

DMS、CMS Series sensor

Compendium of DMS\CMS Series

Two types of sensors

| | |
|--------------------------------|---|
| DMS: Solid State Sensor (Gray) | DMS: Waterproof type of Solid State Sensor (Yellow) |
| CMS: Reed Sensor (Blue) | CMS: Heat resistant of Reed Sensor (Red) |

Bending resistance

Vibration resistance, impact resistance

SR: bending resistance

Six types of cross section

| | | |
|---------------------------|--|--|
| G Type | | |
| GS Type [Note1] | | |
| H Type | | |
| HS Type [Note2] | | |
| E Type | | |
| J Type | | |

Two kinds of accessories

DMSG/CMSG, Each size of the cylinder has its corresponding accessory.

| DMSG / CMSG | F-MQ □ | |
|-------------|-----------|--|
| | | |
| | F-SC □ SH | |
| | | |

[Note1] GS type is the mini type of G type, and it can be used for short stroke cylinder.
[Note2] HS type is the mini type of H type, and it can be used for short stroke cylinder.

DMS Specifications

| Item | DMS | | |
|-----------------------|--|----------------|-----|
| | 2-wire | NPN | PNP |
| Model | | | |
| Power supply voltage | 10V ~ 28V DC | 5V ~ 30V DC | |
| Switching current | 2.5mA ~ 100mA | 30V/200mA Max. | |
| Contact capacity | 2.8W Max. | 6.0W Max. | |
| Current consumption | 3mA Max. | 5mA Max. | |
| Internal voltage drop | 2.7V Max. | 0.7V Max. | |
| Leakage current | 0.05mA Max. | 0.01mA Max. | |
| Switching frequency | 1000Hz | | |
| Impact resistance | 50G | | |
| Circuit protection | Reverse polarity protection Surge protection | | |
| Operating Temp. | -10°C ~ 70°C | | |
| Enclosure | IP64/IP68 | | |
| Standard | CE marking, RoHS | | |

CMS Specifications

| Item | CMS | |
|-----------------------|---------------------|----------------|
| | General | Heat resistant |
| Model | | |
| Power supply voltage | 5V ~ 240V AC/DC | |
| Switching current | 100mA | |
| Contact capacity | 10W Max. | |
| Current consumption | N/A | |
| Internal voltage drop | 2.5V Max. @100mA DC | N/A |
| Leakage current | N/A | |
| Switching frequency | 200Hz | |
| Impact resistance | 50G | |
| Circuit protection | N/A | |
| Operating Temp. | -10°C ~ 70°C | -10°C ~ 125°C |
| Enclosure | IP64 | |
| Standard | CE marking, RoHS | |

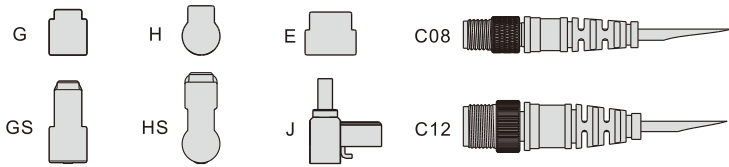
Sensor

DMS、CMS Series

Ordering code for DMS

DMS G - □ 020 - □

① ② ③ ④ ⑤



| | | | | | | |
|----------------------------|-----------------------------------|----|---------|------------------------------------|--------|---|
| ① Model | DMS: Solid State Sensor | | | | | |
| ② Specifications | G | GS | H | HS | E | J |
| ③ Output type | Blank: 2 wire | | N: NPN | | P: PNP | |
| ④ Lead wire length | 020: 2m | | 030: 3m | 050: 5m | | |
| ⑤ Additional specification | C08: 150mm with M8 plug connector | | | C12: 150mm with M12 plug connector | | |
| | Blank: General type | | | W: Waterproof type IP68 [note1] | | |

[Note 1] There is no waterproof type for C08 & C12.
The sockets of C08 and C12 need additional order. Please check on page23.

Ordering code for CMS

CMS G - 020 - □

① ② ③ ④



| | | | | |
|----------------------------|-----------------------------------|---|------------------------------------|---------|
| ① Model | CMS: Reed Sensor | | | |
| ② Specifications | G | H | E | J |
| ③ Lead wire length | 020: 2m | | 030: 3m | 050: 5m |
| ④ Additional specification | C08: 150mm with M8 plug connector | | C12: 150mm with M12 plug connector | |
| | Blank: General type | | H: Heat resistant [note2] | |

[Note 2] There is no heat resistant type for C08 & C12.
The sockets of C08 and C12 need additional order. Please check on page23.

