

Cylinder Speed Checker (Built-in Magnet Cylinder)

IN574-95/-73/-98 Series

The IN574 series will be discontinued in March 2021.



RoHS

3
measurement
modes

Speed (mm/s)

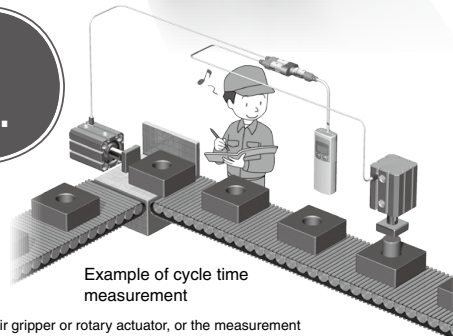
Time required for stroke (s)

Operation count (Times)



Realizes increase in efficiency with
visualization of air cylinder operation.

- Quantification of cycle time improvements
- For reduction of numerical management/adjustment labor when starting up equipment
- For reduction of numerical confirmation/inspection labor during periodic maintenance



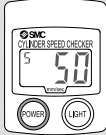
Example of cycle time measurement

⚠ Caution The measurement may not be performed with an air gripper or rotary actuator, or the measurement deviation may increase. Please contact SMC for more information.

3 Measurement Modes

Speed (mm/s)

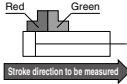
Measures the speed of cylinders.



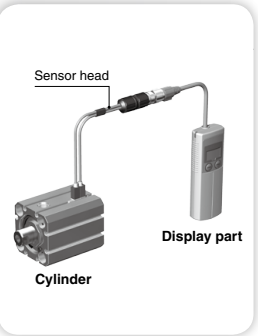
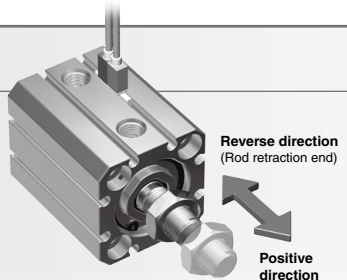
Rated measurement range
-1999 to 1999 mm/s

Note) Minus (-) is added to the measured value to distinguish the extension and retraction of a cylinder.

Rod extension end: Positive direction
Rod retraction end: Reverse direction (-)

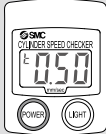


* Although a measurement can be done even when the sensor is mounted in the reverse direction, the display direction is also reversed.



Time required for stroke (s)

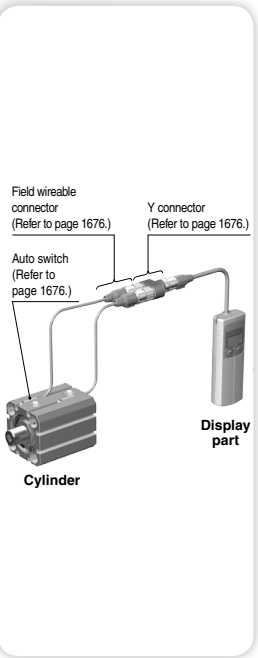
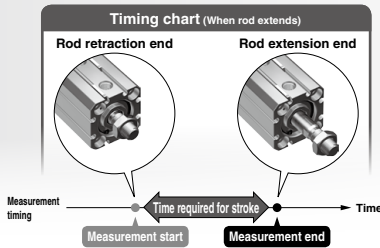
Measures the time required for the stroke of the cylinder (rod retraction end to rod extension end).



Rated measurement range
-999.9 to 999.9 s

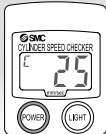
Note) Minus (-) is added to the measured value to distinguish the extension and retraction of a cylinder.

Rod extension end: Positive direction
Rod retraction end: Reverse direction (-)

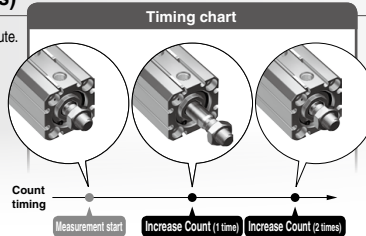


Operation count (Times)

Measures the operation count of a cylinder for 1 minute.



