



COMPLIED STANDARDS
EN 12978:2003+A1:2009
EN 16005:2012+AC:2015
DIN 18650-1:2010
EN ISO 13849-1:2015
EC type examination
44 205 13738005



WARNING Disregarding this symbol may result in serious injury or death
Note Special attention is required when this symbol is shown

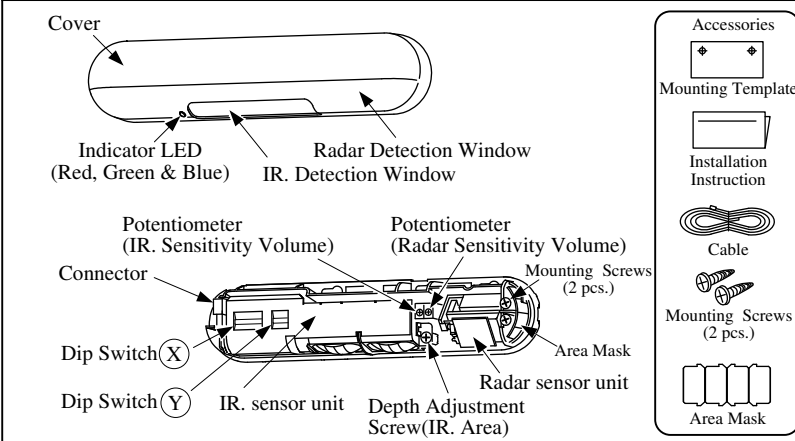


CAUTION Disregarding this symbol may result in injury or damage to equipment
EN16005 Setting required to conform with EN16005

SSR-3 User Manual (Original)

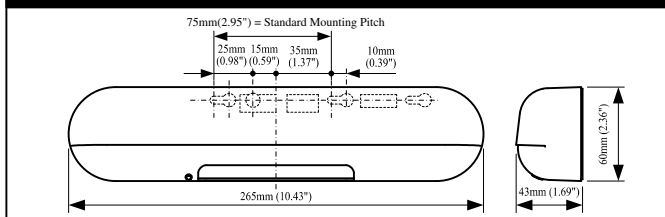
Combined motion and presence detection sensor for the activation and safety of automatic doors.

1. DESCRIPTION



- Accessories**
- Mounting Template
 - Installation Instruction
 - Cable
 - Mounting Screws (2 pcs.)
 - Area Mask

2. DIMENSIONS



3. LED INDICATORS

| | |
|-------------------------|--------------------------------------------------------------------------------------------|
| Green | Standby |
| Flashing Green | Doorway Learning (When dip switch Y 5 is ON) When responding to the TEST signal |
| Blue | RADAR Detecting |
| Red | ROW 3 Detecting |
| Slow flashing Red | ROW 2 Detecting |
| Fast flashing Red | ROW 1 Detecting |
| Orange | Detection row "ROW1"/"ROW2" when doorway Learning is turned ON) is detecting door movement |
| Fast flashing Orange | Indicates a change of dip switch settings |
| Slow flashing Orange | Door Hold is turned ON (When dip switch Y 4 is ON) |
| Fast flashing Green/Red | Internal Sensor Error |
| Slow flashing Green/Red | Reflected infrared signal from the floor is very low |

