### **DATASHEET - STN0,315(\*/\*)**



# Control transformer, 0.315 kVA, Rated input voltage 100 – 690 $\pm$ 5 % V, Rated output voltage 12 – 250 V



Part no. STN0,315(\*/\*)
Catalog No. 204981
Alternate Catalog -

**Delivery program** 

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Product range		Single-phase control transformers ST
Basic function		Single-phase STN control transformers
Rated input voltage	V	100 – 690 ± 5 %
Rated output voltage	V	12 – 250
Rated power	kVA	0.315
Short-time rating	kVA	0.6
Cu factor 0,80		

#### Notes

- The STN transformers are suitable for use in control circuits to VDE 0113 or IEC/EN 60204.
- UL/CSA only up to primary and secondary 600 V (incl. tappings).
- . When ordering, the type reference must include the following details:

#### STN0,1(\*/\*)

1st wildcard ≙ Nominal input voltage

2nd wildcard ≙ Rated output voltage

#### Ordering example

- Desired part no.: STN0,1
- Desired rated input voltage 200 V
- Desired rated output voltage 18.5 V

The correct type reference is

#### STN0,1(200/18,5)

Transformer-protective circuit-breaker  $\longrightarrow$ #088907

### **Technical data**

### General

No-load losses

Short-circuit losses

Standards		
Built and tested to		IEC/EN 61558-2-2 VDE 0570 Part 2-2
Suitable for use to		IEC/EN 60204-1, ÖVE-EN 13 VDE 0113, VDE 0100 Part 410
Ambient temperature		-25 - 40
Characteristics		
Terminations		● (< 115 A)
Connection lugs		● (> 115 A)
Insulation class		В
Rated frequency	Hz	50 - 60
Primary tapping		± 5 %
Degree of Protection		IP00
Separate windings		•
Fully vacuum-impregnated		•
Rated duty factor	%	DF 100
Electrical characteristics		
Note		The following applies for the no-load loss, short-circuit loss (copper losses), short-circuit voltage and efficiency values: all details relate to a temperature of 20 $^{\circ}\text{C}$
Total weight	kg	3.5

W

W

11

21

Shortcircuit voltage	%	5.3
Efficiency		0.91

# Design verification as per IEC/EN 61439

Design vermeation as per 120/214 01455			
Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	0
Heat dissipation per pole, current-dependent	P <sub>vid</sub>	W	0
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	0
Static heat dissipation, non-current-dependent	P <sub>vs</sub>	W	32
Heat dissipation capacity	P <sub>diss</sub>	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	40
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
10.2.2 Corrosion resistance			Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures			Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat			Meets the product standard's requirements.
$10.2.3.3\ Verification\ of\ resistance\ of\ insulating\ materials\ to\ abnormal\ heat\ and\ fire\ due\ to\ internal\ electric\ effects$			Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation			Meets the product standard's requirements.
10.2.5 Lifting			Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact			Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions			Meets the product standard's requirements.
10.3 Degree of protection of ASSEMBLIES			Does not apply, since the entire switchgear needs to be evaluated.
10.4 Clearances and creepage distances			Meets the product standard's requirements.
10.5 Protection against electric shock			Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components			Does not apply, since the entire switchgear needs to be evaluated.
10.7 Internal electrical circuits and connections			Is the panel builder's responsibility.
10.8 Connections for external conductors			Is the panel builder's responsibility.
10.9 Insulation properties			
10.9.2 Power-frequency electric strength			Is the panel builder's responsibility.
10.9.3 Impulse withstand voltage			Is the panel builder's responsibility.
10.9.4 Testing of enclosures made of insulating material			Is the panel builder's responsibility.
10.10 Temperature rise			The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
10.11 Short-circuit rating			Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.12 Electromagnetic compatibility			Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.13 Mechanical function			The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

### **Technical data ETIM 7.0**

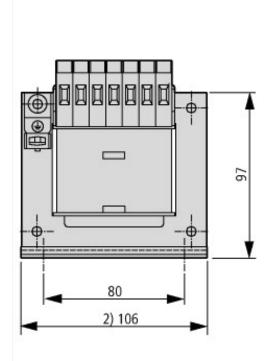
Low-voltage industrial components (EG000017) / One-phase control transformer (E	C002486)	
Electric engineering, automation, process control engineering / Transformer, conve	erter, coil / Control trans	former / One-phase control transformer (ecl@ss10.0.1-27-03-13-02 [AAB620015])
Built as safety transformer		No
Built as isolating transformer		No
Built as energy saving transformer		No
Primary voltage 1	V	100 - 690
Primary voltage 2	V	0 - 0
Primary voltage 3	V	0 - 0
Primary voltage 4	V	0 - 0
Primary voltage 5	V	0 - 0
Primary voltage 6	V	0 - 0
Primary voltage 7	V	0 - 0
Primary voltage 8	V	0 - 0
Primary voltage 9	V	0 - 0

