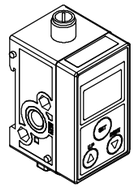
ISA3-L-TF2Z066EN

ORIGINAL INSTRUCTIONS

Instruction Manual
3-Colour Digital Gap Checker
IO-Link compatible
ISA3-##L series

IO-Link



The intended use of the digital gap checker is to measure the distance between a detection surface and the workpiece.

1 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) [*1)], and other safety regulations.

[*1)] ISO 4414: Pneumatic fluid power - General rules relating to systems.
ISO 4413: Hydraulic fluid power - General rules relating to systems.
IEC 60204-1: Safety of machinery - Electrical equipment of machines. (Part 1: General requirements)
ISO 10218-1: Manipulating industrial robots -Safety. etc.

- Refer to product catalogue, Operation Manual and Handling Precautions for SMC Products for additional information.
- Keep this manual in a safe place for future reference.

⚠ **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.

⚠ Warning

- **Always ensure compliance with relevant safety laws and standards.**
- All work must be carried out in a safe manner by a qualified person in compliance with applicable national regulations.
- This product is class A equipment intended for use in an industrial environment. There may be potential difficulties in ensuring electromagnetic compatibility in other environments due to conducted or radiated disturbances.
- **Do not use fluids containing chemicals or synthetic oils including organic solvents, salt and corrosive gases**.
  Otherwise product damage, malfunction and failure can result.
- **Writing of input data to the product is limited to 1,000,000 times**.
- **Do not short-circuit the load.**
  If the load is short circuited, the excess current generated may lead to product damage.
- **Do not press the setting buttons with a sharp pointed object**.
- **During any setting, the product will switch the output according to the existing settings until the changes are complete.**
  Confirm the output has no adverse effect on machinery and equipment before setting. Stop the control system before setting if necessary.
- **Perform settings suitable for the operating conditions.**
  Incorrect setting can cause operation failure. For details of each setting refer to the Operation manual on the SMC website (URL: https://www.smcworld.com).
- **Do not touch the LCD during operation.**
  The display can vary due to static electricity.
- **Please read and understand before use the precautions for the VX2 series (2 port solenoid valve) and AR20 series (regulator) in the Operation manuals on URL: https://www.smcworld.com.**

2 Specifications

2.1 General specifications

Model			ISA3-F	ISA3-G	ISA3-H
Applicable fluid			Dry air (filtered through a 5 μm filter)		
OUT1 and OUT2	Rated distance range		0.01 to 0.03 mm	0.02 to 0.15 mm	0.05 to 0.30 mm
	Display/setting range (distance reference)		0 to 60	10 to 300	30 to 500
	Min. display unit (distance reference)		1		
	Rated pressure range		100.0 to 200.0 kPa		
	Display range (pressure value)		-20.0 to 220.0 kPa		
	Repeatability		0.005 mm or less	0.010 mm or less	0.020 mm or less
	Temperature characteristics (reference: 25 °C)		0.010 mm or less	0.015 mm or less	0.030 mm or less
	Hysteresis		0 to variable (Default: 3)	0 to variable (Default: 20)	
OUT2	Rated pressure range		0.0 to 200.0 kPa		
	Setting pressure range		-20.0 to 220.0 kPa		
	Min. display/setting unit		0.1 kPa		
	Repeatability		±0.5% F.S.±1 digit		
	Temperature characteristics (Reference: 25 °C)		±2% F.S.		
	Hysteresis	Hysteresis mode	Variable from 0		
		Window comparator mode			
Withstand pressure			600 kPa		
Detection nozzle			ϕ1.5		
Current flow			5 L/min or less	12 L/min or less	22 L/min or less
Electrical	Supply	Used as switch output device	24 VDC ±10% with 10% voltage ripple or less		
		Used as IO-Link device	18 to 30 VDC, including ripple (p-p) 10%		
	Current consumption		25 mA or less		
	Protection		Polarity protection		
Switch output			Select from NPN or PNP open collector output		
	Max. load current		10 mA		
	Max. applied voltage		30.0 V		
	Residual voltage		1 V or less (at 10 mA)		
	Circuit protection		Short circuit protection		
Enclosure			IP67 equivalent (IEC60529)		
Operating temperature			Operation: 0 to 50 °C, Stored: -20 to 70 °C (no condensation or freezing)		
Operating humidity			Operation/Stored: 35 to 85%RH (no condensation)		
Withstand voltage			1000 VAC or more (in 50/60 Hz) for 1 minute between terminals and housing		
Insulation resistance			2 MΩ or more at 500 VDC, between terminals and housing		

