

PES800 GSM Repeater for Cellular Mobile Radio Applications

4 Watt GSM, CMR Segment Selective, Over-the-Air, On-Frequency Repeater

Benefits

- ❖ Improved Cellular Mobile Radio network coverage
 - In-Building
 - Suburban
 - Highway
- ❖ Solar Power Optimized – SmartPower™
- ❖ Lower cost than base stations-Save up to 75%
- ❖ Up to 90% less real estate required
- ❖ Faster time-to-market
- ❖ Flexible capacity

Features

- ❖ Compatible with RepeaterNet™— Operations, Administration and Maintenance (OA&M) Software
- ❖ High-output power, multi-carrier performance
 - 4-Watt composite RF output power rating
- ❖ Frequency Hopping compatible within selective bandwidth.
- ❖ Low noise figure
 - Less than 7 dB NF
- ❖ RepeaterNetCraft™ - User-friendly supervisory control and alarm network software for OA&M
 - Craft Port and Dial-up access
- ❖ One-year warranty
- ❖ Weatherproof and rustproof NEMA 3R compliant all-aluminum cabinet
- ❖ Wall mount & pole mount cabinet configurations
- ❖ Simple maintenance concept: Field replaceable unit gets you back on the air fast
- ❖ Easy installation – less than 60 minutes

Applications

Improve GSM signal levels and effective CMR network coverage in shadowed areas. Extend network coverage beyond BTS range. Typical applications include rural highways, hospitals, rooftops, tunnels, airports, and convention centers. Useful to improve GSM only signals in a mixed mode operation by band segment selection.



PES800 GSM Repeater

Description

The PES800 is housed in a NEMA-3R rated, all-weather, white cabinet. The repeater can be mounted on walls, poles or tower structures.

A removable back-mounting plate simplifies installation and maintenance. The lightweight-mounting place is securely installed first, and then the repeater unit is slipped into mating slots.

RF, mains power, alarm wiring and telephone line connections are all available at the bottom of the repeater for improved weather protection.

Equipment is setup using supplied software that communicates with the repeater controller. A Craft laptop computer or Local Maintenance Terminal connects to the serial Craft port in the lock secured access, lower panel.

PESi Support

Peninsula Engineering Solutions is ready to support your project needs including design of repeater applications and alternate power systems; furnish remote site power equipment, antenna systems and more.

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PES800 GSM Repeater – Technical Summary

MODELS and FREQUENCY RANGE (MHz)				
MODEL	BAND	BW	REVERSE	FORWARD
PES800G-A4.0	A	4.0	824.0~835.0	869.0~880.0
PES800G-B4.0	B	4.0	835.0~845.0	880.0~890.0

RF OUTPUT POWER				
CARRIERS:	2	4	6	8
Power per Carrier	33 dBm, 2 W	30 dBm, 1 W	28 dBm, 0.6 W	27 dBm, 0.5 W

EQUIPMENT CHARACTERISTICS				
FORWARD GAIN	REVERSE GAIN	NOISE FIGURE	NO-DAMAGE INPUT SIGNAL	DELAY
55~85 dB in 2-dB steps	50~80 dB in 2-dB steps	< 7 dB @ max gain	≤ +10 dBm	< 3μsec, 4.0 MHz BW
ANTENNA PORTS	VSWR/RL	TEMPERATURE	SIZE, HWD	WEIGHT
Type N(f)	< 1.5:1 / > 14 dB RL	-30° to 50° C	16 x 14 x 11 inch 406 x 356 x 280 mm	45 lbs 20 kg

MAINS POWER	
POWER CONSUMPTION	INPUT VOLTAGE OPTIONS
< 250 Watts	110 / 230 VAC 47 ~ 63 Hz +24 VDC

ALTERNATIVE POWER OPTIONS	
TYPE	DESCRIPTION
BUPS	2 To 8 Hours Of Backup Power Without AC mains supply
Solar Electric Battery	PV (Photovoltaic) with controlled charging of station battery
Hybrid Solar and TEG	PV with Thermal Electric Generator powered from propane fuel
Hybrid Solar and MG	PV with Motor Generator powered from propane or diesel fuel

SUPERVISION					
ITEM	INPUT/OUTPUT	ITEM	INPUT/OUTPUT	ITEM	OUTPUT
Major Alarm Summary	Form C Relay	Remote Control Relays (2)	Form C Relay	External Battery Monitor	Analog DC Volts 0 ~ 60V
Forward PA Disable	Active Low	Digital Outputs (2)	Opto-Isolated TTL		
Reverse PA Disable	Active Low	Digital Inputs (2)	Opto-Isolated TTL		

LED INDICATORS
System Ready / Power On : Green
Summary Alarm : Red

PES800G Data Sheet

Rev 1.0

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