NOKIA 30

Let your machines talk

NOKIA
CONNECTING PEOPLE

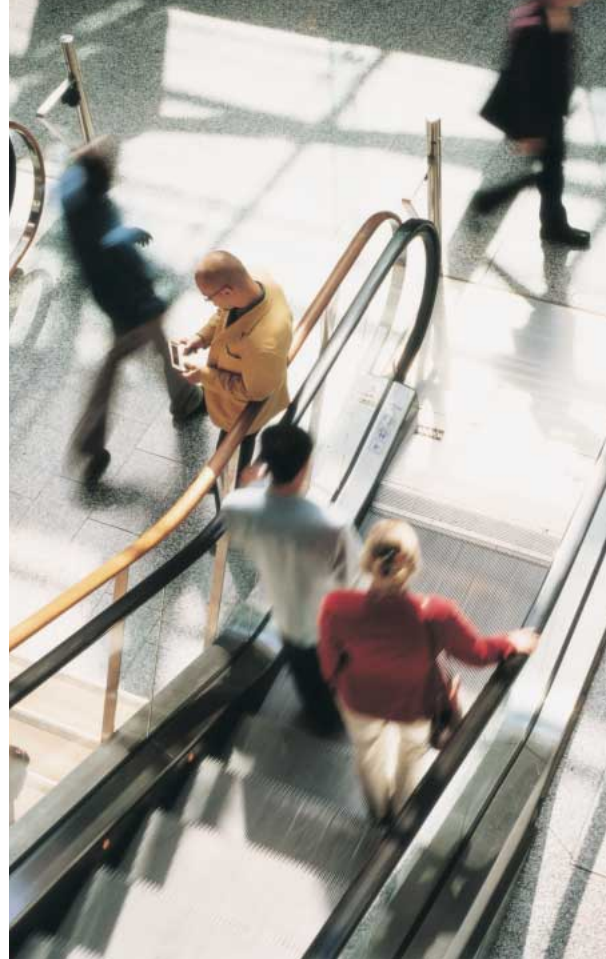# NOKIA
30

The perfect choice for machine-to-machine applications

The Nokia 30 is a compact, highly advanced GSM terminal that gives machines the power to communicate. Operating in GSM900/1800 networks, the Nokia 30 terminal provides high quality data transmission. Incorporating new features such as GPRS, the Nokia 30 lets you use wireless data more effectively in your day-to-day operations.

Optimised for M2M communications, the Nokia 30 is a complete terminal with a built in SIM card reader, internal antenna and interfaces for connecting to a remote device. This makes it an ideal communications link for a wide range of M2M applications, such as remote control and maintenance of utility meters, vending machines and industrial machinery, as well as telemedicine, security and surveillance devices. It can also be used as a normal wireless modem for connecting to the Internet.

Siting is no problem, as the size, reliability and versatility of the Nokia 30 terminal make it the perfect choice for many usage environments.

Choice of modes and bearers

The three operational modes and the choice of five bearers make the Nokia 30 terminal suitable for many purposes, whether simple, single applications in your home, or large multi-site systems with hundreds of devices to be managed.

User Control Mode enables mobile-to-machine and machine-to-mobile communications: attach the Nokia 30 terminal to a compatible device such as electric door lock, heating system or domestic alarm, and you can monitor and control the device's status by text messages with your own mobile handset.

Optimal for point-to-point communication, the **AT Command Mode** of the Nokia 30 terminal enables the terminal to be connected to your compatible existing solution and use the terminal as a wireless modem.

The M2M System Mode is suitable for large, multi-site applications. In the M2M System Mode, the Nokia 30 functions as a part of the intelligent Nokia M2M Platform that offers seamless wireless communications for different machine-to-machine solutions.

The bearers supported by Nokia 30 are:
• **Circuit Switched Data (CSD)** is available in most GSM networks. The bit rate of CSD can be enhanced with **High Speed Circuit Switched Data (HSCSD)**.

This enables a maximum bit rate of 43.2 kbps by using multiple timeslots (3+1), whereas CSD only uses one timeslot. HSCSD is best used for data intensive applications that require specified bandwidth and small delays.

• **General Packet Radio Service (GPRS)** brings a new perspective to wireless data communication. The technology allows timeslots to be allocated dynamically and gives an 'always on' connection, bringing faster set up time along with an increased bit rate. GPRS is especially suitable for off-peak use and can make data transfer considerably more efficient than before.

• For messaging, the Nokia 30 terminal offers two alternatives. **Short Message Service (SMS)** meets the needs of many M2M applications, whereas **Unstructured Supplementary Services Data (USSD)** offers improved reliability and higher speed for messaging.

When using the Nokia 30 in the User Control Mode, SMS is available as a bearer for the application. In AT Command Mode and M2M System Mode all five bearers are available in the terminal, provided that they are supported by the operator. In M2M System Mode, selecting the appropriate bearer is easy: a new bearer can be introduced with a minimum effort and without touching the application itself.