5. TECHNICAL SPECIFICATIONS

| | |
|--------------------------------------------|------------------------------------------------------------------------------------------|
| Common Specification | |
| Model Name | SSR-3 |
| Installation Height | 3.2[m] (10.5 [ft]) Max. EN16005 Conformity = 3m |
| Supply Voltage | AC/DC 12 to 24 [V] ±10% 50/60Hz |
| Power Consumption | AC12V-2.5 [VA] (Max) |
| | AC24V-2.5 [VA] (Max) |
| Output | IR. Opto Relay Non Pole Voltage: 48 [VDC] Max. Current : 300 [mA] Max. (Resistance load) |
| | RADAR Form A Relay DC50 [V] 0.1[A] Resistor Load |
| Test Input | 6 [mA] Max. @ 24 [VDC] |
| Operating Temperature | -20 to +60 [Deg.C], (-4 to 140 Deg.F) |
| Operating humidity | Below 80% |
| IP Rate | IP54 |
| Category | 2, performance level D according to EN ISO 13849-1:2008 |
| Weight | 0.56 [lb.] (0.26 [kg]) |
| Color | Black, Silver |
| Accessories | Cable, Mounting Screw 2pcs., Mounting Template, Installation Instruction |
| Specifications of Reflection Sensor | |
| Detection Method | Active Infrared Reflective |
| Output Holding Time | 0.5 [seconds] App. |
| Response Time | 0.1 ~ 0.2 [seconds] |
| Presence Timer | 2, 30, 60 [seconds] or ∞ |
| Specifications of Redar Sensor | |
| Detection Method | Doppler method: (moving body detection) |
| Transmit frequency | 24.15 [GHz] |
| Output Holding Time | 1.5 [seconds] App. |
| Response Time | 0.1 ~ 0.2 [seconds] |

Note: Specification may be changed without prior notice.

4. MOUNTING PRECAUTIONS

| | | | |
|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| <p>Mounting height of 3.2m (10.5ft) or lower</p> | <p>Mount within 50mm of the bottom of the door engine cover</p> | <p>Ensure there are no moving objects in the detection zone</p> | <p>Ensure no condensation gets onto the sensor.</p> |
| <p>If the sensor is exposed to excessive rain install with a Hotron weather cover</p> | <p>If possible ensure no accumulation of snow or water on the floor.</p> | <p>Ensure the minimum of reflected sunlight from the floor</p> | <p>Use different frequency settings for sensors in close proximity</p> |
| <p>To maximize the effectiveness of doorway detection, install the SSR-3 outside and inside as shown below.</p> | | <p>The Radar part of the SSR-3 sensor may be negatively influenced by metal close to or in the detection field</p> | |

6. MOUNTING & WIRING INFORMATION

WARNING Drilling may cause electric shock. Be careful of hidden wires inside the door engine cover.

- Attach the mounting template so that its bottom edge is flush with the bottom edge of the door engine cover.
- Drill mounting (3.5mm φ) and wiring (10mm φ) holes.
- Remove the sensor cover as illustrated. Lift the sensor from its cover. Use a flat screwdriver to lift the sensor from the cover. There is a slit in the base.
- Attach the sensor with the mounting screws provided.

6-1 Wiring to a door controller that can test the sensor

Note EN16005 Set "Test input" dip switch setting (Y) 6 to "ON". Ref section 7, Dip Switch Settings.

| | | |
|-------------------|-------------------------|----------|
| Power (Non Pole) | AC/DC 12 to 24 [V] ±10% | Red |
| Activation Output | N.O. | White |
| Safety Output | COM | Green |
| Test Input | Opto Relay | Yellow |
| | Test-P | Blue |
| | Test-N | Gray(+) |
| | | Brown(-) |

6-2 Wiring to a door controller that cannot test the sensor

Note Set "Test input" dip switch setting (Y) 6 to "OFF". Ref section 7, Dip Switch Settings.

| | | |
|-------------------|-------------------------|----------|
| Power (Non Pole) | AC/DC 12 to 24 [V] ±10% | Red |
| Activation Output | N.O. | Black |
| Safety Output | COM | White |
| do not connect | Opto Relay | Green |
| | | Yellow |
| | | Blue |
| | | Gray(+) |
| | | Brown(-) |

- House connectors in the space provided.
- Replace Cover.
- Removing the cover after installation. Push and pull the cover using a flat screwdriver.

