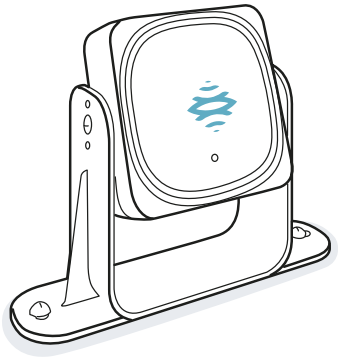
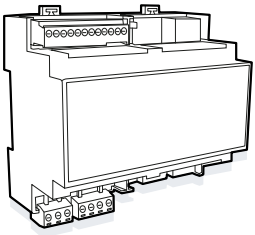
Inxpect Value Line
Inxpect 超值版





安装说明

Installation instructions

v1.0 - zh-CN / EN

简体中文 - 安装说明

一般警告

- 系统安装和配置错误会降低或抑制系统的保护功能和装置安全性。请按照本文档提供的说明正确安装系统。
- 在视野内存在静态物体，特别是金属物体，可能会限制传感器检测的效率。保持传感器视野畅通无阻。

认证

可以从 https://www.inxpect-tj.com/downloads.html 下载所有更新的认证。

CE 符合性

制造商，Inxpect SpA，声明 超值版 符合 2014/53/EU 指令。完整的欧盟符合性声明文本可在公司网站获取：https://www.inxpect-tj.com/downloads.html

元件结构

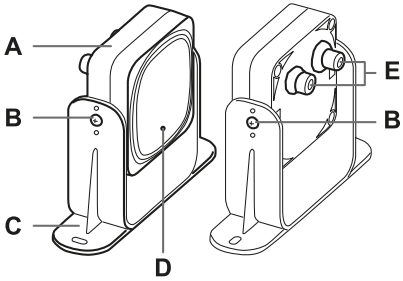
部分	描述
A	I/O 端子块
B	系统状态 LED
C	网络参数重设按钮/出厂重设按钮
D	保留供内部使用。输出重设按钮
E	微型 USB 端口（微型 B 型），用于连接 PC 并与 Inxpect Safety 应用程序进行通信
F	电源端子块
G	电源 LED（绿色常亮）
H	CAN 总线端子块，用于连接第一个传感器
I	DIP 开关，用于打开/关闭总线终端电阻： • 开启（顶部位置，默认）= 包括电阻 • 关闭（底部位置）= 排除电阻
J	辅助微控制器硬件功能的状态 LED
K	主要微控制器硬件功能的状态 LED

控制器系统状态 LED

LED 均专用于传感器，可显示以下状态：

状态	含义
绿色常亮	传感器功能正常，未检测到运动
橙色	传感器功能正常，检测到某些运动
闪烁红色	传感器错误
红色常亮	系统错误
闪烁绿色	传感器处于启动状态

S188A 传感器



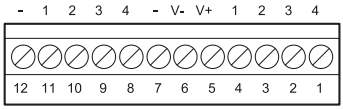
部分	描述
A	传感器
B	用于以特定倾斜度固定传感器的螺钉
C	安装支架
D	状态 LED
E	用于连接链条中传感器和控制器的连接器

S188A 传感器状态 LED

状态	含义
稳定	传感器正在工作。未检测到运动。
快速闪烁 (100 ms)	传感器正在检测运动。如果传感器处于静音状态，则不可用。
其他条件	错误

端子块和连接器输出引脚

控制器数字输入和输出端子块



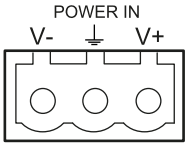
***注**：面对控制器时，端子块位于左上角，数字 12 距离控制器角最近。*

端子块	符号	描述	销
Digital In	**4**	输入 2，通道 2，24 V DC type 3 - INPUT #2-2	1
	3	输入 2，通道 1，24 V DC type 3 - INPUT #2-1	2
	2	输入 1，通道 2，24 V DC type 3 - INPUT #1-2	3
	1	输入 1，通道 1，24 V DC type 3 - INPUT #1-1	4
	V+	V+ (SNS)，24 V DC，用于诊断数字输入（如果至少使用一个输入，则必须提供）	5
	V-	V- (SNS)，所有数字输入的共同参考（如果至少使用一个输入，则必须提供）	6

