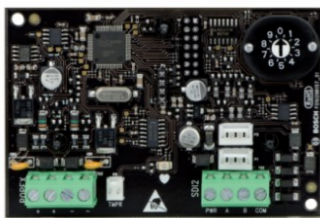


PROGRAMACIÓN EN RPS PARA PANELES B8512G Y B9512G
AGREGAR MÓDULO B299 POPEX Y D9127U POPIT



PANEL ALARMA 99 PUNTOS
/ 8 ÁREAS / 8 LECTORAS DE
ACCESO / 8 CÁMARAS IP
B8512G
RBM019020

PANEL ALARMA 599 PUNTOS
/ 32 ÁREAS / 32 LECTORAS DE
ACCESO / 16 CÁMARAS IP
B9512G
RBM019021



MÓDULO POPEX
CONEXIÓN SDI2
HASTA 100 PUNTOS
B299
RBM109101

MÓDULO POPIT
D9127U
RBM109056

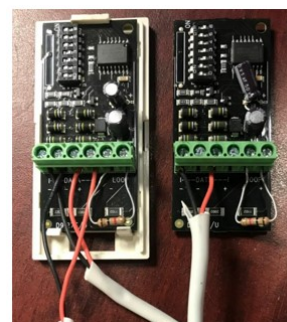
Módulo B299 (POPEX) y Módulo D9127U (POPIT)

El módulo B299 POPEX es un dispositivo compatible con SDI2. El módulo se comunica con el panel de control a través del bus SDI2 y brinda soporte para hasta 100 dispositivos POPIT (transpondedor de entrada de punto de protección). Esto ocurre en un único bucle de expansión utilizando dos pares de terminales.

Supervisa el cableado hacia dispositivos para comprobar la integridad de los circuitos

Amplía el número de puntos en el sistema

Interconexión de conectores de cableado para una instalación sencilla



Primero se tiene que configurar el B299 (POPEX), en un panel B8512G solo se permite 1, en un panel B9512G se pueden poner hasta 6 y se configura de la siguiente manera:

The screenshot shows the 'RPS Panel Help' application window. On the left, there is a search bar with 'POPEX' entered and a table of search results. The main content area displays the 'B299 POPEX Module switch settings' page, which includes a table mapping switch settings to point address ranges.

| Título | Ubicación | Clasificación |
|---------------------------------------|----------------|---------------|
| POPEX | RPS Panel Help | 1 |
| B299 POPEX | RPS Panel Help | 2 |
| D8128 OctoPOPIT Module switch s... | RPS Panel Help | 3 |
| Circuit Style | RPS Panel Help | 4 |
| B299 POPEX Module switch settings | RPS Panel Help | 5 |
| Source | RPS Panel Help | 6 |
| Online diagnostics - modules and k... | RPS Panel Help | 7 |
| SDI2 modules | RPS Panel Help | 8 |
| Module Enclosure Tamper | RPS Panel Help | 9 |
| Hardware switch settings | RPS Panel Help | 10 |

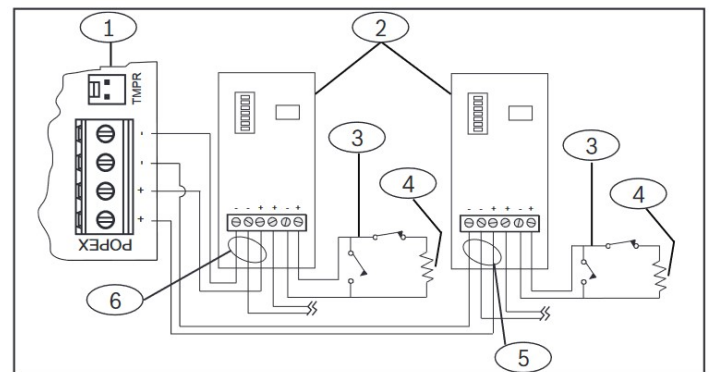
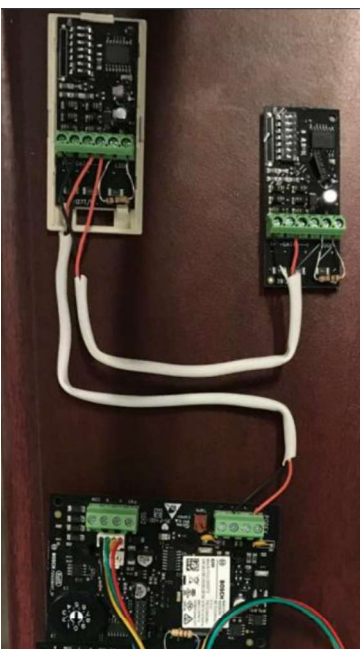
| Switch Setting | Point Address Range | Point Address Range |
|----------------|---------------------|---------------------|
| 0 | 9 - 99 | 9 - 99 |
| 1 | 100 - 199 | |
| 2 | 200 - 299 | |
| 3 | 300 - 399 | |
| 4 | 400 - 499 | |
| 5 | 500 - 599 | |

