Wireless Expander Eclipse WL
Installation and Programming Manual

1. General Information

Eclipse WL is a wireless expander module designed for building of hybrid systems with wired control panels Eclipse series and wireless devices BRAVO series.

Eclipse WL is mounted in a small plastic box and it is necessary to be connected to the system BUS of the control panel, as the maximum distance between the module and the panel must be up to 250 m – see the connection diagram.

The expander supports operation with alarm control panels Eclipse 16 and Eclipse 32, and wireless peripheral devices BRAVO series including:
- BRAVO PIR – Wireless motion detector
- BRAVO MC – Wireless magnetic contact
- BRAVO FL – Wireless flood detector
- BRAVO FD – Wireless fire detector
- BRAVO SR – Wireless outdoor siren
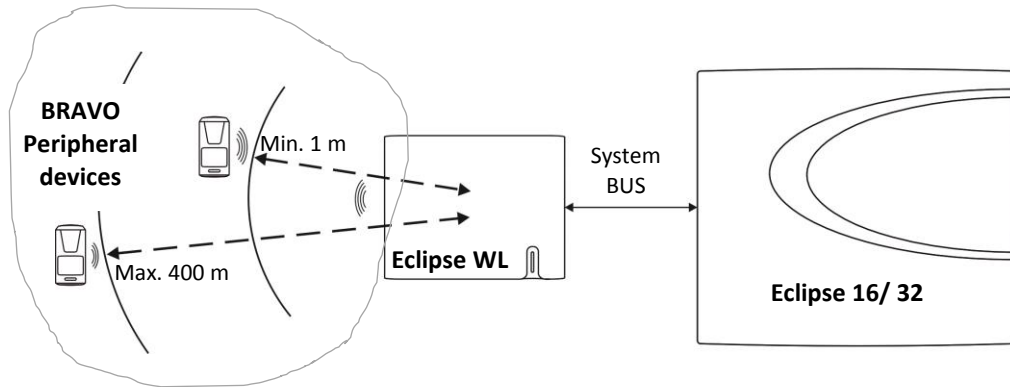- BRAVO RC – Remote key fob

Figure 1. Functional operation diagram of Eclipse hybrid system.

Attention: The minimum distance between Eclipse WL and enrolled to it peripheral devices BRAVO must be 1 meter to guarantee the correct operation of the system.
Important: The radio distance of Eclipse WL wireless expander module could vary according the construction and the building materials of the site, where the wireless detectors are installed.

Technical Specifications of Eclipse WL:
- Operation frequency .... ~ 868MHz
- Radio distance (open space) ..... up to 400 m
- Power supply from the panel 9-18VDC
- Consumption .... max. 150mA
- Operating temperature .... from 0ºC to +40ºC
- Storage temperature .... from -10ºC to +50ºC
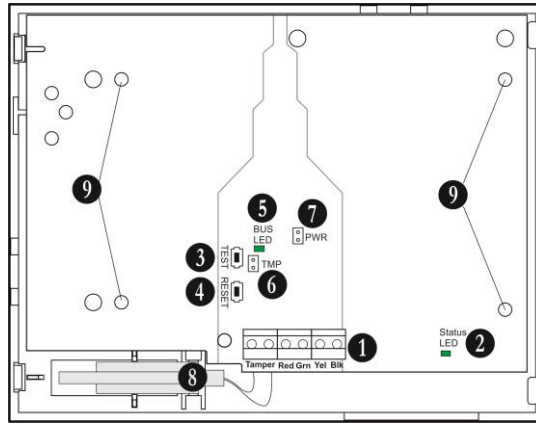
2. Eclipse WL Components

Figure 2. Eclipse WL mounted into small plastic box.

1. Terminal row:
- **Tamper** – Connect the wires of the tamper-switch in the box.
- **RED, GRN, YEL, BLK** – Serial interface for connection to Eclipse 16/32 control panels.

