

ThinkCore W345 New

RISC-based Ready-to-Run Wireless Embedded Computer with GSM/GPRS, 4 Serial Ports, LAN, SD, USB, Relay Output, and Linux OS



Features

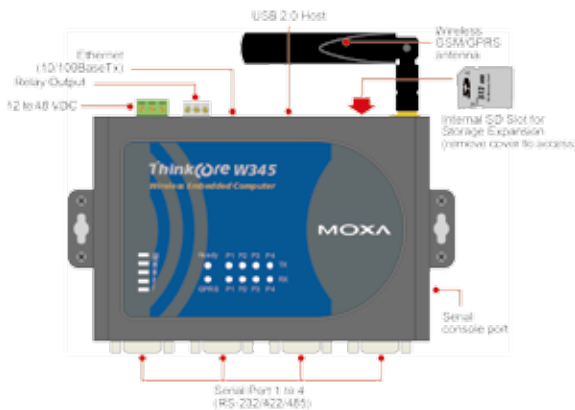
- MOXA ART ARM9 32-bit 192 MHz processor
- On-board 64 MB RAM, 16 MB flash disk
- Built-in quad band GSM/GPRS 850/900/1800/1900 MHz
- GPRS Class 10, Coding Scheme from CS1 to CS4 supported
- 4 software-selectable RS-232/422/485 serial ports
- 10/100 Mbps Ethernet for network redundancy
- Relay Output for external alarm connection
- Designed to withstand continuous 5G vibration and 50G shock
- SD socket for storage expansion supported
- Ready-to-run Linux Kernel 2.6 platform
- DIN-rail or wall-mount installation
- Robust, fanless design



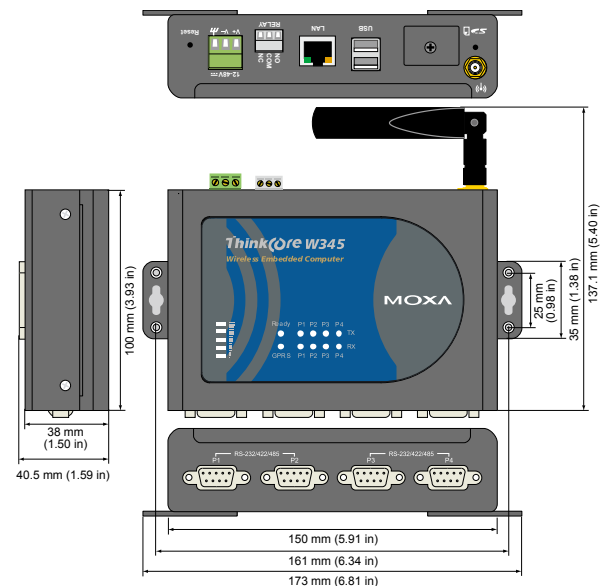
Overview

The ThinkCore W345 embedded computer features 4 software-selectable RS-232/422/485 serial ports, 802.11 a/b/g for WLAN communication, 1 Ethernet port, 2 USB 2.0 hosts, 1 relay output, and an SD socket for external storage expansion. The MOXA ART 32-bit ARM9 processor and the built-in Linux system provide a powerful and reliable platform for any harsh, industrial environment, promising an ideal solution for industrial M2M applications such as data acquisition, protocol conversion, and remote device control and monitoring.

