

The Robertshaw logo is written in a red, cursive script font. A registered trademark symbol (®) is located at the end of the word.

Robertshaw®

# Air Pressure Sensing Switches for HVAC Applications

## UNI-LINE® PRODUCT KNOWLEDGE

A thick, lime-green graphic element consisting of a horizontal line that steps up three times to the right, ending in a small circle.

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The Invensys Controls logo features the word 'invensys' in a lowercase, sans-serif font with wide letter spacing. The 'i' is lowercase, while 'n', 'v', 'e', 'n', 's', 'y', and 's' are uppercase. Below it, the word 'Controls' is written in a smaller, lowercase, sans-serif font.

invensys  
Controls

# Subjects We Will Cover In This Session

- Air Switch Technical Concepts
- Product Line & Features
- Manufacturer Analysis
- Contact Information
- Q & A

# Acronyms

NEMA	=	National Electrical Manufacturers Association
NC	=	Normally Closed (switch)
NO	=	Normally Open (switch)
PSI	=	Pounds per Square Inch
SPST	=	Single Pole Single Throw
SPDT	=	Single Pole Double Throw
WC	=	Water Column in Inches

# Typical Air Switch Applications

## Monitors Air Pressure

- Conditioned Air Filters
- Defrost Cycle in Refrigeration Coils
- Gas-Fired Units with Draft from the Blower
- Air-Supported Structures and Enclosures
- Exhaust Fans and Fume Hoods

# Technical Concepts

Reliable devices to remotely sense the operation of

- Fans
- Blowers

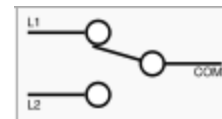
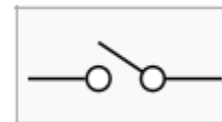
Senses positive, negative or differential air pressure

- Maximum pressure 0.5 PSI

Adjustable air sensing actuates an internal switch

Types of switches

- SPST = Single Pole Single Throw
- SPDT = Single Pole Double Throw



# Quiz Question #1

SPDT switch stands for what?

- A. Single Pole Differential Terminal
- B. Single Polarity Dip Termination
- C. Single Pole Double Throw
- D. Single Pole Single Throw

# Air Pressure Sensing Switches

The 2374-400 Series are field adjustable

- Page 150 in Uni-Line® Catalog

They are relatively insensitive to temperature

- Range includes -40°F to 190°F
- Operate at 120 / 277 VAC

Detection of static pressure drop across filters and coils

Air Switches can turn ON or OFF the following

- Blowers
- Exhaust Fans
- Electronic air cleaners
- Remote status indicators
- Alarms
- Control circuits



# Newest Product Offering

The **2374-500** Series is an expanded offering of **Robertshaw® Air Pressure Sensing Switches**

Replacement models for aftermarket that include

- Pneumatic Switches
- Air Pressure Sensing Switches
- Manual Reset Switches

These reliable devices are designed to replace a wide variety of switches

Residential and light commercial applications

11 newer SKUs available, 13 total



2374-503

# Sensing Switch Control Features

2 Year Warranty

All Air Switches come in a contractor kit including

- Hardware
- Replacement hose
- Adjustment tool

Easy installation and calibration

Switches include:

- Factory-calibrated and factory-fixed set points
- NEMA rated housings
- Manual resets
- Gold contacts

# Product Photos With Part Numbers



2374-495



2374-504



2374-498



2374-505



2374-499



2374-506

# Product Photos With Part Numbers



2374-500



2374-507



2374-501



2374-508



2374-503



2374-502



2374-509

# Sales Materials

## Sell Sheets with Cross Reference Charts

- Part Number in English: 150-2177, French: 150-2183

Literature available online at [www.uni-line.com](http://www.uni-line.com)



2374-400  
2374-500  
Series

**AIR PRESSURE  
SENSING  
SWITCHES**



**Features and Benefits**

The Robertshaw® Air Pressure Sensing Switches now include Pneumatic Switches, Air Pressure Sensing Switches and Manual Reset Switches. These reliable devices are designed to replace a wide variety of switches found in residential and light commercial applications.

