LLC. Yudzhen

Catalog of products

2017

Development and Manufacture

Development and Manufacture

Manufacturing Enterprise "Yudzhen" is a private enterprise that was founded in 1993 as a limited liability company – manufacturing enterprise "Dipol". In August 2007 the enterprise was renamed as "Yudzhen". We have been manufacturing toroidal transformers for 18 years ensuring stability of declared characteristics and high quality of goods.

The enterprise has its own production facilities, efficient equipment supporting the whole cycle of transformers and inductance coils manufacturing.

Effective equipment, scientific and technical base, high professionalism of specialists allow creating high quality products that meet the requirements of domestic and international standards.

Currently, our production capacity makes it possible to manufacture 50,000 winding products per month. We never stop at what has been accomplished and keep on developing by designing and introducing new products, techniques, equipment. Flexibility of production allows to supply goods both retail and wholesale in the shortest possible terms. Preparation of series manufacturing of new products takes 2-3 days.

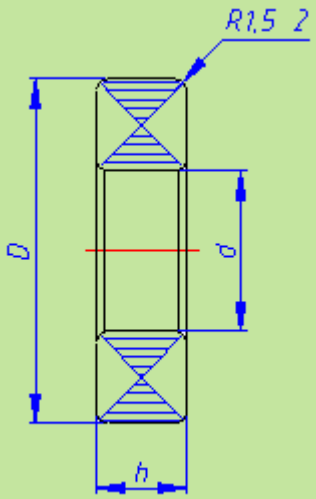
The enterprise has equipment for manufacturing not only of transformers but also of inductors, and high-frequency winding components on toroidal cores with internal diameter of 6.5 mm after winding with a wire of 0.5 mm and with internal diameter of 9 mm with a wire of 1.0 mm. We develop prototype models.

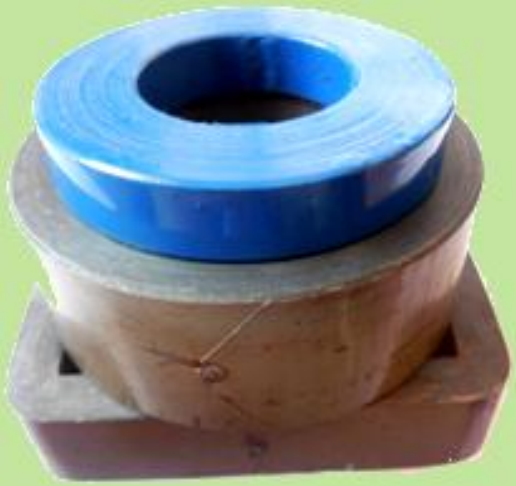
We are constantly developing and introducing new technology and equipment, launching new products. Ready to experiment and provide an individual approach to each of our clients.

1 Toroidal and rectangular magnetic cores

Toroidal core has an ideal shape for producing a transformer with minimal material consumption. Toroidal and rectangular magnetic cores are manufactured from electric anisotropic steel TO-ET 3406/3407/3408/3409 of 0.3 mm width. Steel quality ensures low magnetostriction and low stray losses, which practically completely eliminates hum and noise associated with operation of conventional transformers. Possible painting of cores.

The following accessories are available at the enterprise:

Strip width, mm	Mandrel diameters, mm	
12.5	14, 21, 23, 36	
16	25, 28, 30, 36, 40, 50, 60	
20	25, 30, 32, 36, 40, 50	
25	21, 23, 25, 30, 36, 40, 44, 50, 70, 80, 100	
30	40, 44, 50, 60	
35	42, 70	
40	40, 44, 50, 60, 70, 90	
50	70, 80, 100, 115, 125, 130	
Maximal outside winding diameter D- 250 mm		



2 Toroidal transformers

Toroidal transformers are built on ring magnets and are designed for use in electronic equipment, communication devices, domestic electronics equipment, and in medical equipment. Toroidal transformers have gained wide application in power sources for burglar and fire alarm systems, in step-voltage regulators, as well as for power supply of lighting fixtures including halogen lamps, and in equipment for street and landscape lighting control.