7. DIP SWITCH SETTINGS

| Function | Dip Switch (X) | Description | Possible Setting Options |
|-----------------------------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| IR. Presence Timer | ☆ 30s 1 2 | The sensor will detect a stationary object for the preset presence timer setting on the inner 3 rows. EN16005 To comply with EN16005 set the presence timer to 30s or more | 2s, ☆ 30s, 60s, ∞ |
| IR. Frequency | ☆ A 3 4 | When more than two sensors are installed in close proximity to each other select different frequency settings for each sensor to prevent cross interference. | ☆ A, B, C, D |
| Monitor Mode | ☆ Normal 5 | Set to snow in instances where false door activations can result from blowing snow, leaves or rubbish in the door close area. | ☆ Normal, Snow |
| Safety Relay Output | ☆ N.C. 6 | Refer to [11. Timing Chart of events] for full details on Safety Output | N.O., ☆ N.C. |
| Reflection Diagnostics | ☆ Normal 7 | A low reflected infrared signal is indicated by a slow flashing Green/Red LED. To ignore this low reflection error state, set this dip switch to "Low Reflection"(ON). EN16005 To comply with EN16005 set to "Normal" | ☆ Normal, Low Ref. |
| Function | Dip Switch (Y) | Description | Possible Setting Options |
| Direction Detection RADAR | ☆ ON 1 | When set to ON, pedestrians moving away from the sensor will not be detected. | OFF, ☆ ON |
| Activation Relay Output | ☆ N.O. 2 | Refer to [11. Timing Chart of events] for full details on Activation Output | ☆ N.O., N.C. |
| Activation Relay Output Configuration | ☆ OFF 3 | Choose how relay output is configured. | ☆ OFF, ON, RADAR + IR rows 2+3, RADAR |
| Door Hold | ☆ Auto 4 | Switch to OPEN to hold the door in the open position CAUTION | ☆ Auto, Open |
| Doorway Learn | ☆ OFF 5 | Doorway Learn allows the 1 st row of detection to be focused inside the door close area without the detecting door movement. Note When Doorway Learn is turned ON, the sensitivity level of the inner row of detection is only at maximum when the outer rows of detection are activated | ☆ OFF, ON |
| Test Input Setting from Door Controller | ☆ OFF 6 | When connected to a door controller without a TEST input, set to "OFF". When connected to a door controller with a TEST input, set to "ON". Refer to [11. Timing Chart of events]. EN16005 Set to "ON" to comply with EN16005 | ☆ OFF, ON |

8. DETECTION

Detection Area Depth Adjustment: IR. (Inner 3 Rows)

Far, Near, Adjustment screw

Row 3, 2, 1

1.0 [m], 0.5 [m]

[4 degree] setting, [-8 degree] setting

Detection Area Width Adjustment: IR. (Inner 3 Rows)

Separation, Put on

2.0 [m], 1.0 [m], 0 [m], 1.0 [m], 2.0 [m]

3.0, 2.2, 1.0, 0

Narrow, Wide

Detection Area Depth Adjustment: RADAR (Outer)

Installation height "2.2m" and Sensitivity set to "High".

2.0 [m], 1.0 [m], 0 [m], 1.0 [m], 2.0 [m]

3.0, 2.0, 1.0, 0

[15 degree] setting, [30 degree] setting, [45 degree] setting

Far, Near, Radar sensor unit

CAUTION The above illustrated detection areas represent the actual position of the infrared and radar beams. The actual detection area observed will vary depending on the sensor installation environment, objects been detected and sensor settings. Please ensure that the detection area is set to conform to EN16005.

| 9. APPLYING POWER AND THE "DOORWAY LEARN" SETTING | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------|
| "Doorway Learn" is OFF <i>Ref section 7, Dip Switch Settings.</i> | "Doorway Learn" is ON <i>Ref section 7, Dip Switch Settings.</i> | | |
| Upon power ON, the solid green LED turns on indicating that the sensor is in standby mode and ready to detect | Upon power ON, the Red flashing LED indicates a door open relay output to begin the doorway learn process | Green LED flashes for 37s as the "door learn" process is carried out. Door opens/closes | Door learn process complete, sensor in standby mode |
| | | | |
| Presence Detection: It takes 10s after sensor power up for presence detection to be initiated on all rows of detection. If before 10s has elapsed someone walks into the detection area it will take about 5s after the person leaves the detection zone for presence detection to be functional. | Presence Detection: During the "Doorway Learn" process the outer 3 rows of detection on the SSR-3 sensor switch from motion detection to presence detection 10s after power ON. The inner "door learn" row of detection will switch from motion to presence detection after the "doorway learn" process is carried out. "Doorway Learn" Failure & Recovery: If a person enters the detection area during the "doorway learn" process it may not be successfully completed. In this case the sensor will carry out the doorway learn process over three door activations by a person in order to build an accurate image of the door open and door close position. Note When Doorway Learn is turned ON, the sensitivity level of the inner row of detection is only at maximum when the outer rows of detection are activated | | |

