|
| **TinySwitch-III® Product Family TNY 279** | V 50210* | 85 – 265 | 1 – 5 | 3 | 2670 | 6 – 10 | 3 | 2670 | 7 – 9 |
| | V 50211* | 85 – 265 | 1 – 5 | 9 | 890 | 6 – 10 | 9 | 890 | 7 – 9 |
| | V 50212* | 85 – 265 | 1 – 5 | 12 | 670 | 6 – 10 | 12 | 670 | 7 – 9 |
| | V 50213* | 85 – 265 | 1 – 5 | 15 | 530 | 6 – 10 | 15 | 530 | 7 – 9 |

* Two outputs for connection in parallel or in series

| 16 W | Order No. | Primary voltage V | Connecting pins prim. | Secondary voltage I V | Current sec. I mA | Connecting pins sec. I | Secondary voltage II V | Current sec. II mA | Connecting pins sec. II |
|---|---|---|---|---|---|---|---|---|---|
| **TinySwitch-III® Product Family TNY 278** | V 50214 | 85 – 265 | 1 – 5 | 12 | 1300 | 6 – 7 | 3.3 | 100 | 9 – 10 |
| | V 50215 | 85 – 265 | 1 – 5 | 24 | 650 | 6 – 7 | 3.3 | 100 | 9 – 10 |
| | V 50216 | 85 – 265 | 1 – 5 | 12 | 1290 | 6 – 7 | 5 | 100 | 9 – 10 |
| | V 50217 | 85 – 265 | 1 – 5 | 24 | 645 | 6 – 7 | 5 | 100 | 9 – 10 |

# Flyback converters for Switch Mode Power Supplies

8 mm creeping distance

EF

| | | | |
|---|---|---|---|
| 10 | **DIN EN 61 558** | **VDE** | on request |
| **VDE-Mark for Glow-Wire-Test** | **DIN EN 60 335-1** | **VDE** | on request |
| | **UL 5085-3** | **UL** | on request |
| | **UL 5085-1** | **UL** | on request |
| | **C22.2** | **CSA** | on request |

- according to REACH regulation
- according to RoHs regulation

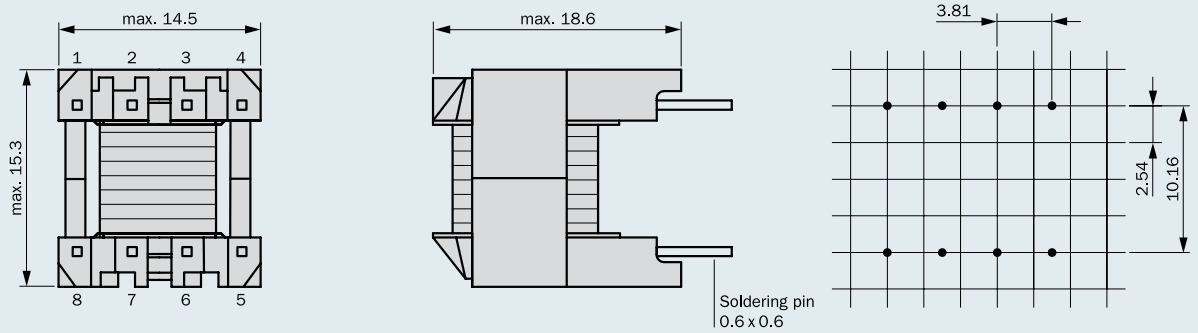
## Individual version!

All Flyback converters are produced according to customer specifications.

Current developments in electronic components involve ever shorter research and development time periods and every greater manufacturing reliability.

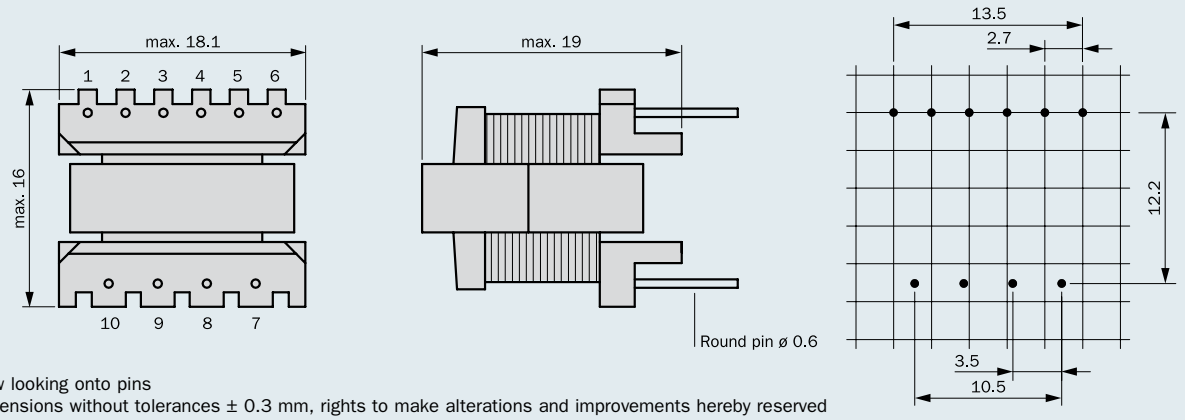
HAHN has the opportunity of optimally developing flyback converters for well known manufacturers of regulator controllers, e.g. Power Integration, Infinion, Philips or ON Semiconductor as customer-specific components. These were all rapid-, economic- and high quality problem solutions from HAHN.

**Connecting pins** version EF 13/6



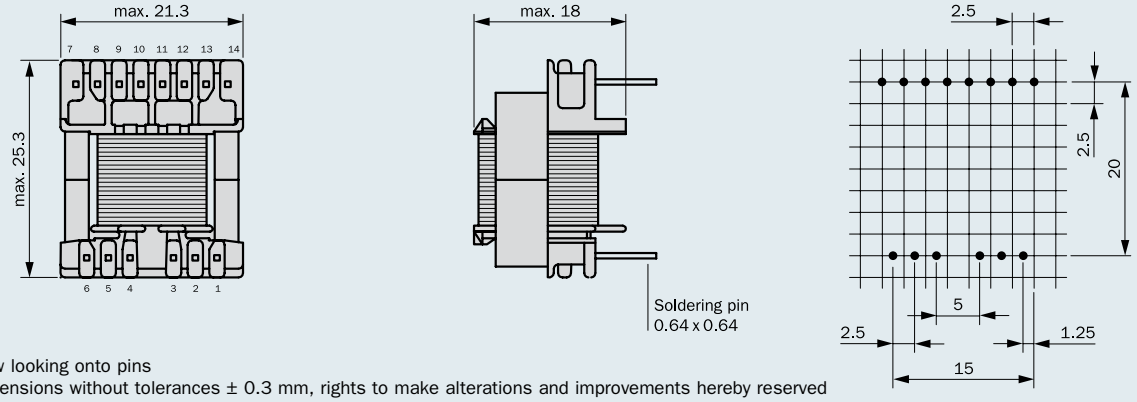

View looking onto pins
Dimensions without tolerances ± 0.3 mm, rights to make alterations and improvements hereby reserved

