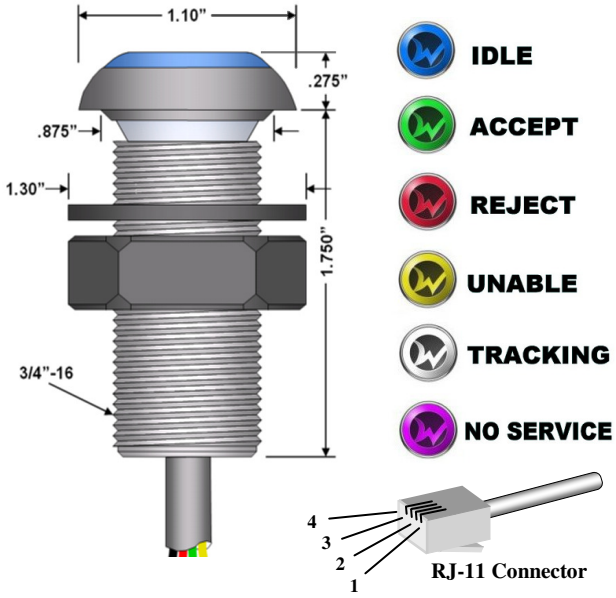
WR99 Wicket Reader

Cashless Stored Value Gaming Applications

Rev 8/10/2007

Features:

- **Multi-Color Illumination For Status Indication**
- **Manages Low Level Read / Write Transactions**
- **Secure Serial Protocol With Host Controller**
- **Utilizes ISO 15693 Password Protected Tags**
- **Small Footprint: .75" Mounting Hole Diameter**
- **Antenna Not Affected By Metal Panel Mount**



General

The WR99 is intended for stored value gaming applications where all account information is securely and redundantly stored on an ISO 15693 RFID (radio frequency identification) tag called a Wicket. Stored value technology eliminates the need for networks and servers while still providing the utility of an account balance, a bonus balance, a loyalty point balance, and an optional customer PIN. The WR99 Wicket Reader utilizes its emitted RF field to both power and communicate with the Wicket's chip/antenna.

Security

The WR99 incorporates 4 levels of security to authenticate Stored Value Wickets and their data. First, Wickets utilize special security tags having an invisible encrypted 32-bit password protection, unique to each Wicket, required for data access. Second, data stored in each block is authenticated by a proprietary cipher algorithm. Third, each Wicket holds a property specific Site-ID which must match that configured in the WR99 to be accepted. Fourth, the host controller must first be validated by a challenge/response sequence before the WR99 will write anything to a Wicket.

Wicket Reader Model WR99 Specifications	
Supply operating voltage	+5VDC to +7.5VDC
Supply current – no Wicket	70mA typical
Supply current - w/Wicket	170mA typical
Sensing range to Wicket	0.5" (12.5mm) typical
Operating temperature range	-20 °C to +50 °C
Enclosure materials	Polycarbonate
Fastener materials	Nylon
COM parameters	9600, N, 8, 2
TxD output high, output low, (Note 1)	+5V PNP source 10K sink to 0V
RxD input threshold, input impedance, (Note 1)	1.2V 10K sink to 0V
Wicket Reader connector: ▪ Pin 1, Yellow ▪ Pin 2, Green ▪ Pin 3, Red ▪ Pin 4, Black	RJ-11 (telephone style) ▪ RxD (receive) ▪ +V Supply ▪ TxD (transmit) ▪ Supply Common
Note 1: TxD and RxD are RS-232 compatible with all known common computer COM ports and USB converter dongles.	

Protocol

The WR99 has a polling based protocol wherein the WR99 status is always returned. If a Wicket has just been freshly read then its UserID, and balance information are also appended to the poll response. The protocol supports commands for debiting and crediting the various balances, for controlling the LED color and blink properties, and determining the version of the reader firmware. Status flags are used to indicate success or failure of write operations. Management of the account and bonus balances (real money versus non-refundable free play credits) is handled automatically by the WR99 such that a debit command will first debit what it can from the account balance, and then debit the bonus balance. For security reasons more detailed information regarding the WR99 protocol will only be shared with OEMs executing a suitable NDA.

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