ACCESS CONTROL ASM Multi Tech Reader

MAGNETIC CARD READER WITH
PIEZOELECTRIC KEYPAD & PROX READER
Model: **ASM Multi Tech Reader**
Output formats:

	Magnetic Card	RAW data (Factory Default) Or 26-Bit Wiegand Field Selectable
	Keypad	8-Bit Burst
	Prox Card	HID Output Format
Power Supply:		8 to 15 VDC
Power Consumption:		Typ 50 mA, 180 mA Peak
Magnetic Card:		Encoding 75 BPI, ANSI X4.16, Track 2 standard, Speed 3 to 50 ips.
Read Head:		500,000 passes typical.
Environment:		IP67; 95% relative humidity
Operating Temperature:		-25ºC to + 65ºC (-15ºF to 158ºF)
Dimensions:		145mm x 107mm x 33mm (4.2" x 5.7" x 1.3")
Mounting:		Universal USA and EUROPE
FCC:		**Forthcoming.**

Operation Modes:

The ASM is equipped with three electronic devices: A Magnetic Card Reader, an HID Proximity card reader, and a Piezoelectric Keypad. The ASM supports the following operation modes:

- Swipe a valid Magnetic Card in either direction. The unit will read the contents and send it over the data wires to the host.
- Enter a PIN code. The unit will send each digit over the same data wires to the host.
- Present a valid Proximity card, the unit will read and send the data to the host.

The ASM is designed to read standard or high coercively magnetic stripe cards.

Verification:

Power up the unit. The LEDs will light in a series and the Buzzer will sound.
After 5 seconds, the red and green LEDs will light according to the host input. The yellow LED will be off.
The magnetic card reader is set at RAW data by Default.
Swipe a valid magnetic card and the green LED will flash for 0.1 sec.

The LED input wire (Brown) activates the LEDs as follows:
Input < 0.8 V Green LED is ON
Input > 3.5 V Red LED is ON
Each key press will activate the Buzzer and flash the inactive LED.
Present a valid HID card. The unit will flash the yellow LED and beep once.

Programming the unit for 26-Bit Wiegand or RAW data

The Magstripe data format is "RAW data" by default. Program the unit in the first three seconds after power up. Press 1 for Wiegand, 2 for RAW data. The setup is stored in the nonvolatile memory.

BARAN
Advanced Technologies (86) Ltd.

ACCESS CONTROL ASM Multi Tech Reader

Wiring

COLOR	FUNCTION	ELECTRICAL FUNCTION
RED	Input Voltage	12 VDC
BLACK	Ground	
GREEN	Data 0	Open collector 1Kohm pull-up to internal +5V
WHITE	Data 1	Open collector 1Kohm pull-up to internal +5V
BROWN	LED Input	0.8 V > Green LED is ON 3,5 V < Red LED is ON
ORANGE	Buzzer + Buffered Input	Buzzer + Buffered Input activation 0V activated No Voltage

Grounding the Reader:
To avoid having ESD (electrostatic discharge) interfere with the reader operation, ground the reader casing. This can be accomplished be tying the mounting bracket to earth ground locally (e.g. grounded conduit).

Data Output Specifications:
PIN data 8-Bit output format:
Each Key press generates the defined 8-bit Output as shown:

Key	Output	Key	Output
0	10110000	6	10110110
1	00110001	7	00110111
2	00110010	8	00111000
3	10110011	9	10111001
4	00110100	*	00101010
5	10110101	#	00100011

Magstripe Card Data: 26-Bit WIEGAND output format.

	Facility Code		User ID	
Digits in Mag Card	Digits	Range	Digits	User ID 26-bit Range
8	1-3	000-255	4-8	00000-65535
9	1-3	000-255	4-9	00000-65535
10	1-4	000-255	5-10	00000-65535
11	1-5	000-255	6-11	00000-65535

```
        P S S S S S S S S   N N N N N N N N N N N N N N N N  P
BIT     1 2          9 10                                  25  26
```
BIT   1 is an even parity for the following 12 bits. The sum of bits 1-13 is even.
BITS   2-9 are the facility code the card presented from 000 to 255.
BITS   10-25 this is the card number presented.
        Leading 0s are added as required. Bit 10 is most significant.
BIT   26 Odd parity over previous 12 bits. The sum of bits 14-26 is odd.

Proximity Card Data: Raw Output Format
BXXX....XXXF<LRC> (X represents from 1 to 37 characters)

Magstripe Card Data: N-Bit Wiegand
N number of Wiegand data bits as formatted on the card. Pass data through without reformatting.
        Examples: P=Parity; A=Facility Code; B=Card Number
    26-bit Wiegand: PAAAAAAAABBBBBBBBBBBBBBBBBP
    35-bit Wiegand: PPAAAAAAAAAAAAABBBBBBBBBBBBBBBBBBBBP

BARAN
Advanced Technologies (86) Ltd.