Ordering code for accessories

F - MQ □

Cylinder Accessory

① ② ③



| | | | | | | | | | |
|------------|------------------------|------------|---------------|-----------------------------|------------|---------------|-----------------|------------|---------------|
| ① Category | F: Accessory | | | | | | | | |
| ② Model | MQ: Cylinder Accessory | | | | | | | | |
| ③ Cylinder | Aluminum alloy | | | Aluminum alloy (Thick type) | | | Stainless steel | | |
| | Code | For series | For bore size | Code | For series | For bore size | Code | For series | For bore size |
| | A20: Φ20mm | | Φ20 | A32T: Φ32mm | | Φ32 | S06: Φ6mm | | Φ6 |
| | A25: Φ25mm | | Φ25 | A40T: Φ40mm | TWG | Φ40 | S08: Φ8mm | | Φ8 |
| | A32: Φ32mm | MCK | Φ32 | A50T: Φ50mm | | Φ50 | S10: Φ10mm | | Φ10 |
| | A40: Φ40mm | MBL | Φ40 | | | | S12: Φ12mm | PB/PBR | Φ12 |
| | A50: Φ50mm | MAL | Φ50 | | | | S16: Φ16mm | MI | Φ16 |
| | A63: Φ63mm | | Φ63 | | | | S20: Φ20mm | MF | Φ20 |
| | A80: Φ80mm | | Φ80 | | | | S25: Φ25mm | MG | Φ25 |
| | | | | | | S32: Φ32mm | MA/MAC | Φ32 | |
| | | | | | | S40: Φ40mm | | Φ40 | |
| | | | | | | S50: Φ50mm | | Φ50 | |
| | | | | | | S63: Φ63mm | | Φ63 | |

F - SC □ SH

Tie Rod Cylinder Accessory

① ② ③ ④



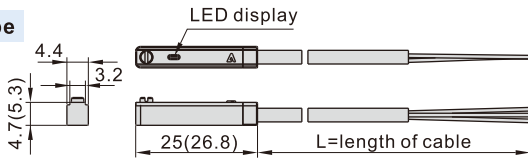
| | | | |
|------------|--------------------------------|------------|---------------|
| ① Category | F: Accessory | | |
| ② Model | SC: Tie Rod Cylinder Accessory | | |
| ③ Cylinder | Code | For series | For bore size |
| | 32 | | Φ32, Φ40, Φ50 |
| | 63 | | Φ63 |
| | 80 | SC | Φ80, Φ100 |
| | 125 | SGC | Φ125 |
| | 160 | | Φ160, Φ200 |
| ④ Attached | 250 | | Φ250 |

Sensor

DMS、CMS Series

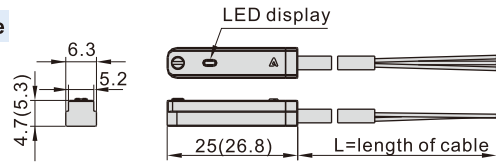
Dimensions

G Type



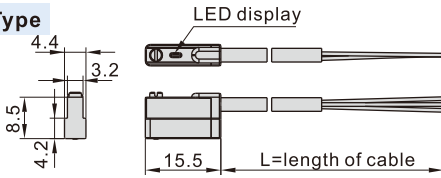
Note: a number in the bracket is the dimension of CMSSG.

E Type

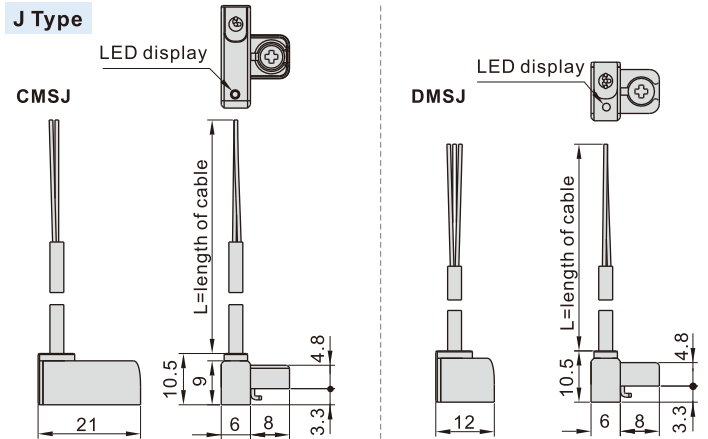


Note: a number in the bracket is the dimension of CMSE.

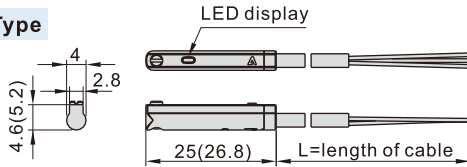
GS Type



J Type

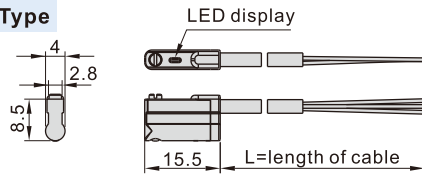


H Type



Note: a number in the bracket is the dimension of CMSSH.

