



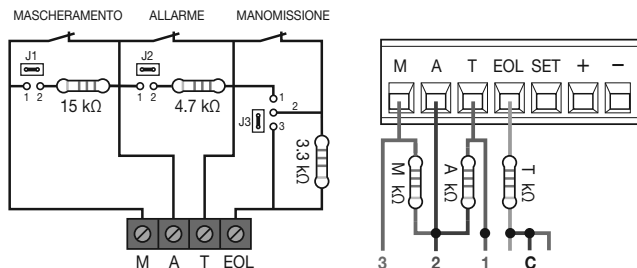
**Eikon**                      **Arké**                      **Plana**  
**20479**                      **19479**                      **14479**

\*\* La soglia crepuscolare viene utilizzata per rilevare la presenza in applicazioni di automazione (comando di una luce temporizzata con stato disinserito).

\*\*\* Viene utilizzata durante il rilevamento della presenza nelle applicazioni di automazione.

### Configurazione delle Uscite

Per semplificare l'installazione, il rivelatore è provvisto al suo interno di una resistenza di bilanciamento del valore adatto per l'utilizzo con le centrali 01700 e 01703. La figura sotto illustra lo schema del contatto dell'uscita e la connessione con la resistenza interna di bilanciamento.



- Per l'uscita Manomissione (T) la resistenza è inserita in serie al contatto.
- Per l'uscita Allarme (A) la resistenza è inserita in parallelo al contatto.
- Per l'uscita Mascheramento (M) la resistenza è collegata in parallelo al relativo contatto.

Nel caso in cui si necessiti di valori di resistenza diversi, è possibile escludere la resistenza interna agendo sul relativo ponticello **Jumper** e collegare esternamente in serie la resistenza adatta avendo cura di replicare lo stesso collegamento (si veda figura di destra di cui sopra dove C=comune e 1,2,3 sono rispettivamente le connessioni per singolo doppio e triplo bilanciamento).

La tabella che segue illustra la modalità di impostazione delle singole resistenze interne di bilanciamento.

Descrizione	Opzioni
Resistenza interna per singolo bilanciamento	<ul style="list-style-type: none"> <li>• Jumper J3 su 1-2: Esclusione contatto Manomissione</li> <li>• Jumper J3 su 2-3: Resistenza esclusa (cortocircuitata)</li> </ul>
Resistenza interna per doppio bilanciamento	<ul style="list-style-type: none"> <li>• Jumper J2 su 1-2: Inserita</li> <li>• Jumper J2 su 2-3: Esclusa (aperta)</li> </ul>
Resistenza interna per triplo bilanciamento	<ul style="list-style-type: none"> <li>• Jumper J1 su 1-2: Inserita</li> <li>• Jumper J1 su 2-3: Esclusa (aperta)</li> </ul>

Il massimo carico comandabile con l'uscita Tamper è pari a 250 mA 24 V resistivi.

### COLLEGAMENTI

- Le connessioni filari dell'impianto antintrusione vengono fissate su un apposito connettore femmina estraibile (che facilita l'installazione) che si innesta nel connettore maschio nel retro del dispositivo. Lo schermo del cavo va collegato solo in centrale assieme al conduttore negativo dell'alimentazione.
- Separare l'alimentazione della sirena da quella dei rivelatori.
- E' necessario che gli ingressi della centrale siano correttamente configurati con lo stesso significato delle uscite del dispositivo.
- L'ingresso SET determina la logica di funzionamento del dispositivo. E' necessario che all'uscita della centrale (collegata a SET) sia assegnata l'area di appartenenza del rivelatore.
- Nelle centrali By-alarm 01700 e 01703 si utilizza il contatto NC del Relè 2 che, a stato disinserito, si chiude sul positivo dell'alimentazione.
- Sui moduli di espansione uscita va collegato allo stesso modo utilizzando i due morsetti del contatto relè dell'uscita configurata.

Per le tipologie di collegamento si vedano le figure COLLEGAMENTI LA CENTRALE.

### REGOLE DI INSTALLAZIONE

- L'installazione deve essere effettuata con l'osservanza delle disposizioni regolanti l'installazione del materiale elettrico in vigore nel paese dove i prodotti sono installati.
- Installare lontano da fonti di calore e dalla luce diretta.
- Non installare 2 sensori vicini o con le aree di copertura sovrapposte.
- Installare in punti dove il campo di rilevazione è libero da oggetti che possono mascherare la rilevazione.
- All'accensione il rivelatore si porta in self test per 120 s al termine dei quali diventa operativo.

