TECHBASE
WE MAKE CONNECTIONS. SIMPLE

MADE IN EU

iMod X1000 - Configurable Automation Controller (CAC) with 3G/GPRS modem*

- Large set of hardware options
- Standard protocol support, e.g. Modbus, SNMP, M-Bus, 1-Wire
- Event-triggered communication
- Any number of source, message or access channel
- Data access via SQL/FTP/HTTP
- Data logger: saving data to Flash memory or SD card
- iModCloud - dedicated cloud computing service

iMod X1000

Basic information

- Fully configurable platform, just choose from ready options
- Full set of interfaces and communication channels: Wi-Fi, ZigBee, USB, Ethernet, 3G/GPRS modem
- Standard protocol support (e.g. Modbus, SNMP), user protocol support
- Exceptional data logging performance due to the use of SDHC cards (up to 32 GB)
- iModCloud - dedicated cloud service designed for remote control, telemetry and data sharing

Hardware features

- **Basic Version - NPE X1000 Lite** contains USB 2.0 (host), USB OTG (device/host), Ethernet
- **Maximum** (basic version + additional options listed below):
- **Serial ports:** 3x COM: 2x RS-232, RS-232/485
  6x COM: 4x RS-232, 2x RS-232/485
- **Digital and relay I/Os:**
  8x Digital input, 6x Digital output, 2x Relay output
- **Configurable I/Os:**
  8x or 16x Digital input/output
- **Analog inputs:**
  4x or 8x Analog inputs
- **Communication interfaces:** 2x Ethernet, 1-Wire, CAN
- **Audio/Video:** HDMI, 2x Audio input, 2x Audio output
- **Expansion cards (3 cards maximum):**
  Wi-Fi, ZigBee, 3G/GPRS, Bluetooth, GPS
- **Other:** Extended operating temperature range

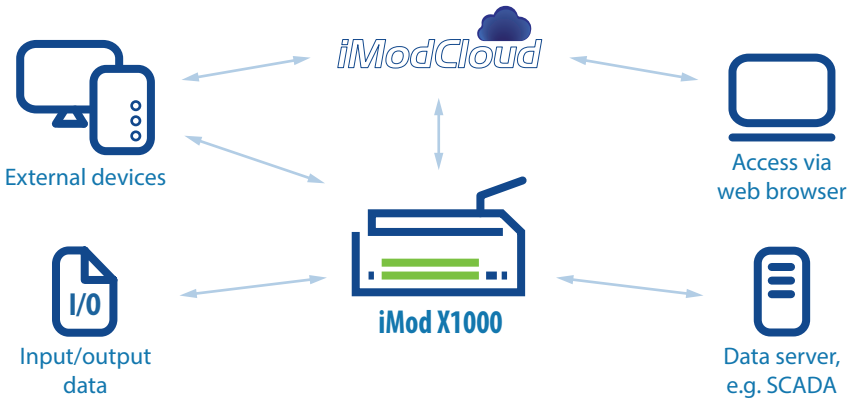
Software features

- In order to use iMod X1000 you just need to define a proper configuration
- Java-based iMod SDK allows adding custom protocols
- 1-wire and M-Bus Scanning (automatic configuration) of devices/sensors
- Event-triggered communication to increase efficiency and lower transfer cost
- Buffered data is instantly available e.g. in SCADA systems
- Expansion modules to increase number of available interfaces
- Remote software update
- Technical support via dedicated portal
- iModCloud - dedicated cloud service designed for remote control, monitoring and data logging, aggregation and sharing.