**Connecting pins** version EF 16/5




View looking onto pins
Dimensions without tolerances ± 0.3 mm, rights to make alterations and improvements hereby reserved

**Connecting pins** version EF 20/6




View looking onto pins
Dimensions without tolerances ± 0.3 mm, rights to make alterations and improvements hereby reserved

# Flyback converters for Switch Mode Power Supplies

4 mm creeping distance

EF

| | | | |
|---|---|---|---|
| 10 | **DIN EN 61 558** | **VDE** | on request |
| **VDE-Mark for Glow-Wire-Test** | **DIN EN 60 335-1** | **VDE** | on request |
| | **UL 5085-3** | **UL** | on request |
| | **UL 5085-1** | **UL** | on request |
| | **C22.2** | **CSA** | on request |

- according to REACH regulation
- according to RoHs regulation

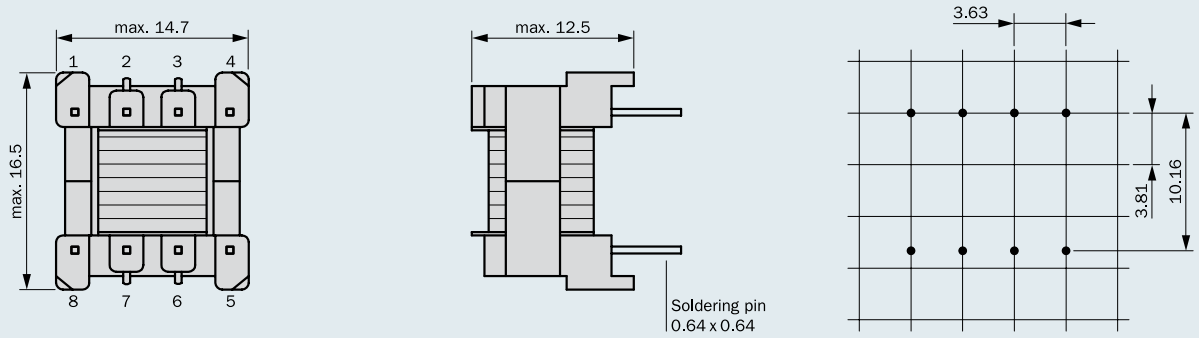
## Individual version!

All Flyback converters are produced according to customer specifications.

Current developments in electronic components involve ever shorter research and development time periods and every greater manufacturing reliability.

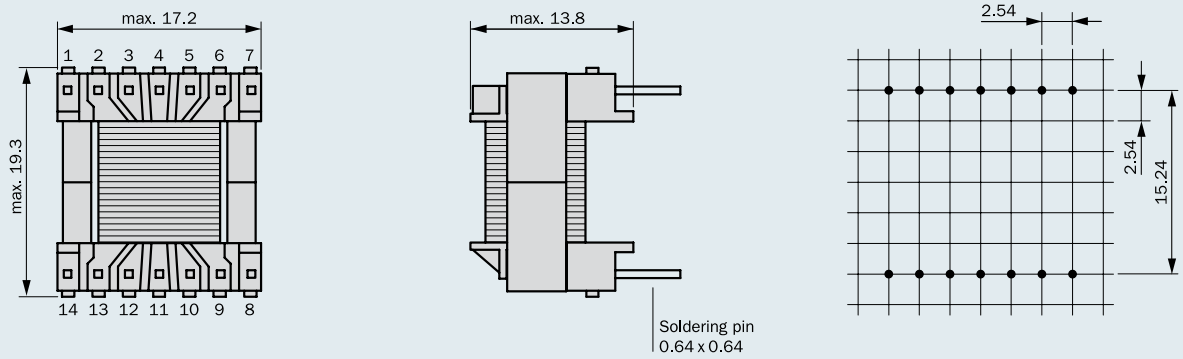
HAHN has the opportunity of optimally developing flyback converters for well known manufacturers of regulator controllers, e.g. Power Integration, Infinion, Philips or ON Semiconductor as customer-specific components. These were all rapid-, economic- and high quality problem solutions from HAHN.

**Connecting pins** version EF 12/4



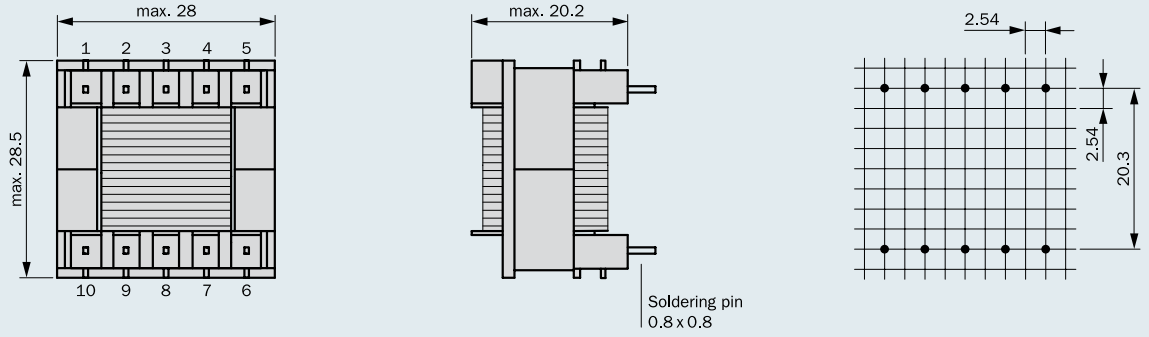

View looking onto pins
Dimensions without tolerances ± 0.3 mm, rights to make alterations and improvements hereby reserved

**Connecting pins** version EF 16/5




View looking onto pins
Dimensions without tolerances ± 0.3 mm, rights to make alterations and improvements hereby reserved

**Connecting pins** version EF 25/7




View looking onto pins
Dimensions without tolerances ± 0.3 mm, rights to make alterations and improvements hereby reserved

# Content

**Ignition transformers**

- Ignition transformers
- Electronic ignition devices

# Ignition transformers

**For safe and stable ignition of gas heating systems!**

- Circuit board assembly
- Compact design
- For unipolar or bipolar ignition
- For one or two ignition points
- Stringent individual quality-testing
- Self-extinguishing potting and housing material

Ignition transformers from HAHN guarantee safe and stable ignition of your gas-powered heating systems. Compact in design, they are ideal for use with printed circuit boards.