- Nell'installazione del rivelatore in scatole da incasso, per garantire la protezione contro l'apertura e la rimozione, utilizzare esclusivamente supporti 2 moduli fissati con le 2 viti anti-manomissione fornite in dotazione al rivelatore. In tal caso, l'eventuale disinstallazione del rivelatore dovrà essere eseguita agendo con un cacciavite sui 4 denti di aggancio.
- Gli oggetti metallici davanti al rivelatore tendono a ridurre la sensibilità di quest'ultimo. Evitare installazioni dietro a inferriate, profili, bordi, reti e scaffalature metalliche.
- Non installare su pareti mobili o soggette a urti e vibrazioni.
- Non installare il rivelatore adiacente ad antenne GSM.
- Il sensore doppia tecnologia è un dispositivo da interno che va montato in una scatola da incasso ad una altezza di 1,2 m dal piano del calpestio. Per il montaggio a parete si può in alternativa utilizzare il supporto esterno Vimar art. 00802.
- La tensione di alimentazione deve essere di tipo Safety Extra Low Voltage (SELV).
- Per l'installazione utilizzare cavi schermati esenti da alogeni idonei per installazione con cavi energia di I Categoria (U0 = 400 V) VIMAR 01734 (2x0,50mm<sup>2</sup> + 4x0,22mm<sup>2</sup>).
- La lunghezza dei collegamenti non deve superare i 100 m.

### CONFORMITA' NORMATIVA

EN 50131-2-4.

Direttiva EMC.

Norme EN 50130-4, EN 61000-6-3, EN 62368-1.

Regolamento REACH (UE) n. 1907/2006 – art.33. Il prodotto potrebbe contenere tracce di piombo.

### RAEE - Informazione agli utilizzatori

Il simbolo del cassetto barrato riportato sull'apparecchiatura o sulla sua confezione indica che il prodotto alla fine della propria vita utile deve essere raccolto separatamente dagli altri rifiuti. L'utente dovrà, pertanto, conferire l'apparecchiatura giunta a fine vita agli idonei centri comunali di raccolta differenziata dei rifiuti elettrotecnici ed elettronici. In alternativa alla gestione autonoma, è possibile consegnare gratuitamente l'apparecchiatura che si desidera smaltire al distributore, al momento dell'acquisto di una nuova apparecchiatura di tipo equivalente. Presso i distributori di prodotti elettronici con superficie di vendita di almeno 400 m<sup>2</sup> è inoltre possibile consegnare gratuitamente, senza obbligo di acquisto, i prodotti elettronici da smaltire con dimensioni inferiori a 25 cm. L'adeguata raccolta differenziata per l'avvio successivo dell'apparecchiatura dismessa al riciclaggio, al trattamento e allo smaltimento ambientalmente compatibile contribuisce ad evitare possibili effetti negativi sull'ambiente e sulla salute e favorisce il reimpiego e/o riciclo dei materiali di cui è composta l'apparecchiatura.

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## By-alarm passive infrared and microwave presence detector – 2 modules.

The detector incorporates a microwave sensor and an infrared sensor and is able to signal people or animals passing through its area of coverage. The dual technology enables making the sensor insensitive to the most common causes of false alarms. The detector functions in "AND" mode, this means that, when either sensor detects motion in the area of coverage it remains on pre-alarm awaiting confirmation from the other sensor as well. Once this condition occurs the device sends the signal to the control unit.

### CHARACTERISTICS

- Supply voltage: 12 Vdc SELV  $\pm 25\%$
- Absorption at 12 V: 28 mA MAX, 15 mA off
- Operating temperature:  $-10..+40^{\circ}\text{C}$
- Type of protection: against opening with anti-tamper device built in
- Microwave: 24.125 GHz at 16 dBm
- Detection of masking (not certified)
- Microwave and infrared sensor sensitivity adjustment
- Possibility to enable/disable the LED indicator
- Possibility to exclude the microwave sensor if the system is switched off
- Ability to use the device as a stair light detector with dawn threshold
- Can be used with By-alarm control panels with 24 or 64 zones art. 01700-01700.120 and 01703-01703.120
- Configuration flexibility that allows operation with third-party alarm systems
- Installation: flush mounting with 2-module mounting frame or surface mounting (with mounting frame art. 00802: installation not certified to IMQ-security systems)
- Degree of safety: 2 (EN 50131-2-4)
- Ambient class: II (EN 50131-2-4)

### OPERATION

The device intercepts the presence of moving bodies and signals it to the By-alarm control panel or to third-party systems compatible with it.

