

BMHP **BM** series **BMM**

MICROWAVE BARRIERS



OUTDOOR DETECTION

Long distance electronic protection

Digital & Analog range

All weather conditions



AUS electronics

ITALIAN SECURITY MANUFACTURER

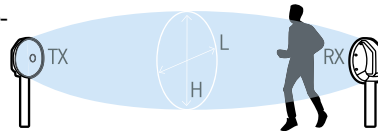
Range

AVS ELECTRONICS produces electronic alarm solutions in Italy since 1974 and introduces BM series, a range of 10 microwave barriers, the M and HP series.

BMM BMHP	M Analog range				HP Digital range					
	BM60M	BM120M	BM200M	BM60M WS	BM60HP	BM120HP	BM200HP	BM60HP VAC	BM120 HP VAC	BM200 HP VAC
Maximum detection range (mt)	60	120	200	60	60	120	200	60	120	200
Supplying	13,8 Vdc			230 Vac	13,8 Vdc			230 Vac		
Connection	Normally closed (NC)			868 Mhz wireless	Normally closed (NC) and R485 bus					

Concept

BM is composed of 2 units – **1 transmitter (TX)** and **1 receiver (RX)** - installed at a maximum distance of 60, 120 or 200 meters. The transmitter emits continuously the microwave in direction of the receiver. The intruder who passes through the 2 units reduces consecutively the received signal, up to reach the alarm level and generate the alarm. The perimeter protection is achieved by installing multiple barriers in single thread.



Benefits

HIGHER SECURITY The security area is genuinely **so wide and high** (up to 4 x 3 meters) that it is impossible to cross without generating an alarm and provides a **higher security** compared to other technologies.

LOWER FALSE ALARM RATE Setting a **pet immunity** is easy: the alarm level is programmed to ignore small animals and generate less unwanted alarms.

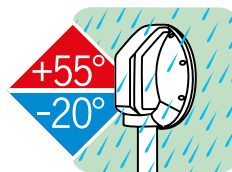
INTEGRATION CIRCUIT The **security** may **be increased automatically** thanks to its build-in integration circuit which amplifies the possible conditions for an alarm and triggers more easily.

DISQUALIFICATION BM distinguish a real alarm from a **disqualification** situation (like a van parked between the barriers).

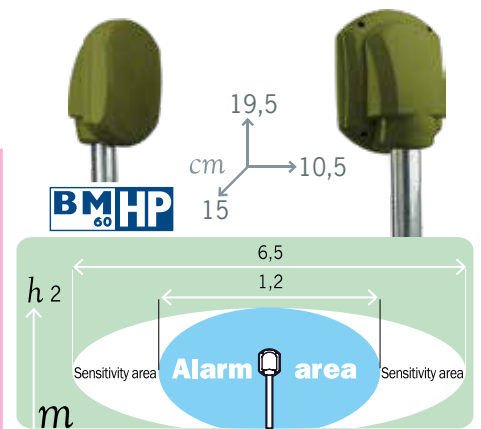
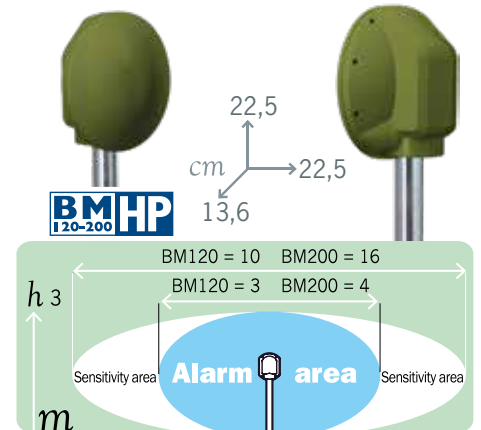
COMMON INTERFACE AND INSTALLATION With the poles, BM are only 120 cm high: it is easy and quick to install them, so the cost of installation is lower compared to other technologies. It is also simple to set perfectly thanks to few trimmers and dip-switches. Finally, thanks to its regular NC outputs, BM works **with all alarm and CCTV systems**.

MICROWAVE PLANAR ANTENNA Since 2003, BMs integrate planar antennas which **reduce of 20% the sensibility area** compared to former parabolic antennas. Longer distances BM can be installed for the same perimeters and costs are saved. In addition, to be protected from rain, the parabolic antennas use big expansive difficult-to-handle waterproof housings when the **BM's planar antennas are highly protected** by tropicalization and installed in high resistant protective cover that avoid the condensation and its consecutive rust development.

CLIMATIC ENVIRONMENT BM operate in **all weather conditions** (snow, rain, fog) without distances reduction, unlike the active infrared barriers. If the temperature reaches less than -5 °C, it is possible to place a TERM1 heating kit. BM temperature range is -20/+55 °C.