LLC "Yudzhen" serially manufactures toroidal transformers with power from 1 to 9000 VA designed for equipment and devices of industrial, special and domestic application and working with AC power supply of 50 to 400Hz. Transformers are built on twisted strap toroidal magnetic cores. Materials of thermal resistance class F according to GOST (State Standard) 8865-87 are used at transformers manufacturing. Transformers manufactured are of II class of electrical accident protection according to GOST 275700.0-87 (GOST P IEC 335-1-94). At customer's request it is possible to install reusable and disposable thermal fuses. Acceptable deviations of input voltage shall be specified when placing an order. Customer's requirements to dimensions, leads location, etc. are considered at design of a transformer. Our manufacturing code is PKFL since 1.01.05. Previously we used designation ARGO.

If necessary we can assign the customer code.

3 Toroidal power transformers for halogen lamps (12 V)

Halogen lamps are widely used in office, commercial and domestic lighting. In comparison with classic incandescent lamps, halogen lamps have a higher luminous efficacy and excellent color reproduction that provides visual comfort. Halogen lamps are superior to incandescent bulbs on the service life in 2-4 times.

The main advantages of low-voltage halogen lamps, longer service life and high level of safety guaranteed by low voltage. But to be able to use these advantages fully, it is necessary to choose the right transformer for lamps.

Application of halogen lamps in lighting fixtures makes it possible to increase illuminance at lower energy consumption compared with standard incandescent lamps.

 №	Transformer type	Specifications of toroidal transformers for halogen lamps					
		P, VA	Dimensions do/di-h, mm	Weight, not over, kg	Overheat t, °C	Iddle current, mA	Iddle voltage, V
1	TTP-100-0.02	20	25/72-30	0,39	28,5	7	13,5
2	TTP -101-0,035	35	27/76-33	0,47	40,9	8	12,75
3	TTP -102-0.05	50	27/81-37	0,66	39,8	11	12,4
4	TTP -102-0,06	60	25/82-39	0,71	41,7	11	12,1
5	TTP -103-0,08	80	36/94-43	1,01	40,8	15	12,55
6	TTP -104-0,105	105	35/97-44	1,18	42,1	15	12,45
7	TTP -105-0,15	150	30/110-47	1,66	43,6	17	12,4
8	TTP -106-0,2	200	44/127-46	2,11	43,6	20	12,28
9	TTP -106-0,25	250	42/124-55	2,68	45,3	25	12,5
10	TTP -107-0,3	300	53/136-58	3,10	45,5	30	12,5
11	TTP -108-0,4	400	49/148-59	3,97	45,8	35	12,2
12	TTP -109-0,5	500	47/158-60	4,78	46,6	40	12,15
13	TTP -109-0,6	600	55/160-73	5,99	46,5	50	12,28

It is also possible to manufacture transformers using aluminum wire and with the installation of a reusable thermal fuse in the primary circuit.

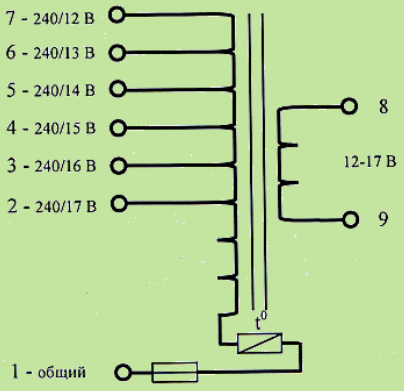
4 Transformers for landscape lighting

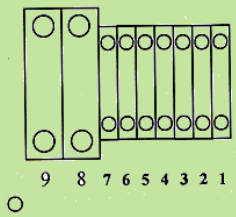
Low voltage electromagnetic non-stabilized AC power supply for landscape lighting and halogen lamps (based on Toroidal transformer PKFL 671112.962tmp).

