TETRA/TETRAPOL

RADIOCOM

GSM-R

DEHYDRATORS

Product Catalog 2017

Selecom

Commercial service contacts

Catherine FONTEZ
Sales Director
Phone : +33 4 68 05 73 38
+33 6 85 57 70 16
Email : cfontez@selecom.fr

Bruno KELLER
Sales engineer French
Phone : +33 4 68 05 73 22
+33 6 85 57 70 02
Email : bkeller@selecom.fr

Dominique DESOUSA
Technical commercial
Phone: +33 4 68 05 73 22
+33 6 85 57 70 26
Email : ddesousa@selecom.fr

Frédéric MANGIN
Sales Engineer
Africa / Asia / Europe / Middle East
Phone : +33 4 68 97 79 63
+33 6 85 57 70 27
Email : fmangin@selecom.fr

Florian THARIN
Sales Engineer
Africa / Latin America / Europe
Phone : +33 4 68 05 73 26
+33 6 85 57 70 09
Email : ftharin@selecom.fr

Rafael NAVARRO
Sales Engineer
Africa / Latin America / Europe
Phone : +34 93 202 78 03
+33 6 85 57 70 09
Email : rnavarro@selecom.es

CONTACTS
Commercial Service

Contact us :
commercial@selecom.fr

Follow us :

www.selecom.fr

SELECOM is a manufacturer of fixed or embedded electronic equipment for use in confined and severe environments for the mobile radio, critical communications and broadcasting markets worldwide.

With a multidisciplinary team composed of experienced engineers and technicians, SELECOM offers to its clients its expertise in:

✓ **Electronic design :**

- Analog electronic
- Digital electronic
- Power electronic
- Microwave

✓ **Mechanical design :**

- Indoor and Outdoor equipment
- Design of complete bays
- Turnkey systems design Indoor/Outdoor
- Microwave passive elements

✓ **Software development :**

- Microcontroller
- Signal processing
- Remote control

SELECOM mainly offers products wholly or partly designed, manufactured, documented in Prades (66 France).
Before being marketed, all products are thoroughly tested both internally and in external laboratories. This is done in order to guarantee their performance, their operational functioning and their total compliance with the standards in force.
All products comply with European CE standards

Product line :

- ✓ **Railway : GSM-R**
- ✓ **Secure communications : TETRA/TETRAPOL PMR - DMR - P25**
- ✓ **Cellular : GSM - UMTS – LTE**
- ✓ **Broadcast : Tv and FM**

Contents

TETRA/TETRAPOL RANGE

SELECOM offers **complete and integrated SOLUTIONS** for **TETRA network operators and ERP operators** (Public Receiving Establishment), to cover large areas such as shopping malls, exhibition halls, convention centers, confined as corridors of services, tunnels, underground car parks :

- **TETRA / TETRAPOL repeaters medium et high power,**
- **TETRA / TETRAPOL optical repeaters for tunnels and large infrastructures,**
- **Turnkey site.**

The repeater range conforms to the following standards :

– 380-385 MHz	390-395 MHz	**Sub-band 1**
– 385-390 MHz	395-400 MHz	
– 410-415 MHz	420-425 MHz	**Sub-band 2**
– 415-420 MHz	425-430 MHz	
– 450-455 MHz	460-465 MHz	**Sub-band 3**
– 455-460 MHz	465-470 MHz	

TYPICAL APPLICATIONS **:**

- **Oil industry,**
- **Transport,**
- **Business,**
- **Offshore,**
- **Security,**
- **Hobbies.**






TETRA/TETRAPOL Repeaters

RF-RF TETRAREP : Selective band repeater

Associated with antenna boosters, it can ensure important interior coverages such as multi-level car parks, buildings, shops, showrooms .....

The box version meets IP65 standards, so the TETRA / TETRAPOL RF / RF repeater can be installed indoor or outdoor and in the most challenging environments.
Its rack-mount version is exclusively for indoor installations.

Products :

- **Easy to install and compact**
- **Several power ranges available**
- **Choice of 230 Vac, 24 Vdc or 48 Vdc power supply**
- **Two types of mechanics available : rack 19'' or box**
- **Remote monitoring and control**

Typical applications

- ✓ **Confined area :**
  - **Underground parking,**
  - **Shopping malls,**
  - **Metro corridors,**
  - **Theaters**

Options

- ✓ **IHM** : This application allows to configure up to 4 filters. These filters are independently configurable in frequency, bandwidth and amplitude..
- ✓ **Booster:** Bi-directional amplifier, powered (DC 28 V) on the BS side by the coaxial. It is used to compensate for loss of distribution, and to considerably improve uplink sensitivity when it is placed closest to the coverage antenna.
- ✓ **Splitter** : Its role is to distribute the RF signal and 28VDC power supply (multiplexed). In each channel of the splitter, the power to the boosters is monitored. If a problem occurs, a 10.7MHz frequency generator will be activated and detected on the repeater which will indicate an alarm of the concerned booster.

For more information,
contact our sales department

DigiSeL : Selective channel repeater

NEW!

Designed for indoor or outdoor use (IP65), the repeater is available in :

✓ **Two types of mechanics :**

- Box version (Wall mounting, post or pylon),
- Rack version (19 " - 3U)

✓ **Three power ranges:**

- + 17 dBm,
- + 24 dBm,
- + 37 dBm

Frequencies & Powers

Uplink : 380 à 460 MHz
Downlink : 390 à 470 MHz
Adjustable channels from 12.5 KHz to 100 KHz
Gain: from +50 to + 90 dBm depending on model
Noise factor : ≤ 6 dB @ Gain max

Options

✓ Monitoring SNMP_HTTP
✓ AGC per channel and per time interval
✓ Silent mode (UL)

Mechanical & Electrical characteristics (outdoor version)

Supply voltage : 230 Vac ou 48 Vdc
Dimensions : 400 x500 x290 mm
Weight : 32 Kg
Connectors RF : N-Female
Protection class : IP 65
Range of temperatures : -25° à +50°

Filtering characteristics

Choice :

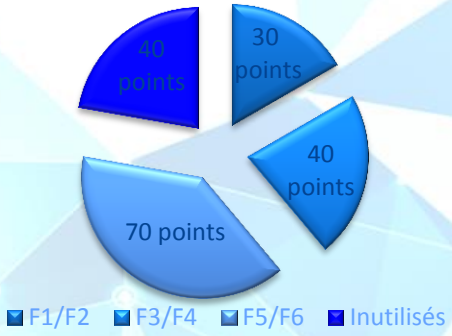
Fixed filters (180 points): Adjustable filter (s) in local or remote gain
Channels and Bandwidths configured as factory and modifiable on request of the user

Dynamic filters (120 points): Adjustable filter (s) in local or remote gain
Channels and Bandwidths configurable on-site and remotely by the user

Bandwidth	12,5 kHz	25 kHz	50 kHz	90 kHz
Consumption in points	10	15	20	35
Number of max fixed filters	18	12	9	4
Number of max dynamic filters	12	8	6	3
Group delay	45 µs	32 µs	25 µs	25 µs

Example of application on 6 different bandwidth filters:

- 25 kHz channel 1 — 15 points
- 25 kHz channel 2 — 15 points
- 50 kHz channel 3 — 20 points
- 50 kHz channel 4 — 20 points
- 90 kHz channel 2 — 35 points
- 90 kHz channel 2 — 35 points



TETRA Micro repeater

The installation needs a donor & coverage antenna system and a 230 Vac sock to connect the AC / DC adapter.

No skill is required as the device is completely Plug and Play with SAW filter and built-in limiter.

Ideal Solution for small spaces !

products :

- **Easy to install**
- **Design Compact**
- **Autonomous equipment**
- **Gain limiter**

Frequencies & Powers

Uplink : 380 à 460 MHz

Downlink : 390 à 470 MHz

Bandwidth : 5 MHz

Gain : 30 dB

Nominal output power :

1 carrier : + 10 dBm

2 carriers : + 7 dBm

3 / 4 carriers : + 4 dBm

8 carriers : + 1 dBm

Mechanical & Electrical characteristics

Power supply via integrated bias tee

Dimensions : 159 x235 x84 mm

Weight : 1.750 Kg

RF connectors : N-Female

Protection class : IP 34

Temperature range : -10° à +45°

Order reference

Ref Order	Designation
019 831-X	TETRA/TETRAPOL Micro Repeater +10dBm

Optirep_system 400 MHz

The **OPTIREP ™ _400 MHz system** is a flexible equipment allowing to envisage multiple combinations according to the specificities of each site.
Built in an IP65-compliant box, repeaters can be wall mounted indoors or outdoors and in the most challenging environments.

Its rack-mount version (3U or 5U) is exclusively for indoor installations so that it can be mechanically integrated into a 19 "rack.
Its low consumption makes it possible to use it with "solar panel" power supplies.

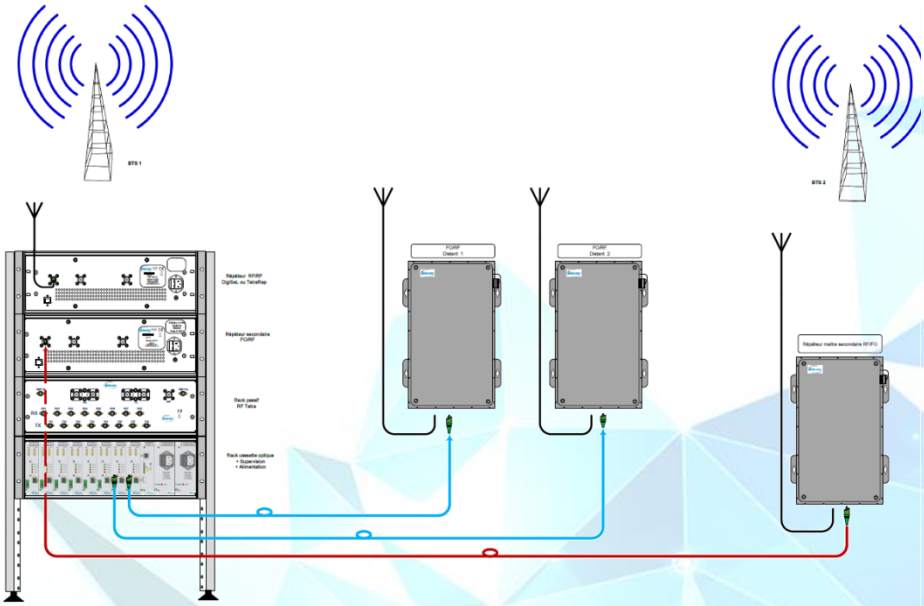
products :

- **Easy to install,**
- **Flexibility of the system as needed,**
- **Several available powers,**
- **Choice of 230 or 48 v power supply,**
- **Several concepts of redundancy,**
- **Configuration, monitoring and remote control (optional)**

Typical applications

- ✓ **Conference room**
- ✓ **Parking,**
- ✓ **Shopping centers**
- ✓ **Tunnel**
- ✓ **Isolated area**
- ✓ **Tertiary towers….**

Example of infrastructure



✓ Optical master (Network Head)

The **optical master** can be made as several racks depending on the signal source.

Two racks will be required for a BTS reception to which will be added a third rack within the framework of a reception through a donor antenna.

Options

- ✓ HTTP, SNMPv2 monitoring
- ✓ OMU Redundancy 1+1 : Automatic switchover in the event of failure of the fiber transmission system
- ✓ Power redundancy

Mechanical and electrical characteristics

Supply : 230 Vac ou 48 Vdc

Temperatures range : -10° à +50°

Cooling system : Forced

www.selecom.fr

Optical repetition system

✓ Optical repeater plate

The **optical repeater plate** has been designed to ensure high availability of TETRA radio continuity.

The equipment has two distinct functions:

- **Sampling + Optical repeater (Master)**
- **Remote optical repeater**

A power supply, a control and a single monitoring control the equipment in its entirety through a server of type HTML and SNMP and a panel of LED on the front.

Optical repeater plate

Optical repetition

Max power : +37 dBm

Loss of insertion main path : 0 ,5 dB

Connectors : N-Female

Repeater

Nominal output power +24 dBm @ 1 carrier

Optical GAG gain and RF limiter for nominal power

IP3 > +51 dBm

Connectors : N-Female

Optical characteristics

Wavelength : TX =1310 nm/RX = 1550 nm

Optical output power : +4 dBo ± 2 dB

Optical connector : SC/APC

Number of optical connectors : 2

RX and TX on the same fiber

Mechanical & Electrical Characteristics

Supply: 230 VAC ±15%/50 Hz

Power consumption : 80 W typ./0.4A

Dimensions : Rack 19'' x 3U X 452 mm

Weight: 11.5Kg

Protection class : IP 52

Temperatures range : -10° à +55°

Cooling: Forced convection

Order reference

Order Ref	Designation
023510	Optical repeater plate

✓ Redundancy Plate

The **TETRA Radio Redundancy drawer** has been developed in addition to the Repeat Optical to switch automatically or manually from a **TETRA radio coverage** nominal mode to a standby mode and thereby maintain the availability of a TETRA radio coverage when a BTS is out of service.

