

ARM-SE

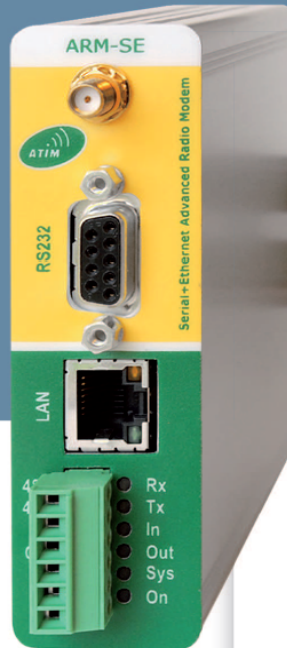
Advanced Radio Modem



Licence free M2M*

>5 km at 868 MHz
500 mW

Serial + Ethernet



- ▶ Radio modem
868 MHz (1 to 500 mW)
& **433 MHz** (10 mW)
- ▶ **European standard**,
licence-free
- ▶ **High sensibility**,
long range stability (TCXO)
- ▶ **RS232/485** or
Ethernet Full TCP/IP +
Modbus TCP/RTU gateway
- ▶ **«NLOS» functioning**
(non line of sight), Wi-Fi alternative
in obstructed areas
- ▶ **Web page configuration**
(in local and in a distance),
Firmware update
- ▶ **Advanced functions :**
multiple repeater, watchdog, ...
- ▶ Metal box for **Rail DIN** mounting
- ▶ Excellent **quality / price** ratio

The ARM-SE radio modem

is compatible with all the ARM (Advanced Radio Modem®) range. It enables the communication between all serial or Ethernet devices, and devices (I/Os, serial, wireless, Ethernet) connected to other remote radio modules.

It can be used as a bridge between 2 or several Ethernet devices (PLCs for instance). Its strong points are the range it can cover with small antenna (more than 5km at sight and even more than 10km with a high point) and its excellent sensitivity which allows to cover very obstructed and disturbed areas such as industrial halls, quarries, urban environment, mobile machines, etc...

The ARM-SE offers an alternative to Wi-Fi for industrial applications not requiring important data throughput but rather a guarantee of good operation in worst situations.

The ARM-SE is equipped with an Ethernet port and also a serial port which can be used either in RS232 or RS485, for connecting serial devices (PLCs, terminals, ...), 1 digital input and 1 digital output (default watchdog output). Its modularity allows to add in "eXtended" version, either standard I/O modules or specific modules on request. It can operate under several modes: transparent, secured or Modbus protocol.

Its integration is perfect into a wireless communication architecture with other radio modems from the ARM range.

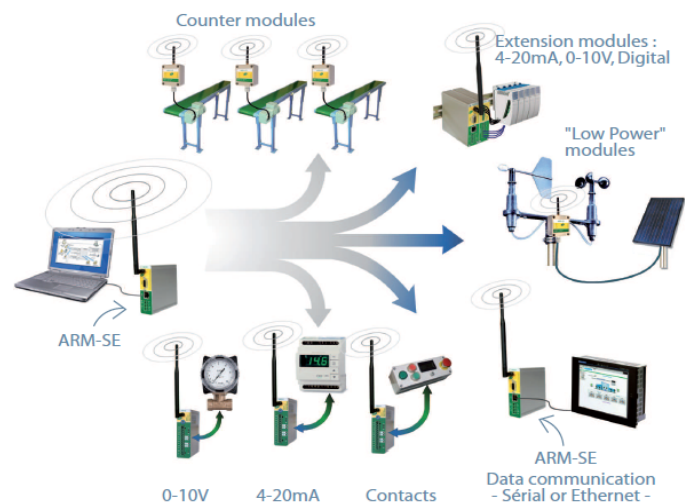
APPLICATIONS TYPE

LONG DISTANCES IN OBSTRUCTED AND DISRUPTED AREAS :

- ▶ Timing, lapping time report
- ▶ Digital display, road signs
- ▶ Water and energy management
- ▶ Camera control, telemetry
- ▶ Quarries, mines, cement works
- ▶ Building trade, industries ...