Single-phase power supply, closed design, casing with protection class IP 54. Designed for operation in locations where some ingress of dust and exposure to splatter are possible (dust- and splatter-proof design).

Power supply is constructed in accordance with an original circuit solution: as opposed to analogs it has only one output winding (without additional tapping). Adjustment of output voltage depending on the value of input voltage and on the length of conductors for load connection is carried out by means of reconnection of an input to a corresponding tap of the primary winding, that is all or a certain part of the primary winding can be involved. Different combinations of primary winding legs can be used to achieve the required output voltage. Maximal input voltage is 240 V.

Lighting fixtures consumption should not exceed 90 % of the transformer rated capacity. It is not recommended to exceed output power level of 450 watt.





5 Booster transformers for street lighting

Lighting of streets and squares has great importance for drivers and traffic safety of vehicles and pedestrians. The network of street lighting (and illumination) are very energy intensive consumer of electricity. The share of electricity consumed for lighting, comes, according to different sources, up to 20-30% and significant part of it falls on external light sources.

Energy savings can be achieved through the power of lamps whose voltage is below nominal. The supply voltage can be decreased to a certain level for all types of lamps used for street lighting (excluding led lamps, which use a stable voltage).

Most effectively these problems can be solved by introducing an automated control system and data collection. This type of system for quite a long time used in industry and the energy sector of the Republic of Belarus. The power consumption of the lighting lines is regulated by the voltage regulator managed by a controller board for lighting control. One of the main components of the voltage regulator are voltage boost autotransformers (usually for each phase is a separate autotransformer).

- The real energy savings is 12 to 40%;
- Protecting lighting devices from surges in voltage, which reduce the service life of the equipment;
- The required illumination level, which may vary due to voltage drop in power distribution networks;
- The increase in the duration of operation of the lamps operating at a low supply voltage;
- Reduced costs for disposal of spent lamps.

6 Step-down transformers for special purpose

- single-phase in a metal enclosure:

- 3-phase in a metal enclosure:

- 3-phase on a metal stud:

7 High voltage transformers for ignition of gas boilers and burners

High-voltage transformers are designed for ignition of liquid and gas fuels in heat-producing units (heat-generators, boiler units, calcining kilns). They can also be applied for power supply of high-voltage neon lamps used in commercial signs etc.

Original transformer design ensures reliable operation during long service life, low heating and low weight of the finished product. Solid core makes it possible to decrease energy consumption due to reduction of stray currents. For the ease of assembly all terminals for electric connections are located under one plastic lid.

Transformers PKFL 671112.648-xxxx are designed for application in areas protected from direct solar radiation and water.

Technical characteristics of high-voltage transformers for neon PKFL 671112.648-xxxx	25/30 mA					35/45 mA			50/60 mA	
	0225	0325	0425	0525	0625	0235	0335	0435	0250	0350
Operating temperature, °C	-40...+50									
Nominal primary voltage, V	~220, 50 Hz									
Nominal secondary voltage, V	2000	3000	4000	5000	6000	2000	3000	4000	2000	3000
Primary winding current at nominal load, A not over	0,25	0,36	0,49	0,6	0,72	0,35	0,35	0,66	0,48	0,72
Nominal secondary current, mA	25					35			50	

Transformers for ignition burners	PKFL 671112.265-03	PKFL 671112.265-04
Operating temperature, °C	-40...+50	
Nominal primary voltage, V	~220$^{+15}_{-10}$, 50-60 Hz	
Nominal secondary voltage, V	~7000^{+750}	~12000^{+200}
Primary winding current at nominal load, A not over	1,1	2,4
Nominal secondary current, mA	30	42
Relative duty cycle (DC), %	20%	
Duration of the cycle, from	180	120
Duration of the continuous arc burning, minutes	7	5
Overall dimensions, mm	151 x 120 x 84	
Weight, kg	3,3	3,2

8 Frame and frameless Inductance coils

LLC "Yudzhen" manufactures customized frame and frameless coils including coils for induction flow meters.