端子块	符号	描述	销
Digital Out	**-**	GND, 所有数字输出的公共参考	7
	4	输出 4 (OSSD4)	8
	3	输出 3 (OSSD3)	9
	2	输出 2 (OSSD2)	10
	1	输出 1 (OSSD1)	11
	-	GND, 所有数字输出的公共参考	12

***注**:所用线缆的最大长度必须为 30 m, 最高工作温度必须至少为 80 °C。*
***注**:仅使用最小规格为 18 AWG 且扭矩为 0.62 Nm 的铜线。*

控制器电源端子块

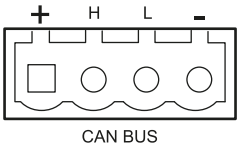


***注**:连接器的前视图。*

符号	描述
V-	GND
⏚	接地
V+	+ 24 V DC

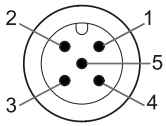
***注**:线缆的最高工作温度必须至少为 70 °C。*
***注**:仅使用最小规格为 18 AWG 且扭矩为 0.62 Nm 的铜线。*

控制器 CAN 总线端子块

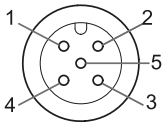


符号	描述
+	+ 12 V DC 输出
H	CAN H
L	CAN L
-	GND

传感器 M12 CAN 总线连接器



公连接器



母连接器

销	功能
1	遮蔽，将连接到控制器电源端子块上的功能接地。
2	+12 V dc
3	GND
4	CAN H
5	CAN L

安装

所需材料

- 用于固定传感器的两个 M4 防篡改螺钉。
- 用于将控制器连接到第一个传感器并将传感器互相连接的线缆。
- 带微型 USB 连接器(微型 B 型)的数据 USB 线缆。
- 用于 CAN 总线最后一个传感器的电阻为 120 Ω 的总线端子(产品代码:07000003)。
- 用于防篡改螺钉 的螺丝刀，与控制器包装中随附的六角销安全钻头共同使用。
- 必要时，为保护传感器并防止反射发出无用警报，每个传感器一个 Metal protector kit(产品代码:90202ZAA)。有关安装说明，请参阅套件附带的说明。

  ***注**:如果传感器安装在移动、振动或靠近振动部件的部件上，则特别推荐使用 Metal protector kit。*

所需操作系统

- Microsoft Windows 10 或更高版本
- Apple OS X 11.0 或更高版本

安装控制器

警告！ 为防止篡改，请确保仅经授权人员才能使用控制器(例如，钥匙锁定的电气面板)。

1. 将控制器安装在 DIN 导轨上。
2. 进行电气连接。

***注意:**若至少连接了一个输入，还必须连接 SNS 输入 "V+ (SNS)" 和 GND 输入 "V- (SNS)"。*

***注意:** 通电后，系统启动需要大约 2 s。 在此期间，输出和诊断功能被停用，控制器中所连接传感器的绿色传感器状态 LED 灯闪烁。*

***注意:**确保在控制器安装期间避免任何 EMC 干扰。*

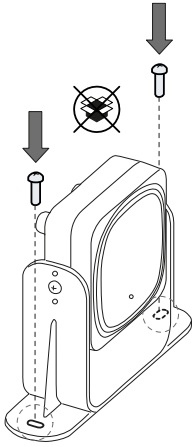
安装传感器

***注**:关于使用 Metal protector kit 安装(产品代码90202ZAA)，请参阅随套件提供的说明。*

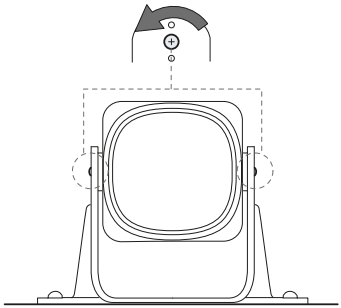
***注**:建议在紧固件的螺纹上使用螺纹锁固液，尤其是当传感器安装在机械的移动或振动部件上时。*

