J6 Series

J6 Series

PRESSURE AND VACUUM SWITCHES
ADJUSTABLE DEADBAND MODELS

FEATURES

- **Sensitive and Reliable; A Standard for Instrument Air Applications**
- **Gasketed, Die Cast Aluminum Enclosure with Epoxy Coating**
- **Adjustable Deadband Option**
- **SPDT Switch Output**
- **Adjustable Pressure Ranges: 30 "Hg Vac to 6000 psi (-1 to 414 bar)**
- **Sealed, Isolated Metal Bellows Sensors**

J6 Series

OVERVIEW

The UE J6 is a traditional pressure switch originally designed for instrument air applications in process plants. The compact design and combination of sensitive On-Off operation and narrow or optional adjustable deadbands, offers cost-saving solutions for a variety of applications.

It is ideally suited for a wide range of industrial processes such as alarm/shutdown and low/high service pressures. OEMs also utilize the J6 in machinery and equipment for threshold protection.

FEATURES

- Sensitive and reliable; a standard for instrument air applications
- Gasketed, die cast aluminum enclosure with epoxy coating
- NEMA 4X design
- SPDT switch output
- Adjustable deadband models for precise on-off control
- Brass or stainless steel bellows sensors
- External manual reset option

SPECIFICATIONS

STORAGE TEMPERATURE	-65° to 160°F (-54 to 71°C)
AMBIENT TEMPERATURE LIMITS	-40° to 160°F (-40 to 71°C)
SET POINT REPEATABILITY	Models 126-364, 680: ± 1% of adjustable range; models 610-614: ± 1 1/2% of adjustable range
SHOCK	Set point repeats after 15 G, 10 millisecond duration
VIBRATION	Set point repeats after 2.5 G, 5-500 Hz
ENCLOSURE	Die cast aluminum, epoxy powder coated, gasketed; captive cover screws
ENCLOSURE CLASSIFICATION	Designed to meet NEMA 4X requirements
SWITCH OUTPUT	One SPDT; switch may be wired "normally open" or "normally closed"; J6D has an adjustable deadband
ELECTRICAL RATING	15 A 125/250/480 VAC resistive
WEIGHT	Approx. 1 lb., 8 oz. (0.68 kg.)
ELECTRICAL CONNECTION	1/2" NPT female
PRESSURE CONNECTION	All models 1/4" NPT female except models S126B-S160B: 1/2" NPT female

APPROVALS

UL listed
UL 508, file # E42272

CSA certified
CSA C22.2 no. 14, file # LR39690

CE Compliance to Low Voltage Directive (LVD)
CE Compliance to Pressure Equipment Directive (PED/97/23/EC)

