Installation Instructions for SSPD/SSPE Series Harsh Duty 4-Wire DC Adjustable Setpoint Pressure Sensors

Issue 2

PK 8153 0

GENERAL INFORMATION

SSPD and SSPE Series harsh duty solid state pressure sensors provide an adjustable setpoint which triggers Normally Open and Normally Closed complementary outputs. The setpoint may be factory set or is adjustable to your specifications. Differential is also adjustable. The output LED lights when the output is On.

Pressure ranges: 1.5 to 15 psi, 10 to 100 psi and 25 to 250 psi.

SSPD Series: Current sinking outputs, 4-wire DC.

SSPE Series: Current sourcing outputs, 4-wire DC.

WIRING

Use #12 AWG or smaller solid or stranded wire to connect to pressure type terminals. Strip wire ends, or use spade and ring connectors (up to .312"). With spade and ring connectors, use pre-insulated connectors or heat shrinkable tubing to insulate between terminals.

Green ground screw near conduit opening should be used in accordance with NFPA Standard 79, Paragraph 17.5.

SSPD/SSPE can be wired without breaking seal or unplugging. **Sensor head need not be separated from mounting block**, saving installation time.

SSPD/SSPE SETPOINT PRESSURE SENSOR SPECIFICATIONS

Catalog Listings	**SSPD0015V SSPE0015V**	**SSPD0100V SSPE0100V**	**SSPD0250V SSPE0250V**
Input pressure, max.	15 psig	100 psig	250 psig
Overpressure, max.	30 psi	200 psi	500 psi
Operating range	1.5 to 15 psi	10 to 100 psi	25 to 250 psi
Differential, max.	30% @ 1.5 psi, 10% @ F.S.	10%	10%
Temperature range			
Storage	-25 to +85°C (13 to +185°F)		
Operating	0 to 50°C (32 to +122°F)		
Input voltage	10 to 30 VDC		
Load current (N.O. & N.C.)	200 mA		
Leakage current, max. - Off state	10 µA max.		
Voltage drop, max.	1.25 V with 200 mA load		
Response time, max.	20 milliseconds		
Approvals	UL listed, CSA certified		
Protection	Power up, transients, industrial noise		
Repeatability			
@ 25°C	± 0.5% adjustable range		
Compensated temperature range	± 3.0% adjustable range		
Weight	414 grams (0.91 lb) (sensor only)		
Sealing	NEMA 1, 3, 3R, 4, 6, 6P, 12, 13		

*__Application Note__: Enclosures are based, in general, on the broad definitions outlined in NEMA standards. Therefore, it will be necessary for the user to determine that a particular enclosure is adequate when exposed to the specific conditions that might exist in intended applications. Except as might otherwise be noted, all reference to products relative to NEMA enclosure types are based on MICRO SWITCH evaluation only.

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MOUNTING RECEPTACLE

SSPD/SSPE pressure sensors may be mounted by either of two methods: (a) use two #10 screws from the front, or (b) use two #10-32 UNF screws from the back.

SSPD and SSPE offer front mount construction with ample space for wiring. Tighten mounting screws and make sure conduit section is sealed to have a completely mounted pressure sensor.

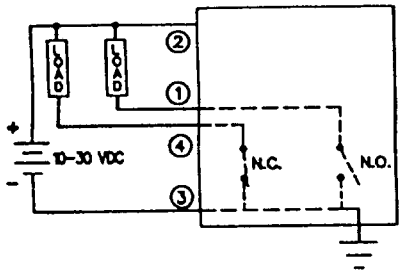
We recommend the use of a sealant (Teflon tape, pipe dope, etc.) in the conduit area.