***注**:如果传感器安装在振动部件上且视野中存在物体，则传感器可能会产生无用警报。*

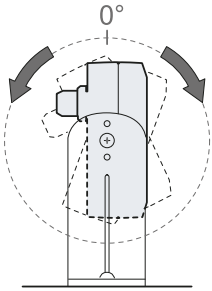
1. 按照配置报告中的说明放置传感器，并用 M4 防篡改螺钉固定支架。
   注意：*确保支撑不会抑制机械命令。*



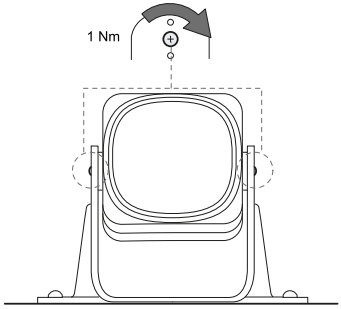
2. 松开侧面螺钉以使传感器倾斜。



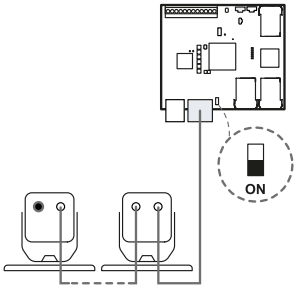
3. 将传感器倾斜到所需倾斜度。



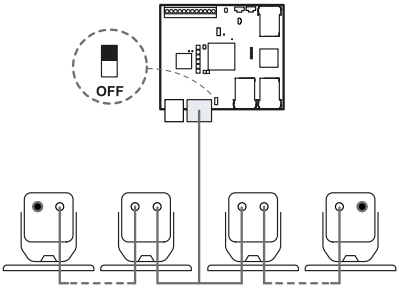
4. 拧紧螺钉。



链条示例



链条末端带控制器的链条和一个带终端连接器的传感器



链条内侧带控制器的链条和两个带终端连接器的传感器

配置

安装 Inxpect Safety 应用程序

***注**:如果安装失败，则可能缺少应用程序所需的依赖项。更新您的操作系统或联系我们的技术支持以获取帮助。*

1. 从 https://www.inxpect-tj.com/downloads.html 网站下载应用程序并将其安装在计算器上。
2. 使用 Microsoft Windows 操作系统，从同一网站下载并安装 USB 连接驱动程序。

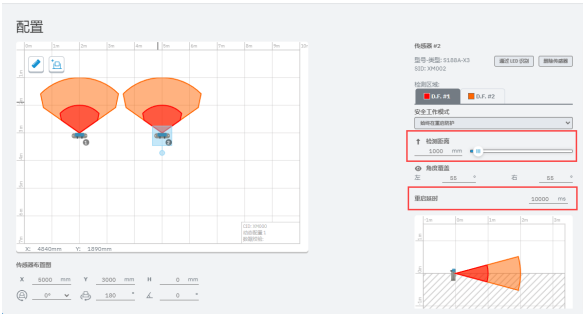
配置 Inxpect 超值版

1. 使用配有迷你 USB 连接器的数据 USB 线缆将控制器连接到计算机。 2. 为控制器供电。 3. 启动Inxpect Safety应用程序。	-
4. 选择连接模式 (USB)。	

