

Safety Non Contact Switch

Based on Magnetic Coded Technology

FF-SNC Series

New

FEATURES

- Meets applicable parts of European EN 1088 standard for Interlocking devices associated with guards
- Permanent self-checking electronic designed in compliance with the requirements of the EN 954-1 standard for **Category 3 protective Devices**
- Operating range:
5 mm - 7 mm / 0.20 in - 0.27 in ON,
8 mm - 12 mm / 0.32 in - 0.47 in OFF
- High resistance to environmental influences
- ABS and Stainless Steel housings sensors available
- Sensors sealing: IP 67
- Supply voltage: 24 Vdc/Vac \pm 15 %;
110 Vac \pm 15 % (only available for the 4-sensor control unit)
- Response Time of the control unit:
0,015 s
- Manual or automatic restart
- LED status indicator
- 2-sensor control unit: (DIN rail mount
22,5 mm / 0.89 in width)
4-sensor control unit: (DIN rail mount
75 mm / 2.95 in width)
5-sensor extension module: (DIN rail
mount 22,5 / 0.89 in width)

TYPICAL APPLICATIONS

- Interlocking guard for non locked mechanical screens offering free access (machines must achieve instant stop):
- Machine door or casting "open/closed" detection
 - Guard-in-place detection, gate/access door detection
 - Control of mechanical screens used in addition to a safety light curtain
 - Food & Beverage, Packaging, Machine Tool, Automotive and Textile.



The FF-SNC Honeywell safety non contact switch is a tamper resistant safety system for monitoring machine guards. The actuator being a passive component, the safety switch is the only component that needs to be wired to the control unit and cannot be defeated by regular magnet.

Each system is made up of one or several safety switches, actuators and a control unit. The Honeywell FF-SNC safety non contact switches are designed in compliance with the requirements of the EN 954-1 European Standard for Category 3 Protective Devices.

The FF-SNC is especially suited for applications where perfect door alignment can not be obtained. The FF-SNC Series can be mounted on sliding, hinged or removable machine guards. The output of the control unit is triggered as soon as the distance between the safety switch and the actuator is greater or equal to 8 mm/0.32 in. This switching distance compensates for the machine vibration or any issue with the installation alignment.

The sensor and actuator small size makes it usable under tight space requirements.

The safety switches and the actuators provide excellent chemical and mechanical resistance. Stainless steel housing versions fulfil the requirements of the Food and Beverage industry.

The FF-SNC400 safety control unit comes in a 75 mm / 2.95 in package and can monitor up to 4 sensors.

The FF-SNC200R2 safety control unit with its 22,5 mm / 0.89 in width will easily find a place in the electrical cabinet and can monitor 2 sensors. Both control units can be placed up to 100 m / 328 ft away from the safety non contact switches. The indicators located on the front cover of both control units provide individual door status information.

The FF-SNC1EXT extension module can be added to the FF-SNC400 or FF-SNC200 control unit and allows the connection of 5 additional sensors.

WARNING

MISUSE OF DOCUMENTATION

- The information presented in this product sheet (or catalogue) is for reference only. DO NOT USE this document as system installation information.
- Complete installation, operation and maintenance information is to be referenced for each product.

Failure to comply with these instructions could result in death or serious injury.

Safety Non Contact Switch FF-SNC

- In compliance with the requirements of the EN 954-1 for Category 3 equipment
- Meets applicable parts of ANSI/RIA/OSHA regulations



