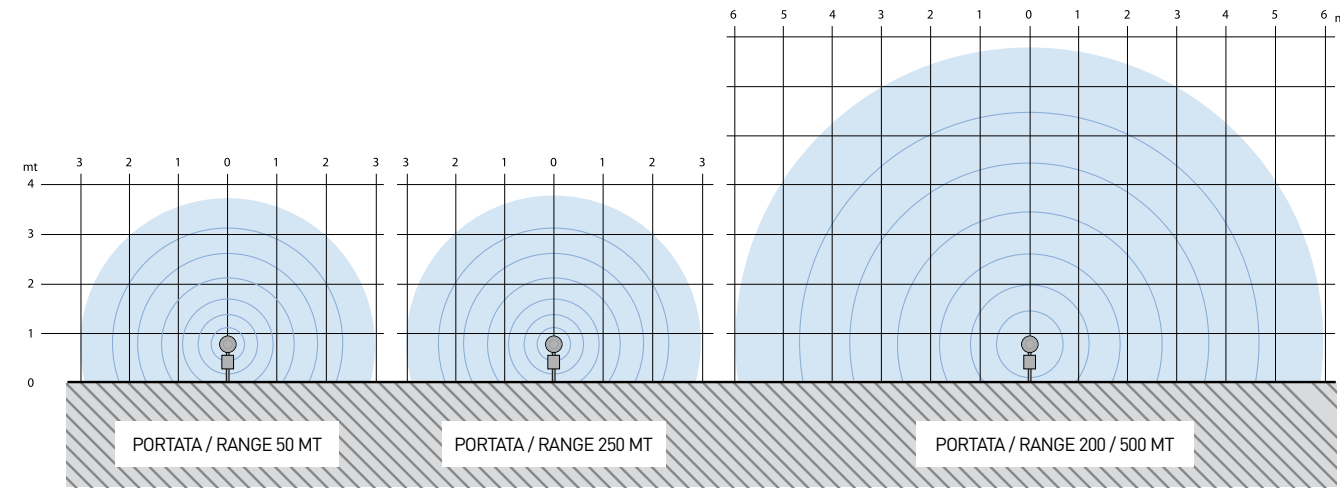
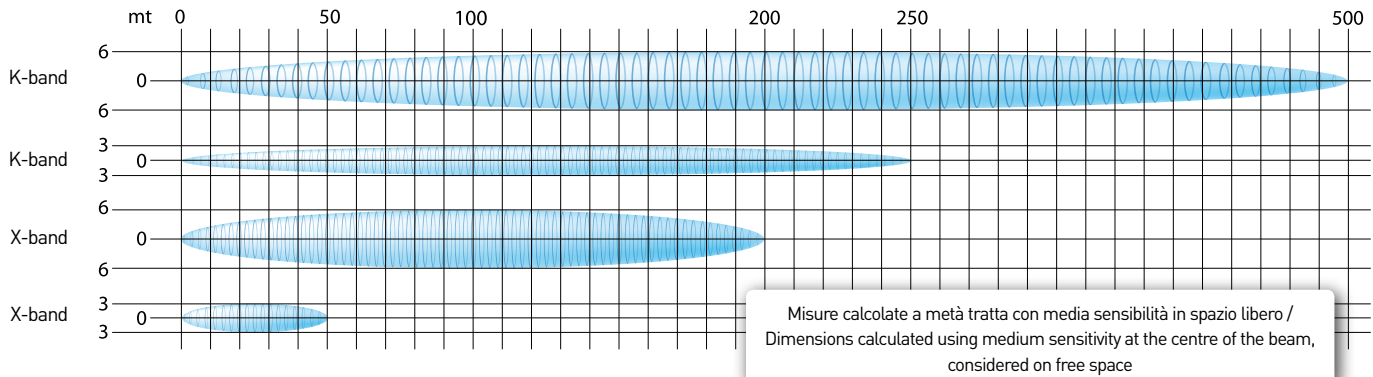


IT

BARRIERA A MICROONDE CON ANALISI DIGITALE DEL SEGNALE PER PORTATE DI 50, 80, 120, 200, 250 E 500m. IL MICROPROCESSORE INTERNO ANALIZZA I SEGNALI RICEVUTI ATTRAVERSO I METODI DELLA LOGICA FUZZY, PERMETTENDO DI RAGGIUNGERE ECCELLENTI PRESTAZIONI NELLA RIVELAZIONE E PER QUANTO RIGUARDA LA DISCRIMINAZIONE DEI FALSI ALLARMI.

EN

DIGITAL MICROWAVE BARRIER WITH DIGITAL SIGNAL ANALYSIS FOR RANGES OF 50, 80, 120, 200, 250 AND 500m. THE INTERNAL MICROPROCESSOR USES FUZZY LOGIC TO ANALYSE THE RECEIVED SIGNAL GIVING VERY HIGH PERFORMANCE IN DETECTION PROBABILITY AND LOW FALSE ALARM RATES.



ERM0482XPRO UP TO 500 m

IT

GRAZIE ALL'ANALISI DIGITALE DEL SEGNALE LA BARRIERA È CAPACE DI COMPARARE IL SEGNALE RICEVUTO CON QUELLI PRODOTTI DALLE TIPICHE INTRUSIONI UMANE (MODELLI COMPORTAMENTALI). INOLTRE LA BARRIERA STUDIA L'ANDAMENTO DEL SEGNALE PASSO DOPO PASSO, EFFETTUANDO UNA COMPLETA ANALISI DELL'AMBIENTE, PERMETTENDO IN TAL MODO DI AVERE CARATTERISTICHE EXTRA RISPETTO AI RIVELATORI CHE USANO UN ANALISI TRADIZIONALE DEL SEGNALE.

ERM0482X PRO È IL GIUSTO APPARATO PER PROTEGGERE SITI AD ALTO RISCHIO, QUALI CENTRALI NUCLEARI, PRIGIONI, SITI MILITARI, INDUSTRIE PETROLCHIMICHE, ETC. GRAZIE AI 16 CANALI DI MODULAZIONE, E AL COMPLETO STUDIO DELL'AMBIENTE EFFETTUATO DAL MICROPROCESSORE, ERM0482X PRO È IMPOSSIBILE DA MASCHERARE.

ERM0482X PRO È DOTATO ANCHE DI UN UTILISSIMO SOFTWARE: WAVE-TEST, CHE CONSENTE DI PARAMETRIZZARE E GESTIRE OGNI UNITÀ TX O RX DA POSTAZIONE LOCALE E/O REMOTA.

EN

THANKS TO THE DIGITAL ANALYSIS THE BARRIER IS ABLE TO COMPARE THE RECEIVED SIGNALS WITH THOSE GENERATED BY AN INTRUDER (BEHAVIOUR MODELS). IT ALSO MONITORS THE SIGNAL CONTINUOUSLY, MAKING A COMPLETE ENVIRONMENTAL ANALYSIS, WHICH GIVES THE UNIT SIGNIFICANT EXTRA FEATURES COMPARED TO THOSE USING TRADITIONAL ANALYSIS.

THE ERM0482X PRO IS THE IDEAL DEVICE FOR PROTECTING VERY HIGH RISK SITES SUCH AS NUCLEAR POWER PLANTS, PRISONS, MILITARY SITES, PETROCHEMICAL SITES, ETC. FURTHERMORE, IT IS IMPOSSIBLE TO MASK THE ERM0482X PRO THANKS TO THE 16 CRYSTAL CONTROLLED MODULATION CHANNELS AND THE COMPLETE ENVIRONMENTAL MONITORING PERFORMED BY THE MICROPROCESSOR.

THE ERM0482X PRO ALSO HAS A VERY IMPORTANT SOFTWARE TOOL: WAVE TEST WHICH ALLOWS SET UP AND CONTROL OF EACH TX OR RX UNIT LOCALLY OR REMOTE.

IT

ANALISI DIGITALE TRAMITE LOGICA FUZZY-FBM

ERM0482X PRO ANALIZZA IL SEGNALE COMPARANDOLO CON MODELLI COMPORTAMENTALI TIPICI, TRAMITE ALGORITMI CHE UTILIZZANO LA LOGICA FUZZY (FUZZY BEHAVIOUR MODELS - FBM), AL FINE DI STABILIRE CON GRANDE PRECISIONE SE IL SEGNALE ANALIZZATO È STATO PROVOCATO DA UN INTRUSO OD ALTRO. VIENE MISURATA LA DIMENSIONE, LA FORMA E L'ANDAMENTO DEL SEGNALE, ISTANTE PER ISTANTE PER POI COMPARARLO CON FORME D'ONDA TIPICHE. IL RIVELATORE È QUINDI IN GRADO DI RIVELARE IL CAMMINARE O IL CORRERE, LO STRISCIARE O IL ROTOLARE DI UN EVENTUALE INTRUSO. QUALSIASI EVENTO CHE GENERA UN ALLARME O ANCHE UN SOLO MOVIMENTO DEL SEGNALE SENZA ALLARME VIENE ARCHIVIATO NELLA MEMORIA CON DATA E ORA, CON LA POSSIBILITÀ DI ESSERE ANALIZZATO GRAFICAMENTE, A POSTERIORI E/O IN TEMPO REALE.

EN

DIGITAL ANALYSIS USING FUZZY LOGIC-FBM

ERM0482X PRO MONITORS THE SIGNAL, COMPARING IT WITH BEHAVIOUR MODELS USING ALGORITHMS BASED ON "FUZZY" LOGIC (FUZZY BEHAVIOUR MODELS - FBM) TO DECIDE IF THE SIGNAL WAS CREATED BY A REAL INTRUDER OR SOME OTHER FACTOR. THE SIZE, SHAPE AND RATE OF CHANGE OF THE SIGNAL ARE CONTINUOUSLY MEASURED AND COMPARED WITH TYPICAL STORED SIGNALS. THE SENSOR IS ABLE TO DETECT INTRUDERS WALKING, RUNNING, CRAWLING OR ROLLING. EVERY EVENT THAT GENERATES AN ALARM OR A SIGNIFICANT CHANGE IN THE RECEIVED SIGNAL IS DATE/TIME STAMPED AND STORED IN MEMORY AND CAN BE ANALYSED IN REAL TIME AND/OR LATER.



IT

ANTIMASCHERAMENTO DINAMICO DIGITALE

I 16 CANALI (CRYSTAL CONTROLLED) UNITAMENTE ALLA CONTINUA ANALISI DEL VALORE ASSOLUTO DEL SEGNALE RICEVUTO, MEMORIZZATO IN FASE D'INSTALLAZIONE, RENDONO VANO QUALSIASI TENTATIVO DI MASCHERAMENTO E CONSENTONO DI RIVELARE GUASTI DELLE PARTI A MICROONDE.

ADATTAMENTO AMBIENTALE

COSTANTEMENTE AVVIENE UN CONTROLLO SULLA TEMPERATURA PER SEGNALARE IL SUPERAMENTO DEI LIMITI DI FUNZIONAMENTO DELL'APPARATO; INOLTRE VIENE CONTROLLATO IL GRADIENTE DI TEMPERATURA (CAMBIAMENTO NEL TEMPO DI UN CERTO VALORE), PER COMPENSARE LE DIFFERENZE DI SEGNALE DOVUTE A CAMBIAMENTI AMBIENTALI.

DISPONIBILI IN BANDA X E K

ALLA FAMIGLIA ERM0482X PRO IN BANDA X CON PORTATE DA 50, 80, 120 E 200M SI AGGIUNGONO DUE MODELLI PER PORTATE FINO A 250 E 500 M CHE UTILIZZANO UNA FREQUENZA IN BANDA K A 24 GHZ. LA CARATTERISTICA DI MINOR APERTURA DEL FASCIO A MICROONDE DI QUESTI MODELLI, PERMETTE ALLA ERM0482X PRO DI COPRIRE DISTANZE MAGGIORI E DI UTILIZZARE LA BARRIERA IN CORRIDOI PIU' RISTRETTI.

EN

DYNAMIC DIGITAL ANTI-MASKING

THE 16 CRYSTAL CONTROLLED MODULATION CHANNELS, TOGETHER WITH A DYNAMIC ANALYSIS OF THE ABSOLUTE VALUE OF THE RECEIVED SIGNAL, DETECTED DURING THE INSTALLATION PROCESS, MAKE MASKING IMPOSSIBLE AND POSSIBLE THE DETECTION OF POTENTIAL FAULTS IN THE MICROWAVE COMPONENTS.

AUTOMATIC ENVIRONMENT ADJUSTMENT

THE TEMPERATURE IS CONTINUOUSLY CHECKED TO DETECT POSSIBLE FAULTS AS WELL AS MONITORING THE TEMPERATURE GRADIENT (TEMPERATURE CHANGE OVER A PERIOD OF TIME) TO COMPENSATE FOR SIGNAL DIFFERENCES CREATED BY ENVIRONMENTAL CHANGES.

AVAILABLE X AND K BAND

IN ADDITION TO THE ERM0482X PRO FAMILY, THAT WORKS WITH X BAND FOR RANGE OF 50, 80, 120 AND 200 M WE HAVE NOW AVAILABLE TWO NEW MODELS FOR RANGE UP TO 250 AND 500 M THAT WORK WITH K BAND USING A FREQUENCY OF 24GHZ. THE MAIN FEATURE OF THESE NEW MODELS PROVIDES THE POSSIBILITY TO COVER LONGER DISTANCES AND WHERE THE CORRIDORS HAVE GOT CRITICAL DIMENSIONS THANKS TO THE SMALLER MICROWAVE BEAM GENERATED.

CARATTERISTICHE / FEATURES

IT

DISCRIMINAZIONE FUZZY DEI MOVIMENTI LATERALI - F.S.T.D.

L'ANTENNA PARABOLICA PER LUNGHE PORTATE (SOPRA I 50 M) È PIÙ PRESTANTE IN TERMINI DI PUREZZA DEL SEGNALE RICEVUTO, RISPETTO ALLE ANTENNE PLANARI O ANTENNE ELLITTICHE. IN CASI PARTICOLARI, PER ESEMPIO DISTURBI LATERALI CONTINUI, PROVOCATI DA UNA RETE METALLICA POCO SALDA CHE TOCCA IL FASCIO, VEGETAZIONE CHE SCONFINA NEI BORDI DEL LOBO A MICROONDE O GROSSI MOVIMENTI PARALLELI AL FASCIO, È POSSIBILE SFRUTTARE TRAMITE ABILITAZIONE SOFTWARE L'FSTD (FUZZY SIDE TARGET DISCRIMINATION). ESSO RENDE MENO SENSIBILI O ELIMINA TOTALMENTE I SEGNALI PROVENIENTI DAI BORDI LATERALI DEL FASCIO A MICROONDE E OTTIENE UN FASCIO FISICAMENTE CILINDRICO MA CHE IN REALTÀ RISULTA ELLITTICO, MANTENENDO D'ALTROONDE I VANTAGGI DI PUREZZA DEL SEGNALE RICEVUTO DALL'ANTENNA PARABOLICA RISPETTO A QUELLA ELLITTICA.

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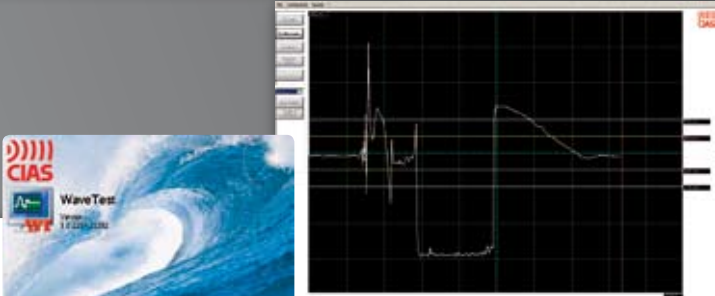
FUZZY SIDE TARGET DISCRIMINATION - F.S.T.D.