Mechanical & Electrical Characteristics

Supply : 230 Vac ±15%/50 Hz

Power consumption : 25 W typ./0.1A

Dimensions : Rack 19'' x 3U X 452 mm

Weight 6.1 Kg

Portection class : IP 52

Temperatures range : -10° à +55°

Natural cooling

Redundancy plate

Optical repetition

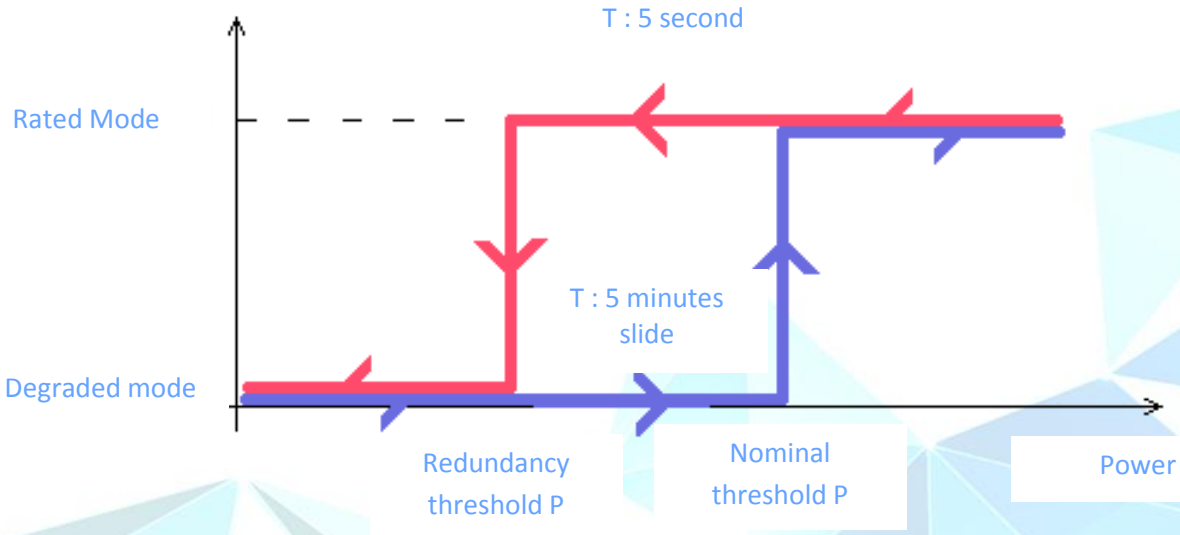
Max power : +37 dBm

Loss of insertion main path : 0 ,5 dB

Order reference

Order ref	Designation
023505	Redundancy plate

Example of Redundancy parameters



Antenna distribution system

Our antenna kits are designed to complete the **SELECOM** range of repeaters to improve indoor coverage in the 400 MHz frequency bands.
Thanks to the provided internal, external, directional or omnidirectional antennas, couplers, cable and mounting hardware, it is possible to meet the most complex requirements quickly and with ease.

Omnidirectionnal antennas (Coverage)

For small cells, they can be installed in suspended ceilings or in wall systems (pole antennas). They emit in all directions.

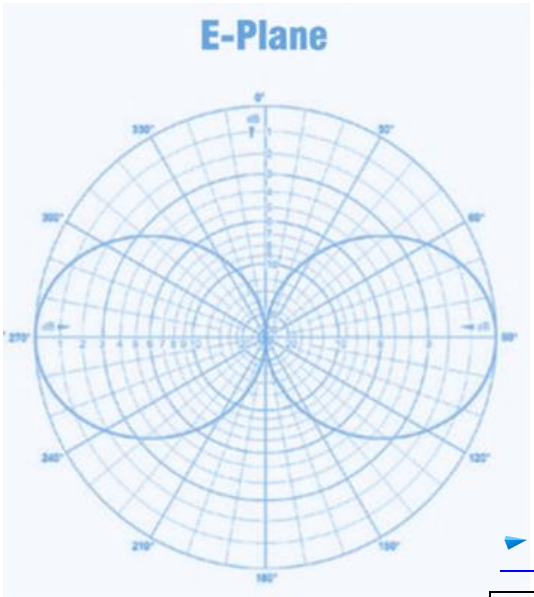
Frequency bands

380 MHz – 430 MHz

Technical characteristics

Use : Indoor
Impedance : 50 Ω
Polarization : Verticale
Gain: 2 dBi
VSWR: <2.0:1

Antenna diagram



Mechanical & electrical characteristics

Power supply : 50 W
Dimensions : Ø 231 mm/ h 81 mm
Connector : N-Female
Weight: 0.4 Kg

Order reference

Order ref	Designation
602 686	Indoor coverage antenna

Frequency bands

380 MHz – 430 MHz

420 MHz – 470 MHz

Technical characteristics

Use: Indoor ou outdoor

Impedance : 50 Ω

Polarization : Vertical

Opening : 360°

Gain : 5.15 dBi

Mechanical and electrical characteristics

Power supply : 75 W

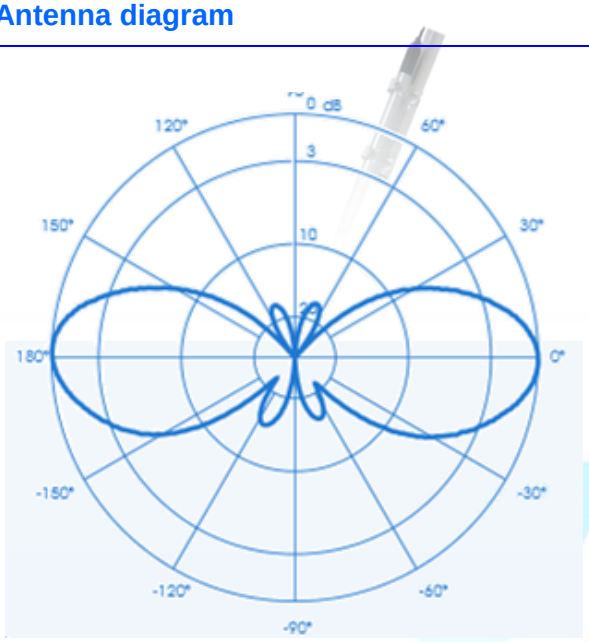
Heigh : 1 380 mm

Connector : N-Female

Temperature range : - 40°C à + 80°C

Weight : 1.215 Kg

Antenna diagram



Typical radiation in the band

Typical applications

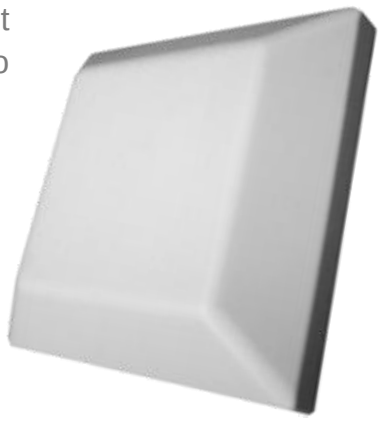
- ✓ **Administrative offices**
- ✓ **Airports**
- ✓ **Fire stations**
- ✓ **Shopping centers**
- ✓ **Car parks**
- ✓ **Conference room**

Order reference

Order ref.	Designation
602 918	380 MHz – 430 MHz
602 919	420 MHz – 470 MHz

Directionnal antennas (Coverage)

The directional Antennas (patch) flat, fine and light, light patch antennas are often wall mounted and easily blend into the background. This type of antenna emits in a defined axis.



Technical characteristics

Use : Indoor

Impedance : 50 Ω

Opening : Vertical 120°& horizontal 130°

Gain : 4 dBi

VSWR : <2.0:1

Frequency bands

380 MHz – 470 MHz

Mechanical and electrical characteristics

Power supply : 50 W

Dimensions : 300 mm x 320 mm x 140 mm

Connector : N-Female

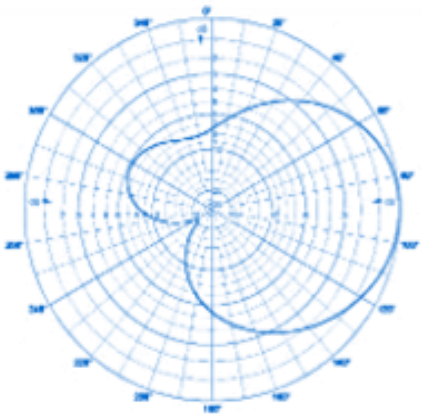
Weight : 0.4 Kg

products :

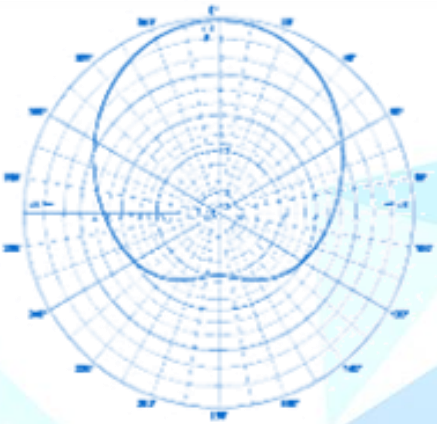
Its elegant design allows discrete installation in modern offices or hotel rooms.

Antenna diagram

E-PLANE



H-PLANE



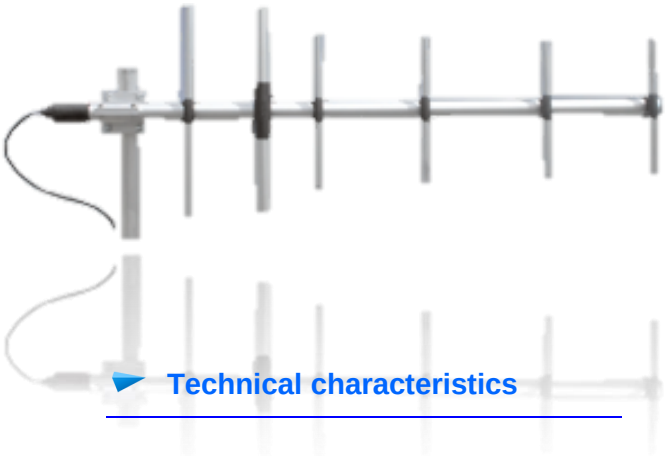
Order reference

Order ref	Designation
602 687	Panel antenna

Donor antennas

Frequency bands

380 MHz – 440 MHz
380 MHz – 470 MHz
400 MHz – 470 MHz



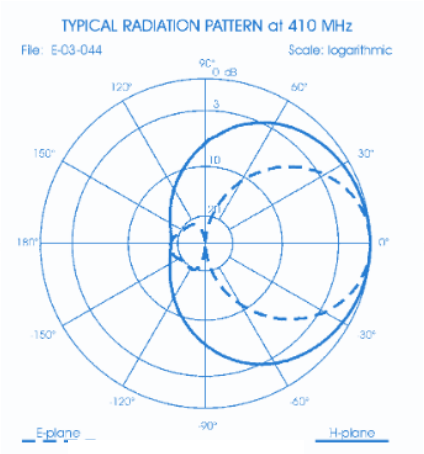
Mechanical and electrical characteristics

Power supply : 150 W max
Dimensions : 300 mm x 320 mm x 140 mm
Temperature range: - 40°C à + 60°C
Connector : N-Female

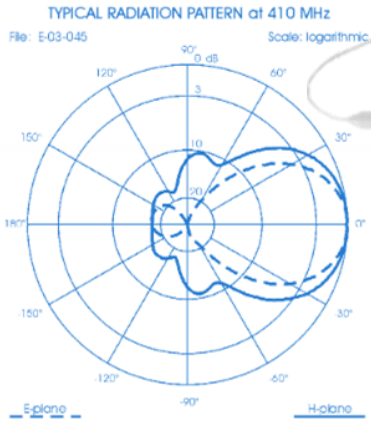
Technical characteristics

Use : Outdoor
Impedance : 50 Ω
Polarization : Verticale & horizontale
Gain : de 4.5 à 14 dBi selon modèle

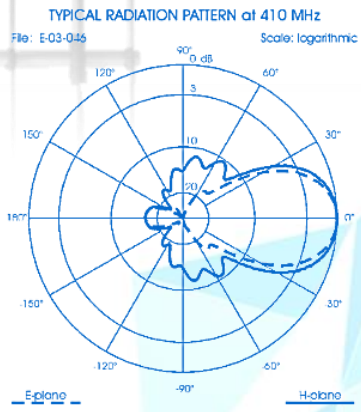
Antenna diagram



3 Elements



6 Elements



10 Elements

Order reference

Order reference		Frequency	Gain	Horizontal Polarization	Vertical Polarization
602 679	Dipole	380 – 470 MHz	4.5 dBi	200°	68°
602680	3 Elements	380 – 440 MHz	7 dBi	125°	65°
602681		400 – 470 MHz			
602682	6 Elements	380 – 440 MHz	11 dBi	70°	55°
602683		400 – 470 MHz			
602684	10 Elements	380 – 440 MHz	14 dBi	50°	45°
602685		400 – 470 MHz			

Passive Products

Indoor/outdoor splitters

In order to adapt to any configuration, our range of indoor couplers is available in three versions:
The symmetrical splitters allow an identical distribution of the signal towards two or more antenna systems,
The asymmetric splitters allow an unequal distribution of the signal towards antenna systems,
The directional splitters allow to couple two signals (even when they have different frequencies bands) before separating them identically to an antenna system.

