POWER&CONTROL
NEW BEAMS BM/HP

Outdoor beams BM

AVS electronics
ALARM AND FIRE INTEGRATED SYSTEMS

BM60-120-200M BM60-120-200HP BM60-120-200HPVAC

The microwave beams with ranges from 60 to 120 and 200 meters, have been developed for indoor and outdoor protection. The system is made of two units, a transmitter and a receiver which are synchronized in couple thanks to dip-switches allowing to choose among different possible frequencies. AVS electronics offers two possible solutions in order to better meet the installation requirements;

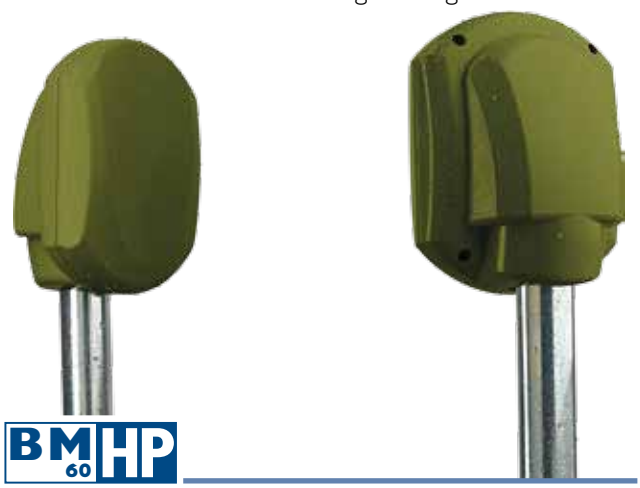
- **ANALOGICAL microwave beams BM..M**
- **DIGITAL microwave beams BM.. HP and BM..HPVAC**

Both solutions are extremely simple and versatile in installation, they are the ideal protection for high-risk sites such as airports, military areas, shopping centres, as well as for residential and civil sites.

DIGITAL BEAMS

The **BM60HP BM120HP** and **BM200HP** models of AVS Electronics are microwave digital systems of intrusion detection, developed for protecting wide areas either indoor and outdoor. The system is made of two units, a transmitter and a receiver synchronized in couple thanks to some dip-switches allowing to choose among 5 possible frequencies. The innovative system of digital analyse of the signal, which allows the microprocessor to check the area protected in a very precise way, offers the possibility of interpret and manage the signals generated identifying the intrusion characterized by wave shapes. The beam then, constantly analysing the protected area, allows to memorize and exclude the noise that would usually cause instability problems to traditional beams.

BM 60-120-200 HPVAC: Digital range also available with 220 V AC net power and included backup battery.



INSTALLATION

Thanks to the Test Point output to which a common analogical/digital multi-meter can be connected, the beam allows to check in a very intuitive way the correct alignment and thanks to some trimmers, to make all corrections directly on site. The micrometric adjustment of sensitivity and compensation make the product suitable for any situation.

It is also possible then, to use the USB connection on board, to connect to a computer in order to visualize in a very simple way all signals coming from the beam; this opportunity allows a quick and precise analyse of the signals on site like as if an oscilloscope was connected.

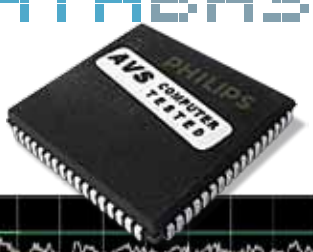
The management software **HPWIN** allows to make all the necessary calibrations.

USB® UNIVERSAL SERIAL BUS

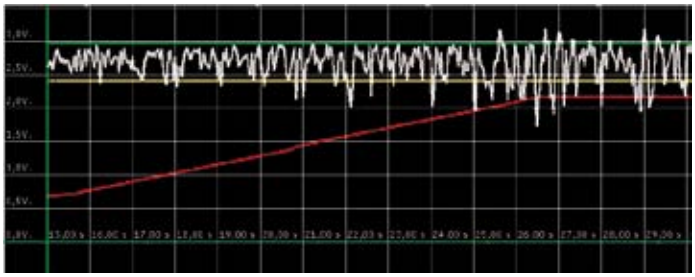
ANAYSE OF THE SIGNAL

The digital reading offers a different and more precise analyse of the signal. The beam is equipped with a microprocessor making quick and dynamic comparisons of the signals which referring to a data bank which can be personalized and saved on a dedicated memory, is capable to eliminate the situations of possible false alarms.