ESTANDO EN EL RPS, PRESIONANDO F1 O ENTRANDO A HELP, ESCOGE MOS POPEX Y NOS DA LOS DETALLES DEL MÓDULO

VAMOS A USAR LA PRIMER OPCIÓN QUE ES "0" Y SE ESCOGEN LOS POPIT DEL 9 AL 99

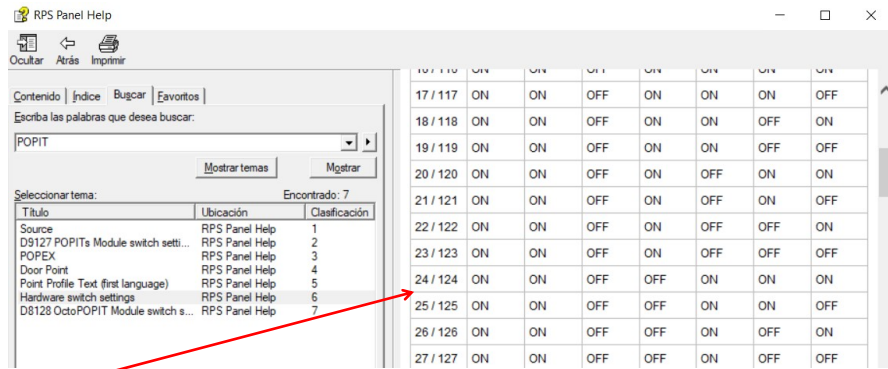


Para las conexiones tenemos en el POPEX 2 salidas (-) y 2 salidas (+), y estas van a las entradas de cada módulo POPIT que también tiene 2 entradas (-) y 2 salidas (+) y llevan una resistencia de fin de línea, las interconexiones de estos módulos o tarjetas son en paralelo con (-) y (+), se pueden generar 2 ramales desde el POPIT, en este ejemplo sale un ramal que llega a un primer POPIT y de ahí en paralelo al segundo POPIT como se ve en estas imágenes y diagrama

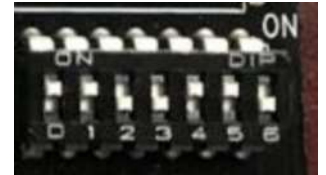
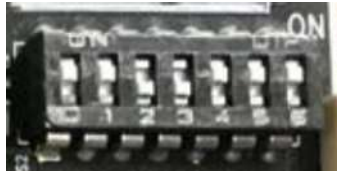


LAS CONEXIONES VAN EN FORMA DE BUS A 2 HILOS

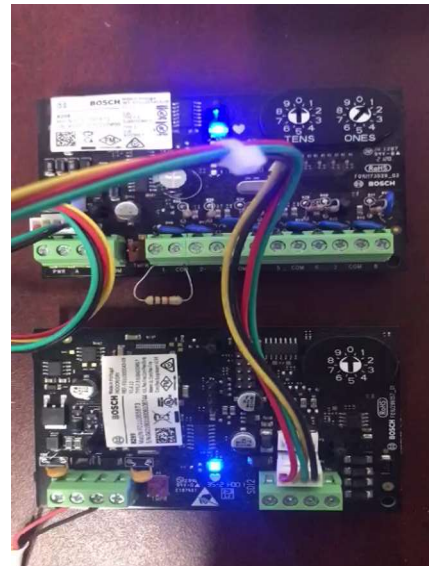
ESTANDO EN EL RPS,
PRESIONANDO F1 O ENTRANDO A
HELP, ESCOGEMOS POPIT Y NOS
DA LOS DETALLES DEL MÓDULO