Dimensions in millimeters / inches, meters / feet, weights in kg / lbs

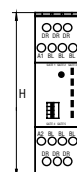
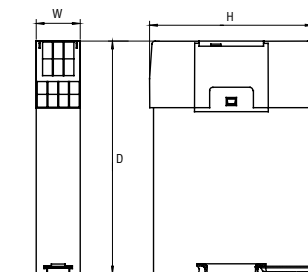
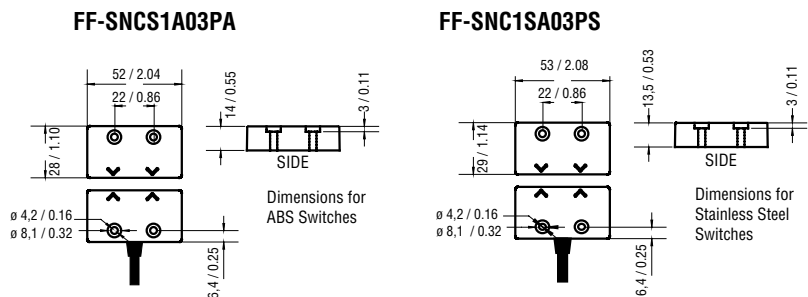
Features Switch	
Material	ABS (FF-SNC1SA03PA) or Stainless Steel and Resin filled (FF-SNC1SA03PS)
Scanning range	5 mm - 7 mm / 0.20 in - 0.27 in ON • 8 mm - 12 mm / 0.32 in - 0.47 in OFF
Optimum gap	1 mm
Standard cable length	3 m / 9.84 ft
Operating temperature	-10 °C to +55 °C / 14 °F to 131 °F
Connection to the control unit	Max. Cable length: 100 m / 328 ft
Sealing	IP 67
Fixing	2 x (M4 x 20 mm) Tamper proof screws (supplied with the product)
Control unit / extension module	
Category	Category 3 according to EN 954-1
Supply voltage	24 Vdc/Vac ± 15 % / 110 Vac ± 15 % (FF-SNC400RE only)
Response time of the control unit	15 ms (with or without extension module)
Power consumption (including sensors)	6 VA (with or without extension module)
Operating temperature	-10 °C to + 55 °C / 14 °F to 131 °F
Storage temperature	-20 °C to 60 °C / -4 °F to 140 °F
Output	2 NO contacts (4 A / 250 Vac; 2 A/30 Vdc) + 1 NC (4 A / 250 Vac; 2 A / 30 Vdc)
Restart	Manual or automatic
Sealing	IP 40 Housing, Terminals IP 20
Mounting	35 mm / 1.37 in DIN rail
LED indicators	FF-SNC200R2 control unit: Power, Run and 2 guard status indicators FF-SNC400RE control unit: 4 guard status indicators and deselect indicators
Material	Polycarbonate, red

Ordering information:

Reference	Description
FF-SNC1SA03PA	Safety switch + actuator: 3 meter cable + ABS housing
FF-SNC1SA03PS	Safety switch + actuator: 3 meter cable - Stainless Steel Housing
FF-SNC200R2	24 Vdc/Vac Control unit for monitoring up to 2 gates
FF-SNC400R2	24 Vdc/Vac Control unit for monitoring up to 4 gates
FF-SNC400RE	110 Vac Control Unit for monitoring up to 4 gates
FF-SNC1EXT	Extension Module

M4 x 20 mm Torx screws are supplied with the switches.

Dimensions of a non contact safety switch system (mm/in)



	FF-SNC200R2	FF-SNC1EXT	FF-SNC400R2	FF-SNC400RE	(mm/in)
W	22,5 / 0.88	75 / 2.95			
H	84 / 3.30	74 / 2.91			
D	119 / 4.68	119 / 4.68			

	Weight (kg/lbs)
FF-SNC200R2	0,235 / 0.517
FF-SNC1EXT	0,135 / 0.297
FF-SNC400R2	0,49 / 1.078
FF-SNC400RE	0,63 / 1.386
FF-SNC1SA03PA	0,169 / 0.371
FF-SNC1SA03PS	0,265 / 0.583

■ Safety Distance Calculations per US ANSI / OSHA standard

$$Ds = K(Ts + Tc + Tr) + Dpf$$

With:

Ds = minimum safe distance between safeguarding device and hazard

K = speed constant: 1.6 m/sec (63 in/sec) minimum based on the movement being the hand/arm only and the body being stationary (a greater value may be required in specific applications and when body motion must also be considered)

Ts = worst stopping time of the machine/equipment

Tc = worst stopping time of the control system

Tr = response time of the safeguarding device including its interface (Tr for interlocked barrier may include a delay due to actuation. This delay may result in Tr being a deduct- negative value).

Dpf = the "Depth penetration factor" is the maximum travel towards the hazard if the guard can be opened a certain width or amount before a stop is signaled.

Dpf values from OSHA O-10 Table

If the maximum width or diameter of the opening is less than or equal to (mm/in):	Dpf equals (mm/in.)
6,4 / 0.25	12,7 / 0.5
9,5 / 0.375	38,1 / 1.5
12,7 / 0.5	63,5 / 2.5
15,9 / 0.625	88,9 / 3.5
19,1 / 0.75	139,7 / 5.5
22,2 / 0.875	165,1 / 6.5
31,8 / 1.25	190,5 / 7.5
38,1 / 1.5	317,5 / 12.5
47,6 / 1.875	393,7 / 15.5
54 / 2.125	444,5 / 17.5

Note: Over 54 mm / 2.125 in, the Dpf equals 800 mm / 31.5 in, with a maximum allowable opening of 152,4 mm / 6 in.