✓ Indoor symmetrical splitters

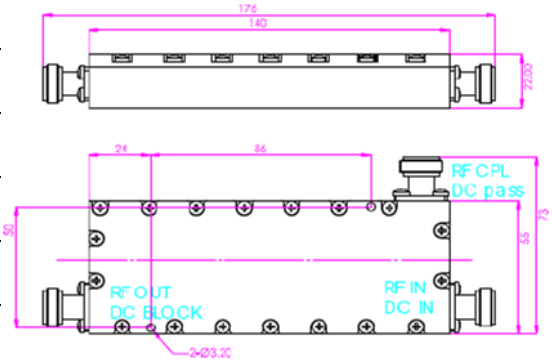
Frequency bands		***100 – 500 MHz***	
Type	1/2-1/2	1/3-1/3-1/3	3x1/4
Division report	3.01 dB	4.8 dB	6 dB
Insertion Loss	≤ 3.5 dB	≤ 5.8dB	≤ 7.0 dB
Connectors		N_Female	
Power		100 W	
Operating temperature		-30°C/+70°C	
Dimensions	148x148x24 mm	264x185x23 mm	320x230x23 mm
Weight	0.82 kg	1.80 kg	2.60 kg

Order reference

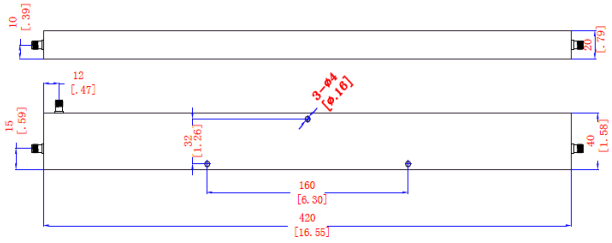
Order ref	Designation
602 670	Splitter 1/2-1/2
602671	Splitter 1/3-1/3-1/3
602672	Splitter 3x1/4

✓ Indoor asymmetric splitter

Frequency band	*380 – 520 MHz*
DC Pass	DC Block on an access 9/10
DC block	DC Pass on an access 1/10
Coupling	10.0 ± 1.0 dB
Insertion loss	≤ 1.0 dB
Connectors	N_Femelle
Power	200 W
Operating temperature	-25°C/+65°C
Dimensions	140x.55x22 mm
Weight	0.250 Kg



✓ Indoor directionnal splitter



Frequency bands	*140 - 2000 MHz*
Type	1/10 9/10
Insertion loss	≤ 1.0 dB
Connectors	N_Femelle
Power	20 W
Operating temperature	-20°C/+55°C
Dimensions	140x.55x22 mm
Weight	0.250 Kg

Order reference

Order ref	Designation
602 669	Indoor asymetric splitter
602678	Indoor directional splitter

✓ Outdoor symetrical splitter

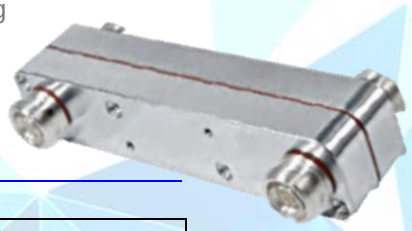
Frequency bands		*330– 2700 MHz*	
Type	1/2-1/2	1/3-1/3-1/3	4x1/4
Insertion loss	3.2 dB	≤ 5 dB	≤ 6.2 dB
Connectors		7-16 F	
Power		≤ 200 W	
Operating temperature		-40°C/+70°C	
Dimensions	85 x 85 x 139 mm	85 x 85 x 150 mm	85 x 85 x 150 mm
Weight	1 Kg	1.1Kg	1.2 Kg

Order reference

Order ref	Designation
501818	Splitter 1/2-1/2
501811	Splitter 1/3-1/3-1/3
501820	Splitter 3x1/4

✓ Outdoor asymetrical splitter

Frequency band		*380 - 1500 MHz* *1710 – 2700 MHz*		
Type	1/4-3/4	1/5-4/5	1/10-9/10	1/100-9/100
Insertion loss	Main way ≤1.25 dB Coupled way : 6 dB + 1 dB	Main way ≤ 1 dB Coupled way: 7 dB + 1 dB	Main way 0.5 dB Coupled way: 10 dB + 1 dB	Main way: 0.1 dB Coupled way: 20 dB - 1 dB/+2.5
Connectors		7-16 F		
Power		≤200 W		
Operating temperature		-40°C/+70°C		
Dimensions	38 x 60 x 161 mm		38 x 60 x141 mm	
Weight		0.5 Kg		



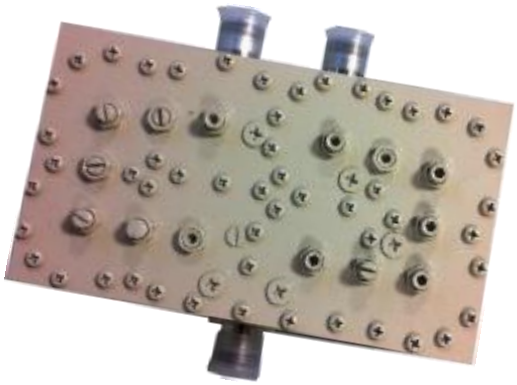
Order reference

Order ref	Designation
501831	Splitter 1/4-3/4
501832	Splitter 1/5-4/5
501825	Splitter 1/10-9/10
501826	Splitter 1/100-9/100

Diplexer

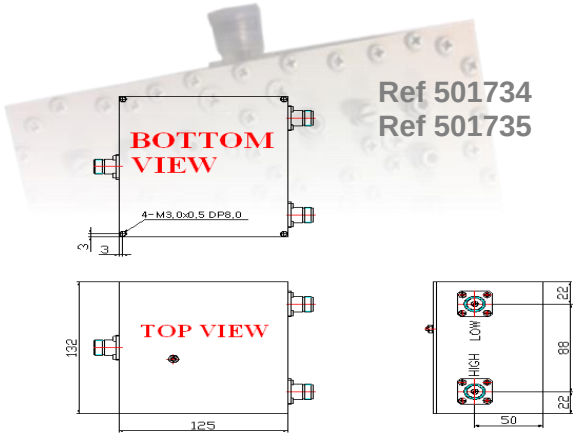
Central frequencies

390 – 420 MHz
390 – 460 MHz
420 – 460 MHz



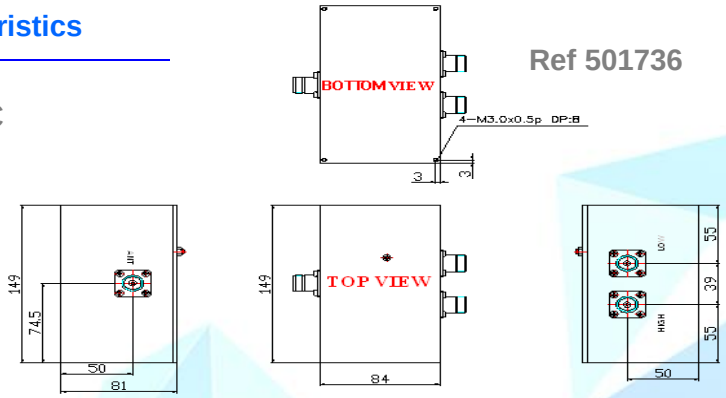
Technical characteristics

Use : Indoor
Input power : 20 W max
Insertion loss : 1.0 dB max
Return loss : 20 dB min
Ripple : 0.7 dB Max
Impedance : 50 Ω



Mechanical and electrical characteristics

Operating temperature : - 10°C/+60°C
Connector : N-Female



Order reference

Order ref	Central frequencies	Low frequencies	High frequencies
509734	320 – 460 MHz	410 – 430 MHz	450 -470 MHz
509735	390 – 420 MHz	380 – 400 MHz	410 -430 MHz
509736	390– 460 MHz	380 – 400 MHz	450 – 470 MHz

TETRA options

Booster

The booster is a bi-directional amplifier, powered (DC 28 V) side BS by the coaxial. It is used to compensate for distribution losses, and to considerably improve uplink sensitivity when the booster is placed closest to the coverage antenna.

Technical characteristics

Use : Indoor IP 34

Bandwidth : 5 MHz

Gain : 30 dB (Automatically adjustable according to the channels number)

Frequency bands

380 MHz – 470 MHz

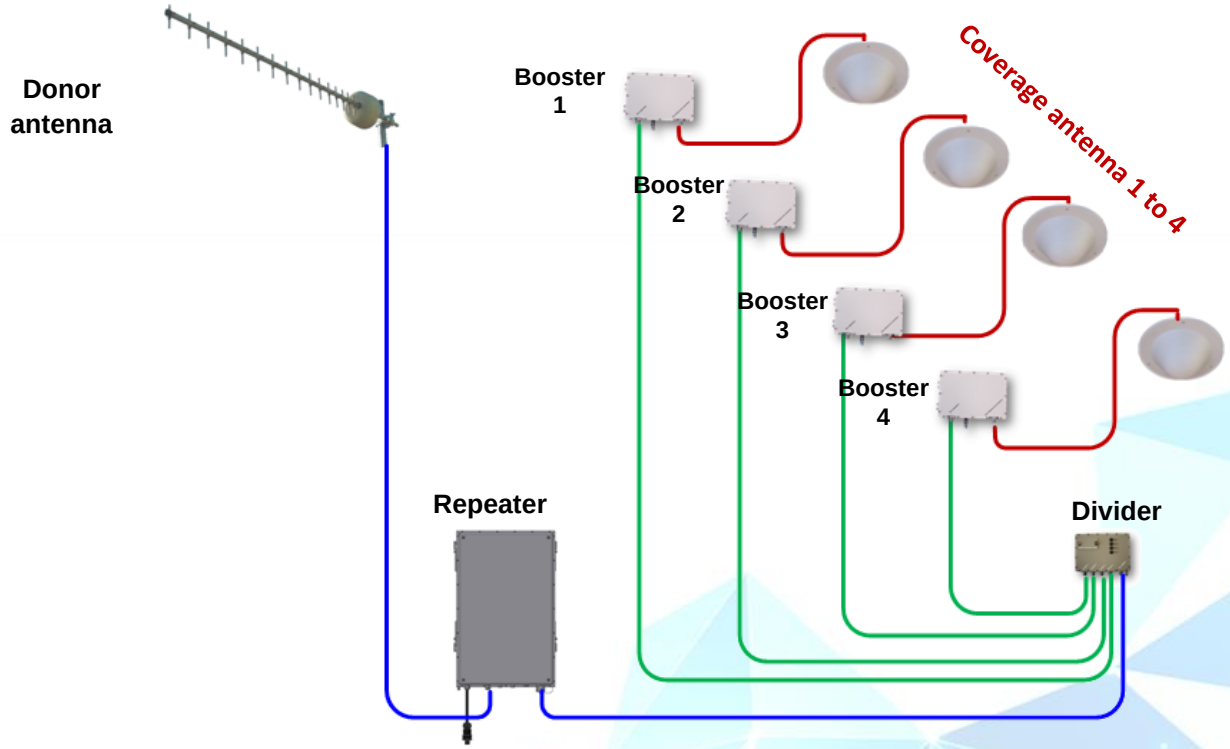
Mechanical and electrical characteristics

Consumpttion : 2 W max

Dimensions : 216 × 159 × 84 mm

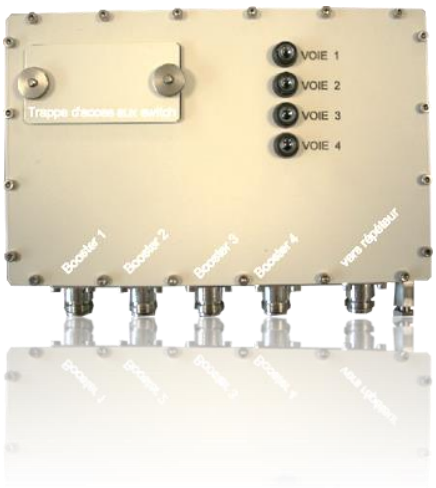
Weight : 1 Kg

Example infrastructure type



Order ref	Frequencies	Order Ref	Frequencies
019 830-38/40A	UL 380 - 385 MHz DL 390 - 395 MHz	019 830-41/43B	UL 415 - 420 MHz DL 425 - 430 MHz
019 830-38/40B	UL 385 - 390 MHz DL 395 - 400 MHz	019 830-45/47A	UL 450 - 455 MHz DL 460 - 465 MHz
019 830-41/43A	UL 410 - 415 MHz DL 420 - 425 MHz	019 830-45/47B	UL 455 - 460 MHz DL 465 - 470 MHz

Splitter



Its role is to distribute the RF signal and the 28VDC power supply (multiplexed). In each channel of the splitter, the power to the boosters is monitored. If a problem occurs, a 10.7MHz frequency generator will be activated and detected on the repeater which will indicate an alarm of the concerned booster.