The detector is equipped with a removable 7-pole female terminal which is connected to the supply voltage ("+" and "-"), the on/off system status input ("SET"), the termination of the outputs with contacts in series ("EOL"), the tamper output ("T"), the alarm output ("A") and the masking output ("M").

#### SET system status input

Corresponds to the on/off system status signal. There is an internal pull-down resistor which provides for connecting the input to the voltage free contacts.

- When switched off, the contact must close the signal to the power supply positive (terminal "+").
- When the status is on, the contact remains open.

**N.B. No connection corresponds to the state of being on.**

When the SET signal is high, the microwave sensor is deactivated and the device behaves as a timed sensor, commanding the alarm output with only the infrared detection combined with the dawn threshold and actuation duration.

#### Tamper output

This is a normally closed opto-isolated contact that signals the event of tampering with the detector's anti-tampering device. The signal is generated on terminals "EOL" and "T" opening the contact for a minimum time of 4 s.

The signal is triggered by an attempt to tamper with the device.

#### Alarm output

The alarm signal is generated on terminals "T" and "A", opening the contact for a minimum time of 4 seconds (when there is no alarm the contact is closed).

The signalling normally takes place with AND logic of the two technologies; if the SET input is taken high, the output can be used for the automation of timed lights (see automation operation).

#### Masking output

The masking signal is generated on terminals "A" and "M" opening the relevant contact (when there is no masking the contact is closed).

Signalling takes place when:

- darkening of the infrared lens with reflective paint is detected;
- 5 microwave presences are detected but no infrared detection (this can be caused, for example, by placing an object in front of the detector which blocks the infrared signal but not the microwave one).

By using the appropriate settings you can have the device, if masked, automatically change the detection logic from AND to OR.

#### Automation logic

When the device is in the off state (ie with SET input at high logic level) it can be used for signalling within the framework of automations.

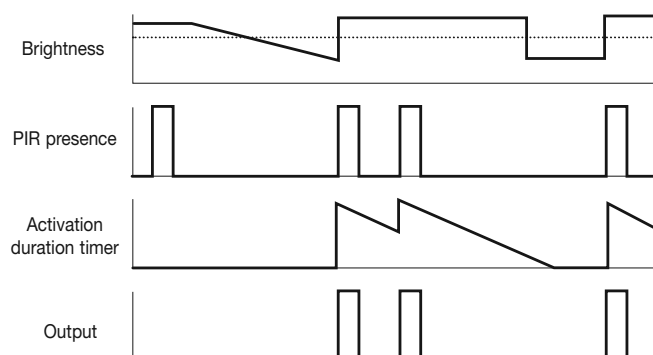
Using the integrated light sensor and presence detection in combination produces an intelligent light control capable of:

- checking whether the brightness is under the set threshold;
- checking presence with the infrared part (in the off state the microwave part is switched off);
- controlling the alarm output by opening the relevant contact.

If the detector is used for automation applications it is not necessary to modify the connections made; the By-alarm control panel detects the alarm event caused by the output command and sends it to the By-me home automation system.

- With the first detection the contact of the alarm output is opened for 4 seconds (pulse) and the brightness control is inhibited for the time determined by the "Actuation Duration" parameter.
- Presence detection causes the pulse to be repeated on the output and the timer to restart; when the time elapses, the brightness control becomes operational again and resumes with the initial logic.
- The front LED is controlled with the same infrared presence signal mode.

The following figure illustrates the above.



#### Front LED signalling

The LED lights up for a few seconds when the device is started and then behaves according to how the relevant DIP-switch is set.

##### LED disabled:

- In the off state it always remains off.
- In the on state, it switches on for a few seconds when it detects the alarm and signals it, staying on for 30 s after switching off the system.

##### LED enabled:

- In the off state it switches on in the event of presence detection.
- In the on state, it switches on for a few seconds when it detects the alarm and signals it, staying on for 30 s after switching off the system.

If the LED always stays on steady, check that the supply voltage is correct.

