



SND8-NS11 DRUM

WELD SEAM DETECTION

- For Tin Plate Containers
- One-sided non-contact weld seam and lock seam detection with wall thicknesses of up to 1.0 mm in ferrous materials
- Detection of weld seams in cans, pails, containers and drums
- Magnetic principle, therefore completely independent of lithographic decorations

Applications in machines for:

- expansion of bodies
 - welding of ears
 - screen printing
 - punching rivet holes
- Very compact sensor design



SND8-NS11 DRUM

Description

During the production of various types of tin plate containers it can be necessary to detect and position the weld or lock seam. The Weld Seam Detector SND8 - NS11 was specifically developed for this purpose. It reacts to the magnetic properties of the weld seam and functions therefore completely independent of the lithographic decorations on the metal surface.

Function

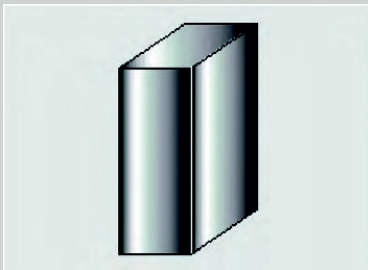
Weld seams result in characteristic deformations of the magnetic field. These changes are captured by the NS11 sensor, analyzed in the control unit, and processed resulting in a switch signal available for the machine controls.

The sensor functions in a dynamic mode. To function reliably the peripheral speed of the container should exceed 0.1 m/sec. There is no practical upper limit to the speed. However, in cases of very high speeds of the container the weld seam recognition cycle can be lower than 10 msec. The relay version may therefore react to slowly for these speeds.

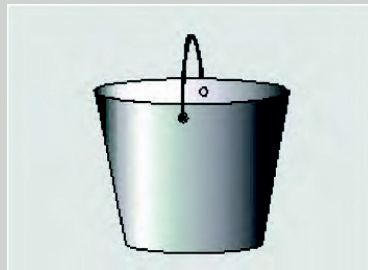
Sensor NS11

The sensor is contained in a robust aluminium housing. It has no movable parts or adjustment potentiometers. Because the sensor element contains a strong permanent magnet, it is necessary to provide a suitable fixture in order to ensure a constant distance between sensor and container.

