

H105-S126B, H105-S134B, H105-S137B,
E105-2BSA, E105-5BS, E105-2BSB, B105-119,
B105-120, B105-121 и др.

Компактные реле давления и вакуума серии 105. Технические характеристики.



По вопросам продаж и поддержки обращайтесь:

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OVERVIEW

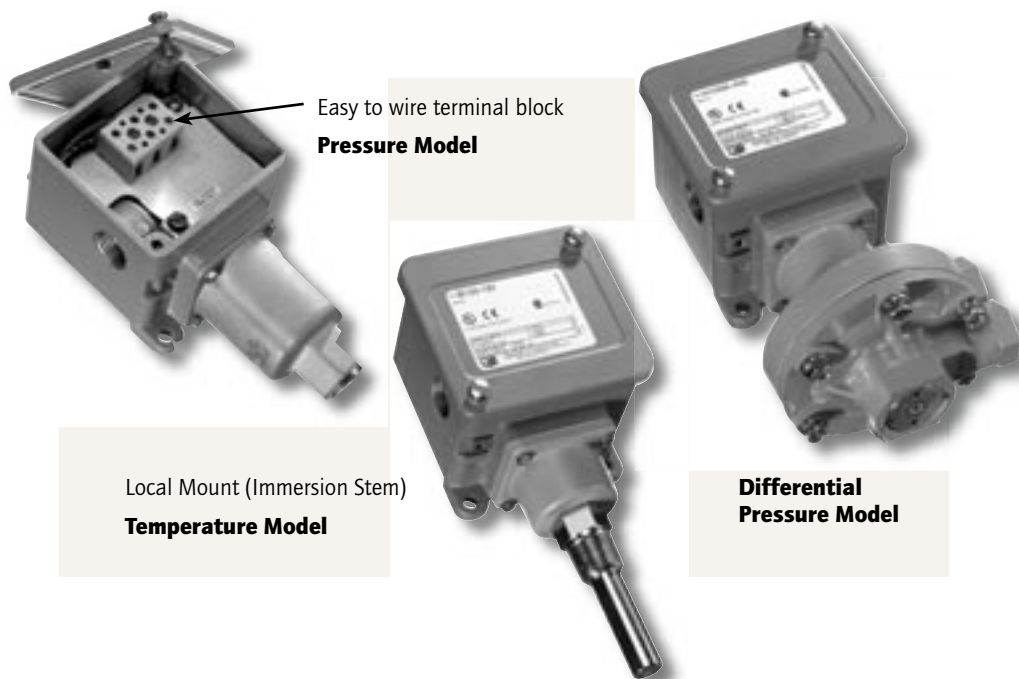
Designed to meet the demanding temperature and pressure requirements of the power and process industries, the 105 Series meets classification for watertight, dust-tight and corrosion resistant construction.

The 105 Series features an externally-accessible set point dial, isolated from the wiring compartment, for easy setting after wiring. A stainless steel cover protects the adjustment from inadvertent changes. A terminal block provides convenient wiring.

Successful applications include power utilities, compressors, heat trace, freeze protection and chemical processes.

FEATURES

- UL listed, CSA & CE certified
- External dial with gasketed, stainless steel, tamper resistant dial cover
- SPDT switch output
- Terminal block wiring
- Meets NEMA 4X requirements



SPECIFICATIONS

STORAGE TEMPERATURE	-65° to 160°F (-54 to 71 °C)
AMBIENT TEMPERATURE LIMITS	-40° to 160°F (-40 to 71 °C); set point typically shifts less than 1% of range for a 50°F (28°C) ambient temperature change
SET POINT REPEATABILITY	± 1% 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 (max 0.6% copper); epoxy powder coated; gasketed stainless steel tamper-resistant dial cover; captive cover screws
ENCLOSURE CLASSIFICATION	Designed to meet NEMA 4X requirements
SWITCH OUTPUT	One SPDT; switch may be wired "normally open" or "normally closed"
ELECTRICAL RATING	15 A 125/250/480 VAC resistive
WEIGHT	Approx. 2 lbs., 4 oz. (1,02 kg.)
ELECTRICAL CONNECTION	1/2" NPT (female)
PRESSURE CONNECTION	1/4" NPT (female); models S126B-S164B: 1/2" NPT (female)
TEMPERATURE ASSEMBLY	Bulb and capillary: 6 feet 304 stainless steel Immersion stem: model 13270: 304 stainless steel; models 120 & 121: nickel-plated brass
FILL	Non-toxic oil filled
TEMPERATURE DEADBAND	Typically 2% of range under laboratory conditions (70°F ambient circulating bath at rate of 1/2°F per minute change)
HEAT TRACING OR FREEZE PROTECTION	Thermostats designed specifically for heat tracing and freeze protection (ambient sensing) applications are available with types B105 and E105; specifications are the same as above except: type B105-13270 includes: E/R: 22 A/480 VAC switch; type E105-13271 includes: 22 A/480 VAC switch and 10 feet of stainless steel capillary (see page 5)