- All Air Switches come in a contractor kit that includes the hardware, replacement hose and an adjustment tool for easy installation and calibration.
- These switches include features such as factory-calibrated and factory-fixed set points, NEMA rated housings, manual resets and gold contacts.
- Select Air Pressure Sensing Switches are practically insensitive to temperature change with an operating range of -40 °F to 190 °F.

**Typical Applications**

- Conditioned air filters that accumulate particulate matter used to sense the differential pressure or airflow drop across the filter.
- Defrost cycle is initiated by sensing differential pressure or airflow drop across the refrigeration coils when they ice.
- On gas-fired units, the switch senses draft down from the blower; switch actuation allows ignition start-up or system shutdown upon insufficient draft.
- On air-supported structure and enclosure, sensing switches ensure proper inflation or internal pressure; switch actuation controls the blower to maintain pressure.
- Exhaust fans and fume hoods employ switches to sense draft down from the exhaust fan; switch actuation signals condition upon fan failure of insufficient draft.

ISO 9001 – 2000 Certified Company

**2** Year Limited Warranty



2374-400  
2374-500  
Séries

**PRESSOSTATS**



**Caractéristiques et avantages**

Les pressostats Robertshaw® comprennent maintenant des interrupteurs pneumatiques, des pressostats et des interrupteurs de réajustement manuels. Ces dispositifs fiables sont conçus pour remplacer une multitude d'interrupteurs utilisés dans les systèmes résidentiels ou de petites entreprises.

- Tous les pressostats sont fournis dans un coffret pour entreposer avec les pièces de fixation, un tourne de réglage et un outil de réglage pour une installation et un calibrage faciles.
- Ces pressostats présentent les avantages suivants : calibrage et valeurs de réglage effectués à l'usine, logements agréés par NEMA, interrupteurs de réajustement manuels et contacts en or.
- Les pressostats de choix sont pratiquement insensibles aux changements de température avec une plage de fonctionnement de -40 °C à 87,5 °C (-40 °F à 190 °F).

**Utilisations typiques**

- Filtres à air conditionne qui piègent des particules : utilisés pour détecter la pression différentielle ou diminution de débit d'air au niveau du filtre.
- Le cycle de dégivrage est commencé par détection de la pression différentielle ou diminution du débit d'air au niveau du serpentin de refroidissement en présence de givre.
- Pour les systèmes à gaz, le pressostat détecte l'arrivée d'air de la soufflerie et l'interrupteur permet l'allumage ou l'arrêt du système en cas d'insuffisance du débit d'air.
- Pour les structures et logements sous pression, les pressostats maintiennent le gonflement ou la pression interne nécessaire; l'interrupteur contrôle la soufflerie pour maintenir la pression.
- Les ventilateurs de tirage et les hottes filtrantes utilisent des pressostats pour détecter le flux d'air en provenance du ventilateur de tirage; l'interrupteur est activé en cas de détection d'une panne de ventilateur ou d'un tirage insuffisant.

Une entreprise certifiée ISO 9001 – 2000

**2** Garantie Limitée Ans




# Manufacturers and Distributors

- White-Rodgers®
- Honeywell®
- Siemens® / Landis
- Cleveland Controls
- Penn / Johnson Controls®
- Dayton®
- Cemco
- Grainger®
- Johnstone Supply®
- Robertshaw®

# Competitive Cross Reference

Robertshaw	Cleveland Controls	White-Rodgers	Siemens/Landis	Penn Johnson	Antunes	Dwyer	Cemco	Grainger	Honeywell
2374-495	RSS-495-037				SMM-ALL			3ZM96	6000 SERIES 10000 SERIES
2374-498	RSS-498-038				SMM-ALL			3ZM97	6000 SERIES 10000 SERIES
2374-499 replaces 2374-410	AFS-222-341	770-1	141-0548	P-32	SMD-ALL SML-ALL JD-2 ALL	1910	RH3A	3ZM92 2E462	4000 SERIES 5000 SERIES
2374-500 includes French installation information	AFS-222-221-341	770-3							
2374-501	AFS-262-341						RH35AK		
2374-502	AFS-298-341						RH2500D0		
2374-503	AFS-405-341							3ZM93	TDIAP502730 TDIAP520830
2374-504 replaces 2374-411	AFS-460-341		141-0575		SMR-ALL	1900MR	RH4	3ZM94	TDIAP521030
2374-505	PAS-2100-341			P-40				3ZM95	
2374-506	DFS-221-112-341						RH1505D0		FP4000 SERIES
2374-507	AFS-460-DSS-341								
2374-508	RFS-4001-038-067								4000 SERIES
2374-509	RFS-4100-042-067								4000 SERIES

