# TL Technologies

## TL-USB *dual peripheral*
### USB Computer Interface for Coin & Note Acceptors

The TL-USB can independently connect either a coin or a note acceptor or both simultaneously, to a host PC via a single USB port. The unit is a very compact, standalone module. An external 12Vdc 1A regulated power source is required. You need to specify model TL4: coin only or TL6 : note & coin

Three protocols are available, providing 4, 6 or 8 note data formats. Each protocol format is activated by a unique query command. Protocols 2 & 3 support a coin dispense output to drive a coin hopper

**Power :** 12Vdc 1A regulated plug pack***. Polarity is centre positive***.

**Connector :** Coin validator (parallel operation, 6 coin output lines) – 10 pin IDC
Note Acceptor (RS232 serial or pulse ) – 4 pin screw terminal (Rx, TX, +Vdc, Gnd)

**Communications** : 9600bps, 8, 1, N, half duplex

**ASCII Protocol : Data Description from TL-USB to PC – up to 19 byte string**

| C1 | C2 | C3 | C4 | C5 | C6 | Y | E/D | N1 | N2 | N3 | … | N8 | A | E/D | CR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| Bit | Data | Description | |
|---|---|---|---|
| C1 | 0-9 | Identifies the number of C1 coins received | |
| C2 | 0-9 | Identifies the number of C2 coins received | |
| C3 | 0-9 | Identifies the number of C3 coins received | |
| C4 | 0-9 | Identifies the number of C4 coins received | |
| C5 | 0-9 | Identifies the number of C5 coins received | |
| C6 | 0-9 | Identifies the number of C6 coins received | |
| Y | Y | Transmitted if a yo-yo alarm is received | |
| E/D | E or D | Status of validator - either enabled or disabled | |
| N1 | 0-9 | Identifies the number of N1 notes received | |
| N2 | 0-9 | Identifies the number of N2 notes received | |
| N3 | 0-9 | Identifies the number of N3 notes received | |
| N4 | 0-9 | Identifies the number of N4 notes received | **(Protocol 1)** |
| … | … | … | |
| N6 | 0-9 | Identifies the number of N6 notes received | **(Protocol 2)** |
| … | … | … | |
| N8 | 0-9 | Identifies the number of N8 notes received | **(Protocol 3)** |
| A | C,R,J,F,N | Transmitted if various Alarms are received | **(See Note 1)** |
| E/D | E or D | Status of BNR - either enabled or disabled | |

**Data Description from PC to TL-USB**

| Output | Description | |
|---|---|---|
| n<CR> | TL-USB Data Request | **Protocol 1 : n = ?**<br>**Protocol 2 : n = !**<br>**Protocol 3 : n = #** |
| EV<CR> | Enable Coin Validator | |
| DV<CR> | Disable Coin Validator | |
| EN<CR> | Enable Bank Note Reader | |
| DN<CR> | Disable Bank Note Reader | |
| PN_data1_data2<CR> | Program Bank Note Reader (future use, e.g. Flash program) | |
| EN##<CR> | Enable Note No. ## | |
| DN##<CR> | Disable Note no. ## | |
| DC<CR> | Dispense coin (10msec pulse, available in protocol 2& 3) | |

**Notes**

**1.0** Various alarms will be sent to the host when available and received from the Bank Note Reader. These will be placed in Byte A. **(*Only available in Protocols 2 & 3)***

| Alarm (Byte A) | Description |
|---|---|
| C | Cheated |
| R | Note is rejected |
| J | Note is jammed |
| F | Stacker is full |
| N | No communications |

**2.0** TL4 (Protocol 1) functionality is supported by Sitekiosk and Netstop i-kiosk browser programs



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