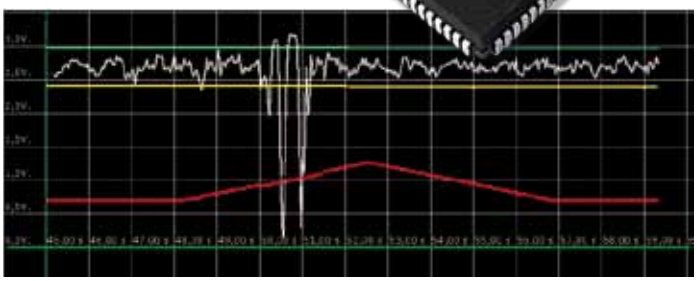
DATABASE



The beam analyses the signal via special algo-rhythms allowing a very precise reading of the protected area, the shape of the signal as well as its size and state are constantly checked and continuously compared to wave-shapes pre-set by the installer. The microprocessor keeps in memory over 3800 alarm events indicating date/hour, temperature and wave-shape.



Noise which causes a "False Alarm" Signal



"Alarm" Signal

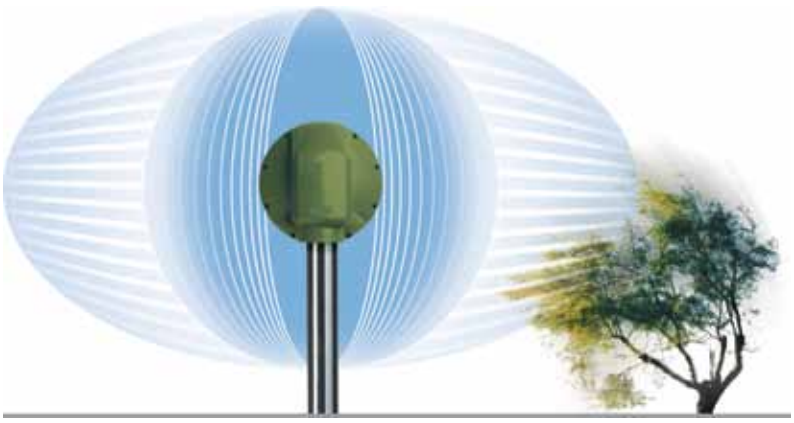
ENVIRONMENTAL CONTROL

The beam can manage a lot of information arriving to the microprocessor by a series of integrated detectors. This careful environmental analyse allow to identify the temperature oscillations, the microprocessor can memorize this data linked to the alarm signalling and save it on the beam database. The temperature indication is a very important information as it allows to understand if the beam is working within the set range (-20° / + 55°C).

The microprocessor can also detect the environmental variations of the site, e.g. the variation of the reference surface (presence or not of grass/snow etc) and make a continuous comparison of the signal in respect of the average level. A digital trimmer allows to compensate these variations increasing or decreasing the signal in dynamic way and keeping constant the beam sensitivity.

WIND UP FUNCTION

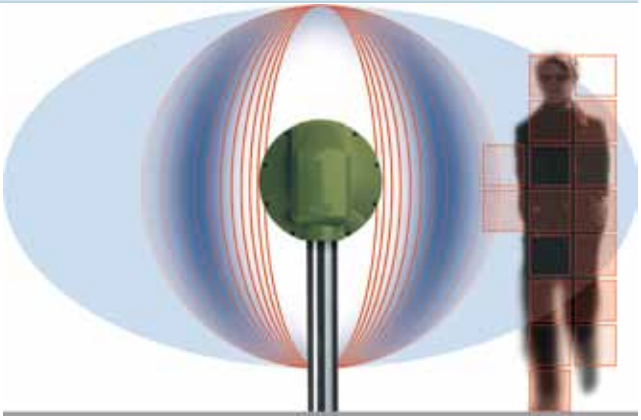
This special function allows to select the intervention zone of the beam. It is possible to virtually reduce the analyse pattern, allowing to eliminate all those situations which might cause instability to the system. The pattern generated often interests the side zones where the presence of bushes, metal fences or other creates a constant noise. The WIND UP function allows the software modulation of the pattern to be up to 20-30% smaller than what stated. Usually the pattern creates a sort of "cigar" effect between RX and TX ; the activation of the WIND Up function will modify the cylinder shape of the pattern and will create an ellipse.