FOR LONG RANGE (OVER 50M) USING A PARABOLIC ANTENNA WILL GIVE A MUCH PURER SIGNAL THAN DEVICES USING ELLIPTICAL OR PLANAR ANTENNAS. IN PARTICULAR SITUATIONS WHERE THERE IS CONTINUOUS INTERFERENCE AT THE SIDE OF THE FIELD, SUCH AS LOOSE, MOVING METALLIC FENCES IN THE BEAM PATTERN, VEGETATION THAT ENCRACHES THE SIDE OF THE BEAM OR OTHER LARGE PARALLEL SIDE MOVEMENTS IT IS POSSIBLE TO USE THE FSTD FUNCTION IN THE SOFTWARE. USING THIS IT IS POSSIBLE TO ADJUST THE SENSITIVITY ONLY AT THE SIDE OF THE BEAM PATTERN, OR EVEN EXCLUDE ALL SIGNAL ANALYSIS FROM THE SIDES. IN THIS WAY WE CAN HAVE A BEAM THAT ALTHOUGH IT IS PHYSICALLY AS NORMAL, IT APPEARS ELLIPTICAL WITH DIFFERENT SHAPES DEPENDENT ON THE FSTD SETTING WHILE MAINTAINING THE PURITY OF SIGNAL THAT IS THE ADVANTAGE OF THE PARABOLIC ANTENNA COMPARED TO AN ELLIPTICAL ANTENNA.



CONDIZIONI CLIMATICHE ESTREME NON INFLUENZANO IL FUNZIONAMENTO DELL'ERM0482X PRO.

EXTREME WEATHER CONDITIONS DO NOT AFFECT THE PERFORMANCE OF ERM0482X PRO.



WAVE-TEST

IT

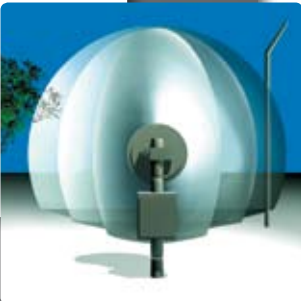
WAVE-TEST È UN PACCHETTO SOFTWARE USATO PER GESTIRE E PARAMETRIZZARE LE BARRIERE INTELLIGENTI ERM0482X PRO. CON UN PC CONNESSO ALLA TESTA TX O RX, GRAZIE A TALE SOFTWARE, VENGONO VISUALIZZATE IN TEMPO REALE LE FORME D'ONDA DEL SEGNALE E I VALORI ANALOGICI QUALI LIVELLO BATTERIA, IL VALORE DEL SEGNALE RICEVUTO, LA TEMPERATURA, LA TENSIONE DI RAG. È POSSIBILE, INOLTRE, SCARICARE DALLA MEMORIA DELLA BARRIERA LE ULTIME 100 FORME D'ONDA DEL SEGNALE E GLI ULTIMI 256 EVENTI, NONCHÉ CAMBIARE I PARAMETRI PRINCIPALI. IL TUTTO CONNETTENDO DIRETTAMENTE IL PC NELLE TESTE TX E RX DELLE BARRIERE INSTALLATE, SUL CAMPO, OPPURE CONNETTENDO TRA DI LORO TUTTE LE TESTE PER MEZZO DI UNA LINEA SERIALE RS 485 E COLLEGANDO QUEST'ULTIMA AD UN PC DI CONTROLLO LOCALE O DA REMOTO CON L'UTILIZZO DI UN MODEM. IN QUESTO MODO È POSSIBILE ANALIZZARE ED EVENTUALMENTE RISOLVERE QUALSIASI TIPO DI PROBLEMA OVUNQUE VI TROVIATE.

EN

WAVE-TEST IS A SOFTWARE PACKAGE USED TO COMMISSION AND FINE TUNE THE ERM0482X PRO INTELLIGENT MICROWAVE BARRIERS. WITH A PC CONNECTED TO THE RX OR TX HEAD, THANKS TO THIS SOFTWARE, IT IS POSSIBLE TO DISPLAY THE RECEIVED SIGNAL SHAPE OR THE ANALOGUE VALUES (BATTERY LEVEL, DETECTED SIGNAL VOLTAGES, TEMPERATURE, AGC VOLTAGE)-IN REAL TIME. IT IS POSSIBLE TO DOWNLOAD THE LAST 100 ANALOGUE EVENTS AND THE LAST 256 BARRIER EVENTS STORED IN THE INDIVIDUAL BARRIER MEMORY, CHANGE THE OPERATING PARAMETERS AND A NUMBER OF OTHER FUNCTIONS. ALL THE ABOVE CAN BE PERFORMED LOCALLY, CONNECTING THE PC DIRECTLY TO THE HEAD ON SITE, OR, BY CONNECTING THE HEADS TO AN RS485 SERIAL LINE, REMOTELY IN A CONTROL ROOM. IT IS ALSO POSSIBLE TO CONNECT THE RS485 LINE TO A MODEM WHICH CAN CONNECT REMOTELY WITH A PC RUNNING WAVE-TEST, ALLOWING COMPLETE REMOTE TROUBLESHOOTING FROM ANYWHERE IN THE WORLD. WAVE-TEST IS VERY USEFUL FOR ANALYSIS OF THE ENVIRONMENTAL NOISE WITHIN A PARTICULAR INSTALLATION, THANKS TO THE ON-BOARD MEMORY, AND THEN TO SET THE BARRIER PERFECTLY FOR THAT ENVIRONMENT.



REGOLAZIONE TRADIZIONALE SENZA FSTD / NORMAL DETECTION PATTERN SET UP.



REGOLAZIONE CON FSTD. SET UP WITH FSTD.

EXTREME SECURITY CIAS

IT

MMD SYSTEM - BARRIERE MOBILI

MMD SYSTEM È UN SISTEMA DI PROTEZIONE PORTATILE COSTITUITO DA BARRIERE A MICROONDE CHE REALIZZANO DELLE ZONE DI RIVELAZIONE INVISIBILI PER LA SORVEGLIANZA TEMPORANEA DI SITI RITENUTI A RISCHIO. OGNI TENTATIVO DI INTRUSIONE ALL'INTERNO DELL'AREA PROTETTA VIENE RIVELATO DA MMD-SYSTEM CHE TRASMETTE L'ALLARME VIA RADIO ALLA CENTRALE DEL SISTEMA SITUATA IN UN POSTO DI GUARDIA.

EN

MMD SYSTEM - MOBILE BARRIERS

MMD SYSTEM IS A PORTABLE PROTECTION SYSTEM USING MICROWAVE BARRIERS THAT CREATE INVISIBLE DETECTION ZONES FOR TEMPORARY SURVEILLANCE OF SITES CONSIDERED AT RISK. EACH INTRUSION ATTEMPT INTO THE PROTECTED AREA IS DETECTED BY THE BARRIERS, WHICH IMMEDIATELY SEND A RADIO SIGNAL TO THE MMD CONTROL PANEL LOCATED IN A GUARD ROOM OR WHEREVER THE DESIGNATED CONTROL CENTRE IS LOCATED.



PROTEZIONE DI AREA MILITARE/
MILITARY PROTECTION.



MMD SYSTEM

EXTREME SECURITY



INSTALLAZIONE SENZA ATTREZZI O STRUMENTI:
BOLLA, CONNETTORE PLUG AND PLAY E MANOPOLA
PER FACILE E RAPIDA INSTALLAZIONE.

TOOL FREE ADJUSTMENTS: DETAIL OF LEVEL BULB,
PLUG AND PLAY CONNECTORS AND HANDLES FOR
EASY AND RAPID DEPLOYMENT.



ROBUSTE SCATOLE DI TRASPORTO CON
RUOTE PER UN TRASPORTO FACILITATO.
POSSIBILITÀ DI IMPIANTAMENTO.

STRONG CARRYING FITTING CASES WITH
WHEELS FOR EASY TRANSPORT. POSSIBLE
STACK UP OF THE BOXES.

CARATTERISTICHE TECNICHE / SPECIFICATIONS

PORTATA / RANGE	200 mt
FREQUENZA / FREQUENCY	SECONDO LE NORME NAZIONALI / ACCORDING TO COUNTRY REQUIREMENTS
ALIMENTAZIONE / POWER SUPPLY	AUTONOMIA FINO A 20 GG / AUTONOMY UP TO 20 DAYS
TEMPERATURA / TEMPERATURE	-35°C / +65°C
CABLAGGIO / CABLING	CAVI RINFORZATI E CONNETTORI MILITARI / ARMoured CABLES AND MILITARY CONNECTORS
KIT DI TRASPORTO / TRANSPORT KIT	VALIGE RINFORZATE / RESISTANT TRANSPORT BOXES
COM. ALLARMI / IMPOSTAZIONI ALARM / SETTING TRANSMISSION	TRASMISSIONE RADIO DA 500M A 1 KM; OLTRE CON ANTENNA EXTRA RADIO TRANSMISSION FROM 500 MT UP TO 1 KM, USE EXTRA ANTENNA FOR LONGER DISTANCES



EN

ACCESSORI / ACCESSORIES

IT

ERM0482x PRO ANTIDEFLAGRANTE

EEXD IIC T5 – CERTIFICATO CESI D 85.064. LE BARRIERE DELLA FAMIGLIA ERMO SONO DISPONIBILI ANCHE IN CUSTODIA ANTIDEFLAGRANTE (OMOLOGATA A NORMA EUROPEA).

EN

ERM0482X PRO EXPLOSION PROOF

EEXD IIC T5 – CERTIFIED CESI D 85.064. THE ERMO BARRIERS FAMILY IS AVAILABLE IN EXPLOSION PROOF BOXES (CERTIFIED UNDER EUROPEAN REGULATIONS).

IT

ALLINEAMENTO E SETTAGGI

ERMO 482X PRO HA UN SISTEMA AUDIO VISIVO INTEGRATO NEL NUOVO CIRCUITO SMD CHE PERMETTE DI EFFETTUARE IN MODO ESTREMAMANTE SEMPLICE L'ALLINEAMENTO E LA PARAMETRIZZAZIONE DELLE BARRIERE.È INOLTRE INCORPORATA LA FUNZIONE DI "WALK TEST" CHE RENDE NOTO IL REALE VOLUME DI PROTEZIONE.

EN

ALIGNMENT AND SETTING

ERMO 482X PRO INCORPORATES IN THE NEW SMD CIRCUIT AN AUDIO-VISUAL SET-UP SYSTEM WHICH SIMPLIFIES THE ALIGNMENT AND SET UP OF THE BARRIER. ALSO INCLUDED IS A WALK-TEST FUNCTION WHICH IDENTIFIES THE REAL DIMENSIONS FEEL OF THE PROTECTION FIELD.

CARATTERISTICHE TECNICHE / SPECIFICATIONS

DISPOSITIVO FORNITO	TESTA TRASMETTENTE E TESTA RICEVENTE CON SPAZIO PER BATTERIE DI BACK-UP DA 12VDC 2Ah, GANASCE PER INSTALLAZIONE SU PALI DA 6cm, DISPONIBILE ADATTATORE PER PALI FINO A 11 cm, ALIMENTATORE E CARICA BATTERIE INCORPORATI NELLA TESTA.
EQUIPMENT SUPPLIED	TRANSMITTER HEAD AND RECEIVER HEAD WITH SPACE TO ACCOMMODATE A 12V 2Ah BACK-UP BATTERY, CLAMPS FOR A 6 cm DIAMETER MOUNTING POST. BRACKETS ADAPTOR UP TO 11 cm POLES AVAILABLE. POWER SUPPLY AND BATTERY CHARGER INCLUDED.
PORTATA / RANGE	50, 80,120, 200, 250, 500 mt
FREQUENZA FREQUENCY	BANDA X E K CERTIFICATA IN MOLTI PAESI E CONFORME AGLI STANDARD UE, USA E CANADA. K /X-BAND CERTIFIED IN MANY COUNTRIES AND CONFORMS TO CE, USA AND CANADIAN STANDARDS.
POTENZA EMESSA OUTPUT POWER	CERTIFICATA IN MOLTI PAESI E CONFORME AGLI STANDARD UE, USA E CANADA. CERTIFIED IN MANY COUNTRIES AND CONFORMS TO CE, USA AND CANADIAN STANDARDS.
VELOCITÀ TARGET / TARGET SPEED	DA 0 cm/SEC A 15 m/sec. / FROM 0 cm/SEC TO 15 m/sec.
DIMENSIONE TARGET TARGET SIZE	TAGLIA UMANA MEDIA (40Kg) PER TUTTI I TENTATIVI DI INTRUSIONE. MEDIUM SIZE HUMAN TARGET FOR ALL INTRUSION ATTEMPTS (40Kg).
PROBABILITÀ DI RIVELAZIONE PROBABILITY OF DETECTION	0.99 BASATA SUL RAPPORTO S/N. 0.99 MINIMUM BASED ON S/N RATIO.
CANALI DI MODULAZIONE / MODULATION CHANNELS	16 CRYSTAL CONTROLLED.
TASSO DI FALSO ALLARME / FALSE ALARM RATE	1/UNITÀ/ANNO BASATO SUL RAPPORTO S/N / 1/UNIT/YEAR BASED ON S/N RATIO
TEMPERATURA / TEMPERATURE	-35 °C / +65 °C
ALLARMI ALARM OUTPUTS	3 RELÈ STATO SOLIDO PER ALLARME, GUASTO, MANOMISSIONE. 3 SOLID STATE RELAYS FOR ALARM, FAULT, TAMPER.
ALIMENTAZIONE VCA / POWER SUPPLY AC VAC	19Vac
ALIMENTAZIONE VCC / POWER SUPPLY DC VDC	13.8Vdc , 24Vdc
CONSUMI / CURRENT CONSUMPTION	120mA TX+RX
APPLICAZIONI SPECIALI SPECIAL APPLICATIONS	DISPONIBILE IN CUSTODIA ANTIDEFLAGRANTE E IN VERSIONE PORTATILE EXPLOSION PROOF AND PORTABLE VERSION AVAILABLE
PESO / WEIGHT	4,8 Kg (TX+RX)
DIMENSIONS	Ø 305 mm X 160 mm

LE INFORMAZIONI CONTENUTE IN QUESTO DEPLIANT POSSONO ESSERE SOGGETTE A MODIFICHE SENZA PREAVVISO.
CIAS RESERVES THE RIGHT TO CHANGE THE SPECIFICATIONS DESCRIBED IN THIS BROCHURE AT ANY TIME WITHOUT PRIOR NOTICE.

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DIGITAL MICROWAVE BARRIER

ERM0482X^{PRO}

FINO A 500 m
UP TO 500 m

BARRIERA A MICROONDE DIGITALE PER
PROTEZIONI PERIMETRALI ESTERNE
L'EVOLUZIONE ESTREMA DELLA MICROONDA PER ESTERNO.

DIGITAL MICROWAVE BARRIER FOR
OUTDOOR PERIMETER PROTECTION
THE ULTIMATE EVOLUTION OF OUTDOOR MICROWAVES.