| 10. VERIFICATION OF OPERATION | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| After installation is completed "walk test" the sensor detection area. If the detection area is not as expected adjust the detection area as referred to in section 8 If the detection area is still not as expected then the sensor sensitivity can be increased by turning the potentiometer clockwise. When the sensor detects even though there is nothing in the detection area the sensor sensitivity can be decreased by turning the potentiometer in the anti-clockwise direction. | |

| 11. TIMING CHART OF EVENTS | | | | | |
|--------------------------------------------------------------|-----------|---------------|-----------|---------------|---------------|
| Safety Output / Test Input | | | | | |
| Dip Switch (X) 5 Safety Output | | | | | |
| N.O. | | | | | |
| N.C. | | | | | |
| Dip Switch (Y) 6 Test Input setting | OFF | ON | ON | ON | ON |
| T1 : 10±1 [mSec] App T2 : 11±1 [mSec] App | POWER OFF | NON-DETECTION | DETECTION | NON-DETECTION | NON-DETECTION |
| Break the current | | | | | |
| Supplying DC12 to 24V, make current flow from Gray to Brown. | | | | | |

| 11. TIMING CHART OF EVENTS (Continued) | | | | | |
|----------------------------------------|-----------|---------------|-----------|-----------|---------------|
| Activation Output | | | | | |
| Dip Switch (Y) 3 ON | | | | | |
| Dip Switch (Y) 3 OFF | | | | | |
| N.O. | | | | | |
| N.C. | | | | | |
| 2 | POWER OFF | NON-DETECTION | DETECTION | POWER OFF | NON-DETECTION |

| 12. DOOR MAINTENANCE WORK | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| When carrying out door maintenance work with power applied to the sensor on door controllers that are wired to "test" the sensor ensure to set the dip switches as below. Note remember to return the dip switch settings to their original state once door maintenance work has been carried out. | |
| | |
| Refer to [7.Dip Switch Settings]. | |

| 13. SELF DIAGNOSTICS ERRORS | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Technical problems with the SSR-3 sensor are indicated by a flashing Green/Red LED. The frequency of flashing indicates the type of problem as explained below | | |
| Flash Frequency | LED | Cause |
| Fast | Green Red | Please replace the sensor. |
| Slow | Green Red | Confirm that the sensitivity potentiometer is set to maximum and re-power the sensor. If the error persists, set Dip Switch (X) 7 to "Low Reflection". |

