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NurseCall NC8 Programming Reference Manual

Document history

Author / Editor	Date	Ver	Description
Paul Leferink Marc Jeanmonod	18.06.2021	0.1	First draft issue
Paul Leferink Marc Jeanmonod	7.07.2021	0.2	Second draft issue
Paul Leferink Marc Jeanmonod	15.12.2021	1.0	Final issue

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1 General description

1.1 Used warning and symbols

Depending on the hazard level, the warnings and notes used in this manual have the following meaning:

⚠	**Notice** Means that damage to the equipment or an undesired condition may occur if the mentioned precautions are not taken.

ⓘ	**Info** General notes and additional information.

1.2 Presentation of the whole system

The NurseCall system and its high-end wireless peripherals is used in elderly homes, hospitals, psychiatric institutions, and other organizations where patient, resident or caretaker should summon help in a reliable and easy manner.

This is done simply with a short press on a transmitter button, caretakers will be then called immediately by the system.

All device settings are wireless programmable using a special programming device and its associated NurseCall Configuration Manager (NCCM) software program.

ⓘ	**Info** This manual refers to all NurseCall 8 devices and all 868.8MHz wireless peripherals.

2 Reading and programming the various NC8 devices

All NurseCall 8 devices, namely the RE80, S87, S87L S85, N86 / N86-2R, UPCBA80, RAC80, LE80, B81, B80A and AP80 can only be read and configured with the PR80 programming device and its associated software program the NCCM. The NCCM is specially developed to read, program, and upgrade wireless TeleAlarm NC8 devices.

Only an USB connection between a personal computer (PC in this document) and the PR80 is needed to power and connect the PR80 to the NCCM program. The NCCM program needs a PC running Windows 10 or later.

3 Connection and programming

3.1   Connections
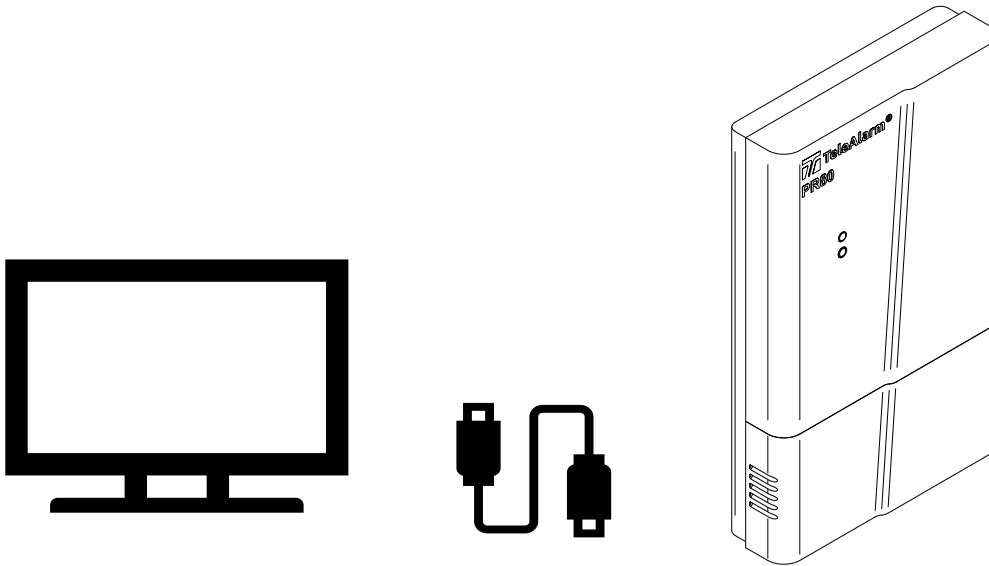
3.2   Devices' settings

Devices can be adapted to the most frequently needed usages.

The possibility to change the settings makes the product extremely flexible for the different needed applications.

The way to reprogram settings and upgrade the firmware (FW in this document of the devices is done with a minimum of infrastructure, only a PC running Windows and a PR80 connected to the PC by an USB cable.

The devices are separated in three main categories :

- The emitters : S87, S85, S87L, RAC80, N86, N86-2R and UPCBA80

- The acknowledgement devices : B81 and B80A. This is a special category of emitters

- The receivers : RE80 (radio board embedded in NurseCall 8 units), LE80 and AP80

3.3   Wake-up / Plane Mode Status

The "Plane Mode Status" means the transmitter is in sleep mode.

The transmitter parameter "Plane Mode Status" is active at delivery for most of the devices. To leave the "Plane Mode Status" a transmitter must be triggered at least one time, by using its button.

A transmitter can be read and programmed while it is still in plane mode status.

The RAC80 is switched off at delivery and can only be activated by pressing the light button till the button is flashing green, and then releasing the button.

The N86, N86-2R and the UPCBA80 are not delivered with the battery already inserted, they are also not in "Plane Mode Status" at delivery.

4 NCCM functions

4.1 NCCM icons

The NCCM functions are shown by the following icons :
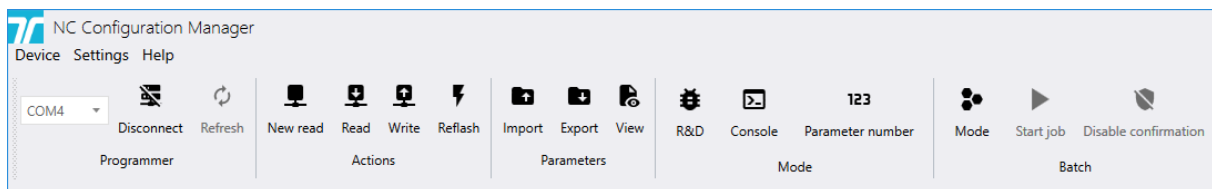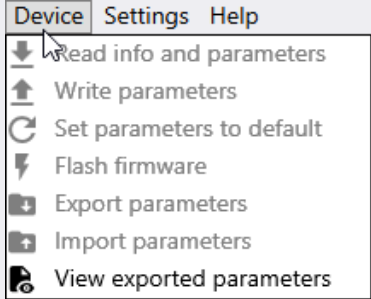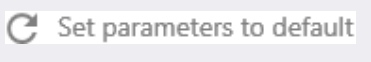
4.2 Functions description

Icon	Description
COM4 ▾	Programmer is connected to the indicated COM port (4 in this example). Manual selection of the COM port is possible
Connect Disconnect	To connect and disconnect the PR80 programmer
Refresh	Refresh COM port connection
New read	Read all devices located in the PR80 vicinity
Read	Read again the settings from the actual displayed device
Write	Write settings to the device
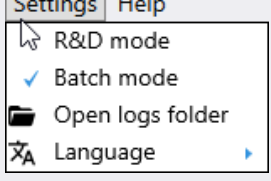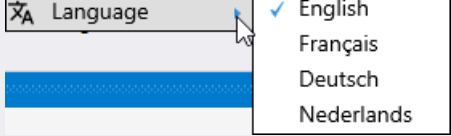
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Reflash	Start FW upgrade process
Import	Import settings file
Export	Export settings file
View	View the content of an exported file
123 Parameter number	Show parameters numbering
Mode	Start batch mode process
Start job	Start one of the batch mode variants
Disable confirmation	Disable confirmation of each device in batch mode (in write parameters and flash firmware modes only, the read parameters mode doesn't request a confirmation).

4.3   Menus

Menu	Description
Device Settings Help ↓ Read info and parameters ↑ Write parameters C Set parameters to default ⚡ Flash firmware Export parameters Import parameters View exported parameters	All tool bar icon functions can also be started under the menu "Device". The only function without an icon in the tool bar is "Set parameters to default"
C Set parameters to default	Activating this function will show the displayed device default parameters. With the function "Write" the parameters can be written to the device.

Settings | Help R&D mode ✓ Batch mode 📁 Open logs folder 🗛 Language ▶	Menu "Settings" offers to start the Batch mode procedure, to open the log folder and to select the wished NCCM language.
🗛 Language ✓ English Français Deutsch Nederlands	Four languages are available: English, French, German, and Dutch

5 Reading and programming operations

5.1 Preparations for reading "Device/info", firmware upgrade and changing device settings.

1. Download and install the NCCM program. The latest NCCM program can be downloaded from the TeleAlarm Homepage : www.telealarm.com
2. Download the latest FW that corresponds to the device to be upgraded.
3. Connect the programmer unit PR80 to a free USB port of your PC
4. Start the NCCM program on your PC

Remark: The COM port will be automatically selected by the system.

⚠	**Notice** The required USB drivers should normally be installed automatically after connecting the PR80 USB cable to the PC. The automatic installation of the drivers is done in a few minutes. If the connection is not possible, please check the availability of the COM port. Check if the PC is connected to the internet and perform the drivers update manually if necessary.

⚠	**Notice** The manual installation of the USB driver should only be carried out by a computer technician.

5.2 Reading device information

5.2.1 Instructions to read device information

Please follow these instructions to read the TeleAlarm NurseCall 8 transmitters and receivers, as well as the programmer device information.

1. Perform "Connect" to establish the connection between the PC and the PR80. If the connection is not established, click on "Refresh" and try to connect again.
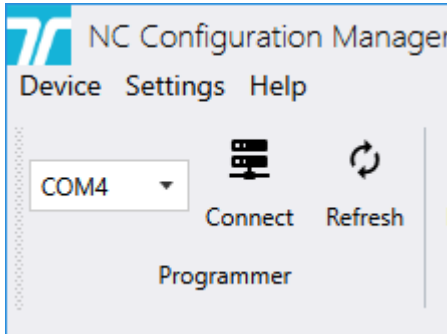
2. Some extra NCCM program functions will switch to "active" when the connection is successfully established.
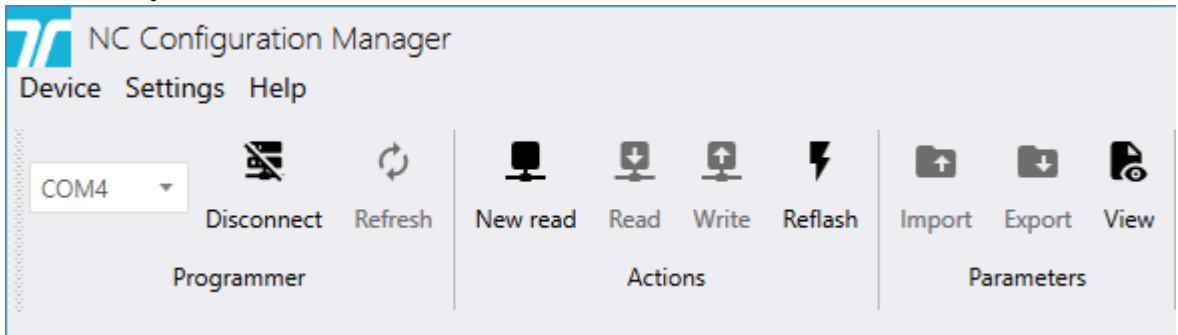
3. Lay the device to be read close or on top of the programming device.

4. Perform "New read" to see the devices detected by the PR80. More than one device can be detected by the PR80.

Select a device

Many devices are detected, please select one:

UNIQUE ID	PRODUCT TYPE	
0x50D81056	S87	
0x549612E3	S87	
0x5232114F	N86	
0x55581374	RAC80	

5. If this is the case, select the device to be read.

UNIQUE ID	PRODUCT TYPE	
0x50D81056	S87	
0x549612E3	S87	
0x5232114F	N86	
0x55581374	RAC80	

Select a device

Many devices are detected, please select one:

The PR80 and the device LED will flash white during the process.

A successful upload of the device's settings is indicated by :

Success
Read parameters succeeded

An unsuccessful device's settings upload is indicated by :

Error
Read parameters failed

In this case change the position of the PR80 or the device to be read and repeat the action

6. The device information is displayed under the heading "Info".
The below device's values cannot be changed; they are factory values. Only the firmware version can change if a FW upgrade is performed.

Info

Unique ID	0x549612E3
Production ID (12 bits)	739
Production date	2/11/2021
Firmware version	03.B00.01.1365
Product type	S87
Hardware revision	01.05

5.2.2 Battery capacity

The capacity of the device battery is displayed when a "Read device" is made, using three different capacity levels : green "Full capacity", green "Reduced capacity" and red "Battery empty":

ⓘ Info	After an exchange of the battery the transmitter should be triggered a few times before it can send the correct battery capacity!

When the status "Battery empty" is displayed as the following pictures shows, the battery should be replaced within the ten days.