EXTREME SECURITY

SINCE1974



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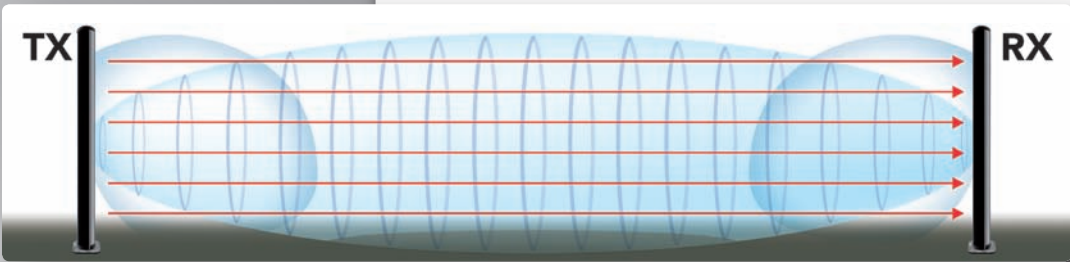
LOGICHE DI ALLARME E SCENARI

SCENARIO "0" : AND CON FILTRO 2 TECNOLOGIE DIVERSE + PRIORITÀ MICROONDA
SCENARIO "9" : AND CON FILTRO 2 TECNOLOGIE DIVERSE
SCENARIO "A" : AND CON FILTRO PER PRIORITÀ MICROONDA
SCENARIO "B" : AND
SCENARIO "C" : AND CON ANTISCAVALCAMENTO
SCENARIO "D" : AND CON ANTISTRISCIAMENTO
SCENARIO "E" : AND CON ANTISTRISCIAMENTO E ANTISCAVALCAMENTO
SCENARIO "F" : OR

EN

ALARM LOGIC AND SCENARIOS

SCENARIO "0" : AND WITH 2 DIFFERENT TECHNOLOGIES + MICROWAVE PRIORITY FILTERS
SCENARIO "9" : AND WITH 2 DIFFERENT TECHNOLOGIES FILTER
SCENARIO "A" : AND WITH MICROWAVE PRIORITY FILTER
SCENARIO "B" : AND
SCENARIO "C" : AND WITH ANTI-CLIMBING
SCENARIO "D" : AND WITH ANTI-CRAWLING
SCENARIO "E" : AND WITH ANTI-CLIMBING AND ANTI-CRAWLING
SCENARIO "F" : OR



CARATTERISTICHE TECNICHE / SPECIFICATIONS

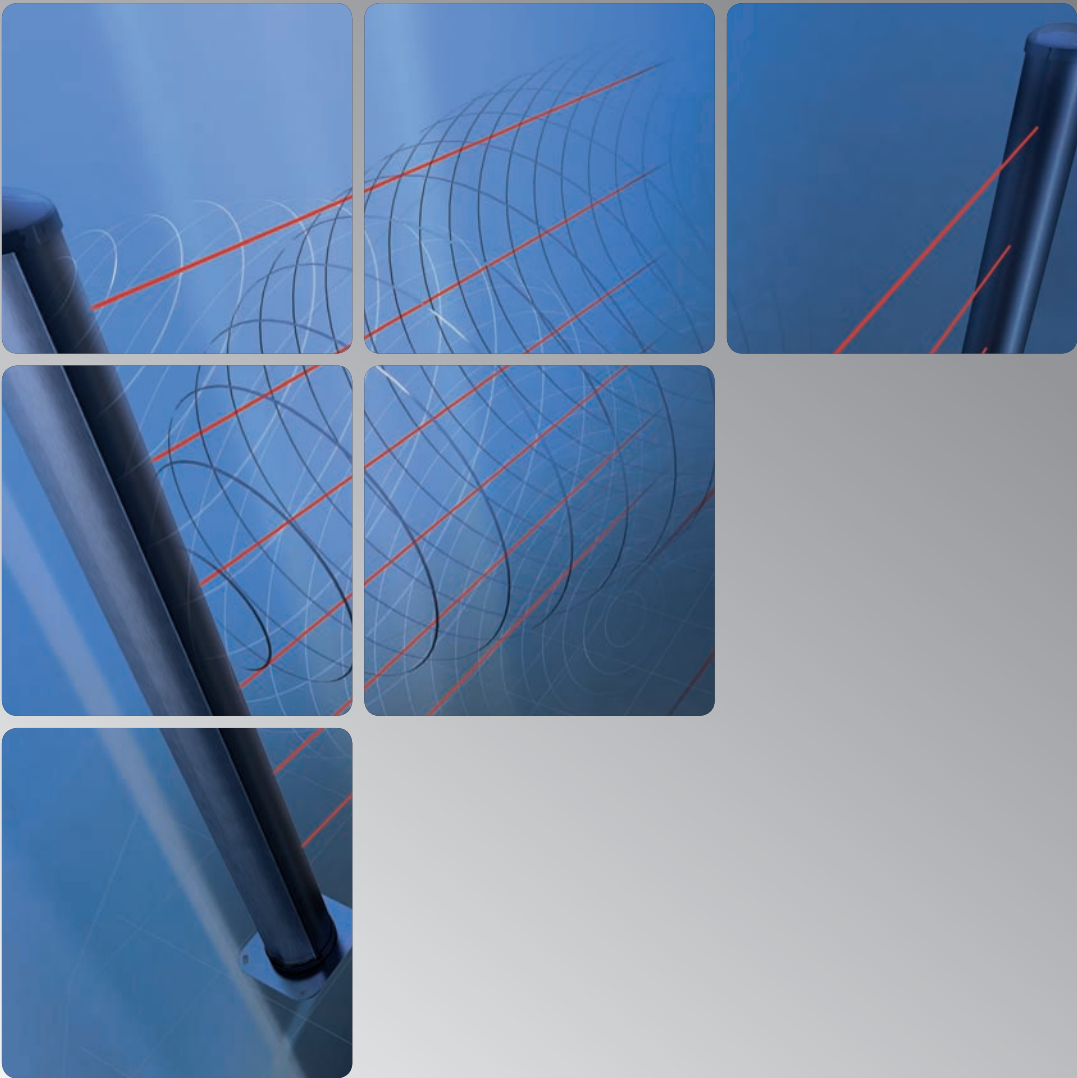
PORTATA / RANGE	100m, 160m
TEMPERATURA / TEMPERATURE	-35° C / +65° C
CONSUMO (CONSIDERANDO TRIPLA TECNOLOGIA CON 2 BI-OTTICHE TX+RX)	320 mA
CURRENT CONSUMPTION (THREE TECHNOLOGIES WITH 2 BI-OPTIC TX+RX)	
CONSUMO RISCALDATORI / HEATER CONSUMPTIO	680 mA
CANALI / CHANNELS	16 MICROONDA E 4 INFRAROSSO / 16 MICROWAVE AND 4 INFRARED
TECNOLOGIE IMPIEGATE	2 BI-OTTICHE INFRAROSSO, 1 BARRIERA A MW DIGITALE, 2 DOPPLER A MW (TERZA BI-OTTICA INFRAROSSO SUPPLEMENTARE OPZIONALE)
TECHNOLOGIES USED	2 BI-OPTIC INFRARED, 1 DIGITAL MW BARRIER 2, DOPPLER MW (THIRD OPTIONAL SUPPLEMENTARY BI-OPTIC INFRARED)
ALLINEAMENTO / ALIGNMENT	SISTEMA ELETTRONICO DI ALLINEAMENTO INCORPORATO / ELECTRONIC ALIGNMENT SYSTEM ON BOARD
ALTEZZA COLONNE / HEIGHT TOWERS	2m - 3m
ANALISI / ANALISYS	AND,OR + 6 SCENARI / AND,OR + 6 SCENARIOS
SOFTWARE	WAVE TEST PER VISUALIZZAZIONE VALORI, STORICI E STATI DI ALLARME WAVE TEST TO DISPLAY VALUES, HISTORY AND ALARM STATUS
SPECIALI / SPECIAL	KIT ANTISCAVALCAMENTO-ANTICALPESTIO INCORPORATO / BUILT IN ANTI CLIMBING - ANTI CRAWLING KIT

LE INFORMAZIONI CONTENUTE IN QUESTO DEPLIANT POSSONO ESSERE SOGGETTE A MODIFICHE SENZA PREAVVISO.
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TRIPLE TECHNOLOGY BARRIER
PYTHAGORAS
100 160 m
3TECH

BARRIERA INTELLIGENTE
A TRIPLA TECNOLOGIA

INTELLIGENT BARRIER
BASED ON TRIPLE TECHNOLOGY



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EXTREME SECURITY

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IT

PYTHAGORAS È UNA BARRIERA INTELLIGENTE A TECNOLOGIA MULTIPLA CON ANALISI DIGITALE DEL SEGNALE DISPONIBILE PER PORTATE FINO A 160 M. LE DIFFERENTI TECNOLOGIE IMPIEGATE PERMETTONO ALLA BARRIERA DI ADATTARSI ALLE DIMENSIONI DEL CORRIDOIO DA PROTEGGERE, EVITANDO DISTURBI PROVENIENTI DA RECINZIONI O DALLA VEGETAZIONE E SUPERANDO I LIMITI CHE LE VARIE TECNOLOGIE, SE UTILIZZATE SINGOLARMENTE, POTREBBERO AVERE. NORMALMENTE LE CONDIZIONI CLIMATICHE PER L'INFRAROSSO E LO SPAZIO DISPONIBILE LIMITATO PER LA MICROONDA.

EN

PYTHAGORAS IS AN INTELLIGENT BARRIER DESIGNED WITH MULTIPLE TECHNOLOGY AND BASED ON DIGITAL SIGNAL ANALYSIS, AVAILABLE FOR RANGES UP TO 160 M. THE DIFFERENT TECHNOLOGIES USED ALLOW THE BARRIER TO ADAPT TO THE SIZE OF THE CORRIDOR TO BE PROTECTED, AVOIDING DISTURBANCES FROM FENCES OR VEGETATION AND ELIMINATING THE LIMITS THAT THE VARIOUS TECHNOLOGIES USED INDIVIDUALLY MAY HAVE. THESE ARE USUALLY CLIMATIC CONDITIONS FOR THE INFRARED AND THE LIMITED SPACE AVAILABLE FOR THE MICROWAVE.

COMODA APERTURA A SPORTELLO
EASY COVER OPENING



IT

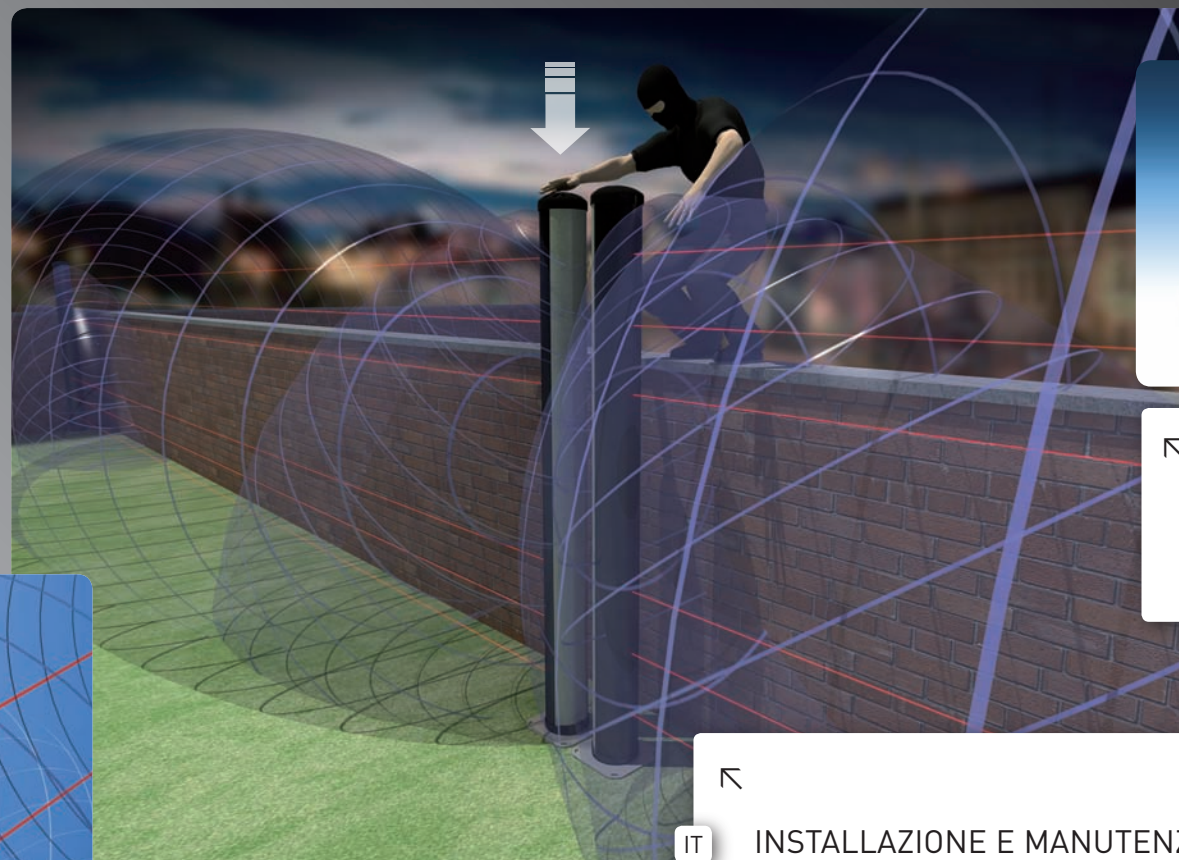
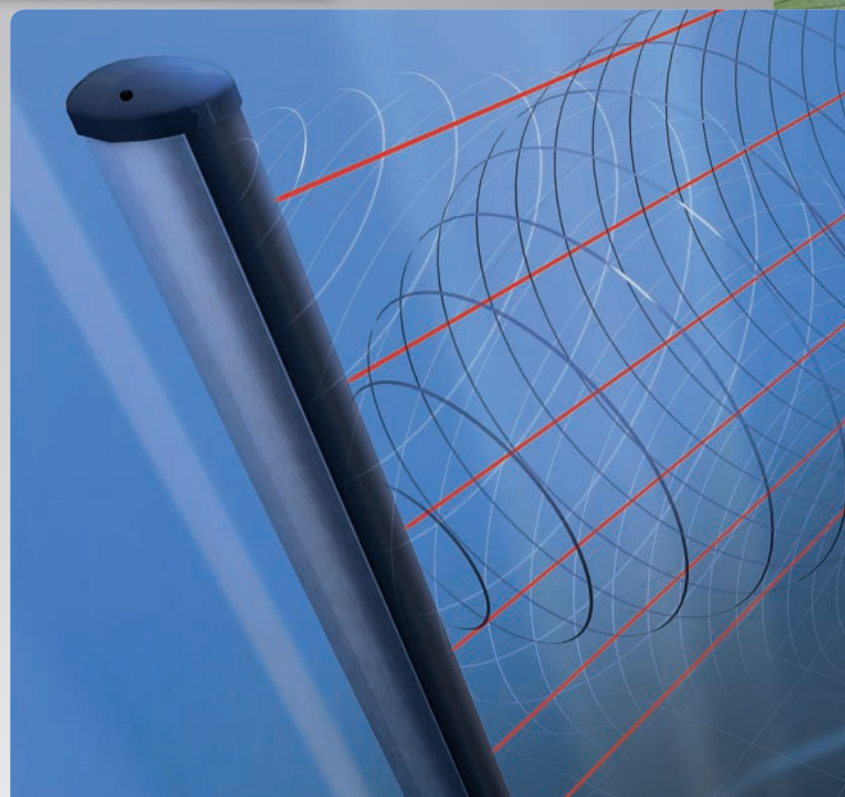
STRUTTURA

LE NUOVE COLONNE HANNO UNA COMODA APERTURA LATERALE DEL COVER IN POLICARBONATO E OSPITANO IN 2 METRI DI ALTEZZA UNA BARRIERA A MICROONDE DIGITALE E DUE BARRIERE AD INFRAROSSI ATTIVI. PER LA VERSIONE A TRIPLA TECNOLOGIA (PYTHAGORAS 3TECH), IN OGNI COLONNA È PRESENTE ANCHE UN DOPPLER A MICROONDA PER LA PROTEZIONE DELLE ZONE D'OMBRA GENERATESI DURANTE LA FASE DI DISQUALIFICA DELL'INFRAROSSO. E' POSSIBILE INOLTRE INSTALLARE UNA ULTERIORE BARRIERA AD INFRAROSSI ATTIVI CENTRALE CON L'AGGIUNTA DI UN KIT BI-OTTICA OPZIONALE.

EN

STRUCTURE

THE NEW COLUMNS HAVE A CONVENIENT SIDE OPENING COVER MADE FROM POLYCARBONATE AND IN A 2 METER HIGH TOWER PROVIDE ONE DIGITAL MICROWAVE BARRIER AND TWO INFRARED ACTIVE BARRIERS. THE THIRD TECHNOLOGY (PYTHAGORAS 3TECH) IS A MICROWAVE DOPPLER IN EACH COLUMN FOR THE PROTECTION OF DEAD ZONES GENERATED WHEN INFRAREDS ARE SUBJECT TO DISQUALIFICATION. IT IS ALSO POSSIBLE TO INSTALL A FURTHER INFRARED BARRIER WITH THE ADDITION OF AN OPTIONAL BI-OPTIC KIT.