RECEPTACLE SELECTION GUIDE

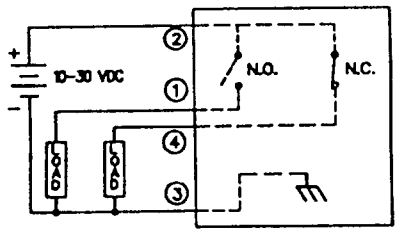
Catalog Listing	Hsg. Color	Term. Type	Terminal Number 1	2	3	4	5	Jkt. Color	Cable Length	Temp. Rtg.	UL Cable Type/Style	Cable Wire Spec.
MPB21	BLK	5 cond. cable	R	B	O	W	G	Y	6 ft.	105°C	STO	WS 055 207
MPB11	BLU	5 cond. cable	R	B	O	W	G	Y	6 ft.	105°C	STO	WS 055 207
LSZ4001C	BLU	5 cond. cable	B	W	O	R	G	Y	6 ft.	105°C	STO W-A	WS 055 080
LSZ4001N	BLU	4 cond. cable	B		W	R	G	Y	6 ft.	60°C	STO	WS 055 080
LSZ4001E	BLU	4 cond. cable	W	B	O	R		Y	6 ft.	105°C	SJTO W-A	WS 055 124
MPB25	BLK	5 cond. cable	R	B	O	W	G	Y	12 ft.	105°C	STO	WS 055 207
MPB26	BLK	5 cond. cable	R	B	O	W	G	Y	12 ft.	105°C	SOO	WS 055 234
LSZ4001H12	BLU	5 cond. cable	B	W	O	R	G	Y	12 ft.	105°C	STO	WS 055 080
LSZ4001L	BLU	4 cond. cable	B		R	T	G	Gy	104 in.	80°C	2094 w/cord grip	WS 055 175
MPB22	BLK	5 pin conn.	J	I	K	H	L					
MPB12	BLU	5 pin conn.	J	I	K	H	L					
LSZ4001D	BLU	4 pin conn.	H		J	K	I					
MPB20	BLK	Screw term.										
MPB80	BLK	Screw term.										
MPB10	BLU	Screw term.										
MPB10-R	BLU	Screw term.										
LSZ4001	BLU	Screw term.										

WIRING DIAGRAMS

SSPD Current Sinking



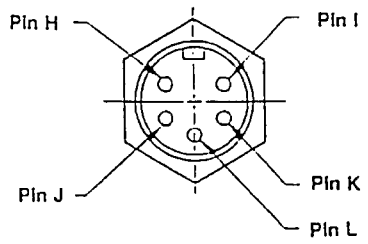
SSPE Current Sourcing



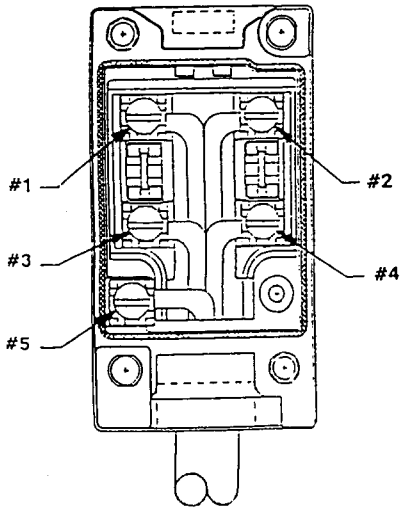
WIRE AND JACKET COLOR CODES

B	Black
G	Green
R	Red
Y	Yellow
W	White
Gy	Gray
O	Orange
T	Transparent

CONNECTOR PIN TERMINATION



SCREW TERMINALS



CABLE TYPES AND STYLES

UL type STO	Hard service (600 V max.) oil-resistant thermoplastic jacket
UL type STO-W-A	Hard service (600 V max.) oil resistant thermoplastic jacket for outdoor use
UL type SJTO	Junior hard service (600 V max.) oil-resistant thermoplastic jacket
UL type SJTO W-A	Junior hard service (600 V max.) oil-resistant thermoplastic jacket for outdoor use
UL type SOO	Hard service (600 V max.) oil-resistant jacket and insulation
Cord grip description	Adjustable conduit fitting which accommodates a range of cable diameters