PRESSURE MODEL CHART

Model	Adjustable Set Point Range Low end of range on fall; High end of range on rise		Deadband		Over Range Pressure*		Proof Pressure**	
	psi (unless noted)	bar	psi (unless noted)	bar	psi (unless noted)	bar	psi (unless noted)	bar
316L welded stainless steel bellows with 1/2" NPT female pressure connection								
S126B	30 "Hg Vac to 0 psi	-1 to 0	0.2 to 0.8 "Hg	0,007 to 0,03	0	0	30 "Hg Vac	-1
S134B	30 "Hg Vac to 20 psi	-1 to 1,4	0.2 to 0.8 "Hg	0,007 to 0,03	20	1,38	25	1,72
S136B	0 to 50" wc	0 to 0,12	3 to 6 "wc	0,007 to 0,015	50 "wc	0,12	5	0,34
S142B	0 to 18	0 to 1,2	4 to 7 "wc	0,010 to 0,017	18	1,2	25	1,72
S148B	0 to 40	0 to 2,8	0.1 to 0.4	0,007 to 0,03	40	2,8	40	2,76
S152B	0 to 50	0 to 3,4	0.1 to 0.5	0,007 to 0,03	50	3,4	75	5,17
S156B	3 to 100	0,21 to 6,9	0.2 to 0.8	0,014 to 0,06	100	6,9	125	8,62
S160B	50 to 180	3,45 to 12,4	0.3 to 1	0,021 to 0,07	180	12,4	180	12,41
316L stainless steel bellows with 1/4" NPT female pressure connection (Model 680 not recommended for rapid or high cycling pressure changes)								
354	0 to 50	0 to 3,4	1.5 to 2.5	0,10 to 0,17	50	3,4	75	5,17
356	0 to 100	0 to 6,9	2 to 4	0,14 to 0,28	100	6,9	150	10,34
358	0 to 200	0 to 13,8	3 to 5	0,21 to 0,34	200	13,8	250	17,24
360	0 to 250	0 to 17,2	3 to 5	0,21 to 0,34	250	17,2	330	22,75
362	0 to 350	0 to to 24,1	2 to 8	0,14 to 0,55	350	24,1	430	29,65
364	0 to 500	0 to 34,5	3 to 9	0,21 to 0,62	500	34,5	575	39,65
680	100 to 1700	6,90 to 117,2	9 to 23	0,62 to 1,59	1700	117,2	2500	172
303 stainless steel piston and Buna N O-ring, 1/4" NPT female pressure connection (not recommended for gas service since drying of the O-ring can allow bleeding of the medium into the atmosphere)								
610	75 to 1000	5,2 to 68,9	30 to 150	2,07 to 10,34	1000	68,9	10,000	690
612	125 to 3000	8,6 to 206,8	40 to 250	2,76 to 17,24	3000	206,8	10,000	690
614	500 to 6000	34,5 to 413,7	50 to 400	3,45 to 27,58	6000	413,7	10,000	690

Over Range Pressure: The maximum pressure that may be applied continuously without causing damage and maintaining set point repeatability.
****Proof Pressure:*** The maximum pressure to which a pressure sensor may be occasionally subjected, which causes no permanent damage. The unit may require calibration (e.g., start-up, testing).

Model	Adjustable Set Point Range Low end of range on fall; High end of range on rise		Deadband		Over Range Pressure*		Proof Pressure**	
	psi (unless noted)	bar	psi (unless noted)	bar	psi (unless noted)	bar	psi (unless noted)	bar
Brass bellows with 1/4" NPT female nickel-plated brass pressure connection; Models 126 and 134 have zinc-plated spring in media								
126	30 "Hg Vac to 0 psi	-1 to 0	0.2 to 0.8 "Hg	0,007 to 0,03	0	0	30 "Hg Vac	-1
134	30 "Hg Vac to 20 psi	-1 to 1,4	0.2 to 0.8 "Hg	0,007 to 0,03	20	1,4	25	1,7
136	0 to 50 "wc	0 to 0,12	3 to 6 "wc	0,007 to 0,015	50 "wc	0,12	5	0,3
142	0 to 18	0 to 1,2	4 to 7 "wc	0,010 to 0,017	18	1,2	25	1,7
148	0 to 40	0 to 2,8	0.1 to 0.4	0,007 to 0,03	40	2,8	40	2,8
152	0 to 50	0,2 to 3,4	0.1 to 0.5	0,007 to 0,03	50	3,4	75	5,2
156	3 to 100	0 to 6,9	0.2 to 0.8	0,014 to 0,06	100	6,9	125	8,6
160	50 to 180	3,4 to 12,4	0.3 to 1	0,021 to 0,07	180	12,4	180	12,4
Phosphor bronze bellows with 1/4" NPT female nickel-plated brass pressure connection; Model 218 has 300 series stainless steel spring in media								
218	30 "Hg Vac to 0 psi	-1 to 0	1 to 2 "Hg	0,03 to 0,07	0	0	30	2,1
222	0 to 20	0 to 1,4	0.5 to 1	0,03 to 0,07	20	1,4	30	2,1
224	0 to 30	0 to 2,07	0.5 to 1	0,03 to 0,07	30	2,1	45	3,1
226	0 to 50	0 to 3,4	0.7 to 1.3	0,05 to 0,09	50	3,4	75	5,2
230	0 to 100	0 to 6,9	1 to 2	0,07 to 0,14	100	6,9	110	7,6
258	0 to 50	0 to 3,4	1.5 to 2.5	0,10 to 0,17	50	3,4	75	5,2
266	0 to 100	0 to 6,9	2 to 5	0,14 to 0,34	100	6,9	150	10,3
270	0 to 200	0 to 13,8	3 to 5	0,21 to 0,34	200	13,8	250	17,2
272	0 to 250	0 to 17,2	3 to 5	0,21 to 0,34	250	17,2	330	22,8
274	0 to 300	0 to 20,7	4 to 6	0,28 to 0,41	300	20,7	350	24,1

