TC65 Terminal

Quad-Band 2G	TCP/IP
GPRS Class 12	SIM Acceess Profile
Powerful Processor	FAX Functionality
Industrial Interface	Java

Cinterion TC65 Terminal
Plug into the Wireless M2M Market

The TC65 Terminal sets unprecedented standards in the field of machine-to-machine communication. Based on the advanced TC65 module the intelligent Terminal version combines the most powerful and universally accepted Java™ open software platform with a wide range of industrial interfaces, to produce a smart plug & play solution in a growing M2M market.

Having the latest Information Mobile Profile NG embedded the TC65 Terminal offers the opportunity to control M2M applications by using internal resources such as a powerful processor as well as the ability to simplify over-the-air software updates (OTA) for reliable e-maintenance of applications.

Furthermore the future proved standard allows secure data transmission using https and PKI encryption. Last but not least Quad-Band technology allows applications to be used globally and the software development kit included is license free.

A wide range of industrial interfaces and the plug & play functionality included allow quick and easy implementation, reduces your costs significantly and lowers the entry barriers to a wide number of business fields such as: fleet management, security, vending machines or remote control. With its extended temperature range it is also the perfect stand-alone device for sophisticated M2M solutions.

Thanks to its full type approval (FTA), there is no worry about obtaining appropriate certification anymore – the TC65 comes with approvals from major mobile network carriers across the globe, including those from US operators.

CINTERION
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TC65 Terminal

General features

- Quad-Band GSM 850/900/1800/1900 MHz
- GPRS multi-slot class 12
- GSM release 99
- Output power:
  - Class 4 (2 W) for EGSM850
  - Class 4 (2 W) for EGSM900
  - Class 1 (1 W) for GSM1800
  - Class 1 (1 W) for GSM1900
- Control via AT commands
  (Hayes 3GPP TS 27.007 and 27.005)
- SIM Application Toolkit (release 99)
- TCP/IP stack access via AT commands
- Internet Services: TCP, UDP, HTTP, FTP, SMTP, POP3
- Supply voltage range: 8 ... 30 V
- Power consumption (at 12 V):
  - Power down 0,5 mA
  - Sleep mode (registered DRX = 5) 29 mA
  - Speech mode (average) 184 mA
  - GPRS class 12 [Power reduction = 6dB] (average) 330 mA
- Temperature range
  - Operating temperature: -30°C to +75°C
  - Switch off: +80°C
  - Storage: -40°C to +85°C
- Dimensions: 90 x 130 x 38 mm
- Weight: < 190 g

Specification for GPRS data transmission

- GPRS class 12: max. 86 kbps (DL & UL)
- Mobile station class B
- PBCCH support
- Coding schemes CS 1-4

Specification for CSD data transmission

- Up to 14.4 kbit/s
- V.110
- Non-transparent mode
- USSD support

Specification for SMS

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

Specification for fax

- Group 3, class 1

Specification for voice

- Triple-rate codec for HR, FR, and EFR
- Adaptive multi-rate AMR
- Basic hands-free operation
- Echo cancellation
- Noise reduction

Open application resources

- ARM© Core, Blackfin© DSP
- Memory: 400 KB (RAM) and 1.7 MB (Flash)
- Improved power-saving modes

Java™ features

- CLDC 1.1 HI
- J2ME™ profile IMP-NG
- Secure data transmission with HTTPS, SSL and PKI

Over-the-air update

- Application SW: OTAP
- Firmware: FOTA (OMA compliant)

Interfaces

- SMA 50 Ω antenna connector
- 24 pin Micro-N-Lok connector
  - I²C bus and SPI bus
  - 2 x analog in (ADC)
  - VDD (2.9 V)
  - Multiple GPIOs
- 9 pin sub-D connector for serial interfaces (ITU-T V.24 protocol)
- Operating status LED
- ON/OFF button
- SIM card interface 3 V, 1.8 V
- Plug-in power supply
- Handset audio interface

Special features

- RLS Monitor (Jamming Detection)
- Character framing 7E1 and 8E1 at serial interface
- Programmable terminal reset
- SIM Access Profile integrated

Approvals

- R&TTE, FCC, IC, GCF, PTCRB,e-mark, CE
- Local approvals and network operator certifications

For detailed specification please see hardware interface description.

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Cinterion Global Support

Local engineers, a competent helpdesk, a dedicated team of R&D specialists and an advanced development center are the hallmarks of our leading support offer.

The Cinterion support includes:
- Personal design-in consulting for hardware and software
- Extensive RF test capabilities
- GCF/PTCRB conform pretests to validate approval readiness
- Guidelines for local approvals and acceptances
- Regular training workshops

Further information about our products and services is also accessible via www.cinterion.com