2. LED indication of the module status (Status LED):

Color	Lights on	Blinking
Red	No communication between the module and the panel	Low voltage
Yellow	Short circuit of the system bus	Wrong connection of the system bus
Green	Selected device	Normal operation mode

3. TEST Button – not used.
4. RESET Button – erasing of all enrolled to Eclipse WL wireless devices.
Attention: With the RESET procedure the installer erases all enrolled devices in the Eclipse WL expander only!
5. LED indication of the system bus status (BUS LED) – in normal operation mode the LED is blinking in green during communication with the panel.
6. TMP Jumper (TAMPER) – set a jumper in case the tamper-switch in the box is not used.
7. PWR Jumper (POWER) – set a jumper in case you need to increase the module's sensitivity for receiving signals from wireless devices (because of specific conditions in the premises like reinforced walls between the rooms, security zones in a great distance from the module, etc.).
Attention: When the PWR jumper is set, the minimum distance between Eclipse WL and enrolled to it devices BRAVO series must be 2 meters!
8. Tamper-switch for self-protection of the plastic box.
9. Holes for fixing the module to the plastic box bottom.

3. Basic steps for adding Eclipse WL to the system configuration
To add Eclipse WL wireless expander to the system configuration, do in sequence:
- Connect Eclipse WL to the system bus as observe the polarity.
- Add Eclipse WL to a free address of the system configuration.
- Enroll the wireless devices BRAVO to Eclipse WL.
- Enroll the remote key fobs BRAVO to Eclipse WL.
- Attach the wireless devices such as PIR, MC, FL and FD to a free zone numbers in the system and set an appropriate zone type according the operation – entry-exit, follow, instant, fire, etc. Attach the wireless sirens BRAVO SR to a free zone numbers with set TAMPER type zone to watch for unauthorized opening of the siren's box.
- Attach the wireless sirens BRAVO SR to a free PGM numbers in the system and set "Siren" option for operation.
- Fill in the operation card for Eclipse WL – see APPENDIX 1.
- Test the system for correct operation according the set parameters.

4. Connection to Eclipse control panels
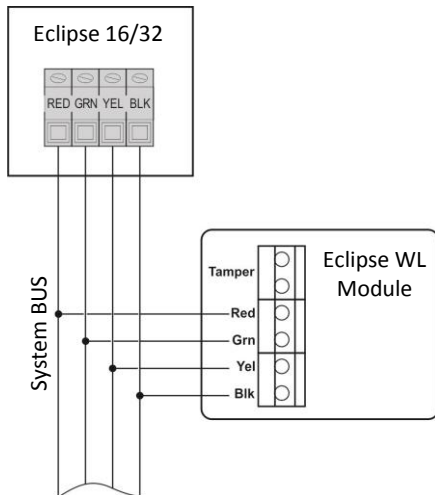
ATTENTION:
When connecting Eclipse WL to the system bus, assure first to turn off the main and the backup power supply of the control panel and strictly observe the polarity of wires.

Eclipse WL is connected to the system bus of the panel – power and data terminals, located at the right bottom corner and labeled as: BLK (0V), RED (+12V), YEL and GRN (both for data transfer).

Connect the wires of the tamper-switch of the plastic box to Tamper terminals of the Eclipse WL expander. If the tamper-switch is not used set a jumper on TMP terminals.

5. Adding of Eclipse WL to the system configuration
**(LCD keyboard; text menus structure set by default)**

At the initial connection of Eclipse WL to the panel the Status LED (see pos. 2 of Figure 2) lights on permanently in red.
To add Eclipse WL to the system configuration, do in sequence:
- Enter in the engineer programming mode of the Eclipse panel.
- Choose a free address for device in the system (DEVICE 03 in the example):

- Press the ✓ (ENTER) button again.
- Press the tamper-switch of Eclipse WL.
- The wireless expander is recognized from the panel and displayed on the display as [WEXP], together with a unique ID code:
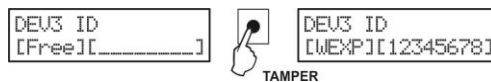
- Press the ✓ (ENTER) button of the keyboard to add the wireless expander module to the system configuration.
- The Status LED of Eclipse WL lights on permanently in green, which means that the module is successfully added to the system configuration and it is selected in the moment.
- Go ahead with the enrollment of wireless devices to the Eclipse WL module.