5. 设置新的管理员密码，记住该密码并仅将其提供给授权人员。

6. 设置传感器数量：传感器节点 ID 自动分配，显示 控制面板 页面 Inxpect Safety 的应用程序。

8. 在 **配置**，针对每个传感器的每个检测区域，设置检测距离。
9. 仅适用于 S188A-X3 传感器，同时设置重启超时。



10. 在 **设置 > 数字量输入-输出**，根据需要将数字输出功能设置为 检测信号 "N" 或者 检测警告 "N"。

11. 若要管理静音功能(例如带 S188A-X3 传感器)，在 **设置 > 静音** 中，根据数字输入的逻辑将传感器分配到各组。

12. 在 **设置 > 数字量输入-输出** 中，将数字输入设置为 **静音组 "N"**(双通道)或 单**通道 > 静音组 "N"**(单通道)。

13. 根据需要设置其他数字输出和输入。

-

14. 单击 **应用更改** 以保存配置。

***注意：**若至少连接了一个输入，还必须连接 SNS 输入 "V+ (SNS)" 和 GND 输入 "V- (SNS)"。*

下一步操作

若要下载其他 Inxpect 超值版 文档，请扫描以下二维码：

https://www.inxpect-tj.com/downloads.html

EN - Installation instructions

General warnings

- Wrong installation and configuration of the system decreaseor inhibit both the protective function of the system and the safety of the device. Follow the instructions provided in this document for correct installation of the system.
- The presence of static objects, in particular metallic objects, within the field of view may limit the efficiency of sensor detection. Keep the sensor field of view unobstructed.

Certifications

All updated certifications can be downloaded from https://www.inxpect-tj.com/downloads.html.

CE conformity

The manufacturer, Inxpect SpA, states that Inxpect Value Line complies with the 2014/53/EU directive. The full EU Declaration of Conformity text is available on the company's website: https://www.inxpect-tj.com/downloads.html

Component structure

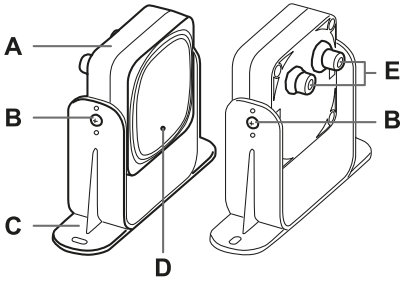
Part	Description
A	I/O terminal block
B	System status LEDs
C	Network parameter reset button / Factory reset button
D	Reserved for internal use. Output reset button
E	Micro-USB port (micro-B type) for connecting the PC and communicating with the Inxpect Safety application
F	Power supply terminal block
G	Power supply LEDs (steady green)
H	CAN bus terminal block for connecting the first sensor
I	DIP switch to turn on/off the bus termination resistance: • On (top position, default) = resistance included • Off (bottom position) = resistance excluded
J	Status LED of hardware functions of the secondary micro-controller
K	Status LED of hardware functions of the primary micro-controller

Control unit system status LED

The LEDs are each dedicated to a sensor, and can display the following statuses:

Status	Meaning
Steady green	Normal sensor function and no motion detected
Orange	Normal sensor function and some motion detected
Flashing red	Sensor in error
Steady red	System error
Flashing green	Sensor in boot status

S188A sensors



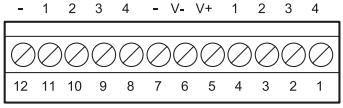
Part	Description
A	Sensor
B	Screws for fastening the sensor at a specific inclination
C	Mounting bracket
D	Status LED
E	Connectors for connecting the sensors in a chain and to the control unit

S188A sensor status LED

Status	Meaning
Steady on	Sensor is working. No motion detected.
Rapid flashing on (100 ms)	Sensor is detecting motion. Not available if the sensor is in muting.
Other conditions	Error

Terminal blocks and connectors pin-outs

Control unit digital inputs and outputs terminal block



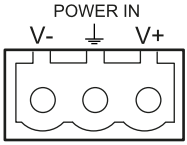
***Note**: facing the control unit so that the terminal block is on the top left, number 12 is the closest to the control unit corner.*