SENSITIVITY INTEGRATION

In the **BM** system a special circuit of compensation adjustable via trimmer has been included; this circuit registers the signal variations producing in the microwave field when the intruder is approaching or leaving the pattern crosswise and increases automatically the sensitivity of the receiver in order to make the detection easier when the target crosses the central line between RX and TX. The compensation circuit can be completely excluded moving a dedicated dip-switch

With active WIND UP function, the automatic system of signal integration will act only when the beam detects signals over the level set.



OPTIONAL INPUT

The receiver has the possibility of managing an optional input allowing the connection of a detector directly on the beam. The information concerning this input will then be sent via RS48 directly to the dedicated satellite.

DISQUALIFICATION

The disqualification is a special function which can be considered a real anti-masking of the beam. The continuous analyse of the signals allows to identify the medium level and its anomalous decrease activates a dedicated signalling of disqualification.
This signalling is very useful to avoid that the beam interruption due to an obstacle incidentally placed between the two units, can compromise the security of the system. A dedicated output allows to identify this kind of situation and to discriminate it from a real alarm.

STRUCTURE

The beam is made exclusively by solid state components and is refined with tropicalyzing resins thus granting tightness to bad weather conditions.
The units are mounted into boxes especially studied to face the most critical installation with extreme weather conditions.
A simple but useful mounting support allows maximum orientation of the beam allowing to compensate the imperfections of the ground.

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INTERACTIVITY

These digital units can signal their status in different ways.
We can identify 3 different modes for the information to be available for the installer:

1. Free-exchange outputs for alarm – tamper – disqualification - Test Point output in order to make the product universally compatible
2. USB connection with a pc locally linked, allowing to analyse the state of the peripheral and carry out all the necessary calibration in order to improve the functioning, thanks to the dedicated software HPWIN
3. RS485 connection among the peripherals (BM..HP and BM..HPVAC) and a universal satellite board for integrated AVS systems and not. This kind of connection by using only 4 wires allows to read all signalling coming form the peripherals installed, as well as the remote management of the system on both PSTN and GSM net.

USB® UNIVERSAL SERIAL BUS

ENVIRONMENTAL-COMPATIBILITY

AVS Electronics continues its commitment in the production of an environmental-compatible security . The use of low environmental-impact rough-material with the lowest possible number of pollutant minerals and the highest possible use of recycled material, the research for a low-consumption product, the reduction of the passages-chain from manufacturer to consumer, are the elements of our commitment for a cleaner world.

ECO ENERGY LEVELS

Not only for airports, military installations, commercial areas, parks or big-size parking areas.

For your house too.

BMHP 60
BMHP 120-200

New outdoor beams by AVS Electronics

BM HP ACCESSORIES and BM HPVAC

The **XSAT HP** satellite can manage up to 16/32 units directly connected to the **RS485** serial. The information concerning the peripherals connected can be visualized through the 8/16 (*) transistorized outputs on X SAT HP board, or can be transferred to control panels of Xtream range through RS485. Four balanced outputs are available for connection of traditional detectors.

The satellite is complete with telephone PSTN or GSM interface (optional with XGSM board) allowing remote connections to visualize status in real time; furthermore it is possible to make remotely all adjustments on peripherals.