TENTATIVO DI PASSAGGIO RESO
VANO DAL COPERCHIO CHE RILEVA
LA PRESSIONE / INTRUSION
ATTEMPT DETECTED THANKS TO
THE ANTI-CLIMBING KIT.

IT

INSTALLAZIONE E MANUTENZIONE

LE BARRIERE PYTHAGORAS SONO DOTATE DI UN SISTEMA DI ALLINEAMENTO ELETTRONICO, DI UN SISTEMA DI REGOLAZIONE DEI PARAMETRI DI LAVORO E DI UN SISTEMA DI TEST, CHE RENDONO PARTICOLARMENTE SEMPLICI ED EFFICACI SIA LE OPERAZIONI DI INSTALLAZIONE CHE DI MANUTENZIONE PERIODICA, SENZA LA NECESSITÀ DI UTILIZZARE STRUMENTI DEDICATI. LA MANUTENZIONE INOLTRE, NEL CASO IN CUI LA BARRIERA SIA COLLEGATA AD UNA LINEA SERIALE RS485, PUÒ ESSERE ESEGUITA ANCHE DA REMOTO UTILIZZANDO IL SOFTWARE WAVE-TEST, GIÀ IMPIEGATO PER TUTTE GLI ALTRI DISPOSITIVI DIGITALI CIAS.

EN

INSTALLATION AND MAINTENANCE

PYTHAGORAS IS EQUIPPED WITH AN ELECTRONIC SYSTEM THAT PROVIDES EASY ALIGNMENT, SETUP AND TEST, MAKING BOTH INSTALLATION AND REGULAR MAINTENANCE PARTICULARLY SIMPLE AND EFFECTIVE, WITHOUT THE NEED OF ANY DEDICATED TOOL OR INSTRUMENT. IT IS ALSO POSSIBLE TO PERFORM REMOTE MAINTENANCE WHEN PYTHAGORAS IS CONNECTED TO RS485 BUS, USING THE SOFTWARE WAVE-TEST ALREADY USED FOR ALL OTHER CIAS DIGITAL DEVICES.

PYTHAGORAS 3TECH 100 160 m

EXTREME SECURITY 

IT

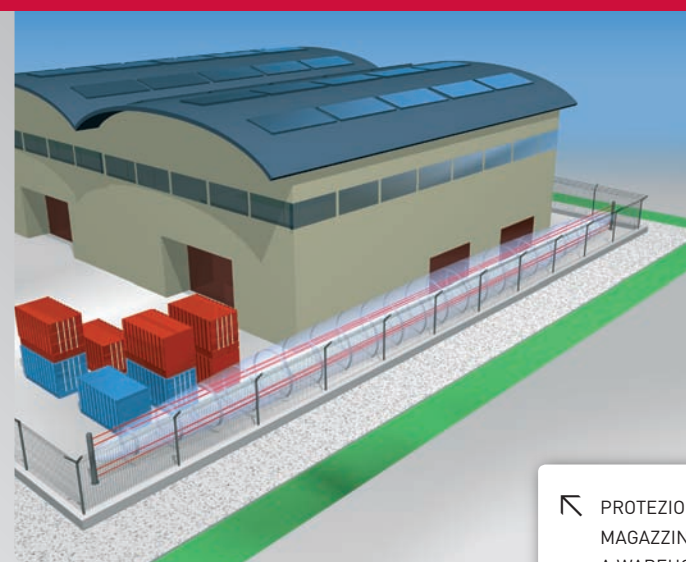
TECNOLOGIE E FUZZY LOGIC

IL CIRCUITO DI ELABORAZIONE METTE LE DIVERSE TECNOLOGIE IN SINERGIA TRA LORO SEGUENDO DELLE "REGOLE A LOGICA FUZZY". IL SEGNALE RICEVUTO VIENE ANALIZZATO E COMPARATO CON MODELLI COMPORTAMENTALI TIPICI, TRAMITE ALGORITMI CHE STABILISCONO CON ACCURATA PRECISIONE LA PRESENZA DI UN INTRUSO. IL RISULTATO È UNA ALTISSIMA PERFORMANCE DI RIVELAZIONE E UN NUMERO ESTREMAMENTE RIDOTTO DI FALSI ALLARMI. SONO IMPOSTABILI 8 DIFFERENTI SCENARI, CHE PERMETTONO DI SELEZIONARE LE PRIORITÀ DI ALLARME SULLE DIVERSE TECNOLOGIE NONCHÉ LE FUNZIONI ANTISTRISCIAMENTO E ANTISCAVALCAMENTO (VEDI TABELLA SUL RETRO). PYTHAGORAS ADOTTA INOLTRE UN SISTEMA DI ANTISCAVALCAMENTO/CALPESTIO CHE GENERA UN ALLARME TAMPER NEL MOMENTO IN CUI L'INTRUSO DOVESSE CERCARE UN VARCO PER L'INTERNO CALPESTANDO O AGGRAPPANDOSI AL COPERCHIO SUPERIORE. QUESTO SISTEMA RISULTA INNOVATIVO PERCHÉ SFRUTTA L'ELASTICITÀ PLASTICA DEL COPERCHIO EVITANDO ALLARMI IMPROPRI GENERATI, PER ESEMPIO, DALL'ACCUMULARSI DI NEVE O DALLO STAZIONARE DI VOLATILI.

EN

TECHNOLOGIES AND FUZZY LOGIC

THE MICROPROCESSOR PUTS THE DIFFERENT TECHNOLOGIES IN SYNERGY WITH EACH OTHER FOLLOWING "FUZZY LOGIC RULES". THE SIGNAL RECEIVED IS ANALYSED AND COMPARED WITH TYPICAL BEHAVIOUR PATTERNS, USING ALGORITHMS THAT DETERMINE WITH PRECISION THE PRESENCE OF AN INTRUDER. THE RESULT IS A VERY HIGH DETECTION PERFORMANCE AND A SMALL NUMBER OF FALSE ALARMS. PYTHAGORAS PROVIDES 8 SETUPS FOR DIFFERENT SCENARIOS, WHICH ALLOW THE SELECTION OF PRIORITY ALARMS IN RELATION TO THE DIFFERENT TECHNOLOGIES, IN ADDITION TO THE ANTI-CRAWLING AND ANTI-CLIMBING FUNCTIONS (SEE TABLE ON THE BACK). PYTHAGORAS ALSO HAS AN ACCESSORY FOR ANTI-CLIMBING/STANDING THAT GENERATES A TAMPER ALARM IF THE INTRUDER TRIES TO BREAKTHROUGH BY STANDING ON THE TOP COVER. THIS SYSTEM IS PARTICULARLY INNOVATIVE BECAUSE IT USES THE FLEXIBILITY OF A PLASTIC LID TO AVOID FALSE ALARMS GENERATED, FOR EXAMPLE, BY SNOW OR SITTING BIRDS.



PROTEZIONE A DOPPIA TECNOLOGIA DI UN
MAGAZZINO / DOUBLE TECH PROTECTION OF
A WAREHOUSE.

The manufacturer of perimeter protection systems



PERIMETER – first line of protection



Microwave Bi-static sensors

Microwave Mono-static sensors

Sensors hidden into park lamps

Dual Technology sensors

Two-wire sensors

Vibration sensors

Quickly deployable Microwave Complex

Perimeter protection systems



Microwave Bi-static sensors FORTEZA-200, FORTEZA-100, FORTEZA-50

About us

Okhrannaya tehnika, JSC (trademark FORTEZA®) is one of the leading designers and manufacturers of perimeter protection systems.

We produce Microwave, Vibration, Dual Technology, Two-Wire sensors and additional equipment.

The equipment is produced under the company own trademark FORTEZA®.

The sensors have CE marking and are being tested to get FCC marking as well.

We offer solutions intended for the protection of different objects - from the territory of a private house or a small office up to big state and commercial objects. More than 10000 objects in Russia and abroad are equipped with FORTEZA® sensors. Long service life FORTEZA® equipment is reliable, easy to use, to integrate and to install. Annually our company represents its equipment on the biggest international exhibitions like: «INTERSEC» - UAE, Dubai, «MIPS» - Russia, Moscow, «Security Essen» - Germany, Essen, «IFSEC» - Great Britain, Birmingham, etc.

Working with existing distributors in Europe, CIS countries, Latin America, India, Northern Africa, Australia and the Middle East we are open to new contacts all over the world and we are ready to offer special conditions for your company.

We are waiting for your calls!



DESCRIPTION

The sensors provide a volumetric detection zone generated between the transmitter and the receiver and alarm on intruder moving within the invisible pattern of microwave energy.

PURPOSE

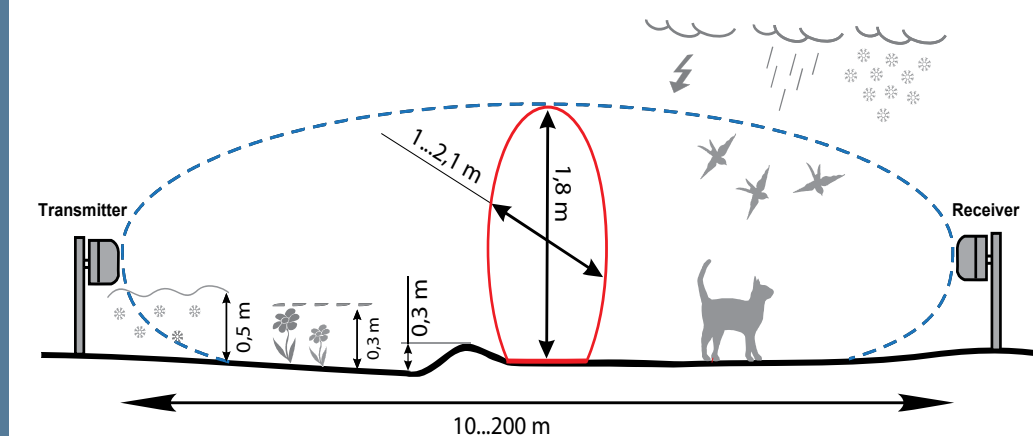
Detection of an intruder walking at his full height or bent. Protection of perimeters of different objects like airports, industrial and military facilities, building grounds, etc.

KEY FEATURES

- operational frequency allowed in many countries all over the world;
- narrow detection zone;
- no «dead zones»;
- CE marking;
- modifications with extended temperature range.



	FORTEZA-200	FORTEZA-100	FORTEZA-50
RANGE	10...200 m	10...200 m	10...50 m
PATTERN WIDTH AT THE MAXIMAL RANGE	up to 2,1 m	up to 1,5 m	up to 1 m
PATTERN HEIGHT	up to 1,8 m		
OPERATIONAL FREQUENCY	24,15 ± 0,1 GHz		
POWER SUPPLY VOLTAGE	9...30 V DC		
OPERATIONAL TEMPERATURE RANGE	-40...+85° C		



Microwave Bi-static sensors FORTEZA-500, FORTEZA-300

DESCRIPTION

The sensors provide a volumetric detection zone generated between the transmitter and the receiver and alarm on intruder moving within the invisible pattern of microwave energy.

PURPOSE

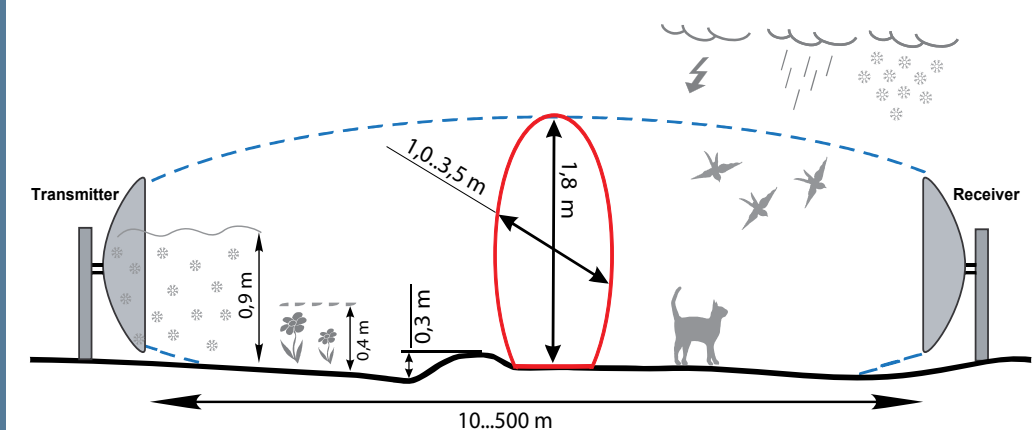
Detection of an intruder walking at his full height or bent. Protection of perimeters of different objects like airports, industrial and military facilities, building grounds, etc.

KEY FEATURES

- protection of a long sector using only one sensor kit;
- operational frequency allowed in many countries all over the world;
- narrow detection zone;
- no «dead zones»;
- modifications with extended temperature range.



	FORTEZA-500	FORTEZA-300
RANGE	10...500 m	10...300 m
PATTERN WIDTH AT THE MAXIMAL RANGE	up to 3,5 m	up to 2,7 m
PATTERN HEIGHT	up to 3 m	
OPERATIONAL FREQUENCY	24,15 ± 0,1 GHz	
POWER SUPPLY VOLTAGE	9...30 V DC	
OPERATIONAL TEMPERATURE RANGE	-40...+65° C	



Microwave Bi-static sensors FMW-3, FMW-3/1, FMW-3/2

DESCRIPTION

The sensors provide a volumetric detection zone generated between the transmitter and the receiver and alarm on intruder moving within the invisible pattern of microwave energy.

PURPOSE

Detection of an intruder walking at his full height or bent. Protection of perimeters of different objects like airports, industrial and military facilities, building grounds, etc.

KEY FEATURES

- economically sound choice;
- wide detection zone;
- CE marking;
- modifications produced:
- extended temperature range;
- frequency $10,525 \pm 0,05$ GHz.



FMW-3

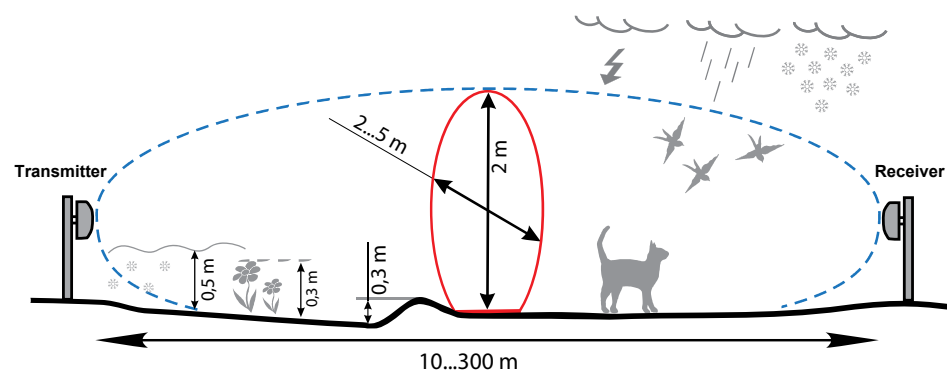


FMW-3/1



FMW-3/2

	FMW-3	FMW-3 (200)	FMW-3/1	FMW-3/2
RANGE	10...300 m	10...200 m	10...100 m	10...50 m
PATTERN WIDTH AT THE MAXIMAL RANGE	up to 5 m	up to 4 m	up to 3 m	up to 2 m
PATTERN HEIGHT AT THE MAXIMAL RANGE	up to 1,8 m	up to 1,7 m	up to 1,6 m	up to 1,4 m
OPERATIONAL FREQUENCY	$9,375 \pm 0,05$ GHz			
POWER SUPPLY VOLTAGE	9...30 V DC			
OPERATIONAL TEMPERATURE RANGE	$-40...+85^{\circ}\text{C}$			



DESCRIPTION

The sensors provide a volumetric detection zone generated by the transceiver and alarm on intruder moving within the invisible pattern of microwave energy.

