# Active infrared (area reflective) human detection sensor

# MA MOTION SENSOR

Discontinued

Thin short type
(Mounting direction : V type)

Short type
(Mounting direction : H type)

Middle type
(Mounting direction : H type)

Long type
(Mounting direction : H type)

Long type
(Mounting direction : V type)

## Features

- Reliable detection hardly influenced by reflectivity of targeted objects
- Ready-to-use with DC power source (built-in oscillation circuit type)
- Capability to adjoin sensors (External triggering type)
- RoHS compliant

## Typical applications

- Equipment around water: automatic lighting of wash-units, toilets, automatic flush
- Stores and financial markets: automatic doors, lighting, ATM, visitor sensors
- Amusement equipment: seating detection for pachinko machines, game displays
- Medical equipment markets: noncontact switches

## Ordering information

**AM** ☐ ☐ ☐ ☐ ☐ ☐

- A : Thin short type MA Motion sensor
  BA : MA Motion sensor
- Detection distance type (shape)
  1 : Short type
  2 : Middle type
  3 : Long type
- Triggering function
  1 : External triggering type
  4 : Built-in oscillation circuit type (Internal trigger)
- Classification by output method & mounting direction
  0 : NPN open collector/H type
  5 : NPN open collector/V type
  6 : PNP open collector/V type
- Operating voltage
  2 : Free-ranging power type (5.5 V.DC to 27 V.DC)
  9 : 5V.DC type (4.5 V.DC to 5.5 V.DC)
- Rated detection distance

Unit : cm inch

| Part No. / Type | 02 | 03 | 04 | 05 | 06 | 07 | 08 (Middle type does not need 08) | 09 | 10 (Short type does not need 10) | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 (Long type does not need 20) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Thin short type | – | – | – | 5<br>1.969 | – | – | – | – | 10<br>3.937 | – | – | – | – | 15<br>5.906 | – | – | – | – | – |
| Short type | – | – | – | 5<br>1.969 | 6<br>2.362 | 7<br>2.756 | 8<br>3.150 | 9<br>3.543 | 10<br>3.937 | – | – | – | – | – | – | – | – | – | – |
| Middle type | 20<br>7.874 | 30<br>11.811 | 40<br>15.748 | 50<br>19.685 | 60<br>23.622 | 70<br>27.559 | 80<br>31.496 | – | – | – | – | – | – | – | – | – | – | – | – |
| Long type | – | 30<br>11.811 | 40<br>15.748 | 50<br>19.685 | 60<br>23.622 | 70<br>27.559 | 80<br>31.496 | 90<br>35.443 | 100<br>39.37 | 110<br>43.307 | 120<br>47.244 | 130<br>51.181 | 140<br>55.118 | 150<br>59.055 | 160<br>62.992 | 170<br>66.929 | 180<br>70.866 | 190<br>74.803 | 200<br>78.74 |

Design and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and/or use.
Should a safety concern arise regarding this product, please be sure to contact us immediately.

## Product types

● Detection distance type (distance limited)

1) Thin short type (V type)

Standard packing: Carton: 20 pcs.; Case: 200 pcs.

| Operating voltage | Output method | Rated detection distance | Built-in oscillation circuit type | External triggering type |
|---|---|---|---|---|
| | | | Part No. | Part No. |
| 4.5 V.DC to 5.5 V.DC | NPN open collector output | 5 cm 1.969 inch | AMA145905 | AMA115905 |
| | | 10 cm 3.937 inch | AMA1459 | AMA1159 |
| | | 15 cm 5.906 inch | AMA145915 | AMA115915 |
| | PNP open collector output | 5 cm 1.969 inch | AMA146905 | AMA116905 |
| | | 10 cm 3.937 inch | AMA1469 | AMA1169 |
| | | 15 cm 5.906 inch | AMA146915 | AMA116915 |

Note: If using multiple sensors adjacently or reducing power consumption, contact us for the optimal external trigger type.

2) Short type (H type)

Standard packing: Carton: 20 pcs.; Case: 200 pcs.

| Rated operating voltage | Rated detection distance | Mounting direction : H type | |
|---|---|---|---|
| | | Short type | |
| | | Built-in oscillation circuit type | External triggering type |
| | | Part No. | Part No. |
| 4.5 V.DC to 5.5 V.DC | 5 cm 1.969 inch | AMBA140905 | AMBA110905 |
| | 6 cm 2.362 inch | AMBA140906 | AMBA110906 |
| | 7 cm 2.756 inch | AMBA140907 | AMBA110907 |
| | 8 cm 3.150 inch | AMBA140908 | AMBA110908 |
| | 9 cm 3.543 inch | AMBA140909 | AMBA110909 |
| | 10 cm 3.937 inch | AMBA1409 | AMBA1109 |
| 5.5 V.DC to 27 V.DC | 5 cm 1.969 inch | AMBA140205 | AMBA110205 |
| | 6 cm 2.362 inch | AMBA140206 | AMBA110206 |
| | 7 cm 2.756 inch | AMBA140207 | AMBA110207 |
| | 8 cm 3.150 inch | AMBA140208 | AMBA110208 |
| | 9 cm 3.543 inch | AMBA140209 | AMBA110209 |
| | 10 cm 3.937 inch | AMBA1402 | AMBA1102 |

Note: If using multiple sensors adjacently or reducing power consumption, contact us for the optimal external trigger type.

3) Middle type (H type)

Standard packing: Carton: 20 pcs.; Case: 200 pcs.

| Rated operating voltage | Rated detection distance | Mounting direction : H type | |
|---|---|---|---|
| | | Middle type | |
| | | Built-in oscillation circuit type | External triggering type |
| | | Part No. | Part No. |
| 4.5 V.DC to 5.5 V.DC | 20 cm 7.874 inch | AMBA240902 | AMBA210902 |
| | 30 cm 11.811 inch | AMBA240903 | AMBA210903 |
| | 40 cm 15.748 inch | AMBA240904 | AMBA210904 |
| | 50 cm 19.685 inch | AMBA240905 | AMBA210905 |
| | 60 cm 23.622 inch | AMBA240906 | AMBA210906 |
| | 70 cm 27.559 inch | AMBA240907 | AMBA210907 |
| | 80 cm 31.496 inch | AMBA2409 | AMBA2109 |
| 5.5 V.DC to 27 V.DC | 20 cm 7.874 inch | AMBA240202 | AMBA210202 |
| | 30 cm 11.811 inch | AMBA240203 | AMBA210203 |
| | 40 cm 15.748 inch | AMBA240204 | AMBA210204 |
| | 50 cm 19.685 inch | AMBA240205 | AMBA210205 |
| | 60 cm 23.622 inch | AMBA240206 | AMBA210206 |
| | 70 cm 27.559 inch | AMBA240207 | AMBA210207 |
| | 80 cm 31.496 inch | AMBA2402 | AMBA2102 |

Note: If using multiple sensors adjacently or reducing power consumption, contact us for the optimal external trigger type.

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