**AI1301 Reader Card**

**Features**
- AI1200 functionality on a STD-bus compatible card
- Direct plug-in to the popular STD bus
- Single-channel or multiplex RF control
- Interrupt-driven bus interface
- FIFO queues for read data buffering
- Read/write tag compatibility
- LED status lights

The AI1301 Reader Card offers the functionality of the AI1200 Reader on a convenient STD-bus compatible card. The AI1301 Reader Card provides the logic necessary to decode tag data and communicate with interface devices and users’ application software. The AI1301 Reader Card performs many of the same functions as TransCore’s AI1200-series readers and reads all tags compatible with the AI1200-series readers.

The AI1301 Reader Card plugs directly into the STD bus. Other devices on the bus communicate directly with the AI1301 Reader Card using simple digital input/output (I/O) addressing techniques. Four command and status registers in each AI1301 Reader Card support communications over the bus. The user must install at least one central processing module (CPM) on the bus with the AI1301 Reader Card. User-developed software running on the CPM interfaces with the AI1301 Reader Card. Multiple AI1301 Reader Cards can be installed in the STD bus by selecting different board addresses for each card.

The AI1301 Reader Card is user-configurable for single-channel or dual-channel multiplex operation via the command registers. Sense input and status output functions are controlled using the AI1301 Reader Card’s bit-selectable I/O port. The user can individually configure the eight surge-protected TTL I/O lines for input or output. The command- and status-register-accessible TTL lines support various ancillary functions, such as loop detection, gate control, and check tag control. The user can configure the AI1301 Reader Card to generate an interrupt, signalling that a tag has been received and decoded. The AI1301 Reader Card includes first in, first out (FIFO) queues for buffering read data.

The AI1301 Reader Card retrieves ID data from standard read-only tags as well as from read/write tags. This compatibility allows the user to implement read/write upgrades in portions of a system while maintaining a baseline automatic identification capability across the entire system.
**AI1301 Reader Card**

**COMMUNICATIONS**

**Frequency Range**
- 850 to 950 MHz
- 2400 to 2500 MHz

**RF Control**
- Two-channel

**I/O Control**
- 8 TTL lines

**HARDWARE FEATURES**

**Status Indicators**
- Four LEDs: “Board Select Active,” “Lock Active,” “RF Channel 0 Active,” and “RF Channel 1 Active”

**SOFTWARE FEATURES**

**Tag ID Storage (volatile)**
- One 512 x 9-bit FIFO

**Protocol**
- Host communications may be configured with normal or error-correcting communications protocol.

**POWER REQUIREMENTS**

**Input Voltage**
- +5V DC from bus

**Consumption**
- 200 mA

**PHYSICAL ATTRIBUTES**

**Dimensions**
- Size: 6.0 x 4.5 in. (15.2 x 11.4 cm)
- Weight: 0.25 lb (0.11 kg)

**ENVIRONMENTAL PARAMETERS**

**Operating Temperature**
- -40°F to +185°F (-40°C to +85°C)

**STANDARDS**

The AI1301 Reader Card meets the criteria specified by the International Organization for Standardization’s (ISO) container identification standard, the Association of American Railroads (AAR), the American Trucking Associations (ATA), American National Standards Institute (ANSI), and the International Air Transport Association (IATA).