

#### Control transformer, 160VA, 1p, primary 230V, secondary 24V

Powering Business Worldwide\*

Part no. STI0,16(230/24)
Article no. 046632
Catalog No. STIP16-G2-B2

**Delivery program** 

| Product range        |     | Single-phase control transformers ST                             |
|----------------------|-----|--|
| Basic function       |     | Single-phase control, isolating and safety transformers STI, STZ |
| Rated input voltage  | V   | 230± 5 %   |
| Rated output voltage | V   | 24   |
| Rated power          | kVA | 0.16   |
| Short-time rating    | kVA | 0.36   |
| Cu factor 0,60       |     |  |

## **Technical data**

#### General

| Standards                  |      |   |
|----------------------------|------|---|
| Built and tested to        |      | IEC/EN 61558-2-2/2-4/2-6<br>VDE 0570 Part 2-2<br>VDE 0570 Part 2-6 (safety transformers)<br>VDE 0570 Part 2-4 (isolating transformer) |
| Suitable for use to        |      | IEC/EN 60204-1, ÖVE-EN 13<br>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   |      | •   |
| Reinforced insulation      |      | •   |
| Rated duty factor          | % DF | 100   |
| Electrical characteristics |      |   |
| Note                       |      | The following applies for the no-load loss short-circuit loss (conner losses) short-  |

| 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 | 2.3   |
| No-load losses       | W  | 9   |
| Short-circuit losses | W  | 12  |
| Shortcircuit voltage | %  | 6.6   |
| Efficiency           |    | 0.88  |

## Design verification as per IEC/EN 61439

| 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            | $P_{\text{vid}}$  | W  | 0  |
| Static heat dissipation, non-current-dependent           | $P_{vs}$          | W  | 21   |
| 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 6.0**

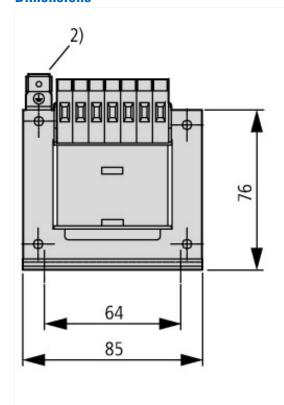
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|--|----------------------------|---|--|
| Low-voltage industrial components (EG000017) / One-phase control transformer (EC   | 0002486)                   |   |  |
| Electric engineering, automation, process control engineering / Transformer, conve | rter, coil / Control trans | sformer / One-phase control transformer (ecl@ss8.1-27-03-13-02 [AAB620012]) |  |
| Built as safety transformer  |                            | Yes   |  |
| Built as isolating transformer   |                            | Yes   |  |
| Built as energy saving transformer   |                            | No  |  |
| Primary voltage 1  | V                          | 230 - 230   |  |
| 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   |  |
| Primary voltage 10   | V                          | 0 - 0   |  |
| Secondary voltage 1  | V                          | 24 - 24   |  |
| 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                         | 160   |  |
| Type of insulation material acc. IEC 85  |                            | В   |  |
| Short-circuit-proof  |                            | No  |  |
| Relative short circuit voltage   | %                          | 6.6   |  |
| Width  | mm                         | 85  |  |

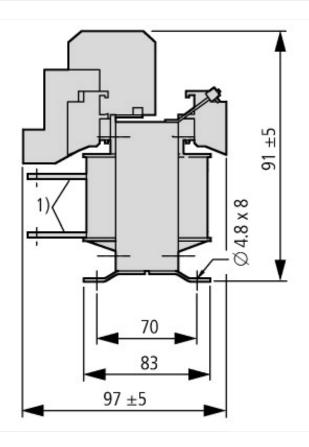
| Height                       | mm | 103  |
|------------------------------|----|------|
| Depth                        | mm | 97   |
| Degree of protection (IP)    |    | IP00 |
| Ring core                    |    | No   |
| Suitable for mounting on PCB |    | No   |
| Modular version              |    | No   |

# 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<br>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**





(1) Connection lugs

2 With STI/STZ0.06  $\dots$  0.16 ground connection at bottom