NOTE: ***** 16 outputs with optional board mod. XOC8

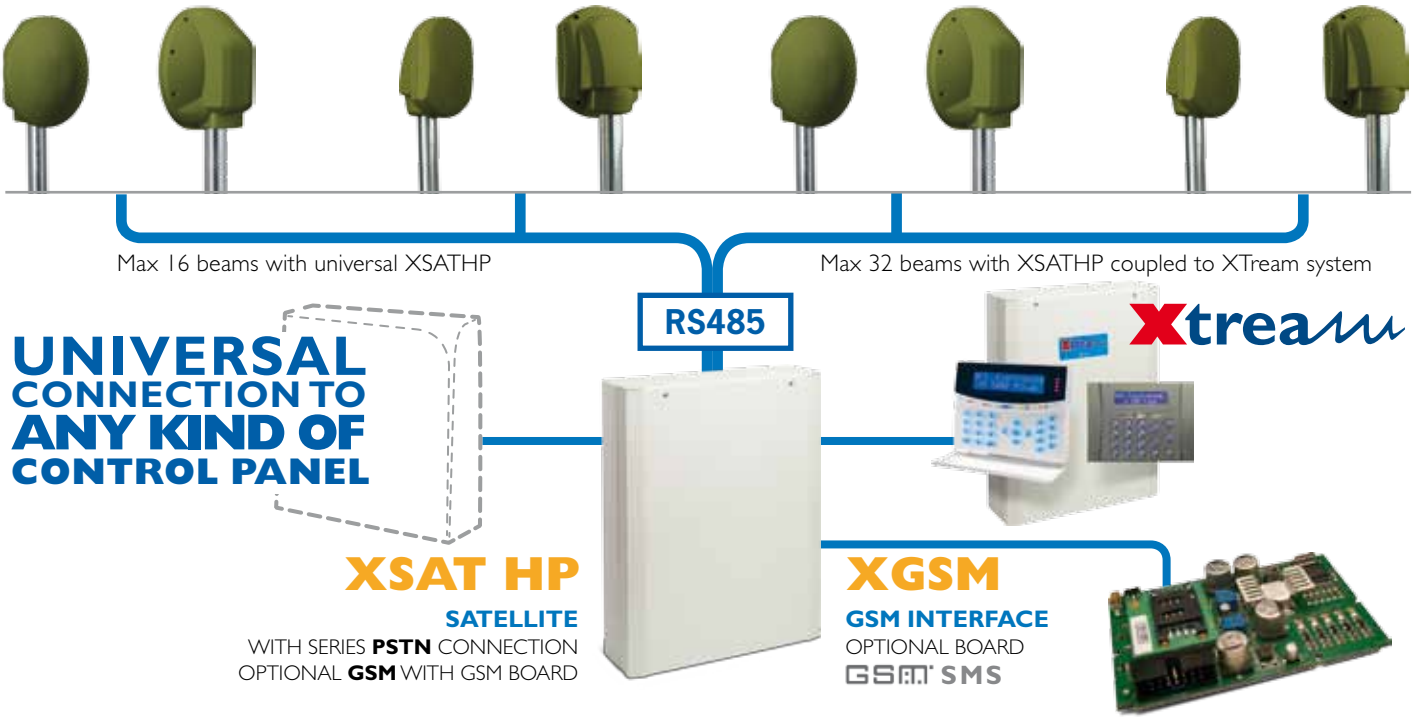


CHART OF THE TECHNICAL FEATURES OF XSATHP

Type of accessory	MAX Num.	PRODUCT	SUPPLYING	CONSUMPTION	SIZE mm	BATTERY	WEIGHT gr.
Satellite	N°32	XSATHP	12V dc	250 mA	230 x 140 x 25	-	-
Outputs extension (optional)	N° 1	XOC8	12V dc	5 mA (Max)	58 X 35 x 25	-	25
Zone inputs	4 balanced inputs						
PSTN dialler	INTEGRATED						
GSM dialler (optional)	N° 1	XGSM	12V dc	400 mA (Max)	93 x 15 x 60	-	47
Supply unit (optional)	N° 1	PW3	220V – 12Vdc – 3.4A	1.3A/115V~ 0.8A/ ~	-	Up to 17 Ah	-
		PW5	220V – 12Vdc – 5.1 A	2A/115V~ 1.2A/230V~	-	Up to 17 Ah	-
Accessories (optional)		XMR2	12V dc	23 mA	30 x 45 x 20	-	
		MR 4	12V dc	da 10 mA	85 x 50 x 30	-	80
		MR 8	12V dc	da 18 mA	90 x 75 x 30	-	85
Housing (opzionale)		CONTXTREAM	-	-	330 x 420 x 107	Up to 17 Ah	-
		CONTXTREAM-S	-	-	321 x 279 x 83	Up to 17 Ah	-

SOFTWARE HPWIN for BM HP and BM HPVAC

Thanks to the PC software, it is possible to make a better use of the possibilities of the digital technology.