HS Type

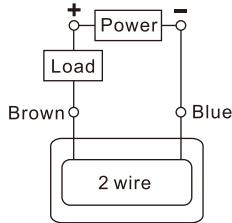


| length of cable specification | length of cable(L) |
|-------------------------------|--------------------|
| 020 Type | 2000mm |
| 030 Type | 3000mm |
| 050 Type | 5000mm |

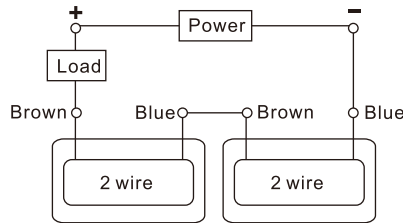
Connection method

2 wire, reed sensor connection

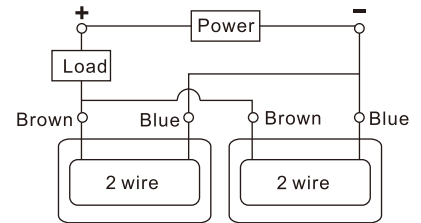
1.General connection



2.Series connection(And)

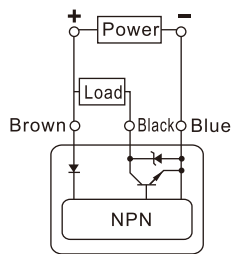


3.Parallel connection(OR)



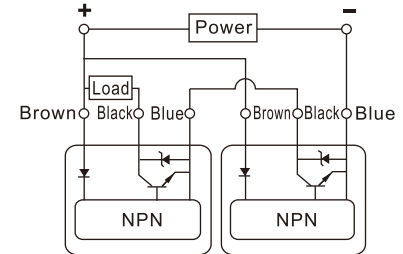
3 wire, solid state NPN connection

1.General connection

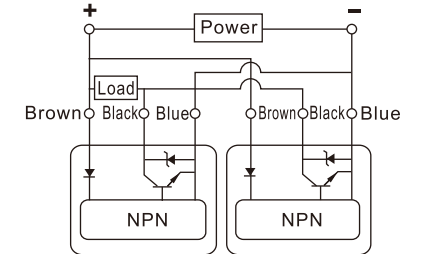


Note: The indicator lights will light up when both auto switches are turned NO.

2.Series connection(And)

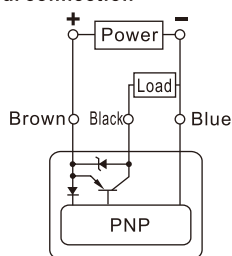


3.Parallel connection(OR)



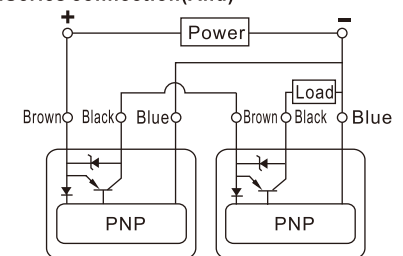
3 wire, solid state PNP connection

1.General connection

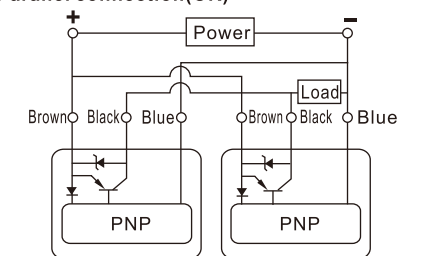


Note: The indicator lights will light up when both auto switches are turned NO.

2.Series connection(And)




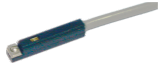
3.Parallel connection(OR)







Sensor



DMS、CMS Series

Replacement

| New | | Previous | |
|---|------------------|---|--|
| DMSG / DMSG(S) / CMSG | | DS1-G / CS1-G | |
|  | |  | |
| Ordering code | DMSG(S)-020 | DS1G020 | |
| | DMSG(S)-030 | DS1G030 | |
| | DMSG(S)-050 | DS1G050 | |
| | DMSG(S)-C08 | DS1GC08 | |
| | DMSG(S)-C12 | DS1GC12 | |
| | DMSG(S)-020-W | - | |
| | DMSG(S)-030-W | - | |
| | DMSG(S)-050-W | - | |
| | DMSG(S)-N020(-W) | DS1GN020(No Waterproof type) | |
| | DMSG(S)-N030(-W) | DS1GN030(No Waterproof type) | |
| | DMSG(S)-N050(-W) | DS1GN050(No Waterproof type) | |
| | DMSG(S)-NC08 | DS1GNC08 | |
| | DMSG(S)-NC12 | DS1GNC12 | |
| | DMSG(S)-P020(-W) | DS1GP020(No Waterproof type) | |
| | DMSG(S)-P030(-W) | DS1GP030(No Waterproof type) | |
| | DMSG(S)-P050(-W) | DS1GP050(No Waterproof type) | |
| | DMSG(S)-PC08 | DS1GPC08 | |
| | DMSG(S)-PC12 | DS1GPC12 | |
| | CMSG-020 | CS1G020 | |
| | CMSG-030 | CS1G030 | |
| | CMSG-050 | CS1G050 | |
| | CMSG-C08 | CS1GC08 | |
| | CMSG-C12 | CS1GC12 | |
| | CMSG-020-H | CS1G020HT | |
| | CMSG-030-H | CS1G030HT | |
| CMSG-050-H | CS1G050HT | | |
| - | CS1GC08HT | | |
| - | CS1GC12HT | | |

