

# **Instruction Manual**

**SSI-1016-3M**

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MTS Sensors Technology Corp.

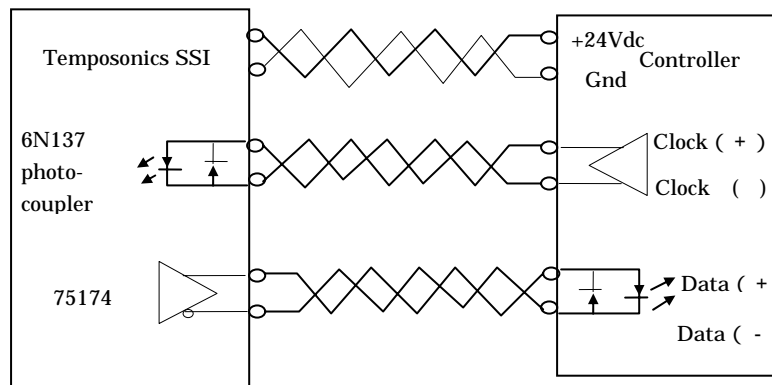
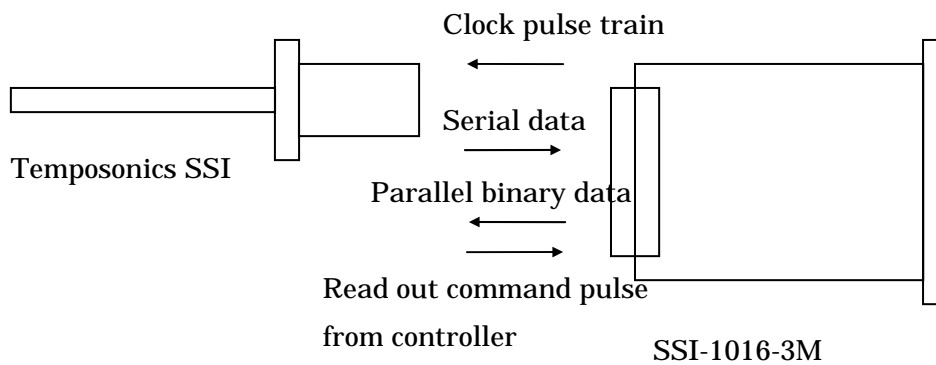
Aug.05

## 1. Introduction

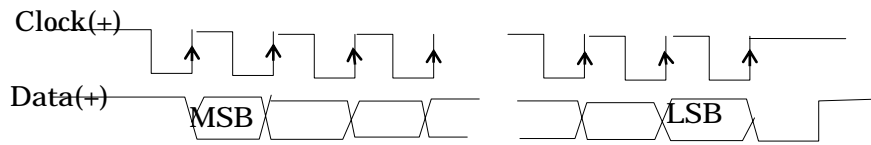
SSI-1016 is designed to convert the SSI output of Temposonics transducer into binary parallel output signals. SSI output format is widely used for transferring

the serial output data between absolute sensors and controllers. A synchronous clock pulse train from the controller gates out the data from the sensor. SSI-1016 receives the read out command pulse from the controller and send a clock pulse train to the transducer automatically to gate out the serial data. Receiving the synchronous serial data from the transducer, SSI-1016-3M converts the serial data into parallel data and outputs the binary parallel data via transistor open collector output circuit.