HPWIN allows the following for any digital device:

CHECK:
- microwave signal
- status of the outputs (alarm – tamper – disqualification – Test Point output)
- status of the input (AUX)
- diagnosis of the device
- alarm history with over 3800 information kept in memory complete with: date – time – wave shape – working temperature
- archives personalized by the installer
- synoptic of the devices real-time (if connected via RS485 to the satellite)
- archives of the signal recording on PC

MANAGEMENT:
- sensitivity adjustment
- compensation adjustment
- adjustment of valid signal threshold
- archives personalization dedicated to "FALSE ALARMS"
- archive personalization dedicated to the "ALARMS"
- signal recording
- selection of detection mode:
  - traditional detection mode
  - ALARM IDENTITY detection mode
- firmware upgrade (not active in PSTN/GSM)

These functions are active with local USB connection , or directly connected to the digital peripheral , or via USB on the XSATHP satellite, or in telephone PSTN/GSM connection

ANALOGICAL BEAMS

The models **BM60M, BM120M** and **BM200M** of AVS Electronics are microwave systems of intrusion detection whose functioning is based on the principle of the "field interruption" and has been developed to protect wide areas either indoor and outdoor and offering a high level of security. The transmitter and the receiver are synchronized thanks to some dip-switches allowing the coding on 5 different channels.
This allows the contemporary installation of more couples in the same system without causing any interference.
Some special circuits of self-adjusting and signal-elaboration in the receiver compensate the variation of the basic environmental conditions.
BM60-120-200M are made exclusively of solid-state components and are refined with a tropicalyzing resin offering tightness to weather inclemency. The system is mounted in housing especially studied to allow an easy installation.

WIRELESS SOLUTION – BM60M WS. THE 60 METERS MODEL IS ALSO AVAILABLE AS WIRELESS.

The product is complete with a 220/12Vdc supply unit on board and sends out the indications for alarm, tamper, low battery and radio survival in FM at 868 Mhz - the frequency dedicated to the security devices – to the universal and serial receivers of AVS Electronics.

INSTALLATION OF THE ANALOGICAL BM

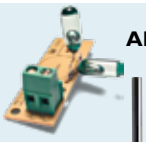
Easy installation, no need for any special instrument for adjustment. A dedicated output allows the alignment in the simplest and most immediate way. Any detector is equipped with a selective filter choosing only the frequency of its own channel and rejecting the others, thus eliminating the possibility of by-passing the beam by use of a false transmitter. The fixation bracket allows to adjust the inclination of the beams in order to optimize the alignment on pending ground too.
Furthermore, a wide range of accessories is available to make the use of BM..M even easier:

Compatible with BM M

LCDW: Led-device board for signal indication on BM60/120/200M

BR100: housing for LCDW board (up to 4 boards) Size: 204x144x54 mm.