### CONFIGURATION

The following table shows how to set the detector parameters:

Parameter	Setting
Microwave sensitivity*	<ul style="list-style-type: none"> <li>• Control TR1 <math>\curvearrowright</math>: Increase</li> <li>• Control TR1 <math>\curvearrowleft</math>: Decrease</li> </ul>
Brightness threshold**	<ul style="list-style-type: none"> <li>• Control TR2 <math>\curvearrowright</math>: Increase</li> <li>• Control TR2 <math>\curvearrowleft</math>: Decrease</li> </ul>
PIR sensitivity	<ul style="list-style-type: none"> <li>• DIP-switch DS1-1 ON: High</li> <li>• DIP-switch DS1-1 OFF: Normal</li> </ul>
Front LED enabling	<ul style="list-style-type: none"> <li>• DIP-switch DS1-2 ON: Enabled</li> <li>• DIP-switch DS1-2 OFF: Disabled</li> </ul>
Actuation duration***	<ul style="list-style-type: none"> <li>• DIP-switch DS2-1 ON: 60 s</li> <li>• DIP-switch DS2-1 OFF: 20 s</li> </ul>
Presence detection	<ul style="list-style-type: none"> <li>• DIP-switch DS2-2 ON: OR logic</li> <li>• DIP-switch DS2-2 OFF: fixed AND logic</li> </ul>

\* The microwave sensor can detect movement even through walls; it is therefore necessary to adjust its sensitivity based on the operating environment. The maximum sensitivity corresponds to the area indicated in the coverage diagram; the minimum sensitivity corresponds to an area of a similar shape but limited to approximately 1 m.

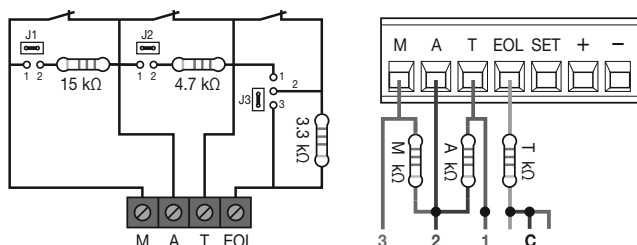
<b>Eikon</b>	<b>Arké</b>	<b>Plana</b>
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\*\* The dawn threshold is used to detect presence in automation applications (control of a timed light in the off state).

\*\*\* It is used during presence detection in automation applications.

#### Output configuration

For easier installation, the detector is equipped with an internal resistor for balancing the value suitable for use with the control panels 01700-01700.120 and 01703-01703.120. The figure below shows a diagram of the output contact and the connection with the internal balancing resistor.



- For the Tamper output (T) the resistor is inserted in series with the contact.
- For the Alarm output (A) the resistor is inserted in parallel with the contact.
- For the Masking output (M) the resistor is connected in parallel with the relevant contact.

If other resistance values are required, it is possible to cut off the internal resistor with the related Jumper and externally connect the suitable resistor in series taking care to replicate the same connection (see the figure to the right above where C=common and 1,2,3 are respectively the connections for single, double and triple balancing).

The following table illustrates the method of setting the internal balancing resistors.

Description	Options
Internal resistor for single balancing	<ul style="list-style-type: none"> <li>• Jumper J3 on 1-2: Cutting off Tampering contact</li> <li>• Jumper J3 on 2-3: Resistor cut off (shorted)</li> </ul>
Internal resistor for double balancing	<ul style="list-style-type: none"> <li>• Jumper J2 on 1-2: On</li> <li>• Jumper J2 on 2-3: Cut off (open)</li> </ul>
Internal resistor for triple balancing	<ul style="list-style-type: none"> <li>• Jumper J1 on 1-2: On</li> <li>• Jumper J1 on 2-3: Cut off (open)</li> </ul>

The maximum load that can be controlled with the Tamper output is 250 mA 24 V resistive.

#### CONNECTIONS

- The wired connections of the burglar alarm system are secured on an appropriate removable female connector (making installation easier) that couples in the male connector on the back of the device. The cable shield must be connected only in the control panel together with the negative conductor of the power supply.
- Separate the power supply of the siren from that of the detectors.
- The inputs of the control panel must be correctly configured with the same meaning as the outputs of the device.
- The SET input determines the operating logic of the device. It is necessary for the control panel output (connected to SET) to be assigned with the area of the detector.
- The By-alarm control panels 01700-01700.120 and 01703-01703.120 use the NC contact of Relay 2 that, when off, closes on the positive of the power supply.
- On the output expansion modules it should be connected in the same manner using the two terminals of the relay contact of the configured output.

