Beamtower

Infrared barrier for large outdoor areas

The Beamtower barriers are Tecnoalarm's most sophisticated protection system profiting from their long-time experience and know-how.
The variety and versatility of models permit the creation of systems which satisfy the requirements of any kind of project.

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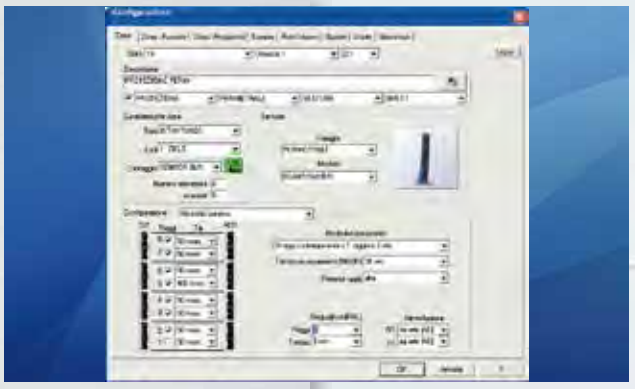
Tecnoalarm RSC technology

Remote Sensitivity Control RSC technology permits remote monitoring of all of the system components connecting the system through a modem at any time and anywhere, regardless of the accessibility of the installation. The possibility of adjusting and calibrating the entire system from a distance traduces into a more precise regulation of the devices and saving of time and costs of installation and maintenance.
The remote management of the barrier is made through six diagnostic tools for verifying the smooth functioning of the BEAMTOWER barriers both under electrical-functional and optical-mechanical considerations.

Zone Configuration

Programming

Parameterization of the BEAMTOWER barrier can be made remotely through the remote management software. The software permits programming of all of the barrier's functioning parameters easily on a single table: the protection mode (barrier or perimeter), enabling and disabling of single beams, beam power, time of interruption of the individual beams, detection mode, antimasking control, disqualification function and power supply type.



Zone Monitor

Functioning monitor

The functioning monitor is the main window of the diagnostic tools of the Beamtower barrier. It shows the general status and permits real time monitoring of the barrier's functioning. It is possible to monitor both the complete barrier and the individual beams. The functioning monitor gives access to all the other diagnostic tools.

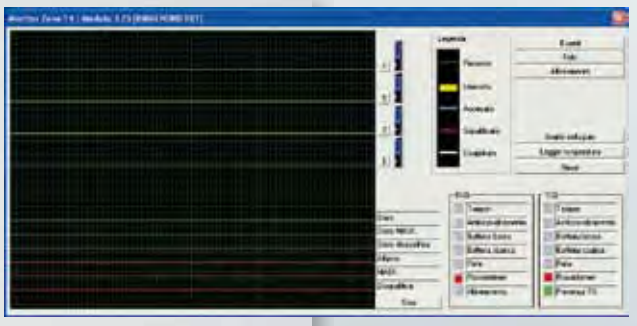


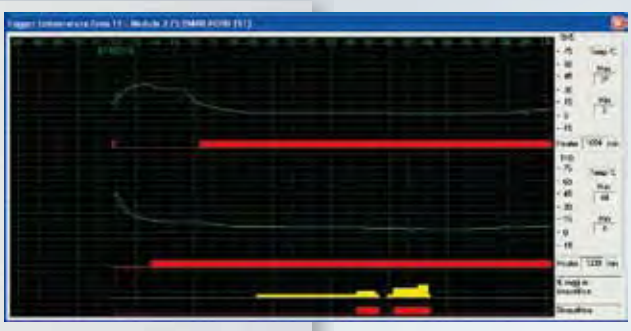
Photo Alarm

Alarm graphs

For each alarm detected by the Beamtower barrier a graph representing the barrier's status at the moment of alarm release is registered.
The graph permits the detailed analysis of the barrier's behavior, determining exactly how many beams, which ones and for how long, have been interrupted.
During each arming period of the control panel, a maximum of six graphs with indication of date and time are recorded in the memory of the module or the control panel. The graphs can be discharged through the Tecnoalarm remote management software.