2 Specifications (continued)

2.2 IO-Link specifications

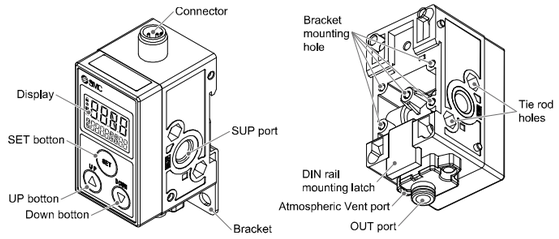
IO-Link type	Device
IO-Link version	V1.1
Communication speed	COM2 (38.4 kbps)
Configuration file	IODD file
Min. cycle time	4.2 ms
Process data length	Input Data: 8 byte, Output Data: 0 byte
On request data communication	Available
Data storage function	Available
Event function	Available
Vendor ID	131 (0x0083)
Device ID	ISA3-F∗L-∗: 341 (0x0155) ISA3-G∗L-∗: 342 (0x0156) ISA3-H∗L-∗: 343 (0x0157)

Refer to the Operation manual on the SMC website (URL: https://www.smcworld.com) for further details of the ISA3 series Digital Gap Checker, AR20 series Regulator and VX series 2 port solenoid valve product specifications.

⚠ Warning

Special products might have specifications different from those shown in this section. Contact SMC for specific drawings.

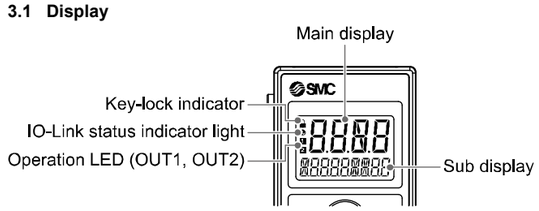
3 Names of Individual parts



Part	Description
Display	See below
UP button	Selects the mode and the display shown on the sub screen, or increases the switch point.
SET button	Press this button to change the mode and to fix the settings.
DOWN button	Selects the mode and the display shown on the sub screen, or decreases the switch point.
Connector	Electrical connection.
SUP port (Supply port)	Port to supply pressure.
Bracket mounting hole	Used to attach the bracket to the product.
Tie rod holes	Used to connect additional products.
OUT port (Detection port)	Port to be connected to the detection nozzle.
Atmospheric vent port	Port to vent exhaust air to the atmosphere.
DIN rail mounting latch	Used to mount the product on a DIN rail.

3 Names of Individual parts (continued)

3.1 Display



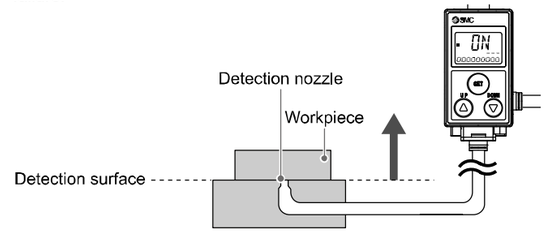
Element	Description
Main display	ON/OFF, display value and error code are displayed. (2 colour display)
Operation LED	Indicates the switch output status. Turns ON (orange) when the switch output is ON.
Sub display	Level meter, display value, switch point, pressure etc. are displayed.
Key-lock indicator	Turns ON when keys are locked.
IO-Link status indicator light	LED is ON when OUT1 is used in IO-Link mode. (LED is OFF in SIO mode)

4 Installation

4.1 Installation

⚠ Warning

- **Do not install the product unless the safety instructions have been read and understood.**
- **The product should be installed in a position higher than the detection nozzle.**
  If the product is positioned lower than the detection nozzle, water or oil may enter the detection port, causing a malfunction or operational failure.



- **Do not use multiple detection nozzles with one product.**
  Correct measurement may not be possible. If multiple nozzles are to be used, please test them on the actual equipment. It is necessary for the user to verify correct operation.
- **If entry of foreign material to the fluid is possible, install a filter (5 μm or less) or a mist separator on the upstream side.**
- **If compressed air containing condensate is used, install an air dryer or a drain catch before the filter, and perform drainage regularly.**
  If regular drainage is difficult, the use of a filter with an auto drain is recommended.

4 Installation (continued)

4.2 Environment

⚠ Warning

- **Do not use in an environment where oil, corrosive gases, chemicals, salt water or steam are present.**
  Even exposure for a short period of time, will have adverse effects including damage, failure, malfunction and hardening of the cable.
- **Do not install in a location subject to vibration or impact in excess of the product specifications.**
- **Do not mount in a location exposed to radiant heat that would result in temperatures in excess of the product specification.**
- **Do not use the product in an environment where the product is constantly exposed to water or oil splashes.**
  Otherwise it can cause failure or malfunction. Take measures such as using a cover.
- **Do not use the product in the presence of a magnetic field.**
  Otherwise malfunction can result.
- **When the product is contained in a box for use, provide an exhaust port for constant release of pressure to atmosphere.**
  If the pressure in the box is not atmospheric pressure, correct inspection will not be possible and malfunction may result.

