



## SAFETY TRANSFORMER RAILWAY SWITCH POINT HEATING – SYSTEM BLUE POINT

### Rock Solid Safety Transformer

Thousands of successful installations in railway environment. 30+ years and still in operation.

### Built-in Soft Starter

Reduces the in-rush current by more than 50%.

### Zero Maintenance

Single piece cast aluminium case. No welding to corrode. The potting material is made of polyurethane with improved heat dissipation capabilities.

### Standard or Customized

Standard voltage In & Output or built to customer specifications.

### Optimize Load Balance

Balance the load on all three phases: 3 phase in 2 phase out. 2 phases to isolate right from left track side heating elements.

### Double Insulation, Class 2

High personal safety and no earthing required.

### 3 reasons for using a safety isolating transformer:

1. Railway as a workplace require an extraordinary care for operating with electro technical products. Safety and isolating transformers can be necessary to maintain the required **user protection against electrical hazards**.
2. Isolation also **eliminates** that a faulty heating element can create a **“Track occupied” signal** due to a short between right and left track through mains ground or neutral.
3. Isolation also **eliminates** problems around **potential differences** between the public mains supply and the rail potential.

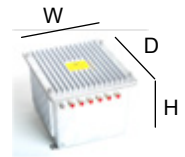
## PRODUCT SPECIFICATION

Load power ST5, ST7, ST10 (kW): 5, 7, 10  
 Secondary connections: 6 heating elements  
 Frequency: 50/60 Hz  
 Class: EN61558-2-6, Class 2  
 Marking: CE  
 Protection grade: IP65  
 Temperature class: E  
 Efficiency: 0,97  
 In-rush current: < 15x Nom. Output I  
 I<sub>0</sub>: < 7,5% Nom. Output I  
 Housing: Silumin  
 Ambient temperature storage: -40°C to +80°C  
 Ambient temperature operation: -30°C to +20°C

Overall dimensions  
 ST5 (W x D x H) mm 380 x 440 x 300  
 ST10, ST7 (W x D x H) mm 345 x 345 x 355

Foot print  
 ST5 (W x D) mm 370 x 365  
 ST10, ST7 (W x D) mm 300 x 240

Weight  
 ST5 (kg) 90  
 ST7 (kg) 105  
 ST10 (kg) 116



## ORDER SPECIFICATION - SAFETY TRANSFORMER

ST10	-----	ST10: 10 KVA Safety Transformer (isolation transformer)
		ST7: 7 KVA
		ST5: 5 KVA
-2UI	-----	2UI: 2 phase in, 2 phase out (ST10, ST7, ST5)
		3UI: 3 phase in, 2 phase out (ST5 only)
-1400	-----	1400: 1 x 400 VAC input voltage (ST10, ST7, ST5)
		3400: 3 x 400 VAC (ST5 only)
-xxx	-----	50: Output voltage: 2x50 VAC
		230: Output voltage: 2x230 VAC

**ST10-2UI-1400-230** ----- **SAMPLE: Safety transformer: ST10 for 10 kVA, 2 phase in 2 out, 400 VAC input 2x230 VAC output.**

### Accessories:

- 4-850-963811 Fully galvanized rack to be placed in the ballast. Room for two ST5 transformers and a fuse/power distribution box in between.
- 4-850-993816 Fuse box for power distribution. Including auto fuses for each transformer.



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### SAN Electro Heat A/S (Member of the NIBE group)

(Formerly known as Svend A. Nielsen A/S) a Danish international company offer you more than 50 years of experience in developing and manufacturing of advanced, technical electric heating solutions and components. Not only standard products but also highly optimized customer solutions. Our focus and know-how is divided into four business divisions: Wind Power, Industrial Process, Comfort Heating and Rail Way Systems.



### SAN - Railway Systems

(Formerly known as Lübcke Rail) Offer complete systems to secure optimal operation of switch points under any winter weather situations. Our focus is to deliver systems that reduces energy consumption and reduces the total cost of ownership. Our design has proven its reliability trough thousands of installations all over Europe.

Complete system delivery covers everything from the heating elements through intelligent controllers to the advanced server based computer monitor program. Including all necessary fittings, safety and power transformers, weather stations etc.

50 years know-how also gives you access to advisory regarding financial, technical and maintenance issues.

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