Type J6D

Standard adjustable deadband models; additional models are available with adjustable deadband by specifying option 1520. Refer to options on page 6 for availability.

Brass bellows with 1/4" NPT female nickel-plated brass pressure connection; Models 126 and 134 have zinc-plated steel spring in media								
126	30 "Hg Vac to 0 psi	-1 to 0	0.3 to 1.25 "Hg	0,010 to 0,04	0	0	30 "Hg Vac	-1
134	30 "Hg Vac to 20 psi	-1 to 1,4	0.3 to 1.25 "Hg	0,010 to 0,04	20	1,4	25	1,7
142	0 to 18	0 to 1,2	5 to 16 "wc	0,01 to 0,04	18	1,2	25	1,7
148	0 to 40	0 to 2,8	0.1 to 0.8	0,007 to 0,06	40	2,8	40	2,8
156	3 to 100	0, 21 to 6,9	0.5 to 2	0,03 to 0,14	100	6,9	125	8,6

HOW TO ORDER

BUILDING A PART NUMBER

Select a Type	Select a Model	Select an Option
Refer to the "Type" section below.	Refer to the "Model Charts".	Refer to the "Options" section.
Determine type number based on switch output, enclosure, adjustment and reference.	Determine model based on adjustable range, deadband and proof pressure.	Determine option number based on switch output, optional materials or other product enhancements.
Fill in the type portion of your part number with the corresponding number.	Fill in the model portion of your part number with the corresponding number.	Fill in the option portion of your part number with the corresponding number.
		Leave "option" portion blank if no options are needed. *FOR MULTIPLE OPTIONS:* Call United Electric Controls.

TYPE	DESCRIPTION
Pressure	**Type J6 - One** SPDT output; epoxy coated enclosure; internal adjustment with no reference dial
	Type J6D - Adjustable deadband; one SPDT output; epoxy coated enclosure; internal adjustment with no reference dial

SWITCH OPTIONS

0140	Gold flashed contacts, 1 A 125 VAC resistive (low energy circuits)
0500	Close deadband, 5 A 125/250 VAC resistive
1070	10 A 125 VDC resistive; deadband and minimum set point will increase
1520	Adjustable deadband, 15 A 125/250/277 VAC resistive. NOT AVAILABLE ON MODELS 258-274, 354-680, 610-614 (J6D INCLUDES OPTION)
1530	External manual reset, 15 A125/250/480 VAC resistive, latches on rising pressure only
2000	20 A 125/250 VAC resistive

SENSOR AND OTHER OPTIONS

M201	Factory set one switch; specify increasing or decreasing pressure and set point
M277	Range indicated on nameplate in kPa/MPa
M278	Range indicated on nameplate in Kg/cm^2
M407	CE compliance to Pressure Equipment Directive (category IV)
M444	Paper ID tag
M446	Stainless steel ID tag & wire attachment
M540	Viton® construction; wetted parts include Viton® O-ring and standard connection material. AVAILABLE ON MODELS 610-614
M550	Oxygen service cleaning; internal construction may change

