



Installation & Maintenance Manual
Compact Pressure Switch
Series ZSE1 / ISE1(L)
Series ZSE2 / ISE2(L)



Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of "Caution", "Warning" or "Danger". They are all important notes for safety and must be followed in addition to International standards (ISO/IEC), Japan Industrial Standards (JIS) and other safety regulations. To ensure safety of personnel and equipment the safety instructions in this manual and the product catalogue must be observed, along with other relevant safety practices.

Caution	CAUTION indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.
Warning	WARNING indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.
Danger	DANGER indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

This product is class A equipment that is intended for use in an industrial environment. There may be potential difficulties in ensuring electromagnetic compatibility in other environments due to conducted as well as radiated disturbances.

Warning

- Do not disassemble, modify (including changing the printed circuit board) or repair.**
An injury or failure can result.
- Do not operate the product outside of the specifications.**
Do not use for flammable or harmful fluids.
Fire, malfunction, or damage to the product can result.
Verify the specifications before use.
- Do not operate in an atmosphere containing flammable or explosive gases.**
Fire or an explosion can result.
This product is not designed to be explosion proof.
- Do not use the product in a place where static electricity is a problem.**
Otherwise it can cause failure or malfunction of the system.
- If using the product in an interlocking circuit:**
 - Provide a double interlocking system, for example a mechanical system**
 - Check the product regularly for proper operation**
Otherwise malfunction can result, causing an accident.
- The following instructions must be followed during maintenance:**
 - Turn off the power supply**
 - Stop the air supply, exhaust the residual pressure and verify that the air is released before performing maintenance.**
Otherwise an injury can be caused.

Safety Instructions (Continued)

Caution

- Do not touch the terminals and connectors while the power is on.**
Otherwise electric shock, malfunction or damage to the product can result.
- After maintenance is complete, perform appropriate functional inspections and leak tests.**
Stop operation if the equipment does not function properly or there is a leakage of fluid.
When leakage occurs from parts other than the piping, the product might be faulty.
Disconnect the power supply and stop the fluid supply.
Do not apply fluid under leaking conditions.
Safety cannot be assured in the case of unexpected malfunction.

•**For [ZSE2 / ISE2(L)] with Filter**

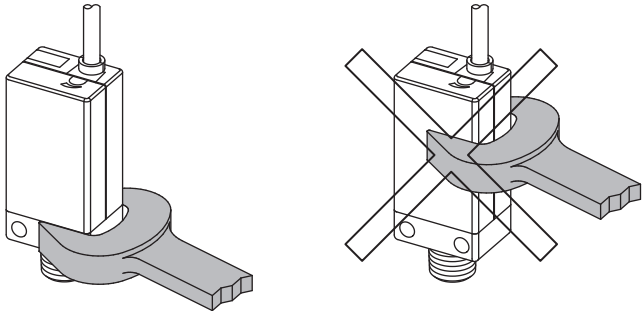
1. Use only with suitable fluids given in the specifications. Do not use with thinners, carbon tetrachloride, chloroform, acetate, aniline, cyclohexane, trichloroethylene, sulfuric acid, lactic acid or water miscible cutting fluids (alkaline).
2. Do not use the product in direct sunlight.

Model Indication and How to Order

Refer to the catalogue for this product.

Switch Mounting

When mounting the switch, a spanner should be applied to the metal attachment part only. Do not apply the spanner to the plastic part, as it will cause damage. The switch tightening torque is 7 to 9 Nm. If the tightening torque is exceeded, the switch may be broken. If the correct tightening torque is not applied, the switch may become loose. After installation, repair or maintenance, apply air and power and test for leakages before operation.