4.3 Piping

⚠ Caution

- **Before connecting piping make sure to clean up chips, cutting oil, dust etc.**
- **Eliminate any dust left in the piping by air blow before connecting the piping to the product.**
  Otherwise it can cause damage to the product, malfunction or failure.
- **Hold the specified part of the body with a spanner.**
  Holding other parts with a spanner will damage the product.
- **Perform function and leakage inspection after piping.**
  Safety cannot be assured in the case of unexpected malfunction. Disconnect the power supply and stop the fluid supply if the equipment does not function properly or if there is leakage of fluid.
- **Do not use equipment or fittings that may leak or obstruct the air flow between the product and the detection nozzle.**

- **SUP port (supply port)**
  Use the correct tightening torque. Refer to the following table for the appropriate tightening torque.
  Fit the seal plug (supplied with the product) to the unused port.

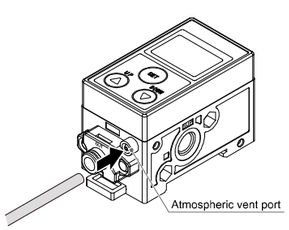
Product	Thread size	Tightening torque (N•m)
ISA3	Rc1/8 • G1/8	3 to 5
Regulator	Rc1/4 • G1/4	8 to 12

- **OUT port (detection port)**
  Use the correct tightening torque. Refer to the following table for the appropriate tightening torque.

Product	Thread size	Tightening torque (N•m)
ISA3	G1/8	3 to 5

- For ø4 one-touch fitting, use tube with O.D. 4 mm, and I.D. 2.5 mm.
- For ø6 one-touch fitting, use tube with O.D. 6 mm, and I.D. 4 mm.

- **Atmospheric vent port**
  - Connect tubing (sold separately) to the atmospheric vent port if there is a possibility that the port could be blocked by water or dust.
  - Recommended tube is TU0425 (material: polyurethane, O.D. ø4, I.D. ø2.5) made by SMC.
  - The other end of the air tubing should be routed to a safe place to prevent it from being exposed to water or dust.
  - Ensure the tubing has no sharp bends.



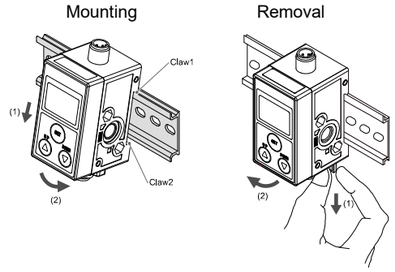
4 Installation (continued)

4.4 Mounting

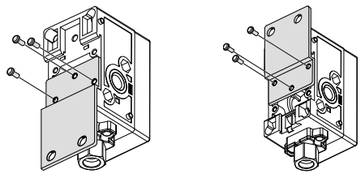
- **Connect the piping before mounting**
  1) If the piping is connected while the product is mounted on a bracket or DIN rail, the bracket or DIN rail might be bent.
  2) If the piping is connected while the display is held with a vice, the display might be damaged.
  3) If a tool comes into contact with the boss, it might be broken. Therefore, connect the piping carefully.

- **DIN rail**
  Mounting
  1) Hook the claw part 1 to the DIN rail.
  2) Push the claw part 2 down until it clicks.

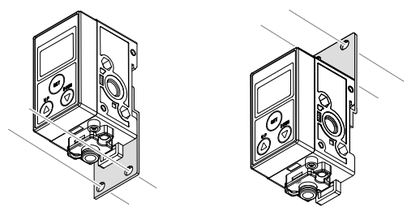
  Removal
  1) Pull the DIN rail mounting latch downward to unlock.
  2) Pull out the OUT port (detection port) side to remove.



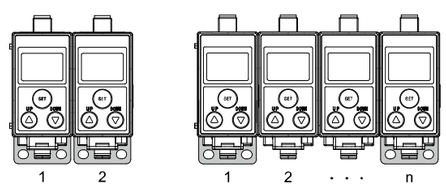
- **Bracket mounting**
  - Mount the bracket using the mounting screws provided.
  - The tightening torque of the mounting screws is 0.45 N•m ±10%.



  - When the product is mounted using a bracket, fix with M5 screws (2 pcs.) or equivalent.
  - The Bracket thickness is approx. 1.6 mm.
  - Refer to the bracket dimension drawing for the mounting hole dimensions in the Operation manual on the SMC website (URL: https://www.smcworld.com).