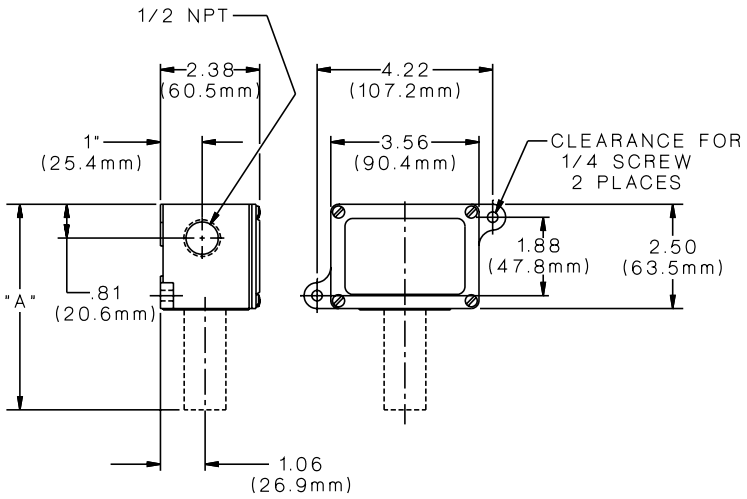
Viton® is a registered trademark of E.I. DuPont

DIMENSIONAL DRAWINGS

J6 Series
General Purpose Service

Internal Set Point Adjustment

Types J6, J6D



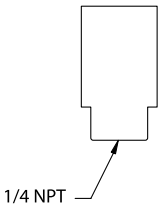
All dimensions stated in inches (millimeters)

Dimension A

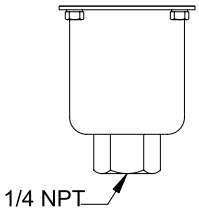
Models	Inches	mm	NPT
126-160	5.06	128,5	1/4
S126B-S160B	5.50	139,7	1/2
218-230	4.31	109,5	1/4
258-274	4.75	120,7	1/4
354-364	4.80	121,9	1/4
610-614	5.70	144,8	1/4
680	4.95	125,7	1/4

Pressure Sensors

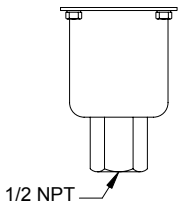
Models 218-230



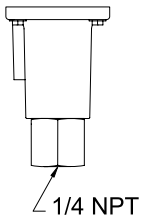
Models 126-160



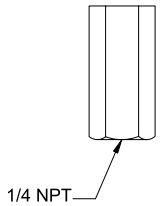
Models S126B-S160B



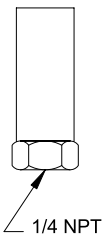
Models 610-614



Models 258-274



Models 354-364, 680



RECOMMENDED PRACTICES AND WARNINGS

United Electric Controls Company recommends careful consideration of the following factors when specifying and installing UE pressure and temperature units. Before installing a unit, the Installation and Maintenance instructions provided with unit must be read and understood.

- To avoid damaging unit, proof pressure and maximum temperature limits stated in literature and on nameplates must never be exceeded, even by surges in the system. Operation of the unit up to maximum pressure or temperature is acceptable on a limited basis (e.g., start-up, testing) but continuous operation must be restricted to the designated adjustable range. Excessive cycling at maximum pressure or temperature limits could reduce sensor life.
- A back-up unit is necessary for applications where damage to a primary unit could endanger life, limb or property. A high or low limit switch is necessary for applications where a dangerous runaway condition could result.
- The adjustable range must be selected so that incorrect, inadvertent or malicious setting at any range point cannot result in an unsafe system condition.
- Install unit where shock, vibration and ambient temperature fluctuations will not damage unit or affect operation. Orient unit so that moisture does not enter the enclosure via the electrical connection. When appropriate, this entry point should be sealed to prevent moisture entry.
- Unit must not be altered or modified after shipment. Consult UE if modification is necessary.
- Monitor operation to observe warning signs of possible damage to unit, such as drift in set point or faulty display. Check unit immediately.
- Preventative maintenance and periodic testing is necessary for critical applications where damage could endanger property or personnel.
- For all applications, a factory set unit should be tested before use.
- Electrical ratings stated in literature and on nameplate must not be exceeded. Overload on a switch can cause damage, even on the first cycle. Wire unit according to local and national electrical codes, using wire size recommended in installation sheet.
- Do not mount unit in ambient temp. exceeding published limits.