PURPOSE

Protection of grounds and perimeters of different objects like airports, industrial and military facilities, car parking, building ground, etc. The sensors are used on objects economically unsound or technically impossible for bi-static equipment.

KEY FEATURES

- division into 12 cross-cut sub-bands allows to:
- adjust every cross-cut sub-band separately in order to decrease the interference influence;
- disconnect any cross-cut sub-band in order to organize free movement through the protected zone;
- increased interference immunity to transport and people moving outside the detection zone;
- immunity to small animals and birds;
- «Antimasking» function for protection from sabotage;
- free software allows to adjust the sensor remotely using the serial interface RS-485;
- CE marking;
- connection to FORTEZA-COMPLEX via serial interface RS-485.

Microwave Mono-static sensors FM-60 (V,C,F), FM-30, FM-100(24), FM-60(24), FM-30(24)



FM-30

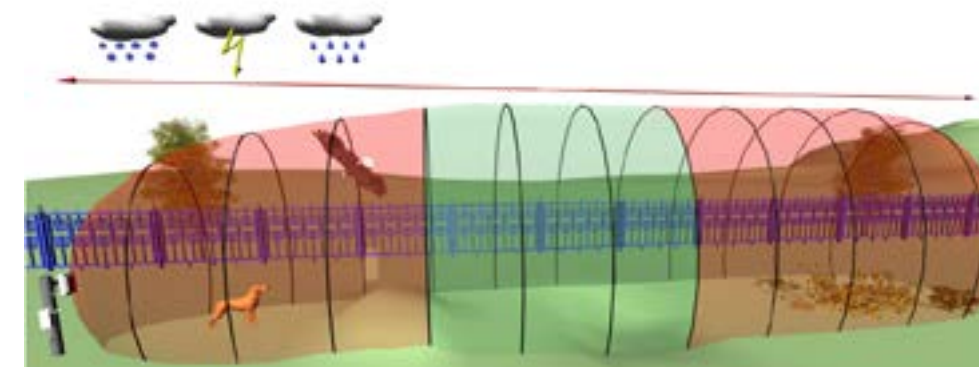


FM-60 (-C,-V,-F)



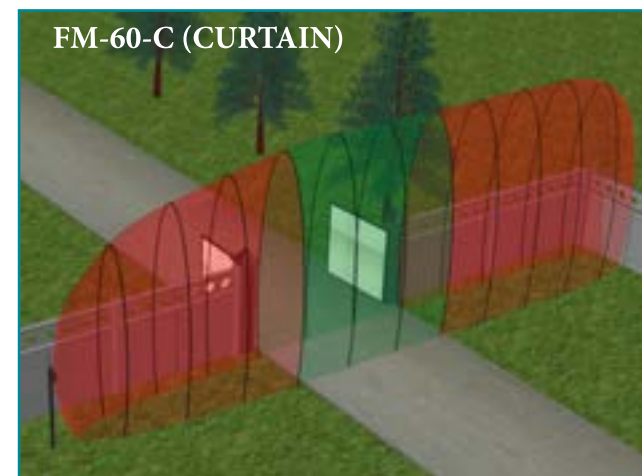
FM-100

	FM-30	FM-60-V	FM-60-C	FM-60-F	FM-30(24)	FM-60(24)	FM100(24)
DETECTION ZONE TYPE	Volume	Volume	Curtain	Fan	Volume	Curtain	Curtain
RANGE	2,5...30 m	60 m	60 m	60 m	2,5...30 m	5...60 m	8...96 m
PATTERN WIDTH IN THE CENTER AT THE MAXIMAL RANGE	up to 5 m	up to 15 m	up to 2 m	up to 25 m	up to 12 m	up to 1 m	up to 2 m
PATTERN HEIGHT	up to 4 m	up to 15 m	up to 20 m	up to 2 m	up to 8 m	up to 8 m	up to 8 m
OPERATIONAL FREQUENCY	9,375 ± 0,05 GHz				24,15 ± 0,1 GHz		
POWER SUPPLY VOLTAGE	9...30 V DC						
OPERATIONAL TEMPERATURE RANGE	-50...+85°C						



Protection of gates

FM-60-C (CURTAIN)

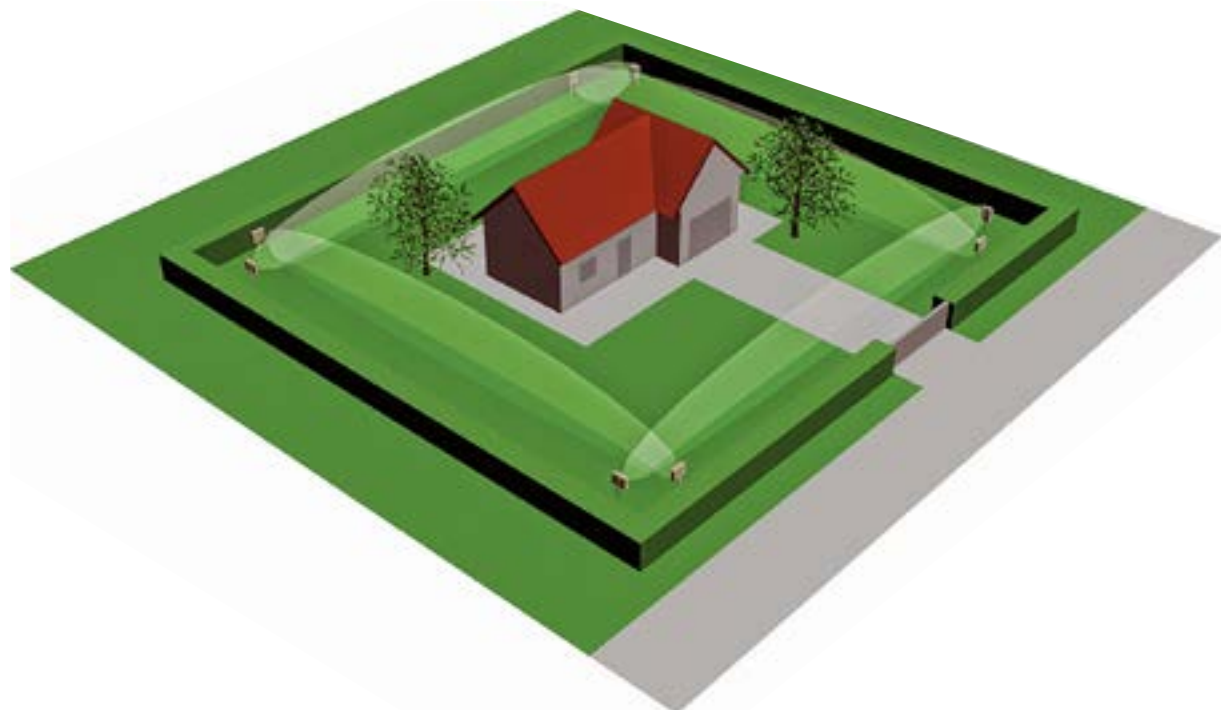


Protection of windows

FM-60-C (CURTAIN)



Colours: red – protected zones, green – unprotected zones



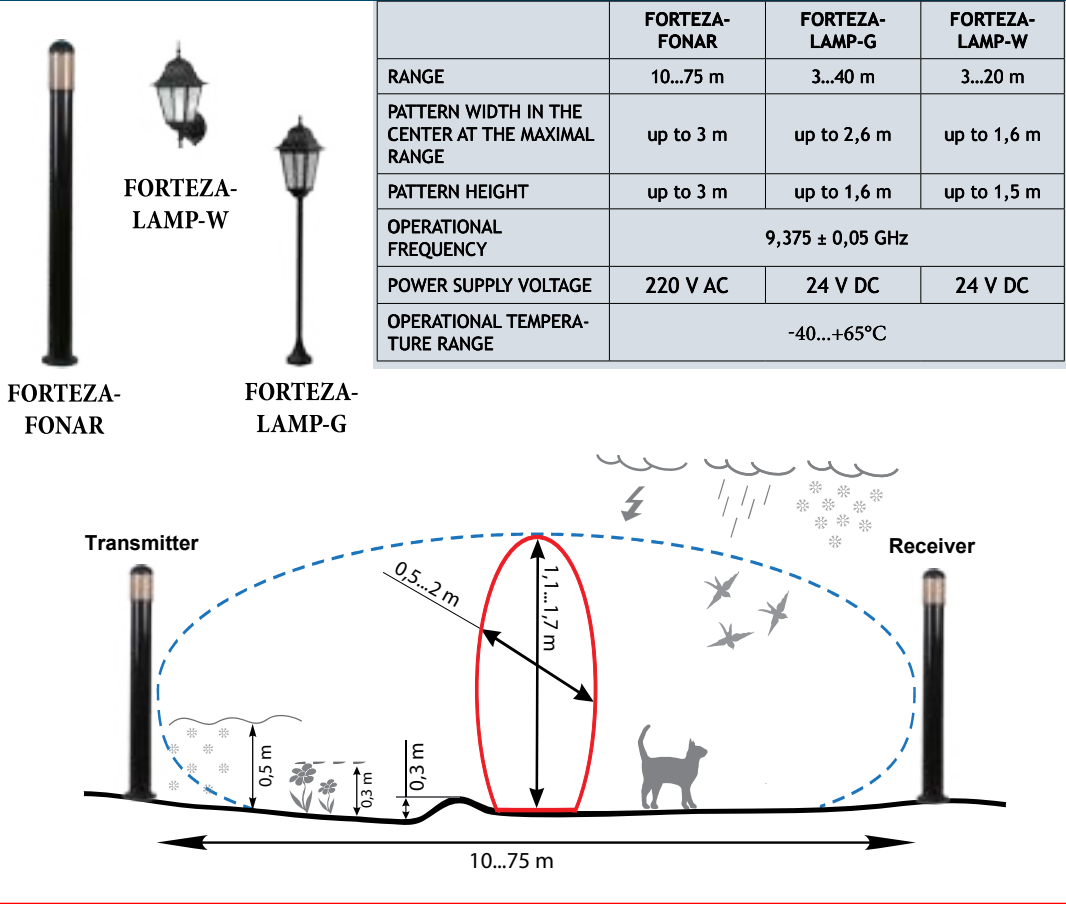
Bi-static sensors hidden into park lamps
FORTEZA-FONAR, FORTEZA-LAMP

DESCRIPTION
The sensors provide a volumetric detection zone generated between the transmitter and the receiver and alarm on intruder moving within the invisible pattern of microwave energy.

PURPOSE
Protection of perimeters of cottages, administrative buildings, educational establishments, embassies and other objects with high requirements to the territory design and the alarm system secrecy.

KEY FEATURES
- attractive appearance. The sensor fits well into the territory design of most objects;
- the sensor does not look like the alarm system;
- combine protection and lighting functions.

NOTE
The sensors FORTEZA-FONAR, FORTEZA-LAMP-G are installed on the ground.
The sensors FORTEZA-LAMP-W are installed on the wall.

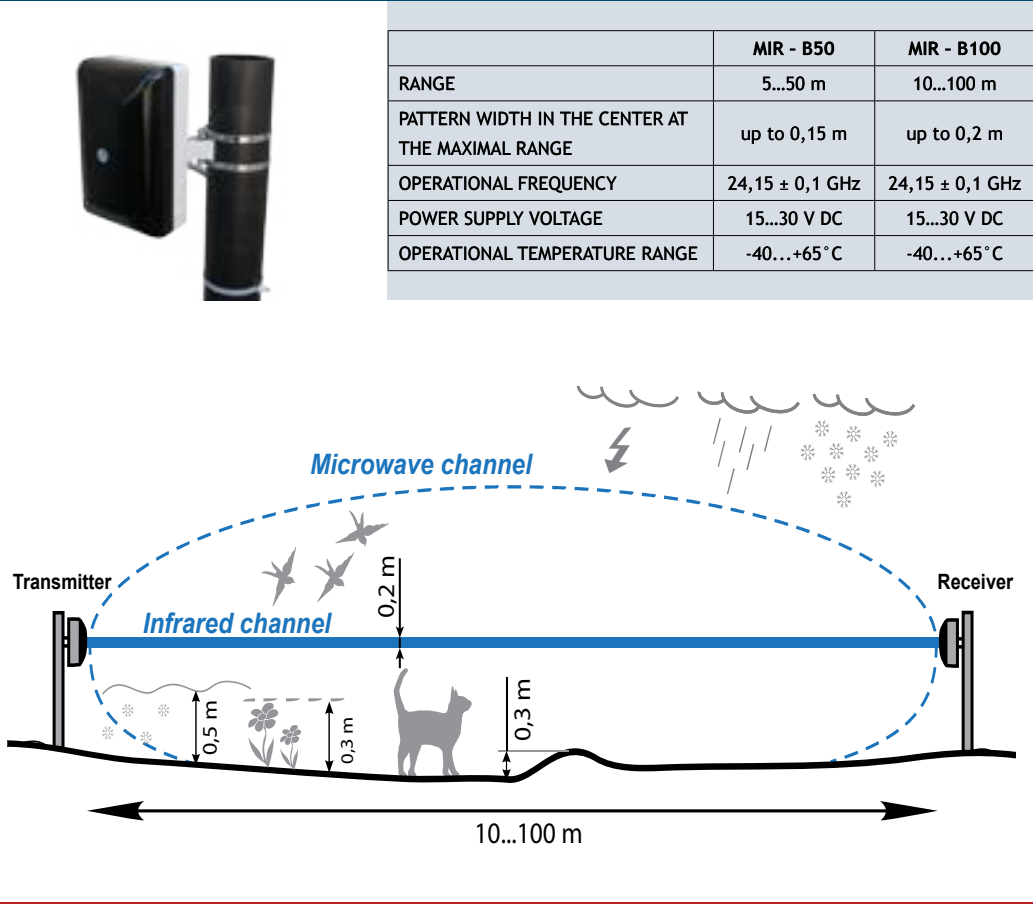


DESCRIPTION
The sensor combines two physical principles of detection - microwave and infrared and alarms on intruder crossing both channels.

PURPOSE
Protection of perimeters of different objects like airports, industrial and military facilities, car parking, building grounds with high requirement to different natural and artificial interference immunity and the protection of narrow sectors.

KEY FEATURES
- increased interference immunity thanks to two detection channels working on different physical principles;
- high immunity to environmental changes;
- no analogues;
- narrow detection zone allowing to extend the sensors field of application and to use the sensors in narrow passages, corridors and tunnels.