For the types of connection, please see the figures for CONNECTIONS WITH THE CONTROL PANEL.

#### INSTALLATION RULES

- Installation should be carried out in compliance with the current regulations regarding the installation of electrical equipment in the country where the products are installed.
- Install well away from sources of heat and direct light.
- Do not install 2 sensors near each other or with overlapping coverage areas.
- Install in places where the detection field is clear of objects which can mask detection.
- When switching on, the detector runs a self test for 120 s after which it becomes operational.

- When installing the detector in flush-mounting boxes, to ensure protection against opening and removal, use only 2-module mounting frames fastened with the 2 tamper-proof screws supplied with the detector. In this case, any uninstalling of the detector must be carried out by using a screwdriver on the 4 coupling teeth.
- Metal objects in front of the detector tend to reduce its sensitivity. Avoid installation behind railings, profiles, borders, netting and shelving made of metal.
- Do not install on partitions or walls subjected to shock and vibration.
- Do not install the detector near GSM aerials.
- The dual technology sensor is an internal device to be mounted in a flush-mounting box at a height of 1.2 m off the floor. For surface mounting you can alternatively use the Vimar external mounting frame art. 00802.
- The supply voltage must be Safety Extra Low Voltage (SELV).
- For installation, use halogen-free shielded cables suitable for installation with Category 1 power cables (U0 = 400 V) VIMAR 01734 (2x0.50mm<sup>2</sup> + 4x0.22mm<sup>2</sup>).
- The length of the connections must not exceed 100 m.

#### REGULATORY COMPLIANCE

EN 50131-2-4.

EMC directive.

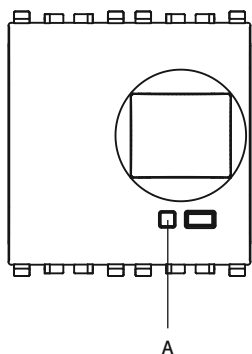
Standards EN 50130-4, EN 61000-6-3, EN 62368-1.

REACH (EU) Regulation no. 1907/2006 – Art.33. The product may contain traces of lead.

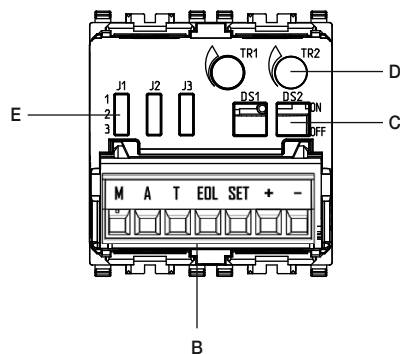


#### WEEE - Information for users

If the crossed-out bin symbol appears on the equipment or packaging, this means the product must not be included with other general waste at the end of its working life. The user must take the worn product to a sorted waste center, or return it to the retailer when purchasing a new one. Products for disposal can be consigned free of charge (without any new purchase obligation) to retailers with a sales area of at least 400 m<sup>2</sup>, if they measure less than 25 cm. An efficient sorted waste collection for the environmentally friendly disposal of the used device, or its subsequent recycling, helps avoid the potential negative effects on the environment and people's health, and encourages the re-use and/or recycling of the construction materials.