Example: $Dpf = 0$ when the guard can be opened up to, but less than 6,4 mm / 0.25 in before issuing a stop command.

$Dpf = 444,5$ mm / 17.5 in if the guard can be opened 54,0 mm / 2.125 in.

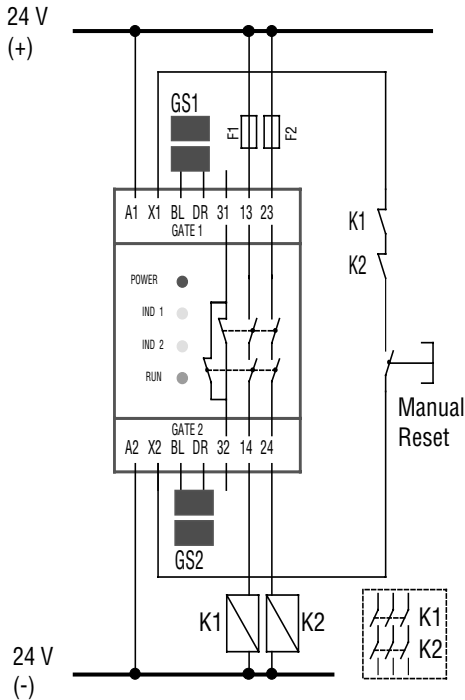
At no time can the opening be greater than 152,4 mm / 6 in before issuing a stop command.

For more information, refer to the US regulations and standards (OSHA 29 CFR 1910.212 & 1910.217, ANSI B11.19 and ANSI/RIA R15.06).

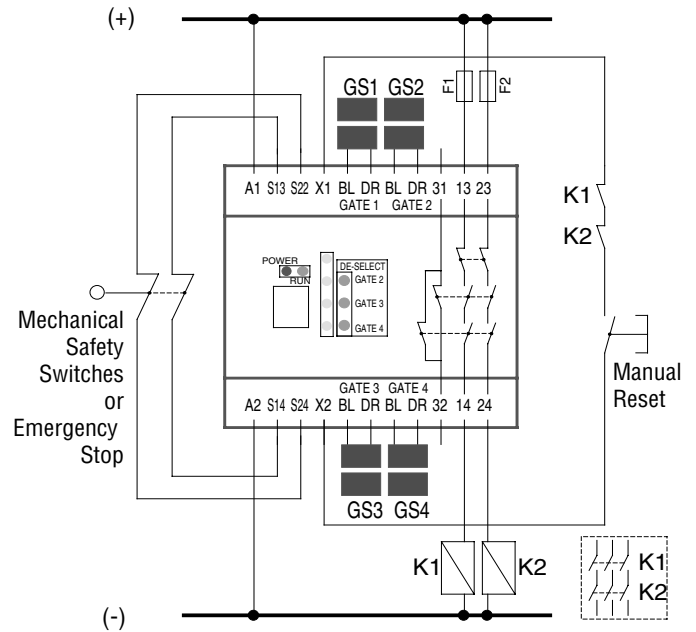
For more information on the guards installation, refer to the European standards: EN 811, EN 953, EN 294

■ Connection diagram:

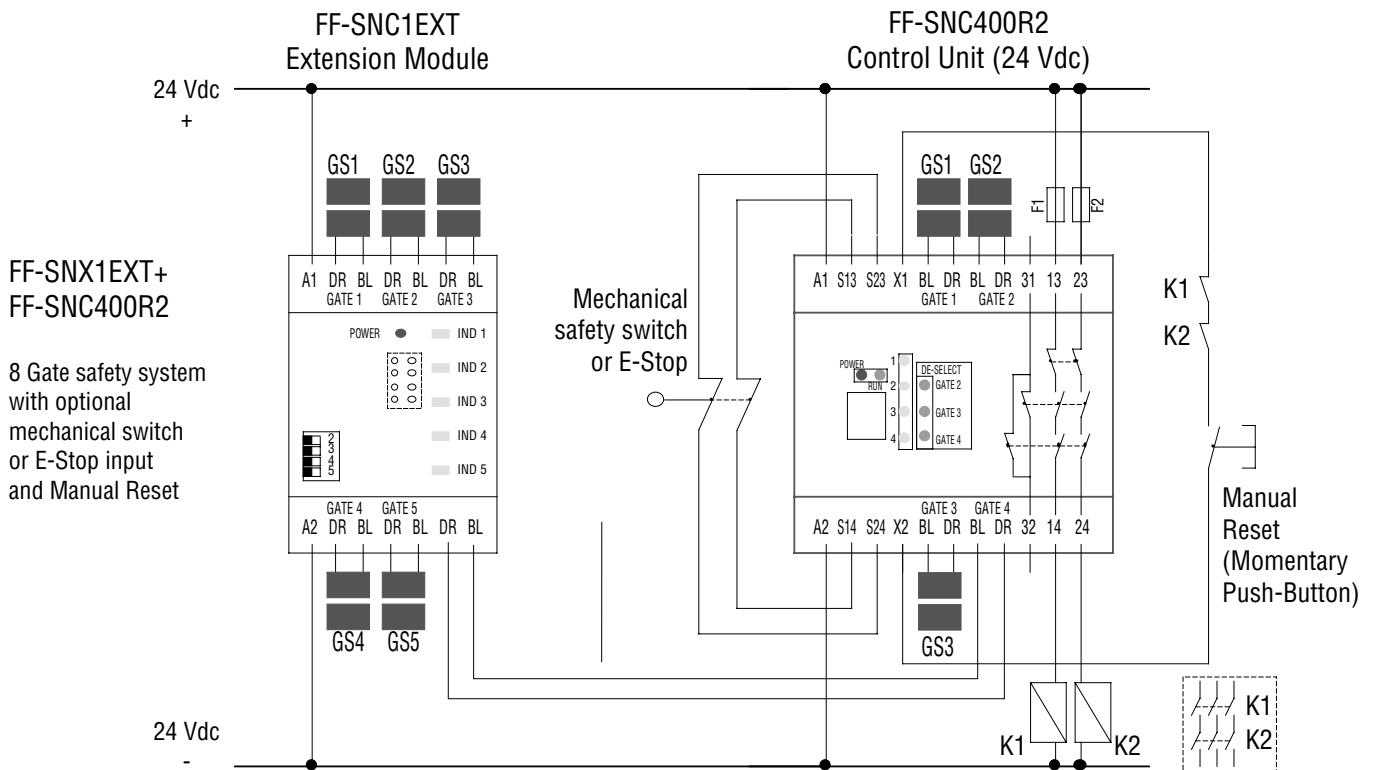
**FF-SNC200R2 Control Unit
(Manual reset option)**



**FF-SNC400R2/FF-SNC400RE Control Unit
(Manual reset option)**



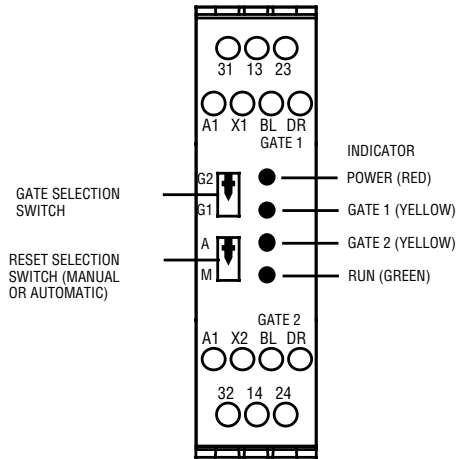
**FF-SNC1EXT Extension Module
(can be used with FF-SNC400 or FF-SNC200 Series)**



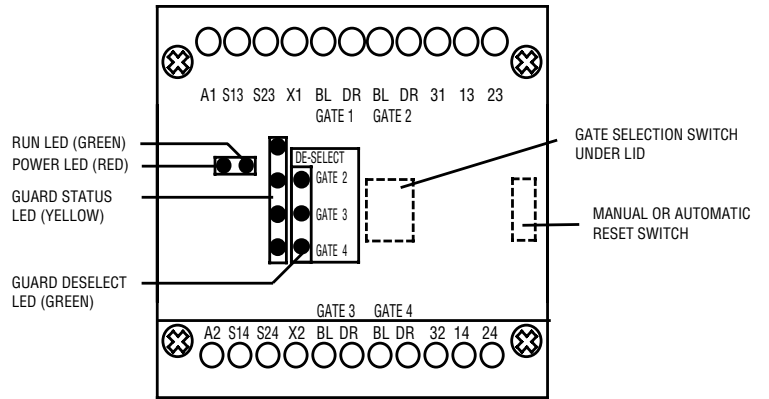
Up to 30 gates can be monitored using extension module. The extension module can only be used with the 24 Vac/dc control units.