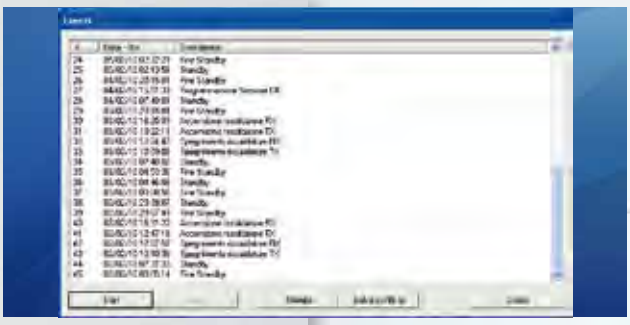
Temperature logger

The Beamtower barrier is equipped with a logger which constantly registers the temperature inside the column and shows it graphically. The logger records the data of the last 23 hours of functioning, the activity of the heaters with indication of date and time, and a possible disqualification of the individual beams or the entire barrier.
The temperature logger is also a measuring instrument which permits assessment of the barrier's functioning according to the climatic conditions.



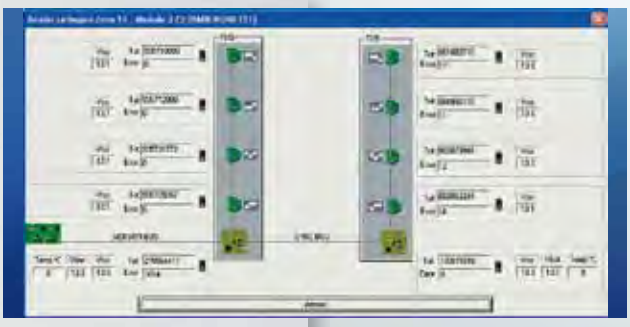
Event log

The event log contains the events relating to the barrier, i.e. the alarms, the diagnostics and the changes in state.
A maximum of 128 events are recorded in reverse chronological order, with indication of date and time, in the memory of the module or the control panel the barrier is connected to. The events always show the status of all of the barrier's beams, i.e. presence, interruption, masking, disqualification and disabling, identifying each beam with a number. The event log also lists the tamper alarms, anti-climb-over alarms, the intervention of the heater modules as well as power supply signaling for each individual column (TX and RX).



Communication analysis

The serial communication both between the columns and between the barrier and the control panel or the module is constantly monitored, and so is the exactness and coherence of the sent data. A counter records all of the communication transactions, whereas a second counter totalizes the possible communication errors. The communication analysis allows us to determine the amount of communication errors caused by electrical disturbances or by the deterioration of the serial bus, confronting the counters and classifying the errors as insignificant, not critical or dangerous.



Alignment

The alignment of the beams is constantly monitored. For each beam both the reference alignment value, i.e. the average sample value, and the temporary alignment value are viewed. The beam's optical alignment levels are viewed graphically on a three-level scale: minimum, good and insufficient. The window also shows the programmed beam power for the beam in question.

Beamtower

General principles and characteristics

Anti-climb-over and antiopening protection

The top cap of the column contains an antitamper board with antiopening and anti-climb-over protection.

Controller

The controller is the heart of the column and all its electronic components are connected to it. The controller of the receiver column is connected to the control panel or to the module and, for synchronization, to the corresponding controller of the transmitter column. The connections between the columns and the control panel are made through two different RS485 serial busses.

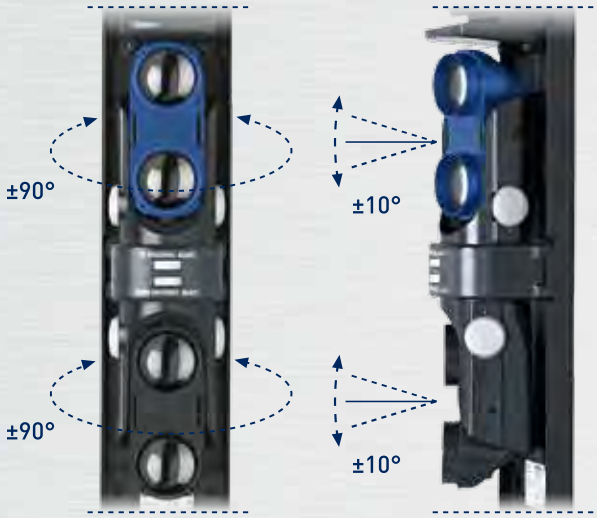
Battery bay

Each column is equipped with a bay for one 12V/7Ah battery.

