CON100iB Multiply Interface Converter

with iButton

INTRODUCTION

The CON100iB can be used to convert commonly used data formats to Clock & Data(MSR), RS232 or Wiegand format data.

FEATURES

- Converts from Wiegand, RS232, Clock & Data (MSR) or Dallas iButton™ format.
- Converts to RS232, MSR or Wiegand format.
- Can convert to or from Wiegand with up to 64 bits of data, including up to 64 bit site code plus optional start and end parity bits.
- User programmable setting by software when converting to Wiegand or MSR.
- Reads up to 64 bits from Dallas iButton™ user memory or 56 bits from factory ID.
- Up to 144 characters or digits from/to Track 1, 2 or 3 Clock/Data (MSR) format input/output.
- Auto HEX and DEC convert to MSR Output.
- Much useful setting to fit in with user by software for MSR, Wiegand, RS232 .

SPECIFICATIONS

OPERATING

MSR Reference Standards	ISO7810, ISO 7811, JIS X6301, JIS X6302I
MSR Decode/Output Method	ISO/JIS-1 : Track 1 IATA , Track 2 ABA , Track 3 THRIFT JIS-II : Track NTT
Interface Format	**Input/Output Interface -** RS232C interface : Programmable by DIP Switch or Software (Option). Input / Output Default : 19200 bps, (8,N,1) Wiegand interface : Programmable by DIP Switch or Software (Option). Input Default : 26 Bits Output Default : 26 Bit, Pulse Width:100 μs, Pulse Separation: 2ms MSR interface : Programmable by DIP Switch or Software (Option). Input Default : Decode ABA , 7-BIT,JIS II format card. Output Default : Track2 ABA , Simulate Swipe Card Speed : 40 IPS **Input Interface only -** iButton : Programmable by DIP Switch or Software (Option). For DS1990A (Unique 48-bits serial number)

ELECTRICAL

Power Input	8 to 24 VDC , Standby Current 10 mA@12VDC, Limit Current 200mA
Regulation Output	5 VDC +/- 10 % , 300 mA (max.)

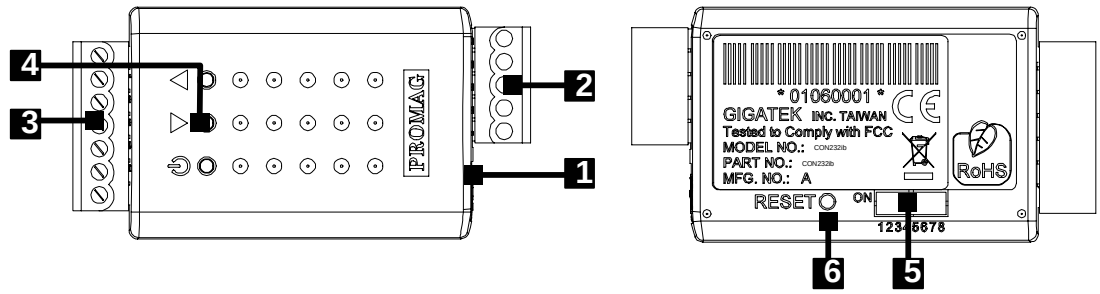
MECHANICAL

Dimensions	Length : 70 mm / Width : 35 mm / Height : 18 mm (Include Terminal)
Weight	30 gm (Include Terminal)
Connectors	5 pin terminal 3.5 mm : for iButton Input, RS232 and Power In/output 7 pin terminal 3.5 mm : for Power Output, Weigand, MSR In/output 2 pin D3.5mm : for Power In/output
Dip/Tact Switch	8 DIP : for Output Interface, RS232/Weigand/MSR output Setting Tact Switch : for ISP

ENVIRONMENTAL

Temperature	Operating : -10 ℃ to 60 ℃ Storage : -30 ℃ to 70 ℃
Humidity	Operating : 10 % to 90 % noncondensing Storage : Up to 90% noncondensing

TERMINAL/SETTING/INDICATOR DESCRIPTIONS



1 Power Input

GND — DC +12V

2 5PIN Terminal

Pin	Description
1	+12VDC
2	RX (In)
3	TX (Out)
4	iBUTTON
5	GND

3 7PIN Terminal

Pin	Description
1	+5VDC OUT
2	GND
3	Data
4	Strobe
5	Card Present
6	Data0
7	Data1

4 LED Indicator

LED	Description
Power	Power (O)
▷	Input to Converter(G)
◁	Output form Converter(R)

PS. All LED indicator is On in the ISP mode.

