

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 μ s, 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.)

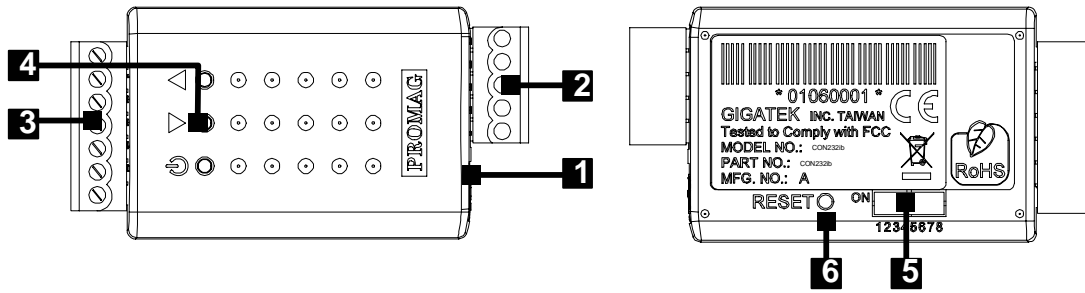
MECHANICAL

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

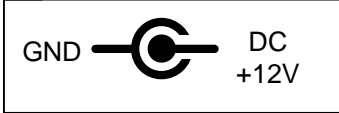
ENVIRONMENTAL

Temperature	Operating : -10 °C to 60 °C Storage : -30 °C to 70 °C
Humidity	Operating : 10 % to 90 % noncondensing Storage : Up to 100% noncondensing

TERMINAL/SETTING/INDICATOR DESCRIPTIONS



1 Power Input



3 7PIN Terminal

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

2 5PIN Terminal

Pin	Description
1	+12VDC
2	TX
3	RX
4	iBUTTON
5	GND

4 LED Indicator

LED	Description
	Power (O)
	Input to Converter(G)
	Output from Converter(R)

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

6 RESET

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

5 DIP Switch

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

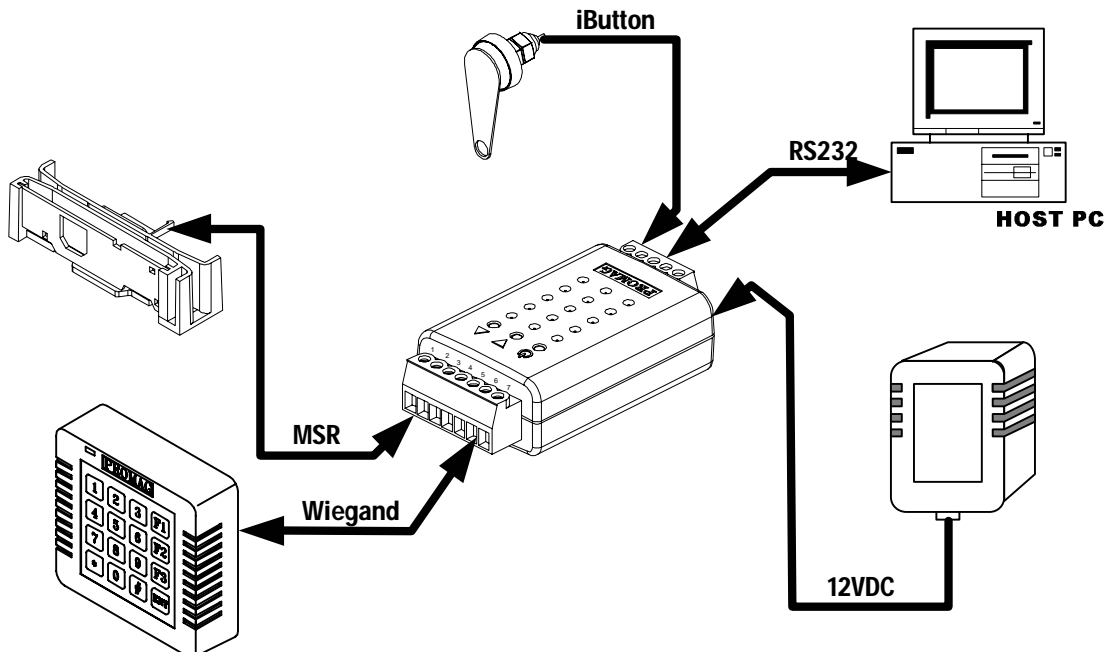
DIP6	DIP5	RS232 Output Setting
OFF	OFF	19200 (Default)
OFF	ON	9600
ON	OFF	4800
ON	ON	Software Setting

The RS232 Input was fixed at 19200 bps ,8N1.

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

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 Input 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	FF : Empty	
061	RS232 Frame End Code 0	FF : Empty	
062	RS232 Frame End Code 1	FF : Empty	
063	RS232 Frame Check Code	FF : Empty	
067	MSR Swipe Forward code	FF : Empty	
068	MSR Swipe Rearward code	FF : Empty	

Address	Item	Default	Revision 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

RS232 Frame Format

STX	'W'	n	Output Data	CR
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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	7Fh
	'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