Front cover

The front cover of the Beamtower barriers consist in removable polycarbonate modules which are inserted one on top of the other. In this way, access to the electronic components is comfortable both during the installation and maintenance.

Orientation of the optical system



MODBEAM modules

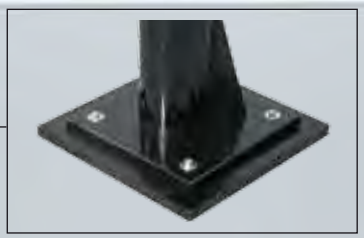
The MODBEAM are the optical system of the barrier, we distinguish: transmission and reception modules. Each module emits 2 beams, each of them being composed of two parallel rays. The interruption of the beam is detected by analyzing the cutting of the rays it is composed of: a technique which increases significantly the immunity against false alarms. The beams can be programmed independently. For each of them it is possible to program one of the numerous detection modes. The detection modes analyze: the number of simultaneously interrupted beams in a determined period of time, the interruption time and the position of the beam inside the column.

Orientation

The lenses of the MODBEAM modules can be turned individually on the horizontal and vertical axis. The alignment of the beams is made with the help of two precision control knobs permitting a millimetric adjustment.
The +/-90° horizontal orientation of the beams permits the installation of the column in perimeter configurations with 180 degrees orientation of the beams. The +/-10° vertical orientation of the beams permits the compensation of differences of levels if the columns are installed on craggy ground. According to the distance, the compensation varies from 1.7 to 10.5 meters.

Heater

Each column can be equipped, depending on the model, with a maximum of two heater modules which compensate the temperature inside the column in case it is particularly low (anti-freeze protection). The thermostatic control of the heaters is guaranteed by the controller.



Fastening base

The steel plate for floor mounting is equipped with reinforcing ribs and a special anti-corrosive coating and can be fixed directly to a solid surface or a concrete plinth.

Alignment

MONITOR 868

The alignment of the barriers is a three-stage procedure:
① Stage 1: preliminary alignment with optical viewfinder
② Stage 2: alignment with buzzer and handheld MONITOR 868 wireless receiver
③ Stage 3: fine-tuning alignment with shutter

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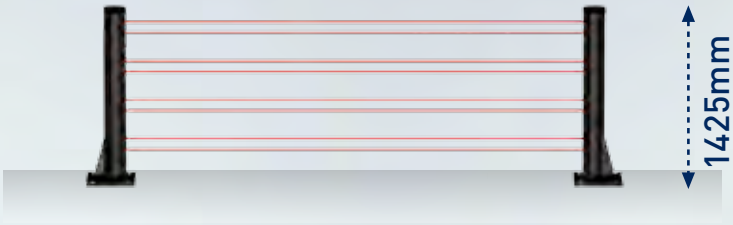
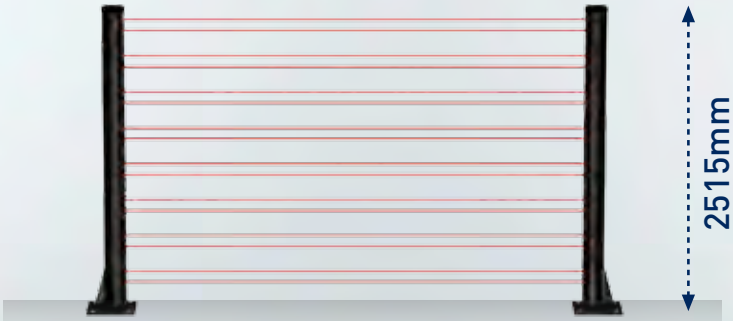
Installation configurations

