







SAN[®]

Railway Systems



 System
BLUE POINT

SAFETY TRANSFORMER RAILWAY SWITCH POINT HEATING SYSTEM BLUE POINT

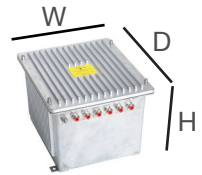
-  **Rock solid safety transformer**
Thousands of successful installations in railway environment. 30+ years and still in operation.
-  **Built-in soft starter**
Reduces the in-rush current by more than 50%.
-  **Zero maintenance**
Single piece cast aluminum case. No welding to corrode. The potting material is made of polyurethane with improved heat dissipation capabilities.
-  **Standard or customized**
Standard voltage in- and 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 insulation transformer:

1. Railway as a workplace requires an extraordinary care for operation with electro technical products. Safety and insulating transformers can be necessary to maintain the required **user protection against electrical hazards**.
2. Insulation also **eliminates** faulty heating elements which create a **“track occupied” signal** due to a short cut between right and left track through mains ground or neutral.
3. Insulation also **eliminates** problems with **potential differences** between the public mains supply and the rail potential.

PRODUCT SPECIFICATION

Load power ST5, ST7, ST10 (kW):	5, 7, 10	Overall dimensions	
Secondary connections:	6 heating elements	ST5 (WxDxH)mm	380x440x300
Frequency:	50/60Hz	ST10, ST7 (WxDxH)mm	345x345x355
Class:	EN61558-2-6, class 2	Foot print	
Marking:	CE	ST5 (WxD)mm	370x365
Protection grade:	IP65	ST10, ST7 (WxD)mm	300x240
Temperature class:	E	Weight	
Efficiency:	0.97	ST5 (kg)	90
In-rush current:	<15x nom. output I	ST7 (kg)	105
I ₀ :	<7.5% nom. output I	ST10 (kg)	116
Housing:	Silumine		
Ambient temperature storage:	-40°C to +80°C		
Ambient temperature operation:	-30°C to +20°C		



ORDER SPECIFICATION - SAFETY TRANSFORMER

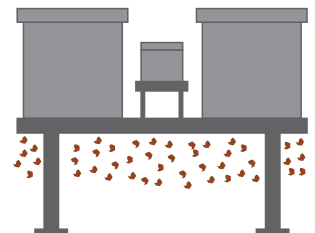
ST10	ST10: 10 KVA safety transformer (insulation transformer)
-2UI	ST7: 7KVA
-1400	ST5: 5 KVA
-xxx	2UI: 2 phase in, 2 phase out (ST10, ST7, ST5)
	3UI: 3 phase in, 2 phase out (ST5 only)
	1400: 1 x 400 VAC input voltage (ST10, ST7, ST5)
	3400: 3x400 VAC (ST5 only)
	50: Output voltage: 2x50 VAC
	230: Output voltage: 2x230 VAC

ST10-2UI-1400-230

SAMPLE: Safety transformer: ST10 for 10kVA, 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 offers you more than 50 years of experience in developing and manufacturing 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, Heating Cables and Railway Systems.

SAN Railway Systems

(Formerly known as Lübcke Rail) offers complete systems to secure optimum operation of switch points under any winter weather situation. Our focus is to deliver systems that reduce energy consumption and reduce the total cost of ownership. Our design has proven its reliability through 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 programme. 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.