5 DIP Switch

DIP8	DIP7	Output Interface
OFF	**OFF**	**RS232 (Default)**
OFF	ON	Wiegand
ON	OFF	Magnetic
ON	ON	Software Setting

DIP6	DIP5	RS232 Output Setting
OFF	**OFF**	**19200 (Default)**
OFF	ON	9600
ON	OFF	4800
ON	ON	Software Setting

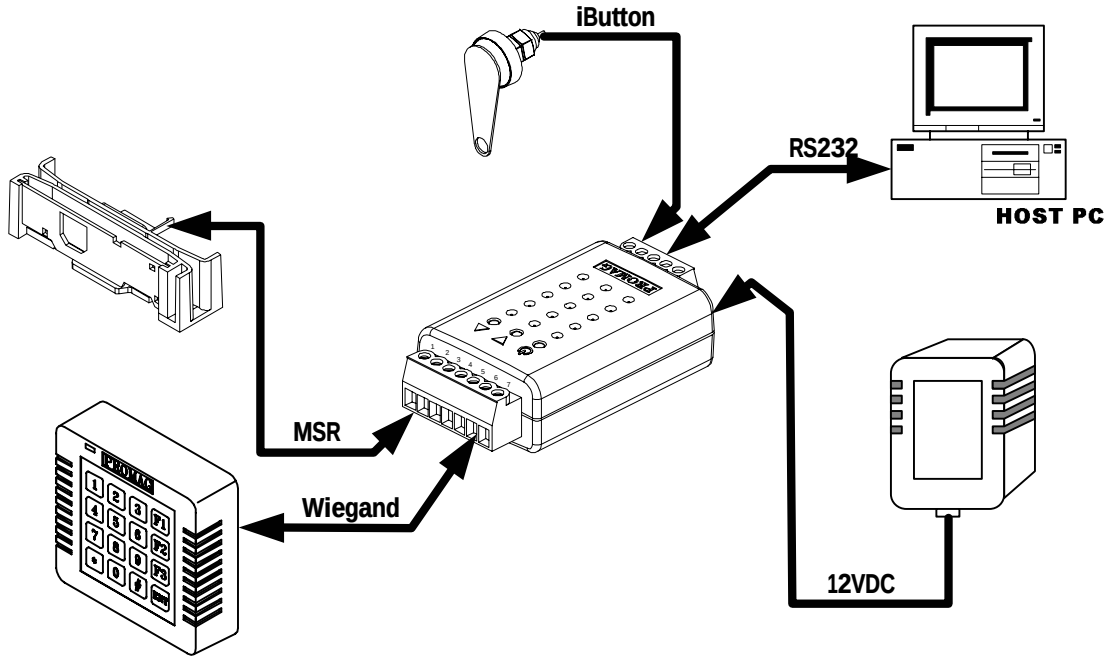
DIP4	DIP3	MSR Output Setting
OFF	**OFF**	**ABA (Default)**
OFF	ON	7BIT
ON	OFF	JIS2
ON	ON	Software Setting

DIP2	DIP1	Wiegand Output Setting
OFF	**OFF**	**26 bits (Default)**
OFF	ON	34 bits
ON	OFF	42 bits
ON	ON	Software Setting

6 RESET

SW	Description
Press before power on	ISP
Unpress before power on	Run
Press after power on	
Unpress after power on	