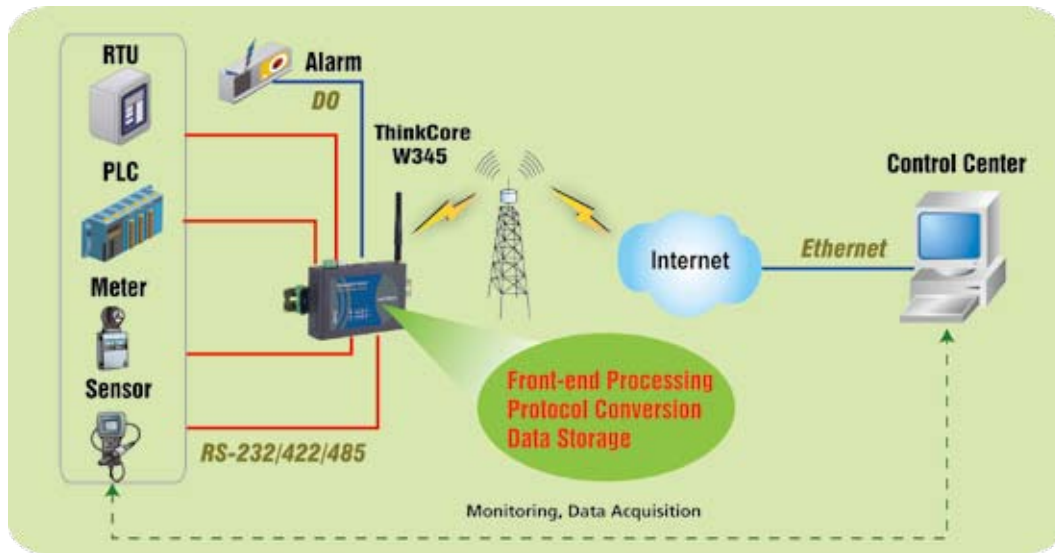
Appearance



Dimensions



: Typical Application



: Hardware Specifications

System**CPU:** MOXA ART ARM9 32-bit RISC CPU, 192 MHz**DRAM:** 64 MB**Flash:** 16 MB**Storage Expansion:** SD socket x 1 for storage expansion**USB:** USB 2.0 Host x 2**Relay Output:** Form C, SPD x 1

Normal Switching Capacity: 2A @ 30 VDC

Switching Power: 60W max.

Switching Voltage: 220 VDC max.

Switching Current: 2A max.

Operating Time: 4 ms @20°C

Initial Contact Resistance: 100 mohm max.

Console Port: RS-232 x 1 (TxD, RxD, GND), 4-pin header output**Button:** Reset button x 1, support "Reset to Factory Default"**Others:** RTC, buzzer, Watchdog Timer**OS:** Built-in Embedded Linux with MMU support**Cellular Communication****Cellular Mode:** GSM, GPRS**Radio Frequency Band:** 850/900/1800/1900 MHz**GPRS Class:**10**Coding Schemes:**CS1 to CS4**Network Communication****LAN:**Auto-sensing 10/100Mbps x 1, RJ45**Protection:**built-in 1.5KV magnetic isolation protection**Serial Communication****Serial Port:**4 software selectable RS-232/422/485 port, DB9 male connector**Protection:**built-in 15KV ESD protection for all signals**Data bits:**5, 6, 7, 8**Stop bits:** 1, 1.5, 2**Parity:** None, Even, Odd, Space, Mark**Flow Control:** RTS/CTS, XON/XOFF, RS-485 ADDC™**Speed:** 50 bps to 921.6 Kbps, support Any Baud Rate**LEDs****System:** Ready, SD**Cellular:** GPRS Enable, GSM Signal Strength**LAN:**10M/Link (on connector), 100M/Link (on connector)**Serial:**TxD, RxD**Power Requirements****Power Input:**12 to 48 VDC**Mechanical****Dimension: (WxDxH):**

150 x 100 x 38 mm (without wall mount ear and antenna)

Weight: 400 g**Antenna:**110 mm**Construction Material:**

aluminum, 1 mm / SECC, 1mm for top panel

Mounting:

Wall mounting, DIN-rail (optional, need DK35A DIN-rail kit)

Environmental**Operating Temperature:**

-10 to 60°C (14 to 140°F), 5 to 95% RH

Storage Temperature:

-20 to 80°C (-4 to 176°F), 5 to 95% RH

Anti-Vibration: 5G @ IEC-68-2-6, sine wave, 5-500 Hz, 1 Oct./min, 1 hr/axis.**Anti-Shock:** 50G @ IEC-68-2-27, half sine wave, 30 ms**Regulatory Approvals****EMC:**FCC, CE (Class A)**Safety:**TÜV, UL, cUL**Others:**RoHS, CRoHS, WEEE**Warranty:**5 years

Software Specifications

Linux

Kernel Version: 2.6.9

Boot Loader: Redboot

Protocol Stacks: TCP, UDP, IPv4, SNMP V1/V3, ICMP, IGMP, ARP, HTTP, CHAP, PAP, SSH 1.0/ 2.0, SSL, DHCP, NTP, NFS,SMTP, Telnet, FTP, PPP, PPPoE

File System: JFFS2 (on-board flash)

System Utilities: bash, busybox, tinylogin, telnet, ftp, scp

Supporting Services and Daemons:

telnetd: Telnet Server daemon

ftpd: FTP server daemon

sshd: Secure shell server

Apache: Web server daemon, support PHP and XML

OpenVPN: Virtual private network service manager

iptables: Firewall service manager

pppd: dial in/out over serial port daemon & PPPoE

snmpd: snmpd agent daemon

inetd: TCP server manager program

Application Development Environment:

MOXA Linux API Library

Linux Tool Chain: Gcc, Glibc, GDB

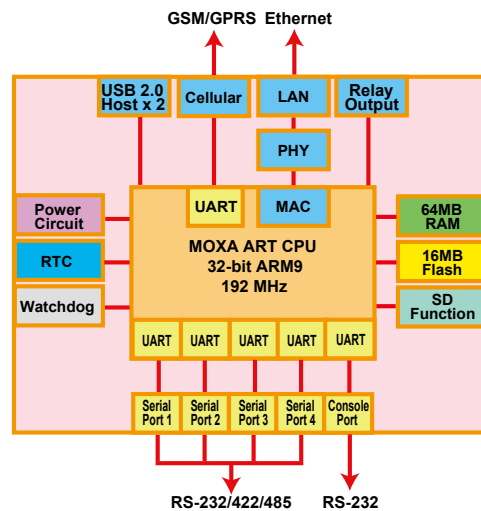
Windows Tool Chain: Gcc, Glibc,

Insight (Windows-based source level debug utility)

BINEncryptor: Encryption tool for binary files; based on MOXA Intellectual Protection Technology (Patented)

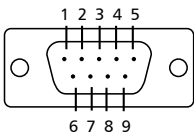
Device Drivers: SD Card, USB (supports USB flash disk), UART, DO, RTC, Buzzer

H/W Block Diagram



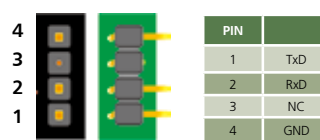
Pin Assignment

Male DB9



PIN	RS-232	RS-422	RS-485 (4-wire)	RS-485 (2-wire)
1	DCD	TxDA(-)	TxDA(-)	---
2	RxD	TxDB(+)	TxDB(+)	---
3	TxD	RxDB(+)	RxDB(+)	DataB(+)
4	DTR	RxDA(-)	RxDA(-)	DataA(-)
5	GND	GND	GND	GND
6	DSR	---	---	---
7	RTS	---	---	---
8	CTS	---	---	---

Serial Console port



Ordering Information

ThinkCore W345-LX NEW

RISC-based Ready-to-Run Wireless Embedded Computer with GSM/GPRS, 4 Serial Ports, Ethernet, SD, USB, Relay Output, Linux OS

All items include

- 1 W345 embedded computer
- Quick Installation Guide
- Wall-mount Kit
- Document & Software CD
- GSM/GPRS Antenna
- Ethernet cross-over cable: RJ45 to RJ45, 100 cm
- Console port cable: CBL-4PINDB9F-100: 4-pin header to DB9 (Female) cable, 100 cm
- Universal Power Adaptor
- Product Warranty Statement