**VISTA FRONTALE - FRONT VIEW.**


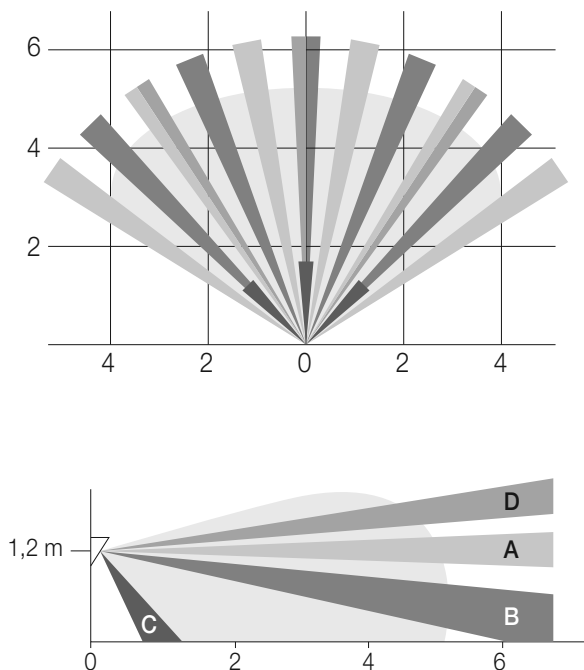
- A:** LED rosso segnalazione presenza
- B:** Connettore estraibile ingressi/uscite
- Ingressi:**
- : Ingresso negativo alimentazione
  - +: Ingresso positivo alimentazione
  - SET: Ingresso stato impianto (inserito/disinserito)
- Uscite:**
- EOL: Comune dei segnali di bilanciamento
  - T: Manomissione
  - A: Allarme rilevazione presenza
  - M: Mascheramento
- C:** Dip-switch DS1 DS2
- D:** Potenziometri TR1 TR2
- E:** Jumper J1, J2, J3 per inclusione/esclusione resistenza di bilanciamento.

**VISTA POSTERIORE - REAR VIEW.**


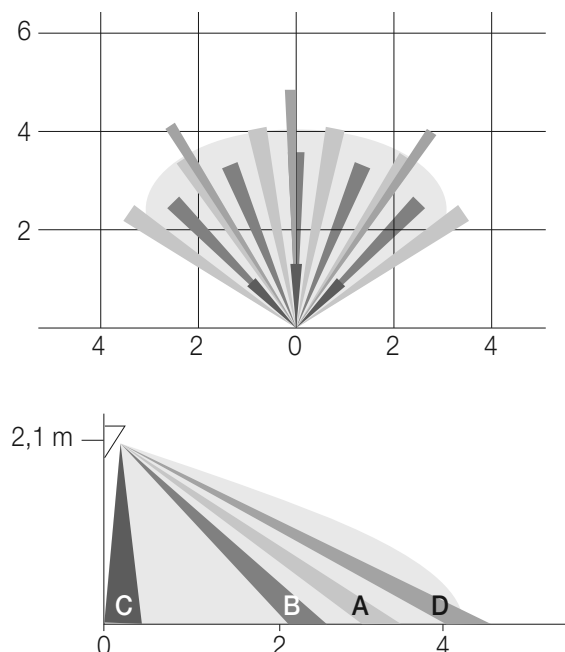
- A:** Red Led signalling presence
- B:** Extractable input/output connector
- Inputs:**
- : Power supply negative input
  - +: Power supply positive input
  - SET: System status input (on/off)
- Outputs:**
- EOL: Common for balancing signals
  - T: Tampering
  - A: Presence detection alarm
  - M: Masking
- C:** DIP-switch DS1 DS2
- D:** Potentiometers TR1 TR2
- E:** Jumper J1, J2, J3 to cut in/off the balancing resistor.

**DIAGRAMMI DI COPERTURA - COVERAGE DIAGRAMS.**

- 1. Installazione ad incasso a 1,2 m.**  
Flush mounting at 1.2 m.

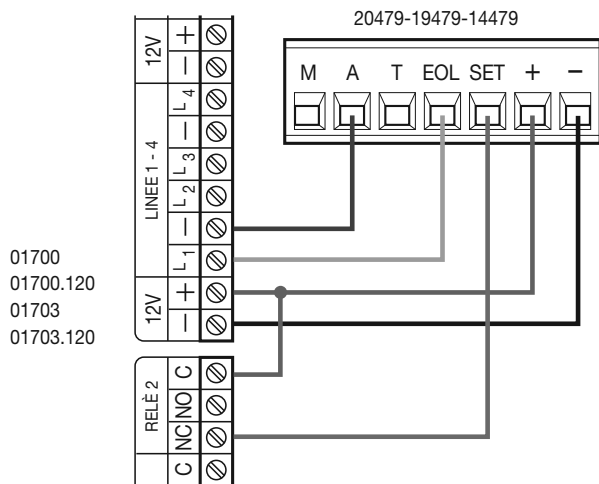


- 2. Installazione con supporto art. 00802 a 2,1 m di altezza e rivelatore orientato all'angolo di elevazione minore (installazione non certificata IMQ-sistemi di sicurezza).**  
Installation with mounting frame art. 00802 at 2.1 m in height and detector orientated at the smallest angle of elevation (installazione non certificata IMQ-sistemi di sicurezza).