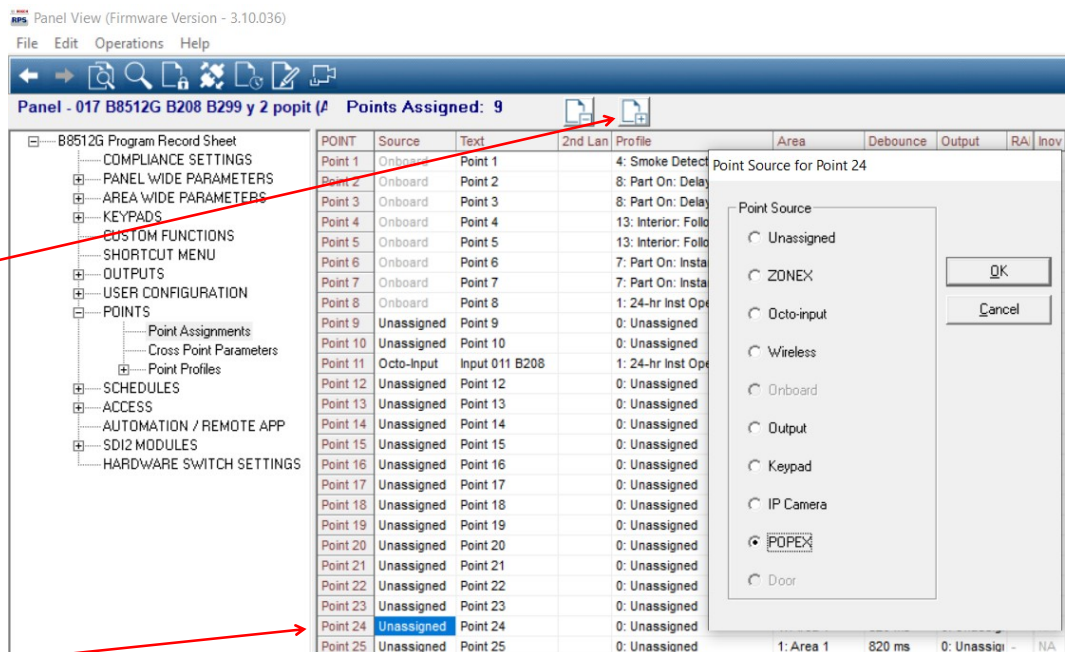
COMO EN EL MÓDULO POPEX LO
TENEMOS CONFIGURADO EN "0",
PODEMOS USAR LOS PUNTOS DEL
9 AL 99, EN ESTE TUTORIAL
USAREMOS 2 MÓDULOS POPIT
CON LAS DIRECCIONES 24 Y 25



EN EL PANEL SE TENÍA YA DADA DE ALTA LA
TARJETA O MÓDULO B208 Y PARPADEA 1 VEZ CADA
SEGUNDO, LA SEGUNDA TARJETA O MÓDULO ES EL
POPEX O B299 Y PARPADEA 3 VECES POR
SEGUNDO PORQUE NO ESTÁ DADA DE ALTA



EXPANDIMOS EL
MENÚ PARA QUE NOS
MUESTRE LOS
PUNTOS SIN ASIGNAR



AHORA
SELECCIONAMOS EL
PUNTO 24 Y LE
DAMOS DOBLE CLICK,
Y ESCOGEMOS QUE
TIPO DE PUNTO ES,
EN ESTE CASO
POPEX

Panel View (Firmware Version - 3.10.036)