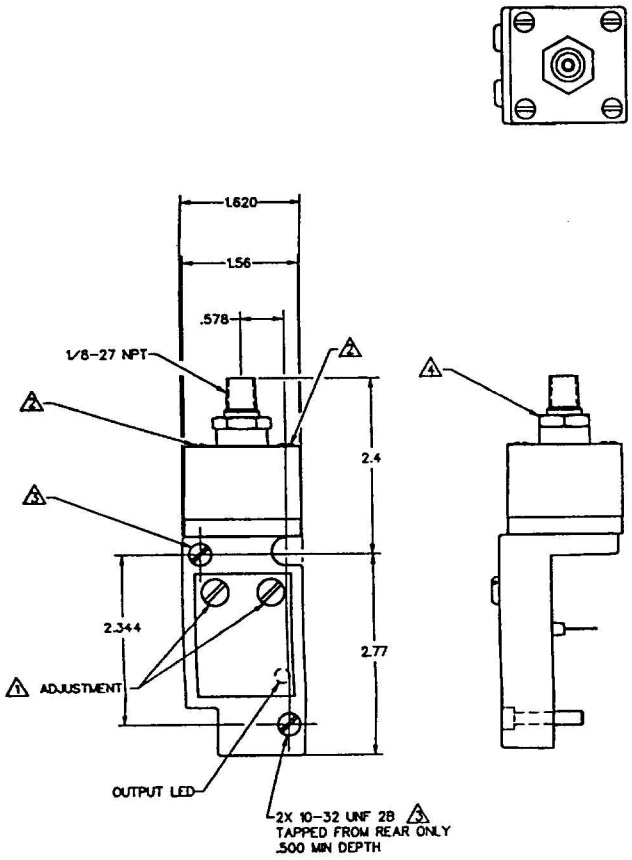
WIRE SPECIFICATIONS

WS 055 080	Type STO cable, PVC insulation, oil-resistant PVC jacket
WS 055 124	Type SJTO cable, PVC insulation, oil-resistant PVC jacket
WS 055 175	Style 2094 cable, Mylar wrapped, aluminum foil shielded, Polyethylene insulation. PVC jacket, 300 V max., 80°C rating
WS 055 207	Type STO cable, PVC insulation, oil-resistant non-wicking jacket
WS 055 234	Type SOO cable, oil-resistant PVC insulation, oil-resistant Super-Trex® thermoset elastomer jacket

CONDUIT SEALING PACKETS

Catalog Listing	Cable O.D. In.
2PA6	.400 - .435
2PA16	.435 - .470
2PA1	.530 - .570

MOUNTING DIMENSIONS (for reference only)



MEDIA COMPATIBILITY

Viton seal - Petroleum products, water, alcohol.

SETPOINT ADJUSTMENT

If sensor is not factory preset, the operate point will typically be at the upper psi range. For instance, SSPD0015V will be set at 15 psi.

To adjust the setpoint:

1. Mount and wire sensor. Apply power and desired operating pressure. Output LED will be On.
2. Use a 0.09" wide screwdriver to turn adjustment screw (see Mounting Dimensions).
3. Turn Set Point screw counterclockwise (toward negative) until output LED turns Off. Slowly turn clockwise just until output LED turns On.

WARRANTY/REMEDY

Seller warrants its products to be free from defects in design, material and workmanship under normal use and service. Seller will repair or replace without charge any such product it finds to be so defective on its return to Seller within 18 months after date of shipment by Seller. **The foregoing is in lieu of all other expressed or implied warranties (except of title), including those of merchantability and fitness for a particular purpose.** The foregoing is also Purchaser's sole remedy and is in lieu of all other guarantees, obligations, or liabilities, or any consequential, incidental, or punitive damages attributable to negligence or strict liability, all by way of example.

For application assistance, current specifications, or technical help, call 1-800/537-6945 in the U.S., 815/235-6847 International.

While we provide application assistance on MICRO SWITCH products, personally and through our literature, it is up to the customer to determine the suitability of the product in the application.

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