Dual Technology Bi-static sensors
MIR-B50, MIR-B100

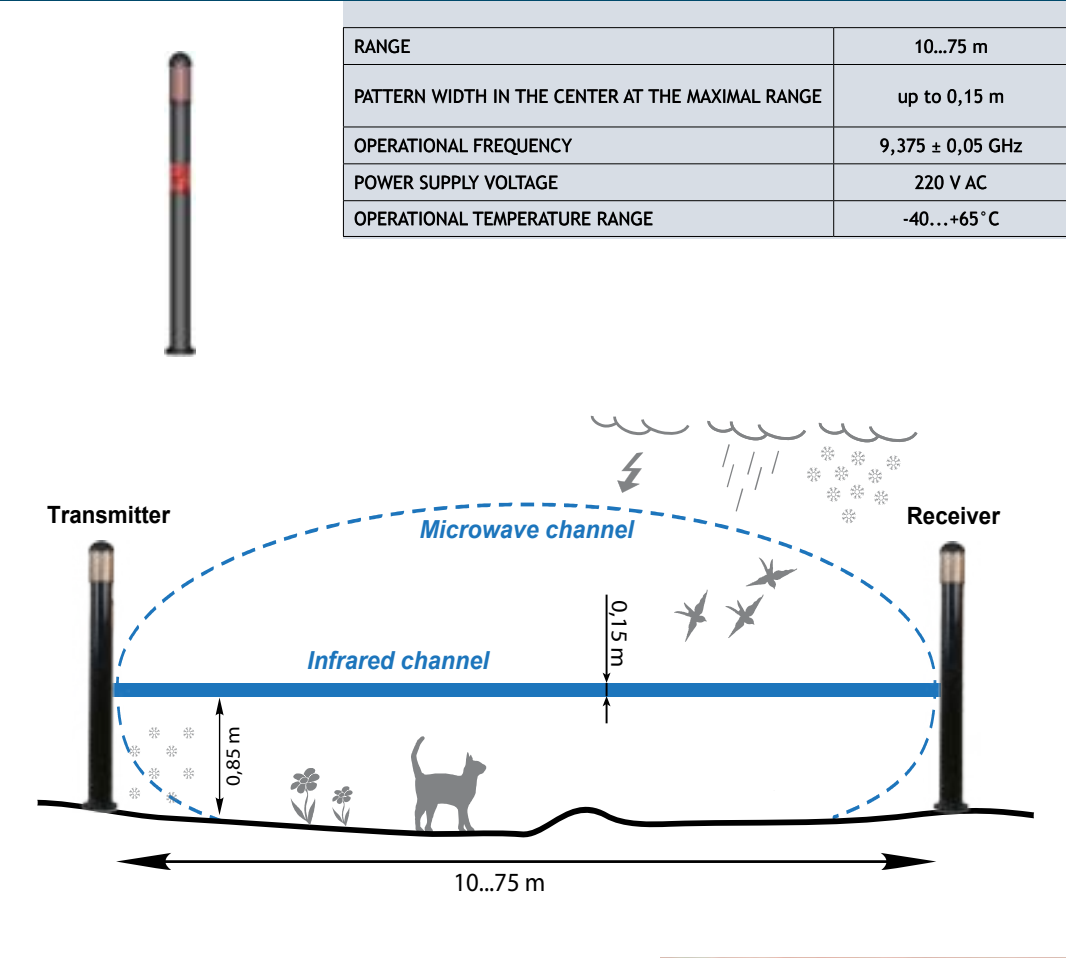


Dual Technology sensors hidden into park lamps
FORTEZA-FONAR-COMBI

DESCRIPTION
The sensor combines two physical principles of detection - microwave and infrared and alarm on intruder crossing both channels.

PURPOSE
Protection of perimeters of cottages, administrative buildings, educational establishments, embassies and other objects with high requirements to the territory design and in difficult interference conditions.

KEY FEATURES
- increased interference immunity thanks to two detection channels working on different physical principles;
- attractive appearance. The sensor fits well into the territory design of most objects;
- narrow detection zone allowing to extend the sensors field of application;
- the sensor does not look like the alarm system;
- combines protection and lighting functions.

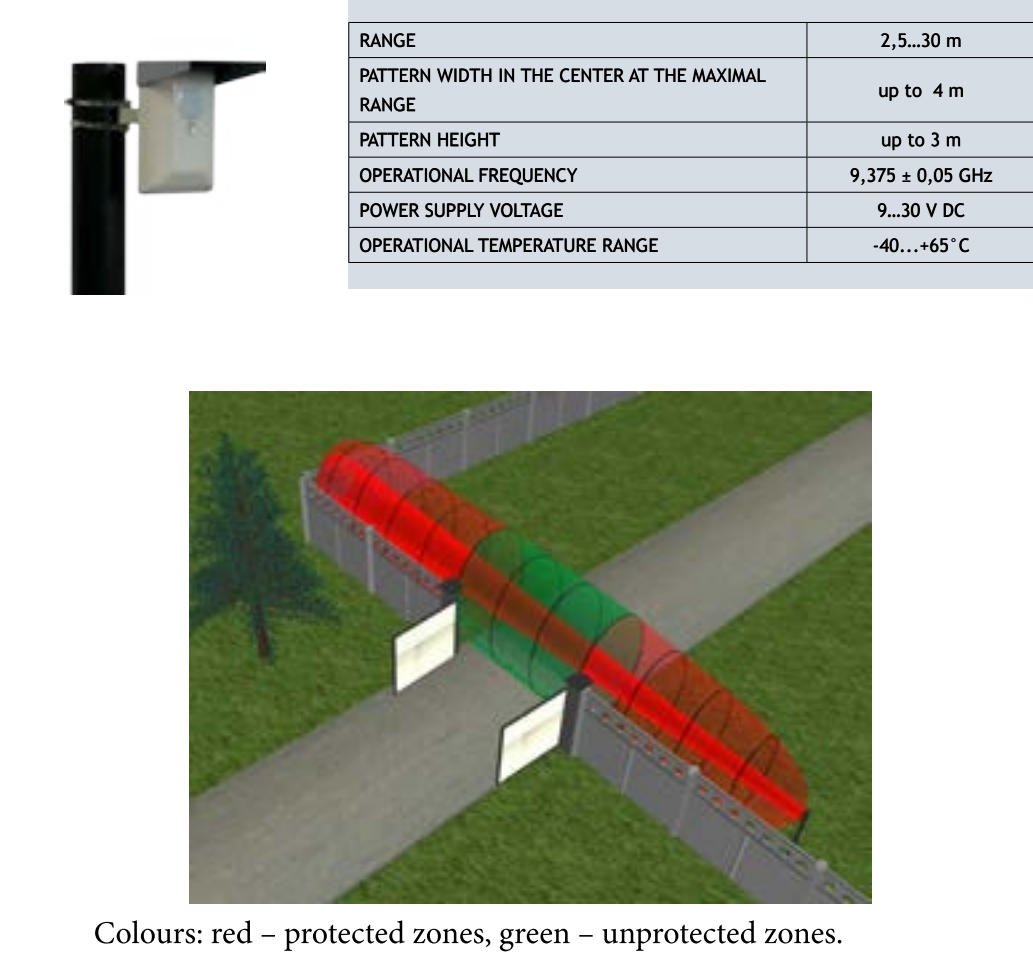


DESCRIPTION
Dual Technology Mono-static sensors for perimeter protection contain the transceiver of microwave and infrared channels. The sensors alarm on intruder simultaneous crossing microwave and infrared detection channels.

PURPOSE
Protection of perimeters of different objects like airports, industrial and military facilities, car parking, building grounds with high requirement to different natural and artificial interference immunity. The sensors are used on objects economically unsound or technically impossible for bi-static equipment.

KEY FEATURES
- the sensor excels the existing analogues in many specifications;
- increased interference immunity thanks to two detection channels working on different physical principles;
- division into 12 cross-cut sub-bands allows to:
- adjust every cross-cut sub-band separately in order to decrease the interference influence;
- disconnect any cross-cut sub-band in order to organize free movement through the protected zone;
- immunity to small animals and birds.

Dual Technology Mono-static sensors
MIR-M30

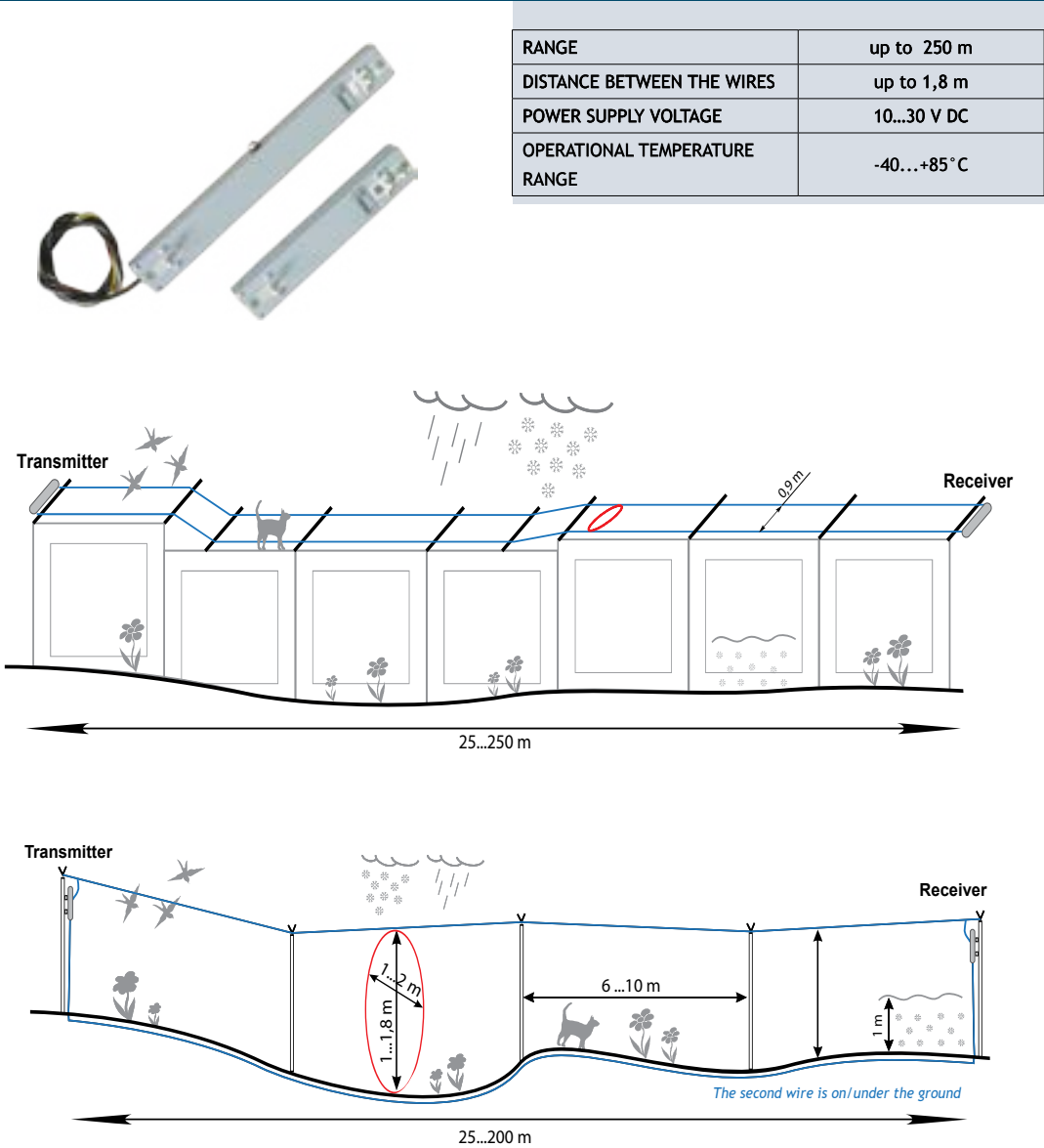


Colours: red – protected zones, green – unprotected zones.

DESCRIPTION
The sensor detection zone is generated between two wires and follows the perimeter configuration. The sensor alarms on intruder moving between the wires.

PURPOSE
Perimeter protection of different objects like industrial and military facilities, etc. The sensors are used on objects economically un-sound or technically impossible for microwave sensors, for example, in mountain area or when the perimeter consists of many short sectors.

- KEY FEATURES**
- two types of detection zone are possible: by the top of the fence or along the fence;
 - protection of perimeters of very difficult configuration;
 - compatible with different fence types;
 - modifications with extended temperature range;
 - remote control via serial interface RS-485 in case of connection to FORTEZA-COMPLEX.

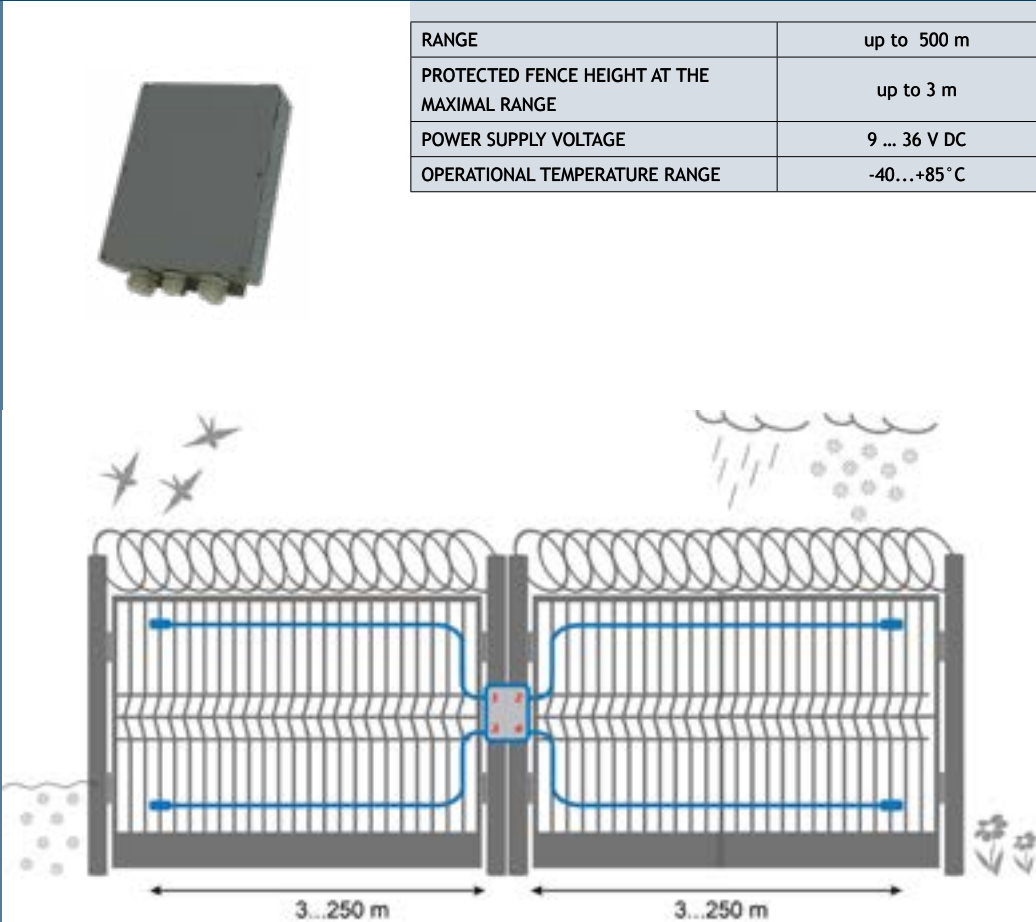


RANGE	up to 250 m
DISTANCE BETWEEN THE WIRES	up to 1,8 m
POWER SUPPLY VOLTAGE	10...30 V DC
OPERATIONAL TEMPERATURE RANGE	-40...+85°C

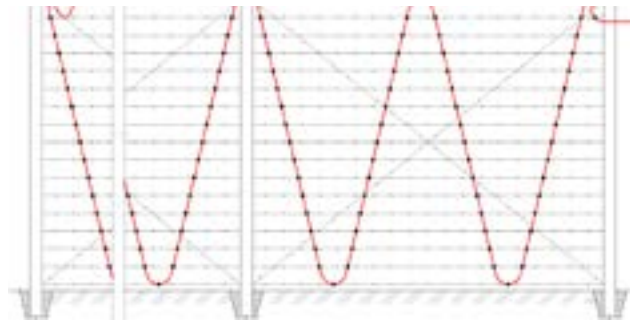
DESCRIPTION
Vibration sensors for the protection of different types of fences. Contain a sensing element fixed to the fence and a processing unit. Passive protection sensors alarm on intruder climbing over or destroying the fence.

PURPOSE
The protection of different types of physical fences from climbing over or destroying. Protection of perimeters of different objects like airports, industrial and military facilities, car parking, etc.

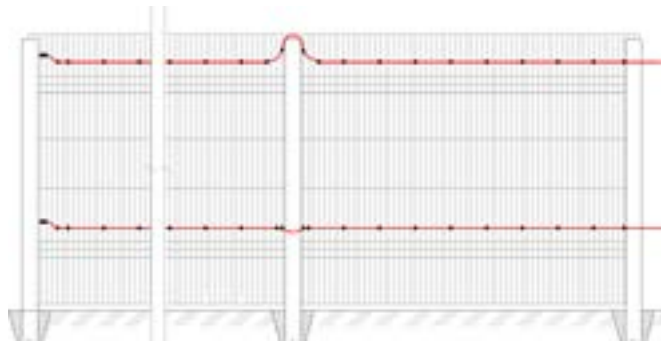
- KEY FEATURES**
- protection of perimeters of difficult configuration;
 - compatible with different fence types;
 - no additional elements for fixing the sensing element to the fence;
 - four sensing element 250 m long each can be connected to one processing unit;
 - control of the sensing element integrity;
 - software permits to adjust the sensor remotely via serial interface RS-485.