Inductance coils (coil sets) are designed for application in induction flow meters, used as primary transducers in heat-metering devices. There are two designs of inductance coils: coils of frameless design and coils wound on a frame. Coils can be used in resonance circuits, in supply circuits of wireless devices as filter elements, in pulse stabilizers, as electromagnets, etc.

The coils may have different shape – round, square, rectangle. Is possible shaping coils in order to give it the necessary radius for easy mounting on pipelines and other places. When winding used enameled wire coils (including self-baking) with a diameter of 0.05 mm to 2.5mm. Perhaps soldering complete sets coils.

9 Pulse transformers and inductors

Pulse transformers are applied in various switching devices, for example in high-frequency switching power supplies. Pulse transformers give the ability to change the polarity and level of the generated pulse voltage or current, to coordinate the resistance of the pulse generator and the load, separate the potentials of the source and receiver pulses, to allow for several separate loads impulses from one generator and to provide feedback in circuits pulse devices. A pulse transformer is often used as a converting element, for example a differentiating transformer. They are distinguished by lower weight, smaller dimensions and lower cost price compared with conventional low-frequency power supplies.

Inductors on toroidal magnetic cores represent the inductance coils wound on a metal or ferrite toroidal magnetic core, which have a high resistance to alternating current and a low resistance to direct current. Inductors included in the circuit consistently and intended for filtering or current limiting circuit for high frequencies. Inductors are designed both for protection of power supplies from induced high-frequency signals, and for avoiding electromagnetic interference in mains supply. At low frequencies they are used in supply circuits filters and typically have a metal or ferrite core.

10 Measuring current transformer TOP

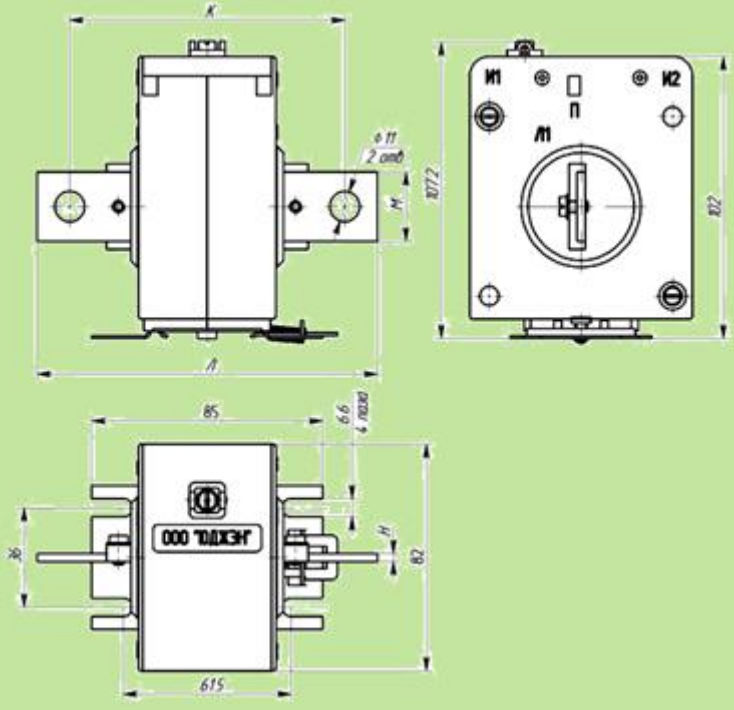
Measuring current transformers are designed for measurement information signal transmission to instruments in 50 Hz AC units with nominal voltage up to 0.66 kV inclusive. Transformers are applied in schemes of commercial accounting of electric power for settlements with consumers, and in measurement and protection schemes.

