

Rotonivo®

Level limit switch

Information RN 3000

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Subject to technical change and price change.

All dimensions in mm.

All units of this pricelist are
CE certified.

Of course there are other unit variations than
specified possible.

Please speak with our consulting technicians.

introduction

■ The **ROTONIVO RN 3000** is an electromechanical level-limit-switch and is used for level monitoring of bulk goods. It is used wherever

- dustlike
- powdery
- granulated
- granular

media are handled.

■ Designed to the modular system, **ROTONIVO** level limit switches are used as

- full detector
- demand detector
- empty detector

at

- | | |
|----------------------|----------------------|
| - silos | - bunkers |
| - hoppers | - weigher containers |
| - storage containers | - discharge pipes |
| - small containers | |

■ **ROTONIVO RN 3000** level limit switches are

- | | |
|------------------|---|
| - compact | - simple |
| - robust | - reliable |
| - no maintenance | - insensitive to environmental influences |

They can be equipped for over- and underpressure and also for very high or low temperatures.

■ Thousands of **ROTONIVO** level limit switches have stood the test in several applications like

- chemical industry
- wood industry
- building materials industry
- food processing industry
- mechanical engineering
- plastics industry

mode of operation

A low revolution synchronous induction gearing motor drives a rotating measuring vane, which is for example mounted at a container.

As soon as the material level, which is to be checked, reaches the measuring vane, it is handicapped in his rotation.

The synchronous induction motor is freely suspended within the housing. The caused reaction torque is used to operate a micro switch giving a suitable electrical signal and to stop the motor.

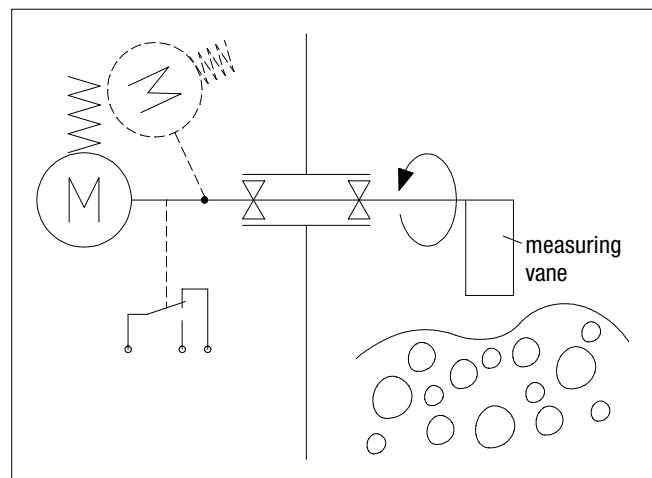
When the vane becomes free again due to the drop in material level, a spring draws the motor back into his operating position, the micro switch returns to his initial position and the motor is switched on. The electrical output signal is then switched over.

option rotation control

Due to the rotation control it is possible, to recognize a possible fault of the unit in time. The following fault sources are observed:

- motor
- gear
- electronic for motor power supply
- failure of mains voltage
- defect of the connecting wires

Faults that occur are detected through electronic means, and the alarm relays is initiated.





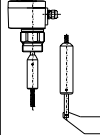
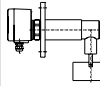
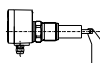
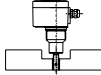

Rotonivo®

Level limit switch



Information RN 3000
selection guide - approvals

selection guide

application \ type	type						
	RN 3001	RN 3002	RN 3002-ropo	RN 3003	RN 3004	RN 3005	RN 3006
							
full detector	X	X	X	X	X		X
demand detector	X		X*	X	X		X
empty detector	X		X*	X	X		X
loading telescope						X	
vertical	X	X	X		X	X	X
oblique from the top	X				X		X
horizontal	X			X	X		X
oblique from the bottom	X				X		X
dustEx zone 10/11***	X	X	X	X	X	X	X
temperature upto 220°C** ***	X	X	X	X	X		
container over pressure -1 upto 10bar ***	X	X	X	X	X	X	X

* not for zone 10/11

** zone 10/11 upto 200°C

***version depends on selection-code in pricelist

approvals

For the **ROTONIVO** types **RN 3001** to **RN 3006** the approvals for the dust explosion zone 10/11 are available (zone 10 inside container, zone 11 outside container).

technical data

dimensions

For detailed dimensions of the types RN 3001 - 3006 see pricelist (page P0 - P25).

mechanical data

housing	die-casted housing RAL 5010 gentian blue
enclosure	IP 65 to EN 60529
process connection	thread or flange according to selection
material process-connection	aluminium, steel galvanized or stainless steel
material vane shaft and measuring vane	stainless steel
tolerance length "L"	±10mm
bearing	ball bearing, dusttight
sealing	radial rotary shaft sealing DIN 3760
friction clutch	protection of the gearing of impacts of the measuring vane
pickup delay	approx. 1.3 sec
sensitivity	adjustable via reset force of spring or geometry of measuring vane
speed of measuring vane	1 1/min

electrical data

mains voltage	220..240V 50-60Hz (changeable to 110..120V)
	110..120V 50-60Hz (changeable to 220..240V)
	48V 50-60Hz (changeable to 24V)
	24V 50-60Hz (changeable to 48V)
	24V DC
	all voltages +10% / -15%
installed load	3VA (3W)



connection terminal	1x max. 1.5mm ²
screwed cable gland	1x M20x1.5 (optional 2x PG13.5) (for type RN 3006 3-pole plug instead of M20x1.5 possible)
signal output	floating microswitch AC max. 250V, 2A, 500W (cosφ=1) DC max. 300V, 2A, 60W (type with plug: the contact normally-open or normally-closed is not floating)
connection diagram	inside of cover, datasheet
protection class	I

operating conditions

container over-pressure	max. 0.8 bar or max. 5 bar or max. 10 bar
powderdensity	depends on mounting position and geometry of measuring vane (down to 20g/l possible)
feature of bulk material	suitable for nearly all materials
maintenance	not required