| 14. TROUBLESHOOTING | | | | |
|------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Problem | LED Status | Possible Cause | Solution | |
| Door does not open when a person enters the detection area | OFF | Sensor Connector not connected correctly | Tighten or reconnect the connector. | |
| | | Incorrect power supply voltage | Apply proper voltage to the sensor. (AC/DC 12-24V) | |
| | | Incorrect sensor wiring | Double check sensor wiring | |
| Door opens and closes for no apparent reason (Ghosting) | Door Opens BLUE or RED or RED FAST FLASH or RED SLOW FLASH | Object moving in the detection area | Remove the moving object from detection area. | |
| | | Sensitivity too high for the installation environment | Reduce the sensor sensitivity setting | |
| | | Dust, frost or water droplet on the sensor lens | Wipe the sensor lens clean and install a weather cover if necessary | |
| | | Detection area overlaps with that of another sensor | Ensure different frequency setting for each sensor, and adjust to overlap the radar area using the angle and volume. | |
| | | Detection of falling snow, insects, leaves etc | Turn monitor mode Dip switch (X) 5 to "snow" | |
| | | When Door opens or closes, LED ORANGE | Detection row "ROW1" ("ROW2" when "Doorway Learn" is turned ON) is focused too close to the door. | Adjust detection depth for Inner 3 rows away from the door. |
| Door opens and remains in the open position | RED or RED FAST FLASH or RED SLOW FLASH | Detection area changed, while infinity presence timer setting is in use | Re-power the sensor or change the presence timer settings to 30 or 60 secs | |
| | | Incorrect sensor wiring | Double check sensor wiring | |
| | | Reflected signal saturation | Remove highly reflective objects from the detection area, or lower the sensor sensitivity setting | |
| | BLUE | Moving objects in the radar area | Eliminate moving objects | |
| | | GREEN/RED FAST FLASH | Internal sensor error | Replace the sensor |
| | | GREEN/RED SLOW FLASH | Reflection of the transmitted infrared signal from the floor is too low | Increase sensor sensitivity or change the "Reflection Diagnostics" Dip switch (X) 7 from "Normal" to "Low Ref" |
| ORANGE SLOW FLASH | Door Hold (Dip switch (Y) 4 set to Open) | Turn "Door Hold" Dip switch (Y) 4 to Auto | | |

| 15. SSR-3 EU DECLARATION OF CONFORMITY | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| Compiler of Technical File (EC Community) David Morgan Hotron Ireland Ltd. 26 Dublin Street, Carlow, Ireland Ph: +353 5991 40345 Fax: +353 5991 40543 | | Description of Product: SSR-3 Combined motion and presence detection sensor for the activation and safety of automatic doors. Technology used is Active Infrared Technology and Doppler method: (moving body detection) Technology | |
| Directives Fulfilled: DIRECTIVE 2006/42/EC DIN 18650-1:2010 Powered pedestrian doors - Part 1: Product requirements and test methods EN12978:2003+A1:2009 Industrial, commercial and garage doors and gates - safety devices for power operated doors and gates - Requirements and test methods. EN ISO 13849-1:2015 Safety of machinery - Safety-related parts of control systems - Part 1:General principles for design (ISO 13849-1:2015) EN16005:2012+AC:2015 Power operated pedestrian doorsets - Safety in use - Requirements and test methods EC-type examination No. 44 205 13738005 | | | |
| Above EC Type Directives Certified by: 0044 TÜV NORD CERT GmbH, Division TechnologyAm TÜV1 Essen 45307 Germany | Harmonized Standards Used: EN ISO 13849-1:2015 | Other Technical Standards Used: DIN 18650-1:2010 EN16005:2012 +AC:2015 | |
| Location of Declaration(Manufacture) HOTRON GROUP Honda Electron Co., Ltd. 1-23-19 Asahimachi, Machida-shi, Tokyo 194-0023, Japan | | Declaration made by Hitoshi Takagi Director (Quality Assurance) | Date January 11, 2022 |

- < Disclaimer > The manufacturer cannot be held responsible for below.
- Misinterpretation of the installation instructions, miss connection, negligence, sensor modification and inappropriate installation.
 - Damage caused by inappropriate transportation.
 - Accidents or damages caused by fire, pollution, abnormal voltage, earthquake, thunderstorm, wind, floods and other acts of providence.
 - Losses of business profits, business interruptions, business information losses and other financial losses caused by using the sensor or malfunction of the sensor.
 - Amount of compensation beyond selling price in all cases.

Manufacturer
 HOTRON CO.,LTD.
 1-11-26 Hyakunin-Cho, Shinjuku-Ku, Tokyo, Japan
 Phone: +81-(0)3-5330-9221
 Fax: +81-(0)3-5330-9222
 URL: <https://www.hotron.co.jp/>

SALES Europe
 Hotron Ireland Ltd.
 26 Dublin Street (2nd Floor), Carlow, Ireland
 Phone: +353-(0)59-9140345
 Fax: +353-(0)59-9140543
 URL: <https://hotron.com/>