A "Battery empty" status will be sent per radio once the transmitter has detected a "Battery empty" level three times in a row (check done during alarm or once a day).

5.3 Firmware upgrade

5.3.1 Firmware upgrade Instructions for NC8 devices

⚠ Notice	The last revision of the NCCM software must be installed, otherwise identification of the last device FW revision could not be done

ⓘ Info	A FW upgrade does not change the selected customer device settings

Please follow these instructions to upgrade TeleAlarm NurseCall 8 transmitters and receivers (concerning the programmer device PR80 itself : see next chapter).

1. Perform a read device information as explained in chapter 5.2

2. The NCCM will then indicate with a (i) that an outdated FW is detected. Download the latest device FW revision from the partners' area of the TeleAlarm internet site (homepage: http://www.telealarm.com)
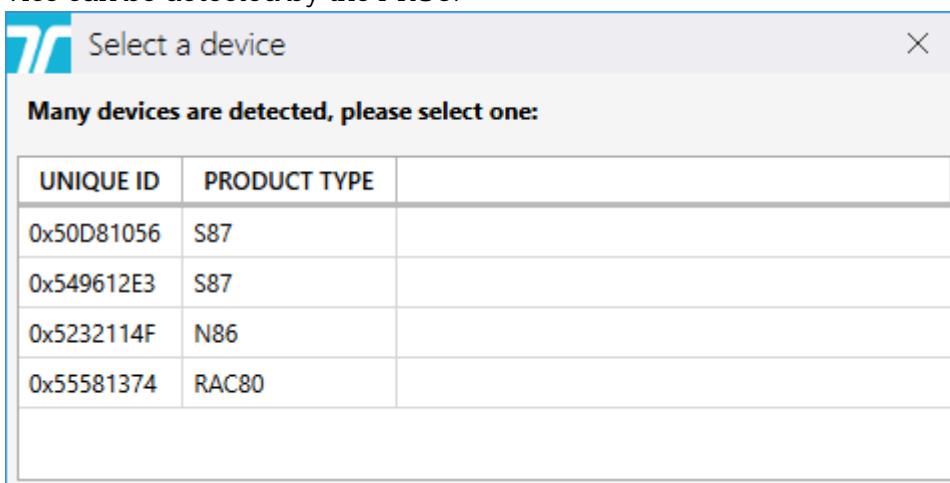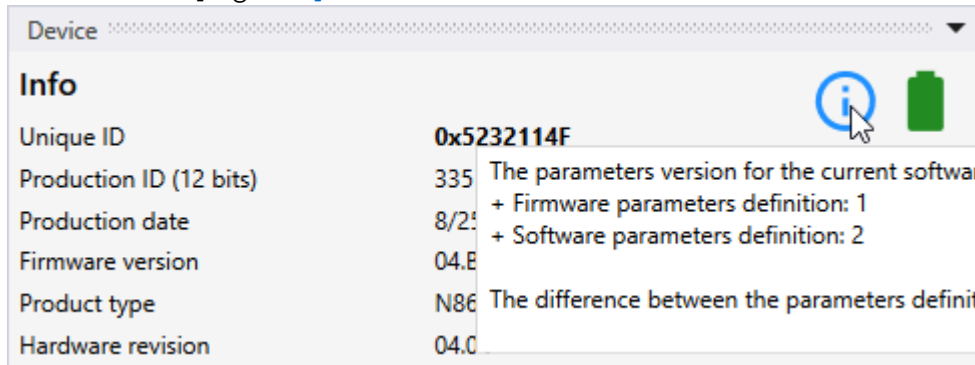

3. Perform "Connect" to establish the connection between the PC and the PR80. If the connection is not established, click on "Refresh" and try to connect again.
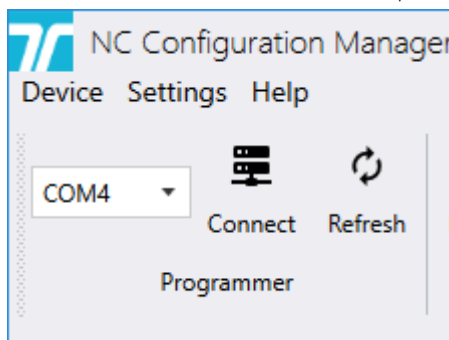
4. Some extra NCCM program functions will switch to "active" when the connection is success-fully established.
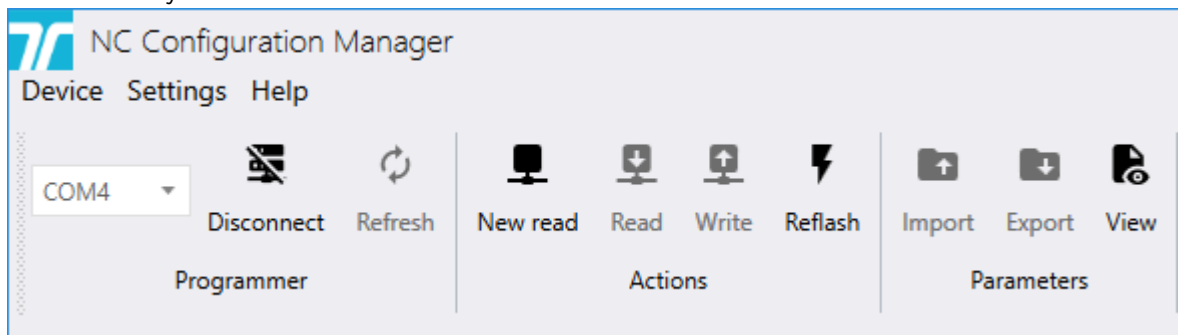
5. Lay the device to be upgraded close or on top of the PR80 programming device.

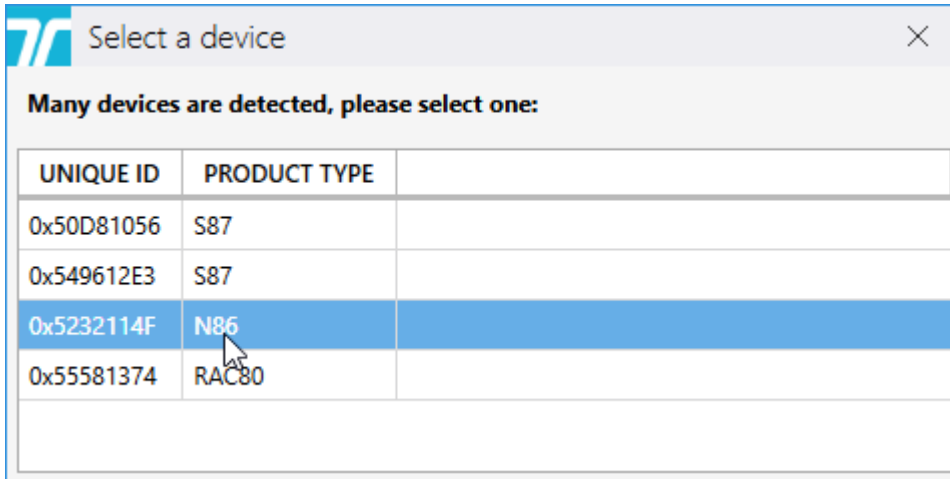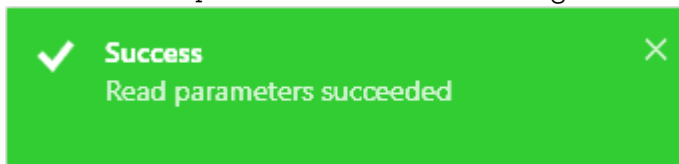6. Perform "New read" to see the devices detected by the PR80. More than one device can be detected :
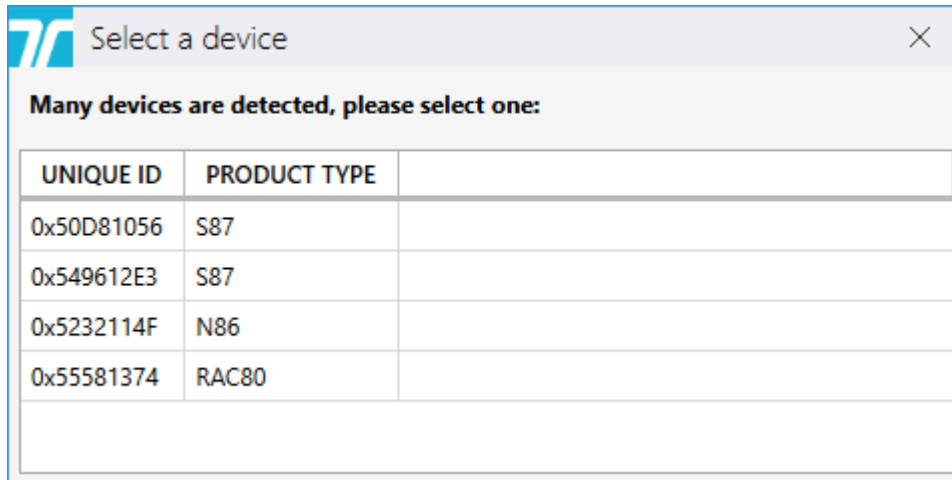
7. If this is the case, select the device to be upgraded.
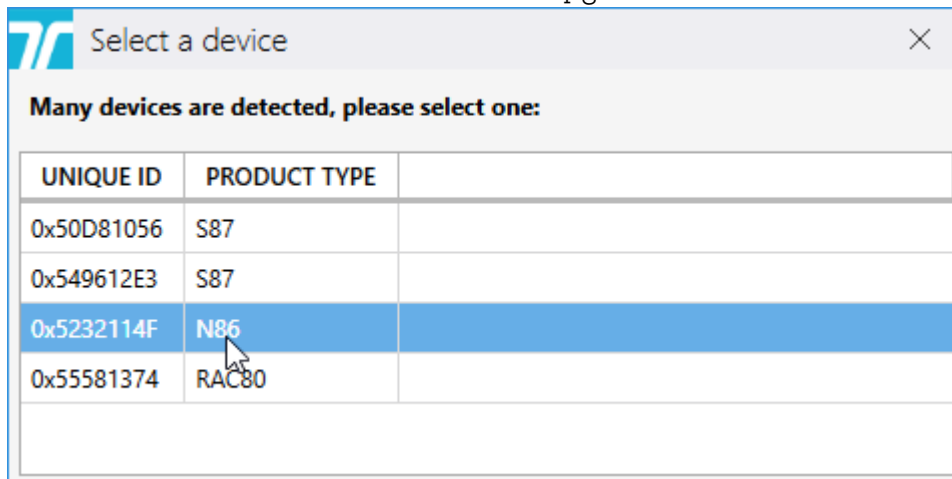
The PR80 and the device LED will flash white during the process.

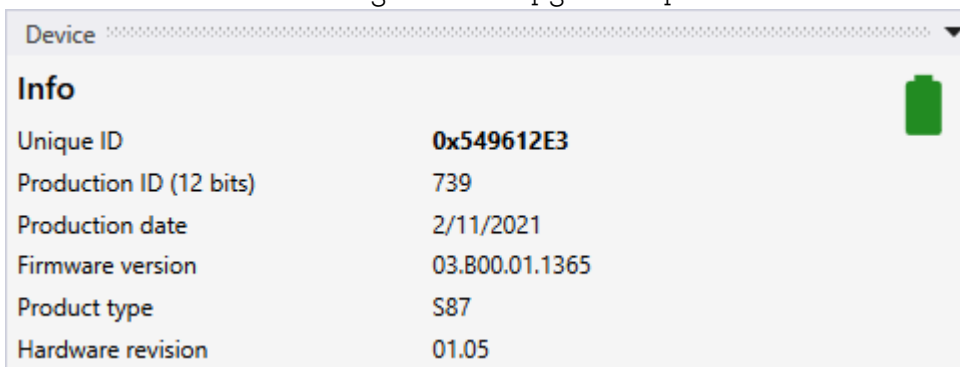A successful upload of the device's settings is indicated by :
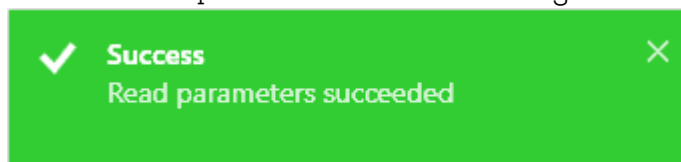
An unsuccessful device's settings upload is indicated by :

In this case change the position of the PR80 or the device to be upgraded and repeat the action.