Common BMM - BMHP and BMHPVAC



AMP anti-removal

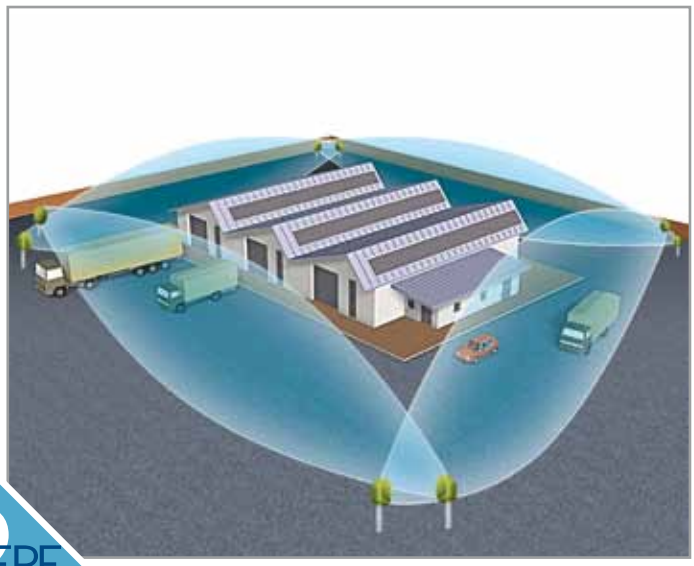
STAFFE OPZIONALI

SB 20: wall bracket.
SB 60: wall bracket.
SB 120: ground bracket.
SB 130: buried bracket.

SB 20 SB 60 SB 120 SB 130

TERM 1: heating kit, suggested for use at temperature lower than – 5°C.