BEAMTOWER/4



BEAMTOWER/6

BEAMTOWER/8



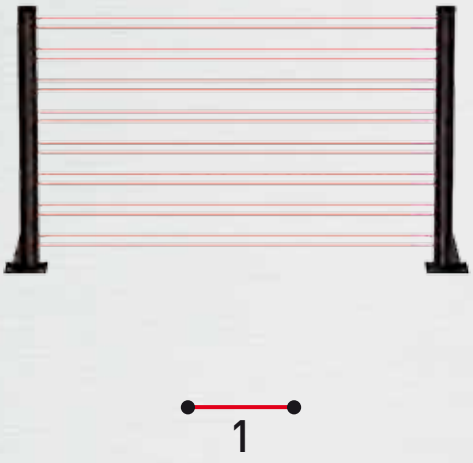
BEAMTOWER/8 3M

RSC technology, in connection with the specific functional features of the Beamtower barrier, permit the creation of not only the traditional barrier configuration but also open and closed perimeters. In the perimeter configurations the columns work in a synergic and system-oriented way.

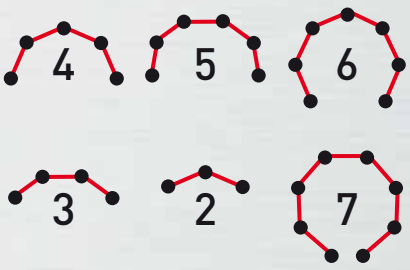
The columns which constitute the perimeter build a complete and functional system. According to the perimeter configuration and the number of sides the perimeter is composed of, the control panel adapts the settings of the columns, converting the system's apparent complexness into simplicity of programming and installation.

The maximum number of sides imposed by the installation configuration (7 for open perimeters and 8 for closed perimeters) does not represent a limit to the system. Adding more perimeters is perfectly possible, thus permitting the configuration of systems of any size whatsoever.

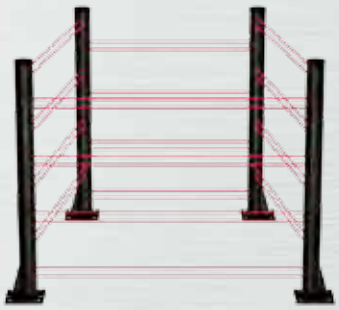
Barrier mode



Open perimeter mode



Closed perimeter mode



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TECHNICAL SPECIFICATIONS	BEAMTOWER/4	BEAMTOWER/6	BEAMTOWER/8	BEAMTOWER/8 3M
Column height	H 1425mm	H 1970mm	H 2515 mm	H 3060 mm
Column dimensions	(L x P) 153 x 178mm			
Fixing	Wall mounting or floor mounting with optional fastening base			
Maximum range	150m			
Installation configurations	Barrier – Closed perimeter (3 configurations) – Open perimeter (6 configurations)			
Number of beams	4	6	8	8
Orientation of beams	Horizontal 180° (+/- 90°) - Vertical 20° (+/- 10°)			
Emission power	Programmable on 5 levels			
Synchronization	Digital automatic			
Operating voltage	10.5V ... 14.5V DC			
Rated voltage	13V DC			
Mains supply	With optional 28V AC transformer			
Battery	Bay for one 12V/7Ah battery			
Beam interruption time	Each beam programmable individually with 4 values			
Detection mode	Programmable with 16 modes			
Antimasking control	Programmable with 3 values			
Disqualification	Programmable with the number of beams and the duration of the condition			
Tamper	Antiopening protection (2 micro switch) – Anti-climb-over protection (6 micro switch)			
Max. consumption RX	165mA at 13V	180mA at 13V	196mA at 13V	
Max. consumption TX	197mA at 13V	243mA at 13V	288mA at 13V	
Max. consumption heater module	770mA at 28V (bay for max. 2 heater modules, depending on the model)			
Operating temperature	-25°C ... +55°C			
Protection class	IP45 (retrofitting possible)			
Compatibility: the Beamtower barriers are compatible with the Tecnoalarm TP8-64 BUS, TP16-256, TP8-96 and TP16-512 GSM control panels				

ACCESSORIES	
Fastening base	Floor mounting fastening base – dimensions (L x H x D): 400 x 400 x 23mm
Heater module	Thermostat and heater module
Transformer	Transformer kit
MONITOR 868	Wireless receiver for alignment

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