
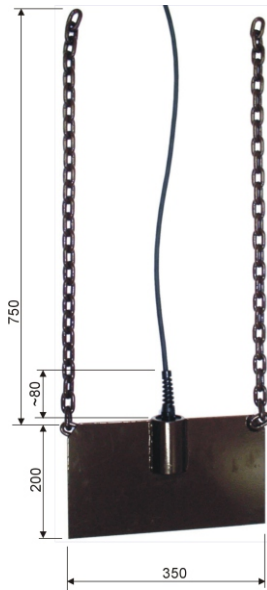




RHP-5 Flap Transfer Point Sensor

 zone 22



Use:

The RHP-5 transfer point sensor (hereinafter referred to as the "transfer point sensor") is intended for indicating blockage of transfer points on belt conveyers and chutes by loose material of fine to medium grain size which does not cause undesired mechanical damage to the sensor structure by their properties.

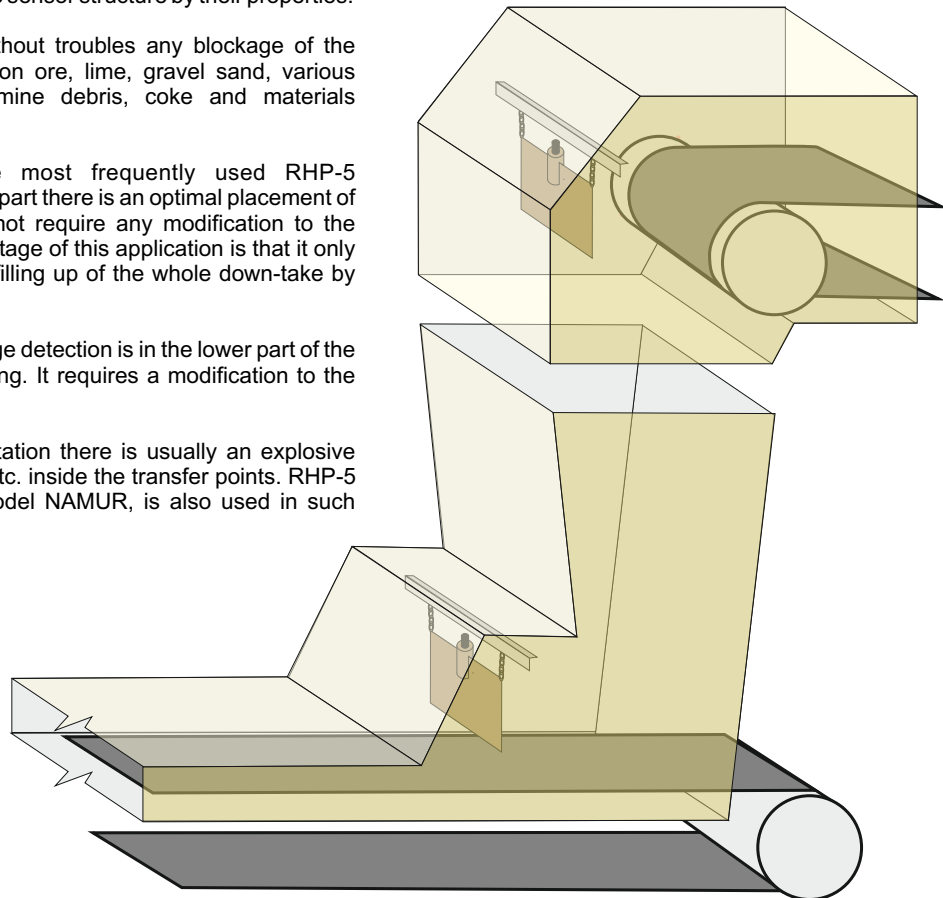
The sensor indicates without troubles any blockage of the transfer point by coal, iron ore, lime, gravel sand, various intermediate products, mine debris, coke and materials forming piles.

The figure shows the most frequently used RHP-5 applications. In the upper part there is an optimal placement of the sensor which does not require any modification to the transfer point. A disadvantage of this application is that it only indicates blockage after filling up of the whole down-take by material.

The most efficient blockage detection is in the lower part of the belt, see the lower drawing. It requires a modification to the down-take structure.

During the coal transportation there is usually an explosive environment ZONE 22 etc. inside the transfer points. RHP-5 transfer point sensor, model NAMUR, is also used in such environment.

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Another application is indicating the filling up of a tank; see the figure on the other side. This application is suitable for closed spaces, where the flap does not swing because of the wind.

This transfer point sensor cannot be used with materials which enable immersing of the hanging part, i.e. the material flows around the sensor which is not deflected. For these materials, the RHP-5 cone model is used.

The transfer point sensor cannot be used for assembly on movable equipment such as travel conveyers, vibration feeders, etc. It is not intended for equipment the vibrations of which could cause self-actuation caused by setting vibrations.

Description:

The transfer point sensor with a flap is of a rectangular shape with a vertical tube. 750mm long chains are welded on the upper corners which are trimmed away. Using the chains the sensor is hung to the required place.

