ESCORT MEMORY SYSTEMS
A DATALOGIC GROUP COMPANY

ROCKWELL AUTOMATION ENCOMPASS™
AMERICAS • EUROPEAN PARTNER

CM1746
RFID Module

Features
- Two Read/Write RFID Antenna Ports
- 25 MHz i386 Processor
- 512KB Flash Memory
- 512KB RAM
- DOS Compatible Operating System
- Two General Purpose Serial Ports for CM1746
- Two Industrial-Level Inputs/Outputs
- LED Status Indicators
- NEMA 1 (IP30) Enclosure

Applications
- Material Handling
- Sortation Systems
- Work-in-Progress Monitoring
- Quality Control

Use With
- EMS Passive Read/Write
- EMS Passive Read Only
- EMS Active Read/Write
- RS232 and RS422 Serial Devices

Escort Memory Systems® (EMS) offers a complete family of field-proven Read/Write Radio Frequency Identification (RFID) products and network interface modules. The system consists of Tags, Reader/Writers and ancillary equipment. Tags can be attached to a product or its carrier and act as an electronic identifier, job sheet, portable database, or manifest. Tags are read and updated via an EMS Reader/Writer through any non-conductive material while moving or stationary.

The CM1746 RFID Module is specifically designed to integrate EMS products with Allen-Bradley's 1746 I/O backplane and SLC 500™ PLC's. The CM1746 is mounted on a standard 1746 Module enclosure that plugs directly into the 1746 backplane. The CM1746's 386 microprocessor and a real-time operating system runs EMS' high speed Read/Write RFID Controller and built-in Mux32 RS485 multidrop protocol for connection to Read Only RFID. Provided with a standard program, the Module can also be custom programmed in the C language, In short, the CM1746 brings all the power of Escort Memory Systems' RFID to your Allen-Bradley system in a simple, easy-to-use package.

Technical Description

The CM1746 is an optically isolated communications interface designed to pass information between a complete RFID system and the Allen-Bradley SLC 500 PLC. The CM1746 communicates data between the RFID Tags or serial port and the host PLC via a simple ladder logic program in the PLC. The standard program supplied with each module offers normal operations such as Reading and Writing to a Tag and returning status of operations to the PLC. The module's real-time operating system permits the simultaneous execution of up to five commands. The DOS compatible processor makes it possible to create custom C-based application programs. EMS provides the standard program with the necessary libraries and download tools. One RS232 serial port is available for programming and debugging the module.

DIRECT ACCESS TO RFID WITH ALLEN-BRADLEY'S SLC 500™ PLC

Two RFID ports are dedicated to direct connection to Read/Write Antennas. They support the same electrical and communications interface as all of EMS' Active Read/Write Antennas. The second serial port is configurable as RS232, RS422 or RS485 communications for connection to EMS' Read Only Readers, Passive Reader/Writers and for general use. The CM1746 supports the same EMS Mux32 multidrop protocol used by our Read Only systems and other devices. The Mux32 protocol supports up to 32 networked Read Only Readers for flexible solutions to complex applications.