# Manufacturer Comparison

Feature	 Robertshaw®	 White-Rodgers®	 Siemens®
Series	2374-400 2374-500	770	141
Complete Installation Kit	Yes	No	No
Full Line of Replacement Switches	Yes	No	No
Gold Contact Material	Yes	No	No
Temperature Range up to 190° F	Yes	No (180°)	No (140°)

Product cross reference available online at

[www.uni-line.com](http://www.uni-line.com)

# Competitive - Pros and Cons

<b>Pros and Cons</b>	<b>Robertshaw®</b>	<b>Competition</b>
<b>Complete Installation Kit</b>	Easier Installation as all Necessary Hardware and Adjustment Tools are Included	Incomplete Kit Complicates Installation
<b>Full Line of Replacement Switches</b>	One Source for All Major Replacements with Cross Reference Charts	Multiple Suppliers Needed and Possible Obsolescence
<b>Gold Contact Material</b>	Helps to Resist Welding from Arcing	Switch May Stick and Need Service Calls
<b>Temperature Range up to 190° F</b>	Durability in Hot Applications	Rated for Fewer Applications

# Air Pressure Switch – Value Proposition

Value Proposition	Wholesaler / Distributor	Contractor	End-User
<b>Complete Installation Kit</b>	"One Stop Shop" Offering Includes Hardware & Tool	"Grab and Go" No Need to Wonder About Right Installation Tools	"Hi and Bye" Installer Minimizes Disruption
<b>Full Line of Replacement Switches</b>	Limits Need for Carrying Several Suppliers	Full Selection From One Source	Installer has Right Part Regardless of Application
<b>Gold Contact Material</b>	Upsell Reliability Opportunity	Limits Call Backs	Reliable Operation to Minimize Future Service Calls
<b>Temperature Range up to 190°F</b>	Additional Feature to Sell	Wider Range of Applications	Quality Product

# Website Tools: [www.Uni-Line.com](http://www.Uni-Line.com)

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Enter part numbers

## Welcome to the Uni-Line Catalog

Access to Uni-Line® product data is easier than ever. Now you can quickly search for the information you need on HVAC, commercial refrigeration, appliance and thermostat products. Linked with literature, [cross reference guides](#) and [FAQ Knowledge Database](#), you'll see the Uni-Line difference with just a few clicks.

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**RANCO** Innovation you expect.

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Zoning

Indoor Air Quality

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Heating

Refrigeration

Cooking

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Customer Service

Technical Service

Dealer Price Information

### Online Services

Customer Toolbox

Product Cross Reference

Distributor Locator

Publication Zone

Contractor ID

Click here for more information

Cross reference

# When You Have Uni-Line® Questions

## Telephone:

Technical Service 1-800-445-8299

Technical Service Fax 1-630-260-7294

Customer Service 1-800-304-6563

Customer Service Fax 1-800-426-0804

## Website:

Uni-Line® Catalog Website: [www.Uni-Line.com](http://www.Uni-Line.com)

Cross Reference Website: [www.uni-line.com/templates/xrefsearch.aspx](http://www.uni-line.com/templates/xrefsearch.aspx)

## General Information Websites for:

Robertshaw®, Paragon®, Eliwell™, Ranco®, and Publication Zone®

[www.InvensysControls.com](http://www.InvensysControls.com)

[www.RobertshawTstats.com](http://www.RobertshawTstats.com)

[www.ToolBox.InvensysControls.com](http://www.ToolBox.InvensysControls.com)



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