Terminal block	Symbol	Description	Pin
Digital In	**4**	Input 2, Channel 2, 24 V DC type 3 - INPUT #2-2	1
	3	Input 2, Channel 1, 24 V DC type 3 - INPUT #2-1	2
	2	Input 1, Channel 2, 24 V DC type 3 - INPUT #1-2	3
	1	Input 1, Channel 1, 24 V DC type 3 - INPUT #1-1	4
	V+	V+ (SNS), 24 V DC for diagnostics of the digital inputs (mandatory if at least one input is used)	5
	V-	V- (SNS), common reference for all digital inputs (mandatory if at least one input is used)	6
Digital Out	**-**	GND, common reference for all digital outputs	7
	4	Output 4 (OSSD4)	8
	3	Output 3 (OSSD3)	9
	2	Output 2 (OSSD2)	10
	1	Output 1 (OSSD1)	11
	-	GND, common reference for all digital outputs	12

***Note**: the cables used must have a maximum length of 30 m and the maximum operating temperature must be at least 80 °C.*

***Note**: use only copper wires with a minimum gauge of 18 AWG and a torque of 0.62 Nm.*

Control unit power supply terminal block



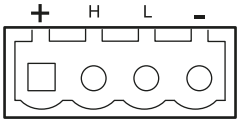
***Note**: front view of connector.*

Symbol	Description
V-	GND
⏚	Earth
V+	+ 24 V DC

***Note**: the maximum operating temperature of the cables must be at least 70 °C.*

***Note**: use only copper wires with a minimum gauge of 18 AWG and a torque of 0.62 Nm.*

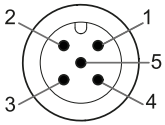
Control unit CAN bus terminal block



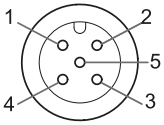
CAN BUS

Symbol	Description
+	+ 12 V DC output
H	CAN H
L	CAN L
-	GND

Sensor M12 CAN bus connectors



Male connector



Female connector

Pin	Function
1	Shield to be connected to the functional earth on the power supply terminal block of the control unit.
2	+12 V dc
3	GND
4	CAN H
5	CAN L

Installation

Materials required

- Two M4 tamper-proof screws to mount each sensor.
- Cables to connect the control unit to the first sensor and the sensors to one another.
- A data USB cable with a micro-USB connector (micro-B type).
- A bus terminator (product code: 07000003) with resistance of 120 Ω for the last sensor of the CAN bus.
- A screwdriver for tamper-proof screws to be used with the Hex pin security bit supplied in the control unit package.
- If necessary, to protect the sensor and to prevent reflections from generating undesired alarms, one Metal protector kit (product code: 90202ZAA) per sensor. See the instructions supplied with the kit for installation instructions.

  ***Note**: the Metal protector kit is particularly recommended if the sensor is installed on parts that are moving, vibrating or that are near vibrating parts.*

Operating system required

- Microsoft Windows 10 or later
- Apple OS X 11.0 or later

Install the control unit

WARNING! To prevent tampering, make sure the control unit is only accessible to authorized personnel (e.g., key-locked electrical panel).

1. Mount the control unit on the DIN rail.
2. Make electrical connections.

NOTICE: *if at least one input is connected, the SNS input "V+ (SNS)" and the GND input "V- (SNS)" must also be connected.*

NOTICE: *when powered, the system takes about 2 s to start. During that period, the outputs and the diagnostic functions are deactivated, and the green sensor status LEDs of the connected sensors in the control unit flash.*

NOTICE: *make sure to avoid any EMC interference during the control unit installation.*

Install the sensors

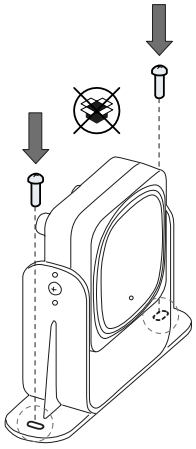
Note*: for installation with Metal protector kit (product code 90202ZAA), see the instructions supplied with the kit.*