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8. To start the FW upgrade process, click on the icon "Reflash". The hereunder image will popup:

To upload the FW file click on ⋯ and select the folder that contains it. It must correspond to the product type. The FW procedure can be performed only when the types of the file and the product match.

9. Click on the "Flash" button. The time taken by the FW upgrade depends on the product type, an average time of about 45s could be expected. During the process, the PR80 LED will firstly flash pink and then both devices LED will flash white.

A successful FW upgrade will be indicated by :
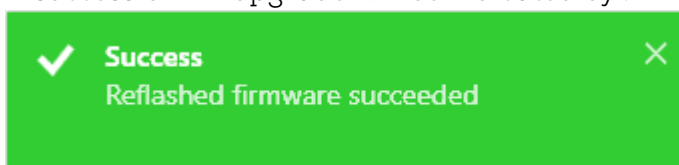
An unsuccessful FW upgrade is indicated by :

In this case change the position of the device and repeat the action.

	Info
(i)	For more information on upgrading the FW of a number of identical units, see "batch mode".

	Notice
⚠	To keep the same settings after performing a "FW upgrade", please make sure that the setting "keep user settings" is activated!

	Notice
⚠	Once a device has been upgraded, it is mandatory to perform a test to ensure the correct functioning of the device. The test can be done in a NurseCall environment.

	Notice
⚠	Some supervision signals could be lost during the FW upgrade process

	Info
(i)	The NCCM will not allow the user to load a firmware which is not compatible with the loaded device. The file selection is marked in red and the "Flash" button not available :
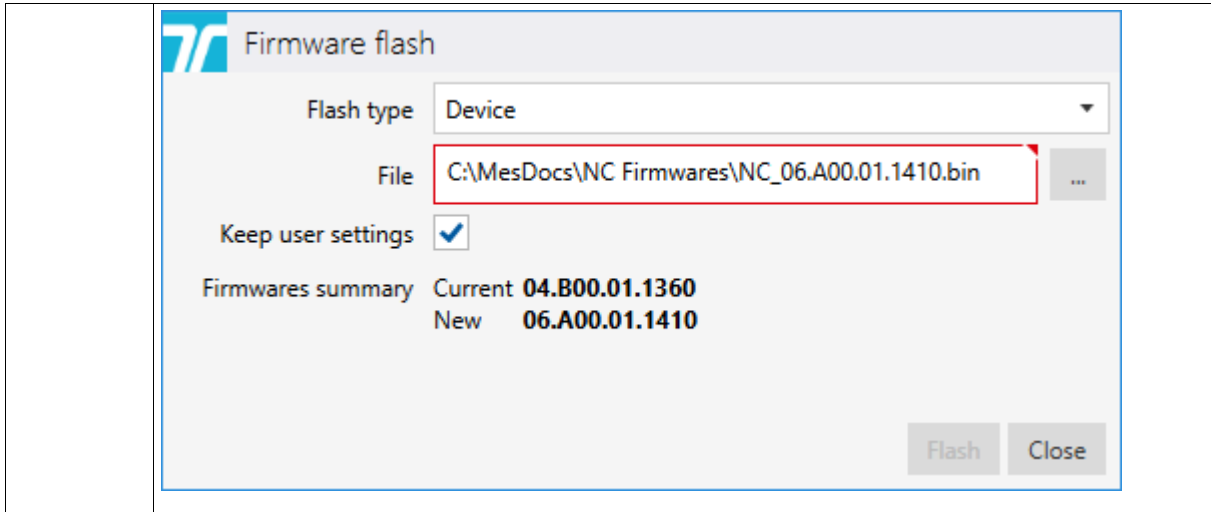
5.3.2 Firmware upgrade Instructions for PR80 Programming Device

⚠	**Notice**
	There is no indication if the PR80 Programming Device FW is outdated

Please follow these instructions to upgrade TeleAlarm programmer device PR80.

1. Connect the programmer unit PR80 to a free USB port of your PC

2. Start the NCCM customer program on your PC. The needed port COM will be automatically selected by the system.

3. Perform "Connect" to establish the connection between the PC and the PR80. If the connection is not established, click on "Refresh" and try to connect again.

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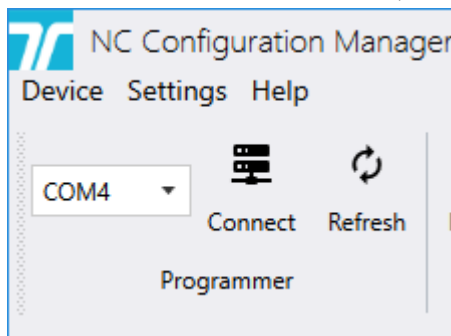
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4. Some extra NCCM program functions will switch to "active" when the connection is successfully established.
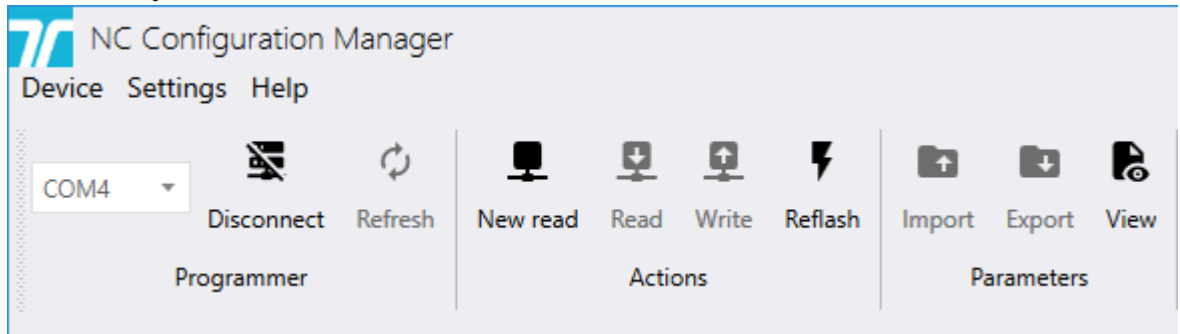
5. To start the PR80 FW upgrade process click on the icon "Reflash". The hereunder image will popup :
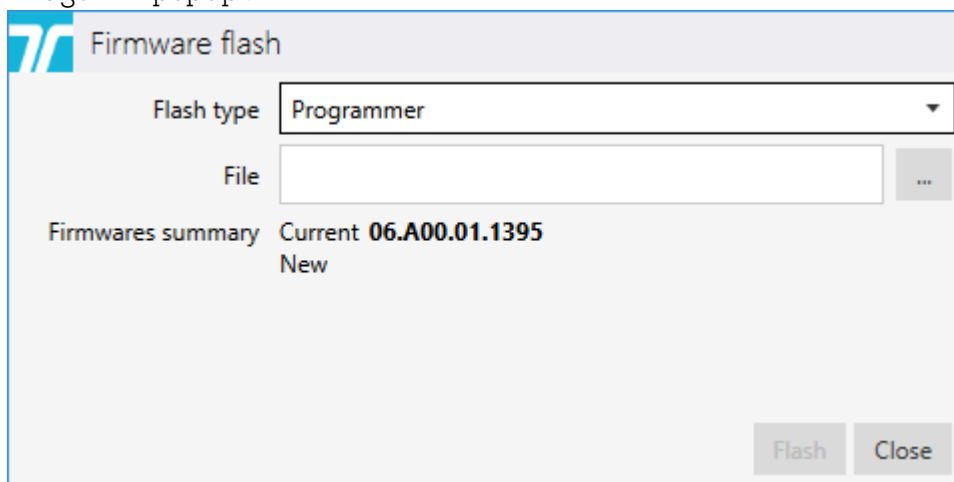
6. Select the flash type device "Programmer". To upload the latest FW file, click on

   [...] and select the folder that contains the latest FW file. It must correspond to the PR80 product type. The FW procedure can be performed only when the types of the file and the product match.
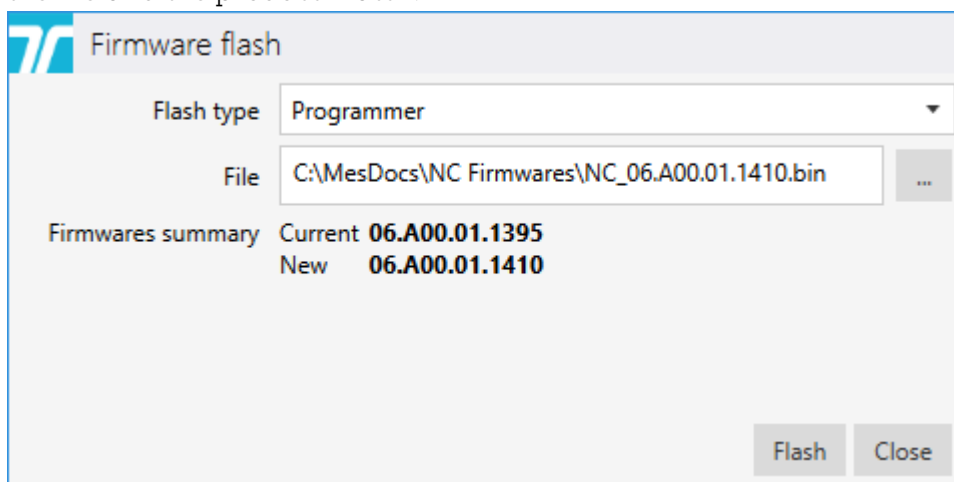
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7. Click on the "Flash" button. During the process, the PR80 LED will firstly flash pink and then briefly red and blue.

   A successful FW update will be indicated by :
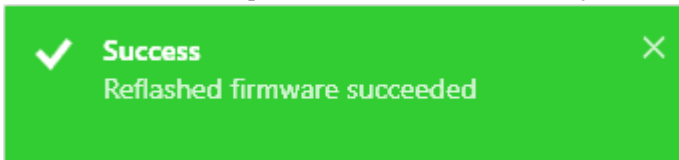
   An unsuccessful FW update is indicated by :
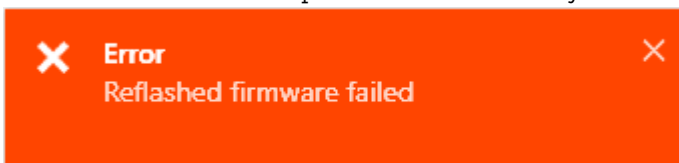
   In this case check the USB connection and repeat the action.

8. After the FW update the PR80 is ready for the next action!

5.4 Instructions to read, change and save device settings

1. Perform "Connect" to establish the connection between the PC and the PR80. If the connection is not established, click on "Refresh" and try to connect again.
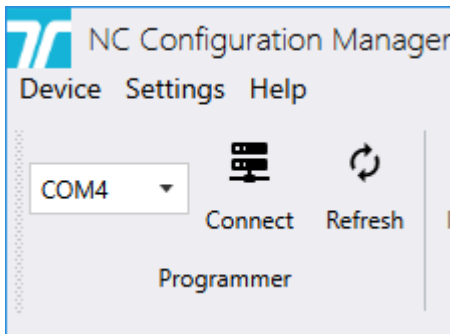
2. Some extra NCCM program functions will switch to "active" when the connection is success-fully established.
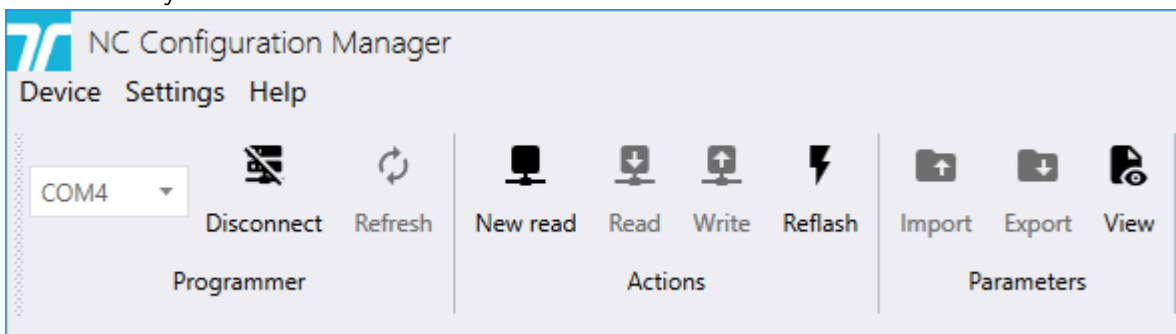
3. Lay the device to be read close or on top of the PR80 programming device.