Applications

Typical method of use (3 functions: C-L-V)

- **Protocol and interface conversion (Convert)** - data is collected from input interfaces, converted and transmitted to output interfaces, e.g. 3G/GPRS, external modules
- **Data logger (Log)** - archiving and sharing data in a file format, database or with the use of external systems (SCADA or dedicated iModCloud)
- **Access via WWW (Visualize)** - data is presented directly from the device or with dedicated cloud computing services (iModCloud)



You can use iMod X1000 as

- PLC
- Serial port server
- Protocol and interface converter
- Programmable controller
- 3G/GPRS/EDGE modem
- MODBUS Gateway/Router
- SNMP Agent
- Web server with PHP and SQL database support
- SMS Gateway
- 3G/GPRS router, NAT
- E-mail server, FTP, SSH, VPN and other Linux services

Adapted to Industrial Conditions:

- Low energy consumption
- RTC Battery-powered Real Time Clock (RTC)
- WatchDog function ensures hardware operation control of selected services
- Effective file systems used for FLASH memory, ensuring long, failure-free operation
- Compact, durable housing made from ABS plastic adapted to installation on a DIN bus
- Easy installation due to the use of disconnectable screw terminals
- No moving elements (ventilators, platter disks)
- Versions with extended operating temperature range

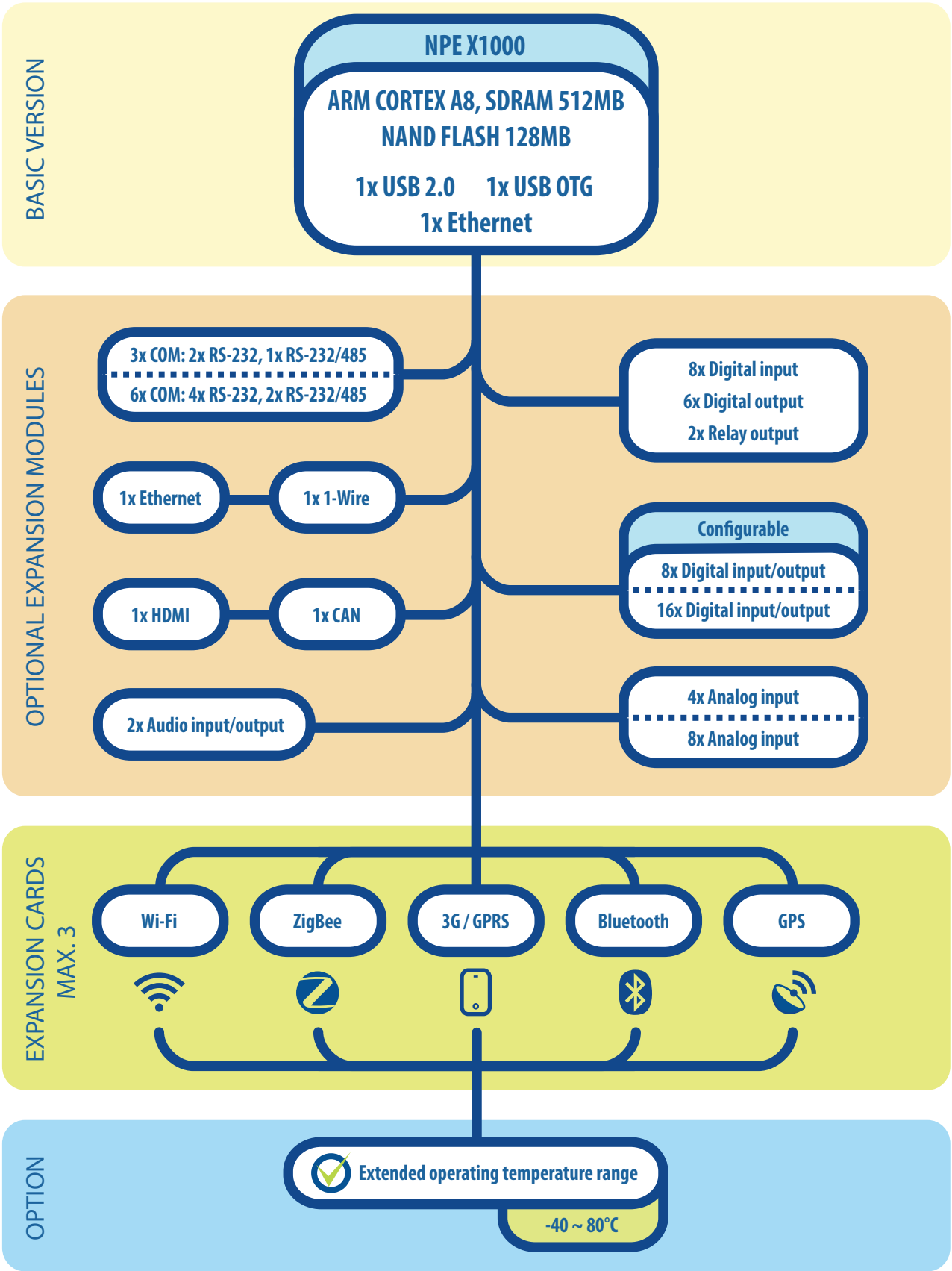
Built-in 3G/GPRS/EDGE*

Modem for data 3G/GPRS data transmission and SMS support. iMod has unique hardware-software features providing connection efficiency and economy:

- The device i equipped with Watchdog mechanism to ensure modem stability.
- Pre-installed software for constant verification of 3G/GPRS connection and GPRS reconnect function.
- Multiplexing server provides 3 independent modem communication channels. Allows sending and receipt of SMS during 3G/GPRS transmission.