Note*: the usage of a thread-locking fluid on the threads of fasteners is suggested, especially when the sensor is installed on a moving or vibrating part of the machinery.*

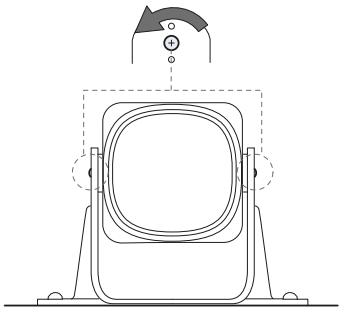
Note*: if the sensor is installed on parts that vibrate and objects are present in the field of view, the sensor could generate undesired alarms.*

1. Position the sensor as indicated in the configuration report and fasten the bracket with two M4 tamper-proof screws.

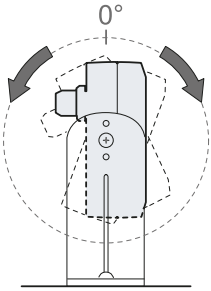
   NOTICE: *make sure the support does not inhibit machinery commands.*



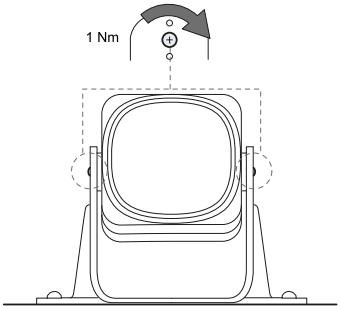
2. Loosen the side screws to tilt the sensor.



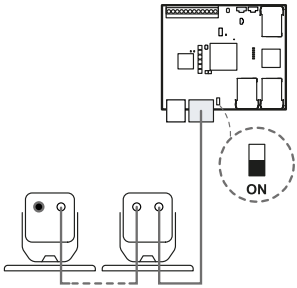
3. Tilt the sensor to the desired inclination.



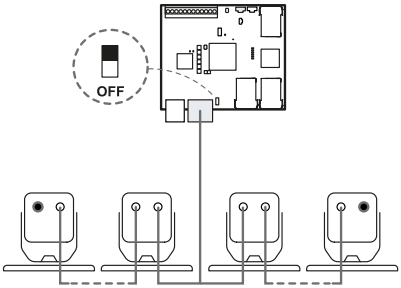
4. Tighten the screws.



Chain examples



Chain with control unit at the end of the chain and a sensor with termination connector



Chain with control unit inside of the chain and two sensors with termination connector

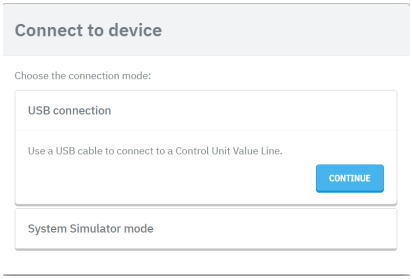
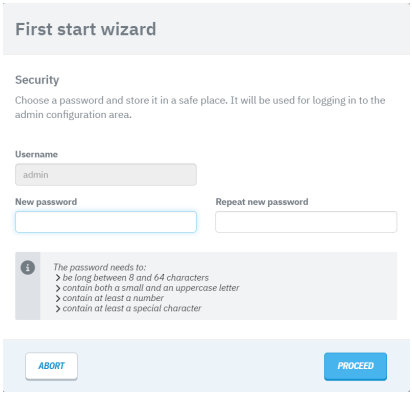
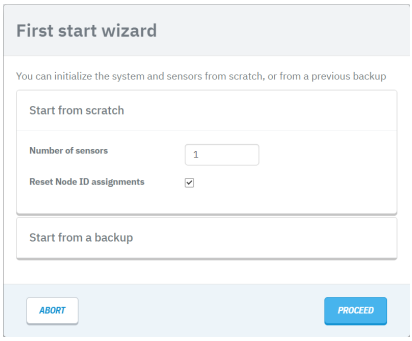
Configuration