Within our comprehensive Quality Management System which includes several interim checks, each component is subjected to a final 100% test. In this test, not only the characteristic data are checked but a high-voltage insulation test is carried out.

The specially selected components are all subjected to a glow wire test according to DIN EN 60 335-1:2005, section 30.2.3.

# Electronic ignition devices

**For safe and stable ignition of boiler systems in the heating industry.**

Electronic stroke-spark ignition for use in gas-condensing boiler systems. High-performance ignition for oil-burning systems.

- Voltages 230 V~ and 120 V~
- Single- or dual-pole ignition
- One or two ignition points
- Quality is based on individual testing
- EMV according to DIN EN 55014-1 and DIN EN 55014-2
- Construction according to DIN EN 60335-1 and DIN EN 60335-2-102

Electronic ignition devices from HAHN are designed according to the highest requirements in heating and industrial plants.

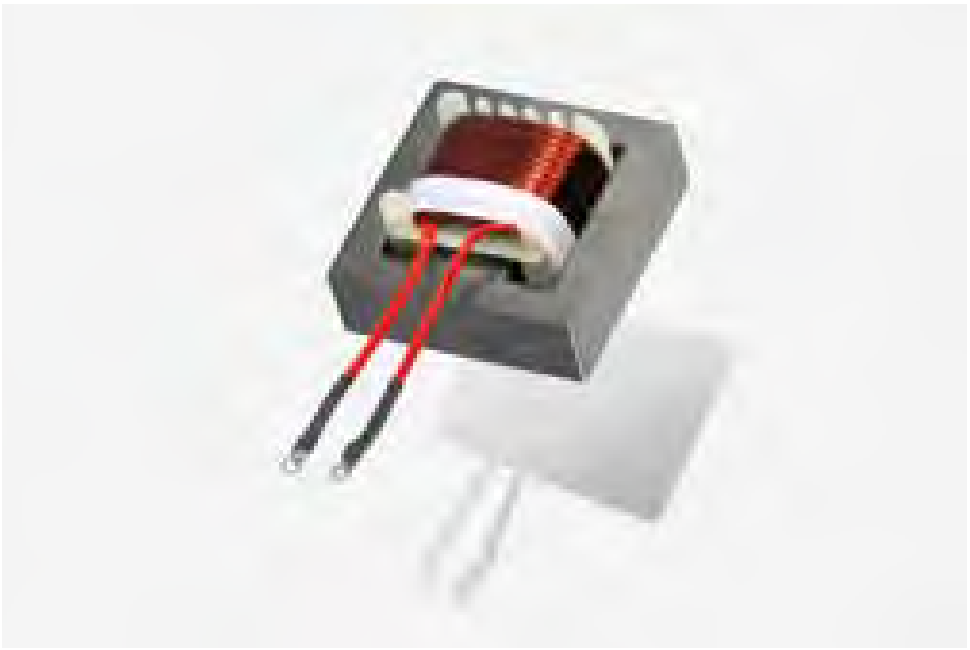
Continuous monitoring of all process steps and the use of top-quality components guarantee safety, reliability and durability. All components are subjected to a 100% individual final check. Here, not only characteristic data are checked; integrated high-voltage tests are carried out that guarantee voltage stability. All ignition devices are compliant with current national and international standards.

For the user, national regulations are binding. Protection from electrical contact is the responsibility of the user.

# Content

**Coil program**

- Extensive range of customer-specific coils



# Coil program

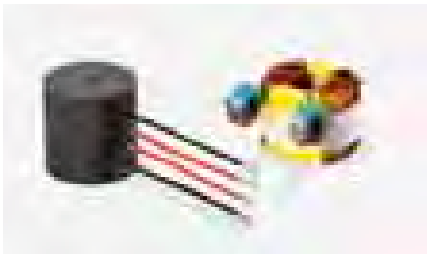
**We supply green power!**
The increasing requirements regarding the electromagnetic compatibility of network harmonics according to DIN EN 61000-3 has motivated HAHN to provide economical solutions for optimizing your products – whether by supplying alternative energy to networks or by reducing harmonics caused by conversion.

HAHN, with its vast experience and technical know-how, is now able to provide solutions in the form of a wide range of customized coils. The application areas comprise smoothing chokes, commutation chokes, power chokes, PFC chokes and storage chokes in various core materials such as laminated sheet metal, tape-wound core, iron powder and ferrite.

Whether it‘s a matter of designing a choke, optimizing connections and wiring, assembly via foot angle or top-hat rail G 35, our vastly experienced team of highly qualified development engineers will be able to help.

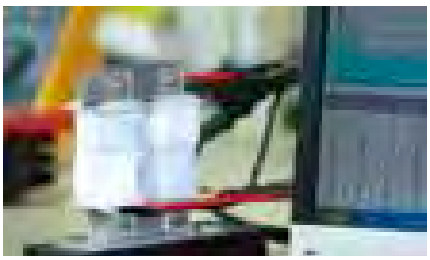
# Coil program

**Laminated Iron Core Chokes/Tape-wound Core Choke**
- Frequency range 0–400 Hz
- Current range 0–200 A
- Types EI 30 to EI 120, UI 30 to UI 120, tape-wound core SUI
- Open, impregnated or vacuum-encapsulated
- Economically priced and customized to your own specific requirements with respect to design, fitting and contacting



**Iron Powder Core Chokes**
- Frequency range 0–100 kHz
- Current range 0–30 A
- Types: toroidal or pot core
- Open, impregnated or vacuum-encapsulated
- Economically priced and customized to your own specific requirements with respect to design, fitting and contacting

**Ferrite Chokes**
- Frequency range 10 kHz–1 MHz
- Current range 0–200 A
- Types EE 13–EE 120, RM, PQ, UI to 126, toroidal
- Open, impregnated or vacuum-encapsulated
- Economically priced and customized to your own specific requirements with respect to design, fitting and contacting



**Lead by Know-how!**
By using state-of-the-art measurement technology and through cooperation with a technical university in the area of EMC, HAHN is able to provide you with comprehensive support right from the beginning of your development work. This will save you time and money.