Frequency bands

380 MHz – 470 MHz

Technical characteristics

Use : Indoor IP 34

Number of way : 4 ways

Alarm towards the repeater : Monitoring the consumption of each booster by way

Mechanical and electrical characteristics

Supply : 24 to 30V coming from the repeater

Consumption : 30 W max

Dimensions : 216 mm x 168 mm x 67 mm

Temperature range : From 0°C to +45° C

Connector : N-Female

Order reference

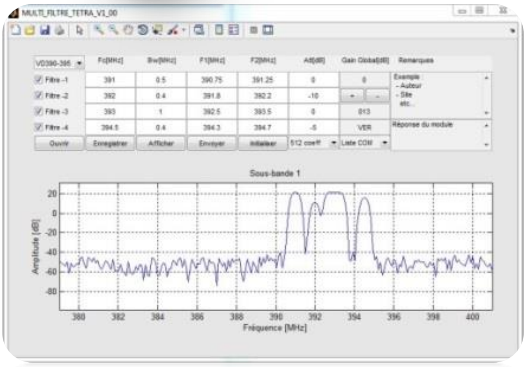
Order reference	Designation
019 905	Splitter 1 to 4

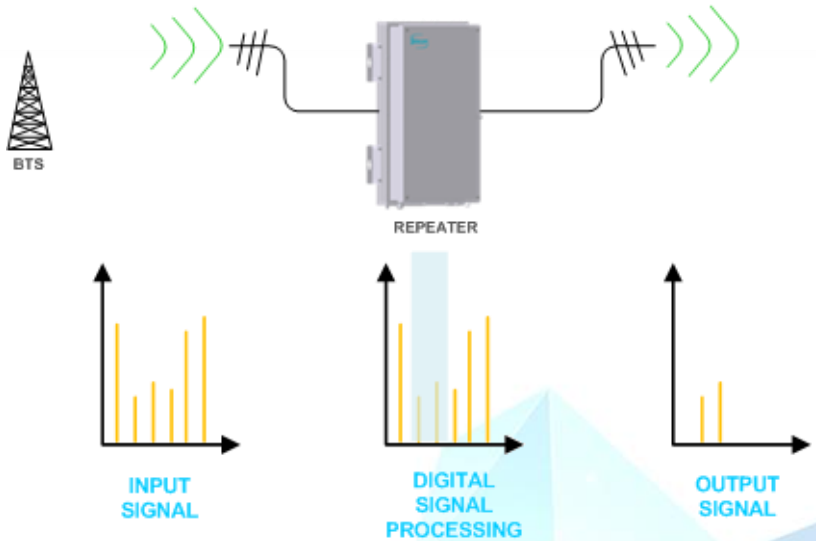
Digital filter

SELECOM TETRA / TETRAPOL repeaters can be equipped with a digital multi-filtering system. It is configurable thanks to a computer which using the MULTI_FILTRE_TETRA_V1_00 "HMI. This system allows you to configure several filters, which are independently adjustable in frequency, bandwidth and amplitude. Additional features: in progress (cmd DSG).

products :

- **Set the overall gain from -10 to +10 dB,**
- **Ask and see module reply**
- **Annotate**
- **Save and replay an IHM configuration**
- **Choice the coefficients number according to the design.**





RADIOCOM RANGE

SELECOM offers a full range of repeaters for cellular telephony :

- GSM 2G Repeater
- UMTS 3G Repeater
- LTE 4G Repeater
- DAS (Distribution Antenna System) 2G, 3G, 4G
- 800 MHz, 900 MHz, 1800 MHz, 2100 MHz, 2600 MHz Repeater
- Power : Micro-repeater, Medium Power repeater and High Power repeater
- Technologies : RF/RF repeaters, RF/FO repeaters

Supervision: serial link, SMS, IP, OMC, cloud-monitoring

The **DIGIREP®** digital repeater range **is compatible with all GSM 2G, UMTS 3G**, **LTE 4G,** and frequency ranges:

	Bands	Uplink	Downlink
Standard ETSI	800	832-862 MHz	791-821 MHz
	900	880-915 MHz	925-960 MHz
	1800	1710-1785 MHz	1805-1880 MHz
	2100	1920-1980 MHz	2110-2170 MHz
	2600	2500-2570 MHz	2620-2690 MHz

Typical applications **:**

- **Industry,**
- **Underground parking,**
- **Isolated area**
- **Hobbies,**
- **Tunnel**






RF/RF repeater

Repeater Digirep® Single band

Smart product, with easy and automatic settings for commissioning of installations and remote configuration changes.

Frequencies & Powers

Available on frequencies: 800/900/1800/2100/2600 MHz

Gain: Adjustable from 60 to 90 dB max

NEW!

products :

- **Indoor or outdoor use**
- **Small footprint**
- **Choice of power supply 48 Vdc or 230 Vac**
- **Remote configuration, monitoring and control**
- **Quick and easy installation and commissioning.**
- **Natural convection cooling**

Mechanical and electrical characteristics

Supply voltage : 230 Vac
Consumption : 120W
Dimensions : 350 X 550 X102
Weigh : 13 Kg
Connectors RF : N-Female
Protection class : IP 65
Temperature range : -20° à +50°

Options

✓ SNMP_HTTP monitoring
✓ Sub-band filters
✓ Power supply 48 Vdc or 230 Vac

Order reference

Order ref	Designation
023340	DIGIREP SINGLE BAND RF/RF LTE2600 HP
023345	DIGIREP SINGLE BAND RF/RF LTE 800 HP
023350	DIGIREP SINGLE BAND RF/RF 900 HP
023355	DIGIREP SINGLE BAND RF/RF 1800 HP
023360	DIGIREP SINGLE BAND RF/RF 2100 HP
023365	ALIM 230VAC SINGLE BAND RF/RF OPTION
023370	ALIM 48 VDC SINGLE BAND RF/RF OPTION

Repeater Digirep® Multiband

The **DIGIREP® 2G / 3G / 4G** repeater from **SELECOM** has been designed for indoor and outdoor use.
Thanks to its shallow 19-inch rack design, it can be installed in a telecom bay, or in the wall position thanks to its mounting kit.
The same mounting kit is also available with an ABS protective cover, lockable, for outdoor use.

Frequencies & Powers

Multistandards / Multi-operators

Gain: Adjustable from 60 to 90 dB max

Nominal composite power DL:

- Frequencies 800/2100/2600 MHz : ≥ +36 dBm
- Frequencies 900/1800 MHz :

Nominal composite power UL : ≥ +22 dBm

Max BS & MS input levels: -20 dBm without specification degradation / operational up to 0dBm / + 10dBm without damage

Mechanical and electrical characteristics

Consumption : 500 W
Dimensions : 177 mm (4 U) x 482.6 mm x 446mm
Weight Rack : 10 Kg multiplexer included
Weight total : 42 Kg
Connectors RF : N-female
Protection class: IP 65
Temperatures range : -20/+50°
Cooling : Fans

products :

- **Indoor or outdoor use**
- **Choice of power supply 48 Vdc or 230 Vac**
- **Coming : Echo cancellation (3G/4G)**
- **Automatic dynamic gain control**
- **Digital filtering**
- **Remote configuration, monitoring and control**
- **Quick and easy installation and commissioning.**

Order reference

Order ref	Designation
022505	DIGIREP® Base Rack 10 U 19"+ Alimentation pour 4 cassettes RF)
023105	Multiplexer 800/900/1800/2100/2600
023060	RF/RF 800 MHz slot
023065	RF/RF 900 MHz slot
023070	RF/RF 1800 MHz slot
023075	RF/RF 2100 MHz slot
022560	RF/RF 2600 MHz slot
022920	Fans
022915	Sealing blank
023080	Plaque de bouchage
023000	Wall protection enclosure
023085	Kit mounting mast
023090	Wall mounting kit for racks
023100	Remote access and GPS

Optical Repeater

Optirep Single band System

The optirep single band system is a flexible device that ensures the continuity of mobile radiocommunications in places or infrastructures insufficiently covered.
Built in an IP65-compliant cabinet, repeaters can be wall mounted indoors or outdoors and in the most challenging environments.
Its low consumption makes it possible to use it with "solar panel" power supplies.
The equipment can be monitored remotely using its E2M monitoring module (integrated WEB / SNMP server).
Remote access is available via Ethernet and 2G / 3G / 4G GPRS modem.

NEW!

General characteristics system

Frequency bands : 700 – 2600 MHz
Gain : 60 à 90 dB
Ripple in bandwidth : ≤ 2dB
Group delay : ≤ 5 µs (excluding fiber)

Mechanical and electrical characteristics

Supply voltage : 230 Vdc ou 48 Vdc
Consumption : 130 W (Remote repeater)
80 W (Master repeater)
Connectors RF : N-female
Protection class: IP 65
Temperatures range : -20/+50°
Cooling: Natural convection
Dimensions : 350 X 550 X 102 mm
Weight : 13 Kg

Multi-filters characteristics

		700 MHz 800 MHz	900 MHz	1800 MHz	2100 MHz	2600 MHz
Number of filters max		12				
For each filter	Adjustement bandwidth	From 100 kHz to 30 MHz	From 200 kHz to 35 MHz	From 200 kHz to75 MHz	From 100 kHz to 60 MHz	From 100 kHz to 60 MHz
	Central frequency adjustement	From f_0 à f_0 + 15 MHz	From f_0 at f_0 + 17.5 MHz	From f_0 at f_0 + 35 MHz	From f_0 at f_0 + 30 MHz	from f_0 at f_0 + 35 MHz
	Adjustment attenuation	From 0 dB to -30 dB				

Available in rack version on request

products :

- **Remote configuration, monitoring and control**
- **Quick and easy installation and commissioning.**
- **Chain installation as needed**

OptiRep sytem multiband

The Optirep Multiband system is a flexible system that ensures the continuity of the Radiocommunication service in places or infrastructures that are insufficiently covered. The flexibility of the system makes it possible to envisage multiple combinations according to the specificities of each site.

The Optirep Multiband system includes :

- A passive / optical rack (1U) and a monitoring rack (1U) will be used for BTS
- A passive / optical rack (1U) and a Digirep rack (5U) will be used as part of an RF reception

✓ Remote single band or multiband repeater.

Mechanical and electrical characteristics

Repeater:

Dimensions : 177 mm (4 U) x 482.6 mm x 446mm

Weight :10 à 35 Kg depending configuration

Optical rack :

Optical outputst : From 1 to 6 (factory configuration)

Connectors : SMA Female

Voltage : 230 Vac

Consumption : 30 W

Dimensions 44 mm (1U) x 482.6 mm (19') x 260 mm

Weight : 4 Kg

General characteristics system

Frequency bands : 700 – 2600 MHz

Gain : 80 dB (Medium power)

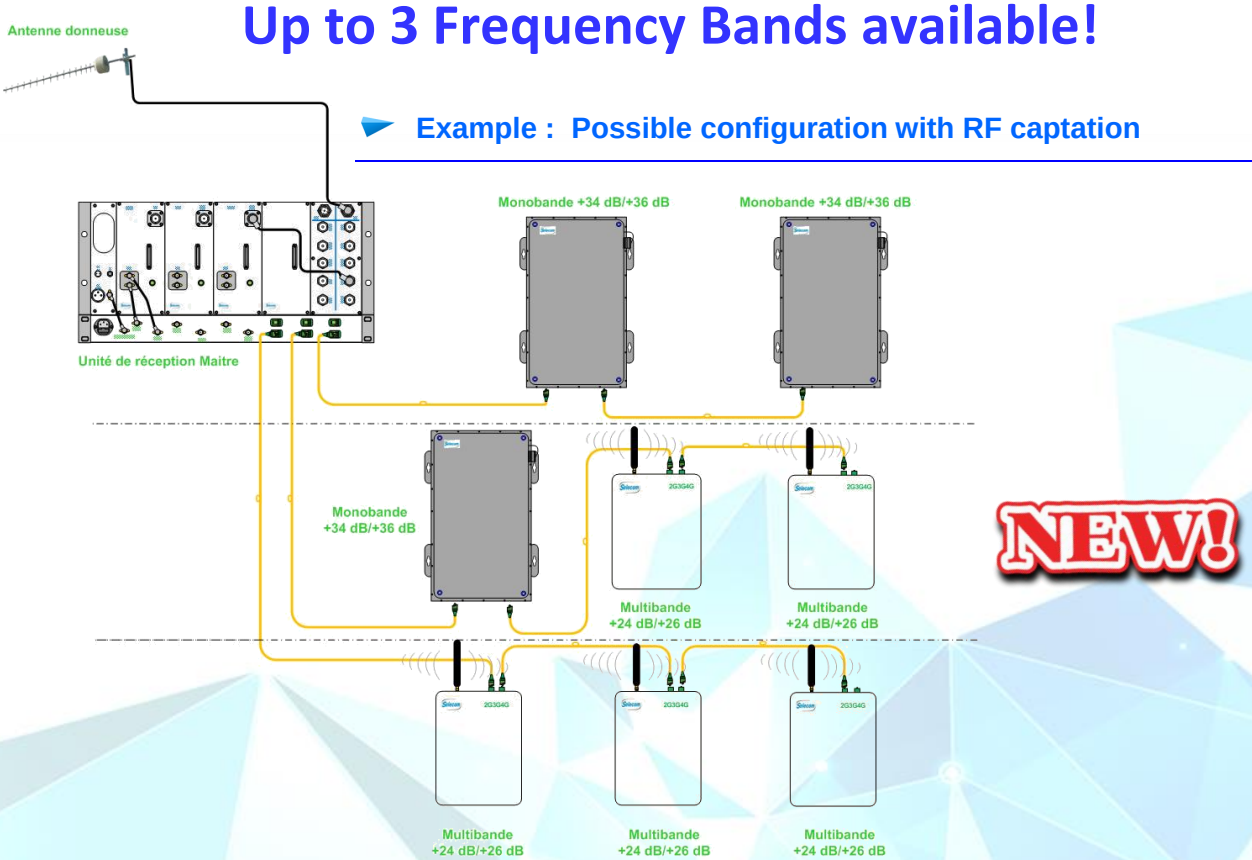
90 dB (High power)

Ripple in the bandwidth : ≤ 2dB

Group delay : ≤ 5 µs (out fiber)

Up to 3 Frequency Bands available!