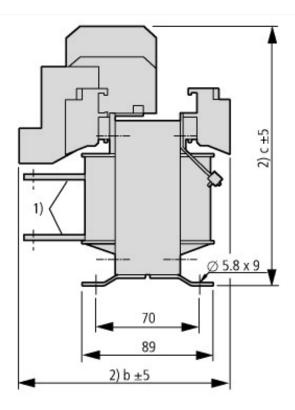
Secondary voltage 1         V         12 - 250           Secondary voltage 2         V         0 - 0           Secondary voltage 3         V         0 - 0           Secondary voltage 4         V         0 - 0           Secondary voltage 5         V         0 - 0           Secondary voltage 6         V         0 - 0           Secondary voltage 8         V         0 - 0           Secondary voltage 9         V         0 - 0           Secondary voltage 10         V         0 - 0           Rated apparent power         VA         315           Type of insulation material acc. IEC 85         B         No           Short-circuit-proof         No         No           Relative short circuit voltage         %         5.3           Width         mm         121           Height         mm         131           Degree of protection (IP)         mm         91           Ring core         No         No           Suitable for mounting on PCB         No         No           Modular version         No         No	Primary voltage 10	V	0 - 0
Secondary voltage 2         V         0 - 0           Secondary voltage 3         V         0 - 0           Secondary voltage 4         V         0 - 0           Secondary voltage 5         V         0 - 0           Secondary voltage 6         V         0 - 0           Secondary voltage 7         V         0 - 0           Secondary voltage 8         V         0 - 0           Secondary voltage 9         V         0 - 0           Secondary voltage 10         V         0 - 0           Rated apparent power         VA         315           Type of insulation material acc. IEC 85         8         8           Short-circuit-proof         No         No           Relative short circuit voltage         %         5.3           Width         mm         121           Height         mm         131           Depth         mm         31           Degree of protection (IP)         mm         9           Ring core         No         No           Suitable for mounting on PCB         No         No           Modular version         No         No	, ,		
Secondary voltage 3         V         0 - 0           Secondary voltage 4         V         0 - 0           Secondary voltage 5         V         0 - 0           Secondary voltage 6         V         0 - 0           Secondary voltage 7         V         0 - 0           Secondary voltage 8         V         0 - 0           Secondary voltage 9         V         0 - 0           Secondary voltage 10         V         0 - 0           Retad apparent power         V         0 - 0           Type of insulation material acc. IEC 85         B         8           Short-circuit-proof         No         No           Relative short circuit voltage         M         5.3           Width         mm         121           Height         mm         131           Depth         mm         190           Degree of protection (IP)         No         No           Ring core         No         No           Suitable for mounting on PCB         No         No           Modular version         No         No	Secondary voltage 1	V	12 - 250
Secondary voltage 4         V         0 - 0           Secondary voltage 5         V         0 - 0           Secondary voltage 6         V         0 - 0           Secondary voltage 7         V         0 - 0           Secondary voltage 8         V         0 - 0           Secondary voltage 9         V         0 - 0           Secondary voltage 10         V         0 - 0           Rated apparent power         VA         315           Type of insulation material acc. IEC 85         B         No           Short-circuit-proof         No         5.3           Width         mm         121           Height         mm         131           Degree of protection (IP)         mm         91           Bing core         No         No           Suitable for mounting on PCB         No         No           Modular version         No         No	Secondary voltage 2	V	0 - 0
Secondary voltage 5         V         0 - 0           Secondary voltage 6         V         0 - 0           Secondary voltage 7         V         0 - 0           Secondary voltage 8         V         0 - 0           Secondary voltage 9         V         0 - 0           Secondary voltage 10         VA         315           Rated apparent power         VA         315           Type of insulation material acc. IEC 85         B           Short-circuit-proof         No         5.3           Relative short circuit voltage         %         5.3           Width         mm         121           Height         mm         131           Depth         mm         91           Degree of protection (IP)         IP00           Ring core         No         No           Suitable for mounting on PCB         No         No           Modular version         No         No	Secondary voltage 3	V	0 - 0
Secondary voltage 6         V         0 - 0           Secondary voltage 7         V         0 - 0           Secondary voltage 8         V         0 - 0           Secondary voltage 9         V         0 - 0           Secondary voltage 10         VA         315           Type of insulation material acc. IEC 85         B         No           Short-circuit-proof         No         5.3           Relative short circuit voltage         %         5.3           Width         mm         121           Height         mm         131           Depth         mm         91           Degree of protection (IP)         No           Ring core         No         No           Suitable for mounting on PCB         No         No           Modular version         No         No	Secondary voltage 4	V	0 - 0