File Fdi Operatio Help

Panel - 017 B8512G B208 B299 y 2 popit (A) Points Assigned: 10

Valores asignados

Le damos guardar y luego el ícono de enviar y recibir

| POINT | Source | Text | 2nd Lan | Profile | Area | Debounce | Output | RA | Inov |
|----------|------------|----------------|---------|--------------------------|-----------|----------|-------------|----|------|
| Point 1 | Onboard | Point 1 | | 4: Smoke Detector | 1: Area 1 | 820 ms | 0: Unassign | - | NA |
| Point 2 | Onboard | Point 2 | | 8: Part On: Delay | 1: Area 1 | 820 ms | 0: Unassign | - | NA |
| Point 3 | Onboard | Point 3 | | 8: Part On: Delay | 1: Area 1 | 820 ms | 0: Unassign | - | NA |
| Point 4 | Onboard | Point 4 | | 13: Interior: Follower | 1: Area 1 | 820 ms | 0: Unassign | - | NA |
| Point 5 | Onboard | Point 5 | | 13: Interior: Follower | 1: Area 1 | 820 ms | 0: Unassign | - | NA |
| Point 6 | Onboard | Point 6 | | 7: Part On: Instant | 1: Area 1 | 820 ms | 0: Unassign | - | NA |
| Point 7 | Onboard | Point 7 | | 7: Part On: Instant | 1: Area 1 | 820 ms | 0: Unassign | - | NA |
| Point 8 | Onboard | Point 8 | | 1: 24-hr Inst Open/Short | 1: Area 1 | 820 ms | 0: Unassign | - | NA |
| Point 9 | Unassigned | Point 9 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassign | - | NA |
| Point 10 | Unassigned | Point 10 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassign | - | NA |
| Point 11 | Octo-Input | Input 011 B208 | | 1: 24-hr Inst Open/Short | 1: Area 1 | 820 ms | 1: Output A | - | NA |
| Point 12 | Unassigned | Point 12 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassign | - | NA |
| Point 13 | Unassigned | Point 13 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassign | - | NA |
| Point 14 | Unassigned | Point 14 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassign | - | NA |
| Point 15 | Unassigned | Point 15 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassign | - | NA |
| Point 16 | Unassigned | Point 16 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassign | - | NA |
| Point 17 | Unassigned | Point 17 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassign | - | NA |
| Point 18 | Unassigned | Point 18 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassign | - | NA |
| Point 19 | Unassigned | Point 19 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassign | - | NA |
| Point 20 | Unassigned | Point 20 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassign | - | NA |
| Point 21 | Unassigned | Point 21 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassign | - | NA |
| Point 22 | Unassigned | Point 22 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassign | - | NA |
| Point 23 | Unassigned | Point 23 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassign | - | NA |
| Point 24 | POPEX | Punto 24 POPEX | | 1: 24-hr Inst Open/Short | 1: Area 1 | 820 ms | 1: Output A | - | NA |
| Point 25 | Unassigned | Point 25 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassign | - | NA |

Panel Synchronization

The programming active in the Panel is different than the programming in RPS

Receive & Overwrite RPS Data

Send & Overwrite Panel

See Data Differences

Select to Receive or Send all the programming differences.

Select See Data Differences to review and customize what Parameter(s) are included before selecting to Receive or Send.

The panel data and RPS are different. Please choose one of the above actions...

| Page | Parameter | Item | RPS | Panel | Included in sync |
|------|-----------|------|-----|-------|------------------|
|------|-----------|------|-----|-------|------------------|

Se envía nueva configuración

Panel View (Firmware Version - 3.10.036)

File Fdi Operatio Help

Panel - 017 B8512G B208 B299 y 2 popit (A) Points Assigned: 10

Le damos colapsar para que nos muestre los puntos asignados

Finalmente nos vamos a diagnósticos para ver si se agregó bien la tarjeta POPEX y POPIT