Install the Inxpect Safety application

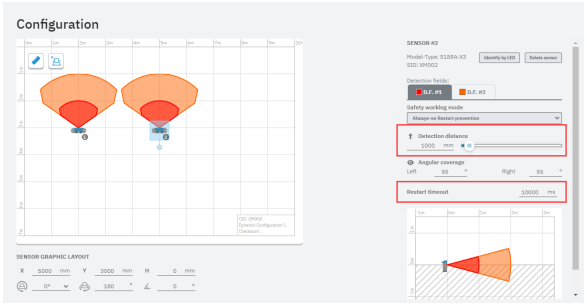
***Note**: if the installation fails, the dependencies needed by the application may be missing. Update your operating system or contact our Technical Support to receive assistance.*

1. Download the application from the https://www.inxpect-tj.com/downloads.html website and install it on the computer.
2. With Microsoft Windows operating system, download and install from the same site also the driver for USB connection.

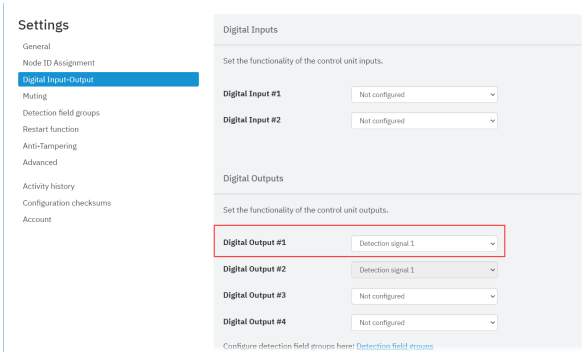
Configure the Inxpect Value Line

1. Connect the control unit to the computer using a data USB cable with a mini-USB connector. 2. Supply power to the control unit. 3. Start the Inxpect Safetyapplication.	-
4. Choose the connection mode (USB).	
5. Set a new admin password, memorize it, and provide it only to authorized people.	
6. Set the number of sensors: the sensors node ID are automatically assigned and the Dashboard page of the Inxpect Safety application is displayed.	

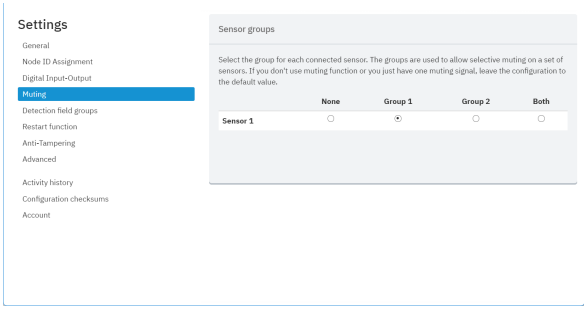
8. In **Configuration**, for each detection field of each sensor, set the detection distance.
9. Only for S188A-X3 sensors, set also the restart timeout.



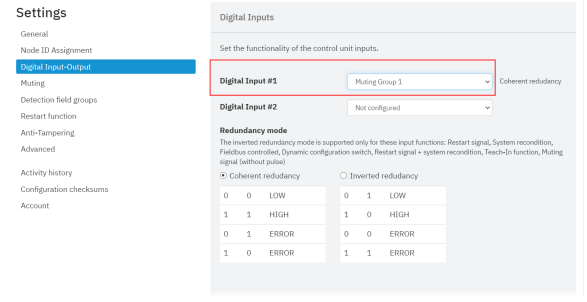
10. In **Settings** > **Digital Input-Output**, set the function of digital outputs as Detection signal "N" or Detection warning "N" as desired.

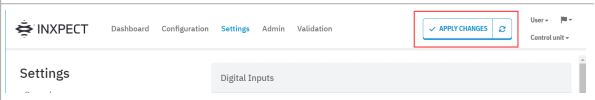


11. To manage muting function (e.g. with S188A-X3 sensor), in **Settings** > **Muting**, assign the sensors to the groups according to the logic of the digital inputs.



