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**special products for special customers**



Datasheet

Approved Technology for the GSM-Rail System



The TRM-3aT USB is a reliable and high-performance terminal with ASCI features for GSM-R, the new radio system for railways. Due to long standing product experience and innovative technologies this professional device is the high-end ASCI modem for GSM-R.

#### Technical Data

* Dimensions
* Weight
* Power supply
* Power consumption

45 x 40 x 20 mm (L x W x H)

(not including the antenna connector)

70 g via USB

Idle mode 30 mA

Speech mode 200 mA (average),

450mA (peak) GPRS (class 8) 200mA (average),

450mA (peak) GPRS (class 10) 320 mA (average),

700mA (peak)

• Temperature range

Inrush current Normal operation Restr. operation Storage

900mA

-20°C to +55°C -25°C to +70°C -40°C to +70°C

* GPRS class 10 max. 86 kbps (downlink)
* PBCCH support
* Coding scheme CS 1-4
* CSD data transmission

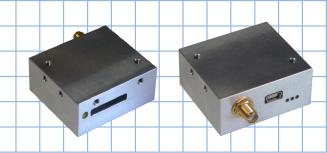
Up to 14.4 kbps USSD

Non transparent mode V.110

* PPP stack for GPRS data transfer
* Fax group 3, class 2
* TCP/IP stack access via AT command protocols:

TCP, UDP, HTTP, FTP, SMTP, POP3

#### Interfaces



* USB Interface (USB Mini B connector)
* AT commands via USB CDC ACM interface
* Digital audio via USB
* Voltage supply via USB
* Antenna connector (SMA)
* Indication LED
* Miniature SIM card holder

#### Specifications for Voice

* Triple-rate for HR, FR, EFR
* Adaptive multi-rate (AMR)
* Hands-free operation
* Noise reduction and echo cancellation

#### System / Standards

* Quad-band GSM-R / EGSM 900 / GSM 1800 / GSM 1900
* GSM Phase 2 / Phase 2+
* GPRS multi-slot class 10
* Mobile station class B
* Output power

Class 4 (2 W) for GSM-R / EGSM 900 Class 1 (1 W) for GSM 1800 / GSM 1900

* Control with AT commands via virtual COM-Port

(USB CDC ACM interface)

* SIM Application Toolkit

#### SMS via GSM and GPRS

* Point-to-point MO and MT
* SMS cell broadcast
* Text and PDU mode

#### ASCI Features

* VGCS (Voice Group Call Service)
* VBS (Voice Broadcast Service)
* UUS1 (User-to-User Signalling type 1)
* eMLPP (Enhanced Multi-Level Precedence and Preemption)

#### Target Applications

The TRM-3aT USB can be easily and ad hoc applied for GSM-R data and voice terminal or modem solutions within PC, notebook or other process computing environment.

FN supported (Functional Number)

PFN supported (Presentation Functional Number) REC (Railway Emergency Call)

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The manufacturer reserves the right to modify the specifications of the product without prior notice.

#### Data Services

#### EIRENE Features