PRESSURE MODEL CHART

Model	Adjustable Set Point Range		Deadband		Proof Pressure**		Dial Divisions		
	Low end of range on fall; High end of range on rise								
H105	psi	bar	psi	bar	psi	bar	psi		
Welded 316L stainless steel bellows with 1/2" NPT (female) pressure connection									
S126B	30 "Hg VAC to 0 psi	-1 to 0	0.2 to 0.9 "Hg	0,007 to 0,03	5	0,3	1/2 "Hg		
S134B	30 "Hg VAC to 20 psi	-1 to 1,4	0.2 to 1.2 "Hg	0,007 to 0,04	25	1,7	1 "Hg & 1/2 psi		
S137B	2 to 80 "wc	0,01 to 0,2	2 to 10 "wc	0,005 to 0,02	5	0,4	2 "wc		
S144B	0 to 20	0 to 1,4	0.1 to 0.5	0,01 to 0,03	25	1,7	1/2		
S146B	0 to 30	0 to 2,1	0.1 to 0.5	0,01 to 0,04	40	2,8	1/2		
S156B	0 to 100	0 to 6,9	0.2 to 0.8	0,01 to 0,06	125	8,6	2		
S164B	0 to 200	0 to 13,8	0.3 to 2	0,02 to 0,14	200	13,8	5		
Brass bellows with 1/4" NPT (female) nickel plated brass; models 126 & 134 have zinc-plated steel spring in media									
126	30 "Hg VAC to 0 psi	-1 to 0	0.2 to 0.9 "Hg	0,007 to 0,03	5	0,3	1/2 "Hg		
134	30 "Hg VAC to 20 psi	-1 to 1,4	0.2 to 1.2 "Hg	0,007 to 0,04	25	1,7	1 "Hg & 1/2 psi		
137	2 to 80 "wc	0,01 to 0,2	2 to 10 "wc	0,005 to 0,02	5	0,4	2 "wc		
144	0 to 20	0 to 1,4	0.1 to 0.5	0,01 to 0,03	25	1,7	1/2		
146	0 to 30	0 to 2,1	0.1 to 0.5	0,01 to 0,04	40	2,8	1/2		
156	0 to 100	0 to 6,9	0.2 to 0.8	0,01 to 0,06	125	8,6	2		
164	0 to 200	0 to 13,8	0.3 to 2	0,02 to 0,14	200	13,8	5		
Model	Adjustable Set Point Range		Deadband		Working Pressure***		Proof Pressure**		Dial Divisions
	Low end of range on fall; High end of range on rise								
H105K Differential Pressure									
	psi	bar	psi	bar	psi	bar	psi	bar	psi
Buna N diaphragm and O-ring with 1/4" NPT (female) aluminum pressure connection									
455	5 to 80 "wcd	12 to 199 mbar	1 to 4 "wc	2,5 to 10 mbar	30 "Hg Vac to 225	-1 to 15,5	225	15,5	2 "wc
456	2 to 20psid	0,14 to 1,4	0.1 to 0.3	0,01 to 0,02	30 "Hg Vac to 225	-1 to 15,5	225	15,5	0.5
457	3 to 30psid	0,2 to 2,1	0.1 to 0.4	0,01 to 0,03	30 "Hg Vac to 225	-1 to 15,5	225	15,5	1
Teflon® and Buna N diaphragms, Buna N O-Ring with aluminum 1/4" NPT (female) pressure connections									
559	0 to 100 psid	0,7 to 6,9	0.2 to 1.0	0,01 to 0,07	30 "Hg Vac to 225	-1 to 15,5	225	15,5	2