- **Bracket mounting position**
  For 2 station mounting, mount brackets on the 1st and 2nd station. For more than 2 stations, mount on the 1st and nth station.

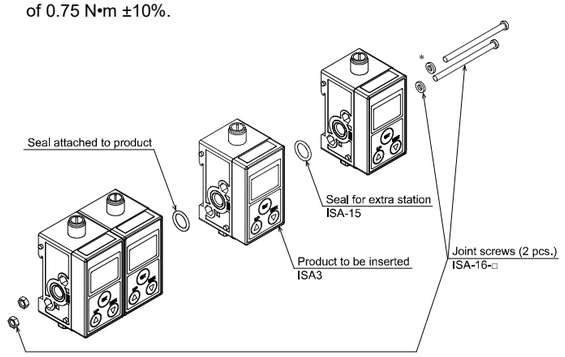


For installation details including VX2 series (2 port solenoid valve) and AR20 series (regulator) refer to the Operation manual on the SMC website (URL: https://www.smcworld.com).

4 Installation (continued)

4.5 Mounting procedure to change number of stations

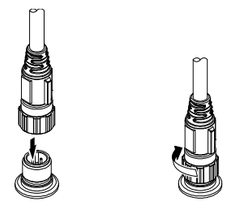
- Remove the joint screws of the product using a screwdriver and separate the product bodies.
- Insert a product and seal (ISA-15) for the extra station between the products to increase the number of stations.
- Remove a product and seal to decrease the number of stations.
- Connect the products using the joint screws, with a tightening torque of 0.75 N•m ±10%.



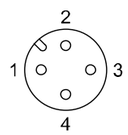
4.6 Wiring

- **The product is not immune to lightning strikes. Take measures against lightning strikes in the system.**
- **Limit of the cable tensile force is 50 N.**
  Do not lift or carry the product by holding the cables.
- **If the lead wire can move, fix it near the body of the product.**
- **Keep wiring as short as possible to prevent interference from electromagnetic noise and surge voltage.**
  Do not use a cable longer than 10 m.
  Wire the DC (-) wire (blue) as close as possible to the power supply.

- **Connector Mounting and Removal**
  - Align the groove on the cable connector with the key on the body connector, and insert in a straight line.
  - Turn the knurled part of the cable connector clockwise by hand.
  - Connection is complete when the knurled part is fully tightened. Check that the connection is not loose.



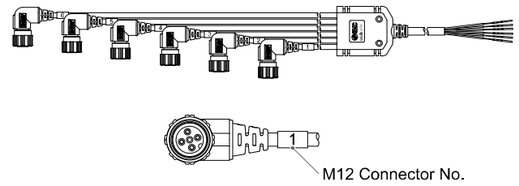
- **Connector Pin number (cable side)**



Pin No.	Description	Wire colour
1	DC(+)	Brown
2	OUT2	White
3	DC(-)	Blue
4	OUT1 (C/Q)	Black

4 Installation (continued)

- **Centralized lead wire**



ISA-21-#
•For 2 to 3 stations

M12 Connector No.	Pin No.	Description	Lead wire colour	(Output wire colour)
1	1	DC(+)	Brown *	Orange
	2	OUT2		
	3	DC(-)	Blue *	Black
	4	OUT1		
2	1	DC(+)	Brown *	Red
	2	OUT2		
	3	DC(-)	Blue *	White
	4	OUT1		
3	1	DC(+)	Brown *	Green
	2	OUT2		
	3	DC(-)	Blue *	Grey
	4	OUT1		

•For 4 to 6 stations

M12 Connector No.	Pin No.	Description	Lead wire colour	(Output wire colour)
1	1	DC(+)	Brown *	Yellow
	2	OUT2		
	3	DC(-)	Blue *	Black
	4	OUT1		
2	1	DC(+)	Brown *	Purple
	2	OUT2		
	3	DC(-)	Blue *	White
	4	OUT1		
3	1	DC(+)	Brown *	Grey/Black
	2	OUT2		
	3	DC(-)	Blue *	Grey
	4	OUT1		
4	1	DC(+)	Brown *	Orange/Black
	2	OUT2		
	3	DC(-)	Blue *	Orange
	4	OUT1		
5	1	DC(+)	Brown *	Red/Black
	2	OUT2		
	3	DC(-)	Blue *	Red
	4	OUT1		
6	1	DC(+)	Brown *	Green/Black
	2	OUT2		
	3	DC(-)	Blue *	Green
	4	OUT1		

*: Brown and blue are connected inside the product.