# Content

**Special solutions**

- Electrical Power Supply Facilities / Supply units
- Transformers Top-Hat-Rail Fixtures EI 48 – EI 78
- Transformers in open version, vacuum impregnated version
- Customer-specific winding goods / Fine-wire-coils

# Electrical Power Supply Facilities / Supply units

**Safety coupled with HAHN quality for your applications!**
Should you need an AC or DC power supply?
These are available from HAHN with integrated components (residual ripple < = 5 %).

Today, our flexible production allows us to make transformers both with and without rectification. Special safeguards protect your products in line with the stringent requirements of VDE/ ENEC and UL. Our highly qualified and experienced HAHN developers coupled with our own tooling facility guarantee rapid and economic solutions for you.

Our technical superiority, comprehensive Quality Management and interim testing programs for each individual component guarantee reliable functionality.

Our highly flexible production concept, proven technology and product experience makes it possible to fulfill and technically implement practically any individual requirements you may have along with the amounts you require.

Transformers both with and without secure insulation, automatic transformers and unregulated power supplies round off the HAHN product range. Our own development and production within Europe guarantee solutions with optimal customer benefits.

# Electrical Power Supply Facilities / Supply units

Custom-made bunch of cables

- Vacuum-encapsulated, dual chamber windings
- Excellent temperature fluctuation reactivity
- Highest degrees of safety and durability
- High degree of voltage-leak resistance
- Self-extinguishing cast housing and sealing material
- Per item tested quality with certificate
- Transformers conform to European Standard DIN EN 61558 and UL 1310

Fuse elements

**Following supply connector variants are possible**

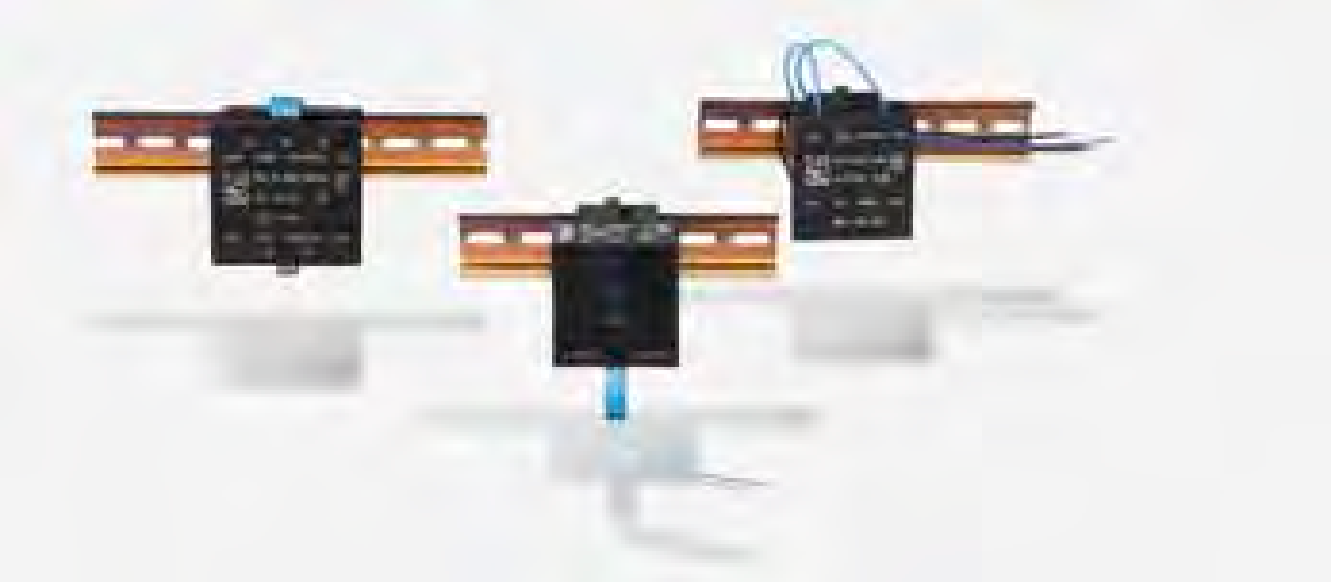
- Flat plugs
- Rast 5
- Terminal blocks
- Custom-made connectors

Rectifier units

| | Frame size | Output Power (max.) | Dimensions (axbxh) |
|---|---|---|---|
| AC | EI 48 | 12.0 W* / ta 70°C/B | |
| DC | EI 48 | 6.0 VA* / ta 40°C/B | |
| AC | EI 54 | 20.0 VA* / ta 70°C/B | 60x64x52 |
| DC | EI 54 | 10.0 W* / ta 40°C/B | 60x64x52 |
| AC | EI 60 | 30.0 VA* / ta 70°C/B | 66x67x60 |
| DC | EI 60 | 16.0 W* / ta 40°C/B | 66x67x60 |
| AC | EI 66 | 47.0 VA* / ta 70°C/B | 72x70x66 |
| DC | EI 66 | 24.0 W* / ta 40°C/B | 72x70x66 |
| AC | EI 78 | 60.0 VA* / ta 70°C/B | 84x76x74 |
| DC | EI 78 | 40.0 W* / ta 40°C/B | 84x76x74 |
| AC | EI 84 | 100.0 VA* / ta 70°C/B | 91x80x79 |
| DC | EI 84 | 50.0 W* / ta 40°C/B | 91x80x79 |

*dependent on types of supply connection and circuit breaking facilities

# Transformers for Top-Hat-Rail Fixtures



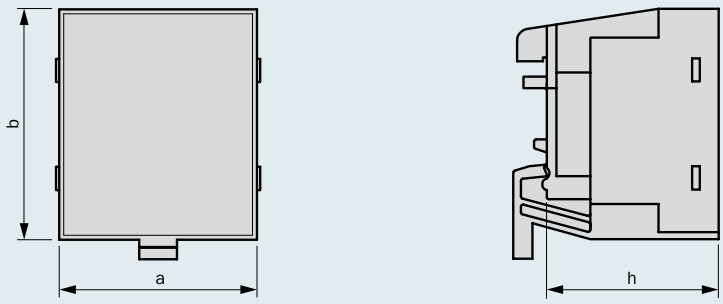
- Vacuum-encapsulated, dual chamber windings
- Excellent temperature fluctuation reactivity
- Highest degrees of safety and durability
- High degree of voltage-leak resistance
- self-extinguishing sealing material
- Per item tested quality with certificate
- Transformers conform to European Standard DIN EN 61558

**Following supply connector variants are possible**
- Flat plugs
- Rast 5
- Terminal blocks
- Custom-made connectors

**HAHN quality now available for switchgear cabinets and domestic supply services**
HAHN transformers are suitable for mounting in switchgear cabinets with the application of special encapsulation bonnets complying with German Industrial and European Standard: DIN EN 50 022 and equipped with snap-on fixtures. These encapsulated transformers stand for optimal durability and a rapid simplified mounting for such facilities.