4. Perform "New read" to see the devices detected by the PR80. More than one de-vice can be detected.

5. After selecting the unit to be read, all unit settings are displayed.
   The PR80 and the device LED will flash white during the process.

   A successful parameter upload will be shown by :
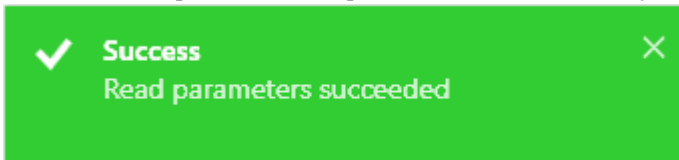

   An unsuccessful parameter upload is indicated by :
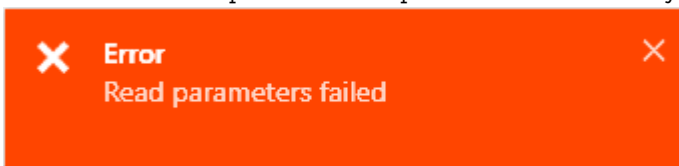
   In this case change the position of the PR80 or the device to be read and repeat the action

6. The displayed settings can now be adapted accord the system needs.
   All possible customer settings are explained in the tables in chapter 6.

7. To write the changed settings into the device, click on the "Write" button. Do not move away the device before the writing is finished.

8. A successful writing is finished when the hereunder message pops up
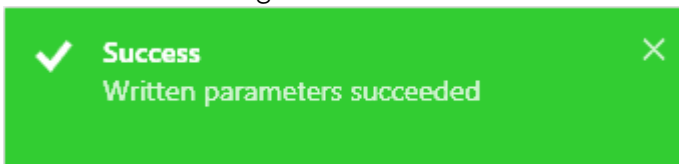
   An unsuccessful "Write" will be indicated by,
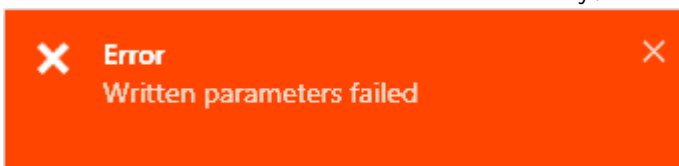
   In this case change the position of the PR80 or the device to be programmed and repeat the action

9. After the "Write" action the NCCM is ready for the next action!

⚠️	**Notice** After a device has been reprogrammed, it is mandatory to perform a test to ensure the correct functioning of the device. The test can be done in a NurseCall environment.

6 Devices and customer settings

6.1 Parameters and settings description

Customer parameter	Description
Alternate ID	The alternate ID could be used in a NC8 system where duplicate ID codes may occur. The ID can be a number from 1 up to 4094 and is filled in as a decimal number. The original ID will never be deleted and will always be used when the setting "Use alternate ID" is disabled.
Use alternate ID	Disabled: the Unique ID is sent with the datagram and used by the system. Enabled: the alternate ID is sent with the datagram and used by the system.
Supervision interval	The correct function of a transmitter can be monitored with help of a supervision message sent periodically. The interval of this message can be defined from 30 sec. up to 24h in steps of 30 seconds, or disactivated by the 0 value. It must be set to "1" (30s) to be compatible with the VDE 0834 German standard.
Supervision with ack.	If activated the supervision message requests an acknowledgement answer from the receiver. Warning : if the emitter is outside the receiver's radio range the battery could be drained faster.
LE80 operating mode	It is possible to change the LE80 product behavior in selecting different modes, described briefly below : Mode 1: Normal mode, 20 Tx can be programmed, calls LED2 / relay 1 (2 sec), battery low LED 2 / relay 2 (2sec.) Mode 2: LED 2 deactivated at battery-low indication, otherwise same than mode 1 Mode 3: Dementia, S87L and B80A detected, relay 1 used to lock door (location) Mode 4: Dementia with Accompany, alarm send after 10 sec. to a wired system if a S87L is detected and a B80A isn't (location) Mode 5: Remote Control, 20 Tx can be programmed, relay 1 switches ON/OFF with the same TX Mode 6: Open receiver, relay 1 switches ON/OFF for 10 seconds for any detected Tx Mode 7: Open receiver which react only to the programmed location number. All location numbers (location) can be used but no dementia alarm.

	Mode 8: Unique N86 behavior, same as mode 1 but with special N86 behaviors and special behaviors when Assistance alarm from all other transmitters except N86. Mode 9: Dual channel receiver, calls activate relay 1 or 2 according odd and even programmed slots
Trigger 1-12	A trigger is corresponding to a contact actuator (button, reed relay, etc.) which, once activated, sends a radio datagram. Each trigger has an associated "criterion" number, which is a call type, for instance "Call for Help". In most of the cases, it can be set freely.
Trigger 1	Main Alarm button. Criterion is fixed.
Trigger 2	N86 Assistance button.
Trigger 3	N86 Emergency buttons combination.
Trigger 4	N86 Clear Alarm button.
Trigger 5	Closing contact #1 UPCBA80 = E2 to E1/E4 (GND) RAC80 = Reed relay closes N86 = C7 to C8/C10 (GND)
Trigger 6	Opening contact #1 UPCBA80 = E2 opening RAC80 = Reed relay opens N86 = C7 opening
Trigger 7	Closing contact #2 UPCBA80 = E3 to E1/E4 (GND). Can be configured for repeated alarms RAC80 = External wired input closes N86 = C11 to C8/C10 (GND)
Trigger 8	Opening contact #2 UPCBA80 = E3 opening. Can be configured for repeated alarms RAC80 = External wired input opens N86 = C11 opening
Trigger 9	Closing contact #3 UPCBA80 = E5 to E1/E4 (GND) N86 = C9 to C8/C10 (GND)
Trigger 10	Opening contact #3

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	UPCBA80 = E5 opening N86 = C9 opening
Trigger 11	Closing contact #4 UPCBA80 = E6 to E1/E4 (GND)
Trigger 12	Opening contact #4 UPCBA80 = E6 opening
Multiple receivers	A transmitter will send messages according to the selected type(s) of receiver(s). If either the "RE80 / AP80" (RE80 – NC8 units / AP80) or the "LE80" type is selected the transmitter will send alarms messages to the selected type and is waiting an acknowledgment only from it. If the multiple receivers' choice is selected ("Both" – RE80 – NC8 units and LE80), the alarms messages will be sent to both types of receivers. The RE80 / AP80 acknowledges first and then the LE80.
Dementia activation	If activated, a call will be automatically triggered by a S87L if a beacon, part of the TeleAlarm Dementia location system, is detected. The beacon number must be between 231 and 254 (beacon number could be adjusted between 001 and 254)
Dementia with extended range	If activated, a call will be automatically triggered by a S87L if a beacon, part of the TeleAlarm Dementia location system, is detected. The beacon number must be between 128 and 254 (extended range).
Button activation	The S87L button is normally used to send a call for help message. This parameter can be disabled if the transmitter is used as a dementia transmitter and a manual alarm action is not allowed.
Button with location	If enabled, pressing the S87L button will send a call together with the position number of the last detected beacon. If disabled, the transmitter always transmits the number "000" as the position number.
Presence mode activation	If enabled, staff can indicate their presence in activating the presence mode with the N86 green button and/or with a badge transmitter B81 and B80A If disabled, the presence mode is not available.
Send assistance only if presence activated	If enabled, an assistance call can only be triggered if the presence mode is activated. Pressing the blue button will trigger the call type "Help", the red and blue buttons together a call type "Urgent".

Internal antenna activated	If enabled the internal antenna of the devices will be used instead of the external one. Switching to the internal antenna will have an influence on the radio sensitivity !
LE80 slot 1-20	20 slots are available to store transmitter ID in the LE80 product. Behaviors are depending upon the LE80 mode of operation.
Badge with alarm mode	If "Clear Alarm" is selected, an acknowledgement badge B81 or B80A activation will only clear the current alarm. If "Clear Alarm" + "Nurse ID Alarm" is selected, the caretaker is also allowed to trigger an emergency alarm.
LED brightness level	The N86 identification LED (useful to locate the device in dark conditions) light intensity can be adapted. The LED is only activated when the N86 is powered by an external power supply. This setting controls also the AP80 status LED.
LE80 slot local position	Local position memorized to work with LE80 mode of operation. 3, 4 and 7 (location modes)
Output sequence	The open collector output (available in the UPCBA80 and RAC80 products) is activated when a call type "Door" and/or "Window" is sent, according to the selected value, which corresponds to 0.5 sec. pulse(s), spaced out by 0.5 sec.
Send assistance after "Clear Alarm"	If enabled, an "Assistance" alarm will be sent when triggering an alarm call of level 1 (like "Help"), less than 5 seconds after the transmitter was acknowledged. Remark: If the repeat parameter is set for "Help" (Level 1), an assistance after Clear Alarm also causes the repetition of the assistance.
Repeat "Technical alarm"	If enabled, the N86 technical alarms are sent every 2 min. over a period of max. 20 min. All other transmitters do have a repeat time of 5 min. over a period of max. 15 min. The repetition is stopped if the alarm has been cleared.
Repeat "Help" alarms (Level 1)	If enabled, the N86 "Help" alarms (level 1, lowest priority) are sent every 2 min. over a period of max. 20 min. All other transmitters do have a repeat time of 5 min. over a period of max. 15 min. The repetition is stopped if the alarm has been cleared.
Repeat "Assistance" alarms (Level 2)	If enabled, the N86 "Assistance" alarms (level2, medium priority) are sent every 2 min. over a period of max. 20 min. All other transmitters do have a repeat

	time of 5 min. over a period of max. 15 min. The repetition is stopped if the alarm has been cleared.
Repeat "Emergency" alarms (Level 3)	If enabled, the N86 "Emergency" alarms (level 3, highest priority) are sent every 2 min. over a period of max. 20 min. All other transmitters do have a repeat time of 5 min. over a period of max. 15 min. The repetition is stopped if the alarm has been cleared.
N86 operating mode	It is possible to change the N86 product behavior in selecting different modes, described briefly below : "Standard": alarms can be cleared with the B81 and/or B80A badges, and/or by pressing the green N86 button. "Multiple Staff": more than one caretaker can register using the badge, which will not clear the presence mode. The N86 can only be put into "standby" by pressing the N86 green button. "Badge only": the N86 can only be put in presence mode and/or in standby with a B81 or a B80A badge, the green button is not active. In all cases, the nurse identification is transmitted if a badge is used.
LE80 reduced range	If enabled the LE80 product will receive radio signals from transmitters only in a range lower than about 8 meters

6.2 Settings range

The possible values which could be allocated to all settings are given in the next table :

Customer parameter	Settings range
Alternate ID	1-4094
Use alternate ID	Enabled or Disabled
Supervision interval	0 -2880. A 0 value means no supervision
Supervision with ack.	Enabled or Disabled
LE80 operating mode	Mode 1 to mode 9
Trigger 1-12	Criterion 1 to criterion 122+X. A 255 value means no criterion
Multiple receivers	"RE80 / AP80" (system with only RE80 - NC8 units and/or AP80), "LE80" (system with only LE80) or "Both"

	(system with dual types or receivers - RE80 – NC8 units / AP80 and LE80)
Dementia activation	Enabled or Disabled
Dementia with extended range	Enabled or Disabled
Button activation	Enabled or Disabled
Button with location	Enabled or Disabled
Presence mode activatable	Enabled or Disabled
Send assistance only if presence activated	Enabled or Disabled
Internal antenna activated	Enabled or Disabled
LE80 slot 1-20	Unique ID or Alternate ID or empty.
Badge with alarm mode	"Clear Alarm" only or "Clear Alarm" + "Nurse ID Alarm"
LED brightness level	0 – 8. A 0 value means Off, 1 - 8 are the brightness levels 8 is the maximum value.
LE80 slot local position	Local position memorized to work with LE80 mode of operation. 3, 4 and 7 (location modes)
Output sequence	0 – 3. A 0 value means Off, other mean 1,2 or 3 times switching from On (0.5 sec.) to Off (0.5 sec.)
Send assistance after "Clear Alarm"	Enabled or Disabled
Repeat "Technical alarm"	Enabled or Disabled
Repeat "Help" alarms (level 1)	Enabled or Disabled
Repeat "Assistance" alarms (level 2)	Enabled or Disabled
Repeat "Emergency" alarms (level 3)	Enabled or Disabled
N86 operating mode	Standard or multiple staff or badge only
LE80 reduced range	Enabled or Disabled

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6.3   Transmitters default settings

In the next table all settings which can be changed by the user are listed. The indicated value is the default one.