6. Enrollment and deleting of wireless devices BRAVO to Eclipse WL
(LCD keyboard; text menus structure set by default)

Operation with the wireless expander is supported from alarm control panels Eclipse 16 and Eclipse 32, as the number of supported devices is as follows:

Devices	Programming menus			Control panel	
	Text	Addresses	Operations	Eclipse 16	Eclipse 32
PIR, MC, FL, FD и SR*	8.WL Device	8xx5	815	Max. 16	Max. 32
RC**	9.WL Remote	8xx6	816	Max. 32	Max. 64

where xx is the number of the Eclipse WL wireless expander module.

* After the enrollment to the wireless expander, the devices must to be attached to a free zone number of the panel, as the sirens SR must be attached and to a free PGM number with "Siren" option set – see also the examples for programming at item 8.
*** The enrolled remote key fobs are automatically attached to the corresponding User numbers in the system - RC1 to User 1, RC2 to User 2 and so on.*

To enroll a BRAVO device type PIR, MC, FL, FD or SR to Eclipse WL, do in sequence:
- Prepare the wireless device for enrollment to Eclipse WL – remove the cover to enable access to the PCB.
- Remove the protection folio from the battery – the device LED will blink in green for a while.
- Enter in the engineer programming mode of the Eclipse panel.
- Choose the menu of Eclipse WL (DEVICE 03 in the example):

Engineer code   Menu 9. DEVICES   Menu of Eclipse WL

- Use the arrows to choose the "8.WL Device" submenu and press the ✓ (ENTER) button.
- Enter a number of device from [01] to [16/32] (depends on the panel type):
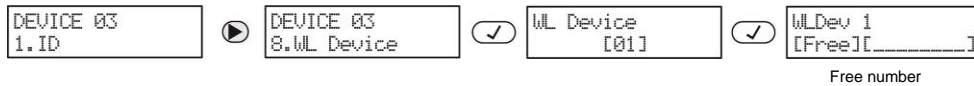
Free number

- If the number is free the screen displays: [Free][_ _ _ _ _ _ _ _]
- Press the ✓ (ENTER) button of the keyboard – the message "Searching…" is displayed – a process for searching of wireless devices in the Eclipse WL radio distance is started.
- Press the ENROLL button of the wireless device – the device LED will blink fast in red for a while. If the enrollment is successful, in a time interval up to 30 seconds, the device LED lights on in green, and after that starts blinking in orange, which means that the device is selected.
- The enrolled device is displayed on the keyboard screen with type and unique ID code. The wireless devices from BRAVO series are displayed as follows:

Device	LCD keyboard
BRAVO PIR	[PIR]
BRAVO MC	[MC]
BRAVO FL	[FLD]
BRAVO FD	[FIRE]
BRAVO SR	[SIRN]

- Press the ✓ (ENTER) button of the keyboard to confirm the enrollment or press the ✗ (CANCEL) button to reject it.
- Make a radio test on the place of installation of the device as press the ENROLL button once – see Installation and Operation Manual for BRAVO Wireless Alarm Control Panel, item 7.1.
- Proceed with the enrollment of wireless devices to Eclipse WL using the same working algorithm. Write down the taken numbers in the table in APPENDIX 1.