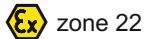
The sensor is made of 3mm thick steel. The surface treatment of all types of sensors including the hanging components is made by brown Comaxit. The probe is inserted in a steel tube which is welded in the upper part of the sensor. The cable from the probe is led upwards in a flexible metal protecting pipe coated with PVC foil.

The catalogue has only those selected important parameters for your final decision. For project designs always ask for the user's guide for this product and any engineering consultation about possible uses.





RHP-5 Transfer Point Detector – Flap Type



Principle:

The principle of blockage indication uses the function of a spherical induction switch which switches when it deviates from the vertical axis.

A condition for reliable function is that the material forms a cone at the transfer point blockage which deflects the hanging part of the transfer point sensor at least by 20° - 25° from the vertical position when it grows up.

Therefore, the sensor must be placed to be deflected by the necessary angle when the transfer point gradually blocks.

The evaluation should be performed by a time element which excludes all accidental short-term deviations caused by rebound material.

Models:

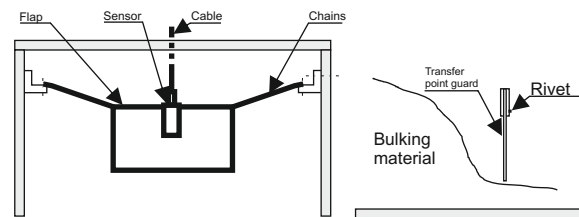
RHP-5 flap transfer point sensors are recommended to be applied as directional sensors, which mean that only after its deviation to the determined side the caving fall is signalled. Its deviation to the opposite side does not result in any response. The all-directional switch needs a longer term to quiet the sensor and repeated sensor activation after the end of the caving fall signalisation (straightening of the flap position to the vertical position)

Installation and Assembly

The place of deployment is selected in such way that if a delay is set, the sensor switches off the drive of the respective conveyer before it is dangerously blocked and the drive is switched off by its protection.

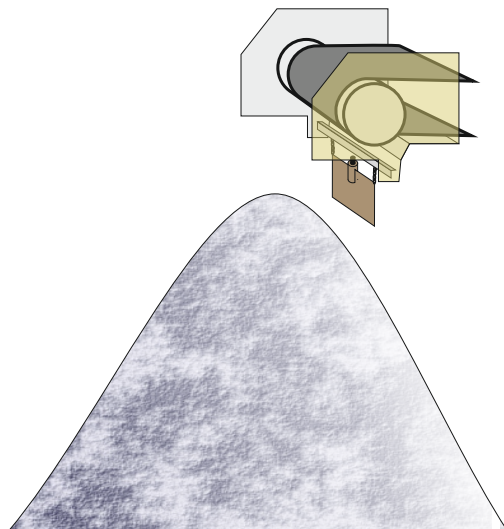
The place of deployment must be selected in such way that the number of accidental deviations (from the rebound material, by vibrations, etc.) is as low as possible, but not exceeding the status which can be eliminated by the set time delay. Chain hangers of the transfer point sensor are fixed to the bearing structure (e.g. a cover of the transfer point) by two M10 screws. Chain hangers can be shortened, if needed.

Hang the sensor so that the small rivet on its front side is oriented from the mounting material. This direction must always be adhered to with the directional type.



Type designation and ordering options:

Designation	Movement	Cable	Voltage	Principle
RHP-5-S11200	Directional	2m	230V AC 2-wire	
RHP-5-S11200-S	Directional	2m	230V AC 2-wire	
RHP-5-V11200	Omni-direct	2m	230V AC 2-wire	
RHP-5-V11200-S	Omni-direct	2m	230V AC 2-wire	
RHP-5-S21200	Directional	2m	24 V 3-wire PNP	
RHP-5-S21500	Directional	5m	24 V 3-wire PNP	
RHP-5-V21200	Omni-direct	2m	24 V 3-wire PNP	
RHP-5-V21500	Omni-direct	5m	24 V 3-wire PNP	
RHP-5-S31200	Directional	2m	NAMUR (Ex)	
RHP-5-V31200	Omni-direct	2m	NAMUR (Ex)	



Technical parameters:

Weight of the sensor with the flap	5.5kg
Dimensions of the sensor with the flap	200 x 350 x 58
Length of chains of the sensor with the flap	750mm
Allowed ambient temperature	-25°C - +70°C
Protection	IP 54
PNP Output 3-wire	
Supply voltage	10 ... 30 V DC
Voltage drop	≤ 1.5V at I _{a max}
Constant current, I _{a max}	≤ 300mA
Conductor cross-section	0.25 mm ²
Conductor length	approx. 2 m or 5 m
Time delay	2ms
230 V AC Output two-wire	
Supply voltage	20...250V AC
Supply drop	≤ 8.5 V at I _{a max}
Constant current, I _{a max}	≤ 250mA (...+50°C) ≤ 200mA (...+80°C)
Conductor cross-section	0.5 mm ²
Conductor length	ca 2m
Time delay	≤ 10ms
NAMUR	
Supply voltage	5...25V DC
Current consumption, unloaded	≤ 1mA
Current consumption, loaded	≥ 2.2mA
Conductor cross-section	0.5 mm ²
Conductor length	approx. 2 m

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