The indication back-slash "\" means there is no parameter for this specific device. "Crit." means criterion, "Disab." means "Disabled" and "Enab." means "Enabled".

Parameter	S85	S87	S87L	N86	N86-2R	RAC 80	UP-CBA 80	B80A	B81
Alternate ID	0	0	0	0	0	0	0	0	0
Use alternate ID	Disab.	Disab.	Disab.	Disab.	Disab.	Disab.	Disab.	Disab.	Disab.
Supervision interval	20	20	20	20	20	20	20	0	0
Supervision with ack.	Disab.	Disab.	Disab.	Disab.	Disab.	Disab.	Disab.	Disab.	Disab.
Trigger 1	Crit. 1	Crit. 1	Crit. 1	\	\	\	\	\	\
Trigger 5	\	\	\	Crit. 33	Crit. 33	Crit. 255	Crit. 33	\	\
Trigger 6	\	\	\	Crit. 255	Crit. 255	Crit. 121	Crit. 255	\	\
Trigger 7	\	\	\	Crit. 34	Crit. 34	Crit. 4	Crit. 34	\	\
Trigger 8	\	\	\	Crit. 255	Crit. 255	Crit. 255	Crit. 255	\	\
Trigger 9	\	\	\	Crit. 35	Crit. 35	\	Crit. 35	\	\
Trigger 10	\	\	\	Crit. 255	Crit. 255	\	Crit. 255	\	\
Trigger 11	\	\	\	\	\	\	Crit. 1	\	\
Trigger 12	\	\	\	\	\	\	Crit. 255	\	\
Multiple receivers	RE80/AP80	RE80/AP80	RE80/AP80	RE80/AP80	RE80/AP80	RE80/AP80	RE80/AP80	RE80/AP80	RE80/AP80
Dementia activation	\	\	Enab.	\	\	\	\	\	\
Dementia with extended range	\	\	Disab.	\	\	\	\	Disab.	\
Button activation	\	\	Enab.	\	\	\	\	\	\

Parameter	S85	S87	S87L	N86	N86-2R	RAC 80	UP-CBA 80	B80A	B81
Button with location	\	\	Enab.	\	\	\	\	\	\
Presence mode activatable	\	\	\	Disab.	Enab.	\	\	\	\
Send assistance only if presence activated	\	\	\	Disab.	Disab.	\	\	\	\
Internal antenna activated	\	\	\	\	\	\	Enab.	\	\
Badge with alarm mode	\	\	\	\	\	\	\	Clear Alarm only	Clear Alarm only
LED brightness level	\	\	\	1	1	\	\	\	\
Output sequence	\	\	\	\	\	1	1	\	\
Send assistance after "Clear Alarm"	Disab.	Disab.	Disab.	\	\	Disab.	Disab.	\	\
Repeat "Technical alarm"	Disab.	Disab.	Disab.	Disab.	Disab.	\	Disab.	\	\
Repeat "Help" alarms (level 1)	Disab.	Disab.	Disab.	Enab.	Enab.	\	Disab.	\	\
Repeat "Assistance" alarms (level 2)	Disab.	Disab.	Disab.	Enab.	Enab.	\	Disab.	\	\
Repeat "Emergency" alarms (level 3)	Disab.	Disab.	Disab.	Enab.	Enab.	\	Disab.	\	\
N86 operating mode	\	\	\	Stand.	Stand.	\	\	\	\

6.4   Receivers default settings

In the next table all settings which can be changed by the user are listed. The indicated value is the default one.

The indication back-slash "\" means there is no parameter for this specific device.

Parameter	LE80	AP80	RE80
LE80 operating mode	1	\	\
LE80 slot 1-20	Empty	\	\
Internal antenna activated	\	\	Disab.
LED brightness level	\	1	1
LE80 slot local position	Empty	\	\
LE80 reduced range	Disab.	\	\

# 7   Instructions to export and import device settings

The "Export" function is intended for archiving programmed parameters. The "Import" function is intended for uploading the archived data. In this way, exported data can be used to program several units identically. The parameters "Alternate ID" and "Use alternate ID" are ignored in "Batch mode" during upload and subsequent "Write".

However, these parameters "Alternate ID" and "Use alternate ID" are taken into account after the "Im-port" of a file directly after the "Read" and the selection of a device (i.e., not in batch mode). The user should check the imported data and adjust it if necessary

7.1   Export settings

Click on "Export" after reading and/or writing the device settings to store them in a folder as a ".n2cma" file.

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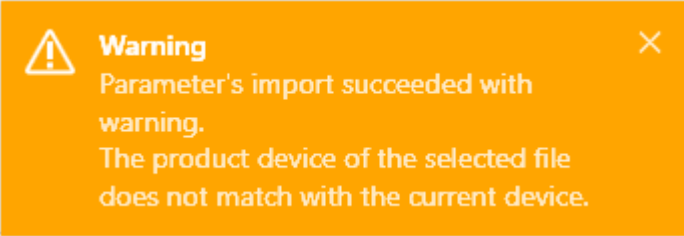| Title | Status | Date | Version |
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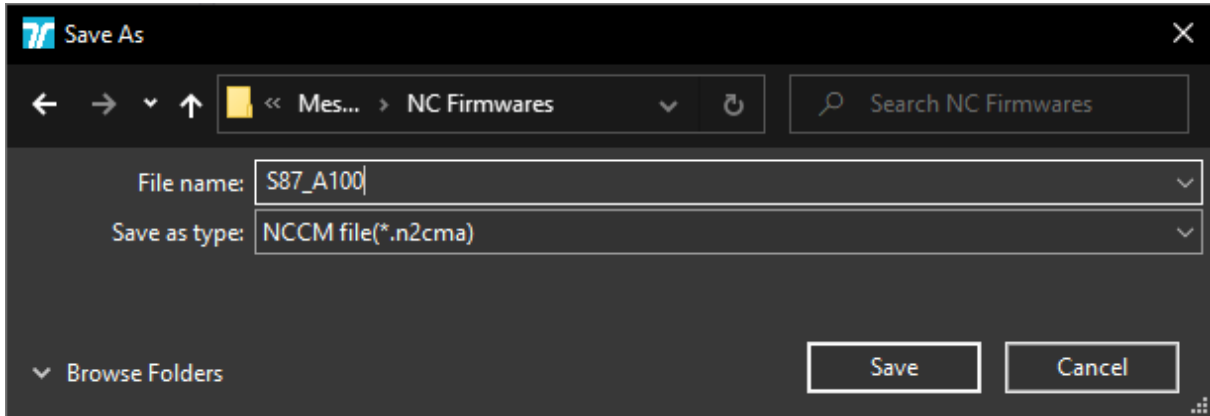
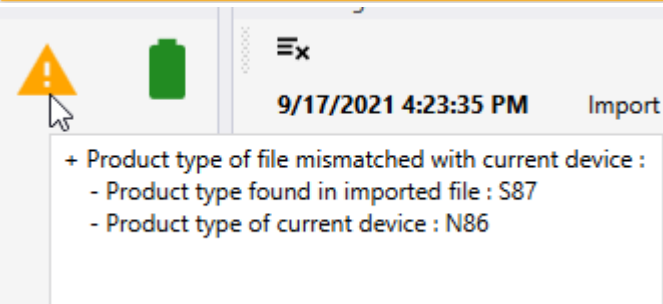## 7.2 Import a settings file

A ".n2cma" file can be uploaded by using the "Import" function. Once done, it will overwrite the actual displayed device settings!

| ⚠ | **Notice**
A warning message is displayed if the import file does not match that of the target de-vice. A warning sign is also displayed beside the battery icon.

Please do only import from a same product type as the one already displayed ! |

| ⚠ | **Notice**
The "Write" command must be used to write the uploaded settings into the de-vice once the settings imported. This function is not done automatically, the settings are only displayed in the "Device" panel ! |
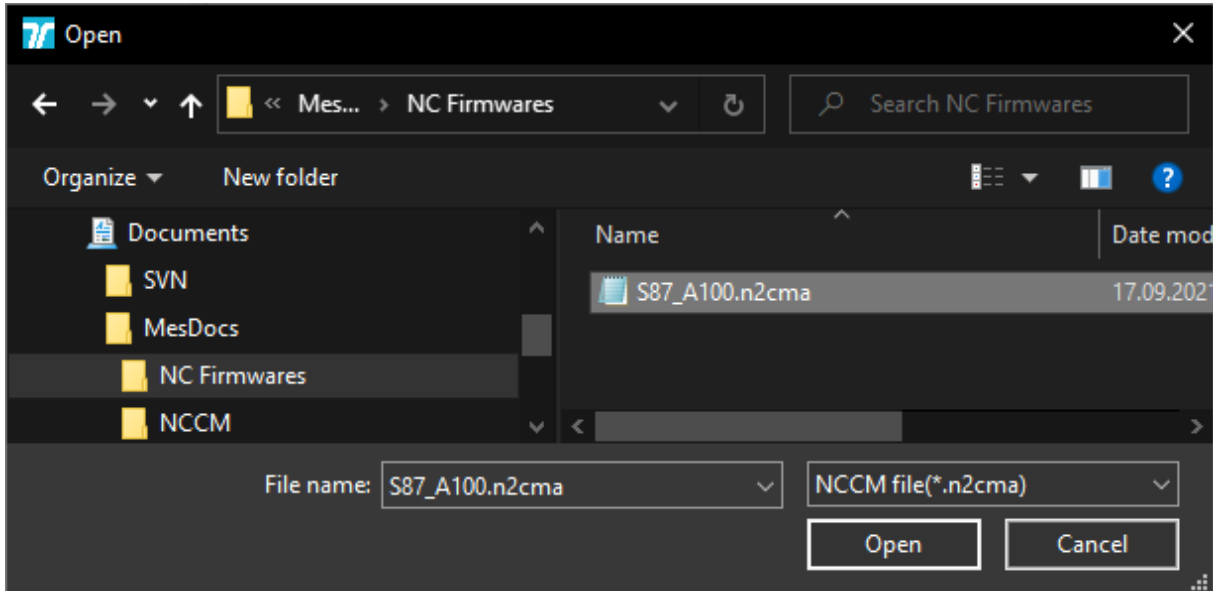
7.3 View a settings file

The "View" function makes it possible to see the programed parameters from a file without reading it. In this way it is possible to check a file that has been received from a client, for example. No changes of settings can be made on the "View" window.
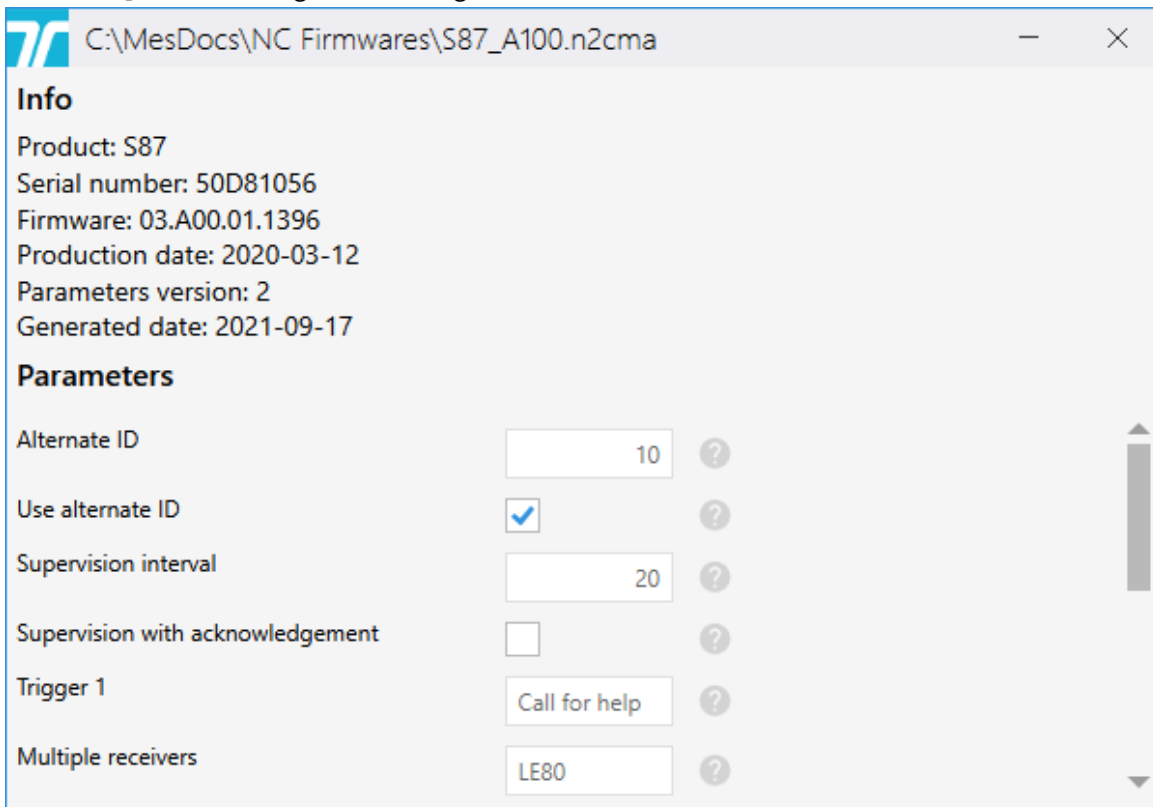
8 Batch mode

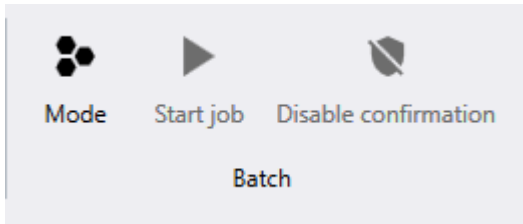The batch mode offers the possibility to read, program and update a high number of devices with less operations.