| POINT | Source | Text | 2nd Lan | Profile | Area | Debounce | Output | RA | Inov |
|----------|------------|----------------|---------|--------------------------|-----------|----------|-------------|----|------|
| Point 1 | Onboard | Point 1 | | 4: Smoke Detector | 1: Area 1 | 820 ms | 0: Unassign | - | NA |
| Point 2 | Onboard | Point 2 | | 8: Part On: Delay | 1: Area 1 | 820 ms | 0: Unassign | - | NA |
| Point 3 | Onboard | Point 3 | | 8: Part On: Delay | 1: Area 1 | 820 ms | 0: Unassign | - | NA |
| Point 4 | Onboard | Point 4 | | 13: Interior: Follower | 1: Area 1 | 820 ms | 0: Unassign | - | NA |
| Point 5 | Onboard | Point 5 | | 13: Interior: Follower | 1: Area 1 | 820 ms | 0: Unassign | - | NA |
| Point 6 | Onboard | Point 6 | | 7: Part On: Instant | 1: Area 1 | 820 ms | 0: Unassign | - | NA |
| Point 7 | Onboard | Point 7 | | 7: Part On: Instant | 1: Area 1 | 820 ms | 0: Unassign | - | NA |
| Point 8 | Onboard | Point 8 | | 1: 24-hr Inst Open/Short | 1: Area 1 | 820 ms | 0: Unassign | - | NA |
| Point 11 | Octo-Input | Input 011 B208 | | 1: 24-hr Inst Open/Short | 1: Area 1 | 820 ms | 1: Output A | - | NA |
| Point 24 | POPEX | Punto 24 POPEX | | 1: 24-hr Inst Open/Short | 1: Area 1 | 820 ms | 1: Output A | - | NA |

Diagnosics

System

- Panel
- Area
- Point
- Output
- Area options
- On-board IP
- Plug-in Modules
- IP Cameras

SDIx/SDI2

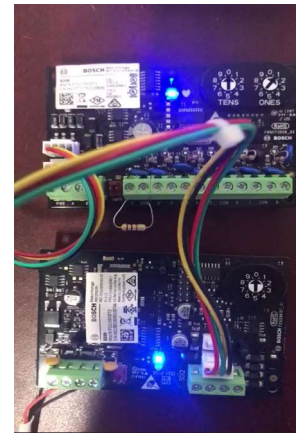
- Keypads
- Doors
- B208 Octo-input
- B308 Octo-output
- Ethernet Communicator
- B520 Power Supply
- Wireless Receiver
- Wireless Repeater
- Keypad
- B450 Bus Device Cellular
- POPEX**

POPEX

| Item | Module 0 |
|-------------------|----------|
| Product ID | 10775 |
| Firmware Version | 1.04.012 |
| Hardware Version | 1.0.0 |
| Missing | No |
| Trouble | No |
| Open Wire | No |
| Low Bus Voltage | No |
| Bus Voltage | 13.6V |
| POPEX Bus Fault | No |
| Low Voltage Warni | No |

Refresh Done

Refresh continuously



1 PARPADEO EN 1 SEGUNDO,
NORMAL
HEARTBEAT

VOLVEMOS A REPETIR
EL PROCEDIMIENTO
PARA EL PUNTO 25

EXPANDIMOS EL MENÚ
PARA QUE NOS
MUESTRE LOS PUNTOS
SIN ASIGNAR

AHORA SELECCIONAMOS
EL PUNTO 25 Y LE
DAMOS DOBLE CLICK, Y
ESCOGEMOS QUE TIPO
DE PUNTO ES, EN ESTE
CASO POPEX

Panel View (Firmware Version - 3.10.036)

File Fdi Operatio Heli

Panel - 017 B8512G B208 B299 y 2 popit (A) Points Assigned: 10

B8512G Program Record Sheet

- COMPLIANCE SETTINGS
- PANEL WIDE PARAMETERS
- AREA WIDE PARAMETERS
- KEYPADS
- CUSTOM FUNCTIONS
- SHORTCUT MENU
- OUTPUTS
- USER CONFIGURATION
- POINTS
 - Point Assignments
 - Cross Point Parameters
 - Point Profiles
- SCHEDULES
- ACCESS
- AUTOMATION / REMOTE APP
- SDI2 MODULES
- HARDWARE SWITCH SETTINGS

