



## Introducing sysmoBTS 1002OD

The sysmoBTS 1002OD is a new low-power, small-formfactor IP-backhaul GSM BTS. It offers supreme cost efficiency and is suitable for a wide range of applications, including

- Rural cellular networks in lowest-ARPU regions
- GSM related research and development laboratories
- Production testing of GSM/EDGE terminal equipment
- Rapidly deployable GSM networks
- Private GSM networks (PBX style use)
- In-building coverage/capacity extension
- Remote area GSM deployments, utilizing any IP-based satellite back-haul service

The IP65 rated sysmoBTS 1002OD is intended to be mounted directly to the antenna pole in close proximity of the antenna.



This keeps RF cables short and avoids the losses associated with long coaxial cables. Instead of running coaxial cables up the pole, you now simply only need CAT5 cables for Ethernet and PoE (Power over Ethernet).

Benefit from sysmocom's world-class experience in all areas of cellular networks from RAN to core network, permitting flexible integration of other network elements like BSC into the BTS itself.

## Beyond the BTS

sysmocom not only offers this innovative sysmoBTS 1002OD product, but a variety of other products and services, such as

- **sysmoNITB 2G starterkit** complete ready to run 2G solution for lab testing and training
- **sysmoNITB 3.5G starterkit LE** sysmocom's first ready to run 3.5G solution
- **sysmoBSC** Base Station Controller, supporting Abis/IP as well as legacy E1 interfaces
- **sysmoNITB** autonomous self-contained GSM network
- **sysmoSIM** SIM cards, pre-programmed and with custom printing
- **sysmoBTS** range from 1TRX 0.2W to 2TRX 2x10W
- extensive portfolio of **support contracts** for all sysmocom Products
- **training services** for installation, network deployment, operation
- **vendor-agnostic integration** and inter-operation with other vendor RAN and Core Network products
- **variety of sectorized and omni-directional antennas as well as RF cabling and accessories**

## Custom-tailored GSM solutions

sysmocom is not just another RAN vendor with a fixed product portfolio. All our products are based on Open Source software components, permitting customization both by sysmocom as well as the customer.

Access to the source code is key in enabling our customers to create products and services outside the constraints of existing, standardized GSM protocols, interfaces or procedures. Any aspect of our products can be modified according to customer needs.

## Contact Information

We appreciate inquiries from end-users, operators as well as retailers.

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## Mechanical / Electrical specification

<b>Dimensions of enclosure (W x H x D)</b>	300 x 220 x 55 mm (measurements excluding pole/wall mount) Casted aluminium enclosure with UV resistant paint
<b>Weight</b>	2 kg
<b>Mounting</b>	included wall-mount and pole-mount clamp
<b>Protection Rating</b>	IP65 (dust tight, waterproof) outdoor enclosure for wall or pole mount
<b>Temperature Range</b>	Operating temperature: -40 °C to 55 °C Storage temperature: -40 °C to 70 °C
<b>RF Input (N female)</b>	<ul style="list-style-type: none"> <li>GSM 850/900/1800/1900 quad-band uplink band</li> <li>Sensitivity: -109 dBm (exceeding 3GPP TS 05.05 pico BTS requirements)</li> </ul>
<b>RF Output (N female)</b>	<ul style="list-style-type: none"> <li>GSM 850/900/1800/1900 downlink band</li> <li>Max. output power: (850/900): 22 dBm GMSK, 18 dBm 8PSK (1800/1900): 25 dBm GMSK, 20 dBm 8PSK</li> </ul>
<b>GPS Input</b>	N female connector towards GPS antenna (for GPS-disciplined oscillator)
<b>CPU / SoC</b>	TI Davinci (ARM926 @ 405 MHz + DSP @ 804 MHz)
<b>Input Voltage</b>	36-60 V (DC). direct or via 802.3af PoE; power consumption: 12.5W (typ.) 16.5W (max)
<b>Cooling</b>	Passive.
<b>Internal Memory</b>	128 Mbyte SLC NAND Flash, 128 Mbyte DDR2 SDRAM, microSD socket
<b>Communications Interface</b>	RJ45 Ethernet (100-Base-Tx) port with 802.3af PoE

## Software / Logical specification

<b>Number of Transceivers</b>	1 TRX / 8 timeslots
<b>Supported timeslot configurations</b>	CCCH, CCCH+SDCCH/4, SDCCH/8, TCH/F, TCH/H, PDTCH
<b>Back-haul (Signaling)</b>	A-bis according to TS 08.58 and TS 12.21, encapsulated over TCP/IP
<b>Back-haul (voice)</b>	RTP/UDP/IP with FR/EFR/AMR payload according to IETF and ETSI specs
<b>Ciphering</b>	A5/1, A5/2 and A5/3
<b>GPRS/EDGE</b>	GPRS-only PCU with Gb-over-IP interface
<b>Max. concurrent calls</b>	14 (TCH/H on 7 timeslots)
<b>Max. simultaneous SMS</b>	60 (7*SDCCH/8 + 1*SDCCH/4)
<b>Operating System</b>	Embedded Linux (Poky based)

## Available Options / Configurations

### Hardware Options

- Clocking: VCTCXO / OCXO / GPS disciplined
- External Antenna Duplexer
- PoE power splitter (802.3af compatible)
- G.SHDSL modem for 2-wire copper back-haul

### Software Options

- BTS-only (A-bis/IP interface)
- integrated BSC (A/IP interface)
- NITB: Fully autonomous GSM PBX
- GPRS PCU with Gb interface

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