3-Color Display

Digital Gap Checker

Series ISA3 C CE (RoHS)

How to Order

ISA3 – **G** **C** **N** – **M** **1** ☐ **B** – ☐

Rated distance range

G	0.02 to 0.15 mm
H	0.05 to 0.30 mm

Piping specifications

Symbol	Supply side	Detection side
C	Rc1/8	ø6 One-touch fitting
F	G1/8 *1	G1/8 *1

*1: Conforming to ISO1179-1
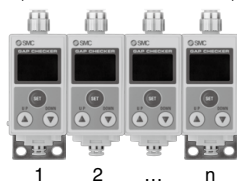
Output specifications

N	NPN output
P	PNP output

Mounting position of the bracket

2 stations
(Mount to 1st and 2nd station)

1 2

n stations
(Mount to 1st and nth station)

1 2 … n

Stations

1	1 station
2	2 stations
3	3 stations
4	4 stations
5	5 stations
6	6 stations

Unit specifications of pressure value

Nil	With unit conversion function
M	Fixed SI unit

Option 1 (Cable)

Nil	Straight *3
L	Right angle *3
N	None

*3: At the factory, the options are not attached to the product, but packed together with it for shipment.

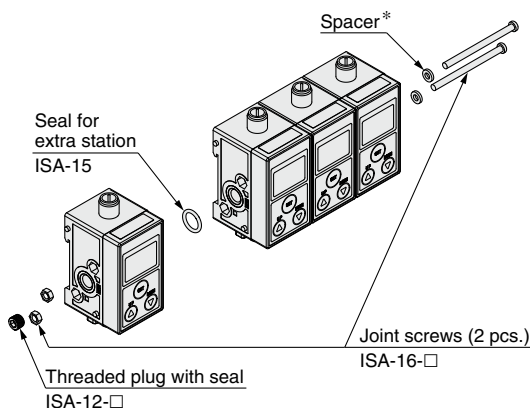### Option 2 (Bracket)

Nil	None (DIN rail mounting) *2
B	Without control unit *3 *4 / With control unit *5

*2: Order DIN rail separately.
*3: At the factory, the options are not attached to the product, but packed together with it for shipment.
*4: About the number of brackets,
1 station: 1 piece is packed,
2 stations or more: 2 pieces are packed.

Control unit

Nil	Without control unit
L1	With control unit *5 (Regulator *6 AR20-☐02G-1-A + Solenoid valve (2 port type) VX210ZZ2AX276) The supply port is available only on the left side.

*5: Select "B" for Option 2 (Bracket) if the product with control unit is to be ordered. The bracket for the control unit is shipped mounted to the product.
*6: When the piping specification is option C, the supply port for the regulator is Rc1/4.
When the piping specification is option F, the supply port for the regulator is G1/4 (according to ISO16030).
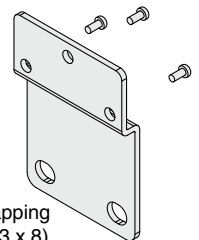
Parts List

Spacer*

Seal for extra station ISA-15

Threaded plug with seal ISA-12-☐

Joint screws (2 pcs.) ISA-16-☐

* Spacers are included for 4 and 6 stations.

■ Joint screws (2 screws, 2 spacers, 2 nuts)

Stations	Part no.
2	ISA-16-2
3	ISA-16-3
4*	ISA-16-4
5	ISA-16-5
6*	ISA-16-6

■ Seal for extra station ISA-15

■ Bracket ISA-14

With 3 tapping screws (3 x 8)

■ Threaded plug with seal ISA-12-☐

Piping	Part no.
Rc1/8	ISA-12-A
G1/8	ISA-12-C

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SMC

For the Common Precautions for the Gap Checker, refer to "Handling Precautions for SMC Products."
For the Specific Product Precautions, refer to the Operation Manual at SMC website.