| POINT | Source | Text | 2nd Lan | Profile |
|----------|------------|----------------|---------|--------------------------|
| Point 1 | Onboard | Point 1 | | 4: Smoke Detect |
| Point 2 | Onboard | Point 2 | | 8: Part On: Delay |
| Point 3 | Onboard | Point 3 | | 8: Part On: Delay |
| Point 4 | Onboard | Point 4 | | 13: Interior: Follo |
| Point 5 | Onboard | Point 5 | | 13: Interior: Follo |
| Point 6 | Onboard | Point 6 | | 7: Part On: Instar |
| Point 7 | Onboard | Point 7 | | 7: Part On: Instar |
| Point 8 | Onboard | Point 8 | | 1: 24-hr Inst Ope |
| Point 9 | Unassigned | Point 9 | | 0: Unassigned |
| Point 10 | Unassigned | Point 10 | | 0: Unassigned |
| Point 11 | Octo-Input | Input 011 B208 | | 1: 24-hr Inst Ope |
| Point 12 | Unassigned | Point 12 | | 0: Unassigned |
| Point 13 | Unassigned | Point 13 | | 0: Unassigned |
| Point 14 | Unassigned | Point 14 | | 0: Unassigned |
| Point 15 | Unassigned | Point 15 | | 0: Unassigned |
| Point 16 | Unassigned | Point 16 | | 0: Unassigned |
| Point 17 | Unassigned | Point 17 | | 0: Unassigned |
| Point 18 | Unassigned | Point 18 | | 0: Unassigned |
| Point 19 | Unassigned | Point 19 | | 0: Unassigned |
| Point 20 | Unassigned | Point 20 | | 0: Unassigned |
| Point 21 | Unassigned | Point 21 | | 0: Unassigned |
| Point 22 | Unassigned | Point 22 | | 0: Unassigned |
| Point 23 | Unassigned | Point 23 | | 0: Unassigned |
| Point 24 | POPEX | Punto 24 POPEX | | 1: 24-hr Inst Open/Short |
| Point 25 | Unassigned | Point 25 | | 0: Unassigned |

Point Source for Point 25

Point Source

- Unassigned
- ZONEX
- Octo-input
- Wireless
- Onboard
- Output
- Keypad
- IP Camera
- POPEX
- Door

OK Cancel

| POINT | Source | Text | 2nd Lan | Profile | Area | Debounce | Output | RA | Inov |
|----------|------------|----------------|---------|--------------------------|-----------|----------|--------------|----|------|
| Point 1 | Onboard | Point 1 | | 4: Smoke Detector | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 2 | Onboard | Point 2 | | 8: Part On: Delay | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 3 | Onboard | Point 3 | | 8: Part On: Delay | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 4 | Onboard | Point 4 | | 13: Interior: Follower | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 5 | Onboard | Point 5 | | 13: Interior: Follower | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 6 | Onboard | Point 6 | | 7: Part On: Instant | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 7 | Onboard | Point 7 | | 7: Part On: Instant | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 8 | Onboard | Point 8 | | 1: 24-hr Inst Open/Short | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 9 | Unassigned | Point 9 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 10 | Unassigned | Point 10 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 11 | Octo-Input | Input 011 B208 | | 1: 24-hr Inst Open/Short | 1: Area 1 | 820 ms | 1: Output A | - | NA |
| Point 12 | Unassigned | Point 12 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 13 | Unassigned | Point 13 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 14 | Unassigned | Point 14 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 15 | Unassigned | Point 15 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 16 | Unassigned | Point 16 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 17 | Unassigned | Point 17 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 18 | Unassigned | Point 18 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 19 | Unassigned | Point 19 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 20 | Unassigned | Point 20 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 21 | Unassigned | Point 21 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 22 | Unassigned | Point 22 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 23 | Unassigned | Point 23 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 24 | POPEX | Punto 24 POPEX | | 1: 24-hr Inst Open/Short | 1: Area 1 | 820 ms | 1: Output A | - | NA |
| Point 25 | POPEX | Punto 25 POPEX | | 1: 24-hr Inst Open/Short | 1: Area 1 | 820 ms | 1: Output A | - | NA |

Valores
asignados

Le damos guardar y
luego el ícono de
enviar y recibir

Panel View (Firmware Version - 3.10.036)

