

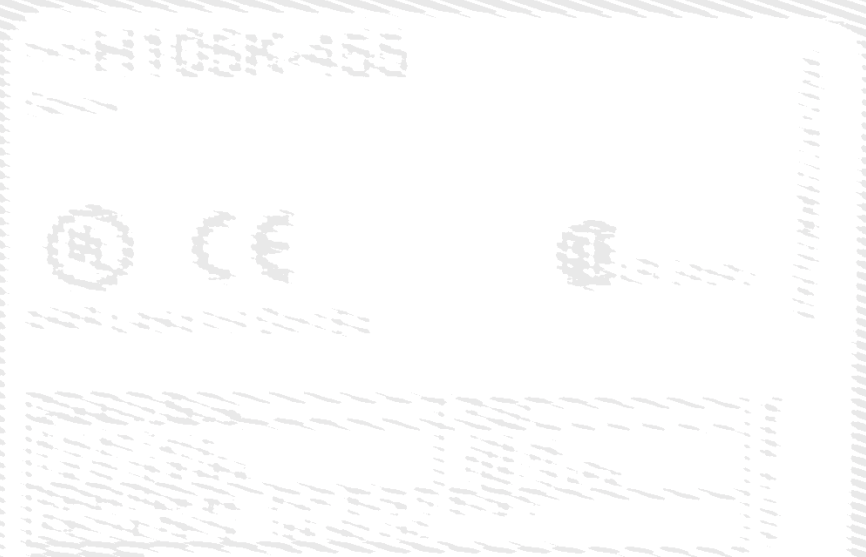


Installation & Maintenance Instructions

# 105 Series Pressure Switches

Types H105, H105K

**UE** UNITED ELECTRIC  
CONTROLS





# 105 Series Pressure Switches

## Types H105, H105K



IMP 105-11

### UNITED ELECTRIC CONTROLS Installation and Maintenance Instructions

Please read all instructional literature carefully and thoroughly before starting. Refer to the final page for the listing of Recommended Practices, Liabilities and Warranties.

#### OPERATION



BEFORE INSTALLING, CHECK THE SENSOR MODEL SELECTED FOR COMPATIBILITY TO THE PROCESS MEDIA IN CONTACT WITH THE SENSOR AND WETTED PARTS.

As pressure changes, a bellows or a diaphragm sensor actuates or deactuates a single snap switch. The switch settings are determined by means of an externally located adjustment knob and reference scale.



PROOF PRESSURE\* LIMITS STATED IN THE LITERATURE AND ON NAMEPLATES MUST NEVER BE EXCEEDED, EVEN BY SURGES IN THE SYSTEM. OCCASIONAL OPERATION OF UNIT UP TO PROOF PRESSURE IS ACCEPTABLE (E.G., START-UP, TESTING). CONTINUOUS OPERATION SHOULD NOT EXCEED THE DESIGNATED OVER RANGE PRESSURE.

#### \*Proof Pressure

The maximum pressure to which a pressure sensor may be occasionally subjected, which causes no permanent damage (e.g., start-up testing). The unit may require re-calibration.



THESE PRODUCTS DO NOT HAVE ANY FIELD REPLACEABLE PARTS.

## Part I. Installation

#### Tools Needed

Screwdriver

#### MOUNTING



UNIT MAY BE MOUNTED IN ANY POSITION. ALWAYS HOLD A WRENCH ON THE HEX HOUSING ON PRESSURE CONNECTION. TIGHTENING BY TURNING THE ENCLOSURE COULD DESTROY SENSOR OR WEAKEN SOLDERED OR WELDED JOINTS.



ALWAYS LOCATE UNIT WHERE SHOCK, VIBRATION AND AMBIENT TEMPERATURE FLUCTUATIONS ARE MINIMAL. DO NOT MOUNT UNIT IN AMBIENT TEMPERATURES LOWER THAN -40°F (-40°C) OR HIGHER THAN 160°F (71°C).

#### WIRING CONNECTIONS

**REMOVE COVER:** Cover is secured by two captive screws located on both sides of cover.

**MAKE WIRING CONNECTIONS:** Connect conduit to the case and wire to the terminal block in accordance with the job wiring requirements and local and national electrical codes.



DISCONNECT ALL SUPPLY CIRCUITS BEFORE WIRING UNIT. WIRE UNITS ACCORDING TO NATIONAL AND LOCAL ELECTRICAL CODES. MAXIMUM RECOMMENDED WIRE SIZE IS 14 AWG.