⚠ Caution

- The electrical entry of the centralized lead wire is on the right side.
  If the supply port on the right side is used, arrange the centralized lead wire so that it does not interfere with the control unit.

- Refer to the VX2 series (2 port solenoid valve) Operation manual on the SMC website (URL: https://www.smcworld.com) for wiring details.

5 Outline of settings

Power is Supplied

↓

The product code is displayed for 3 seconds.

↓

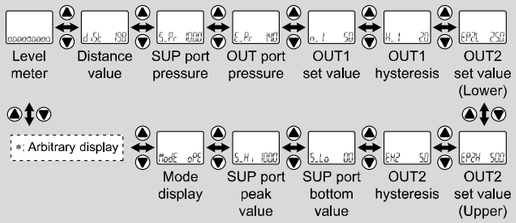
[Measurement mode]

Detects the pressure after power is supplied and indicates the display and switch operating status.
This is the basic mode; other modes should be selected for set-point changes and other function settings.

Measurement mode screen

Sub display

In measurement mode, the sub display can be temporarily changed by pressing the UP or DOWN buttons.



* An arbitrary display mode can be added to the sub display by setting the [F10] sub display.
If the sub display is switched during the arbitrary display setting, the display will return to the arbitrary display 30 seconds later. (not included in default setting).

Press the SET button once

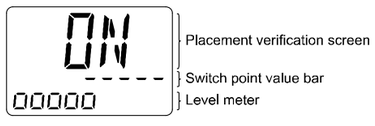
Press the SET button 1 to 3 seconds

Press the SET button 3 to 5 seconds

[3-step setting mode]	[Simple setting mode]	[Function selection mode]	[Other settings]
Set value or hysteresis	Set value, hysteresis and delay time	Change the function settings	Zero clear Key-lock

5.1 Measurement mode

- **Placement verification screen (Main display)**
  The placement condition is indicated by the switch output status (ON/OFF).



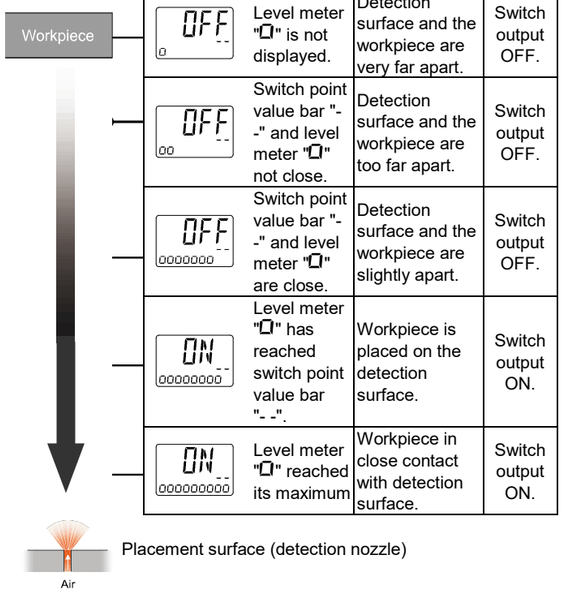
- **Level meter (sub display)**

Element	Description
Switch point value bar	When OUT1 is set to hysteresis mode, the bar equivalent to the switch point, which has been set as the set value of OUT1, is displayed automatically. ∗: OUT1 switch point only. When OUT1 is set to window comparator mode, the bar will not be displayed.
Level meter	The workpiece gap condition approaching the nozzle is indicated by the number of "□ " displayed. This display is a reference only. It is not an accurate distance measurement.

5 Outline of settings (continued)

5.2 Relationship between display and placement status

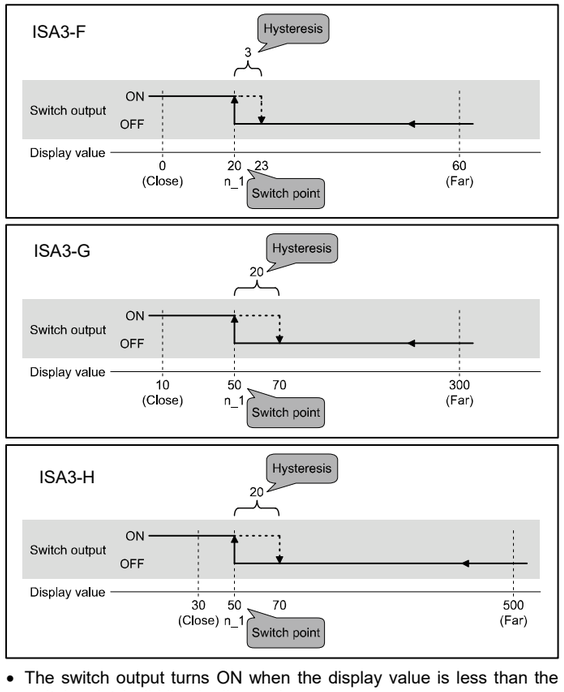
Display	Placement status	Switch output
Level meter "□" is not displayed.	Detection surface and the workpiece are very far apart.	Switch output OFF.
Switch point value bar "- -" and level meter "□" not close.	Detection surface and the workpiece are too far apart.	Switch output OFF.
Switch point value bar "- -" and level meter "□" are close.	Detection surface and the workpiece are slightly apart.	Switch output OFF.
Level meter "□" has reached switch point value bar "- -".	Workpiece is placed on the detection surface.	Switch output ON.
Level meter "□" reached its maximum	Workpiece in close contact with detection surface.	Switch output ON.