LIMITED WARRANTY

Seller warrants that the product hereby purchased is, upon delivery, free from defects in material and workmanship and that any such product which is found to be defective in such workmanship or material will be repaired or replaced by Seller (Ex-works, Factory, Watertown, Massachusetts. INCOTERMS); provided, however, that this warranty applies only to equipment found to be so defective within a period of 24 months from the date of manufacture by the Seller. Seller shall not be obligated under this warranty for alleged defects which examination discloses are due to tampering, misuse, neglect, improper storage, and in any case where products are disassembled by anyone other than authorized Seller's representatives. EXCEPT FOR THE LIMITED WARRANTY OF REPAIR AND REPLACEMENT STATED ABOVE, SELLER DISCLAIMS ALL WARRANTIES WHATSOEVER WITH RESPECT TO THE PRODUCT, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

LIMITATION OF SELLER'S LIABILITY

Seller's liability to Buyer for any loss or claim, including liability incurred in connection with (i) breach of any warranty whatsoever, expressed or implied, (ii) a breach of contract, (iii) a negligent act or acts (or negligent failure to act) committed by Seller, or (iv) an act for which strict liability will be inputted to seller, is limited to the "limited warranty" of repair and/or replacement as so stated in our warranty of product. In no event shall the Seller be liable for any special, indirect, consequential or other damages of a like general nature, including, without limitation, loss of profits or production, or loss or expenses of any nature incurred by the buyer or any third party.

UE specifications subject to change without notice.

U.S. SALES OFFICES

United Electric Controls
32 Highland Rd.
South Hampton, NH 03827
Phone: 603-394-0078
FAX: 603-394-0175

United Electric Controls
28 N. Wise Ave.
Freeport, IL 61032
Phone: 815-235-3501
FAX: 815-235-3847

United Electric Controls
1022 Vineyard Drive
Conyers, GA 30013
Phone: 770-483-8400
FAX: 770-929-8716

United Electric Controls
5829 Grazing Court
Mason, OH 45040
Phone: 513-398-3175
FAX: 513-398-3076

United Electric Controls
102 Salazar Court
Clayton, CA 94517
Phone: 925-524-0210
FAX: 925-524-0210

United Electric Controls
27 Summit Terrace
Sparta, NJ 07871
Phone: 973-271-2550
FAX: 973-729-6099

United Electric Controls
4306 Lakeshore Forest Drive
Missouri City, TX 77459
Phone: 281-431-8134
Fax: 281-431-8158

INTERNATIONAL OFFICES

AUSTRALIA
United Electric Controls
(Australia) PTY Ltd
Unit 2, 615 Warrigal Road
Locked Bag 600
Ashburton, Victoria
3147, Australia
Phone: 613-9567-0750
FAX: 613-9567-0755

BELGIUM
United Electric Controls-Europe
G. Van Gervenstraat 19A
B-9120 Beveren-Waas, Belgium
Phone: 32-37554-383
FAX: 32-37552-747

CANADA
United Electric Controls
(Canada) Ltd
5320 Bradco Boulevard
Mississauga, Ontario
L4W 1G7 Canada
Phone: 905-625-5082
FAX: 905-625-5709

GERMANY
United Electric Controls
An Der Zentlinde 21
D-64711 Erbach, Germany
Phone: 496-062-7400
FAX: 496-062-7501

MALAYSIA
United Electric Controls, Far East
No. 1-2-2, 2nd Floor
Jalan 4/101C
Cheras Business Centre
Batu 5, Jalan Cheras
56100 Kuala Lumpur, Malaysia
Phone: 603-9133-4122
FAX: 603-9133-4155

UNITED ELECTRIC CONTROLS

180 Dexter Avenue, P.O. Box 9143
Watertown, MA 02471-9143 USA
Telephone: 617 926-1000 Fax: 617 926-2568
http://www.ueonline.com