Ongoing quality control – even at the level of components – as well as 100% piece verification ensures the highest degree of quality from the HAHN works.

**Connecting pins** version RAST 5




Dimensions without tolerance indications ± 1 mm

| Frame Size | Output Power ta 70 °C/B | Dimensions (a x b x h) |
|---|---|---|
| EI 48 | 12.0 VA* | 52.5 x 59.3 x 45 |
| EI 54 | 20.0 VA* | 60 x 64 x 52 |
| EI 60 | 30.0 VA* | 66 x 67 x 60 |
| EI 66 | 47.0 VA* | 72 x 70 x 66 |
| EI 78 | 60.0 VA* | 84 x 76 x 74 |

* dependent on types of supply connection and circuit breaking facilities

# Transformers in open version, vacuum impregnated version

Open single-phase transformers for the power supply of appliances and assemblies. For applications with restricted spacing, HAHN's unsealed transformers are a real alternative. New versions have been introduced by reducing the casing volume. Reduced weights lead to reduced costs and can be realized in the form of printed circuit transformers, size EI 30 – EI 96 as well as UI 30 – UI 48. Applications for switch cabinets can be fitted with the sizes EI 60 – EI 150. Attachment facilities with angle pieces for top-hat rails are available. Impregnation with resin protects the unit against environmental impingements. The use of dual chamber bobbin windings guarantees an electrically safe galvanic separation to VDE 0570/DIN EN 61 558 regulations. The materials employed meet insulation class B (130 °C) minimum. Class F (155 °C) is also available on request.

# Customer-specific winding goods / Fine-wire-coils

HAHN has gained a niche in the market as a reliable supplier of application-oriented special transformer coils. Our customer contact staff are exceedingly well motivated and contribute extensively to the success of the business.

HAHN is already able to produce special transformer coils in all the various constructions types to consumer specifications.

HAHN will work together with the customer to develop all manner of applications to obtain an appropriate and viable problem solution. The high grade quality of HAHN products and the readiness of the HAHN organisation to provide an appropriate customer service are also contributions to the success of the business.

HAHN's secret lies in the employment of optimised components and the consequent exploitation inherent in the possibilities of hi-tech manufacturing. This enables specialty components in high grade quality to be produced in conjunction with many years of close collaboration with its subcontractors and suppliers as well as the benefit of flexible manufacturing facilities. HAHN's experienced research and development department and its special in-house tooling facility are guarantees for rapid and economic problem solutions straight from the HAHN works.

No matter whether small amounts or large volumes – the highly flexible manufacturing concept with extensively automated production equipment – makes it possible to meet practically any consumer requirement and to implement this materially and technically; and, this not only in a highly economic manner but also on a short-term basis.

# Content

**HAHN worldwide**

- Your partner in charge in Germany
- HAHN‘s Distributors
- Your partner in charge abroad

# Your partner in charge in Germany

# Your partner in charge in Germany

**Baden-Wuerttemberg; Saarland**
Herbert Altenberger OHG
Industrievertretungen
Römerweg 7
76456 Kuppenheim
Germany
Phone: +49 7222 9454-0
Fax: +49 7222 9454-54
info@altenberger.de
www.altenberger.de

**Bavaria**
Heinz H. Otto
Industrievertretungen
Südstraße 12
96142 Hollfeld
Germany
Phone: +49 9274 90991-0
Fax: +49 9274 90991-199
industrievertretungen@heinz-otto.de
www.heinz-otto.de

**Hesse**
Edgar Sauer e. Kfm.
Industrievertretungen
Schulstraße 15
64720 Michelstadt
Germany
Phone: +49 6061 3454
Fax: +49 6061 4339
kontakt@sauer-industrievertretung.de
www.sauer-industrievertretung.de

**Mecklenburg-Vorpommern; Berlin; Brandenburg; Saxony-Anhalt-North**
Dipl.-Ing. Karin Leichner
Industrievertretung
Heinrich-Heine-Straße 17
14513 Teltow
Germany
Phone: +49 3328 301826
Fax: +49 3328 470552
info@leichner-iv.de
www.leichner-iv.de

**Lower Saxony; Hamburg; Bremen; Schleswig-Holstein**
Thomsen Industrie-Vertretungen GmbH
Moordeicher Landstraße 27
28816 Stuhr
Germany
Phone: +49 421 56522-0
Fax: +49 421 56522-55
office@thomsen-stuhr.de
www.thomsen-stuhr.de

**North Rhine-Westfalia; Rhineland-Palatinate**
Heyderhoff GmbH
Rehhecke 25
40885 Ratingen-Lintorf
Germany
Phone: +49 2102 918-136
Fax: +49 2102 17714
kontakt@heyderhoff.de
www.heyderhoff.de

**Saxony; Thuringia; Saxony-Anhalt-South**
Dipl.-Ing. Hermann Knüpfer
Industrievertretungen e. K.
Kantstraße 23
08527 Plauen
Germany
Phone: +49 3741 709047
Fax: +49 3741 709048
info@h-knuepfer.de
www.h-knuepfer.de

# HAHN‘s Distributors

# HAHN‘s Distributors

Arrow Central Europe GmbH
Im Gefierth 11a
63303 Dreieich
Germany
Phone: +49 6103 304-0
Fax: +49 6103 304-201
info@arroweurope.com
www.arroweurope.com

Distrelec Schuricht GmbH
Lise-Meitner-Straße 4
28359 Bremen
Germany
Phone: +49 1805 223435
Fax: +49 1805 223436
scc@distrelec.de
www.distrelec.de

HOT – Electronic GmbH
Wendelsteinweg 11
82024 Taufkirchen
Germany
Phone: +49 89 666283-6
Fax: +49 89 6149532
PHorn@hot-electronic.de
www.hot-electronic.de

