

RFID OEM Module ISO Compatible RM301



General Description

The Allflex OEM Module is a printed circuit board assembly that provides radio frequency identification (RFID) signal processing functions compatible with ISO Standards 11784 and 11785, including both HDX and FDX-B technologies. The OEM Module is intended for OEM (Original Equipment Manufactures) applications where it is integrated with a host device, such as hand-held computer, to perform ID code acquisition. The OEM Module can be configured to read on command or read continuously, and sends transponder identification information automatically via its serial data interface.



Construction

The Allflex OEM Module is a printed circuit board (PCB) subassembly that is designed to plug into a user's device. All connections for power, data, antenna, and configuration control are made through two pin header connectors. Screw holes are provided for mechanically securing the OEM Module to the user's assembly.

Performance Capabilities

The Allflex OEM Module's read distance performance is dependent on the size and design of the antenna with which it is used. When used with an optimally tuned 10cm long ferrite antenna, the OEM Module is capable of reading the Allflex 30mm HDX/HP ear tag transponder at a minimum distance of 28cm (11.02") (optimum orientation) when powered from 6VDC. FDX-B ear tag transponders can be read at a nominal distance of 20cm (7.87") (optimum orientation).

Ordering Information

SKU	Description
Allflex Model RM301	RFID OEM Module

Accessories

Allflex OEM Module Evaluation Board (P/N 870007-100)

Allflex USA, Inc.

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SPECIFICATIONS

GENERAL

RFID Compatibility:	ISO 11784 & 11785 HDX and FDX-B
Form Factor:	Printed Circuit Board Subassembly
User Interface:	Digital Logic (TTL) compatible hardware configuration control pins Serial Data Interface (TTL) Output status pins for "Valid Read" and "Exciter Active"
RS232 Serial Port:	9600 Bits/Second, No Parity, 8 Bits/Word, 1 Stop Bit, No Flow Control
Serial Data ID Code Format:	Formatted hexadecimal (transponder type, mfr/application code, ID Code) Unformatted hexadecimal (128 bit transponder contents less sync bytes)
Memory:	Stores last ID code for repeated retrieval (lost with power shut-off)
User Options:	Mode control commands sent via serial port interface and/or control pins
Power/Data Interface:	Two 0.1" center x .025" pin connectors (21 pins total / 1x10 and 1x11)
Battery Power:	6VDC @ 25mA quiescent (0.5 A maximum with exciter on)
Agency Certifications:	Electromagnetic Compatibility – Not certified (Compliant with FCC Part 15 Class A when used as specified) ISPRA Certification pending (ISO 11784/11785 compatibility)

PHYSICAL/ENVIRONMENTAL

Dimensions:	60mm x 55mm x 17mm (2.35" x 2.15" x 0.7")
Weight:	30gm (1 oz.)
PCB Material:	UL94V0 Fiberglass
Mounting Orientation:	Not Critical
Operating Temperature	-10°C to +55°C (IEC68.2.1/.2)
Storage Temperature	-40°C to +85°C (IEC68.2.1/.2)
Humidity:	0 to 95% (IEC68.2.56)
Altitude:	-100 to +3,000 meters
Mechanical Shock:	Per IEC 68-2-27
Vibration:	Per IEC 68-2-6

RELIABILITY

MTBF:	50,000 hours
MTTR:	0.5 hours (not field serviceable)
Expected Life:	5 years, minimum

PERFORMANCE: (@ 6 VDC w/10cm ferrite, antenna, optimally tuned)

Read Distance:	28cm (11.02") (minimum - Allflex 30mm HDX/HP eartag) 20cm (7.87") (minimum – Allflex 30mm HDX/HP eartag)
Reading Orientation:	0° to 45° with less than 10% range decrease
Read Zone:	360° in radial and axial planes with respect to axis of antenna
Interrogation Rate:	~ 4 times/second
Read Error Rate:	Less than 1 in 10 ⁶
Exciter Signal Radiated Field Strength:	81 dBuV/M @ meters