ELECTRICAL RATINGS STATED IN LITERATURE AND ON NAMEPLATES MUST NOT BE EXCEEDED—OVERLOAD ON A SWITCH CAN CAUSE FAILURE ON THE FIRST CYCLE.



THE CHOICE OF SCREWDRIVER TO BE USED WHEN CONNECTIONS ARE TO BE MADE AT TERMINALS IS IMPORTANT. USING A TOO LARGE OR TAPERED SCREWDRIVER MAY RESULT IN FRACTURES TO THE MOLDED TERMINAL BOX. A SCREWDRIVER THAT IS TOO SMALL MAY NOT DEVELOP ENOUGH TORQUE FOR THE CLAMPING SCREWS. THE MAXIMUM RECOMMENDED BLADE DIAMETER IS .160". SCREWDRIVER SHOULD BE OF THE PARALLEL-BLADE TYPE AND DIMENSIONED SO THAT THE SIZE OF THE BLADE TIP IS SUITED TO THE SCREW HEAD SLOTS.

The 105 Series is supplied with Weidmuller terminal blocks which are equipped with screw clamp connections. By tightening the steel clamping screw, contact force is produced. The force is transmitted by a steel clamping yoke that presses the wiring against a current bar (conductor). Switch lead wires (from switch to terminal block) are color coded as follows:

Common	Violet
Normally Closed	Black
Normally Open	Blue

NOTE: All models are provided with separate grounding screws which should be employed.

## Part II. Adjustments

#### Tools Needed

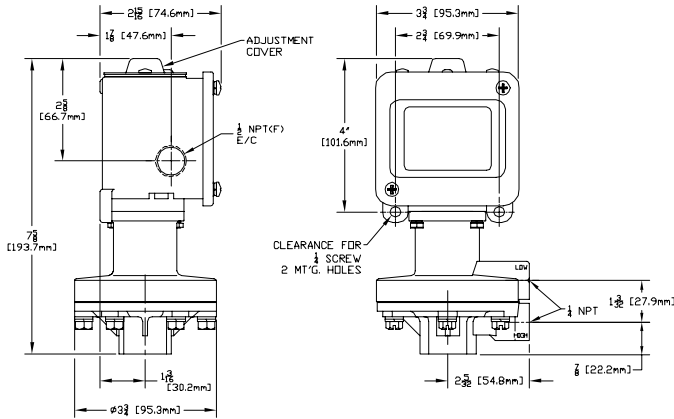
Screwdriver  
5/64" Allen Wrench

Remove top adjustment cover. Pressure settings are achieved by turning the hex head pointer against the reference scale. Controls are factory calibrated for maximum accuracy at the scale mid point on increasing pressure. Re-calibration of the reference scale may be desired at a critical pressure setting .

Proceed as follows:

- A) On bench/test gage, adjust pressure to the desired value.
- B) Adjust the hex head pointer until switch actuation occurs at desired pressure.
- C) Loosen the hex head pointer mounting screws.
- D) Align desired scale pressure setting with the pointer.
- E) Hold pointer in place and re-tighten screw.

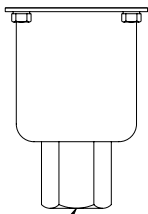
## Dimensions



Dimension A			
MODELS	INCHES	MM	NPT
<b>Pressure</b>			
126-164	6.56	165,89	1/4
S126B-S164B	6.94	176,21	1/2
<b>Differential Pressure</b>			
455-559	7.75	196,85	1/4

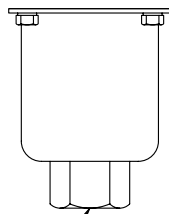
## Pressure Sensor

Models S126B-S164B



1/2 NPT

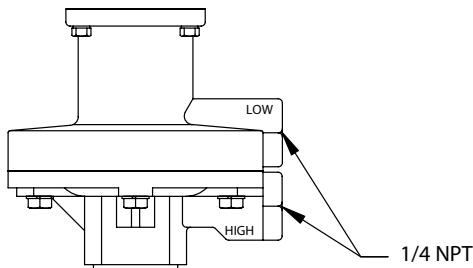
Models 126-164



1/4 NPT

## Differential Pressure Sensor

Models 455-559



1/4 NPT

## 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.



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