TEMPERATURE MODEL CHART: BULB & CAPILLARY SENSORS

Model	Adjustable Range		Max. Temperature		Scale Division		Bulb Size
E105	°F	°C	°F	°C	°F	°C	OD x Length
2BSA	-120 to 100	-84.4 to 37.8	150	65.5	5	5	3/8 x 2 5/8"
5BS	-20 to 80	-28.9 to 26.7	130	54.4	2	2	3/8 x 5"
4BS	25 to 100	-3.9 to 37.8	150	65.5	2	1	3/8 x 6 3/4"
2BSB	30 to 250	-1.1 to 121.1	300	148.9	5	5	3/8 x 2 5/8"
3BS	100 to 400	37.8 to 204.4	450	232.2	5	5	3/8 x 2 1/8"
8BS	350 to 640	176.7 to 337.8	690	365.6	5	5	3/8 x 3 1/4"
13271	25 to 325	-3.9 to 162.8	360	182.2	5	5	1/8 x 11 5/8" (Heat Tracing)

TEMPERATURE MODEL CHART: LOCAL MOUNTED IMMERSION STEM SENSORS

Model	Adjustable Range		Max. Temperature		Scale Division		Stem Size
	°F	°C	°F	°C	°F	°C	OD x Length
B105							
119	15 to 140	-9.4 to 60	160	71.1	2	2	9/16" x 2 11/16" (stainless steel)
120	0 to 225	-15 to 105	275	135	5	5	9/16" x 1 7/8" below thread (nickel-plated brass)
121	200 to 425	95 to 215	475	245	5	5	9/16" x 1 7/8" below thread (nickel-plated brass)
13270	15 to 140	-9.4 to 60	160	71.1	2	2	9/16" x 2 11/16" (stainless steel) (Freeze Protection)

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

****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).

*****Working Pressure Range:** The pressure range within which two opposing sensors can be safely operated and still maintain set point adjustability provided the difference in pressure between them does not exceed the designated adjustable range.

HOW TO ORDER

BUILDING A PART NUMBER

Select a **Type**

Refer to the "Type" section below. Determine type number based on switch output, enclosure, adjustment and reference.

Fill in the type portion of your part number with the corresponding number.

Select a **Model**

Refer to the "Model Charts". Determine model based on adjustable range, deadband and proof pressure.

Fill in the model portion of your part number with the corresponding number.

Select an **Option**

Refer to the "Options" section. Determine option number based on switch output, optional materials or other product enhancements.

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

Pressure
Differential Pressure
Temperature

DESCRIPTION

Type H105 – One SPDT; epoxy coated enclosure; external adjustment with reference dial
Type H105K – One SPDT; epoxy coated enclosure; external adjustment with reference dial
Type B105 – Immersion stem; one SPDT; epoxy coated enclosure; external adjustment with reference dial
Type E105 – Bulb and capillary; one SPDT; epoxy coated enclosure; external adjustment with reference dial

SWITCH OPTIONS

0140	Gold contacts, 1 A 125 VAC resistive	
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; adjustable wheel changes rise setting only; if adjustment on fall is required use primary adjustment. NOT AVAILABLE TYPES B AND E 1535	
High ambient, 15 A 125/250 VAC resistive; temperatures up to 250°F (145°C)	2000	20 A 125/250 VAC resistive

OTHER OPTIONS

M201	Factory set one switch; specify increasing or decreasing pressure or temperature and set point
M277	Range indicated on nameplate in kPa/MPa. NOT AVAILABLE TEMPERATURE VERSIONS
M278	Range indicated on nameplate in Kg/cm ² . NOT AVAILABLE TEMPERATURE VERSIONS
M407	CE Compliance to Pressure Equipment Directive (category IV). NOT AVAILABLE MODELS 126, 137, S126B, S137B
M444	Paper ID tag
M446	Stainless steel ID tag & wire attachment
M504	316L Stainless steel immersion stem. AVAILABLE MODELS 120, 121
M540	Viton® construction; wetted parts include Viton® diaphragm and O-ring plus standard connection materials (Deadbands and low end of range may increase slightly. Consult factory). AVAILABLE MODELS 455-457 M550

Oxygen service cleaning; internal construction may change

OPTIONS FOR TEMPERATURE MODELS

UNION CONNECTORS

Option	Replacement Number	Description
<u>Brass</u>		
W027	SD6213-27	1/2" NPT w/ 3/4" bushing
W045	SD6213-45	3/4" NPT
W051	SD6213-51	1/2" NPT
<u>304 Stainless Steel</u>		
W028	SD6213-28	1/2" NPT w/ 3/4" bushing
W046	SD6213-46	3/4" NPT
W050	SD6213-50	1/2" NPT