Schukat electronic Vertriebs GmbH
Daimlerstraße 26
40789 Monheim/Rhld.
Germany
Phone: +49 2173 950-5
Fax: +49 2173 950-8655
info@schukat.com
www.schukat.com

setron GmbH
Friedrich-Seele-Straße 3a
38122 Braunschweig
Germany
Phone: +49 531 8098-0
Fax: +49 531 8098-100
kontakt@setron.de
www.setron.de

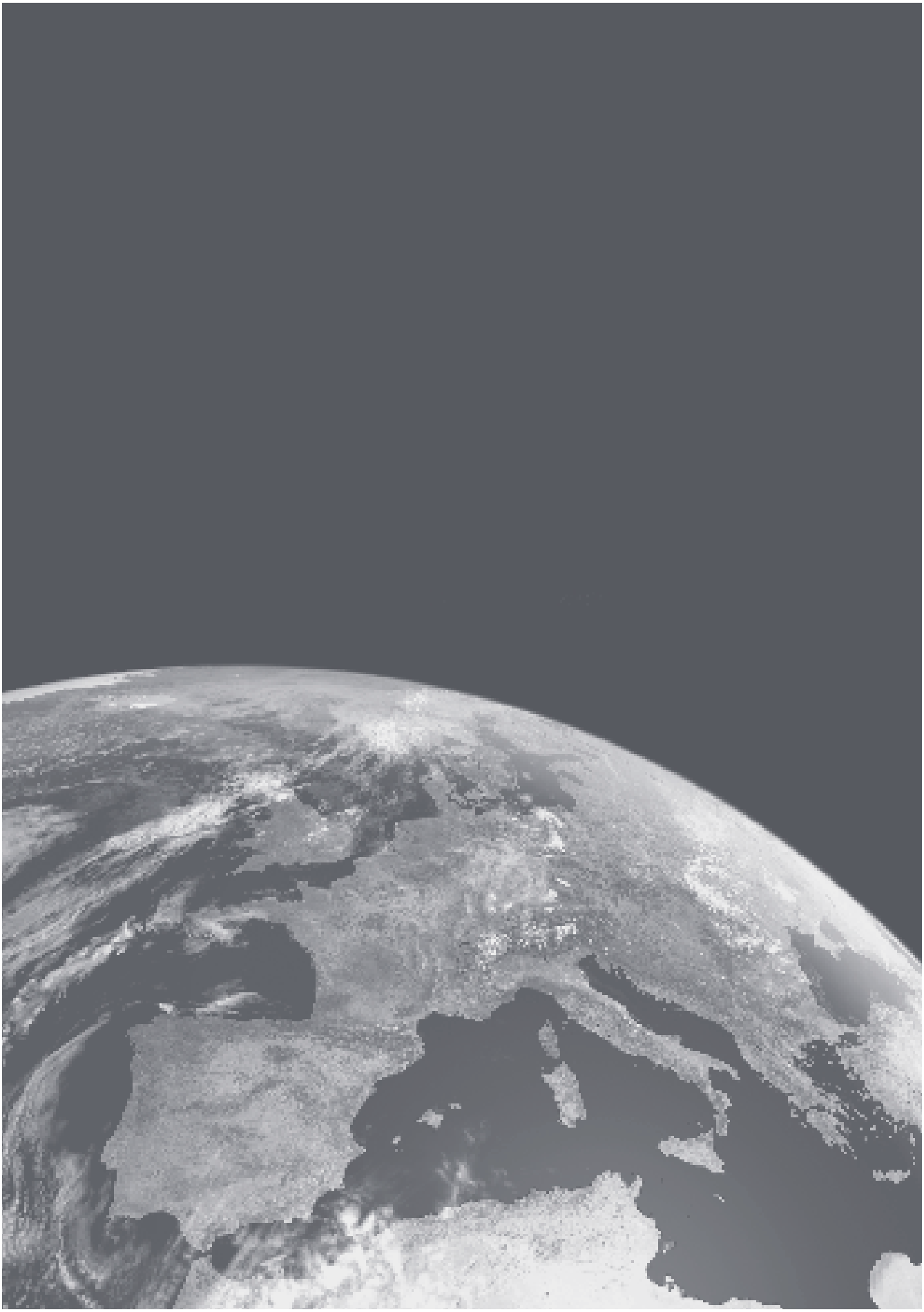
Werner GmbH Fachgroßhandel
Alte Straße 2
01731 Kreischa
Germany
Phone: +49 35206 245-0
Fax: +49 35206 245-33
werner@werner-electronic.de
www.werner-electronic.de

ELFA DISTRELEC
Elektronikhöjden 14
17580 Järfälla
Sweden
Phone: +46 8 580941-30 (switchboard)
Phone: +46 8 580941-15 (tech. hotline)
Fax: +46 8 580941-11
export@elfa.se
www.elfa.se

A.E.Service
Parc d’Activité du Crêt de Mars
42150 La Ricamarie
France
Phone: +33 4 77412147
Fax: +33 4 77258029
aeservice@aeservice.fr
www.aeservice.fr

DIRECT
151 Rue de Constantine
CS 54012
76021 Rouen Cedex 1
France
Phone: +33 2 32102330
Fax: +33 2 35885081
direct@direct.fr
www.direct.fr

# Your partner in charge abroad



# Your partner in charge abroad

**Austria**
Ineltro Halmer Electronics GmbH
Lamezanstraße 10
1230 Wien
Phone: +43 1 61062-0
Fax: +43 1 61062-151
info@ineltro.at
www.ineltro.at

**Belarus**
ZAO Eximelektro
ul. Rybalko 26-110
220033 Minsk
Phone: +375 17 2984411
Fax: +375 17 2105390
+375 17 2984422
exstahl@mail.ru
www.exim.by

**Belgium**
Texim Europe BVBA/SPRL
Gentsesteenweg 1154-C22
1082 Brussels/Bruxelles
Phone: +32 2 4620-100
Fax: +32 2 4620-199
info@texim-europe.com
www.texim-europe.com

**Czech Republics**
ENIKA.CZ s.r.o.
Vlkov 33
509 01 Nová Paka
Phone: +420 493 7733-11
Fax: +420 493 7733-22
prodej@enika.cz
www.enika.cz

FK technics, spol. s.r.o.
Konevova 62/1883
130 00 Praha 3
Phone: +420 2 22712421
Fax: +420 2 22591593
fkt@fkt.cz
www.fkt.cz

GM Electronic spol. s.r.o.
Makovského 1392/2b
163 00 Praha 6
Phone: +420 2 224812606
Fax: +420 2 22321194
gm@gme.cz
www.gme.cz