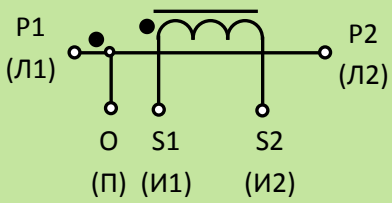
0.2s/0.5s/0.2/0.5/1/3/5

Type of transformer	Rated power load, VA	Rated primary current, A	Rated secondary current, A	Accuracy class
TOP-N-0,66-1 TOP-N-0,66-2	5	1; 5; 10; 15; 20; 25; 30; 40; 50; 60; 75; 80; 100; 150; 200; 250; 300; 400	5	**0,2S** **0,5S** 0,2; 0,5; 1; 3; 5

1- The current transformer is made on the core made of nanocrystalline alloy.
2- The current transformer is made on a core of electrical steel.

The magnetic core of the nanocrystalline alloy ensures long-term stability of settings for over 25 years.





Pic. 1 Measuring current transformer TOP-N-0,66

Table 1 – Overall, mounting, connecting dimensions

Type of measuring current transformer	**Dimensions, mm**			
	K	**L**	**M**	**N**
TOP-N-0,66	100	125	24	3,0

11 Measuring current transformer

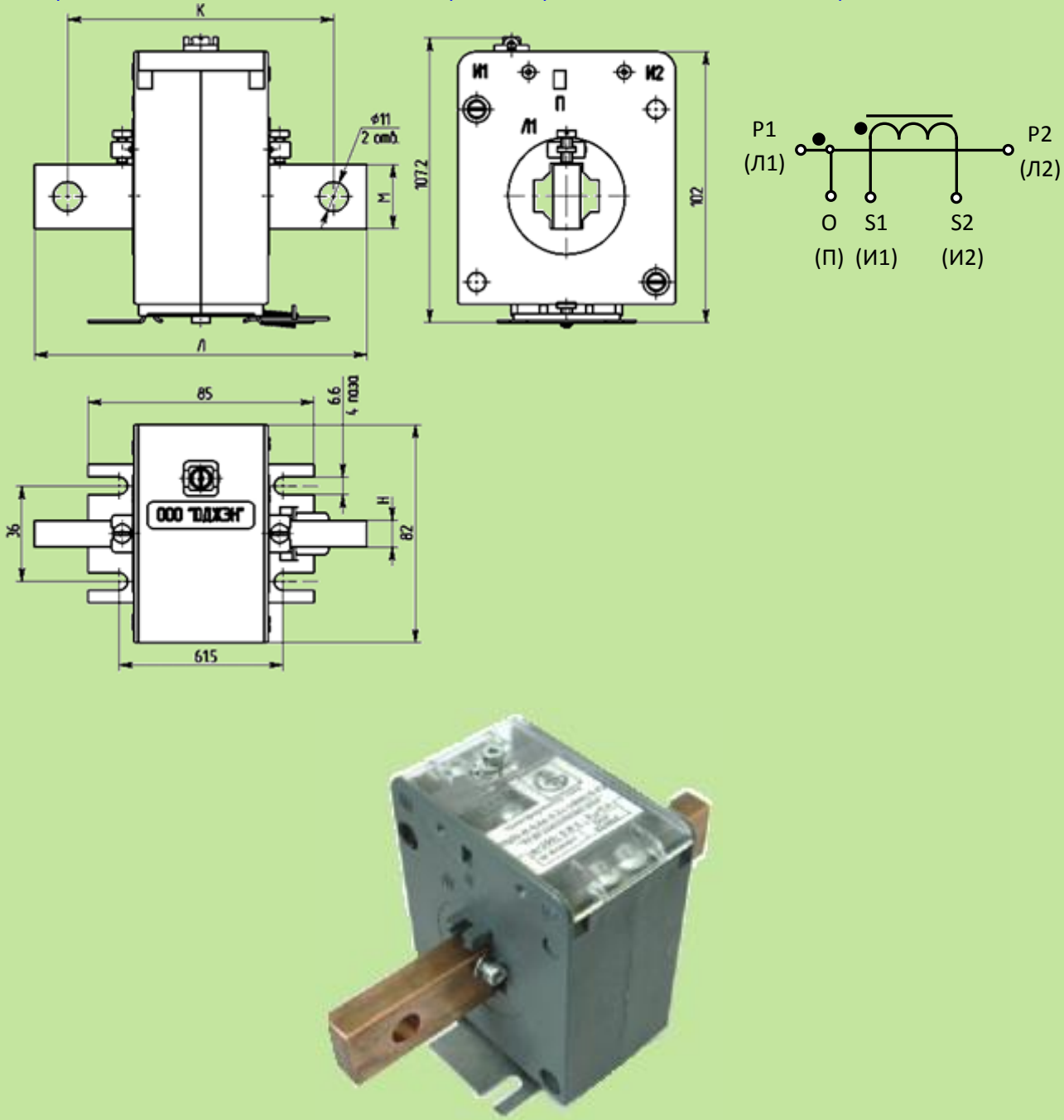
TSP

0.2s/0.5s/0.2/0.5/1/3/5

Type of transformer	Load power, VA	Rated primary current, A	Accuracy class
TSP-N-0,66-1 **TSP-N-0,66-2** **TSP-N-0,66-3**	1	**15**	3, 5
		20**;** 25	3, 5
		30	1; 3; 5
		40	0,5; 1; 3; 5
		50; 60; 75; 80	**0,5S**