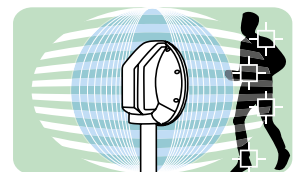
Pictures of the BM HP barriers with their transversal view of the sensibility and alarm area



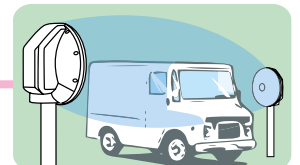
Pictures of the BM M analog barriers



SENSITIVITY AREA

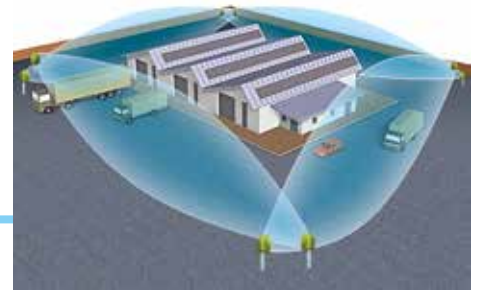


EXAMPLE OF DISQUALIFICATION



POWER FEED BM M and BM HP are **13,8 Vdc** powered. VAC series is directly feed by the main (**220 Vac**) and include an optional backup battery to compensate an electricity absence. Main power feeding simplifies the wirings and decrease the installation cost.

MARKETS BM are **perfect for all the perimeters**: gardens, houses, borders, **warehouses**, airports, commercial resorts, car and trucks parks, **civilian, industrial, military, nuclear** and electrical plants.



Example of typical installation

Digital BM HP advantages

AUTOMATIC GAIN CONTROL (AGC) The environmental variations may improve or deteriorate the microwaves level reception over time. An Automatic Gain Control circuit automatically **optimizes the level** to maintain it flat: the settings are easier, the security is higher.

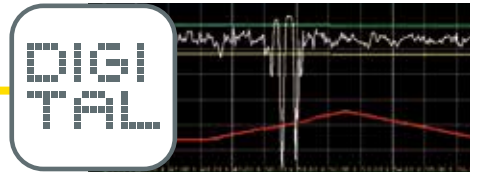
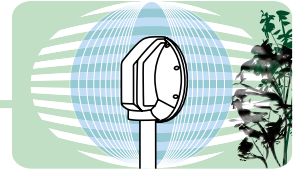
REDUCTION OF THE SENSIBILITY AREA BM HP may reduce digitally of up to 30% the area of sensibility and then ignore the movements in the **peripheral objects** (i.e. from fences or **trees**) which are the origin of unwanted alarms.

FALSE ALARM FILTER BM HP barriers records automatically up to 3600 events it is possible to classify between good and false alarms. BM HP verifies then the new events according to this database and **stop the unwanted alarms**.

DIGITAL INTERFACE Additionally to the NC outputs and other regular settings, BM HP present a USB and a **RS485 port** to be coupled to a RS485 hub or an AVS ELECTRONICS' control panel.

SOFTWARE Thanks to the local USB port or remotely by PSTN, **GSM or IP**, HPWIN software shows all the parameters, an **oscilloscope**, the 3600 last alarm events (with date and time) and proposes all the tools to set the barriers.

DIGITAL ANALYSIS ELIMINATES PERIPHERAL MOVEMENTS.



Software oscilloscope



POLES AND OPTIONALS

SB 20

Wall mounting 20 cm pole



SB 60

Wall mounting 60 cm pole



SB 120

Floor standing 120 cm pole



SB 130

Buried 130 cm pole



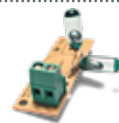
TERM 1

Heating kit



AMP

Vertical sensor for tamper



RS485 OPTIONAL INTERFACE

XSAT HP

RS485 HUB



HPWIN

Software for advanced settings and visualization



XTREAM

RS485, IP, PSTN & GPRS control panel



OUTSPIDER

RS 485 Pet & Trees immune outdoor sensor



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	
Standby consumption		TX : 31 mA - RX : 100 mA	
Consumption during 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 input		Thought dedicated "B" input	
Additional input		Negative input for detector	
Alarm output		Normally closed exchange	
Disqualification output		Normally closed output for information of disqualification	
Tamper output		Normally closed exchange	
Optional kit for anti-removal (AMP)	No	Yes	yes
Serial output RS485		yes	
Number os selectable RS485 addresses		Max 32	
Events' memory		3600 events memorized with curve, date, time, power	
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	12 V	12 V	12 V	12 V
Minimum tension	11.5 V	11.5 V	11.5 V	11.5 V
Maximum tension	15 V	15 V	15 V	15 V
Supplied power pack	-	-	-	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
Standby consumption	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 during 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
Supervision wireless transmission		no		yes
Block input		Thought dedicated "B" input		-
Alarm output		Normally closed exchange with 500 mA range at 12V		-
Tamper output		Normally closed output		-
Optional anti-removal kit	No	Yes	Yes	no
Disqualification output		Normally closed output for information of disqualification		
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		

AVS electronics
ITALIAN SECURITY MANUFACTURER



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