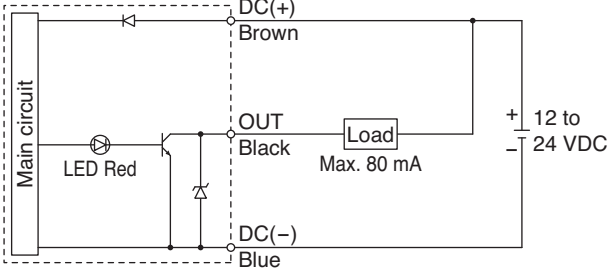
Internal Circuit and Wiring

○**Attaching and detaching connectors**

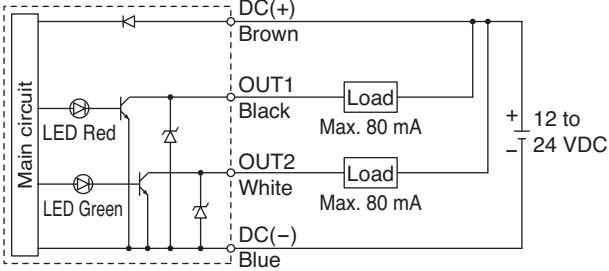
- When assembling the connector to the switch housing, push the connector straight onto the pins until the lever locks into the housing slot.
- When removing the connector from the switch housing, push the lever down to unlock it from the slot and then withdraw the connector straight off of the pin.

○**Internal circuit and wiring example**

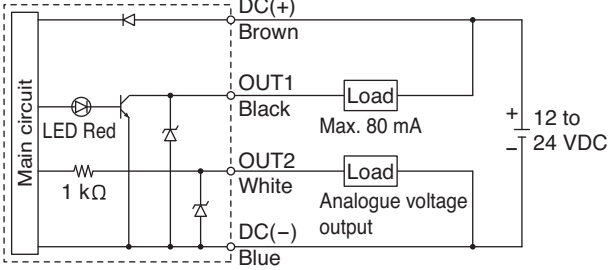
ZSE1/ISE1(L)-□-14/-15
ZSE2/ISE2(L)-□-15



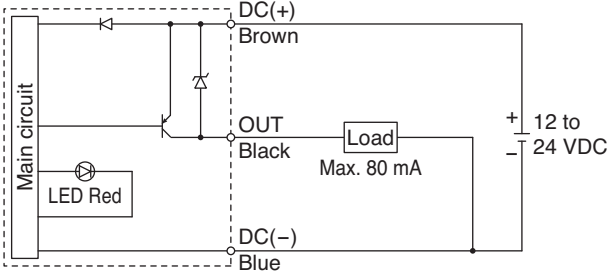
ZSE1/ISE1(L)-□-16/-17



ZSE1/ISE1(L)-□-18/-19



ZSE1/ISE1(L)-□-55
ZSE2/ISE2(L)-□-55

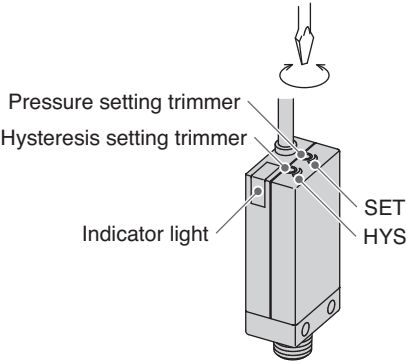


Setting

Adjust the Pressure setting trimmer to set the ON pressure. Rotate clockwise to increase the set pressure or vacuum pressure. To adjust, use a small flat blade screwdriver suitable for trimmers. Rotate gently to adjust and do not exceed the trimmer adjustment range.

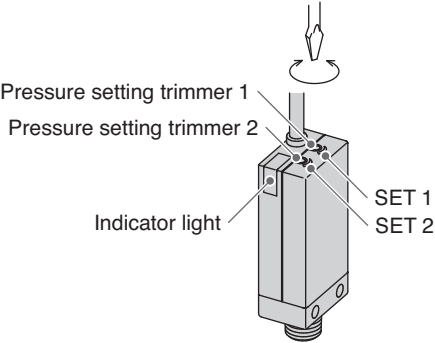
•**ZSE1/ISE1(L)-□-14/-15/-18/-19/-55 Setting**

- Switches with variable hysteresis can be adjusted by means of the HYS potentiometer in the range 1 to 10% of the setting pressure range.
- Readjust the ON-pressure setting when the hysteresis setting trimmer has been changed.