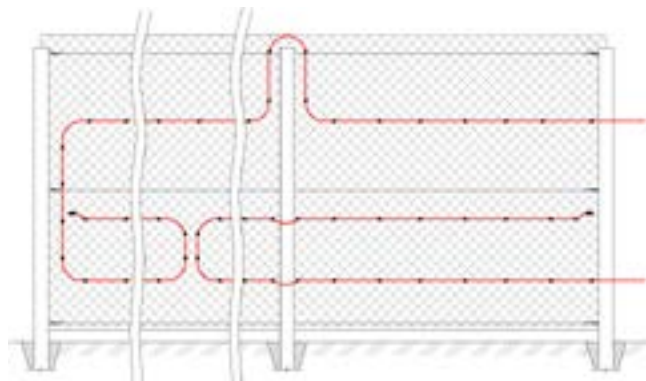
RANGE	up to 500 m
PROTECTED FENCE HEIGHT AT THE MAXIMAL RANGE	up to 3 m
POWER SUPPLY VOLTAGE	9 ... 36 V DC
OPERATIONAL TEMPERATURE RANGE	-40...+85°C



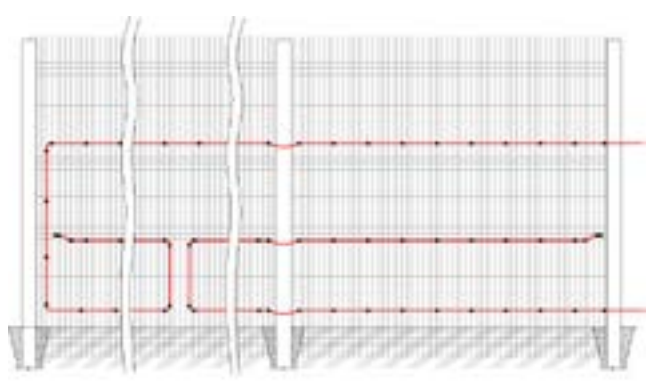
BY ZIGZAGS ON BARBED WIRE FENCE



IN TWO LINES ON WELDED MESH FENCE
(THE MOST PREFERABLE)



IN THREE LINES ON CHAIN-LINK FENCE



IN THREE LINES ON WELDED MESH FENCE

Quickly Deployable Microwave Complex FORTEZA-1000

Perimeter Security System FORTEZA-COMPLEX

DESCRIPTION

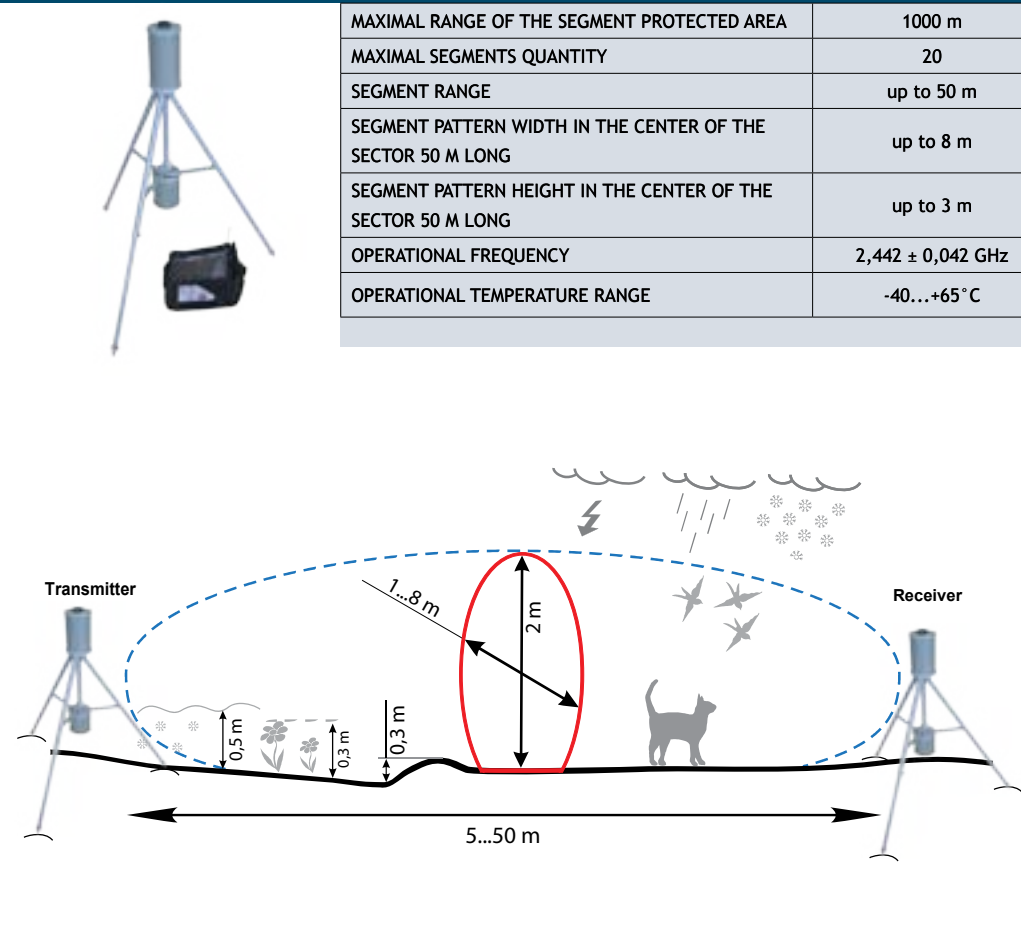
The complex has a segment protection zone. Each segment generates a volumetric detection zone between the transmitter and the receiver and alarms on intruder moving within the detection zone.

PURPOSE

Mobile protection of temporary objects like plane and helicopter parking, equipment stocks in transit terminals, building grounds, military and medical field camps, temporary surveillance over intruders' locations (terrorists).

KEY FEATURES:

- high mobility, small weight and dimensions. Three persons are enough to transport the complex;
- deployment time for the whole complex is up to 50 min.;
- no land use engineering before installation;
- the alarm is transmitted via radiochannel to the mobile alarm receiver;
- no mutual interference of complexes working near each other;
- maximal range is up to 1000 m (20 segments 50 m each);
- the complex can contain any number of segments from 1 to 20;
- alarm receiver operating range up to 1200 m from the protected area (up to 5000 m using the retransmitter);
- quick accumulators change;

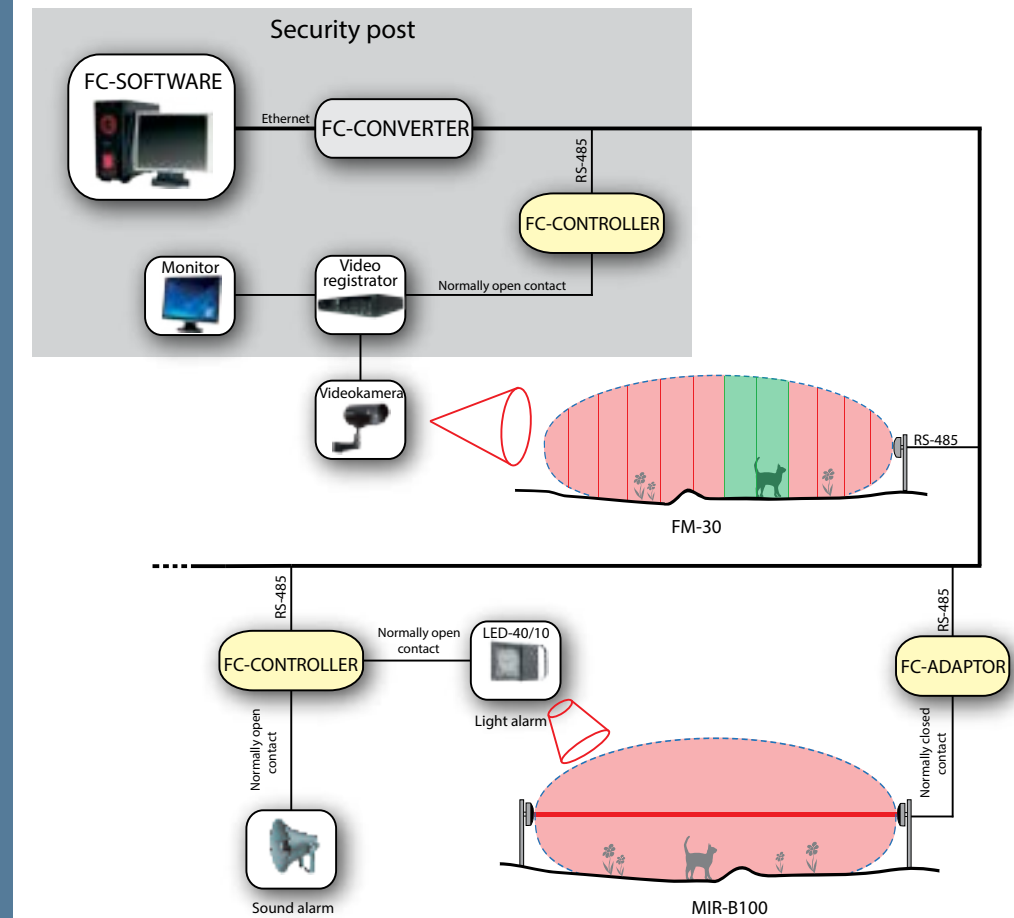


DESCRIPTION

Organization of centralized perimeter protection of small and medium objects.

KEY FEATURES:

- graphic display of the perimeter with protected zones;
- display of the sensors state and their remote control;
- recording and archiving of events;
- continuous remote control of the protection operability;
- possibility of integration with emergency lighting and video-surveillance;
- possibility to connect up to 128 devices (sensors).



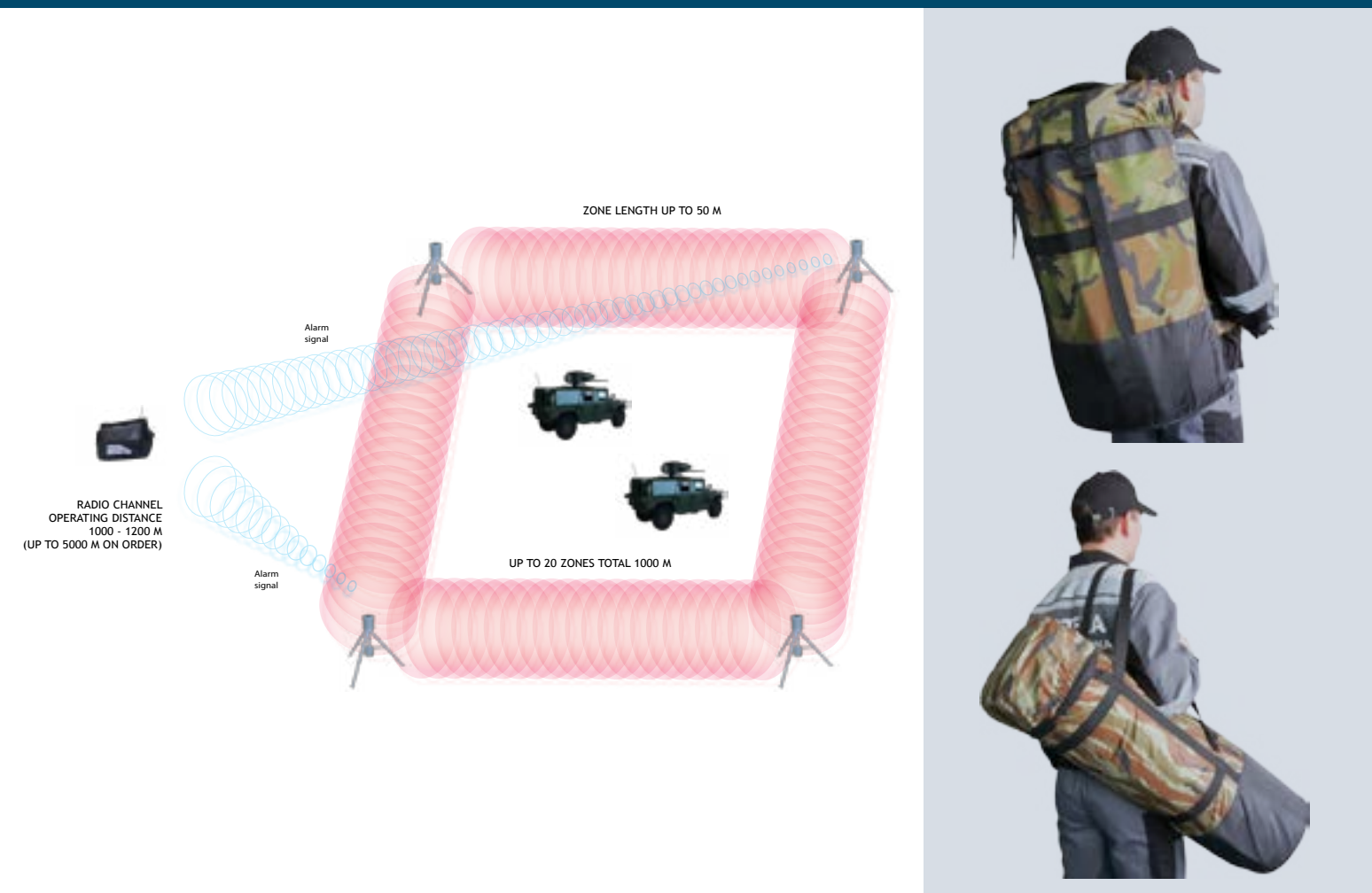
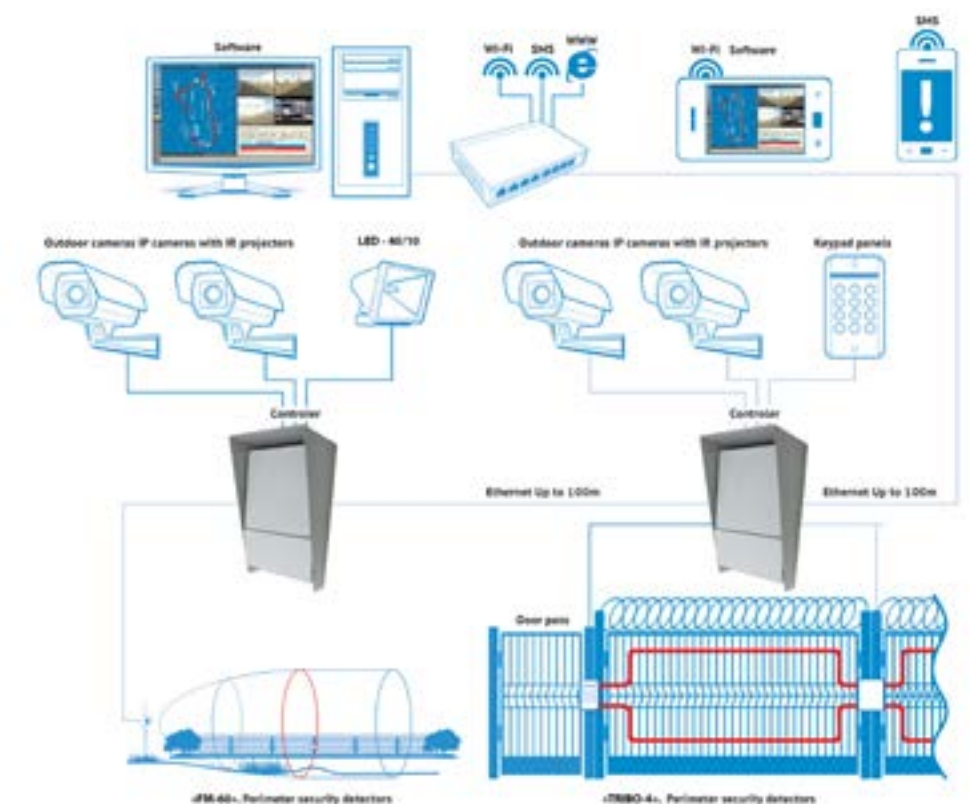
Perimeter Security System SECURITY-HOME

DESCRIPTION

Organization of protection of small perimeters like private houses and office buildings.