Example : Possible configuration with RF captation



RADIOCOM RF/RF MICRO REPEATER

SELECOM offers a complete range of micro -repeaters.

- **Single-band micro repeater with or without MIMO,**
- **Tri-band micro repeater with or without MIMO,**
- **Tri-band micro repeater.**

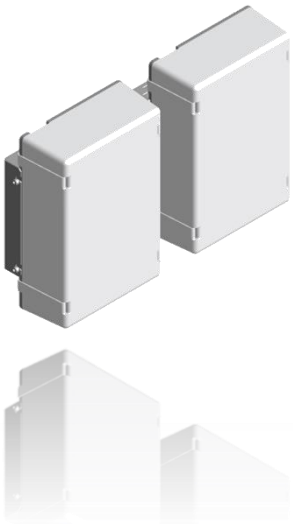
The coverage can be provided with the integrated antenna (option) or an external distribution system.
Our micro-repeaters can be accessed remotely (via SMS) thanks to the installation of an optional monitoring modem (not available on Tri-band models).

Single box available in vresion :

- **Single band micro repeater.**

Double box available in version

- **Micro repeater single band with Mimo,**
- **Dual-band micro-repeater (**combined MS and BS access**)**

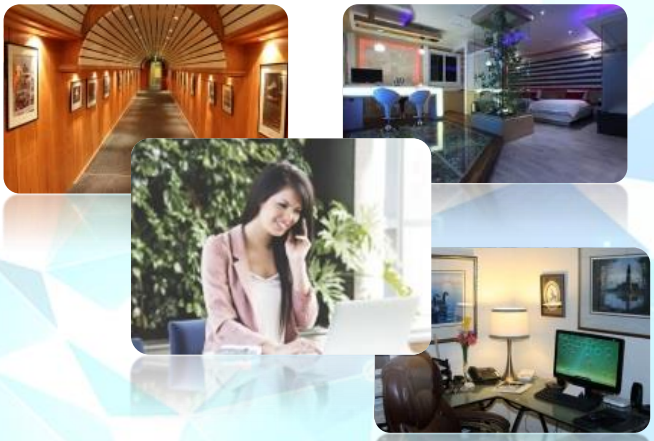


Box available in version

- **Dual Band micro repeater with MIMO**
- **Tri-band micro repeater,**
- **Tri-band repeater with MIMO**

Typical applications

- ✓ **Conference facilities,**
- ✓ **Shopping centers,**
- ✓ **Hwellings,**
- ✓ **Hôtels,**
- ✓ **Offices….**



Single band Micro repeater

Frequencies & technical characteristiccs

Fréquencies	900 MHz	1800 MHz	2100 MHz
Band RX (MHz)	880 - 915	1710 - 1785	1920 - 1980
Band TX (MHz)	925 - 960	1805 - 1880	2110 - 2170
Output power	+ 13 dBm		+ 10 dBm
Gain	65 dB	60 dB	
Spurious	≤ - 36dBm	≤ - 30dBm	
Bandwidth	Adapted according to operator		
Ripples in the band	< ± 2dB		
Noise factor	≤ 7dB		
ROS	1,5 : 1		

Single band micro-repeater

Mechanical and electrical characteristics

		Single band	Single band with MIMO
Supply voltage		230 Vac	
Consumption		10 W	20 W
Dimension	Monitoring	168 x 119 x 67 mm	168 x 266 x 67 mm
	Without monitoring	168 x 119 x 87 mm	168 x 266 x 87 mm
Connectors		SMA-F	N-F
Weight		0.740 Kg	1.6 Kg
Protection class		IP 20	
Temperature range		-10° à +45°	

Options

- ✓ Monitoring via SMS
- ✓ Integrated cover antenna
- ✓ Choice of power supply

Order reference

Order ref	Designation
µREP-09-BW	900 MHz single band micro repeater
µREP-09M-BW	900 MHz single band micro repeater with MIMO
µREP-18-BW	1800 MHz single band micro repeater
µREP-18M-BW	1800 MHz single band micro repeater with MIMO
µREP-21-BW	2100 MHz single band micro repeater
µREP-21M-BW	2100 MHz single band micro repeater with MIMO
µREP-OPT-ANT	Integrated antenna option
µREP-OPT-MTG	GPRS option GSM modem for SMS monitoring
µREP-OPT-PS1	AC/DC power supply option
µREP-OPT-PS2	Option Power Supply AC/DC with MIMO

BW : Bandwidth in MHz: 3.15 ; 4 ; 4.5 ; 5 ; 6 ; 8.2 ; 10 ; 12.5 ; 25

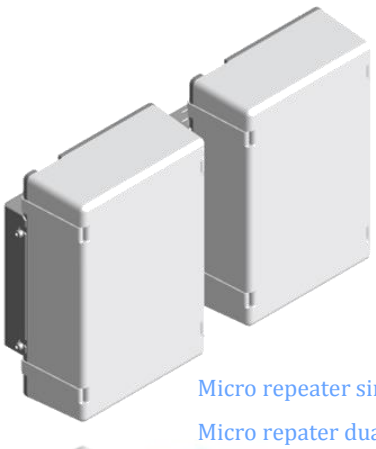
Dual band micro repeater

Frequencies & Technical characteristics

Frequencies:	900 MHz	1800 MHz	2100 MHz
Band RX (MHz)	880 - 915	1710 - 1785	1920 - 1980
Band TX (MHz)	925 - 960	1805 - 1880	2110 - 2170
Output power	+ 12dBm		+ 9dBm
Gain	64 dB	59 dB	
Spurious	≤ - 36dBm	≤ - 30dBm	
Bandwith	Adaptated according to operator		
Ripple in the band	< ± 2dB		
ROS	1,5 : 1		

Mechanical and electrical characteristics

		Dual band	Dual band with MIMO
Supply voltage		230 Vac	
Consumption		20 W	40 W
Dimension	Monitoring	168 x 266 x 67 mm	470 x374 x98 mm
	Without monitoring	168 x 266 x 87 mm	NA
Connectors		N-F	
Weight		0.740 Kg	2.46 Kg
Classe de protection		IP 20	IP 40
Temperature range		-10° à +45°	



Micro repeater single band Mimo

Micro repater dual-band (Combined MS & BS access)

Order reference

Ref Commande	Designation
Please contact our sales Department	

Tri-band Micro repeater

Frequencies & Technical characteristics

Frequencies:	900 MHz	1800 MHz	2100 MHz
Band RX (MHz)	880 - 915	1725 - 1785	1920 - 1980
Band TX (MHz)	925 - 960	1820 - 1880	2110 - 2170
Output power	+ 13 dBm		+ 10 dBm
Gain	65 dB	60 dB	
Spurious	≤ - 36dBm	≤ - 30dBm	
Bandwidth	35 MHz	60 MHz	
Ripple in the band	< ± 3dB		
ROS	1,5 : 1		

Mechanical and electrical characteristics

	Tri-band	Tri-band with MIMO
Supply voltage	230 Vac	
Consumption	40 W	55 W
Dimension	470 x 374 x 98 mm	
Connectors	N-F	
Weight	2.46 Kg	3.16 Kg
Protection class	IP 40	IP 40
Temperature range	-10° à +45°	

Micro repeater Dual-band Mimo,
Micro repeater Tri-band,
Micro repeater Tri band MIMO

Order reference

Order ref	Designation
Please contact our Sales Department	

Triband Booster

The **RF / RF booster** is designed to improve the network coverage inside the Metro trains and thus provide better communications on **2G / 3G and 4G** frequencies.
The signal can be broadcasted via a radiating cable or a coverage antenna.

Installation and commissioning are quick, easy and no configuration is required

Frequencies & Powers

Frequency range : 700 – 2700 MHz

Composite nominal power (before multiplexing) :

- ✓ 700/800/2100/2600 MHz : + 26 dBm
- ✓ 900/1800 MHz : +24 dBm

Gain : 44 ± 3 dB depending on the band

products:

- **Low footprint and compact design**
- **Local IP control (RF Performances/Alarme)**
- **Power control by ALC**

Mechanical and electrical characteristics

Supply voltage : 24 Vdc or railway version in option

Consumption : 45 W max

Dimensions : 260 x 210 x 70 mm

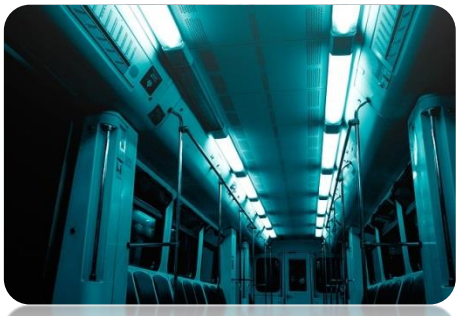
Weight : 4 Kg

MS/BS connector: SMA -Femelle

Temperature range : 0° à + 45°

Cooling : Natural convection

Application example



Subway train

Compatible with up to 3 bands in multi-operators !

LTE 2600 Micro repeater

This equipment which filters and amplifies the signal is intended primarily for ensuring the indoor coverage of small volume premises such as: stores, exhibition rooms, business premises, medical practice .....

Frequencies & Powers

Uplink : 2500 -2520 MHz
Downlink : 2620 – 2640 MHz
Gain max : ≧70 dB
Output power : ≧15 dBm

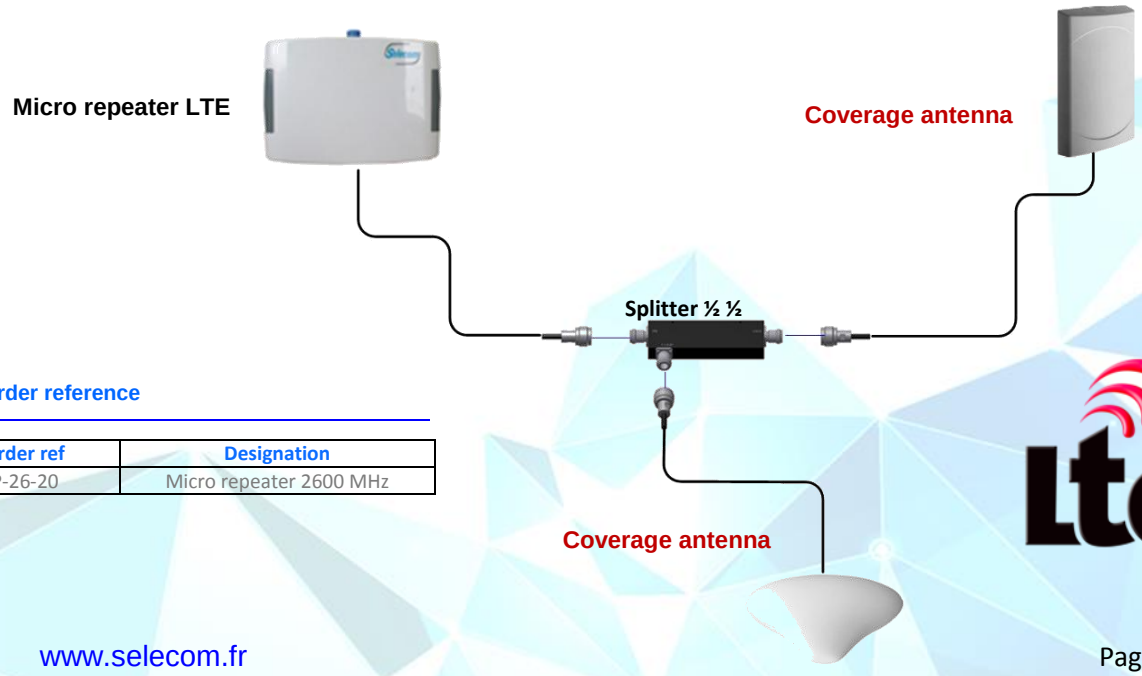
Mechanical and electrical characteristics

Input: AC 100~240V; Output: DC 9V/3A
Consumption : 20W
Dimensions : 228 x 167 x 70 mm
Weight : 1.6 Kg
Indoor antenna connector : N-Female
Outdoor antenna connector : SMA-F
Protection class : IP 40
Temperature range: -20° à +50°
Cooling : Natural convection

products :

- **Low footprint and compact design**
- **Manual or automatic gain setting :**
  - **Smart mode**
  - **Mute mode**
- **Choice between the integrated or external antenna**

Example of infrastructure



Order reference

Order ref	Designation
µREP-26-20	Micro repeater 2600 MHz

Antenna distribution system

Our antenna kits are designed to complement the range of **SELECOM** repeaters & micro repeaters to improve indoor coverage in the **800/900/1800/2100/2600 MHz** frequency bands.