- You can use telemetry SIM cards with dynamic IP addresses due to the use of DynDNS VPN technology allows use of cards with non-public IP.

* depending on installed expansion cards

Configuration Scheme



Technical specification

SYSTEM	
CPU	ARM CORTEX A8 CPU, 800 MHz
RAM	512 MB DDR3 800 MHz (optional: 1GB)
Flash memory	128 MB NAND FLASH
SD Flash memory	SDHC Card reader x1 (up to 32 GB)
Operating system	Linux 3.X
Real Time Clock	RTC, 240 byte SRAM, Watch Dog Timer
ETHERNET INTERFACE	
	2x Ethernet 10/100 Mbps (RJ45 connector)
SERIAL PORTS	
RS-232 ports	1x RS-232 (9 pins), 2x RS-232 (5 pins)
RS-232 / RS-485 ports	1x RS-232 (3 pins) service console, 2x RS-232 (3 pins) / 2x RS-485 (2 pins)
USB PORTS	
	1x USB 2.0 (host), 1x USB OTG (device/host)
INPUTS/OUTPUTS	
Digital inputs	8x DI with opto-isolation (0…30V)
Digital outputs	6x DO with opto-isolation (0…30V), max. power efficiency 500 mA
Digital relay outputs	2x RO (0…230V DC/AC), max. power efficiency 500 mA
Analog inputs	8x AI 0…20 mA (0…7V) (12bit resolution), Max Peak Power: 600W
Configurable I/Os	16x DI/DO, max. power efficiency 500 mA
1-Wire	1x 1-Wire
POWER SUPPLY	
	9 ~ 24 V AC/DC, 500 mA
MECHANICAL PARAMETERS	
Dimensions	35 x 213 x 58 mm
Weight	350g (without extension modules)
Casing	ABS, DIN bus installation
OPERATING AND STORAGE CONDITIONS	
	Temperature -40 ~ 80°C, humidity 5 ~ 95% RH (no condensation)*
AVAILABLE EXPANSION CARDS	
	Wi-Fi
	ZigBee
	3G/GPRS Modem
	Bluetooth
	GPS Module
CONNECTORS AND PHYSICAL INTERFACES	
	2x RJ45 (Ethernet)
	1x HDMI
	1x microSDHC slot
	3x monostable switch button
	1x32, 1x22, 1x10, 1x28, 1x12, 1x2 pin screw terminal
	1x type A USB 2.0, 1x type B mini USB
	3x expansion card slot (MiniPCI connection)

*some of the expansion cards can limit operating temperature range