Rated measurement range
0 to 999 times



- Compact: 40 (Width) x 110 (Height) x 20 (Depth) mm
- Lightweight: Approx. 65 g (Body)/25 g (Sensor)
- Battery powered: 2A dry cell battery x 2, continuous use for 15 hours or more.
- With backlight
- With auto power-off function*
* If a button is not operated for 15 min. or more, the power supply will turn off automatically.



Cylinder Speed Checker

IN574-95/-73/-98

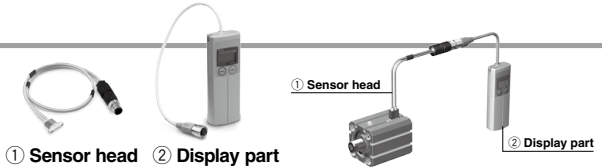
How to Order

| | |
|----------------------------|-----------------|
| Sensor head + Display part | IN574-95 |
| Sensor head | IN574-73 |
| Display part | IN574-98 |



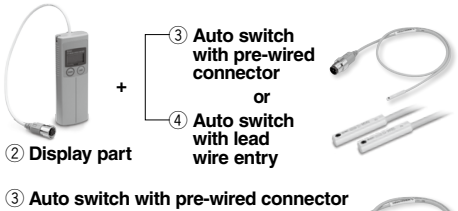
Speed Measurement Type

Model IN574-95
 (① Sensor head + ② Display part)



Application example

Time Required for Stroke/Operation Count Measurement Type



③ Auto switch with pre-wired connector

D-M9N S A PC

• Connector model

| | |
|----------|-----------|
| A | M8-3 pin |
| D | M12-4 pin |

• Lead wire length

| | |
|----------|-------|
| S | 0.5 m |
| M | 1.0 m |

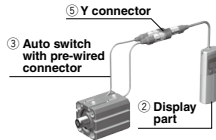
• Applicable auto switch

| Output type | Function | Electrical entry | Applicable model |
|-------------------------|-------------------|-------------------------|------------------|
| NPN type | — | Grommet (In-line) | M9N |
| | | Grommet (Perpendicular) | M9NV |
| | 2-color indicator | Grommet (In-line) | M9NW |
| | | Grommet (Perpendicular) | M9N WV |
| PNP type | Water resistant | Grommet (In-line) | M9NA |
| | | Grommet (Perpendicular) | M9NAV |
| | — | Grommet (In-line) | M9P |
| | | Grommet (Perpendicular) | M9PV |
| 2-color indicator | Water resistant | Grommet (In-line) | M9PW |
| | | Grommet (Perpendicular) | M9P WV |
| | Water resistant | Grommet (In-line) | M9PA |
| Grommet (Perpendicular) | | M9PAV | |

* Please contact SMC for other applicable auto switches.

⚠ Order separately when using the time required for stroke/operation count measurement modes.

Application example

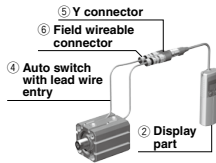


Ordering example

• **IN574-98** 1 pc.
 Cylinder Speed Checker (Display part)*
 • **D-M9NSAPC** 2 pcs.
 Auto switch with pre-wired connector
 • **PCA-1557798** 1 pc.
 Y connector

* Only NPN type auto switches can be used. For PNP types, prepare an IN574-95-P, but do not use the sensor head.

Application example



Ordering example

• **IN574-98** 1 pc.
 Cylinder Speed Checker (Display part)*
 • **D-M9N** 2 pcs.
 Auto switch with lead wire entry
 • **PCA-1557730** 2 pcs.
 Field wireable connector
 • **PCA-1557798** 1 pc.
 Y connector

* Only NPN type auto switches can be used. For PNP types, prepare an IN574-95-P, but do not use the sensor head.