KEY FEATURES:

- possibility to watch live video from cameras;
- receiving and intellectual processing of alarms from perimeter sensors;
- PTZ camera pointing to the sector activated;
- system state monitoring with exact localization of failure.



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The catalogue contains advertising information. The sensors specifications can mismatch the real data. Kindly refer to User manual for the sensors exact specifications.

CIAS

PERIMETER PROTECTION

A WIDE RANGE OF PRODUCTS AND TECHNOLOGIES
FOR EVERY APPLICATION



CIAS RESERVES THE RIGHT TO CHANGE THE SPECIFICATIONS DESCRIBED IN THIS BROCHURE AT ANY TIME WITHOUT PRIOR NOTICE.

EXTREME SECURITY

V 4.1

SINCE 1974



ANALOGUE BARRIERS

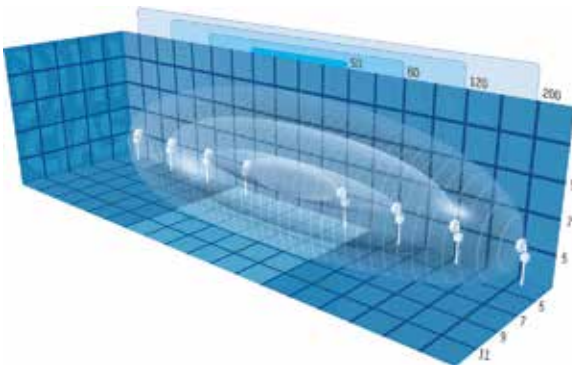
ERMO 482

ERMO 482 is the most seasoned microwave barrier in the CIAS family.

It is a analogue microwave barrier born in 1982 that has been certainly updated over the years but is still one of the most used and appreciated products for its strength, reliability and excellent balance between quality and price.

The product uses parabolic antennas of two types: 100mm for the 50m model and the 200mm for other available ranges: 80, 120 and 200m.

50 80 120 200 m



ERMUSA

The product ERMUSA is the smallest and cheapest microwave barrier of the CIAS family.

Renovated with new and better performing planar antennas make it ideal for the protection of short range (30m) and also intermediate (60m and 80m).

This renewal makes it even more useful and versatile for the protection of large corridors, balconies, houses, gallery, facades, so ideal for short, medium and long perimeters.

30 60 80 m



NEWTON PLUS

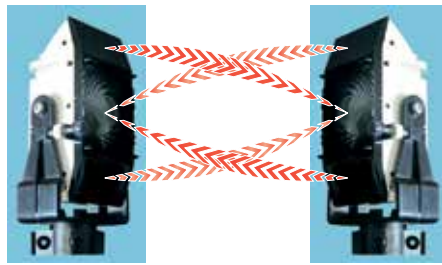
NEWTON PLUS is an active infrared barrier with hybrid IR beams that uses the d.i.s. 100hz technology (double interlaced scanning). Each cell integrates the dual function of transmitter and receiver.

The double controlled A.G.C. enables compensation for variations in the incoming signal to ensure uninterrupted operation of the barrier. This processing of the signal is performed based on a time curve that differentiates exterior phenomena (weather or others) from real intrusion attempts and thereby significantly reduces the number of false alarms.

50 100 200 m



HYBRID FUNCTION (TX+RX) OF THE OPTICS



Detection logic

Detection is carried out by two adjacent beams avoiding the gap of no-detection typical of the traditional infrared barriers. The lower beam can be configured in time-delayed single-detection mode in order to detect possible intrusions by crawling.

NEWTON LIGHT

Active infrared barriers with triple optics and ranges up to 200m.

The product is provided with two different versions: stand-alone for a quick and simple installation or kit for tower mounting.

A special filter for sunlight protection allows the barrier to function well even with direct illumination up to 50.000 lux; a set of micrometer screws, display and buzzer on board allow the installer to make settings and easy adjustments with a very high precision.

It is possible to select up to 8 different frequencies for multiple mounting and at the same time adjust the interruption time between 50 and 250msec.

50 100 200 m



STAND-ALONE VERSION



KIT FOR TOWER MOUNTING VERSION



DIGITAL BARRIERS

ERMO 482X PRO 3.0

Digital microwave barrier with digital signal analysis for ranges of 50, 80, 120, 200, 250 and 500m.

The internal microprocessor uses Fuzzy logic to analyse the received signal giving very high performance in detection probability and low false alarm rates.



Digital analysis using Fuzzy logic - FBM

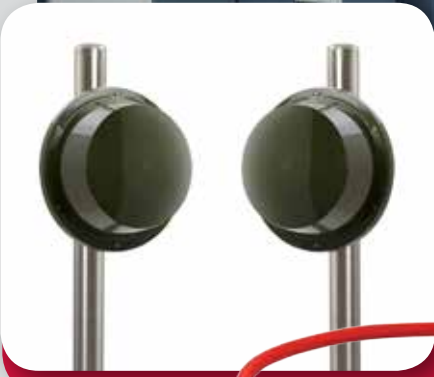
ERMO 482X PRO 3.0 monitors the signal, comparing it with behaviour models using algorithms based on "Fuzzy" logic (fuzzy behaviour models - FBM) to decide if the signal was created by a real intruder or some other factor. The size, shape and rate of change of the signal are continuously measured and compared with typical stored signals.

The sensor is able to detect intruders walking, running, crawling or rolling. Every event that generates an alarm or a significant change in the received signal is date/ time stamped and stored in memory and can be analysed in real time and/or later thanks to the WAVE-TEST2 software.

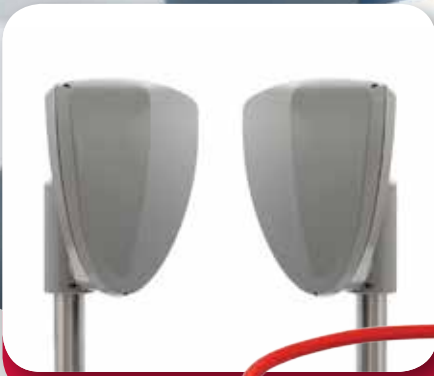
CORAL PLUS

Coral Plus is a digital microwave barrier for protections up to 220 m. It makes easy and quick the installation phases keeping a quality level significantly above average.

It's innovative design ensures the best environmental impact thanks to the integrated junction box and internal cable pass age completely protected.



ERMO 482X PRO 3.0
up to 500 m



CORAL PLUS
100, 220 m



MURENA PLUS
12, 24 m (12 m Curtain)



PYTHAGORAS 3T
100, 160 m



MANTA
50, 80 m



The orientable bracket gives the possibility to have the wiring completely hidden inside making all the installation procedures easy and fast too.

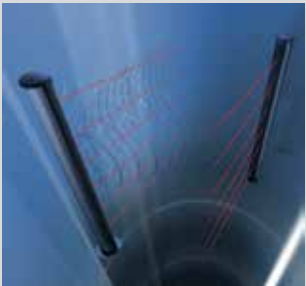


PYTHAGORAS 3T

Pythagoras 3T is an intelligent barrier designed with multiple technology and based on digital signal analysis, available for ranges up to 160m. The different technologies used allow the barrier to adapt to the size of the corridor to be protected, avoiding disturbances from fences or vegetation and eliminating the limits that the various technologies used individually may have: these are usually climatic conditions for the infrared and the limited space available for the microwave.



BUILT IN
ANTI-CLIMBING KIT



MANTA

Manta is a digital microwave barrier for outdoor protection with range of 50 and 80m designed in order to satisfy the need of security of the residential and commercial applications. this barrier is providing the same very high detection performance, typically guaranteed by those devices such as the model ERMO 482X PRO 3.0 that is normally used to protect sites considered at very high risk.

The reliability of Manta, in ideal conditions, may provide 1 false alarm/per unit/per year thanks to its powerful dsp (digital signal processing) that works through special "fuzzy logic rules".

Easy to install

Coral Plus has been designed with particular attention to the practicalities of the installation with particular care to the structure and adjustment elements.

Sensitivity setting has been simplified providing 10 different selectable steps for 10 different reaction mode.

Coral Plus includes an on-board electronic system for the evaluation of the alignment accuracy, an integrated audible signal and a walk-test function.

MURENA PLUS

Murena Plus is a microwave digital dual doppler. This sensor was born to give a quality solution to all customers requiring the highest security performance together with the utmost ease of use. Murena can be remotely managed and its most distinguishing feature is the ability to calculate, through the phase variation analysis of its two different doppler emitted signals, dimension and position of the moving target.

All that valuable information from the signal are processed with "Fuzzy Logic" analysis, which is what enables Murena to distinguish between human intrusion and environmental or animal noise, far better than other products now on the market.

Moreover Murena is able to define the dimension of target to detect so avoiding unwanted false alarms when small animals or, to the extreme opposite, motor vehicles, get through.

COMMON FEATURES FOR ALL DIGITAL PRODUCTS

(ERMO 482XPRO 3.0, MANTA, CORAL PLUS, MURENA PLUS, PYTHAGORAS 3T)

FUZZY LOGIC



The microprocessor puts the different technologies in synergy with each other following "Fuzzy logic rules".

The signal received is analysed and compared with typical behaviour patterns, using algorithms that determine with precision the presence of an intruder.

The result is a very high detection performance and a small number of false alarms.

IP-DOORWAY



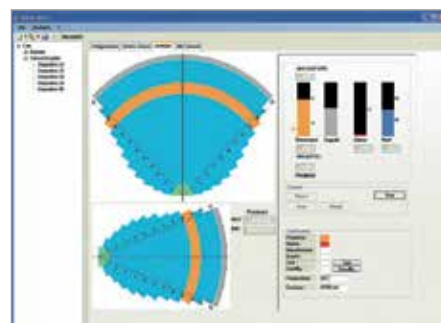
IP-Doorway is an interface designed to make all the CIAS digital detectors "IP-ready". Using the IP-Doorway, the barrier or sensor in which it is installed has all the elements of an "IP native detector".

With an ethernet CAT5E FTP cable it is possible to power the product while also remotely managing the alarm data and configuration.

It immediately becomes clear that there is a significant economic advantage to the installer as, using a single cable, means that almost anything can be implemented with ease.

The product can be powered using the PoE 802.3AF standard or by using a dc voltage of 13.8 Vdc, commonly used in intruder detection systems. Since IP-Doorway handles the TCP; UDP; HTTP; DHCP; ICMP; ARP; RARP protocols, it can be used for many different types of data management.

SOFTWARE WAVE-TEST2



WAVE-TEST2: universal software for setting up and maintenance for the whole range of microwave bistatic barriers and dopplers.

SPECIFICATIONS

ANALOGUE BARRIERS

ERMO 482



ANALOGUE



100% MICROWAVE

ERMUSA



ANALOGUE



100% MICROWAVE

RANGE	50, 80, 120, 200 m	30, 60, 80 m
FREQUENCY	X-band certified in many countries and conforms to CE, USA and Canadian standards	X-band certified in many countries and conforms to CE standards
POWER SUPPLY	19Vac/13.8Vdc/24Vdc - (battery charger 13,8 Vdc)	13,8Vdc
TEMPERATURE	-35°C/+65°C	-35°C/+65°C
CHANNELS	4	4
OUTPUTS	ALARM, FAULT, TAMPER managed via relays	ALARM, FAULT, TAMPER managed via relays
IP GRADE	IP65	IP65

NEWTON LIGHT



NEWTON PLUS



RANGE	50, 100, 200m	50, 100, 200m
CHANNELS	8	4
ALIGNMENT	optic + buzzer + display	optic + buzzer
DISQUALIFICATION	yes	100 and 200m versions only
HEATERS	only on kits for tower mounting version	yes
POWER SUPPLY	12Vdc - 100mA	13,8 Vdc - 220 Vac (optional)
TEMPERATURE	-35°C/+65°C	-35°C/+65°C
RESPONSE TIME	adjustable from 50ms to 250ms	adjustable from 50ms to 800ms
SUN IMMUNE	special filter 50.000 lux	special hybrid filters
OUTPUTS	ALARM, FAULT, TAMPER managed via relays	ALARM, FAULT, TAMPER managed via relays
IP GRADE	IP55	IP55

ERMO 482X PRO 3.0

DIGITAL

6 YEAR WARRANTY

100% MICROWAVE

IP-READY PoE

FUZZY LOGIC INSIDE

MANTA

DIGITAL

6 YEAR WARRANTY

100% MICROWAVE

IP-READY PoE

FUZZY LOGIC INSIDE

RANGE	50, 80, 120, 200, 250, 500 m	50, 80 m
FREQUENCY	K/X-band certified in many countries and conforms to CE, USA and Canadian standards	X-band certified in many countries and conforms to CE standards
MODULATION CHANNELS	16 crystal controlled	16 crystal controlled
PROBABILITY OF DETECTION	99%	98%
FALSE ALARM RATE	1/unit/year	1/unit/year
TEMPERATURE	-40 °C / +70 °C	-35°C / +65°C
ALARM OUTPUTS	3 solid state relays for alarm, fault, tamper	3 solid state relays for alarm, fault, tamper
OUTPUTS	ALARM, FAULT, TAMPER managed via relays or RS-485. Over IP output available through IP-DOORWAY	ALARM, FAULT, TAMPER managed via relays or RS-485. Over IP output available through IP-DOORWAY
POWER SUPPLY	19Vac - 13.8Vdc, 24Vdc or PoE 802.3AF (using IP-Doorway)	13,8 Vdc or PoE 802.3AF (using IP-Doorway)
ALIGNMENT	incorporated audio-visual instrument with self-check	incorporated audio-visual instrument with self-check
SPECIAL	Software WAVE-TEST2 for remote maintenance	Software WAVE-TEST2 for remote maintenance
IP GRADE	IP66	IP65

PYTHAGORAS 3T

DIGITAL

2 YEAR WARRANTY

2/3TECH

IP-READY

FUZZY LOGIC INSIDE

CORAL PLUS

DIGITAL

6 YEAR WARRANTY

100% MICROWAVE

IP-READY PoE

RANGE	100, 160 m	100, 220 m
FREQUENCY	X-band certified in many countries and conforms to CE standards	X-band certified conforms to CE, USA and Canadian standards
TEMPERATURE	-35° C / +65° C	-35°C/+65°C
OUTPUTS	ALARM, FAULT, TAMPER managed via relays. Over IP output available through IP-DOORWAY	ALARM, FAULT, TAMPER managed via relays. Over IP output available through IP-DOORWAY
POWER SUPPLY	13,8 Vdc, 220 Vac	13,8 Vdc or 19 Vac, 24 Vdc (with optional Coral-power) or PoE 802.3AF (with optional IP-DOORWAY).
CHANNELS	16 microwave and 4 infrared	16 crystal controlled
ALIGNMENT	incorporated audio-visual instrument with self-check	incorporated audio-visual instrument with self-check
ANALISYS	AND, OR + 6 scenarios	10 configuration levels
CONFIGURATION	Software WAVE-TEST2 for remote maintenance	Software WAVE-TEST2 for remote maintenance
IP GRADE	IP55	IP65

MURENA PLUS

6 YEAR WARRANTY

100% MICROWAVE

FUZZY LOGIC INSIDE

DIGITAL

IP-READY PoE

RANGE	12, 24m (CURTAIN version 12mt also available)
TEMPERATURE	-40°C +65°C
FREQUENCY	X-band certified in many countries and conforms to CE, USA and Canadian standards
HORIZONTAL PLANE	90° (Murena 12) - 40° (Murena 24) - 20° (Murena Curtain)
VERTICAL PLANE	45° (Murena 12) - 20° (Murena 24) - 90° (Murena Curtain)
POWER SUPPLY	13,8 Vdc or PoE 802.3 AF (using IP-Doorway)
CONFIGURATION	Software WAVE-TEST2 for remote maintenance
OUTPUTS	ALARM, FAULT, TAMPER managed via relays. Over IP output available through IP-DOORWAY
IP GRADE	IP65