12. In **Settings** > **Digital Input-Output**, set the digital input as **Muting group "N"** (dual channel) or **Single channel** > **Muting group "N"** (single channel).



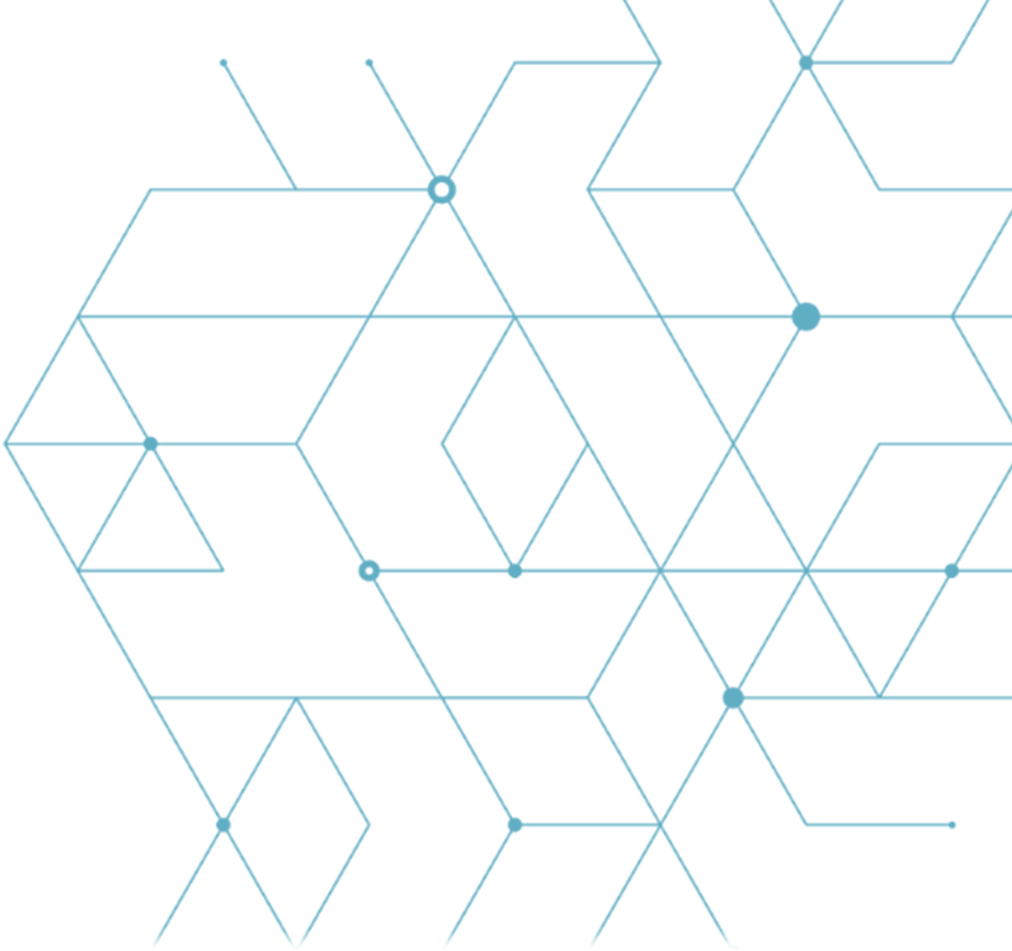
13. Set the other digital outputs and inputs as desired.	-
14. Click **APPLY CHANGES** to save the configuration.	

NOTICE: *if at least one input is connected, the SNS input "V+ (SNS)" and the GND input "V- (SNS)" must also be connected.*

What to do next

To download other Inxpect Value Line documentation, scan the following QR code:

https://www.inxpect-tj.com/downloads.html



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