**Denmark**
Dovitech A/S
Midtager 29
2605 Brondby
Phone: +45 70 2526-50
Fax: +45 70 2526-51
info@dovitech.dk
www.dovitech.dk

**Estonia**
Elgerta electronic Ltd. (Elgerta Group)
Kotzebue st. 8
11412 Tallinn
Phone: +372 6 2288-66
Fax: +372 6 2288-67
estonia@elgertagroup.com
www.elgertagroup.com

**Finland**
SKS Automaatio OY
Ravurinkatu 5
20380 Turku
Phone: +358 20 764-61
Fax: +358 20 764-8355
automaatio@sks.fi
www.sks.fi

**France**
Siegbert Elsasser
Z.A. de Berret
888 Chemin de Berret
30200 Bagnols-sur-Cèze
Phone: +33 04 66398817
Fax: +49 6402 808-845 (Order)
s.elsasser@hahn-trafo.de

**Great Britain/ Ireland**
Ocean Grove Developments Limited
400 Thames Valley Park Drive
Reading/Berkshire, RG6 1 PT
Phone: +44 118 9637489
Fax: +44 118 9637589
oceangrove@hotmail.com
www.Oceangrovedev.net

**Hungary**
Lomex Ltd.
Lehel street 17
1134 Budapest
Phone: +36 1 3202610
Fax: +36 1 3203292
info@lomex.hu
www.lomex.hu

Robtron Elektronik Trade Kft.
Déryné utca 24.
6726 Szeged
Phone: +36 62 554600
Fax: +36 62 554610
info@ret.hu
www.ret.hu

**Israel**
Yoav Simantov Electronic LTD.
14 Shenkar St., Kiryat-Arye,
P.O. Box 102 23, Petach-Tikva
49002 Israel
Phone: +972 3 9215005
Fax: +972 3 9216171
simantov@yst.co.il
www.yst.co.il

# Your partner in charge abroad

**Italy**

Vector Electronic SRL.
Via P. Nenni, 19
20037 Paderno Dugnano (MI)
Phone: +39 02 00620401
Fax: +39 02 9183503
vector@vector.it
www.vector.it

**Japan**

K. MECS CO., LTD
Yusen Iwamoto-cho Bldg. 3F
2-3-3 Iwamoto-cho, Chiyoda-ku-City
Tokyo 101-0032
Phone: +81 3 58255333
Fax: +81 3 58258550
info@kmecs.co.jp
www.kmecs.com

**Lativa**

Caro Electronics Ltd. (Elgerta Group)
Brivibas st. 144
1012 Riga
Phone: +371 7 501005
Fax: +371 7 501004
latvia@elgertagroup.com
www.elgertagroup.com

**Lithuania**

Elgerta Ltd
Visoriu g. (str.) 2
08300 Vilnius
Phone: +370 5 2652683
Fax: +370 5 2650828
info@elgertagroup.lt
www.elgertagroup.lt

**Netherlands**

Texim Europe B.V.
Elektrostraat 17
7483 PG Haaksbergen
Phone: +31 53 57333-33
Fax: +31 53 57333-30
info@texim-europe.com
www.texim-europe.com

**Norway**

Miltronic A/S
Eikveien 11
3036 Drammen
Phone: +47 32 2613-00
Fax: +47 32 2613-98
info@miltronic.no
www.miltronic.no

**Poland**

JM elektronik Sp.z.o.o.
ul. Karolinki 58
44-100 Gliwice
Phone: +48 32 3396-923
Fax: +48 32 3396-938
jm@jm.pl
www.jm.pl

Seen Distribution Sp.z.o.o.
ul. Krzywickiego 34
02078 Warzawa
Phone: +48 22 62512-25
Fax: +48 22 62512-09
electronic.components@seen.com.pl
www.seen.com.pl

**Romania**

O'Boyle SRL
P-ta Stefan Furtuna Nr 5
300199 Timisoara
Phone: +40 2 56-201346
Fax: +40 2 56-221036
office@oboyle.ro
www.oboyle.ro

**Russia**

ZAO Promelectronics
Post office box 411
620063 Yekatarinenburg
Phone: +7 343 2453237
Fax: +7 343 2453328
hahn@promelec.ru
www.promelec.ru

Electronic company ASTRA ELECTRO
Raspletina street 5
123060 Moskau
Phone: +7 495 9214582
Fax: +7 495 9214582
astrael@astrael.ru
www.astrael.ru

**Slowenia; Croatia; SIC**

IC Elektronika d.o.o
Vodovodna cesta 100
1000 Ljubljana
Phone: +386 1 5680110
Fax: +386 1 5689107
prodaja@ic-elect.si
www.ic-elect.si

**Slowakia**

ENIKA.SK. s.r.o.
Zámocká 30
81101 Bratislava
Phone: +421 255574515
Fax: +421 255574516
predej@enika.sk
www.enika.sk

# Your partner in charge abroad

**Spain; Portugal**

Eurotronix SA
C/Cobalto 16 – 20
08038 Barcelona
Phone: +34 932 233003
Fax: +34 932 233323
info@eurotronix.com
www.eurotronix.com

**Sweden**

Flexitron AB
Sidensvansvägen 8
SE-192 55 Sollentuna
Phone: +46 8 7328560
Fax: +46 8 7569132
lars-gunnar@flexitron.se
www.flexitron.se

**Switzerland**

EHS Elektrotechnik AG
Industriestrasse 26
8604 Volketswil
Phone: +41 44 9084050
Fax: +41 44 9084055
info@ehs.ch
www.ehs.ch

**Turkey**

Empa Elektronik A.S.
Istanbul Dunya Ticaret Merkezi,
A1 Blok, Kat :4, No :200
34149 Yesilkoy/Istanbul
Phone: +90 212 46571-99
Fax: +90 212 46571-88
bilgi@empa.com
www.empa.com

**Ukraine**

Biakom LTD
95 C, Vidrradny Prospect
03061 Kiev
Phone: +38 044 5070203
Fax: +38 044 5070203
biakom@biakom.kiev.ua
www.biakom.kiev.ua

SV Altera LTD
Ivana Lepse Av. 4
03680 Kiev
Phone: +38 044 49618-88
Fax: +38 044 49618-18
office@sv-altera.com
www.svaltera.ua

**USA**

Ocean Grove Developments Limited
400 Thames Valley Park Drive
Reading/Berkshire, RG6 1 PT
Phone: +44 118 9637489
Fax: +44 118 9637589
Oceangrove@hotmail.com
www.oceangrovedev.net

# Content

**Appendix**

- Inquiry

# HAHN Appendix

# Inquiry for flyback converters

**Fax: 00 49 (0) 64 02/808-60**

Company: ..... Project: .....