| New | | Previous | |
|--|---------------|---|--|
| DMSJ / CMSJ | | DS1-J / CS1-J | |
|  | |  | |
| Ordering code | DMSJ-020 | DS1J020 | |
| | DMSJ-030 | DS1J030 | |
| | DMSJ-050 | DS1J050 | |
| | DMSJ-C08 | DS1JC08 | |
| | DMSJ-C12 | DS1JC12 | |
| | DMSJ-020-W | - | |
| | DMSJ-030-W | - | |
| | DMSJ-050-W | - | |
| | DMSJ-N020(-W) | DS1JN020(No Waterproof type) | |
| | DMSJ-N030(-W) | DS1JN030(No Waterproof type) | |
| | DMSJ-N050(-W) | DS1JN050(No Waterproof type) | |
| | DMSJ-NC08 | DS1JNC08 | |
| | DMSJ-NC12 | DS1JNC12 | |
| | DMSJ-P020(-W) | DS1JP020(No Waterproof type) | |
| | DMSJ-P030(-W) | DS1JP030(No Waterproof type) | |
| | DMSJ-P050(-W) | DS1JP050(No Waterproof type) | |
| | DMSJ-PC08 | DS1JPC08 | |
| | DMSJ-PC12 | DS1JPC12 | |
| | CMSJ-020 | CS1J020 | |
| | CMSJ-030 | CS1J030 | |
| | CMSJ-050 | CS1J050 | |
| | CMSJ-C08 | CS1JC08 | |
| | CMSJ-C12 | CS1JC12 | |
| | CMSJ-020-H | CS1J020HT | |
| | CMSJ-030-H | CS1J030HT | |
| CMSJ-050-H | CS1J050HT | | |
| - | CS1JC08HT | | |
| - | CS1JC12HT | | |

| New | | Previous | |
|---|---------------|---|--|
| DMSE / CMSE | | DS1-E / CS1-E | |
|  | |  | |
| Ordering code | DMSE-020 | DS1E020 | |
| | DMSE-030 | DS1E030 | |
| | DMSE-050 | DS1E050 | |
| | DMSE-C08 | DS1EC08 | |
| | DMSE-C12 | DS1EC12 | |
| | DMSE-020-W | - | |
| | DMSE-030-W | - | |
| | DMSE-050-W | - | |
| | DMSE-N020(-W) | DS1EN020(No Waterproof type) | |
| | DMSE-N030(-W) | DS1EN030(No Waterproof type) | |
| | DMSE-N050(-W) | DS1EN050(No Waterproof type) | |
| | DMSE-NC08 | DS1ENC08 | |
| | DMSE-NC12 | DS1ENC12 | |
| | DMSE-P020(-W) | DS1EP020(No Waterproof type) | |
| | DMSE-P030(-W) | DS1EP030(No Waterproof type) | |
| | DMSE-P050(-W) | DS1EP050(No Waterproof type) | |
| | DMSE-PC08 | DS1EPC08 | |
| | DMSE-PC12 | DS1EPC12 | |
| | CMSE-020 | CS1E020 | |
| | CMSE-030 | CS1E030 | |
| | CMSE-050 | CS1E050 | |
| | CMSE-C08 | CS1EC08 | |
| | CMSE-C12 | CS1EC12 | |
| | CMSE-020-H | CS1E020HT | |
| | CMSE-030-H | CS1E030HT | |
| CMSE-050-H | CS1E050HT | | |
| - | CS1EC08HT | | |
| - | CS1EC12HT | | |

| New | | Previous | |
|--|------------------|---|--|
| DMSH / DMSHS / CMSH | | DS1-H / CS1-H | |
|  | |  | |
| Ordering code | DMSH(S)-020 | DS1H020 | |
| | DMSH(S)-030 | DS1H030 | |
| | DMSH(S)-050 | DS1H050 | |
| | DMSH(S)-C08 | DS1HC08 | |
| | DMSH(S)-C12 | DS1HC12 | |
| | DMSH(S)-020-W | - | |
| | DMSH(S)-030-W | - | |
| | DMSH(S)-050-W | - | |
| | DMSH(S)-N020(-W) | DS1HN020(No Waterproof type) | |
| | DMSH(S)-N030(-W) | DS1HN030(No Waterproof type) | |
| | DMSH(S)-N050(-W) | DS1HN050(No Waterproof type) | |
| | DMSH(S)-NC08 | DS1HNC08 | |
| | DMSH(S)-NC12 | DS1HNC12 | |
| | DMSH(S)-P020(-W) | DS1HP020(No Waterproof type) | |
| | DMSH(S)-P030(-W) | DS1HP030(No Waterproof type) | |
| | DMSH(S)-P050(-W) | DS1HP050(No Waterproof type) | |
| | DMSH(S)-PC08 | DS1HPC08 | |
| | DMSH(S)-PC12 | DS1HPC12 | |
| | CMSH-020 | CS1H020 | |
| | CMSH-030 | CS1H030 | |
| | CMSH-050 | CS1H050 | |
| | CMSH-C08 | CS1HC08 | |
| | CMSH-C12 | CS1HC12 | |
| | CMSH-020-H | CS1H020HT | |
| | CMSH-030-H | CS1H030HT | |
| CMSH-050-H | CS1H050HT | | |
| - | CS1HC08HT | | |
| - | CS1HC12HT | | |