To enroll a BRAVO device type RC to Eclipse WL, do in sequence:
- Prepare the remote key fob for enrollment to Eclipse WL – remove the cover to enable access to the PCB.
- Remove the protection folio from the battery – the device LED will blink in green for a while.
- Mount the cover back.
- Enter in the engineer programming mode of the Eclipse panel.
- Choose the menu of Eclipse WL (DEVICE 03 in the example):

Engineer code   Menu 9. DEVICES   Menu of Eclipse WL

- Use the arrows to choose the "9.WL Remote" submenu and press the ✓ (ENTER) button.
- Enter a number of remote key fob from [01] to [32/64] (the max. number depends on the panel type):

Free number

- If the number is free the screen displays: [Free][_ _ _ _ _ _ _ _]
- Press the ✓ (ENTER) button of the keyboard – the message "Searching…" is displayed – a process for searching of remote key fobs in the Eclipse WL radio distance is started.
- Press a random button of the remote key fob – the device LED will blink fast in red for a while. If the enrollment is successful, in a time interval up to 30 seconds, the device LED lights on in green.
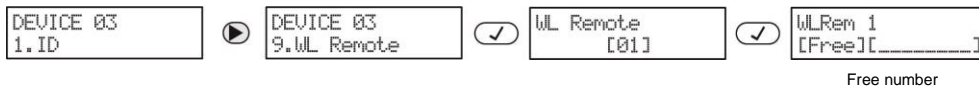- The enrolled remote key fob is displayed on the keyboard screen with type [REMT] and unique ID code. Press the ✓ (ENTER) button of the keyboard to confirm the enrollment or press the ✗ (CANCEL) button to reject it.
- Proceed with the enrollment of remote key fobs to Eclipse WL using the same working algorithm.

Note: The following trouble messages are possible to be displayed in the right upper corner of the keyboard screen during enrollment or reviewing wireless devices:
    - BL (Battery Low) – Low level of the battery charge.
    - NC (Not Connected) – There is no connection between the module and the device. This message is usually displayed if the power supply of the wireless expander is missing. After the power supply restoration, the wireless devices will restore the communication with the Eclipse WL within 15 minutes. To speed up the process of communication restore is necessary to activate a zone/ tamper or to press the ENROLL button of the respective wireless device.
    - ER (Error in Wireless Device Identification) – Unknown type of the wireless device. To solve the problem you have to update the panel via ProsTE software.

To delete a wireless device from the Eclipse WL configuration, do in sequence:
- Enter in the engineer programming mode of the Eclipse panel.
- Choose the menu of Eclipse WL.
- Use the arrow buttons to select the submenu "8.WL Devices" or "9.WL Remote" and press the ✓ (ENTER) button.
- Enter a number of device or remote key fob.
- The device is displayed with type and unique ID number.
- Press continuously the "0" button until a confirmation sound from the keyboard is heard – the screen displays [Free][_ _ _ _ _ _ _ _] for the number.
  Note: When deleting a wireless device from type PIR, MC, FD, FL or SR, which is currently connected to Eclipse WL, the device is resetting automatically and it is prepared for enrollment to a new system. However, if the wireless device is not currently connected to Eclipse WL (because of missing battery, lost communication with the expander or other reason), it is obligatory the installer to reset it manually before enrolment to a new system.
  When deleting a remote key fob it is not resetting automatically and always before enrolment to a new system the installer must reset it manually.

7. Hardware Reset of Eclipse WL

The hardware reset of Eclipse WL expander module is a process of erasing of all enrolled to it wireless devices.
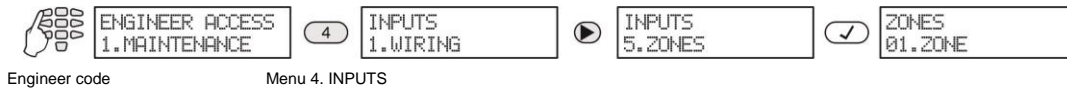To perform a hardware reset of Eclipse WL, do in sequence:
- With power supply on press and hold the RESET button of Eclipse WL for 3 seconds until the Status LED blinks three times in green.