■ LED indicators:

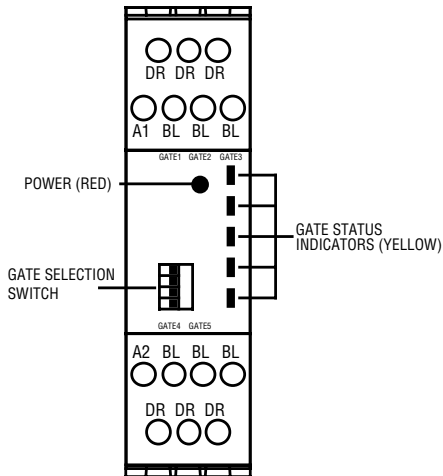
FF-SNC200R2 Control Unit



FF-SNC400R2/FF-SNC400RE Control Unit



FF-SNC1EXT Control Unit



Warranty and remedy

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Contact your local sales office for warranty information. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace without charge those items it finds defective. The foregoing is Buyer's sole remedy and is **in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose.**

While we provide application assistance, personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

Specifications may change at any time without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

Sales and Service

Honeywell serves its customers through a worldwide network of sales offices and distributors. For application assistance, current specifications, pricing or name of the nearest Authorised Distributor, contact a nearby sales office or:

INTERNET: www.honeywell.com/sensing

E-mail: info.sc@honeywell.com

ASIA PACIFIC

Control Products Asia Pacific Headquarters

Phone: +(65) 6355-2828
Fax: +(65) 6445-3033

Australia

Honeywell Limited
Phone: +(61) 2-9370-4500
FAX: +(61) 2-9370-4525
Toll Free 1300-36-39-36
Toll Free Fax 1300-36-04-70

China - PRC - Beijing

Honeywell (Tianjin) Ltd.
Phone: +(86-10) 8458-3280
FAX: +(86-10) 8458-3102

China - PRC - Shanghai

Honeywell China Inc.
Phone: +(86-21) 6237-0237
FAX: +(86-21) 6237-1237

China - Hong Kong SAR

Honeywell Ltd.
Phone: +(852) 2953-6412
FAX: +(852) 2953-6767

India

Tata Honeywell Ltd
Phone: +(91) 20 687 0445/0446
FAX: +(91) 20 681 2243/687 5992

Indonesia

Honeywell Indonesia Pte Ltd
Phone: +(62-21) 535-8833
FAX: +(62-21) 5367-1008

Japan

Honeywell Inc
Phone: +(81) 3 5440 1425
FAX: +(81) 3 5440 1368

South Korea

Honeywell Korea Co. Ltd
Phone: +(822) 799-6167
FAX: +(822) 792-9013

Malaysia

Honeywell Engineering Sdn Bhd
Phone: +(60-3) 7958-4988
FAX: +(60-3) 7958-8922

New Zealand

Honeywell Limited
Phone: +(64-9) 623-5050
FAX: +(64-9) 623-5060
Toll Free (0800) 202-088

Philippines

Honeywell Systems (Philippines) Inc.
Phone: +(63-2) 636-1661/1662
FAX: +(63-2) 638-4013

Singapore

Honeywell South East Asia
Phone: +(65) 6355-2828
FAX: +(65) 6445-3033

Taiwan R.O.C.

Honeywell Taiwan Ltd.
Phone: +(886-2) 2245-1000
FAX: +(886-2) 2245 3242

Thailand

Honeywell Systems Ltd.
Phone: +(662) 693 3099
FAX: +(662) 693 3085

NORTH AMERICA

Canada

Honeywell LTD
Phone: 1-800-737-3360
FAX: 1-800-565-4130

USA

Control Products,
International Headquarters
Phone: 1-800-537-6945
1-815-235-6847
FAX: 1-815-235-6545
E-mail: info.sc@honeywell.com