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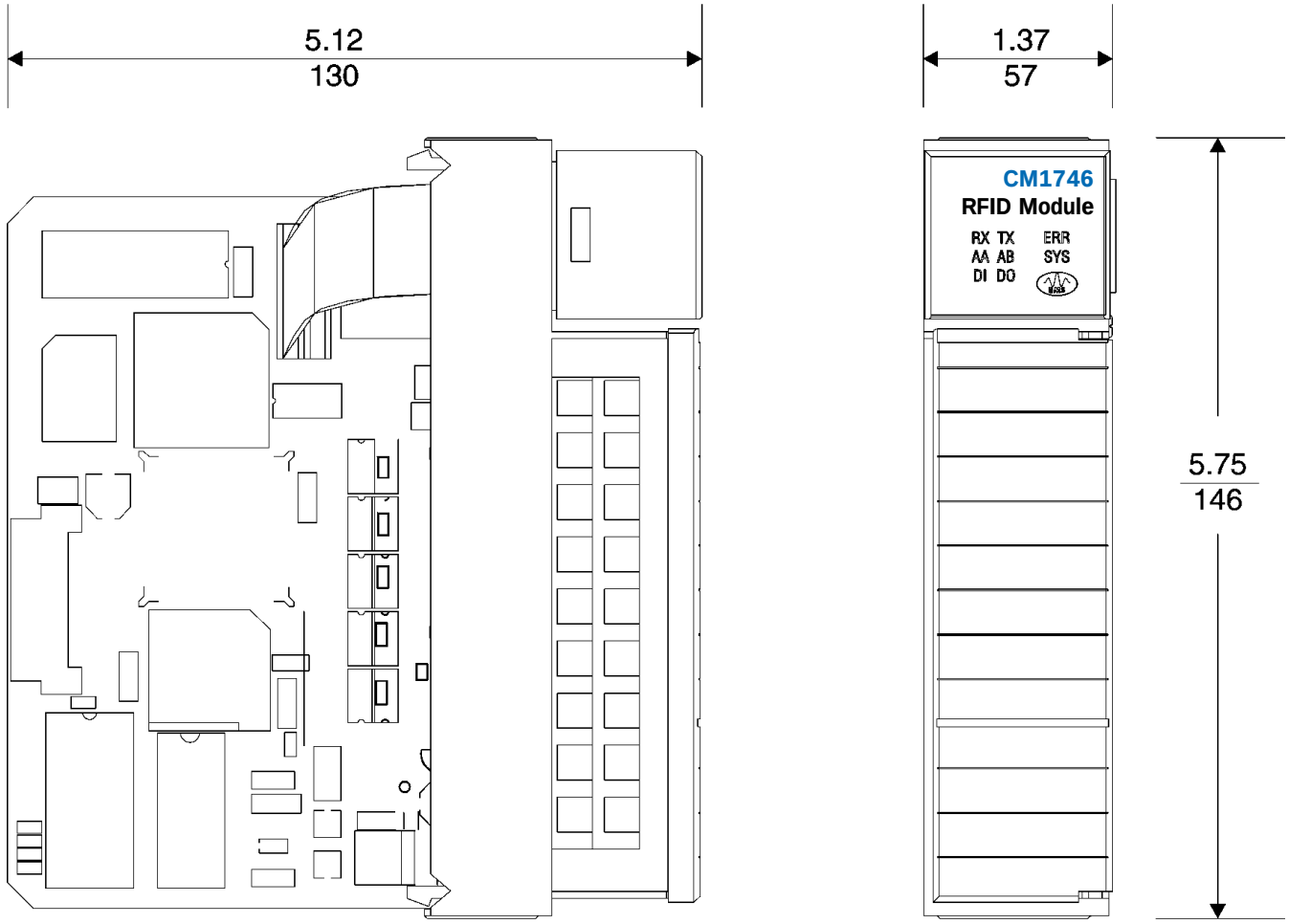
CM1746 RFID Module