			0,5; 1; 3; 5
		100; 150; 200; 250; 300; 400; 500; 600; 750; 800; 1000; 1200; 1500	**0,2S**
			0,5S
			0,2; 0,5; 1; 3; 5
	2,5	**25**	5
		30; 40; 50	3, 5
		60; 75; 80	**0,5S**
			0,5; 1; 3; 5
		100	**0,5S**
			0,2; 0,5; 1; 3; 5
		150	**0,5S**
			0,5; 1; 3; 5
		200; 250; 300; 400; 500; 600; 750; 800; 1000; 1200; 1500	**0,2S**
			0,5S
			0,2; 0,5; 1; 3; 5
	5	40; 50	3; 5
		60; 75; 80	1; 3; 5
		100	**0,5S**
			0,5; 1; 3; 5
		150; 200; 250; 300; 400; 500; 600; 750; 800; 1000; 1200; 1500	**0,2S**
			0,5S
			0,2; 0,5; 1; 3; 5

3- The current transformer is made on the core made of nanocrystalline alloy.
4- The current transformer is made on a core of electrical steel.
5- The current transformer is made on the combined core.

The magnetic core of the nanocrystalline alloy ensures long-term stability of settings for over 25 years.



Pic. 1 Measuring current transformer TSP-N-0,66

Table 1 – Overall, mounting, connecting dimensions with bus bar

Primary current, A	Standard size of bus bar, mm			Material
	L	M	N	
15-500	160	24	7,5	Aluminium
600			10	
750-800			12	
1000			12	Copper
1200-1500	250	24	24	