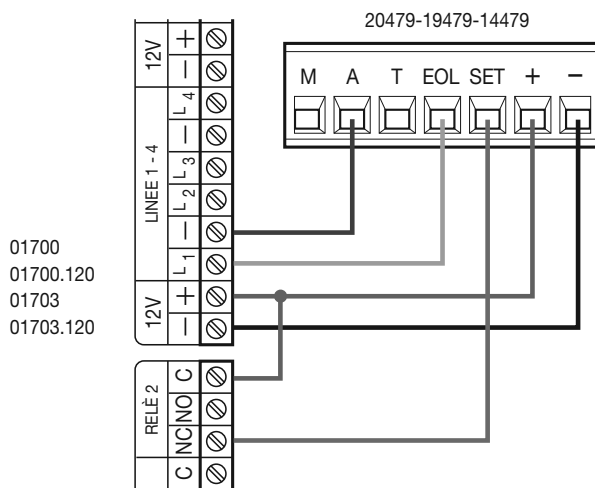
### COLLEGAMENTI CON LA CENTRALE - CONNECTIONS WITH THE CONTROL PANEL.

1. Rilevazione segnale di allarme con singolo bilanciamento della linea. Non vengono rilevati la manomissione e il mascheramento del dispositivo.  
Alarm signal detection with single line balancing. Device tampering and masking are not detected.



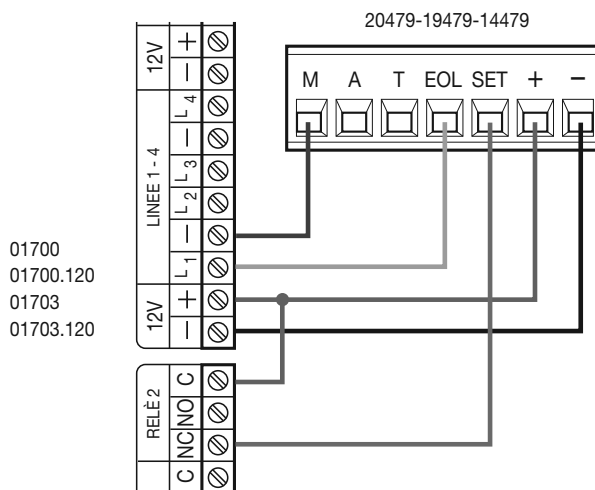
Collegamento morsetti - Terminal connection	
Morsetto in centrale Terminal in the control panel	Morsetto rivelatore Detector terminal
12 V -	-
12 V +	+
Stato inserito/disinserito - On/Off	SET
L1 (L2, L3...)	A
L1 (L2, L3...)	EOL
Jumper J1 chiuso su posizione a piacere Jumper J1 closed in position as preferred	
Jumper J2 chiuso su 2 e 3 Jumper J2 closed on 2 and 3	
Jumper J3 chiuso su 1 e 2 Jumper J3 closed on 1 and 2	

2. Rilevazione segnale di allarme e manomissione con doppio bilanciamento della linea. Non viene rilevato il mascheramento del dispositivo.  
Alarm signal and tampering detection with double line balancing. Device masking is not detected.



Collegamento morsetti - Terminal connection	
Morsetto in centrale Terminal in the control panel	Morsetto rivelatore Detector terminal
12 V -	-
12 V +	+
Stato inserito/disinserito - On/Off	SET
L1 (L2, L3...)	A
L1 (L2, L3...)	EOL
Jumper J1 chiuso su posizione a piacere Jumper J1 closed in position as preferred	
Jumper J2 chiuso su 1 e 2 Jumper J2 closed on 1 and 2	
Jumper J3 aperto Jumper J3 open	

3. Rilevazione segnale di allarme, manomissione, mascheramento con triplo bilanciamento della linea.  
Alarm signal, tampering and masking detection with triple line balancing.



Collegamento morsetti - Terminal connection	
Morsetto in centrale Terminal in the control panel	Morsetto rivelatore Detector terminal
12 V -	-
12 V +	+
Stato inserito/disinserito - On/Off	SET
L1 (L2, L3...)	M
L1 (L2, L3...)	EOL
Jumper J1 chiuso su 1 e 2 Jumper J1 closed on 1 and 2	
Jumper J2 chiuso su 1 e 2 Jumper J2 closed on 1 and 2	
Jumper J3 aperto Jumper J3 open	