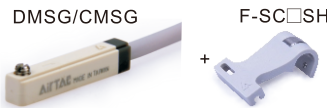
Sensor

DMSG, CMS Series

Replacement of previous sensor

New sensor + Tie Rod Cylinder Accessory

DMSG/CMSG + F-SC□SH




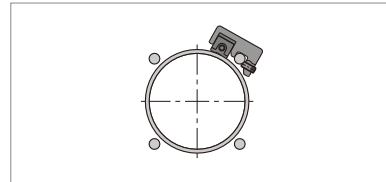
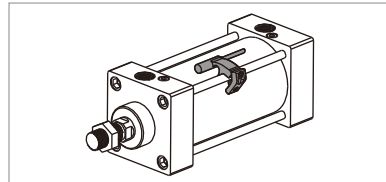

| Ordering code | Ordering code | Ordering code |
|---------------|------------------|---------------|
| | DMSG + CMSG + | F-SC32SH |
| | F-SC63SH | |
| | F-SC80SH | |
| | F-SC125SH | |
| | F-SC160SH | |
| | F-SC250SH | |

Previous sensor + Accessory

DS1-A / CS1-A

DS1-F / CS1-F DS1-U / CS1-U

F-SC□H

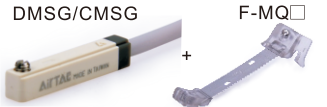
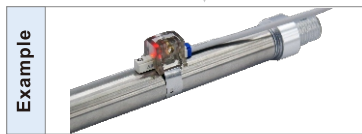
| Ordering code |
|---------------|
| DS1A CS1A |

| Ordering code |
|---------------|
| DS1F CS1F |
| DS1U CS1U |

| Ordering code |
|---------------|
| F-SC32H |
| F-SC63H |
| F-SC80H |
| - |
| - |
| - |

new sensor + band

DMSG/CMSG + F-MQ□


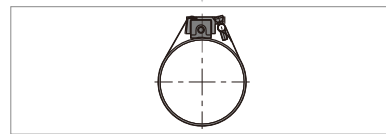
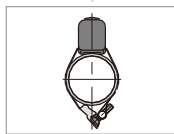
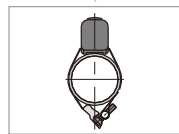
| Ordering code | Ordering code | Ordering code |
|---------------|------------------|---------------|
| | DMSG + CMSG + | F-MQA20 |
| | F-MQA25 | |
| | F-MQA32 | |
| | F-MQA40 | |
| | F-MQA50 | |
| | F-MQA63 | |
| | F-MQA80 | |
| | F-MQ32T | |
| | F-MQ40T | |
| | F-MQ50T | |
| | F-MQS06 | |
| | F-MQS08 | |
| | F-MQS10 | |
| | F-MQS12 | |
| | F-MQS16 | |
| | F-MQS20 | |
| | F-MQS25 | |
| | F-MQS32 | |
| | F-MQS40 | |
| | F-MQS50 | |
| | F-MQS63 | |

previous sensor + band

DS1-M / CS1-M DS1-T / CS1-T

DS1-F / CS1-F DS1-U / CS1-U

GXPAB-01

| Ordering code |
|---------------|
| D(C)S1M□A20 |
| D(C)S1M□A25 |
| D(C)S1M□A32 |
| D(C)S1M□A40 |
| D(C)S1M□A50 |
| D(C)S1M□A63 |
| - |
| - |
| D(C)S1M□S06 |
| D(C)S1M□S08 |
| D(C)S1M□S10 |
| D(C)S1M□S12 |
| D(C)S1M□S16 |
| D(C)S1M□S20 |
| D(C)S1M□S25 |
| D(C)S1M□S32 |
| D(C)S1M□S40 |
| D(C)S1M□S50 |
| D(C)S1M□S63 |

| Ordering code |
|---------------|
| - |
| D(C)S1T□A32 |
| D(C)S1T□A40 |
| D(C)S1T□A50 |
| - |

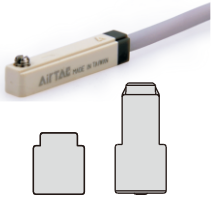
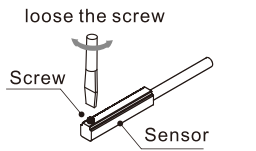
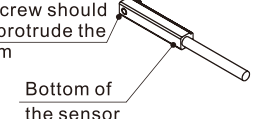
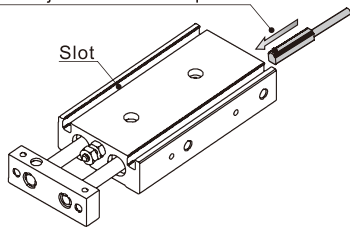
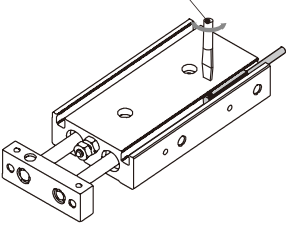
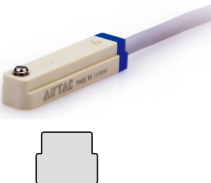
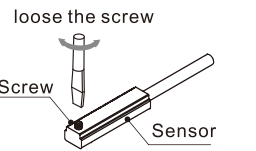
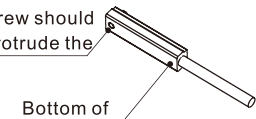
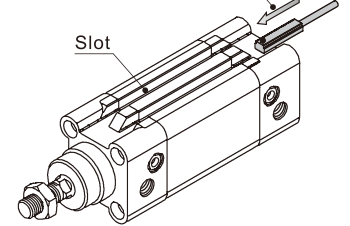
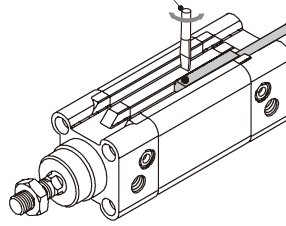