There are three different modes of batch jobs :.
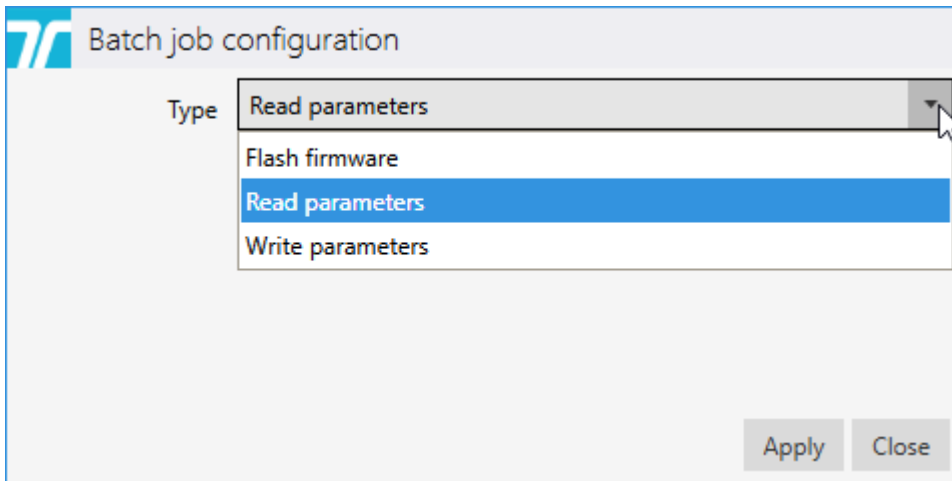
8.1 Batch job : read parameters
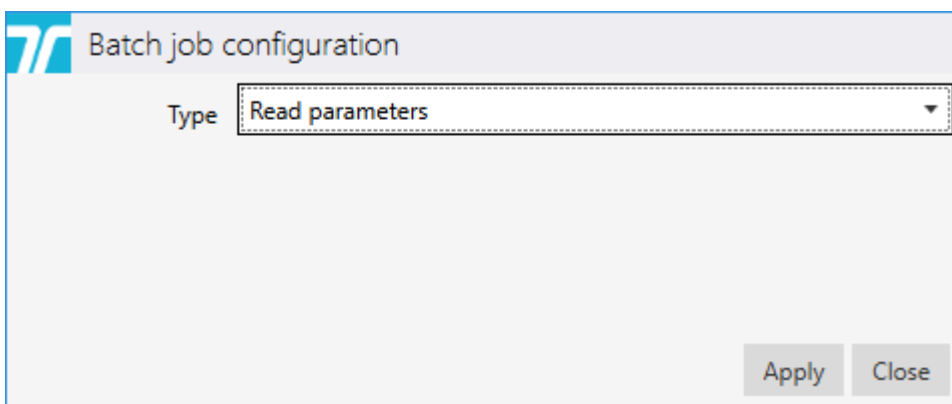
Applying the "Read parameters" function offers a possibility for instance to check some parameters or verify the FW version of several units in succession without having to perform manually a "New read" for each device.

> ⚠️ **Notice**
> In any batch mode it is strongly recommended to have only one device at a time to read in the proximity or on top of the PR80 !

Once the batch job is ready the following screen is displayed :
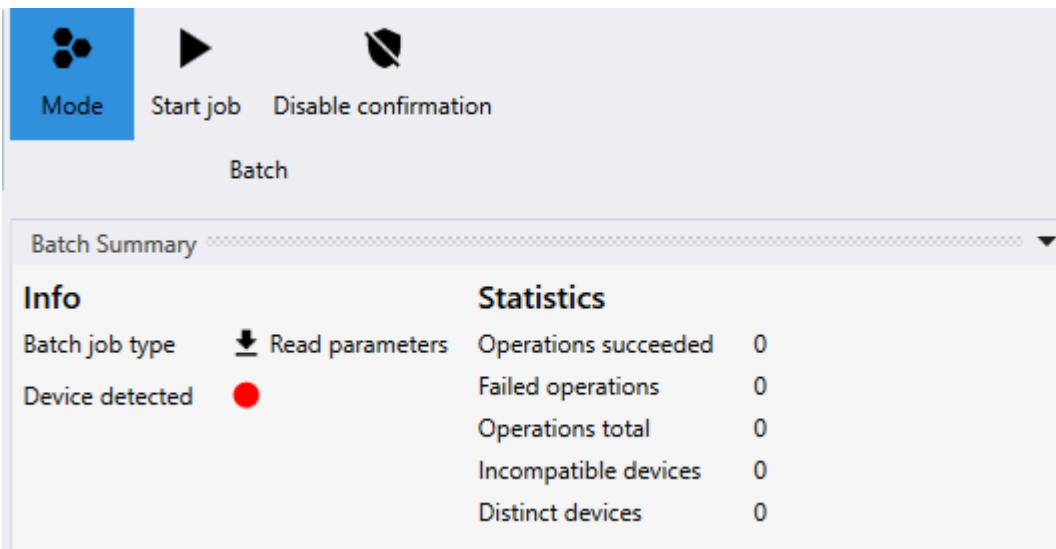
The batch job will start is activating "Start job". Once the first device read (with success) the following screen will be displayed :
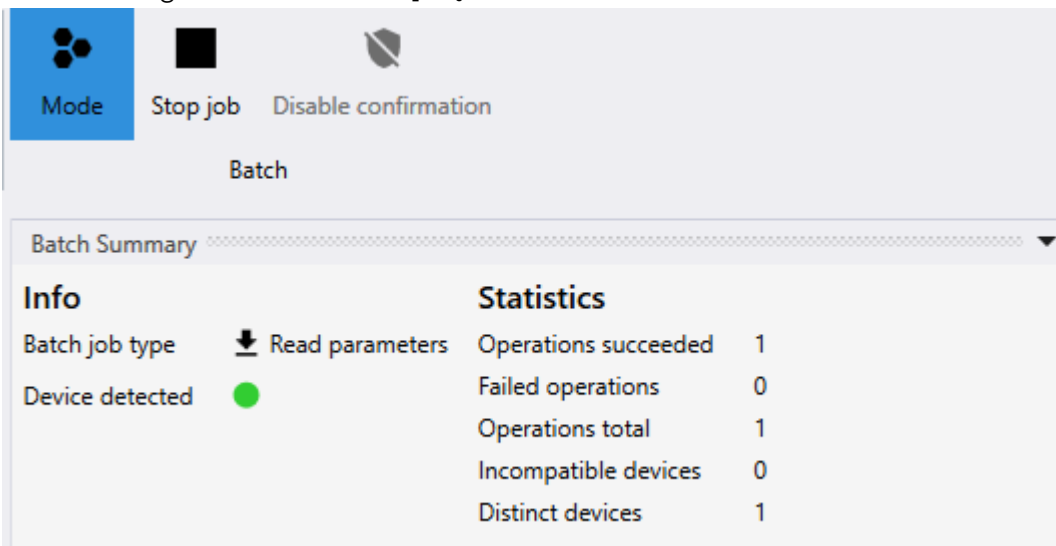

The device information could then be checked on read "Device" panel.

Place the second device to be read close to the PR80 programmer. The batch job will be automatically resumed, and the second device read :
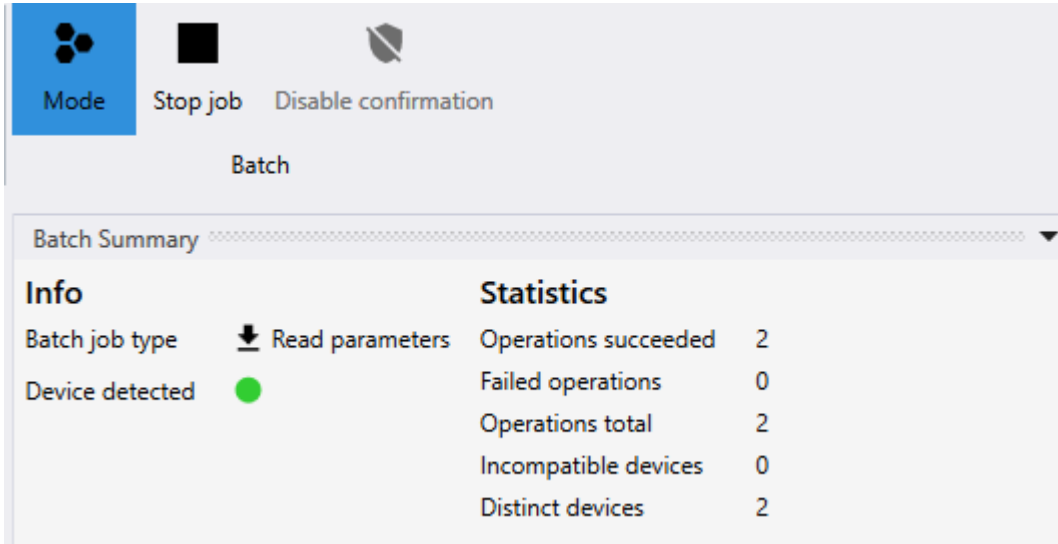
The job could be continued to read other devices.

To stop the batch job please perform "Stop job" (a batch job does not stop automatically). To leave the batch mode completely please click once again on the batch mode icon.

8.2 Batch job : write parameters
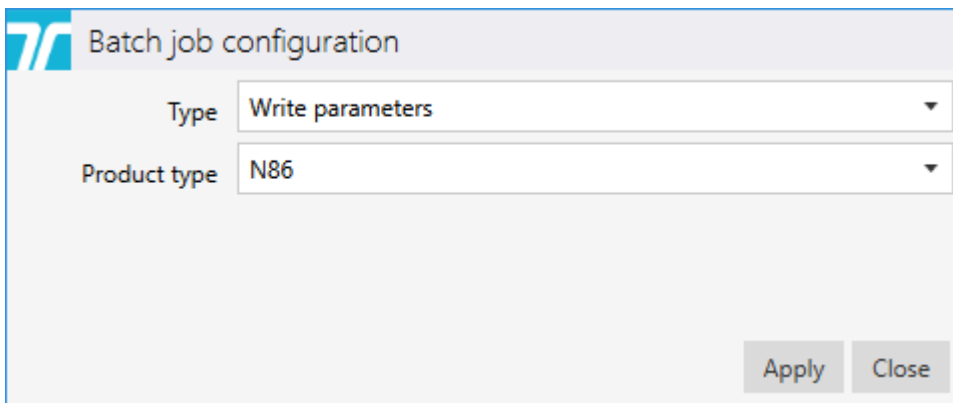
Applying the "Write parameters" function offers the possibility to duplicate parameters from a previously exported file, or the settings of another unit to several identical units in succession without having to perform a "Write parameters" manually each time.

The parameters "Alternate ID" and "Use alternate ID" are ignored in "Batch mode" during upload and subsequent "Write".