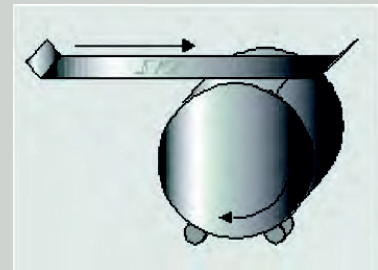
Application examples



Expanding machines
for the production of square cans

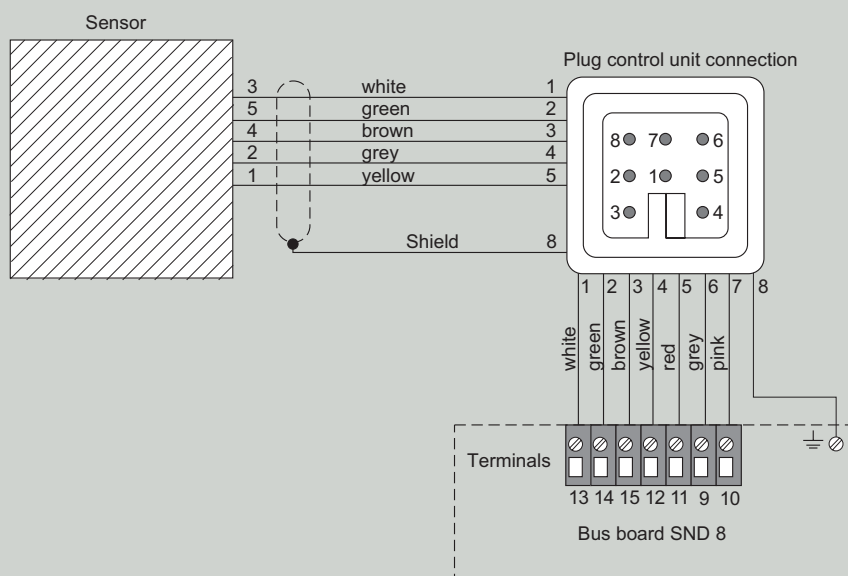


Welding of ears
to containers to fix handles

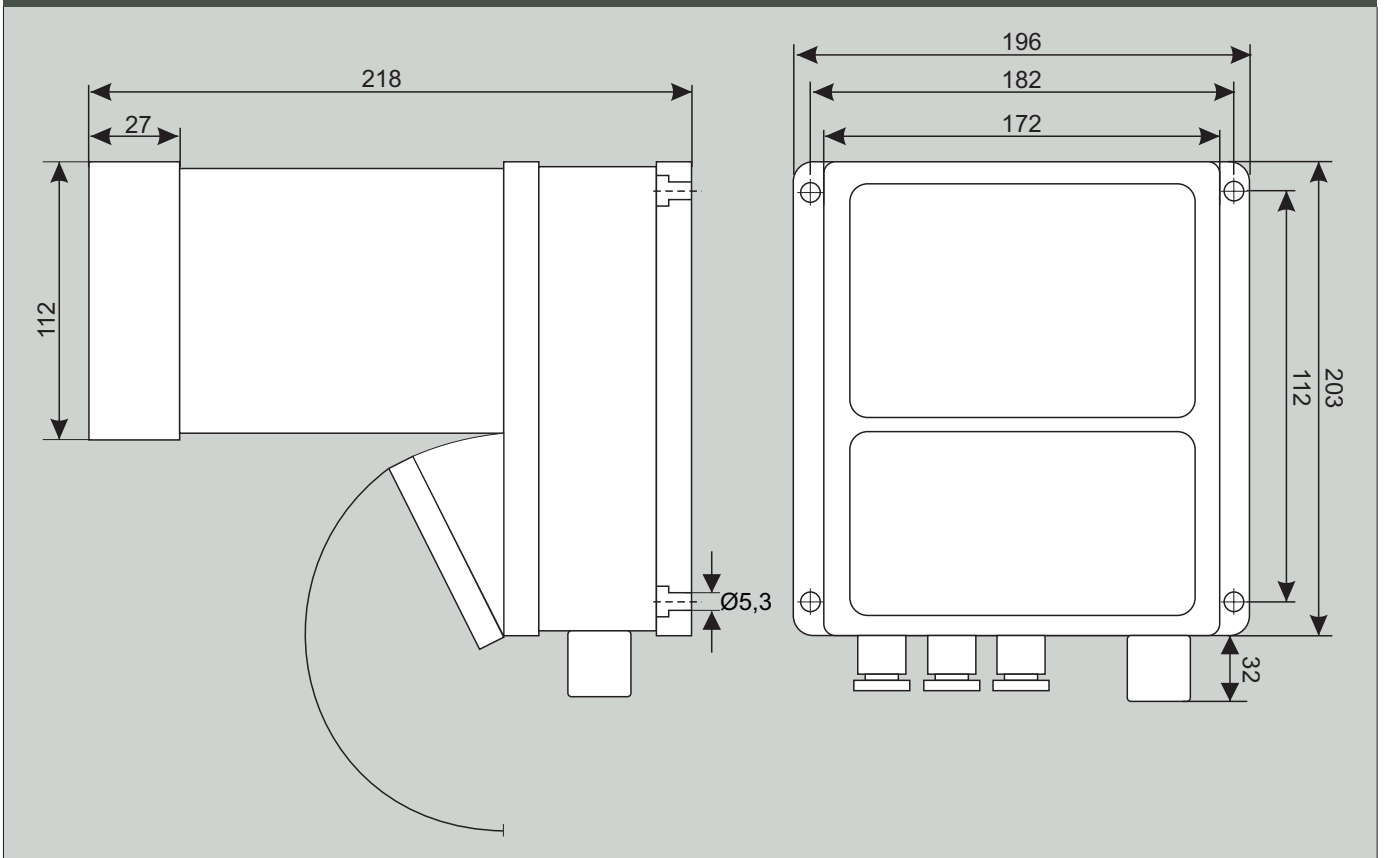


Screen printing
on drums

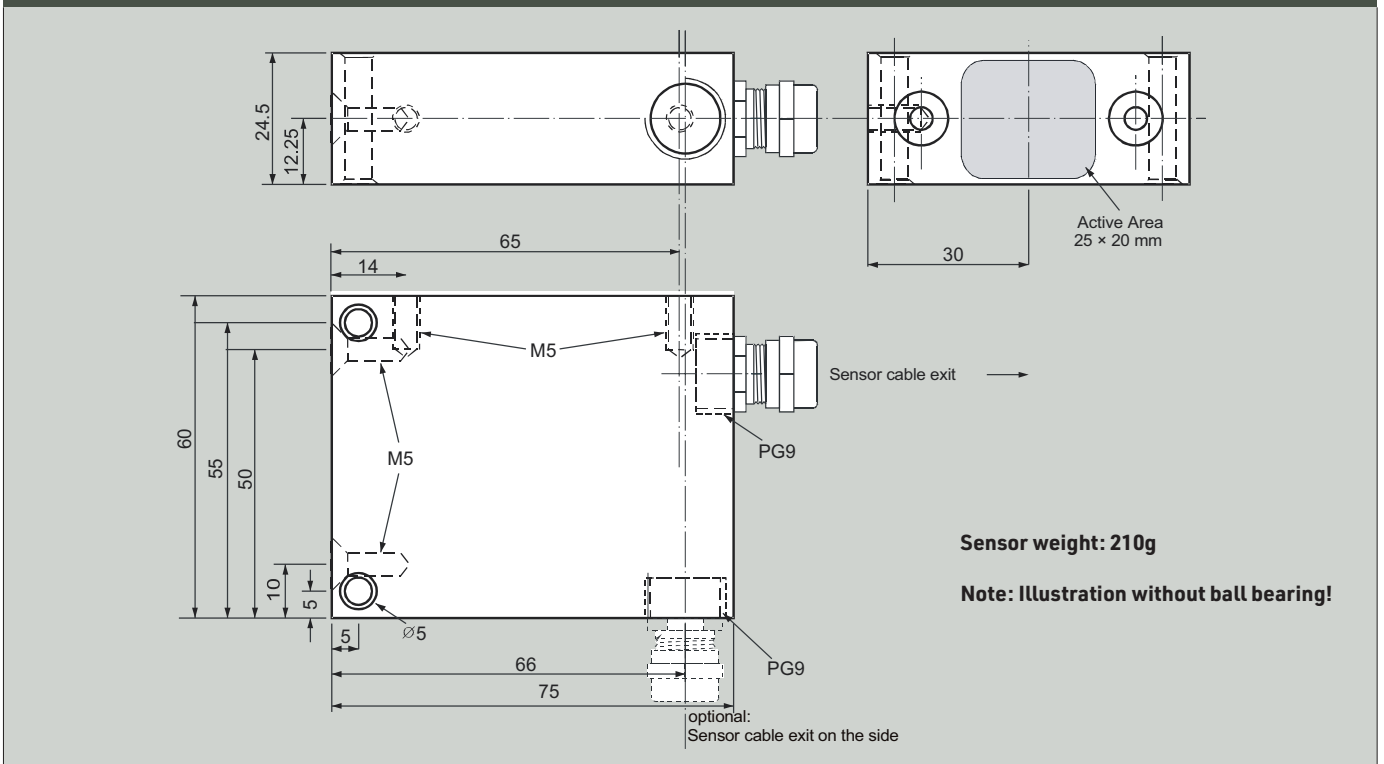
Unit connections



Dimensions SND8



Dimensions SND8



Technical Data

SND8	
Operating voltage $\pm 10\%$:	230 / 115V AC, 50-60 Hz
Fuse (5 X 20):	0.5A slow blow
Power consumption:	approx. 25 VA
Ambient temperature:	5° - 45° C
Relay outputs for weld seam and fault:	dry two way contacts
Relay switching voltage:	250 V max.
Relay switching current:	8 A max.
Relay switching power:	200 W / 2000 VA max
Relay on delay:	110 ms, $\pm 20\%$
Relative motion sensor / object	The minimum speed is 0.1 m/s, max. The maximum speed is unlimited.

Installation:

Connect the control unit to the operating voltage shown on the front cover. The power can be changed from 230 V AC to 115 V AC via a switch on the PCB. Connect sensor with plug to control unit. One LED indicates the weld seam has been located.

Adjustment of switching threshold:

1. Install the sensor in a application specific fixture to maintain a gap of approx. 1 to 5 mm (depending on sheet thickness) between sensor and container. Because the sensor contains a strong permanent magnet, there can be substantial forces between container and sensor.
2. Apply power to the control unit with the connected sensor. The unit functions in the dynamic mode only. The adjustment of the switching threshold is therefore possible only when rotating the container.
3. Rotate the container and turn the potentiometer „SENSITIVITY“ clockwise or counter-clockwise until the LED „SIGNAL“ lights up periodically and the relay switches. In case of eccentric rotation of the container it is necessary to check that variations in distance between container and sensor do not generate false switching signals.

Switching output:

The Weld Seam Detector SND8 - NS11 has a relay output as a standard.

Order Information

SND8-NS11	
Part no.	Description
SND8-NS11	Weld Seam Detection System
NS11	Weld Seam Sensor
SND40-MF-IO	Cable (Standard length 5 meters) with plug for connection to control unit

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