12 Measuring current transformer

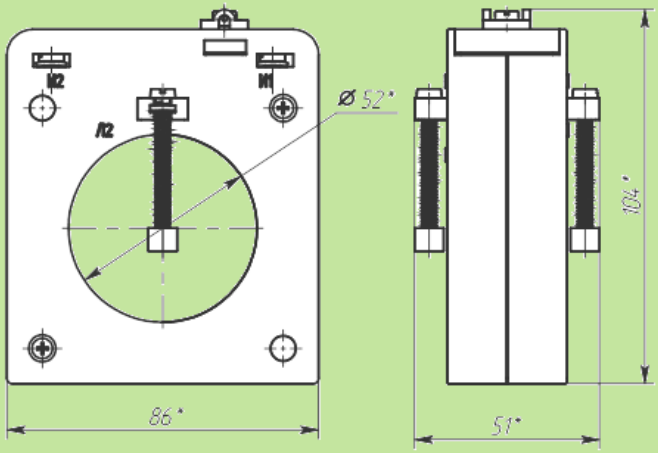
TPP

0,2S

№	Type of transformer	Unit of measure
1	Transformer TPP-N-0,66-0,2S-1000/5-3-N	pcs
2	Transformer TPP-N -0,66-0,2S-1200/5-3-N	pcs
3	Transformer TPP-N -0,66-0,2S-400/5-2,5-N	pcs
4	Transformer TPP-N -0,66-0,2S-500/5-2,5-N	pcs
5	Transformer TPP-N -0,66-0,2S-600/5-2,5-N	pcs
6	Transformer TPP-N -0,66-0,2S-750/5-2,5-N	pcs
7	Transformer TPP-N -0,66-0,2S-800/5-2,5-N	pcs
8	Transformer TPP-0,66-0,2S-1000/5-5-N	pcs
9	Transformer TPP-0,66-0,2S-1200/5-5-N	pcs
10	Transformer TPP-0,66-0,2S-1500/5-5-N	pcs
11	Transformer TPP-0,66-0,2S-2000/5-5-N	pcs
12	Transformer TPP-0,66-0,2S-750/5-5-N	pcs
13	Transformer TPP-0,66-0,2S-800/5-5-N	pcs

0,5S

№	Type of transformer	Unit of measure
1	Transformer TPP-N-0,66-0,5S-150/5-1-N	pcs
2	Transformer TPP-N -0,66-0,5S-200/5-1-N	pcs
3	Transformer TPP-N -0,66-0,5S-250/5-1-N	pcs
4	Transformer TPP-N -0,66-0,5S-300/5-1-N	pcs
5	Transformer TPP-0,66-0,5S-300/5-3-N	pcs
6	Transformer TPP-0,66-0,5S-400/5-3-N	pcs
7	Transformer TPP-0,66-0,5S-400/5-5-N	pcs
8	Transformer TPP-0,66-0,5S-500/5-5-N	pcs
9	Transformer TPP-0,66-0,5S-600/5-5-N	pcs
10	Transformer TPP-0,66-0,5S-750/5-5-N	pcs
11	Transformer TPP-0,66-0,5S-800/5-5-N	pcs
12	Transformer TPP-0,66-0,5S-1000/5-5-N	pcs
13	Transformer TPP-0,66-0,5S-1200/5-5-N	pcs
14	Transformer TPP-0,66-0,5S-1500/5-5-N	pcs
15	Transformer TPP-0,66-0,5S-2000/5-5-N	pcs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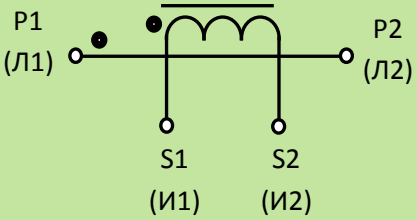
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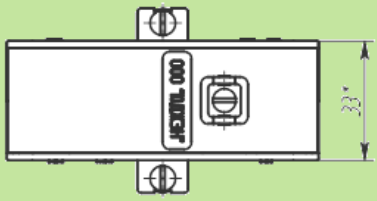
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13 European certificates

TSU®

TECHNICKÝ SKÚŠOBNÝ ÚSTAV PIEŠŤANY, š.p.
Certifikačný orgán certifikujúci výrobky
Krajinská cesta 2929/9
921 01 Piešťany, Slovenská republika

SNAS
Reg. No. 009/P-018

СЕРТИФИКАТ СООТВЕТСТВИЯ
CONFORMITY CERTIFICATE

№./No. 161299040

Производитель

ООО «Юджэн»
ул. Техническая, 6
г. Новополоцк, Республика
Беларусь, 211440

Manufacturer

Limited Liability Company "Yudzhen"
Tekhnicheskaya St. 6,
Novopolotsk, 211440,
Republic of Belarus

Продукт /тип

Тороидальный трансформатор,
тип ТТ - xxxx-a-yyy и его варианты

Product /Type

Toroidal Transformers,
type TT - xxxx-a-yyy and its versions

Спецификация – варианты продукта указаны на обратной стороне сертификата.