5.3 Switch point setting

OUT1: Switch point change mode.
OUT2: Pressure set value / Switch point change mode.
To change to switch point setting refer to Function selection mode.

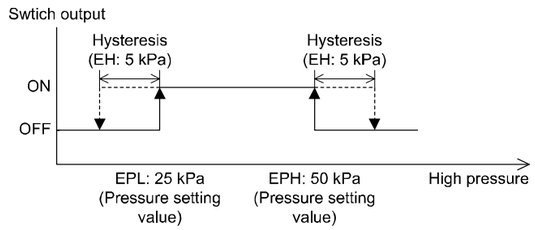
- **Default settings of OUT1**



- The switch output turns ON when the display value is less than the switch point (solid line in diagram).
- The switch output turns OFF when the display value is greater than the switch point added to the hysteresis value (dashed line in diagram).

5 Outline of settings (continued)

- **Default settings of OUT2**
  The default setting is as shown below. It is possible to adjust the pressure setting.
  (Output mode: OUT port window comparator mode, Setting of reverse output: normal output)



6 3-step setting mode

In this mode, the set values can be input in just 3 steps.
Use this mode if the product is to be used straight away, after changing only the set values.
(the main display shows the switch output mode (ON/OFF)).

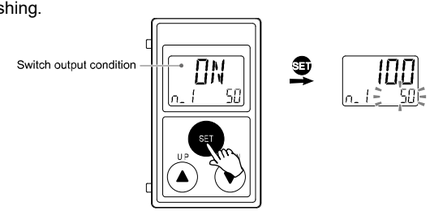
- **Preparation before setting**

1) Supply pressure to the product (100 to 200 kPa).
2) Insert an acceptable clearance gauge between the detection surface and the workpiece.
   Alternatively, place a sample workpiece (non-defective workpiece) on the detection nozzle.

- **3 step setting (hysteresis mode)**

In the 3 step setting mode, the set value (P_1 or n_1) and hysteresis (H_1) can be changed. Set the items on the sub display (set value or hysteresis) with the UP or DOWN button. When changing the set value, follow the operation below. The hysteresis setting can be changed in the same way.

(1) Press the SET button once when the item to be changed is displayed on the sub display. The set value on the sub display (right) will start flashing.



(2) Press the UP or DOWN button to change the set value.

The set value can be increased with the UP button and can be reduced with the DOWN button.
Press the UP button once to increase the value by one digit, press and hold to continuously increase.

- When the UP and DOWN buttons are pressed simultaneously for 1 second or longer, the set value is displayed as [- - -] and the set value will be the same as the displayed value automatically (snap shot function. Afterwards, it is possible to adjust the value by pressing the UP or DOWN button.

(3) Press the SET button to complete the setting.

In window comparator mode, the switch operates within the set range (from P1L to P1H).
Set P1L, the lower limit of the switch operation, and P1H, the upper limit of the switch operation and WH1 (hysteresis).
(When reversed output is selected, the sub display (left) shows [n1L] and [n1H].)

- Set OUT2 in the same way.

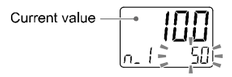
Refer to the "List of output modes" in the Operation manual on the SMC website (URL: https://www.smcworld.com) for the relationship between the set values and operation.

7 Simple setting mode

In simple setting mode, the set value, hysteresis and delay time can be changed while the current value is displayed (main display).

(1) Press and hold the SET button between 1 and 3 seconds in measurement mode. [SEt] is displayed on the main display. When the button is released while in the [SEt] display, the current pressure value is displayed on the main display, [P_1] or [n_1] is displayed on the sub display (left) and the set value (flashing) is displayed on the sub display (right).

(2) Change the set value with the UP or DOWN button and press the SET button to set the value.