File Fdi Operatio Heli

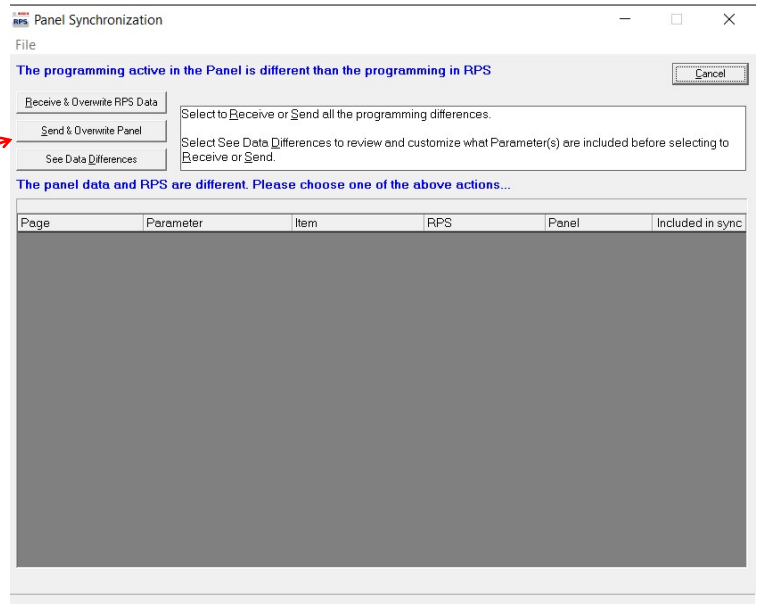
Panel - 017 B8512G B208 B299 y 2 popit (A) Points Assigned: 11

B8512G Program Record Sheet

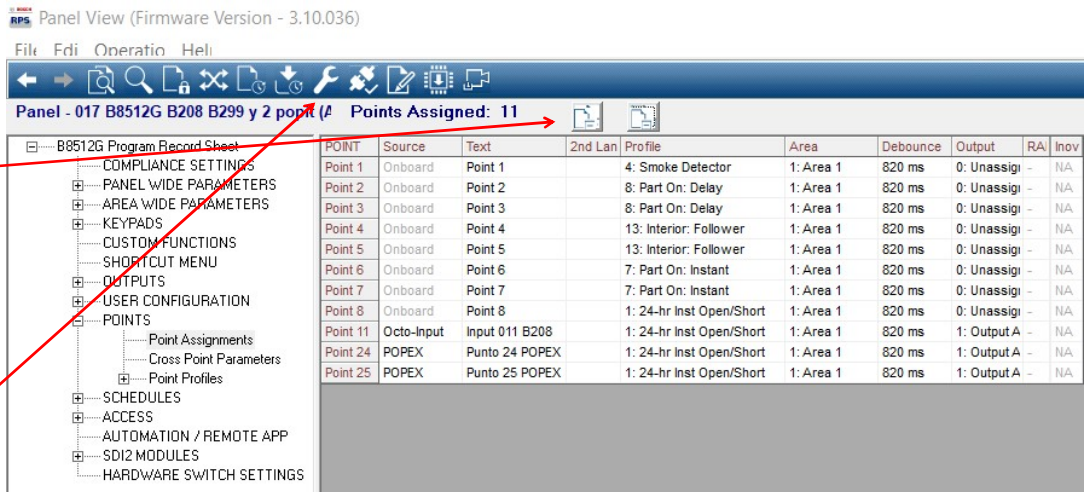
- COMPLIANCE SETTINGS
- PANEL WIDE PARAMETERS
- AREA WIDE PARAMETERS
- KEYPADS
- CUSTOM FUNCTIONS
- SHORTCUT MENU
- OUTPUTS
- USER CONFIGURATION
- POINTS
 - Point Assignments
 - Cross Point Parameters
 - Point Profiles
- SCHEDULES
- ACCESS
- AUTOMATION / REMOTE APP
- SDI2 MODULES
- HARDWARE SWITCH SETTINGS