Specification – product variations listed on the reverse side of the certificate.

Настоящий сертификат соответствия подтверждает, что продукт соответствует основным требованиям безопасности следующих Директив ЕС Нового подхода:

This conformity certificate confirms the conformity of the product with essential safety requirements of the following EC New Approach Directives as amended:

2006/95/EC Низковольтное оборудование
2004/108/EC Электромагнитная совместимость

2006/95/EC Low Voltage Directive
2004/108/EC Electromagnetic compatibility

Европейские гармонизированные стандарты использованные для оценки соответствия:

EN 61558-1:2005/A1:2009, EN61558-2-6:2009

European harmonized standards used for conformity assessment:

EN 61558-1:2005/A1:2009, EN61558-2-6:2009

Сертификат выдается на основании испытаний образца продукта.
Результаты приведены в Отчете об оценке соответствия № 150500198 от (дата) 25.02.2016.

The certificate has been issued on the basis of the tests of the product type sample.
The results are recorded in the Conformity assessment report No 150500198 dated 25.02.2016.

CE маркировку можно применить только в случае проведения оценки соответствия требованиям всех надлежащих Директив ЕС

CE mark can be used only in the case of conformity assessment according to all relevant EC Directives

Дата выдачи / Issue date: 26.02.2016

Действителен до / Expiry date: 25.02.2019

Издание / Issue: 1

TECHNICKÝ SKÚŠOBNÝ ÚSTAV PIEŠŤANY, š.p. TSU SK

Ing. Dušan HANKO
Руководитель отдела сертификации продуктов
Head of Product Certification Body

TSU Piešťany, š.p. является нотифицированным органом ЕС, номер 1299

Спецификация – варианты продукта:

Тороидальный трансформатор,
тип ТТ - xxxx-a-yyy

Где:
xxxx – значить мошность (VA), может: 0010, 0015, 0020, 0030, 0050, 0060, 0080, 0100, 0120, 0160, 0200, 0250, 0300, 0400, 0500, 0625, 0800, 1000
a – значить число вторичных обмоток, может быть: 1, 2
yyy – значить напряжение обмотки под нагрузкой (V), может быть: 6, 9,12,16,18,24,42,115

Specification – product variations:

Toroidal Transformers,
type TT - xxxx-a-yyy

Where:
xxxx – mean power (VA) – can be: 0010, 0015, 0020, 0030, 0050, 0060, 0080, 0100, 0120, 0160, 0200, 0250, 0300, 0400, 0500, 0625, 0800, 1000
a – mean the number of secondary windings, can be: 1, 2
yyy – mean voltage of the winding under load (V), can be: (6, 9,12,16,18,24,42,115)

Настоящий сертификат выдан при соблюдении следующих условий:

1. Сертификат распространяется исключительно на тип продукта, который подвергался испытаниям, указанным в вышеприведенном отчете.
2. Настоящий сертификат не распространяется на производственный процесс / внутризаводской контроль.
3. Сертификат не означает, что орган сертификации проводит надзор или контроль производства.
4. Производитель обязан гарантировать соответствие впоследствии выпускаемой продукции с сертифицированным типом.
5. Изменения, которые могут оказать влияние на сохранение соответствия сертификационным требованиям, могут вызвать необходимость подтверждения сохранения действия сертификата посредством доказательства соблюдения условий, при которых был сертификат выдан, или посредством проведения дополнительной оценки.

This certificate is issued under the following conditions:

1. The certificate applies only to the product type submitted to the tests specified in the report referenced above.
2. The production process/factory production control is not covered by this certificate.
3. The certificate does not imply that the certification body has performed any surveillance or control of the production process.
4. The manufacturer shall ensure the conformity of subsequent production items with the certified type.
5. Changes that may affect the conformity with the certification requirements may make the continuation of the certificate validity dependent on the evidence as for the observance of requirements under which the certificate has been awarded, or on an additional evaluation

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Best regards,

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