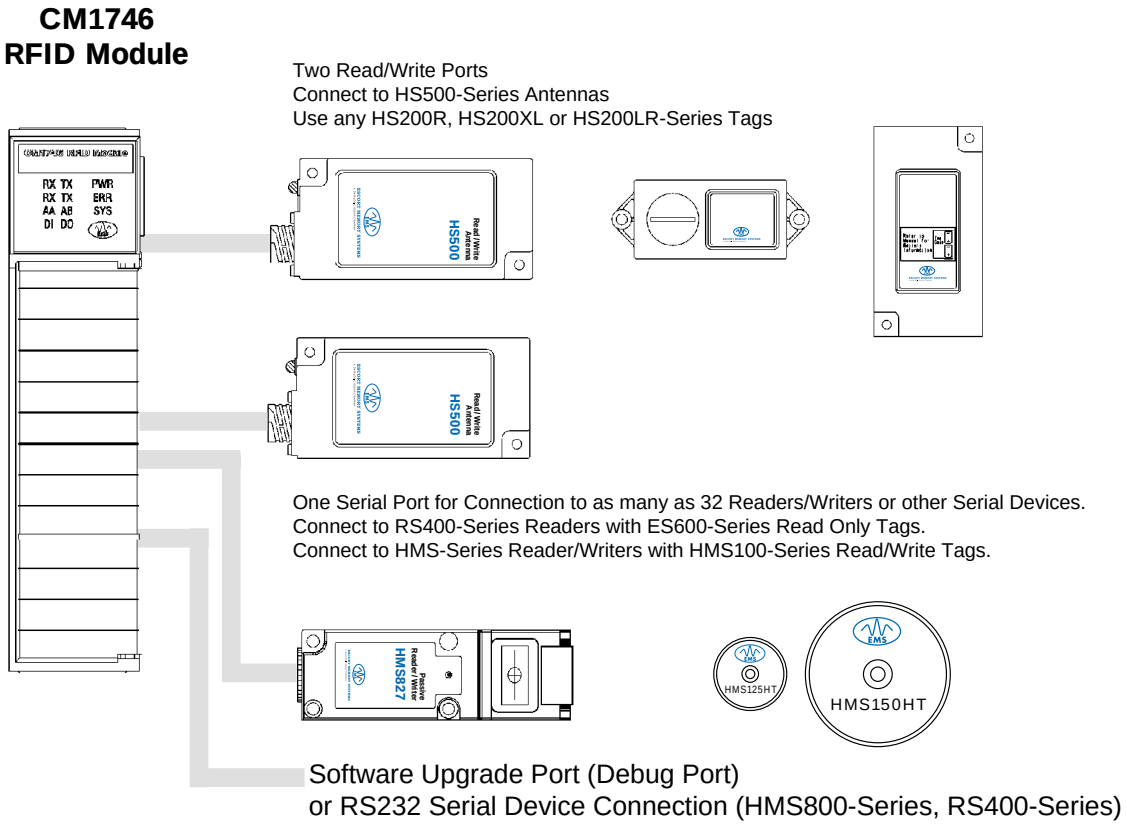
Electrical	Backplane—Supplied by PLC	
	Supply Voltage	5VDC ±5%
	Maximum Current	600mA
	Front End—External Supply Required	
	Supply Voltage	24VDC ±15%
	Current	125mA avg., 250mA peak
	Maximum Ripple	2.0% of DC Voltage
Internal Memory	Memory	512KB DRAM
Communication	Compatibility	SLC 5/03™ or SLC 5/04™
	Interface	1746 Series Bus
Compatible RFID Devices	Read/Write	HS500-Series Antennas and HMS800-Series Reader/Writers
	Read Only (1-32)	RS427, RS400 and RD3000 via Mux32 Multidrop
Interface to Serial Devices	COM1	RS232 (For Programming and Debugging)
	COM2	RS232, RS422, RS485 (Mux32)
	Baud Rate	300, 600, 1200, 2400, 4800, 9600, 19200
	Parity	Even, Odd, None
	Data Bits	7 or 8
	Stop Bits	1 or 2
	Max. Throughput	12000 Characters Per Second Total
Interface to PLC	A-B SPIOGA2 Registers	32 Input Image Registers, 32 Output Image Registers
	Shared RAM	32KB
	M0 Space	5760 Words
	M1 Space	5755 Words
	PLC Module Driver	Class 3
	I/O Mix Code	8 (32 Input Words, 32 Output Words)
	I/O Type Code	35 (Third Party Module)
Mechanical Specifications	Dimensions (W x H x D)	5.75 x 1.37 x 5.12in. (146 x 57 x 130mm)
	Weight	1.5lbs. (0.70kg)
Environment	Operating Temperature	32° to 120°F (0° to 49°C)
	Storage Temperature	-40° to 185°F (-40° to 85°C)
	Humidity	95% Non-Condensing
	Shock Resistance	30G for 11ms
	Vibration Resistance	1G at 3-500 Hz for 23 Minutes per Plane, 1Octave/Minute in All Three Planes
	Altitude	15000ft. (5540m), per MIL-STD-810, Method 500.2, Low Pressure
	Protection Class	NEMA1 (IP30)

Mechanical Dimensions



CM1746 RFID Module

Connections



Available Models

Model	Description
CM1746	RFID Module for Allen-Bradley SLC 500™ PLC and 1746 I/O Chassis