In private building, in gardens and parks



In manufacturing and commercial areas

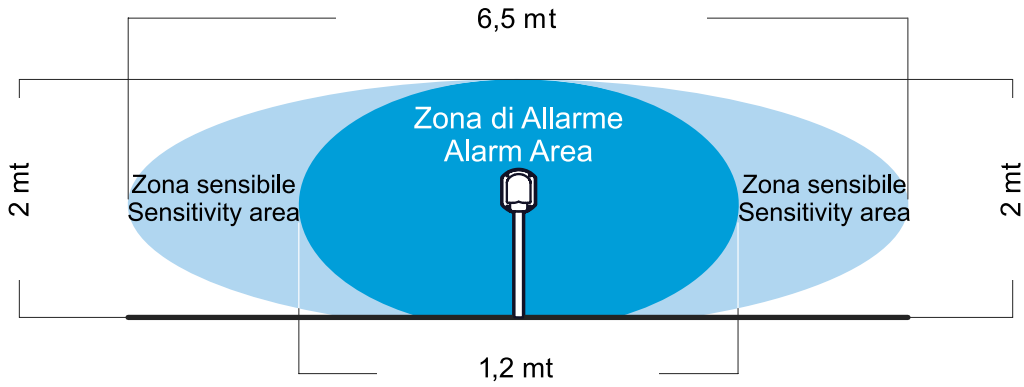
WHERE & HOW

On the wall to protect entries or windows

For wide open areas such as yards or photovoltaic sites

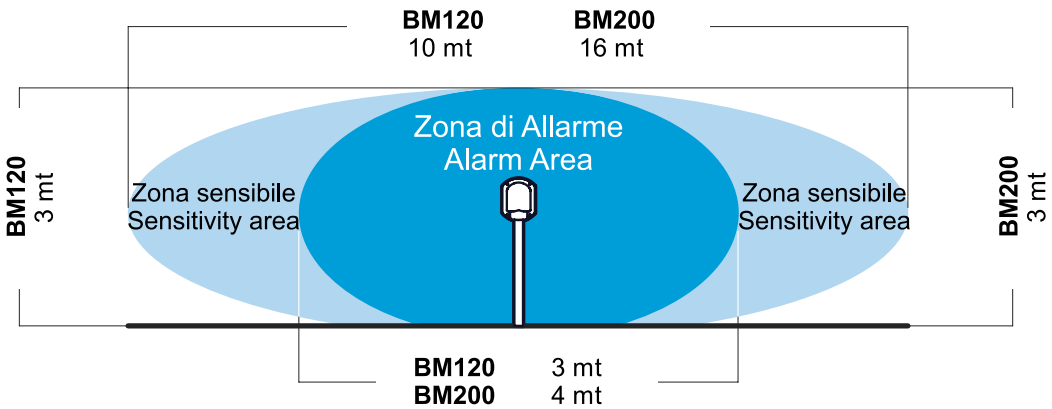
COVERAGE

Beams
BM60 M
BM60 HP
BM60 HPVAC



COVERAGE

Beams
BM120 M - BM200 M
BM120 HP - BM200 HP
BM120 HPVAC - BM200 HPVAC



TECHNICAL FEATURES	BM60HP - BM60HPVAC	BM120HP - BM120HPVAC	BM200HP - BM200HPVAC
Maximum range	60 meters	120 meters	200 meters
Nominal tension	12V	12V	12V
Minimum tension	11,5 V	11,5 V	11,5 V
Maximum tension	15 V	15 V	15 V
Supplied power pack Only BM..HP VAC	Input voltage: 230Vac - Current: 1 A - Power: 15 W - Out Voltage: 13.8Vdc		
Allocable battery - not supplied Only BM..HP VAC	12V – 0,8 Ah - Mod. NP 0,8 - 12		
Consumption in quiet	TX : 31 mA - RX : 100 mA		
Consumption in alarm	TX : 31 mA - RX : 100 mA		
Size (D x L x H)	150 x 105 x 195 Vers. VAC: 136 x 225 x 225	136 x 225 x 225	136 x 225 x 225
Block detector relay	Via dedicated terminal "B"		
Additional input	Negative input for detector		
Alarm output	Normally closed exchange		
Disqualification output	Normally closed exchange for control of good reception of the signal		
Tamper output	Normally closed exchange		
Optional kit for anti-removal (AMP)	No	Yes	yes
Serial output RS485		yes	
Serial addresses to select	Max 32		
Events memory	Up to 3800 events memorized with date and time		
Memorization stop at disarmed system	yes		
False alarms filter	yes		
Test Point output	For control of the signal received		
Microwave working frequency	10.525 GHz (+/- 20MHz)		
Modulation	In 5 different channels, to select via dip-switch		
Irradiated RF power	25 dBm peak		
Working temperature	From – 20°C to + 55°C For installation outdoor the use of optional heating kit (mod Term1) is suggested		
IP level	IP34		
Equipped with	Bracket for fixation on 40 mm. pole		

TECHNICAL FEATURES	BM60M	BM120M	BM200M	BM60MWS
Maximum range	60 meters	120 meters	200 meters	60 meters
Nominal tension	12V	12V	12V	12V
Minimum tension	11.5 V	11.5 V	11.5 V	11.5 V
Maximum tension	15 V	15 V	15 V	15 V
Supply unit given within	-	-	-	Input tension:230 V Current: 300 mA Power 6 VA Tension out: 13,8 V
Battery location	-	-	-	12V 0,8 Ah mod. NP 0,8 - 12
Consumption in quiet	Tx = 31 mA Rx = 70 mA	Tx = 31 mA Rx = 70 mA	Tx = 31 mA Rx = 70 mA	Tx = 31 mA Rx = 70 mA
Consumption in alarm	Tx = 31 mA Rx = 70 mA	Tx = 31 mA Rx = 70 mA	Tx = 31 mA Rx = 70 mA	Tx = 31 mA Rx = 100 mA
Size (DxLxH)	150x105x195	136x225x225	136x225x225	136x225x225
Transmission frequency	-			FM 868 Mhz
Survival indication	no			yes
Block of detector relay	Via dedicated terminal ""B"			-
Alarm output	Normally closed exchange with 500 mA range at 12V			-
Tamper output	microswitch			-
Optional anti-removal kit	No	Yes	Yes	no
Output for serial	Serial port for connection of remote panel			
Disqualification output	Transistorized output for control of good reception of signal			
Test point output	For control of the signal received			
Microwave working frequency	10.525 GHz (+/-20 MHZ)			
Modulation	In 5 different cannels to select via dip-switch			
Irradiated RF power	25 dBm peak			
Working temperature	From – 20°C to + 55°C For the installation outdoor the use of the optional heating kit is suggested (Term2)			
IP degree	IP34			
Equipped with	Bracket for fixation on 40 mm pole			

D1142I107I000

100% MADE IN ITALY

GARANZIA 3 WARRANTY ANNI YEARS

ISO 9001 CERTIFIED QUALITY SYSTEM

CE

DEVELOPMENT AND PRODUCTION OF RELIABLE TECHNOLOGY FOR SECURITY

AVS electronics

AVS ELECTRONICS S.p.A.
Via Valsugana, 63
35010 Curtarolo (Padova) Italy
Tel. +39 049 9698 411 • Fax +39 049 9698 407
avs@avselectronics.it • www.avselectronics.com