Secondary voltage 7         V         0 - 0           Secondary voltage 8         V         0 - 0           Secondary voltage 9         V         0 - 0           Secondary voltage 10         VA         0 - 0           Rated apparent power         VA         315           Type of insulation material acc. IEC 85         B         No           Short-circuit-proof         No         5.3           Relative short circuit voltage         mm         121           Height         mm         131           Depth         mm         91           Degree of protection (IP)         IP00           Ring core         No         No           Suitable for mounting on PCB         No         No           Modular version         No         No	Secondary voltage 5	V	0 - 0
Secondary voltage 8         V         0 - 0           Secondary voltage 9         V         0 - 0           Secondary voltage 10         V         0 - 0           Rated apparent power         VA         315           Type of insulation material acc. IEC 85         B         B           Short-circuit-proof         No         5.3           Width         mm         121           Height         mm         131           Depth         mm         91           Degree of protection (IP)         IP00           Ring core         No         No           Suitable for mounting on PCB         No         No           Modular version         No         No	Secondary voltage 6	V	0 - 0
Secondary voltage 9         V         0 - 0           Secondary voltage 10         V         0 - 0           Rated apparent power         VA         315           Type of insulation material acc. IEC 85         B         No           Short-circuit-proof         No         5.3           Relative short circuit voltage         %         5.3           Width         mm         121           Height         mm         31           Depth         mm         91           Degree of protection (IP)         IP00           Ring core         No           Suitable for mounting on PCB         No           Modular version         No	Secondary voltage 7	V	0 - 0
Secondary voltage 10         V         0 - 0           Rated apparent power         VA         315           Type of insulation material acc. IEC 85         B         Short-circuit-proof         No           Relative short circuit voltage         %         5.3           Width         mm         121           Height         mm         131           Depth         mm         91           Degree of protection (IP)         IP00           Ring core         No         No           Suitable for mounting on PCB         No         No           Modular version         No         No	Secondary voltage 8	V	0 - 0
Rated apparent power         VA         315           Type of insulation material acc. IEC 85         B           Short-circuit-proof         No           Relative short circuit voltage         %         5.3           Width         mm         121           Height         mm         131           Depth         mm         91           Degree of protection (IP)         IP00           Ring core         No           Suitable for mounting on PCB         No           Modular version         No	Secondary voltage 9	V	0 - 0
Type of insulation material acc. IEC 85 Short-circuit-proof Relative short circuit voltage Width mm 121 Height Depth Degree of protection (IP) Ring core Suitable for mounting on PCB Modular version  B  No  No  No  No  No  No  No  No  No	Secondary voltage 10	V	0 - 0
Short-circuit-proof Relative short circuit voltage Width Height Degree of protection (IP) Ring core Suitable for mounting on PCB Modular version  No  Suitable for mounting on PCB No	Rated apparent power	VA	315
Relative short circuit voltage  Width  mm 121  Height  Depth  Degree of protection (IP)  Ring core  Suitable for mounting on PCB  Modular version  Suitable 1	Type of insulation material acc. IEC 85		В
Width mm 121 Height mm 131 Depth pt	Short-circuit-proof		No
Height         mm         131           Depth         mm         91           Degree of protection (IP)         IP00           Ring core         No         No           Suitable for mounting on PCB         No         No           Modular version         No         No	Relative short circuit voltage	%	5.3
Depthmm91Degree of protection (IP)IP00Ring coreNoSuitable for mounting on PCBNoModular versionNo	Width	mm	121
Degree of protection (IP) Ring core No Suitable for mounting on PCB Modular version  IP00  No No No	Height	mm	131
Ring core No Suitable for mounting on PCB No Modular version No	Depth	mm	91
Suitable for mounting on PCB No Modular version No	Degree of protection (IP)		IP00
Modular version No	Ring core		No
	Suitable for mounting on PCB		No
Conductor material Copper	Modular version		No
	Conductor material		Copper

## Approvals

Product Standards	UL 506; UL5085-1; UL 5085-2; CSA-C22.2 No. 66; CSA-C22.2 No. 66.1-06; CSA-C22.2 No. 66.2-06; IEC/EN 61558-2-2; CE marking
UL File No.	E167225
UL Category Control No.	XPTQ2, XPTQ8
CSA File No.	UL report applies to both US and Canada
CSA Class No.	-
North America Certification	UL recognized, certified by UL for use in Canada
Specially designed for North America	No
Suitable for	Branch circuits
Max. Voltage Rating	600 V AC
Degree of Protection	IEC: IP00, UL/CSA Type: -

### **Dimensions**





	b	С
12 V	111	121
24 V	91	112
42 V	91	112
110 V	91	112
200/230 V	91	112

Connection lugs
 Maximum space requirement
 with STN0,06-02 ground connection at bottom