| POINT | Source | Text | 2nd Lan | Profile | Area | Debounce | Output | RA | Inov |
|----------|------------|----------------|---------|--------------------------|-----------|----------|--------------|----|------|
| Point 1 | Onboard | Point 1 | | 4: Smoke Detector | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 2 | Onboard | Point 2 | | 8: Part On: Delay | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 3 | Onboard | Point 3 | | 8: Part On: Delay | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 4 | Onboard | Point 4 | | 13: Interior: Follower | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 5 | Onboard | Point 5 | | 13: Interior: Follower | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 6 | Onboard | Point 6 | | 7: Part On: Instant | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 7 | Onboard | Point 7 | | 7: Part On: Instant | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 8 | Onboard | Point 8 | | 1: 24-hr Inst Open/Short | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 9 | Unassigned | Point 9 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 10 | Unassigned | Point 10 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 11 | Octo-Input | Input 011 B208 | | 1: 24-hr Inst Open/Short | 1: Area 1 | 820 ms | 1: Output A | - | NA |
| Point 12 | Unassigned | Point 12 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 13 | Unassigned | Point 13 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 14 | Unassigned | Point 14 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 15 | Unassigned | Point 15 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 16 | Unassigned | Point 16 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 17 | Unassigned | Point 17 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 18 | Unassigned | Point 18 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 19 | Unassigned | Point 19 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 20 | Unassigned | Point 20 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 21 | Unassigned | Point 21 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 22 | Unassigned | Point 22 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 23 | Unassigned | Point 23 | | 0: Unassigned | 1: Area 1 | 820 ms | 0: Unassigni | - | NA |
| Point 24 | POPEX | Punto 24 POPEX | | 1: 24-hr Inst Open/Short | 1: Area 1 | 820 ms | 1: Output A | - | NA |
| Point 25 | POPEX | Punto 25 POPEX | | 1: 24-hr Inst Open/Short | 1: Area 1 | 820 ms | 1: Output A | - | NA |

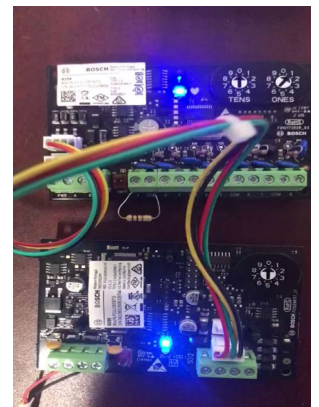
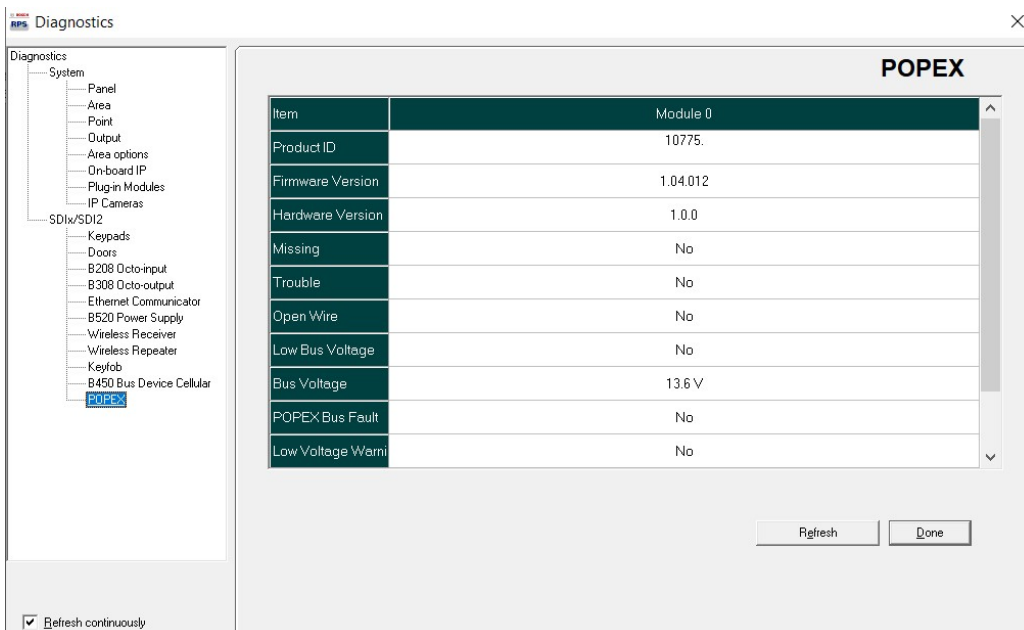
Se envía nueva configuración



Le damos colapsar para que nos muestre los puntos asignados



Finalmente nos vamos a diagnósticos para ver si se agregó bien la tarjeta POPEX y POPIT



1 PARPADEO EN 1 SEGUNDO,
NORMAL
HEARTBEAT