> ⚠️ **Notice**
> In any batch mode it is strongly recommended to have only one device at a time to write in the proximity or on top of the PR80 !

Click on the "Apply" button. Once the batch job is ready the following screen is displayed :
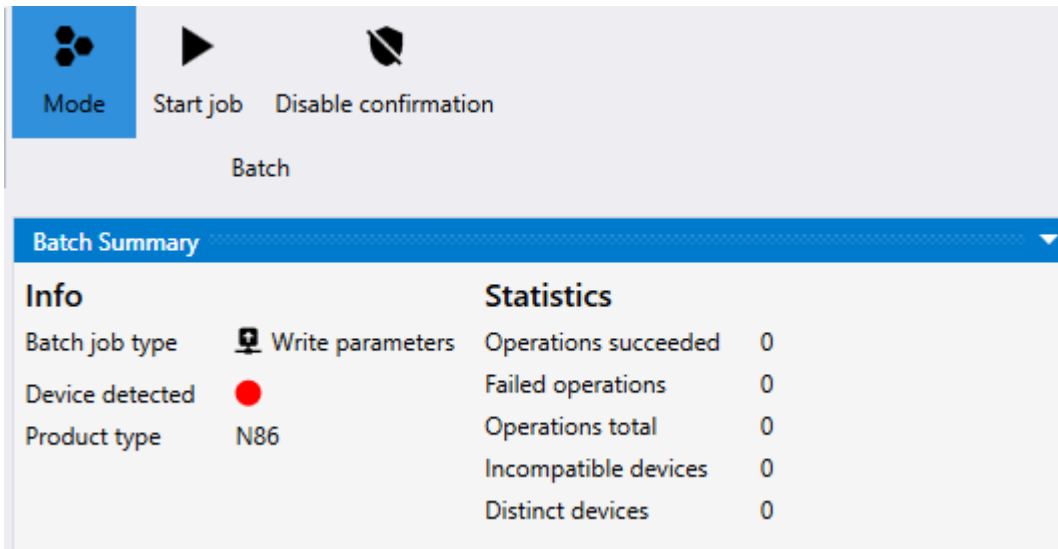
The batch job will start after performing "Start job". A confirmation window will appear :

⚠	**Notice**
	The confirmation step could be disabled in selecting the "Disable confirma-
	tion" function : **Disable confirmation**
	That must be done before starting the batch job. This allows to save time but a false device could be programmed !

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Click on "Yes" will write the settings in the selected device and the following screen will be displayed :
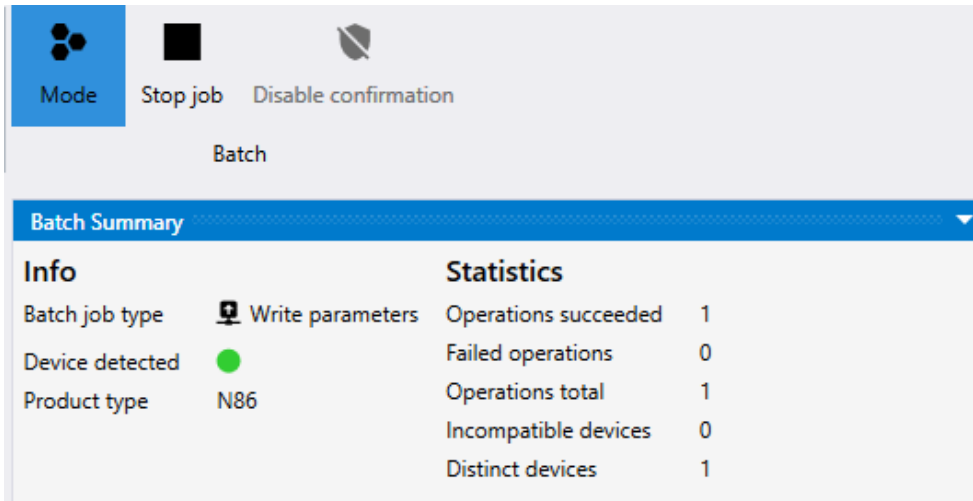
Mode	Stop job	Disable confirmation

Batch

Batch Summary

Info

Batch job type	Write parameters
Device detected	🟢
Product type	N86

Statistics

Operations succeeded	1
Failed operations	0
Operations total	1
Incompatible devices	0
Distinct devices	1

Place the second device to be programmed close to the PR80 programmer. The batch job will be automatically resumed and the confirmation screen for the next device will be displayed :

Is device correct   ×

❓ The action will be applied to this device: N86 0x52321146.
Would you like to continue ?

Yes   No

Click on "Yes" will write the settings in the second device and the following screen will be displayed :

Mode	Stop job	Disable confirmation

Batch

Batch Summary

Info

Batch job type	Write parameters
Device detected	🟢
Product type	N86

Statistics

Operations succeeded	2
Failed operations	0
Operations total	2
Incompatible devices	0
Distinct devices	2

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The job could be continued to write the settings in other devices.

To stop a batch job please perform "Stop job" (a batch job does not stop automatically). To leave the batch mode completely please click ones again on the batch mode icon.

8.2.1 Changing/writing only certain settings

After selecting the "Product type" and the device to *Write", the NCCM displays all the default settings of this selected device. The user can now define which setting(s) should be changed for several devices in selecting the parameters to be written with the check boxes, for instance the "Supervision with acknowledgement" :

Once "Start job" pressed, only the selected settings will be programmed, all other settings will not be changed !

<table>
<tr><td>⚠️</td><td>Notice
By default no check boxes are selected !</td></tr>
</table>

8.2.2 Duplicating customer settings

Once the "Write parameters" batch mode started a prepared configuration saved in a ".n2cma" file could be imported with the "Import function". The actual displayed device settings will be overwritten, and all settings will be automatically selected :

The user could check the imported data and adjust it if necessary.

The parameters "Alternate ID" and "Use alternate ID" are ignored in "Batch Mode".

Once "Start job" pressed, only the selected settings will be programmed, all other settings will not be changed !

8.3   Batch job : flash firmware

Applying the "Flash firmware" function offers the possibility to perform a FW upgrade for a number of units requiring the same FW, without having to make the process manually for each unit.

⚠	**Notice** In any batch mode it is strongly recommended to have only one device at a time to read in the proximity or on top of the PR80 !

The "Firmware family" corresponding to the devices to be programmed must be selected.

To upload the FW file, click on […] and select the folder that contains it. It must correspond to the product type. The FW procedure can be performed only when the types of the file and the product match.

	Notice
⚠	To keep the same settings after performing a "FW upgrade", please make sure that the setting "keep user settings" is activated!

	Info
ⓘ	The NCCM will not allow the user to load a firmware which is not compatible with the loaded device. The file selection is marked in red and the "Flash" button not available :

Click on the "Apply" button. Once the batch job is ready the following screen is displayed :
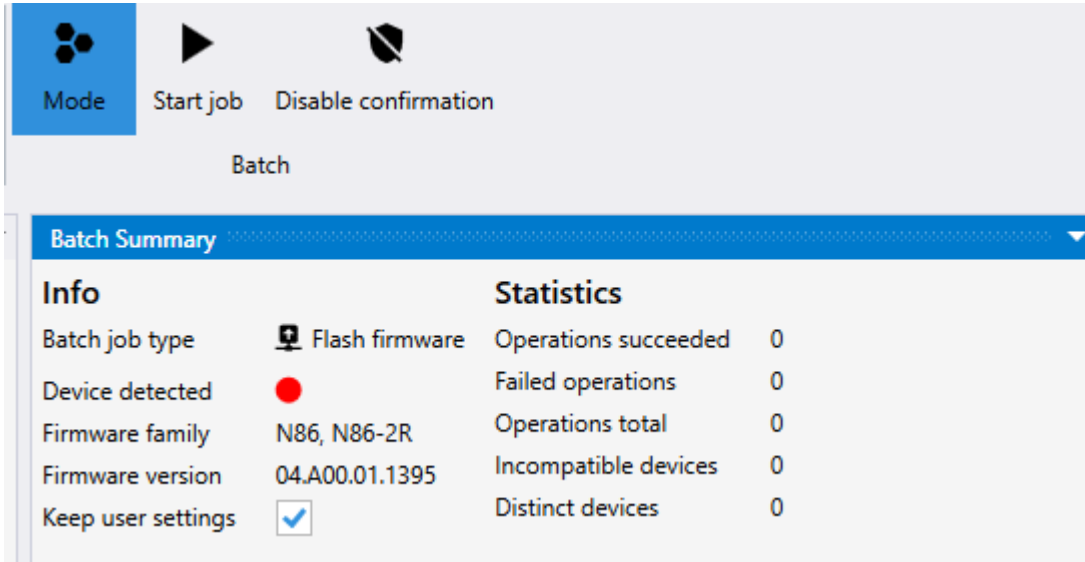
The batch job will start after applying "Start job". A confirmation window will appear :

⚠	**Notice** The confirmation step could be disabled in selecting the "Disable confirmation" function : That must be done before starting the batch job. This allows to save time but a false device could be programmed !

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Click on "Yes" will flash the new firmware in the selected device and the following screen will be displayed :

Place the second device to be programmed close to the PR80 programmer. The batch job will be automatically resumed and the confirmation screen for the next device will be displayed :
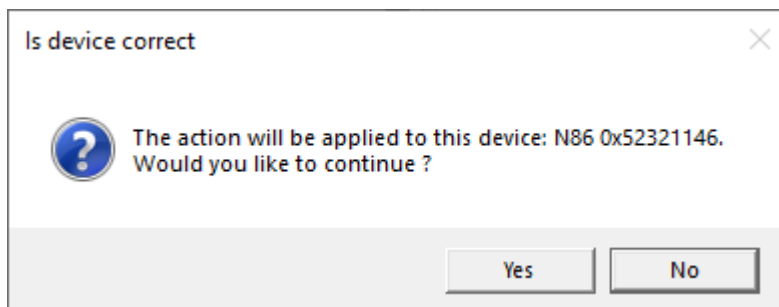
Click on "Yes" will flash the new firmware in the second device and the following screen will be displayed :
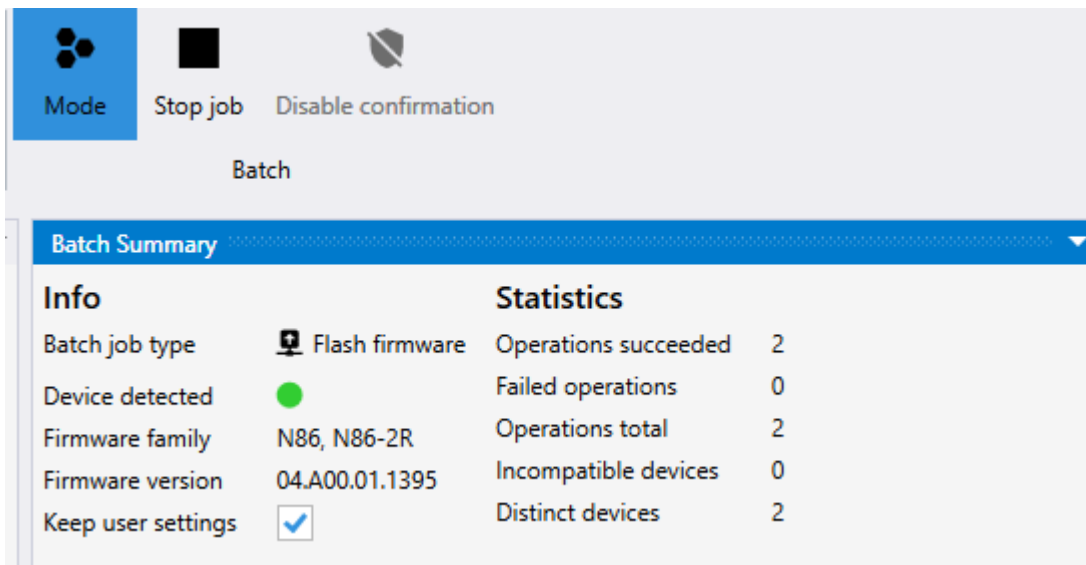
The job could be continued to flash the new firmware in other devices.

To stop a batch job please perform "Stop job". A batch job does not stop automatically! To leave the batch mode completely please click ones again on the batch mode icon.