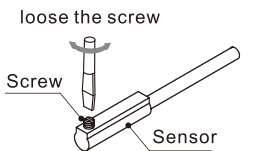
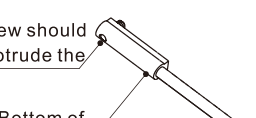
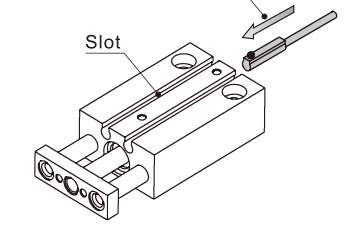
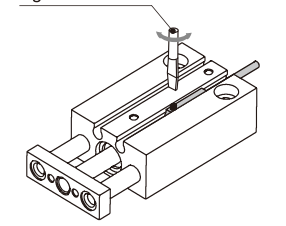
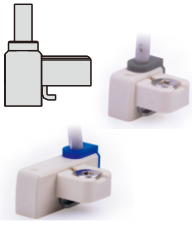
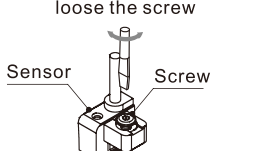
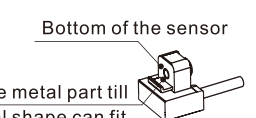
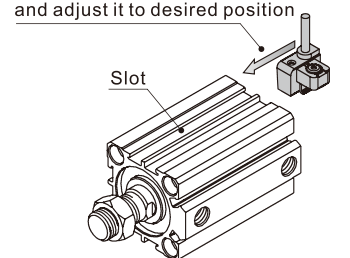
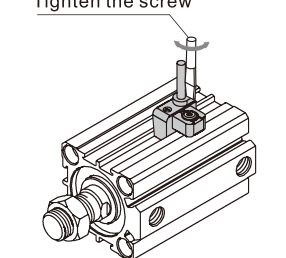
| Ordering code |
|---------------|
| DS1F CS1F |
| DS1U CS1U |

| Ordering code |
|---------------|
| - |
| GXPAB-01 |
| - |
| - |
| GXPAB-01 |

Sensor


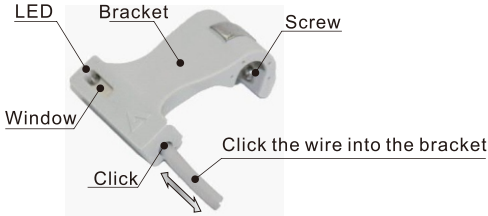
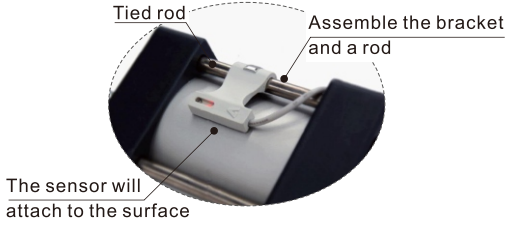


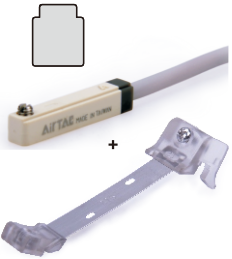
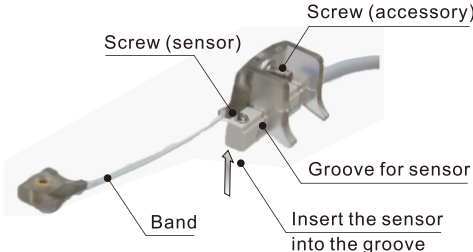
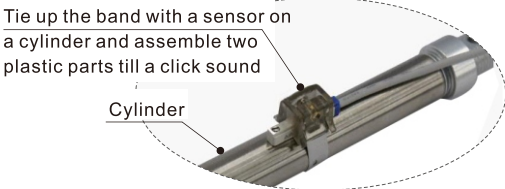
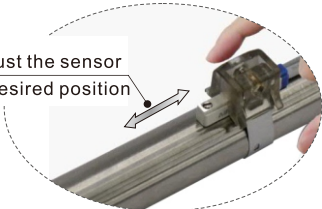
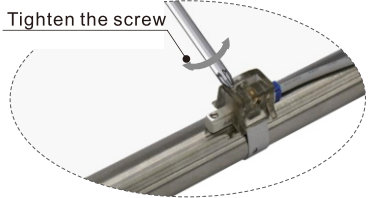
DMS、CMS Series

