Application development

The Nokia M2M Application Development Kit (ADK) provides a set of tools for creating applications on the Nokia M2M Platform and testing them in the development phase.

Two Nokia 31 GSM Connectivity Terminals

Evaluation module

Nokia M2M Gateway Trial Version

Configurator software

Open source SW components

Testing tools

Documentation

To learn more, visit www.nokia.com

NOKIA
CONNECTING PEOPLE

Introducing
Machine-to-Machine
Solutions from Nokia

Nokia 31 GSM Connectivity Terminal

Versatility and brains. It's what makes the Nokia 31 GSM Connectivity Terminal a key component of the Nokia M2M Platform. The Nokia 31 Terminal works with a variety of devices, providing the wireless connectivity that enables the central management of remote devices.

The Nokia 31 Terminal offers GPRS, SMS, as well as other advanced services, over GSM 850/1900 networks. It is a perfect fit for various M2M application environments for its size, versatility, and reliability.

The Nokia 31 GSM Connectivity Terminal:

- Integrates easily with a range of M2M applications, including vending, security, automatic meter reading, elevator control and telematics.
- Supports multiple bearers, including GPRS, CSD, SMS, USSD.
- Delivers reliability through AutoPIN and other advanced features.
- Offers solid upgrade path for future development and upgrades through open interfaces.
- Provides backwards compatibility with future terminals.
- Works with Nokia M2M Gateway 2.0 software to provide the Nokia M2M platform solution.
- Enables fast application development with Nokia M2M Application Development Kit.

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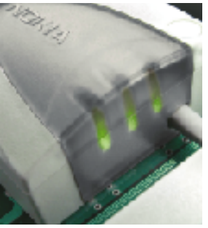
Nokia 31 GSM Connectivity Terminal



Operation modes

M2M System Mode: Offers effective and reliable methods for controlling the terminal and the application. Provides network-transparent development and communication through a vendor, operating system and language-independent architecture (CORBA).

AT Command Mode: The Nokia 31 can also function as a GSM data modem using AT commands. It can be connected to a PC or a compatible device. Normal communication applications (e.g., e-mail, fax, WWW) can be used.

User Control Mode: Enables simple applications controlled by mobile handsets with text messages. Control is through general purpose inputs and outputs of the terminal.

Features

Dual band GSM 850/1900
Wireless bearer selection
(In M2M system mode)

GPRS multi-slot class
Class 6 (3+1,2+2,2+1)

GPRS mobile station class
Class B

CSD
Up to 14.4 kbps

Messaging services
SMS, USSD (MO, MT)

Supplementary services
GSM Phase 2/2+supported

Audio services
Digital audio interface (DAI), Analog audios

Remote I/O control
User controlled I/O (by mobile handset with text messages)
Server controlled I/O (by back-office server in M2M system mode)
3 digital/analog inputs, 5 digital outputs, general purpose

Reliability & access control
GSM encryption, GSM security codes, AutoPIN, authentication, system monitoring

Interfaces and connectors

Power
DC connector for the Nokia ACW-5 power supply

M2M System Connector
M2M System Connector is 50-pin male connector (serial communication, RS-232, power input/output, digital/analog audio)

Remote I/O control

RS-232
RS-232 interface available on M2M system connector on 3V level. D9 connector for standard-level RS-232 available with a data adapter (accessory). Supports AT commands (ITU-T V.25ter, ETS GSM07.07, ETS GSM 07.05

User interface
3 two-color light indicators (LEDs)

SIM card
SIM card reader supporting small-size SIM cards (3V)

Antenna
Internal antenna, use of external antenna supported

Accessories

Power supply (ACW-5A)
Voltage 13.5 V
DC 750 mA
Operating range between 90 - 264 Vac
Frequency range 47 - 63 Hz
Weight 2.47 oz. +cables
Volume 6.1 cubic in.

Data package
Data adapter RS-232
Data cable RS-232 with D9 connectors
Nokia 31 AT-command guide and
Nokia 31 modem driver software

Antenna adapter (XRM-1)
An adapter cable that is used between the Nokia 31 and standard FME connector of an external antenna

Nokia 31 Configurator
Software for advanced installation and configuration of the different settings of the Nokia 31

Technical details

Size 3.3 x 2.09 x 1 in.

Weight 2.29 oz.

Volume 7.01 cubic in.

Environmental temperature +14...+131 °F

Storage temperature -40...+185 °F

Humidity range, operation 20...75 %

Humidity range, storage 5...95 %

SIM card small size 3V

RF power (max)

2W (850 MHz), 1W (1900 MHz)

Power consumption 150 mW (standby)

Input voltage DC plug

Absolute min 6.2 V, Absolute max 14.0 V

Input voltage M2M System Connector

Absolute min 4.75 V, Absolute max 15.0 V

Gateway bearers for Nokia 31

SMS	USSD
CSD	GPRS

SMS Centers supported

Nokia (CIMD 2.0 protocol)

Logica-Aldiscon (SMPP 3.3 protocol)

CMG (UCP 3.2-3.5 protocol)

Sema (SMPP or UCP 3.2-3.5 protocol)

USSD Centers supported

Nokia USSD-C (CIMD 2.0 protocol)

GGSN types supported

Nokia GGSN (RADIUS protocol)

Modem pool types supported

CISCO 3600 –series

CISCO 2600 –series

Recommended CORBA ORBs

Visibroker 4.51 for Java

JacORB 1.3.30