Time Required for Stroke/Operation Count Measurement Type

④ Auto switch with lead wire entry

D-M9N

• Lead wire length

| | |
|-----|-------|
| Nil | 0.5 m |
| M | 1.0 m |

• Applicable auto switch

| Output type | Function | Electrical entry | Applicable model |
|-------------|-------------------|-------------------------|------------------|
| NPN type | — | Grommet (In-line) | M9N |
| | | Grommet (Perpendicular) | M9NV |
| | 2-color indicator | Grommet (In-line) | M9NW |
| | | Grommet (Perpendicular) | M9N WV |
| PNP type | Water resistant | Grommet (In-line) | M9NA |
| | | Grommet (Perpendicular) | M9NAV |
| | — | Grommet (In-line) | M9P |
| | | Grommet (Perpendicular) | M9PV |
| PNP type | 2-color indicator | Grommet (In-line) | M9PW |
| | | Grommet (Perpendicular) | M9P WV |
| | Water resistant | Grommet (In-line) | M9PA |
| | | Grommet (Perpendicular) | M9PAV |

* Please contact SMC for other applicable auto switches.

* The lead wire is converted to M8/M12 connector for use.



⑤ Y connector



PCA-1557798
Two auto switches with M8 connectors can be connected.



PCA-1557785
Two auto switches with M12 connectors can be connected.

⑥ Field wireable connector



PCA-1557730
Attached to end of the lead wire of the auto switch. Used in combination with PCA-1557798.



PCA-1557743
Attached to end of the lead wire of the auto switch. Used in combination with PCA-1557785.

* Note that although it can be connected, the IP65/67 may not be held depending on the assembly method.

Refer to pages 1590 to 1649 for the auto switches (③, ④) and Best Pneumatics No.1-1 for the M8/M12 connectors (⑤, ⑥).

Specifications Note 1)

| Model | | IN574-95/IN574-95-P | | |
|-------------------------------------|--|---|--|-------------------------|
| Measurement mode | Speed | Time required for stroke | | Operation count (Times) |
| Rated measurement range | -1999 to 1999 mm/s | -999.9 to 999.9 s | | 0 to 999 times |
| Minimum display unit | 1 mm/s | 0.01 s (0.00 to 99.99 s, 0.00 to -99.99 s) | | 1 time |
| | | 0.1 s (100.0 to 999.9 s, -100.0 to -999.9 s) | | |
| Measurement accuracy | ±20% or less | ±0.2 s or less | | — |
| Power supply <small>Note 2)</small> | 2 x 1.5 VDC 2A alkali dry cell batteries (continuous use for 15 hours or more) | | | |
| Applicable cylinder | Built-in magnet | | | |
| Environmental resistance | Enclosure | IP40 | | |
| | Operating temperature range | Operating: 0 to 40°C, Stored: -10 to 60°C (with no freezing or condensation) | | |
| | Operating humidity range | Operating/Stored: 35 to 85% R.H. (with no condensation) | | |
| | Vibration resistance | 10 to 150 Hz at 1.5 mm amplitude or 98 m/s ² acceleration whichever is smaller, in X, Y, Z directions for 2 hrs. each (De-energized) | | |
| | Impact resistance | 100 m/s ² in X, Y, Z directions 3 times each (De-energized) | | |
| Weight | Sensor part: 25 g, Body: 65 g (excluding dry cell batteries) | | | |
| Standards | RoHS, CE | | | |

Speed Measurement Sensor/D-F8N, D-F8P

| Model | D-F8N | D-F8P |
|-----------------------|--|---------------|
| Power supply voltage | 4.5 to 28 VDC | |
| Current consumption | 10 mA or less | |
| Load voltage | 28 VDC or less | — |
| Load current | 40 mA or less | 80 mA or less |
| Internal voltage drop | 1.5 V or less (0.8 V or less at 10 mA) | |
| Leak current | 100 µA or less | |
| Operating time | 1 ms or less | |
| Indicator light | Red LED is illuminated when turned ON. | |
| Ambient temperature | -10 to 60°C | |

Applicable Auto Switches for the Time Required for Stroke/ Operation Count Measurement

| | |
|----------------------|--------------------|
| Power supply voltage | 14 VDC or less |
| Output type | NPN open collector |
| ON voltage | 2 V or less |
| OFF current | 100 µA or less |

Note 1) The above specifications may change depending on the operating environment.
 Note 2) 2A alkali dry cell batteries are not included, and must be acquired separately.

Dimensions

IN574-95/IN574-95-P (Sensor head + Display part)