9   Technical reference

9.1   Special functions S87L

The wireless programmable multi-mode locator/dementia S87L transmitter can be used as a dementia transmitter or as a locator transmitter, as well for both applications together. The Alarm button of the S87L can be set for the dementia mode to inactive. This way pressing the alarm button doesn't trigger an alarm. The use of the button is nevertheless possible for service or support purposes. The functions of the two hidden applications described below are to indicate in which dementia/location mode the transmitter is set, and to trigger an alarm to facilitate the programming of the transmitter in a NC8 system.

9.1.1   First hidden function: display mode

In holding the button pressed for up to 7 seconds the transmitter LED will flash 4 times red and/or green. A green flash indicates that a parameter is set to "On", a red flash means a parameter is set to "Off". The first flash concerns the parameter "Dementia activated", the second flash the parameter "Dementia with extended range", the third flash the parameter "Button active" and the fourth flash the parameter "Button with location". An overview of the possible sequences is in the table in chapter 9.1.3

Title
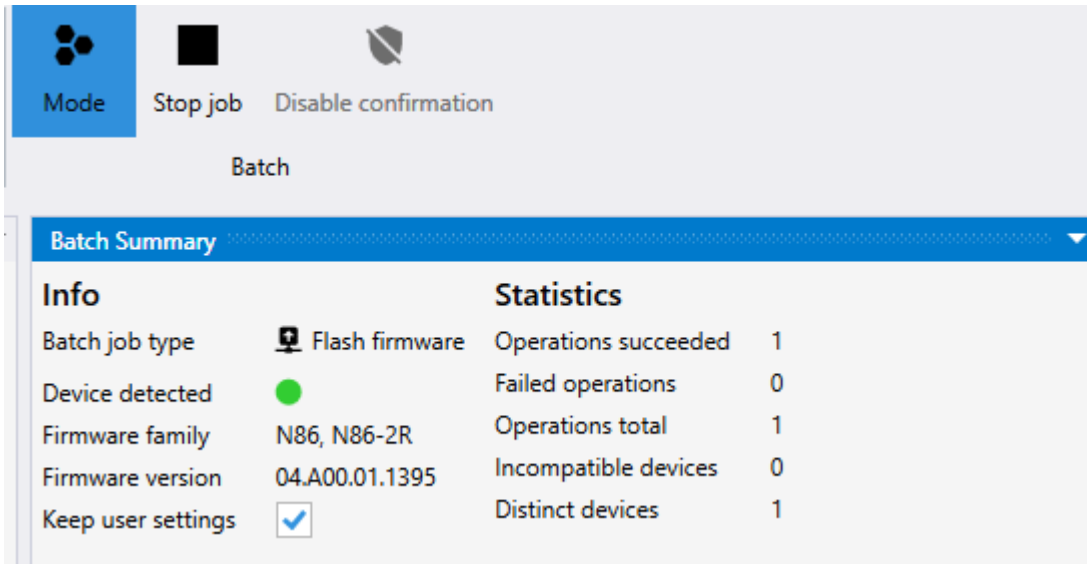NC8 Reference Manual

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Dementia activated	☑
Dementia with extended range	☐
Button active	☑
Button with location	☑

9.1.2 Second hidden function: triggering an alarm event if the "Button active" is set to "Off".

To trigger an alarm in these conditions the button must be pressed when the transmitter LED will flash red and/or green, released after the fourth flash and then pressed again three times.

(This works only when the parameter "Button active" is set to "Off")

9.1.3 Possible S87L settings: LED sequence

🟩	YES
🟥	NO

Dementia activated	Dementia with extended range	Button active	Button with location		
🟩	🟥	🟥	🟥	Dementia, no manual triggering	
🟩	🟥	🟥	🟩	Dementia, no manual triggering	
🟩	🟥	🟩	🟥	Only Dementia-Alarm	Manual, pos. 000
🟩	🟥	🟩	🟩	Locator with Dementia	
🟩	🟩	🟥	🟥	No manual triggering / Extended dementia	

🟩	🟩	🟥	🟩	No manual triggering / Extended dementia	
🟩	🟩	🟩	🟥	Only Dementia-Alarm / Extended	Manual, pos. 000
🟩	🟩	🟩	🟩	Locator with Dementia / Extended	
🟥	🟥	🟥	🟥	No function	
🟥	🟥	🟥	🟩	No function	
🟥	🟥	🟩	🟥	No dementia and no locater	Manual, pos. 000
🟥	🟥	🟩	🟩	Locator without Dementia-Alarm	
🟥	🟩	🟥	🟥	No function	
🟥	🟩	🟥	🟩	No function	
🟥	🟩	🟩	🟥	No dementia and no locater	Manual, pos. 000
🟥	🟩	🟩	🟩	Locator without Dementia-Alarm	

9.2   Pear Push Button N86

TeleAlarm proposes a Pear Push Button (PPB) for the N86 devices (reference T.200.001.582). It is connected to the N86 by a 3 meters wire and allow to trigger an alarm at a distance. The Pear Push Button is powered by the N86.

⚠️ **Notice**
The pear push button for N46 (reference T.240.001.228) is NOT compatible with the N86 !

The alarm button of the PPB lights up constantly when the N86 is externally powered (to save battery lifetime it is not light if the N86 is powered by its internal battery). This allows to easily find the PPB in dark conditions. No dimming is possible.

The N86 could be programmed to allow different alarm types to be triggered by the PPB. : help call, pull cord, Aux. help 1, Aux. help 2, pear button, pull button alarm or a general alarm state.

When the N86 is ext. powered a triggered alarm is indicated on the PPB by a fast LED blinking (2x per sec). The PPB doesn't blink when an Assistance call is triggered but lights up as in idle mode.

When the N86 is Batt. powered a triggered alarm is indicated on the PPB by a slow LED blinking (1x per 2 sec.).

A broken cable or removing the PPB from the N86 will trigger after 20sec* a technical alarm and a white LED blinking every 4 seconds. This technical alarm can be acknowledged by a B81/B80A or by pressing the green N86 button. The white flashing of the LED can be stopped by acknowledging the N86 or by connecting the PPB to the N86.

9.3   Acknowledgement devices (B81 and B80A)

Two different "Clear Alarm" settings can be programmed for the acknowledgement devices, "Clear Alarm only" and "Clear alarm + Nurse ID alarm"

"Clear Alarm only" is used to acknowledge alarms, "Clear alarm + Nurse ID Alarm" is used to acknowledge alarms and to give the caretaker a possibility to trigger an emergency alarm when additional help is needed.

To trigger an alarm a caretaker must keep the alarm button pressed for min. 8 seconds.

Remark: only the setting "Clear Alarm only" can be used in a NurseCall MainUnit 8 system. The acknowledgement device does not necessarily have to be stored in the main unit.

The B81 and the B80A can also be used to send a distress alarm. They must be. It must be stored as a standard device and the setting must be set to "Clear alarm + Nurse ID Alarm". In that case it cannot be used as acknowledgement transmitter in a NC8 Main Unit environment

9.4   Supervision messages limitations

The correct function of a transmitter can be monitored with help of a supervision message sent periodically. The "Supervision interval" parameter allows to activate this feature and to define the interval between supervision messages. It must be set to 30 seconds to be compatible with the VDE 0834 German standard. There are some limitations to this feature:

- The smaller the interval, the higher the power consumption on the battery. In VDE 0834 compatible mode (interval set to 30 seconds) the battery lifetime could be reduced by a factor of 2, in comparison to the default interval (10 minutes)

- The "Multiple receivers" parameters allows to select the type(s) of receiver(s) to receive the alarm and technical messages. The supervision messages will be sent only to the RE80 (NC 8 units) and AP80 types of receivers.

9.5   Messages repetition limitations

Alarm and technical messages could be repeated, in according with the settings of the four repetition parameters. There are some limitations to this feature :

- This feature is not available with the RAC80 device

- This feature is limited for the UPCBA80 product: the repeat function is only working with E3 digital Input, corresponding to Triggers 7 and 8

9.6   Device serial number (S/N)

The device serial number is written in a hexadecimal format based on 4 bytes (32 bits) structure. It is written on the product's label and displayed as a hexadecimal structure in the NCCM (see example in chapter 5.2).

The device serial number contains the production date, a production plant code (TeleAlarm internal code) and the NurseCall 8 identification number (ID-Code).

Example of a device serial number.
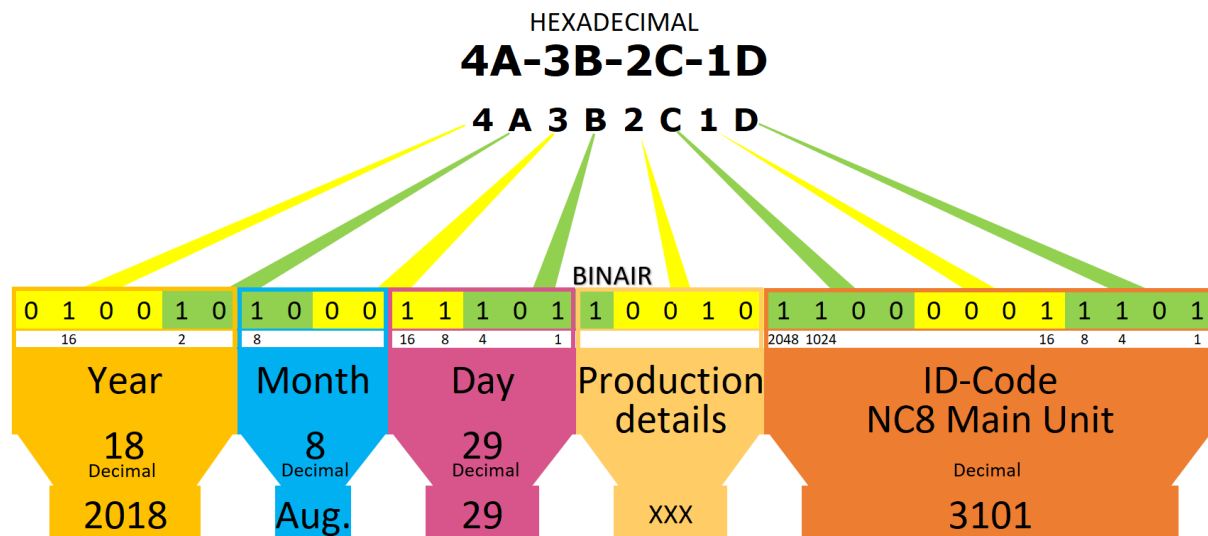
9.7   Unique ID-number

9.7.1   Main and Relay units

Only the last 3 digits of the Main and Relay units S/N are considered for the device ID-number. That limits the number of different ID, and it could happen that the same ID could be used by several devices in the system.

Example: the S/N number is A1-B2-C3-D4 (hexadecimal 4 bytes value)

1.   The ID code are the last 3 digits, "3D4"

2. "3D4" means binary 001111010100 or decimal 0980. The decimal value is the displayed by the NCCM under "Device Info" as "production ID"

3. The value of the last 3 digits is never higher than hexadecimal "FFE"

4. The number is never "0"

5. So, the decimal number range is from 1 to 4094

6. When the number 4094 is reached, the next manufactured devices numbers will start again with "1"

9.7.2 LE80 and other NC8 devices

The whole device S/N is considered for the device ID-number. In the case the ID-number is unique and no other NurseCall product shares it.

Example: the device number is A1-B2-C3-D4

1. The whole ID code is taken in account

2. The value of A1B2C3D4 is decimal 2712847316.

9.8 Production date

The production date is contained in the first most significant 15 bits of the device S/N.

Example: Label number 4A-3B-2C-1D

1. 4A3B2C1D is binary 0100 1010 0011 1011 0010 1100 0001 1101

2. The first 15 bits are representing the production date:

3. The first 6 bits are standing for the year, the next 4 bits for the month, and the next 5 bits for the day.

4. Binary 010010 is decimal 18, meaning 2018

5. Binary 1000 is decimal 8, meaning August

6. Binary 11101 is decimal 29

7. Production date is 29 August 2018

10 PR80 Programming Device information

10.1 PR80 Programming Device and accessories disposal

Electrical or electronic devices and accessories that are no longer serviceable must be collected separately and sent for environmentally compatible recycling (in accordance with the European Directive on Waste Electrical and Electronic Equipment). To dispose of old electrical or electronic devices and accessories, you should use the return and collection systems established in the country concerned.

10.2 Environmental conditions

The NurseCall PR80 Programming Device must not be located near a water tap or any other source of water. The product must not be subjected to dripping water.

10.3 CE declaration

The CE Declaration can be found at the following address: http://www.telealarm.com/