

DIGITAL MICROWAVE BEAMS BM120C / BM200C

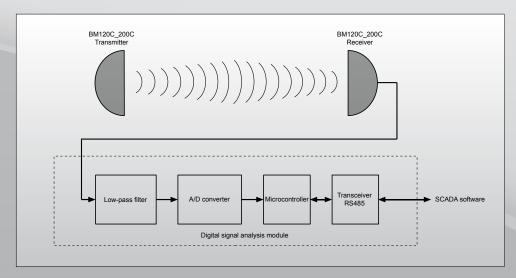


Digital microwave beams BM120C / BM200C



The BM120C and BM200C devices are digital versions of the analogue microwave beams, types BM120M and BM200M, created by combining the microwave circuits of BM120M / BM200M microwave beams made by the Italian company AVS ELECTRONICS S.p.A. with the digital signal processing module designed by STEKOP SA company. The application of digital signal processing in the BM120C / BM200C beams created completely new quality when compared to classical analogue designs. The advanced analysis of signal shape and its duration as well as automatic adjustment to environmental changes ensured high likelihood of intruder detection and increased immunity of the BM120C / BM200C devices to false alarms. Additionally, digital technology applied in the beams allowed them to be remotely monitored and configured.

The single microwave beam set is composed of two modules: the transmitter (Tx) and the receiver (Rx), both of which may operate in one of five channels. With proper selection of the working channels it is possible to design on the basis of the BM120C / BM200C microwave beams any, even the most complex, perimeter security system where all operating microwave beam sets (i.e. transmitter-receiver) do not interfere with each other. Connection of all modules in the system by the two-wire RS485 bus significantly simplifies wiring of the entire system and hence improves its reliability as well as reduces its installation and maintenance costs.

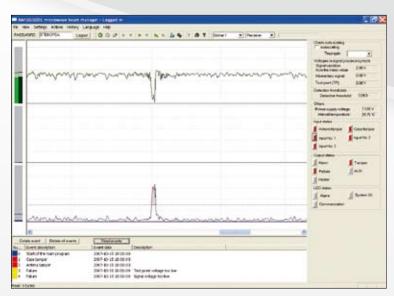


Block diagram of the microwave beam type BM120C/BM200C

The software tool called *Micro.exe* is designed for remote control of microwave beams operation, on-line observation of trigger signal shapes, setting the minimal and the maximal duration times of trigger pulses and setting alarm levels.

Should there be a case of an undetected intruder or a false alarm, the recorded in this moment trigger signal can be read out from the non-volatile memory of the microwave beam receiver and further processed independently. This signal may be sent to the manufacturer as well in order to develop specialized algorithm of signal processing, the algorithm that will include characteristic features of the registered trigger pulse.

Software upgrade of the BM120C / BM200C microwave beams is performed remotely by a software loading tool and it is based on uploading to the device a file that contains image of the microcontroller program memory.



Software tool Micro.exe

The BM120C / BM200C microwave beams are housed in casings that are intended for outdoor operation. Their design and protecting coatings of electronic boards ensure long-term immunity of the devices to environmental conditions, while built-in heaters guarantee reliable operation of the devices in full temperature range which is demanded by the military standards.

The microwave beams type BM120C / BM200C are supplemented with a wide variety of mounting brackets that simplify installation and application of the beams.

- SB 20 wall-mounted holder
- SB 120 floor-mounted pole (screwed to the floor)
- SB 130 floor-mounted pole (concreted in the floor)
- AMP antenna anti-removal kit

The fixing bracket allows antenna orientation to be independently regulated in three dimensions: height, azimuth and elevation. Thus the antenna orientation can be exactly adjusted even if the microwave beam is installed in a hilly area (e.g. on a slope).



Technical specifications

Maximum range	120 m (BM120C)
200 m (BM200C)	
Maximum beam width	3-10 m (BM120C)
4.46 (5).40000	
Operating frequency	10,525 GHz
A-16 m (BM200C) Operating frequency	5
Antenna orientation adjustment	vertical / azimuth / elevation
Signal processing	digital (signal shape, duration and level)
Log size	3967 events
Alarm signal recorder	255 recordings 15 sec. each
Communication interface	RS485 (electrically isolat)
General purpose inputs Power supply voltage Supply current (average)	3 inputs, 2EOL type
Power supply voltage	+12 V _{DC}
Supply current (average)	180 mA @ +12 V _{DC} (receiver)
	220 mA @ $+12 V_{DC}$ (transmitter)
	330 mA @ +12 V _{DC} (heater)
Operating temperature range	40 °C / +55 °C
Operating temperature range Case protection class	IP54
Dimensions	225 x 225 x 136 mm

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