Thanks to the internal, external, directional or omnidirectional antennas, couplers, cable and mounting hardware provides, it is possible to meet the most complex requirements quickly.

Our « Antenna coverage kits »

Omnidirectional coverage antenna

Technical characteristics (Ceiling type)

Use : Indoor

Type : Omnidirectionnal

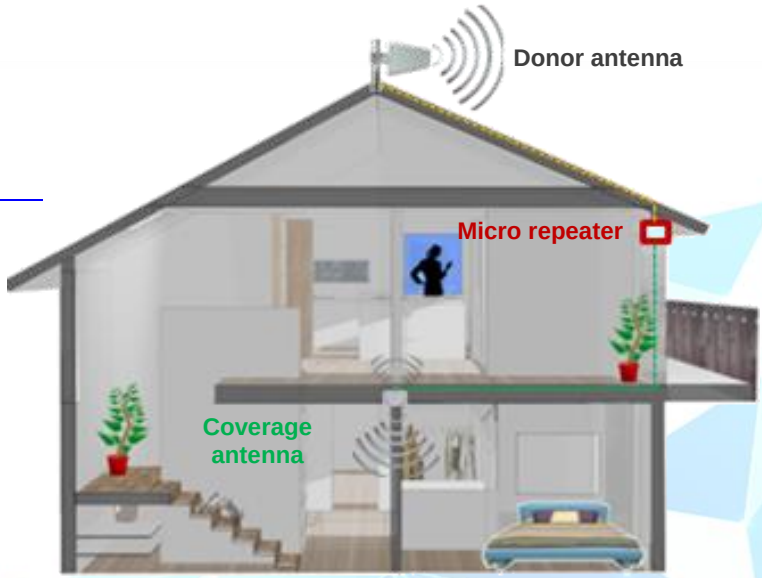
Impedance : 50 Ω

Gain : 2.5 dBi

Frequency Bands

800- 2700 MHz

Example of infrastructure



Mechanical characteristics

Connector : N-Female

Weight : 0.466 Kg

Heigh : 94 mm

Technical characteristic (Wall type)

Use : Indoor

Type : directionnal

Impedance : 50 Ω

Gain : 7dBi

Directional coverage antenna

Mechanical and electrical characteristics

Connector : N-Female

Weight 0.500 Kg

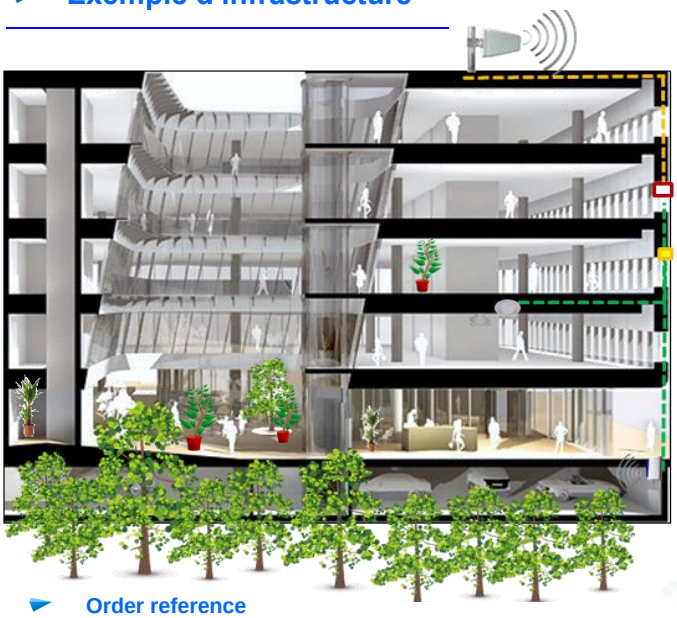
Height: 231 mm x 140 mm x 50 mm

Fixation : Wall mounting

Frequency Bands

800- 2700 MHz

Exemple d'infrastructure



Donor antenna

Micro repeater

Splitter

Omnidirectional coverage antenna

Directional coverage antenna

Order reference

Order ref	Designation
Kit-µcro 1CM-BB	1 Omnidirectionnal coverage antenna 1m -Nf/SMA jumper x1 10m -Nm/Nm jumper x1
Kit-µcro 1WM-BB	1 directional coverage antenna 1m -Nf/SMA jumper x1 10m -Nm/Nm jumper x1
Kit-µcro 2CM-1WM-BB	1 directional coverage antenna & 2 omnidirectional coverage antennas Splitter ½- ½ x1 transition NM x1 1m Nf/SMA jumper x1 10m Nm/Nm jumper x1
Kit-µcro 1CM-3WM-BB	3 directional coverage antennas & 1 omnidirectional coverage antennas 1 m Nf/SMA jumper x1 10 * Nm plug for feeder ½" feeder 50m * ½" Cell 50Ω Draka Splitter 1/2-1/2 Nf x1 Splitter 3 x 1/3-1/3 Nf x1

Our « Donor antenna kits »

Frequency Bands

800- 2700 MHz

Omnidirectional donor antenna

Technical characteristics

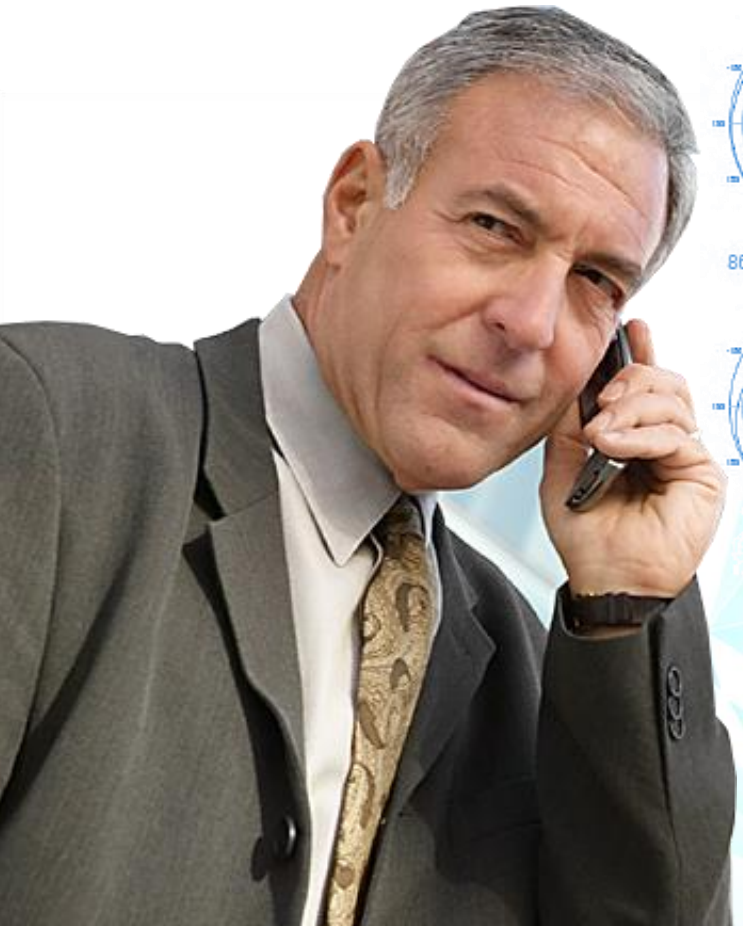
Use : Indoor ou Outdoor
Type : Omnidirectional
Impedance : 50 Ω
Gain : 2.5 dBi

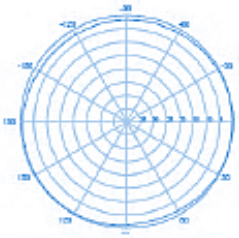
Mechanical and electrical characteristics

Connector : N-Female
Weight 0.120Kg

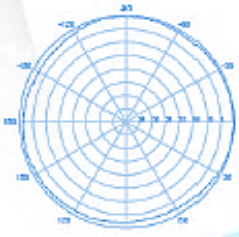
Heigh: 175 x Ø 28 mm
Fixation : Wall mouting

Antenna diagram



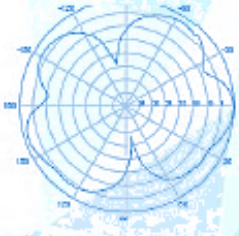


860 - 960 MHz Horizontale



1710 - 2700 MHz
Verticale

860 - 960 MHz Verticale



1710 - 2700 MHz Verticale

Technical characteristics

Use : Indoor ou Outdoor
Directional type
Impedance : 50 Ω
Gain : 7.5 dBi @ 698 - 800 MHz
8.5 dBi @ 800 - 960 MHz
10 dBi @ 1700 - 2700 MHz

Directional donor antenna

Mechanical and electrical characteristics

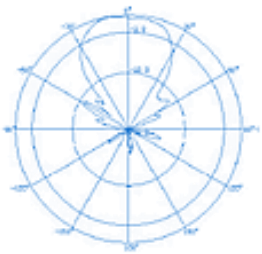
Connector : N-Female
Weight 0.920 Kg
Heigh 210 x 65 x 293 mm
Fixation : wall mounting

Frequency bands

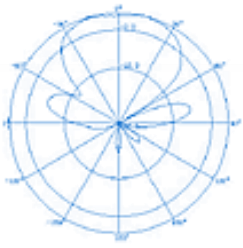
800- 2700 MHz

Antenna diagram

800 MHz Horizontale



2000 MHz Horizontale



800 MHz Verticale

2000 MHz Verticale

Order reference

Order ref	Designation
Kit-µcro-dir-BB	1 Directional donor antenna 1 Wall mounting in galvanized steel 1m -Nf/SMA jumper x1 10m -Nm/Nm jumper x1
Kit-µcro-omni-BB	1 omnidirectional antenna 1 Wall mounting in galvanized steel 1m -Nf/SMA jumper x1 10m -Nm/Nm jumper x1

Our mixed kits (donor & coverage)

Mechanical and electrical characteristics

Connector : N-Female
Weight 0.920 Kg
Heigh : 335 x Ø180 mm (52.5 x Ø7.0 mm)

Omnidirectional donor antenna

Technical characteristics

Use : Indoor ou outdoor
Type : Omnidirectional
Impedance : 50 Ω
Gain : Between 9.5 and 12 dBi according to the frequency band

Frequency bands

690- 2700 MHz

Order reference

Order ref	Designation
Kit-AIR-IN-2PC 09-18-21	1 omnidirectional donor antenna 1 omnidirectional coverage antenna 2 directional coverage antennas 1 coupler ½-½ NF Feeder 120 m ½'' cell (DRAKA RFA ½'' 50Ω) 1 jumper 2 m RFS Nm/Nm 6 Connectors NM for ½'' cell/1 Connector NF for ½'' cell/3 Connectors 7/16 M for ½''cell
Kit-AIR-IN-3PC 09-18-21	1 omnidirectional donor antenna 2 omnidirectional coverage antennas 2 directional coverage antennas 1 coupler ½-½ NF 1 coupler 1/3 1/3 1/3 NF Feeder 150 m ½'' cell (DRAKA RFA ½'' 50Ω) 1 jumper 2 m RFS Nm/Nm 9 Connectors NM for ½'' cell/1 Connector NF for ½'' cell/3 Connectors 7/16 M for ½'' cell
Kit-AIR-IN-5PC 09-18-21	1 omnidiectional donor antenna 2 omnidirectional coverage 5 directional coverage antennas 3 couplers ½-½ NF & 1 coupler 1/5-4/5 NF Feeder 200 m ½'' cell (DRAKA RFA ½'' 50Ω) 1 jumper 2 m RFS Nm/Nm 20 connectors NM for ½'' cell/1 Connectorr NF for ½'' cell/3 connectors 7/16 M for ½'' cell
Kit-AIR-IN-8PC 09-18-21	1 omnidirectional donor antennas 4 directional coverage antennas 6 directional coverage antennas 6 couplers ½-½ NF/2 couplers 1/3-2/3 NF/2 couplers ¼-3/4 NF Feeder 300 M ½'' cell (DRAKA RFA ½'' 50Ω) 1 jumper 2 m RFS Nm/Nm 35 connectors NM for ½'' cell/1 connector Nf for ½'' cell/3 connectors 7/16 M for ½'' cell

Omnidirectional coverage antenna

Directional coverage antenna

Passive products

Optical splitter FBT or PLC

Compact and very easy to install, our optical splitter allows the coupling or the sharing of the optical signal over a wide band of wavelength.