THERMOWELLS

For all bulb & capillary switches, all 1/2" NPT Internal

<u>Brass</u>		
W075	SD6225-75	3/4" bushing adapter, 4" BT
W191	SD6225-191	1/2" NPT, 4" BT
W118	SD6225-118	3/4" bushing adapter, 7" BT
W192	SD6225-192	1/2" NPT, 7" BT
<u>316 Stainless Steel</u>		
W076	SD6225-76	3/4" NPT, 4.5" BT
W193	SD6225-193	1/2" NPT, 4.5" BT
W119	SD6225-119	3/4" NPT, 7.5" BT
W177	SD6225-177	1/2" NPT, 7.5" BT

For all immersion stem switches; not available Model 119

W139	SD6225-139	3/4" NPT X 1 23/32" BT, BRASS
W140	SD6225-140	3/4" NPT X 1 23/32" BT, 316 ST/ST

W000 IMMERSION STEM AND THERMOWELLS, Not available Model 119

Note: Option W000 is a special Immersion Stem construction that has no external thread. This option fits inside a special thermowell and is secured with a set-screw.

Option	Description
W000	Immersion stem only, BRASS
W097	Immersion stem and thermowell. Includes W000 stem and 1/2" NPT x 1 23/32" BT BRASS thermowell
W099	Immersion stem and thermowell. Includes W000 stem and 1/2" NPT x 1 23/32" BT 316 ST/ST thermowell.

OPTIONAL LENGTHS:

Optional immersion stem lengths to 15" available in brass, with or without 316 st/st thermowell. Consult UE for additional information.

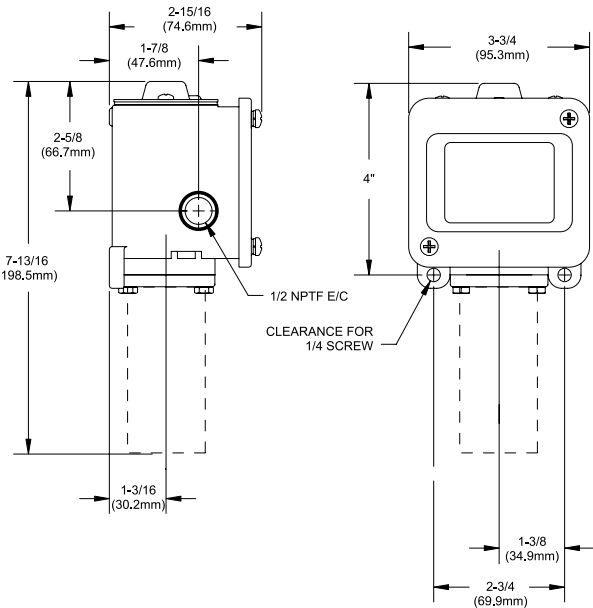
*Optional capillary length to 50' available in copper or 304 st/st. Armor or Teflon® capillary protection available to lengths less than or equal to capillary length. Consult UE for additional information.

*Consult UE regarding repeatability and ambient effects on capillary lengths over 30'.

DIMENSIONAL DRAWINGS

EXTERNAL SET POINT ADJUSTMENT

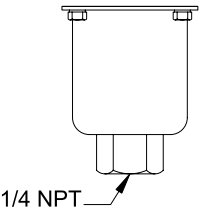
Types H105, H105K, B105, E105



Models	Dimension A		
	Inches	mm	NPT
Pressure			
126-164	6.56	165,89	1/4
S126B-S164B	6.94	176,21	1/2
Differential Pressure			
455-559	7.75	196,85	1/4
Temperature			
120-121	8.38	212,73	Immersion Stem
2BSA-8BS, 13271	8.69	220,73	Bulb & Capillary
13270	8.50	215,9	Immersion Stem
All dimensions stated in inches (mm)			

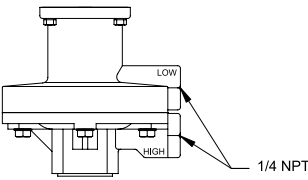
PRESSURE SENSORS

Models 126-164



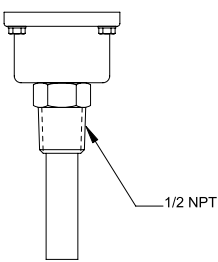
DIFFERENTIAL PRESSURE SENSORS

Models 455-559

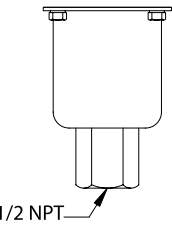


TEMPERATURE SENSORS

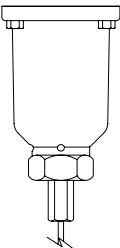
Models 120-121



Models S126B-S164B



Models 2BSA-8BS, 13271



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