Postal address: .....

Delivery address: .....

☐ Mr. ☐ Ms. ..... Dept.: ..... Ref.: .....

Phone: ..... / ..... Fax: ..... / ..... email: .....

**Technical specifications:**

Construction type: ..... Switch controller type: ..... Operating frequency: .....

☐ open ☐ encapsulated Max. dimensions (L x W x H): .....

| Input- | | Output- | | | |
|---|---|---|---|---|---|
| Voltage range | Connections/Pins | Voltage | Power | Current | Connections/Pins |
| | | | | | |

☐ Basic insulation ☐ Reinforced insulation Insulation class: .....

Nominal inductivity: ..... ± ..... % Measuring requirements: .....

Turns ratio: .....

Voltage resistance: .....

**Testing parameters:**

.....

.....

.....

.....

**Wiring/connection diagram:**

**Remarks:**

.....

.....

.....

Hahn GmbH & Co. KG · Bellersheimer Straße 45 · 35410 Hungen/Trais-Horloff · Germany · Tel.: 00 49 (0) 6402/808-0
info@hahn-trafo.de · www.hahn-trafo.com

# Inquiry for chokes

**Fax: 00 49 (0) 64 02/808-60**

Customer: ..... Costumer no.: ..... Date: .....

Postal Adress: .....

Contact Person: .....

Phone: ..... / ..... Fax: ..... / ..... email: .....

**Application:**

Project: .....

Use/Application: .....

Core size/Core material: .....

Core mould/Core type:

☐ Toroidal ☐ Ferrit ☐ Core UI ☐ Core EI

**Basic circuit for choke:**

**Technical Specifications:**

Nominal inductivity: ..... at: ..... V ..... Hz/kHz Tolerance: +/– .....☐ % ☐ mH

Nominal voltage: ..... VAC Nominal current: ..... A at: .....

Peak current: .....

Inductivity at nominal current: ..... mH Tolerance: +/– .....

Winding resistance: ..... Ω min. ..... Ω max. ..... Ω

Operating frequency: ..... Hz Operating temperature: from – ..... °C to + .....°C

**Constructional Datas:**

Wire diameter: .....

Number of windings: .....

Temperature class: ☐ B ☐ F ☐ H

Type of potting: ☐ 100 % ☐ without potting

☐ vacuum impregnated ☐ vanished ☐ .....

**Remarks/Notes/Drawing:**

Dimensions: ..... Connection type: .....

Type of housing/Type of fixing: ☐ O ☐ K ☐ KK ☐ SV ☐ fixing band ☐ other fixing

Hahn GmbH & Co. KG · Bellersheimer Straße 45 · 35410 Hungen/Trais-Horloff · Germany · Tel.: 00 49 (0) 6402/808-0
info@hahn-trafo.de · www.hahn-trafo.com

# Inquiry for transformers

**Fax: 00 49 (0) 64 02/808-60**

Company: ..... Project: .....

Postal address: .....

Delivery address: .....

☐ Mr. ☐ Ms. ..... Dept.: ..... Ref.: .....

Phone: ..... / ..... Fax: ..... / ..... email: .....

**Technical Specification:**

Frame size: .....

Version/type: ☐ vacuum-encapsulated ☐ open ☐ open/impregnated

Max. dimensions (L x W x H): ..... Type of housing/type of fixing: .....

Connecting type: ☐ Standard (pins/print) ☐ other/different: .....

Insulation: ☐ Mains transformer (61558-2-1) ☐ Insulations transformer (61558-2-4) ☐ Safty transformer (61558-2-6)

Short-circuit-resistance: ☐ inherently short-circuit-proof ☐ non inherently short-circuit-proof ☐ non short-circuit-proof

Ambient temperature: Standard: ☐ ta 40 °C ☐ ta 70 °C ☐ other/different ta: .....

| Primary | | Secondary | | | |
|---|---|---|---|---|---|
| Voltage V | Connection/pins | Voltage V | Output Power VA | Current mA | Connection/pins |
| | | | | | |

Requirement for input voltage: ☐ according to DIN EN 61558 ☐ Customized: ..... %

Primary voltage min.: .....

Primary voltage max.: .....

Min. secondary loaded voltage at

primary lower voltage: .....

Max. secondary no-load voltage: .....

Intended approval:

☐ VDE (DIN EN 61558) ☐ UL 1446 ☐ UL 5085

For special transformers and/or customized solutions

may be a single approval could be necessary.

**Remarks/Notes/Drawing:**

Hahn GmbH & Co. KG · Bellersheimer Straße 45 · 35410 Hungen/Trais-Horloff · Germany · Tel.: 00 49 (0) 6402/808-0
info@hahn-trafo.de · www.hahn-trafo.com

# Content

News

# HAHN News

**UL-Electrical isolating systems**
In a global market international labels are not only increasingly important, they are also very often deciding for the award of contracts.

The UL-label is playing a significant position. The basis of many approvals, within the UL-standards, are forming the electrical insulating system according to UL 1446. In case the test part underlies an UL-approved electrical insulating system of HAHN GmbH & Co. KG, synergies are arising very often among engineers. Approvals are accelerated and the costs for the customers can be reduced. This is a big advantage, not only with regard to the wide range of switch-mode-power-supply transformer, but also with regard to chokes, ignition transformers and transformers. HAHN has five electrical isolating systems of the isolating class B and F, which are focused to various product groups. This is why HAHN can offer this advantage to its customers with regard to the UL-approvals.

The 5th insulation, an F insulation system, is called HAHN 155-2 and completes the current HAHN 155-1 system. The three B insulation systems FIS-B1, FIS-B3 as well as Hahn 130-1 complete the selection of approved materials regarding our B listed components.

HAHN GmbH & Co. KG
Technical support
Bellersheimer Straße 45
35410 Hungen
Germany
technical.support@hahn-trafo.de

HAHN GmbH & Co. KG
Bellersheimer Straße 45
35410 Hungen/Trais-Horloff
GERMANY
T 00 49 (0) 64 02 / 8 08-0
F 00 49 (0) 64 02 / 8 08-60
info@hahn-trafo.de
www.hahn-trafo.com