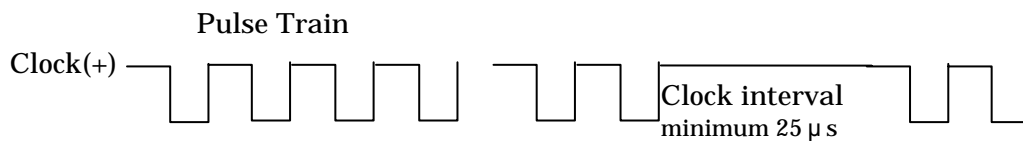
## 2. System configuration



### Timing diagram



### Clock pulse sequence



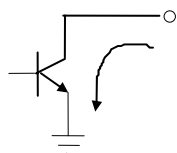
## 3. Specifications

	Specifications
Power supply	supply voltage: DC+24V +20%,-15% ripple less than 1%pp current consumption: 150mA(typ.)
Resolution	depends on the transducer to interface
Transducer	Temposonics transducer with SSI output
Output data format	Parallel binary or gray (depends on the transducer to interface)
Data length	24bit or 25 bit(depends on the transducer to interface) Set SW1 ON for 25 bit, Set SW1 OFF for 24 bit
Clock frequency	820KHz, 204KHz or 102KHz can be selected with the dip switch on the board.
Output circuit	Transistor open collector (equivalent to ULM2803) Positive logic output Withstand voltage:DC+50V, Sink current: 500mA max.
External readout command	When SW3 is OFF, SSI-1016 receives the external readout command and update the parallel output data. 24V (24mA) input, photo-coupler input circuit Input pulse width: 50 micro sec. or longer Minimum pulse interval: 500 micro sec or longer
Internal readout command	When SW3 is ON, the readout command is generated automatically with an interval of 500 micro sec and update the parallel data automatically.
Data ready output	When Data ready output is high (transistor OFF), the output data is ready Transistor open collector (equivalent to ULM2803) Positive logic output Withstand voltage:DC+50V, Sink current: 100mA max.
Operating temperature range	0 ~ +70
Cable length	5m (max.) when clock frequency is 820KHz

between transducer and SSI-1016 *1	200m (max.) when clock frequency is 204KHz 300m (max.) when clock frequency is 102 KHz
Outline dimension	100x160mm 19 inch rack mountable DIN board

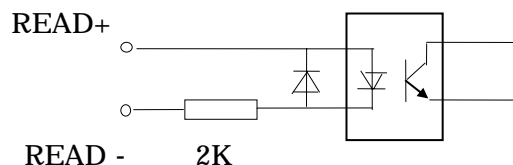
\*1: This maximum cable length is not the guaranteed value.