Installation

| Sensor model | Procedure | | |
|---|--|---|--|
| <p>DMSG(S)/CMSG</p>  | <p>1</p> <p>loose the screw</p>  <p>Screw</p> <p>Sensor</p> <p>The screw should NOT protrude the bottom</p>  <p>Bottom of the sensor</p> | <p>2</p> <p>Insert the sensor into the slot and adjust it to desired position</p>  <p>Slot</p> | <p>3</p> <p>Tighten the screw</p>  |
| <p>DMSE/CMSE</p>  | <p>1</p> <p>loose the screw</p>  <p>Screw</p> <p>Sensor</p> <p>The screw should NOT protrude the bottom</p>  <p>Bottom of the sensor</p> | <p>2</p> <p>Insert the sensor into the slot and adjust it to desired position</p>  <p>Slot</p> | <p>3</p> <p>Tighten the screw</p>  |
| <p>DMSH(S)/CMSH</p>  | <p>1</p> <p>loose the screw</p>  <p>Screw</p> <p>Sensor</p> <p>The screw should NOT protrude the bottom</p>  <p>Bottom of the sensor</p> | <p>2</p> <p>Insert the sensor into the slot and adjust it to desired position</p>  <p>Slot</p> | <p>3</p> <p>Tighten the screw</p>  |
| <p>DMSJ/CMSJ</p>  | <p>1</p> <p>loose the screw</p>  <p>Sensor</p> <p>Screw</p> <p>Bottom of the sensor</p> <p>Adjust the metal part till the lateral shape can fit the slot of the cylinder</p>  | <p>2</p> <p>Insert the sensor into the slot and adjust it to desired position</p>  <p>Slot</p> | <p>3</p> <p>Tighten the screw</p>  |

Sensor

DMS、CMS Series

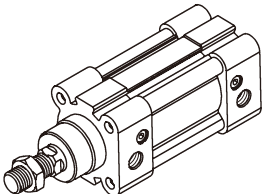

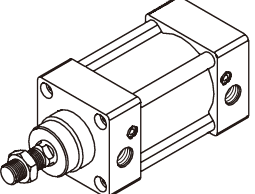


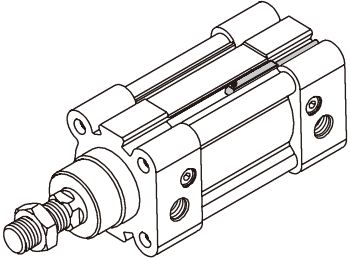
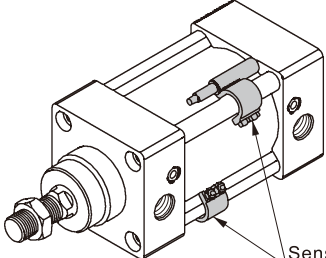
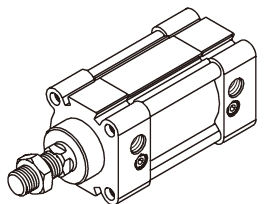

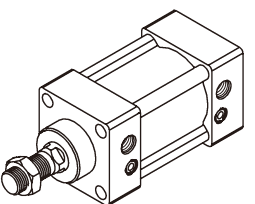


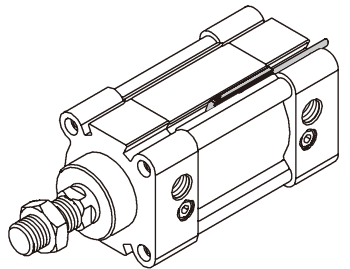
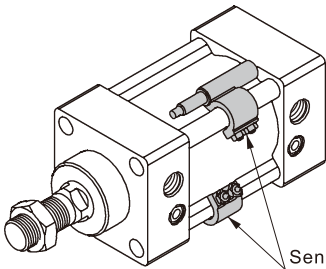
| Sensor model | Procedure | |
|---|--|--|
| <p data-bbox="103 310 288 357">DMSG+(F-SC□SH) CMSG+(F-SC□SH)</p>  | <p data-bbox="323 310 336 327">1</p>  | <p data-bbox="920 310 933 327">2</p>  |
| | <p data-bbox="323 616 336 633">3</p>  | <p data-bbox="920 616 933 633">4</p>  |
| <p data-bbox="114 929 272 976">DMSG+(F-MQ□) CMSG+(F-MQ□)</p>  | <p data-bbox="323 929 336 946">1</p>  | <p data-bbox="920 929 933 946">2</p>  |
| | <p data-bbox="323 1235 336 1252">3</p>  | <p data-bbox="920 1235 933 1252">4</p>  |

Sensor

DMS、CMS Series

Sensor for "米" shape cylinder

SAI, SAU series will substitute for SI, SU series. And the corresponding sensors have some adjustments as the chart below.