Focus on reliability with Nokia M2M Platform

In remote applications, reliablity is of paramount importance. Using the Nokia 30 terminal in your M2M application can dramatically cut the need to visit the site for service, maintenance and updates. As part of the Nokia M2M Platform, the intelligent Nokia 30 terminal not only transmits the necessary information and monitors the machines' status, but it also performs checks on itself and is equipped with reset functionality to deal with unexpected situations.

SIM security is achieved using the AutoPIN feature. The PIN code is programmed in the terminal's memory, which helps in preventing fraud and allows terminal recovery following a power cut.

The reliability features of the Nokia 30, together with the supervision provided by the Nokia M2M Platform, brings control of M2M applications. Messages are to be passed to the correct destination in the right format, in a way that allows them to be tracked. Connection between the Nokia M2M Gateway and the Nokia 30 is authenticated, impeding unauthorised intervention.

Neat design for easy integration

The Nokia 30 is small, allowing easy integration into machines and devices. Yet, its attractive design also means that

it looks good when used on its own, for example, as a GSM modem. For modem use, the terminal is used in an adapter that incorporates the RS232 connector.

The Nokia 30 terminal has three light indicators - one shows the status of the terminal while the other two are used by the application. A detachable cover plate, an eye-catching detail in the terminal's design, protects the SIM card slot and the external antenna connector.

Application development made easy

As part of the Nokia M2M Platform, the Nokia 30 terminal provides an open interface for application developers - ready-made protocol stacks also aid the application development.

The Nokia M2M Application Development Kit provides the hardware and software development tools for building applications.

Find out more about application development for M2M and the three operation modes of Nokia 30 terminal by visiting the Nokia's developer program at www.forum.nokia.com.

NOKIA 30

Choose the original Nokia accessories to make Nokia 30 easy to use

The Nokia 30 allows easy integration into machines and devices.

Customer remote application
with integrated GSM Connectivity Terminal

Wireless network

Nokia M2M Gateway

Company intranet

Customer server application

The Nokia M2M Platform covers the complete business case from the remote device up to the server application. The Nokia 30 is used in the M2M System Mode.

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 30 can also function as a stand-alone GSM modem using AT commands.

User Control Mode: Especially designed with mobile-to-machine and machine-to-mobile communications in mind. One can easily control simple applications built using the
services of the Nokia 30 with a mobile handset.

Features

Dual band EGSM900/GSM1800
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
HSCSD multi-slot class
Class 6 (3+1,2+2,2+1), up to 43,2 kbps
Messaging services
SMS, USSD (MO,MT)
Supplementary services
GSM Phase 2/2+supported
Audio services
Digital audio interface (DAI), Analogue audio
Remote I/O control
3 digital/analog inputs, 5 digital outputs, 1 current output
Reliability & security features
GSM encryption,GSM security codes, AutoPIN, authentication, system monitoring

Interfaces and connectors

Power
DC connector for the Nokia ACW-5 power

supply and power supply kit LCM-2

M2MSC
M2M System Connector is 50-pin male connector for serial communication, RS-232, power input/output, digital/analogue audio, general-purpose input and output pins

RS-232
RS-232 interface is available on M2M System Connector on 3V level. D9 connector for standard voltage level RS-232 is available with a data adapter (accessory). Supports AT commands (most of ITU-T V.25ter, ETS GSM07.07,ETS GSM 07.05) and M2M System Protocol.

User interface
3 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)
Output 13.5V 750 mA
Operating range 90 - 264 VAC, 47 - 63 Hz

Vehicle power supply kit (LCM-2)
Output 9.3 - 10.8 VDC 780 mA
Operating range 11.3 - 32 VDC

Data package
Data adapter RS-232 (DAU-12)
Data cable RS-232 with D9 connectors (AXS-3)
Nokia 30 CD-ROM including e.g. AT command Guide for Nokia 30 and Modem Options for Nokia 30

Nokia 30 Configurator
A software for advanced installation and configuration of the different settings of the Nokia 30. Available at www.forum.nokia.com

External Antenna cable (XRM-1)
An adapter cable that is used between the Nokia 30 and standard FME connector of an external antenna

Technical details

Size 84 x 53 x 26 mm
Weight 65 g
Volume <116 cm^3
Environmental temperature -10...+55 °C
Storage temperature -40...+85 °C
Humidity range, operation 20...75 %
Humidity range, storage 5...95 %
RF power (max.)
2W (900 MHz),1W (1800 MHz)
Power consumption 150 mW (stand-by)
Input voltage DC plug
Absolute min 6.2 V
Absolute max 14.0 V
Input voltage M2MSC
Absolute min 4.75 V
Absolute max 15.0 V

Nokia M2M Application development kit
Hardware and software development tools
Software components with source code
Documentation
See www.forum.nokia.com

Specifications are subject to change without notice. The availability of particular products and services may vary by region. Some features are network dependent. Original Nokia accessories enable the best possible operation of your Nokia 30 GSM Connectivity Terminal in various conditions. Other product and company names mentioned herein maybe trademarks or trade names of their respective owners.

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