CONNECTION



SETTING PARAMETER REGISTER

Address	Item	Default	MARK
000	**RS232 Baudrate**	FF : 19200 bps	
001	**Interface**	FF : RS232 Interface	
003	**RS232 Data bits**	FF : 8 data bits	
004	**RS232 Stop bits**	FF : 1 stop bits	
005	**RS232 Parity**	FF : None	
014	**Wiegand Output**	FF : Normal Output	
017	**Wiegand Output Number**	FF : 26 bits	Output
018	**Wiegand Output Parity**	FF : SS (Even) ES (Odd)	Output
019	**Wiegand Pulse Width**	FF : 100us	Output
01A	**Wiegand Pulse Interval**	FF : 2ms	Output
021	**Wiegand Site Code Start Position**	FF : Site Code Empty	Input
022	**Wiegand Site Code Length**	FF : 66 bits	Input
023	**Wiegand Serial Number Start Position**	02 : 2nd bit	Input
024	**Wiegand Serial Number Length**	18 : 24 bits	Input
025	**Wiegand Site Code Length (DEC)**	FF : Site Code Hex Output	Input
026	**Wiegand Serial Number Length (DEC)**	FF : Serial Number Hex Output	Input
027	**Wiegand Field Code**	FF : Empty	Input
032	**MSR Mark**	FF : Empty	
033	**MSR Output Start Digit**	FF : 1st Digit	
034	**MSR Output ID Length**	FF : 255 Digit	
035	**MSR Output Digit form iButoon**	FF : ABA(D) 7BIT(H) JIS2(H)	
037	**MSR Input Start Digit**	FF : 1st Digit	
038	**MSR Intput ID Length**	FF : 144 Digit	
039	**MSR End Sentinel0**	FF : Empty	
03A	**MSR End Sentinel1**	FF : Empty	
040	**iButton Start Sentinel for RS232**	FF : Empty	
041	**iButton End Sentinel for RS232**	FF : Empty	
042	**iButton Present Sentinel for RS232**	FF : Empty	
043	**iButton Release Sentinel for RS232**	FF : Empty	
044	**iButton Present ID**	FF : ID Only	
045	**iButton Release ID**	00 : ID Only	
050	**MSR 7-bit Start Sentinel**	FF : Empty	
051	**MSR 7-bit End Sentinel**	FF : Empty	
052	**MSR ABA Start Sentinel**	FF : Empty	
053	**MSR ABA End Sentinel**	FF : Empty	
054	**MSR JIS II Start Sentinel**	FF : Empty	
055	**MSR JIS II End Sentinel**	FF : Empty	
05A	**MSR leading Zero number**	FF : 10 bits zero	
05B	**MSR trailing Zero number**	FF : 10 bits zero	
05C	**MSR Output Start Sentinel**	FF : ABA(0Bh) 7BIT(45h) JIS2(FFh)	
05D	**MSR Output End Sentinel**	FF : ABA(1Fh) 7BIT(1Fh) JIS2(FFh)	
05E	**MSR Output Method**	FF : ABA	
05F	**MSR Strobe Pulse Width**	FF : 40 IPS	
060	**RS232 Frame Start Code**	02 : STX	
061	**RS232 Frame End Code 0**	0D : CR	
062	**RS232 Frame End Code 1**	0A : LF	
063	**RS232 Frame Check Code**	FF : Empty	
064	**RS232 Frame End Code**	03 : ETX	
067	**MSR Swipe Forward code**	FF : Empty	
068	**MSR Swipe Rearward code**	FF : Empty	

Address	Item	Default	Revsion 1.0
080-087	**RS232 Output Prefix**	FF : Empty	
088-08F	**RS232 Output Suffix**	FF : Empty	
090-097	**MSR Output Prefix**	FF : Empty	
098-09F	**MSR Output Suffix**	FF : Empty	
0A0-0A7	**iButton Output Prefix**	FF : Empty	
0A8-0AF	**iButton Output Suffix**	FF : Empty	
0B0-0B7	**Wiegand Output Prefix**	FF : Empty	
0B8-0BF	**Wiegand Output Suffix**	FF : Empty	
100	**Wiegand Input Parity Position**	01 : 1 bits is parity	
101	**Wiegand Input Parity Attribute**	00 : Even	
102-10F	**Wiegand Input Parity Mark Buffer**	7Fh,F8h,00h……...00h	
110	**Wiegand Input Parity Position**	1A : 26 bits is parity	
111	**Wiegand Input Parity Attribute**	01 : Odd	
112-11F	**Wiegand Input Parity Mark Buffer**	00h,07h,FFh,80h,00h...00h	

APPLICATION NOTE

1. RS232 Convert to MSR and Wiegand (For software setting mode)

RS232 Frame Format

STX	'W'	n	Output Data	CR

Description

Output Interface	n	Format	Output Data Available Character	Taboo Character
MSR	'1'	7BIT	ASCII 20h ~ 5Fh , Max 144 Characters	25h(%) , 3Fh (?)
	'2'	JIS2	ASCII 00h ~ 7Fh , Max 144 Characters	02h(STX) , 0Dh(CR) 7Fh(DEL)
	'3'	ABA	ASCII 30h ~ 3Fh , Max 144 Characters	3Bh(;) , 3Fh (?)
	'0'	Setting	ASCII 30h ~ 39h, 41h ~ 46h	
Wiegand	'0'	Setting	ASCII 30h ~ 39h, 41h ~ 46h	

1. "Setting" mean according to setting of the Con100iB.
2. Any Setting of the CON100iB is not effect if n= '1','2','3' in MSR output.
3. Only can send '0'~'9','A'~'F' character if n=0 in MSR output.
4. The baud rate was fixed at 19200 bps,8N1

2. RS232 Convert to Wiegand (For hardware setting mode)

RS232 Frame Format

STX	Input Data (HEX characters)	CR	LF	ETX

1. The baud rate was fixed at 9600 bps,8N1

Wiegand Output Format

Parity	Data 13/16/21 bits	Data 13/16/21 bits	Parity
Summed for even parity		Summed for odd parity	