Then, the setting moves to hysteresis setting.
The snap shot function can be used.

(3) Press the UP or DOWN button to change the set value. The snap shot function can be used.

(4) Press the SET button for less than 2 seconds to complete the setting of OUT1.
OUT2 setting is then displayed on the sub display. Continue with the setting of OUT2.
Press and hold the SET button for 2 seconds or longer to complete the setting. The product will return to measurement mode.

In window comparator mode, set P1L, the lower limit of the switch operation, and P1H, the upper limit of the switch operation and WH1 (hysteresis).
(When reversed output is selected, the sub display (left) shows [n1L] and [n1H]).

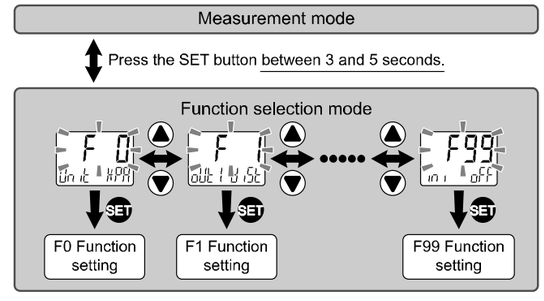
- Set OUT2 in the same way. When pressure detection is selected for OUT2, it is possible to set the delay time.

Refer to the "List of output modes" in the Operation manual on the SMC website (URL: https://www.smcworld.com) for the relationship between the set values and operation.

8 Function Setting

8.1 Function Selection mode

In measurement mode, press the SET button between 3 and 5 seconds, to display [F 0].
Select to display the function to be changed [F□□].
Press and hold the SET button for 2 seconds or longer in function selection mode to return to measurement mode.



- Some products do not have all of the functions. If no function is available or selected due to configuration of other functions, [- - -] is displayed on the sub display (right).

Refer to the operation manual for further information on the SMC website (URL: https://www.smcworld.com) for function settings.

8 Function Setting (continued)

- **Table of default settings**

Function number	Function	Label	Default Settings
F0	Unit selection	Unit	[kPa]
	Switch output specifications	NorP	[PnP]
F1	Output item	oUt1	[diSt] Gap distance setting
	Output mode	ModE	[HYS] Hysteresis mode
	Reversed output	1ot	[1_n] Reversed output
	Switch point	n_1	ISA3-F: [20], ISA3-G: [50] ISA3-H: [50]
	Hysteresis	H_1	ISA3-F: [3] ISA3-G: [20] ISA3-H: [20]
	Display colour	CoL	[1SoG] Green when ON, Orange when OFF (Linked to OUT1)
F2	Output item	oUt2	[E_Pr] OUT port pressure detection
	Output mode	ModE	[Wind] Window comparator mode
	Reversed output	2ot	[2_P] Normal output
	Pressure setting	EP2L	[25.0] kPa
		EP2H	[50.0] kPa
	Hysteresis	EH2	[5.0] kPa
	Response time	EdH2	[1.00] s
		EdL2	[1.00] s
	Display colour	CoL	[1SoG] Green when ON, Orange when OFF (Linked to OUT1)
F6	Display value compensation	FSCd	[0.0] Compensation value: 0.0
F10	Sub display setting	SUb	[Std] Standard
F14	Zero cut-off setting	Cut	ISA3-F: [0.0]%, ISA3-G: [6.0]% ISA3-H: [10.0] %
F80	Display off mode setting	diSP	[on] Normal operation mode
F81	Security code selection under key lock mode	Pin	[oFF] OFF
F90	Set all functions	ALL	[oFF] Set all functions OFF
F95	Calibration	CAL	[oFF] Not calibrated
F98	Forced output	tESt	[n] No forced output
F99	Reset to default settings	ini	[oFF] Not reset

9 Maintenance

9.1 General Maintenance

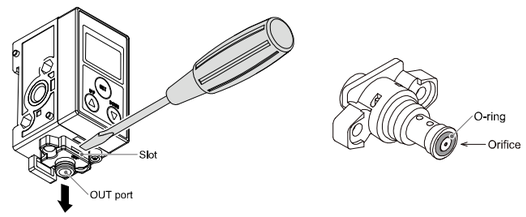
⚠ Caution

- Not following proper maintenance procedures could cause the product to malfunction and lead to equipment damage.
- If handled improperly, compressed air can be dangerous.
- Maintenance of pneumatic systems should be performed only by qualified personnel.
- Before performing maintenance, turn off the power supply and be sure to cut off the supply pressure. Confirm that the air is released to atmosphere.
- After installation and maintenance, apply operating pressure and power to the equipment and perform appropriate functional and leakage tests to make sure the equipment is installed correctly.
- If any electrical connections are disturbed during maintenance, ensure they are reconnected correctly and safety checks are carried out as required to ensure continued compliance with applicable national regulations.
- **Do not make any modification to the product.**
- **Do not disassemble the product, unless required by installation or maintenance instructions.**
- **Drain the system regularly**
  If condensate enters the secondary side, it may cause malfunction of pneumatic equipment