Note: With the RESET procedure the installer erases all enrolled devices in the Eclipse WL expander only! Before enrolment of the wireless devices to a new system the installer must reset them manually. The zones and PGM outputs with attached wireless devices have to be reset manually too.
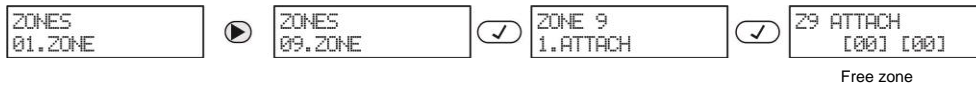
8. Attaching of BRAVO wireless devices to zones in Eclipse panel
(LCD keyboard; text menus structure set by default)

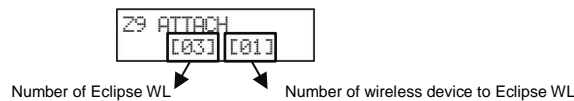**To attach a device from type PIR, MC, FL, FD or SR to a free zone** in the panel, do in sequence:
- Enter in the engineer programming mode of the Eclipse panel.
- Choose menu "4.INPUTS" and then menu "5.ZONES":

```
Engineer code          ENGINEER ACCESS   (4)   INPUTS          (▶)   INPUTS          (✓)   ZONES
                       1.MAINTENANCE           1.WIRING              5.ZONES               01.ZONE
                                          Menu 4. INPUTS
```

- Choose a free zone in the system (ZONE 09 in the example):

```
ZONES        (▶)   ZONES        (✓)   ZONE 9       (✓)   Z9 ATTACH
01.ZONE            09.ZONE            1.ATTACH              [00] [00]
                                                         Free zone
```

- Enter the number of Eclipse WL in the first section on the screen (DEVICE 03 in the examples above), and the number of a enrolled to it wireless device in the second section (WL DEVICE 1 in the examples above):
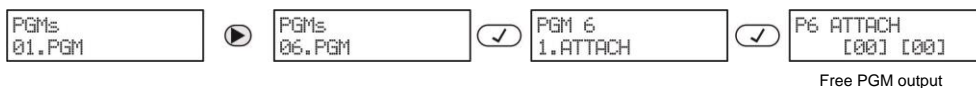
```
Z9 ATTACH
   [03] [01]
```
Number of Eclipse WL ⟵   ⟶ Number of wireless device to Eclipse WL

- Press the (✓) (ENTER) button.
- Choose with arrow buttons "2. TYPE" submenu and press (✓) (ENTER) button.
- Choose a zone type according to the detector type (see Programming Manual of Eclipse Alarm Control Panels).
- Use the same steps to attach other wireless devices to free zones in the system.

**To attach a device from type SR to a free PGM output** in the panel, do in sequence:
- Enter in the engineer programming mode of the Eclipse panel.
- Choose menu "5.OUTPUTS" and then menu "2.PGMs":

```
Engineer code          ENGINEER ACCESS   (5)   OUTPUTS         (▶)   OUTPUTS         (✓)   PGMs
                       1.MAINTENANCE           1.PGM OPTIONS        2.PGMs                01.PGM
                                          Menu 5.OUTPUTS
```

- Choose a free PGM output in the system (PGM 06 in the example):

```
PGMs         (▶)   PGMs         (✓)   PGM 6        (✓)   P6 ATTACH
01.PGM            06.PGM             1.ATTACH              [00] [00]
                                                        Free PGM output
```

- Enter the number of Eclipse WL in the first section on the screen (DEVICE 03 in the examples above), and the number of a enrolled to it wireless siren in the second section:

```
P6 ATTACH
   [03] [02]
```
Number of Eclipse WL ⟵   ⟶ Number of the siren to Eclipse WL
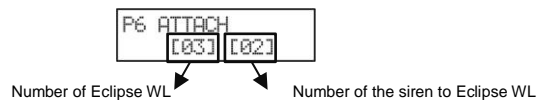
- Press the ✓ (ENTER) button.
- Choose with the arrows submenu "2. OPTIONS" and press the ✓ (ENTER) button.
- Choose the "SIREN" option – select with pressing button "1" and confirm with the ✓ button.
- Use the same steps to attach other wireless sirens to free PGMs in the system.

Note: Attach the wireless sirens BRAVO SR also to a free zone numbers with set TAMPER type zone to watch for unauthorized opening of the siren's box.

APPENDIX 1

Number of Eclipse WL expander:

BRAVO device		Attached to	
Type	Number	Zone	PGM