EUROPE

Austria

Honeywell Austria GmbH
Phone: +(43) 1 727 80 366/246
FAX: +(43) 1 727 80 337

Belgium

Honeywell SA/NV
Phone: +(32) 2 728 2522
FAX: +(32) 2 728 2502

Bulgaria

Honeywell EOOD
Phone: +(359) 2 79 40 27
FAX: +(359) 2 79 40 90

Czech Republic

Honeywell spol. s.r.o.
Phone: +(420) 2 6112 3469/3424
FAX: +(420) 2 6112 3461

Denmark

Honeywell A/S
Phone: +(45) 39 55 55 55
FAX: +(45) 39 55 55 58

Finland

Honeywell OY
Phone: +(358) 9 3480101
FAX: +(358) 9 34801375

France

Honeywell SA
Phone: +(33) 1 60 19 80 40
FAX: +(33) 1 60 19 81 73

Germany

Honeywell AG
Phone: +(49) 69 8064 444
FAX: +(49) 69 8064 442

Hungary

Honeywell Kft.
Phone: +(36 1) 451 4300
FAX: +(36 1) 451 4343

Italy

Honeywell S.p.A.
Phone: +(39) 02 92146 450/456
FAX: +(39) 02 92146 490

The Netherlands

Honeywell B.V.
Phone: +(31) 20 565 69 11
FAX: +(31) 20 565 66 00

Norway

Honeywell A/S
Phone: +(47) 66 76 20 00
FAX: +(47) 66 76 20 90

Poland

Honeywell Sp. zo.o
Phone: +(48) 22 606 0900
FAX: +(48) 22 606 0901

Portugal

Honeywell Portugal Lda
Phone: +(351 21) 424 50 00
FAX: +(351 21) 424 50 99

Romania

Honeywell Bucharest
Phone: +(40) 1 2110076
FAX: +(40) 1 2103375

Commonwealth of Independent States (CIS)

ZAO Honeywell
Phone: +(7 095) 796 98 36
FAX: +(7 095) 796 98 93

Slovak Republic

Honeywell s.r.o.
Phone: +(421 7) 58247403/400
FAX: +(421 7) 58247 415

South Africa (Republic of)

Honeywell Southern Africa
Honeywell S.A. Pty. Ltd
Phone: +(27) 11 805 1211
FAX +(27) 11 805 1354

Spain

Honeywell S.A.
Phone: +(34) 91 313 6100
FAX: +(34) 91 313 6129

Sweden

Honeywell AB
Phone: +(46) 8 775 55 00
FAX: +(46) 8 775 56 00

Switzerland

Honeywell AG
Phone: +(41) 1 855 24 40
FAX: +(41) 1 855 24 45

Turkey

Honeywell Turkey A.S.
Phone: +(90) 216 464 4764
FAX: +(90) 216 464 4794

United Kingdom

Honeywell Control Systems Ltd
Phone: +(44) 1698 481 481
FAX: +(44) 1698 481 276

Mediterranean & African Distributors

Honeywell SpA
Phone: +(39) 2 921 46 232
FAX: +(39) 2 921 46 233

Middle East Headquarters

Honeywell Middle East Ltd.
Phone: +(9712) 443 2119
FAX +(9712) 443 2536

LATIN AMERICA

Argentina

Honeywell S.A.I.C.
Phone: +(54-11) 4383-3637
FAX: +(54-11) 4325-6470

Brazil

Honeywell do Brasil & Cia
Phone: +(55-11) 7266 1900
FAX: +(55-11) 7266 1905

Chile

Honeywell Chile, S.A.
Phone: +(56-2) 233-0688
FAX: +(56-2) 231-6679

Columbia

Honeywell Columbia, S.A.
Phone: +(57-1) 623-3239/3051
FAX: +(57-1) 623-3395

Ecuador

Honeywell S.A.
Phone: +(593-2) 981-560/1
FAX: +(593-2) 981-562

Mexico

Honeywell S.A. de C.V.
Phone: +(52) 55 5259-1966
FAX: +(52) 55 5570-2985

Peru

Honeywell Peru
Phone: +(511) 445-2136-1891
FAX: +(511) 348-3552

Puerto Rico

Honeywell Inc.
Phone: +(809) 792-7075
FAX: +(809) 792-0053

Trinidad

Honeywell Inc.
Phone: +(868) 624-3964
FAX: +(868) 624-3969

Venezuela

Honeywell CA
Phone: +(58-2) 238-0211
FAX: +(58-2) 238-3391

This publication does not constitute a contract between Honeywell and its customers. The contents may be changed at any time without notice. It is the customer's responsibility to ensure safe installation and operation of the products. Detailed mounting drawings of all products illustrated are available on request. © 2002 Honeywell International Inc. All rights reserved.

Honeywell

Honeywell

21 Chemin du Vieux Chêne
38240 Meylan Cedex
France

Honeywell

11 West Spring Street
Freeport, Illinois 61032
USA