Specifications

Model	ISA3-G	ISA3-H
Applicable fluid	Dry air (Filtered through a 5 µm filter)	
Rated distance range	0.02 to 0.15 mm	0.05 to 0.30 mm
Displayable/Settable range (Distance reference) [1]	10 to 300 [4]	30 to 500 [4]
Minimum display unit (Distance reference) [1]	1	
Rated pressure range	100 to 200 kPa	
Displayable range (Pressure value) [2]	−20 to 220 kPa	
Withstand pressure	600 kPa	
Detection nozzle	ø1.5 [3]	
Consumption flow rate	12 L/min or less	22 L/min or less
Power supply voltage	24 VDC ±10%, Ripple (p-p) 10% or less (With power supply polarity protection)	
Current consumption	25 mA or less	
Switch output	1 output (NPN or PNP)	
Maximum load current	10 mA	
Maximum applied voltage	26.4 V	
Residual voltage	1 V or less (at 10 mA)	
Short circuit protection	Provided	
Repeatability	0.010 mm	0.020 mm
Temperature characteristics (Reference: 25°C)	0.015 mm	0.030 mm
Hysteresis	0 to variable (Default: 20)	
Display	2-screen display, LCD Main screen: 3-digit, 7-segment 2-color (Orange/Green) Sub screen: 6-digit, 7-segment 1-color (White)	
Environment	Enclosure	IP67 equivalent	
	Operating temperature range	Operating: 0 to 50°C, Stored: −20 to 70°C (No condensation or freezing)	
	Operating humidity range	Operating/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 (500 VDC measured via megohmmeter) between terminals and housing	
Piping specifications	For piping type F, Supply port: G1/8 (ISO1179-1), Detection port: G1/8 (ISO1179-1) For piping type C, Supply port: Rc1/8, Detection port: ø6 One-touch fitting	
Cable	M12 cable with 4-pin connector, 4 cores, ø4, 5 m Conductor O.D.: 0.72 mm, Insulator O.D.: 1.14 mm	
Weight	113 g (Cable not included, One-touch fitting)	
Standards	CE, RoHS compliant	

[1]: For details, refer to "Relationship between Displayed Value and Distance" on page 7.
[2]: The pressure value will be indicated on the sub screen.
[3]: For details of the detection nozzle, refer to the figures on page 7.
[4]: If hysteresis is set to 20 (Default setting), "Displayable/Settable range of G type" is limited to 280 and "Displayable/Settable range of H type" is limited to 480.

Rated Detection Distance Range and Displayable/Settable Range
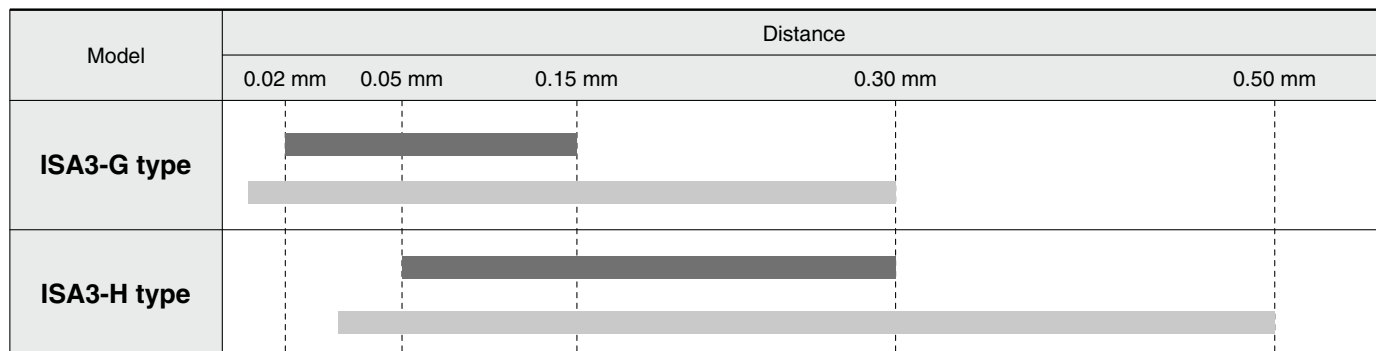
⚠ Caution

The displayed value is a reference value obtained by converting the distance between the workpiece and the detection surface into a digital numerical value, it is not displayed in units.
For details, refer to "Relationship between Displayed Value and Distance" on page 7.
Rated detection distance range: Detection distance within which the product meets the specifications.
Displayable/Settable range: It is possible to display or set values, but **it is not guaranteed to meet the specifications**.

Model	Distance				
	0.02 mm	0.05 mm	0.15 mm	0.30 mm	0.50 mm
ISA3-G type					
ISA3-H type					

■ Rated detection distance range
■ Displayable/Settable range