✓ Optical splitter FBT

Characteristics

Return loss min : 50 dB

Connector : SC/APC ou E2000/APC

Fiber type : G652D

Dimensions : 10 mm x 20 mm x 90 mm

Operating temperature : -10°C/+70°C

Wavelength

1 310 nm & 1 550 nm ± 40 nm

✓ Optical splitter PLC

Characteristics

Return loss min : 55 dB

Connector : SC/APC

Fiber type : G657A

Dimensions : 80 mm x 10 mm x 100 mm

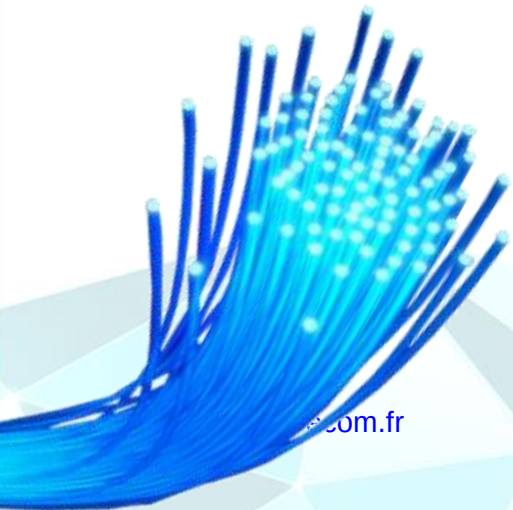
Operating temperature : -10°C/+70°C

products:

- **Multiple coupling ratios available**
- **Low insertion loss**
- **Possibility of integration in box for an outdoor installation.**

Wavelength

1 250 – 1 650 nm



GSM-R RANGE

The **OPTIREP ™ GSM-R 900** system consists of an RF / FO master unit associated with remote FO / RF repeaters.
Depending on customer requirements and in order to optimize the cost of coverage, the **SELECOM** repeater range is segmented according to:

- Two types of mechanics
  - Cabinet version (wall mounting or pylon interface),
  - Rack-mountable version (19 " - 3U or 5U),

- Two powers on RF / RF repeaters:
  - +32 dBm Medium power,
  - +39 dBm High power.

- Power on the FO / RF repeater:
  - +47 dBm.

TYPICAL APPLICATIONS :

- Railway network,
- Station,
- Tunnel,
- Confined environment

Up to 40 km in the long cell version

Possibility to cover several stations with 1 Master Unit

System Optirep GSM-R

✓ Optical master

The optical master consists of two racks as part of a remote BTS reception.

products :

- **Flexibility of the system according to the need (optimized engineering),**
- **Different power range available,**
- **Several concepts of redundancy,**
- **Choice of power supply 48 Vdc or 230 Vac,**
- **Remote configuration, monitoring and control.**

General description

2 Racks	Rack 1 (Direct reception BTS)	Passive rack
	Rack 2 (Direct reception BTS)	Up to 8 RF / FO transceivers per optical rack (Possibility to triple the optical rack)
		1 Monitoring module
		Up to 2 power supplies 230 VAC Or 48 VDC redundancy (option)
Supply	Voltage	230 VAC or 48 VDC
	Redundancy	1 or 2 redundant power supplies, plug & play
Temperature range		0°C / +50°C
Cooling system		Forced cooling

Options

- ✓ Remote Control HTTP Protocol, SNMPv2,
- ✓ Redundancy OMU 1 + 1: Automatic switchover in the event of failure of the fiber transmission system,
- ✓ Supply redundancy

Order reference

Order ref	Designation
OPTIREP-MRA	OPTIREP™ OMU Main Rack
OPTIREP-MRA-RED	OPTIREP™ OMU Main Rack Avec redondance 1 + 1

✓ Passive rack

The passive rack allows the RF signals to be injected onto 8 optical fibers in the downlink direction (BS to MS) and to recover the RF signals coming from 1 to 8 optical fibers in the uplinkdirection (MS to BS).

Depending on the site and the requirements, several versions can be proposed.

Access

BTS Access : 1 Access BTS (RX/TX multiplexed)

RF_RF I/O Access : 1 input RX/1 output TX

Number of outputs : 8 Outputs RX / 8 Outputs TX

Measurement test point (option):
1 Test access RX / 1 test access TX

RIP : 1 Access (RX/TX multiplexed)

Frequency range

Broadband

The RIP, available as an option, incorporates a diplexer that fixes the various bands of TETRA / TETRAPOL

Mechanical and electrical characteristics

Input connectors : N-Female

Output onnectors : QMA femelle => *Quick tool-less connector*

Tests connectors : SMA female

Heigh : 483 (19”) × 133 (3U) x 500 mm

Ideal Solution for tunnel coverage !

Order reference

Order ref	Designation
OPTIREP-RSP-GSMR900-R	Passive Rack with RF / RF Access
OPTIREP-RSP-GSMR900-R-T	Passive Rack with RF / RF Access & RF Tests
OPTIREP-RSP-GSMR900-B	Passive Rack with BTS Access
OPTIREP-RSP-GSMR900-B-TEST	Passive Rack with BTS Access & RF Tests

✓ Transceiver

The **RF / FO Receiver** is an optical transmitter that converts RF input signals to optical signals and transmits them via FO to remote FO / RF repeaters.

Transmitter/Receiver FO

Technical characteristics

RF input power : -10 dBm

RR output power RF : < -15 dBm

VSWR : 1.3 :1

Optical interface

Wavelength :

- 1 repeater per fiber :
  - ✓ Dowlink : 1310 nm
  - ✓ Uplink : 1550 nm
- Multiple repeater per fiber :
  - ✓ Dowlink : 1310 nm
  - ✓ Uplink: 1510/1530/1550/1570 nm

Optical output power : 4 dBm ± 2 dB

OUtputIP 3 : ≥ +30 dBm

Frequency band

300 – 2500 MHz

Mechanical characteristics

Dimensions : 35 mm × 133 (3U) x 100 mm

Weight 0.486 Kg

Consumption : 6 w per module

Connector RF : QMA female

Optical connector : E2000 APC

Optical fiber : SMF (G652 et G655)

Wiring on a rack with 10 fiber optic distribution

Order reference

Order ref	Designation
OPTIREP-TRA	Transceiver FO
OPTIREP-TRA-D	FO transceiver with serial connection capabilities

✓ Monitoring module

General description

Protocols : HTTP, SNMPv2

Remote control : GPRS modem on GSM M2M SIM card required

Connectors : RJ45 SIM card slot M2M

Maximum number of optical channels: Can monitor up to 16 pairs of remote receiver / repeater via serial bus

Monitoring module

Mechanical characteristics

Dimensions : 35 mm × 133 (3U) x 160 mm
Weight 0.524Kg
Consumption : 5 W
Connector Antenna GSM: SMA-F
Ports : 1 USB port / 1 Ethernet port
Optical Fiber: SMF (G652 and G655)

Order reference

Order ref	Désignation
Our contact Sales department	

✓ Supply module

Supply module 230 VAC

General description

Dimensions : 35 mm × 133 (3U) x 160 mm
Weight : 0.720Kg
Supply : 230 VAC/48 VDC
Connector : IEC
Two-color operation LED.

✓ RF/RF MASTER REPEATER

In the case of reception via a local antenna, the RF / RF repeater must be installed in order to amplify the signal before being injected into the passive rack.

Frequency bands

876 MHz – 880 MHz
921 MHz – 925 MHz

Technical characteristics

Gain : Adjustable from 50 to 80 dB MP *
Adjustable from 60 to 90 dB HP *
Power : + 32 dBm MP*
+ 39 dBm HP*
Spurious : ≤ - 36 dBm
Max gain noise factor : ≤ 6 dB
Propagation time : ≤ 8µs

Option

Remote monitoring
Supply 48 VDC +/- 20%
GSMR router
RIP
Acces test
Measurement test point

Mechanical and electrical characteristics

Supply : 230 Vac Integrated power supply
Consumption : 100 W
175 W
Dimensions & Weight :
Box version :

MP :	H 578 mm x L 429 mm × P 224 mm	25 Kg
HP:	H 578 mm x L429 mm x 353 mm	49 Kg

Rack version :

MP :	H3U x L 19” × P 452 mm	16 Kg
HP :	H5U x L 19” × P 452 mm	35 Kg

✓ RF/FO Master repeater

Technical characteristics

Noise factor : ≤ 4 dB @ Gain max
Ripple in the bandwith : ≤ 2dB
Downlink / rejection track : > 80 dB
Intermodulation : ≤ -36 dBm
Delay group : ≤ 1 µs

Optical interface

Wavelength : 1310 nm – 1550 nm ± 20 nm or CWDM (1550/1510/1530/1570nm)
Optical ouptut power : 4 dB optique ± 2 dB
Compression point : > 15 dBm
Optical connectors : E2000/APC/APC
Monomode fiber optic (G652 and G655)
Number of optical outputs : 1 output

Frequency bands

876 MHz – 880 MHz
921 MHz – 925 MHz

products:

- **Single or multi fiber optic flexibility,**
- **Centralized monitoring,**
- **Easy installation and configuration**

Mechanical and electrical characteristics

Dimensions : 224 × 429 × 582 mm
Weight : 28 Kg
Supply : 230 VAC or 48 VDC
Protection : IP65/IK9
Temperature range: -25°C / +55°C

✓ FO/RF Remote repeater

Technical characteristics

Nominal output power DL	1 Channel	+ 37 dBm
	2 Channels	+ 34 dBm
	4 Channels	+ 31 dBm
	8 Channels	+ 28 dBm

Noise factor : ≤ 4 dB @ Gain max
Ripple in the bandwith : ≤ 2dB
Downlink / rejection track: > 80 dB
Intermodulation : ≤ -36 dBm
Delay group : ≤ 1 µs

Frequency bands

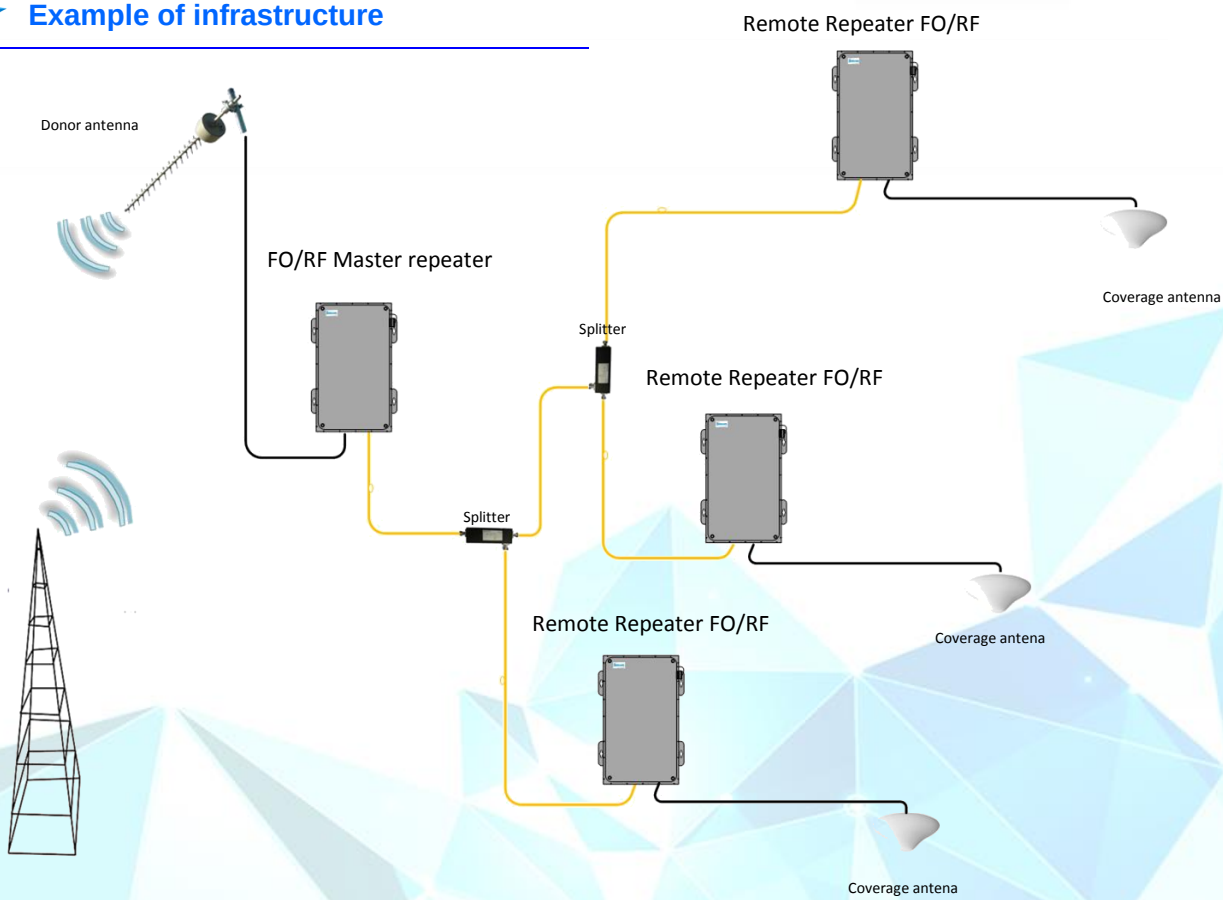
876 MHz – 880 MHz
921 MHz – 925 MHz

Optical interface

Wavelength : 1310 nm – 1550 nm ± 20 nm
or CWDM (1550/1510/1530/1570nm)
Optical ouptut power : 4 dB optique ± 2 dB
Compression point : > 15 dBm
Optical connectors : E2000/APC/APC
Monomode fiber optic (G652 and G655)
Number of optical inputs : 1 input

Available in rack-mount version 3 and 5 U on request Contact our sales department for more information

Example of infrastructure



GSM-R option

✓ GSMR Router

The GSM-R modem router rack is in the form of a rack 19 " high 1U and allows remote control via the GPRS network.
On the front side of the rack, a female SMA connector is used to connect an antenna, in order to pick up the GSMR network, a female RJ45 connector intended for data connection towards the supervision system.