>M2M Infrastructure example



* Machine to Machine

www.atim.com

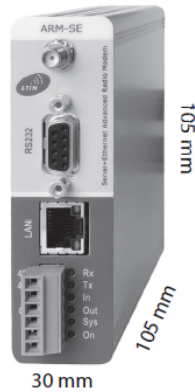
ARM-SE

Advanced Radio Modem

Aluminum IP40 box for DIN mounting

Low thickness in an electric cabinet

Weight: 250g



Daughter board for ARM-SE

ARM-X8800 : extension card 8 inputs + 8 outputs (optocouplers / Vmos)

ARM-X4440 : extension card 4 inputs + 4 outputs digital + 4 inputs analogical 4-20mA or 0-10V

ARM-X4440 : . extension card 4 inputs + 4 outputs digital + 4 outputs 4-20mA or 0-10V

Compatibility with ARM range

ARM-IOx : radio modems low cost -IOS/-IOD/-IOA

ARM-IOx-LP : low power version with input/output digital and analogical

ARM-D : digital version, 2 inputs + 2 outputs (+1 input and 1 output 4/20mA)

ARM-DA : digital-analogical version, 2 inputs + 2 outputs (+1 input and 1 output 4/20mA)

ARM-C8 et -U8 : transceiverS OEM version

Articles references

ARM-SE8/500 868/870MHz band, 500mW

ARM-SE4/10 433/434MHz band, 10mW

Options :

-HD : 38400bps radio version

Technical specifications

FONCTIONALITIES

FUNCTIONING MODES : Transparent mode, buffer 2ko

Mirror mode with modules I/O ARM-X

Secured mode with acquittal enquiry

Gateway: modbus TCP to Modbus RTU

Modes: point to point, access point, client, repeater

ADVANCED FUNCTIONS : Routing option (relaying path)

Data encryption, error corrector code

"LBT" function (listen before talk)

MAC addresses filtering for flow optimization

Configuration and diagnostic in a distance (by@IP)

Watchdog functions (with e-mail alert)

GENERAL INFORMATIONS

CONFIGURATION AND UPDATES:

by embedded webpage, or Hayes commands (parameters saving in EEPROM).

Firmware update via Ethernet. Configuration and test mode in local and in a distance. 3 DIP-switches at the back for RS485 configuration + 1 for transition in test mode.

ANTENNA: SMA female antenna connector on the front

Recommended antennas: ½ wave angled or ¼ wave departed for case or metallic cabinet, or ½ wave departed (without ground plan).

ENVIRONMENT : Temperature functioning/stocking: -30 to +60°C / -40 to +70°C

Humidity: 0 to 95% without condensation

NORMALIZATION : directive RTTE1995/5/CE -ETS300-220-3 v1.1.1

CEM EN 301 489-3 v1.4.1 - Sécurité NF EN60950 Ed.2000 - Conformity RoHS

LIGHTS AND MISCELLANEOUS : 6 LEDs: Rx, Tx, In, Out, Sys, On

Encoder wheel 16 channels

RADIO INTERFACE "RF"

Band: 433MHz, 868MHz, 1 to 500mW (0-27dBm)

Modulation: GFSK

Radio flux: 19200bps NRZI, 38Kbps in option

16 configurable channels with encoder wheel or soft

Sensibility in reception: -110dBm at 9600bps / -107dbm at 19k2

POWER SUPPLY

Consumption at 12V: 400mA in emission, 115mA in reception

Sleep mode (just in serial mode): ~40mA

CONNECTIONS

1 Ethernet port 10BaseT (RJ45)

1 RS232 port (SUBD 9 pins with Rts, Cts, Dtr, Dsr)

1 RS485 port 2 wires (de-pinable terminal)

1 input "IN" digital (terminal)

1 output "OUT" digital Vmos 30V/0,5A (terminal)

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