#### 4. Output circuit

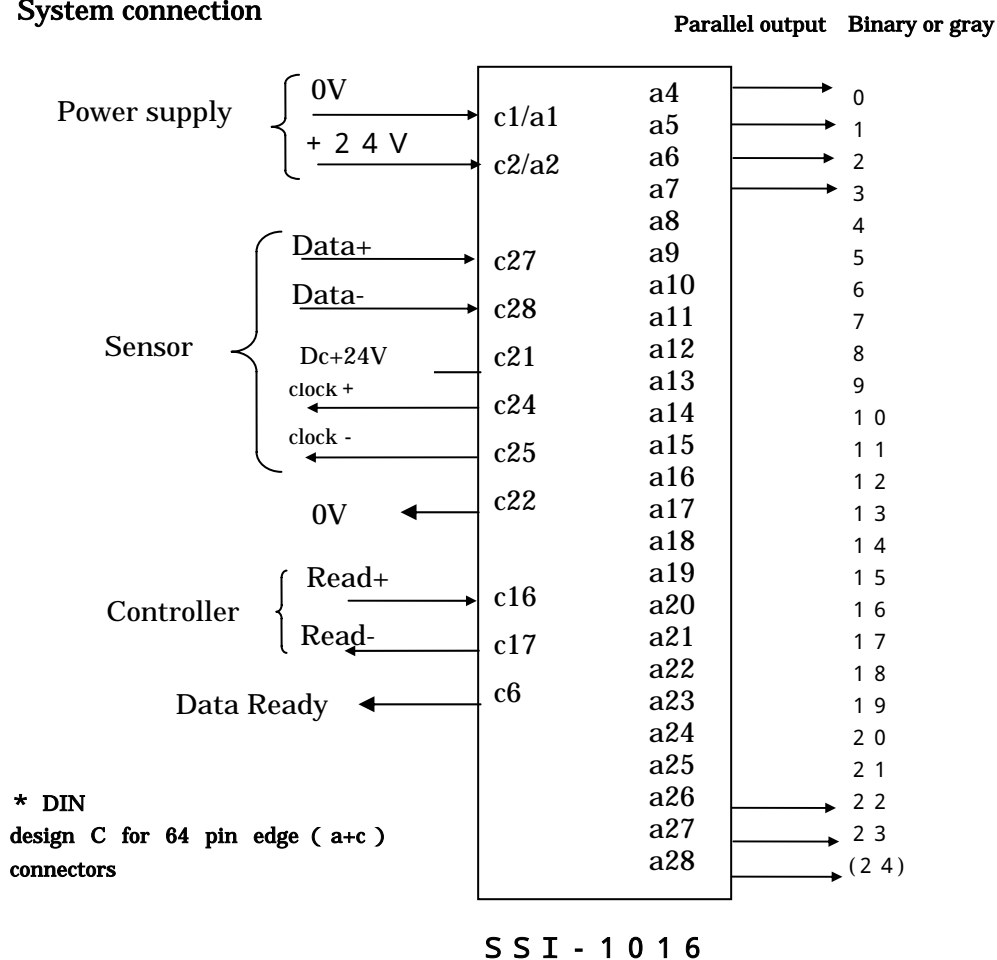


2 5 circuit

#### 5. External readout command input circuit

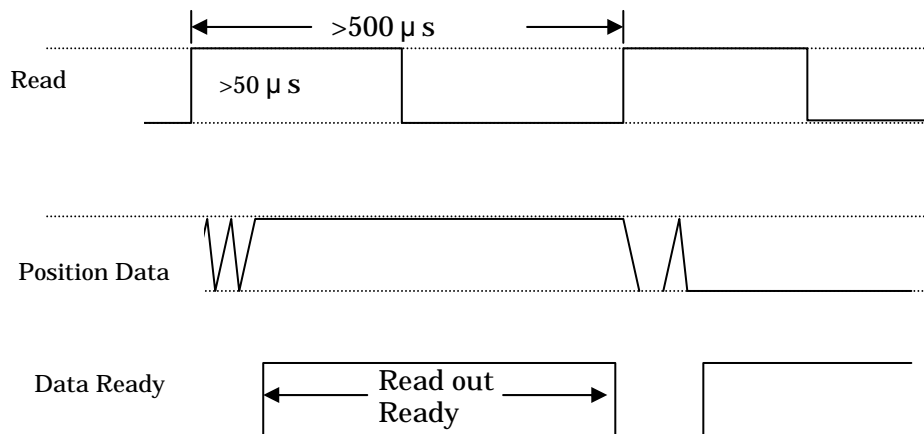


#### 6. System connection



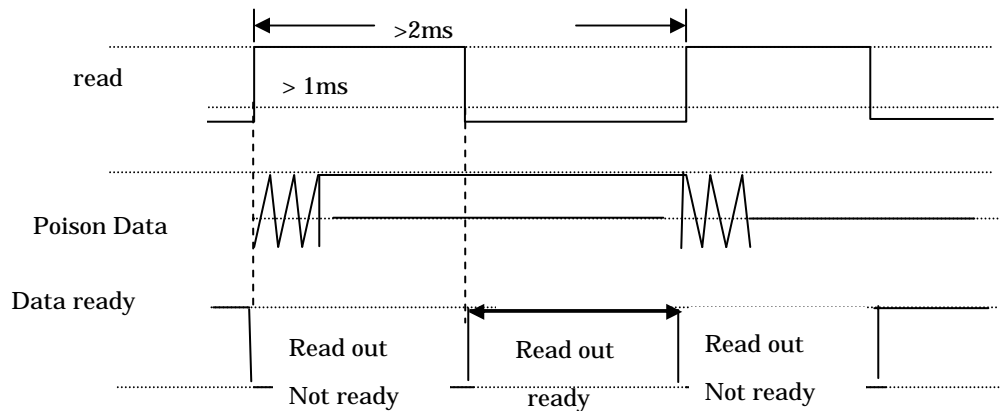
## 7. Read out sequence

Set SW5 "INT"



Set SW5 "EXT"

( if controller can not recognize low level of read data ready signal, set SW5 "EXT" )



If you use "EXT" you have to set SW3 MANU

## 8. Outline dimension