Mechanical and electrical characteristics

Connectors : RJ45 (For Monitoring)

SIM card slot GSM-R SMA M2M connector (for antenna)

Dimensions : 416 mm × 44mm (1U) x 260 mm (19'' 1U rack)

Weight : 1.450 Kg

Power supply: Optional 230 VAC or 48 VDC

Consumption power : < 5 W

Order reference

Order ref	Designation
OPTIREP-OPT-GSMRGATEWAY	GSM-R Router for GPRS

DEHYDRATORS RANGE

SELECOM designs, manufactures and markets a complete range of pressurizers / dehydrators for all types of civil and military applications.

.

TYPICAL APPLICATIONS **:**

- TV transmitters (DVB-T DVB-T, DVB-H, ISDB-T, CMMB, etc.)
- Radio transmitters (FM, DAB, DMB)
- Sitcom
- Hyper-frequency transmission lines
- Tactical radio transmitters, radars

The company SELECOM is able to develop any type of automatic pressurize.
Do not hesitate to contact us for more information

Dehydrators with automatic regeneration

In order to meet all requirements, **SELECOM** offers a complete range of automatic pressurizers / dehydrators in rackable version (3U or 7U) segmented according to different pressure flows:

Maximum flow at specified pressure rack-mountable 3U version:

- 80 l/h
- 100 l/h
- 110 l/h
- 120 l/h
- 260 l/h
- 320 l/h
- 360 l/h

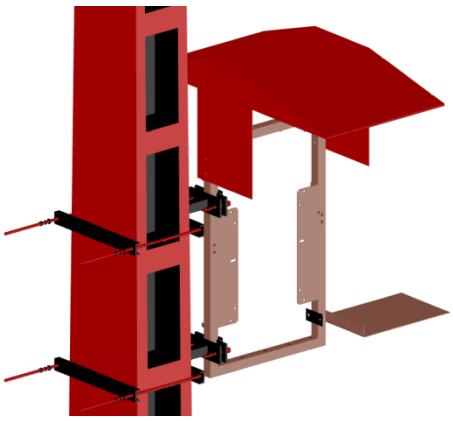
Maximum rate to the specified pressure rackable version 7U :

- 1500 l/h

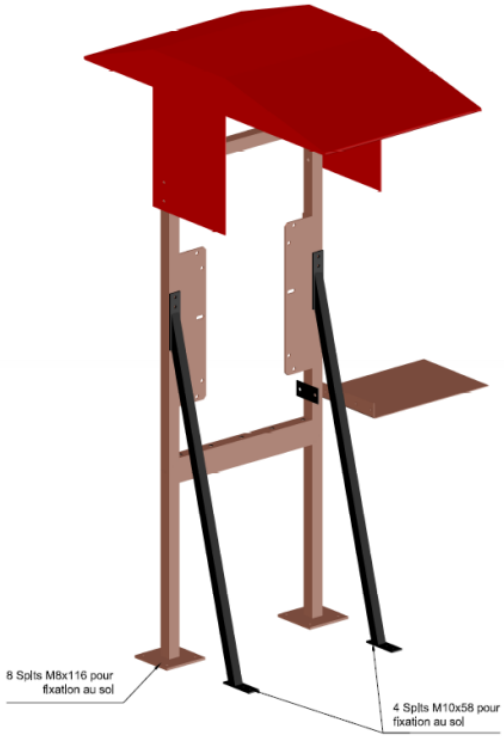
Dehydrators RANGE

ALL RANGE OPTIONS

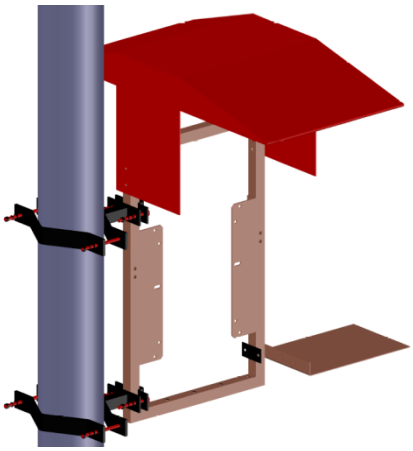
Protective box



The **Repeater Protection Cabin** guarantees a perfect outdoor installation quality in all areas of use. It protects the repeater from bad weather (rain and sun).
Equipped with a mounting bracket for installation of a measuring device or computer, **the protective cab is compatible with our Radiocom repeater range**



Rectangular support



Removal bracket cylindrical support

Reference Order

Order reference	Designation
941638	Protective box

OPTIONS

Electrical box

Designed to accompany the range of Radiocom and broadcast repeaters, we offer you our **electric protection boxes** compatible with our SELECOM auxiliary battery (BBU) device.

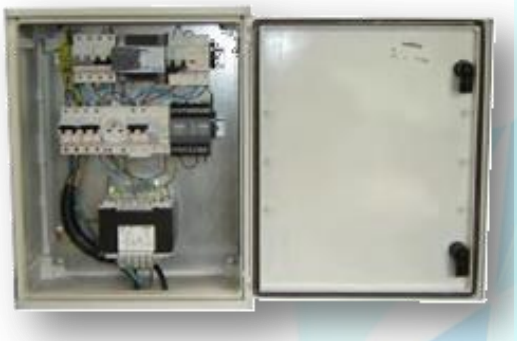
Products :

- **Full protection of people and devices,**
- **Custom design on request**
- **Quick and easy installation**

Equipments

Technical characteristics

GFCI	2x6A Curve C – Différential 30 mA	
Restarter	Available	
Protection against lightning Class 1	Available	
Protection against lightning Class 2	Available	
Output of service	10/16A – 250 VAC	
Isolation transformer	Not available	630 VA – 230 V 50/60 Hz
Input/output voltage	250 VAC - Class 2	
Power rating	< 600 VA	
Dimensions	260 x 300 x 40 mm	300 x 300 x 20 mm
Weight (Fully equipped)	6 Kg	15 Kg
Protection class	IP55	
Intrusion protection	Locking latch	
Materials	Plastic	Metal



Order reference

Order ref	Designation
PROTECSU1-a-b-c	Protective plastic case
PROTECSU2-a-b-c-d	Protective metal case

Variable	Designation	Value	Signification
a	Restarter automatique	AR Ø	Equipped with automatic choke
b	Protection against lightning	LP1 LP2 Ø	Equipped with Lightning Protection Class 1 Equipped with lightning protection class 2 Without lightning protection
c	Output of service	SO Ø	Equipped with the output device No output device
d	Insulation transformer	IT Ø	Equipment with insulation equipment Without isolation transformer

BBU

The SELECOM **Battery Backup Unit (BBU**) allows you to store battery power for a total battery life of 5 hours per device.

+ products:

- **+ 5h of autonomy in the event of a power failure**
- **Possibility to connect from one to four devices**
- **Complete protection of your communications in terms of service and quality**
- **Easy installation and maintenance**

Technical characteristics

Input Voltage - Nominal [Range] 230 Vac [185-275 Vac] / 50-60 Hz
Output Voltage - Nominal [Range] 48 Vdc [42 - 58 Vdc]
Access: 4 independent access and protected in 48 Vcc
Maximum output power: ≤ 500 W
Capacity: 48 Vdc - 17 Ah

Monitoring

Alarm relay: 1 3-pin connector Normal / Open / Closed
Remote monitoring:
HTTP & SNMP server
Alarms: Deep discharge, Battery TO, Rectifier, Power supply, Temperature

Mechanichal characteristics

Dimensions (H x L x D) : 500 x 400 x 300 mm
Weight : 27 Kg
Protection against intrusion and shock IP 55 / IK 10
Wall or mast mounting
Cooling : Internal Fan

Protect your Radiocom/Broadcast equipments against power outages !

Order reference

Order ref.	Designation
BBU-48VDC-17Ah-500W-OUT	Backup battery 48VDC 17Ah 500W Outside
BBU-BATT-12VDC-17Ah	Battery 12V-17Ah
BBU-REC-230VAC-48VDC-500W	Rectifier230VAC/48VDC/500W
BBU-OPT-TH	Heating thermostat

Solar Panels

The low power consumption of all SELECOM repeaters allows the use of solar panels.

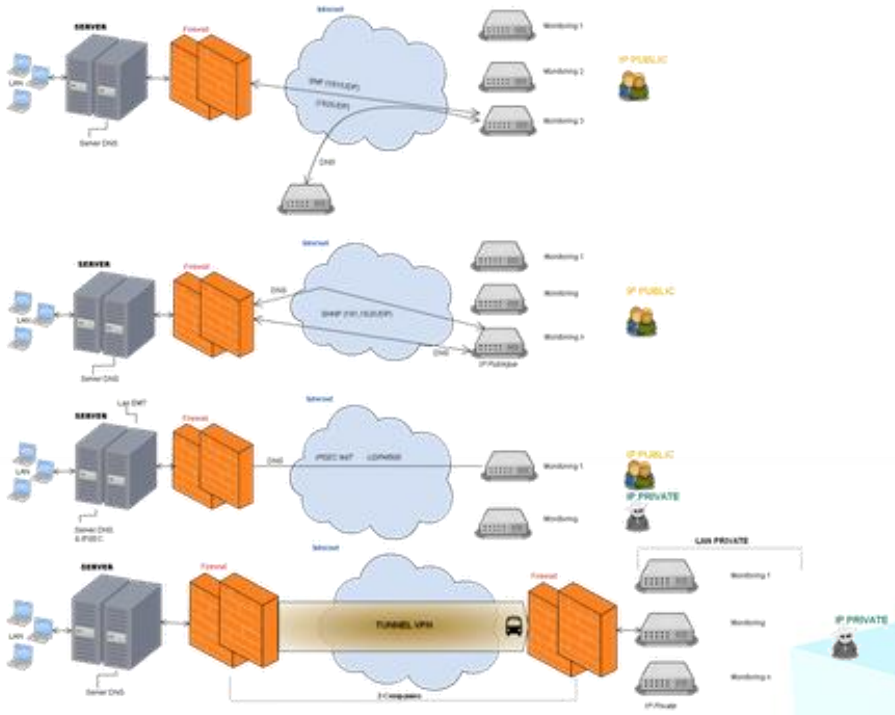
- ✓ Free energy,
- ✓ Battery life in the absence of light or sun,
- ✓ Automatic relay to standard power supply,
- ✓ Ecological solution.

MONITORING

OMC

SELECOM **NMS** (Network Management System) or **OMC** (Operation and Maintenance Center) is the indispensable tool for those who want to supervise all their equipment from a single control center.

- ✓ Cockpit for operators GSM, TETRA, TV,
- ✓ Centralized monitoring station,
- ✓ Monitoring server with web interface,
- ✓ Can be consulted from anywhere in the world with a PC or smartphone,
- ✓ Edit status and statistics reports,
- ✓ Email Alerts SMS,
- ✓ Up to one year of event backup.



Reference order

Order ref	Designation
VISIOMC-Server	VISIOMC server and software suite

MONITORING OPTION

Satellite dish Kit

In order to link the monitoring platform to the sites, a connected satellite link can be used.

This type of connection is used if there is no possibility of Infranet connection.
The satellite pack includes:
- the satellite dish and its mat (bent or straight)
- the transmit / receive head (TRIA),
- the modem,
- the cables and accessories required for the connection (RG 229 cable, earth cable, ...).

General characteristics (Satellite Dish)

Transmission : up to 2 or 6 Mbps
Reception : up to 20 or 22 Mbps
Dimensions (plate) : 72 cm
Weight : 15 kg
Connector: F-Female 75 Ohms

General characteristics (modem)

Supply voltage : + 30 V CC
RX band : 950 - 1700 MHz
TX band : 950 - 1450 MHz
Connector: F-Female 75 Ohms

The optional heating kit is recommended to cope with the harsh climatic conditions and to guarantee a constant reception quality in times of snow or frost.

General characteristics

Resistant wire : Nickel copper
Section & length : 5 x 7 mm / 6 m
Power : 40W/m
Maximum voltage rating : 500 V
Thermostat Integrated and Preset +5°C/+15°C

For each equipment delivered, SELECOM provides appropriate operating instructions in pdf format.