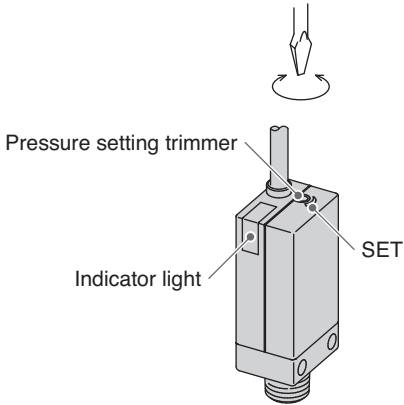
•**ZSE1/ISE1(L)-□-16/-17 Setting (with 2 outputs)**

- With pressure setting trimmer 1 (SET 1), OUT 1 (Black lead wire, Red LED) can be set.
- With pressure setting trimmer 2 (SET 2), OUT 2 (White lead wire, Green LED) can be set.

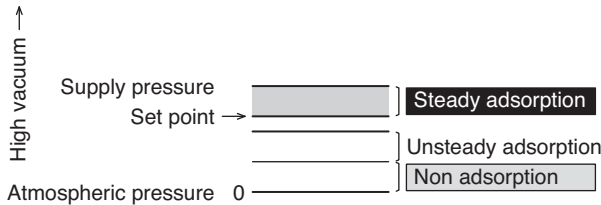


Setting (Continued)

•ZSE2/ISE2(L)-□-15/55 Setting (for vacuum)



Adjust the Pressure setting trimmer to set the minimum possible set pressure to confirm correct workpiece adsorption.
If the set pressure is too low the switch will turn on when the adsorption is not complete.
If the set pressure is too high the switch will not turn on even when the workpiece has been adsorbed.

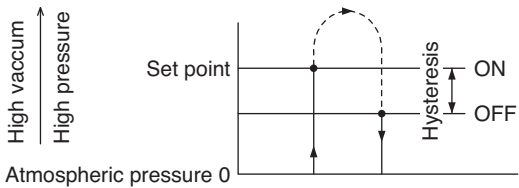


Caution

Observe the following precautions when setting the set pressure:
Use a small flat blade screwdriver suitable for trimmers.
Do not use a large screwdriver as this can damage the trimmer groove.
Gently turn the trimmer and do not exceed the trimmer adjustment range.

○Hysteresis

Hysteresis is the pressure difference between the ON and the OFF pressure of the output signal. The set pressure is the pressure selected to switch from OFF to ON condition.



Specification

Refer to the catalogue for this product.

Outline with Dimensions (in mm)

Refer to the catalogue for this product.

Contact

AUSTRIA	(43) 2262 62280-0	LATVIA	(371) 781 77 00
BELGIUM	(32) 3 355 1464	LITHUANIA	(370) 5 264 8126
BULGARIA	(359) 2 974 4492	NETHERLANDS	(31) 20 531 8888
CZECH REP.	(420) 541 424 611	NORWAY	(47) 67 12 90 20
DENMARK	(45) 7025 2900	POLAND	(48) 22 211 9600
ESTONIA	(372) 651 0370	PORTUGAL	(351) 21 471 1880
FINLAND	(358) 207 513513	ROMANIA	(40) 21 320 5111
FRANCE	(33) 1 6476 1000	SLOVAKIA	(421) 2 444 56725
GERMANY	(49) 6103 4020	SLOVENIA	(386) 73 885 412
GREECE	(30) 210 271 7265	SPAIN	(34) 945 184 100
HUNGARY	(36) 23 511 390	SWEDEN	(46) 8 603 1200
IRELAND	(353) 1 403 9000	SWITZERLAND	(41) 52 396 3131
ITALY	(39) 02 92711	UNITED KINGDOM	(44) 1908 563888

SMC Corporation

URL <http://www.smcworld.com> (Global) <http://www.smceu.com> (Europe)
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