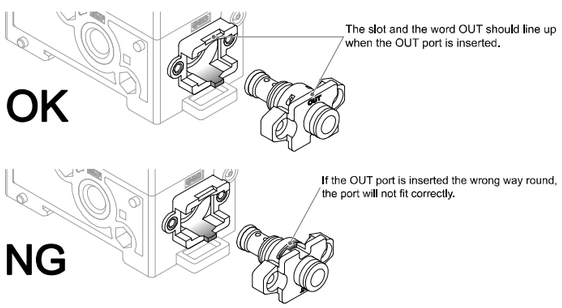
9.2 Nozzle Cleaning

The OUT port orifice can be removed for cleaning by removing the retaining screw.
Flush inside the orifice with air or wipe off foreign matter with a soft clean cloth. Correct detection may not be possible if the orifice is dirty or scratched.

1) Remove the screw (2 pcs.) at the side of the OUT port.
2) Remove the OUT port with a flat head screw driver as shown in the figure below. Take care to keep the direction of removal straight.
3) Remove the O-ring from the orifice for cleaning.



4) Clean the orifice.
5) Place the O ring back into the orifice.
6) Ensure correct orientation of the OUT port and insert straight into the body.
7) Tighten the screws on the OUT port side. Tightening torque must be: 0.3 N•m.



10 Troubleshooting

10.1 Error Indication

Main display	Error Name	Description	Measures
----	Supply pressure error	Supply pressure is not in the range 80 to 220 kPa. Measurement is not possible.	Supply 100 to 200 kPa within the rated pressure range.
----	Display value outside of the displayable range (Switch point setting mode)	The workpiece position is outside of the displayable range.	Move the workpiece closer to the detection nozzle.
Er 1 oC1	OUT1 over current error	The switch output (OUT1) load current has exceeded 80 mA.	Turn the power OFF and remove the cause of the over current.
Er 2 oC2	OUT2 over current error	The switch output (OUT2) load current has exceeded 80 mA.	Turn the power OFF and remove the cause of the over current.
Er 3 zEro	Zero clear error	Zero clear was not performed at atmospheric pressure. (Pressure outside of ±14 kPa was present).	Perform zero clear at atmospheric pressure.
Er30 FSC2	Pressure adjustment error during calibration	Fine adjustment of the pressure display at the OUT port was not performed correctly during calibration. (the pressure after adjustment is below the supply pressure lower limit (80 kPa) or exceeds the display set range upper limit (220 kPa)).	Keep the SUP port pressure and OUT port pressure the same and perform fine adjustment of the pressure display value. Set the pressure within 80 kPa to 220 kPa.
Er 0 Er 4 ≀ Er 9 Er40	System error	An internal data error has occurred.	Turn the power OFF and turn it ON again.
Er 15	IO-Link version does not match	Version of master and IO-Link does not match. Mismatch because master is v1.0.	Align the master IO-Link version to the device.

Sub screen	Error Name	Description	Measures
HHH	Supply pressure error. (when pressure is displayed on the sub screen)	Pressure exceeding 220 kPa is supplied.	Keep the supply pressure within the display range of -20 to 220 kPa.
LLL		Vacuum pressure (below-20 kPa) is supplied.	

Refer to the operation manual on the SMC website (URL: https://www.smcworld.com) for more troubleshooting information.

11 How to Order

Refer to the operation manual on the SMC website (URL: https://www.smcworld.com) for How to order information.

12 Outline dimensions

Refer to the operation manual on the SMC website (URL: https://www.smcworld.com) for outline dimensions

13 Limitations of Use

14.1 Limited warranty and Disclaimer/Compliance Requirements
Refer to Handling Precautions for SMC Products.

14 Product disposal

This product should not be disposed of as municipal waste. Check your local regulations and guidelines to dispose of this product correctly, in order to reduce the impact on human health and the environment.

15 Contacts

Refer to www.smcworld.com or www.smc.eu for your local distributor / importer.

SMC Corporation

URL: https://www.smcworld.com (Global) https://www.smc.eu (Europe)
SMC Corporation, 4-14-1, Sotokanda, Chiyoda-ku, Tokyo 101-0021, Japan
Specifications are subject to change without prior notice from the manufacturer.

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