| New type(SAI) | | Previous type(SI) | |
|------------------------|--|------------------------|--|
| Cylinder and accessory | <p>Cylinder</p>  <p>Sensor</p>  <p>CMSE \ DMSE</p> | Cylinder and accessory | <p>Cylinder</p>  <p>Sensor</p>  <p>CS1B1 / DS1B1 CS1B2 / DS1B2 CS1B3 / DS1B3 CS1B4 / DS1B4 CS1B5 / DS1B5 CS1B6 / DS1B6 CS1B7 / DS1B7</p>  <p>CS1F/DS1F/CS1U/DS1U + F-SI32H/F-SI40H F-SI50H/F-SI63H F-SI80H/F-SI100H F-SI125H/F-SI160H F-SI200H</p> |
| Installation |  | Installation |  <p>Sensor (CS1F/DS1F/CS1U/DS1U) Mounting bracket (F-SI32H~F-SI200H) "米" shape cylinder (SI series)</p> <p>Sensor (CS1B1~B7/DS1B1~B7)</p> |
| New type(SAU) | | Previous type(SU) | |
| Cylinder and accessory | <p>Cylinder</p>  <p>Sensor</p>  <p>CMSG \ DMSG</p> | Cylinder and accessory | <p>Cylinder</p>  <p>Sensor</p>  <p>CS1B1 / DS1B1 CS1B2 / DS1B2 CS1B3 / DS1B3 CS1B4 / DS1B4</p>  <p>CS1F/DS1F/CS1U/DS1U + F-SU32H/F-SU40H F-SU50H/F-SU63H F-SU80H/F-SU100H</p> |
| Installation |  | Installation |  <p>Sensor (CS1F/DS1F/CS1U/DS1U) Mounting bracket (F-SU32H~F-SU100H) "米" shape cylinder (SU series)</p> <p>Sensor (CS1B1~B4/DS1B1~B4)</p> |

Sensor

DMS、CMS Series

Socket

Ordering code

F - DMS C08 2 020

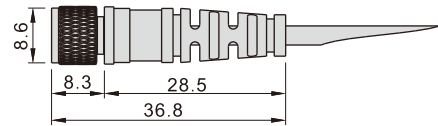
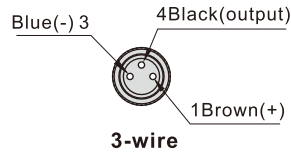
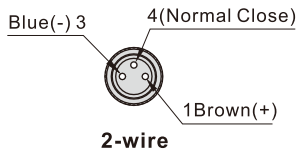
① ② ③ ④ ⑤



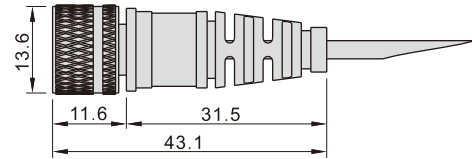
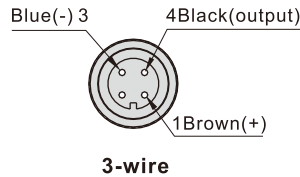
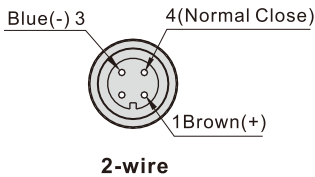
| | | | |
|----------------------|------------------------------|----------------|---------------|
| ① Category code | F: Accessory | | |
| ② Specification code | DMS: Digital Magnetic Sensor | | |
| ③ Socket type | C08:M8 socket | C12:M12 socket | |
| ④ Wire type | 2: 2-wire type | 3: 3-wire type | |
| ⑤ Wire length | 020: 2 meters | 030: 3 meters | 050: 5 meters |

Appearance

M8 socket



M12 socket



Instruction

- Sensor shall not fall down or bear great impact when it is installed.
- The wire of the Sensor shall not move with the action of cylinder.
- Clamping torque shall be within the allowable scope when the Sensor is installed(0.15~0.2Nm).
- Sensor shall be installed in the middle position of the action scope.
- Sensor wiring:
 - The wire is unable to bear repetitive torsion and tension. Please wire an external load before switch the power on.
 - No poor insulation in wire.
 - Do not wire with power line, high voltage line or use one wiring pipe.
 - Please wire the circuit correctly base on the circuit diagram.
- Execute scheduled maintenance by the following guidelines:
 - Make sure the sensor is firmly fixed.
 - Make sure the wire is intact.
 - Make sure that LED indicate the movement of cylinder correctly.
- Application of environment:
 - It is Not allow to use the sensor in the environment with explosive gas.
 - Magnetic sensor shall not be used in the environment with external magnetism.
 - Magnetic sensor shall not be used in the environment that is always eroded by water.
 - Magnetic sensor shall not be used in the environment with oil moisture or chemical substance.
 - Magnetic sensor shall not be used in the environment with periodically changing temperature.
 - Magnetic sensor shall not be used in the environment with excessively great impact.
 - Magnetic sensor shall not be used in the environment with sources of electrical pulse.
 - Avoid the environment with accumulated iron power and dense magnetic objects.