电应普
BEST SENSOR

DATASHEET

E08 4in1 Module Converter

TABLE OF CONTENTS

Product Description

1. General

The E08 4in1 module converter is a functional convert module, which can control 1 to 4 modules of for simultaneous, cross or polling work. The response time of the module converter is determined according to the actual output interface. By using this module converter to detect and monitor the distance of different scenario, different directions, and multiple ranging modules.

2. Features

- Wide voltage power supply, DC5~24V
- One to four ranging modules can be connected to work at the same time
- Working temperature -15℃ to +60℃
- Data output is stable and reliable
- Four ranging modules are installed separately to detect distances in multiple directions.
- Four ranging modules are installed in the same direction for distance confirmation.
- Fast response time when four ranging modules work at the same time.
- Anti static electricity design which conforms to the IEC61000-4-2 standard.

3. Applications

Robot avoidance and automatic control

Module Specification

1. Specification

Item	UART Controlled output	RS485 Output	IIC output	Switch Output	Unit	Remark
Operating Voltage	5~24	5~24	5~24	5~24	V	DC
Operating current	≤5	≤9	≤7	≤9	mA	(1)
Operating cycle	Controlled	Controlled	Controlled	Controlled		
Output interface	UART Controlled	RS485	IIC	Switch		

Remarks: (1) The power supply is 5V, and the data is the test data obtained by the four interfaces of the module without the ranging module. It is not the working parameter of the module when it is loaded, and is for reference only.

2.Environment

Item	Minimum value	Typical value	Max value	Unit	Remark
Storage Temp	-25	25	75	℃	
Storage Humidity		65%	90%	RH	(1)
Operating Temp	-15	25	60	℃	
Operating Humidity		65%	80%	RH	(2)

Remark:

1.Environment temperature is 0-39℃, max humidity is 90%(Non-condensation)

2.Environment is 40-50℃, max humidity is the highest at current temperature in nature

3.Electronics

Item	Minimum value	Typical value	Max value	Unit	Remark
Operating voltage	5	12	24	V	
Peak current			50	mV	Peak value
Input Ripple			100	mV	Peak value
ESD			±4K/±8K	V	

Remark: The probe shell and output pin comply with the IEC61000-4-2 standard. Contact static electricity ±4KV, Air static electricity ±8KV.

Sensor Selection Instruction

The E08 4in1 module converter has a variety of output formats, and users can choose the corresponding model according to actual application needs.

No.	Model No.	Output interface	Remarks
1	DYP-E08TF-V1.0	UART Auto/ Controlled output	(1)
2	DYP-E08CF-V1.0	IIC output	(2)
3	DYP-E084F-V1.0	RS485 output	(2)
4	DYP-E08GDF-V1.0	Switch auto/controlled output	(1)

Remarks: (1) There are three working modes: simultaneous working mode, cross working mode and polling working mode;
(2) It can only trigger the ranging modules of 1 to 4 interfaces to work individually or at the same time.

Reliable Testing Condition

| No.	Description	Testing condition	sample QTY	remark
1	High temperature and humidity	65℃，85%RH，Power ON@5V，72hrs	3	
2	low temperature	-20℃，Power ON@5V,72hrs	3	
3	High temperature and humidity storage	80℃，80%RH，storage，72hrs	3	
4	Low temperature storage	-30℃，storage，72hrs	3	
5	Vibration test	10-200Hz,15min,2.0G, XYZ three axes, each axis is 0.5 hours	3	
6	Drop test	120cm free fall, 5 times on wooden floor	3	

Note: After the test, the module is determined to be OK after the function test, and the performance degradation rate is ≤10%.

Notice

1. Please pay attention to the structural tolerances when designing. Unreasonable structural design may cause temporary abnormalities in module functions.

2. Please pay attention to the evaluation of electromagnetic compatibility when designing. Unreasonable system design may cause malfunction of the module.

3. When the boundary application of the product limit parameter is involved, you can contact after sale service dept. to confirm the relevant precautions.

4. The company reserves the right to change this document and update the functions without prior notice.
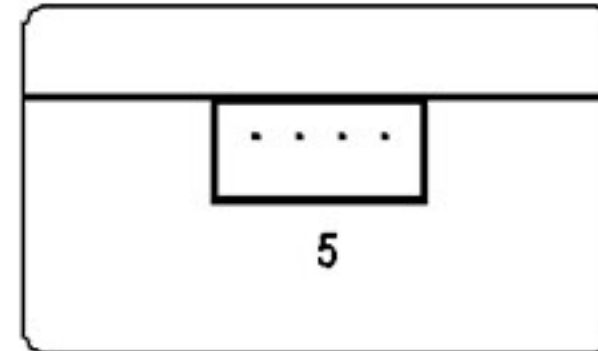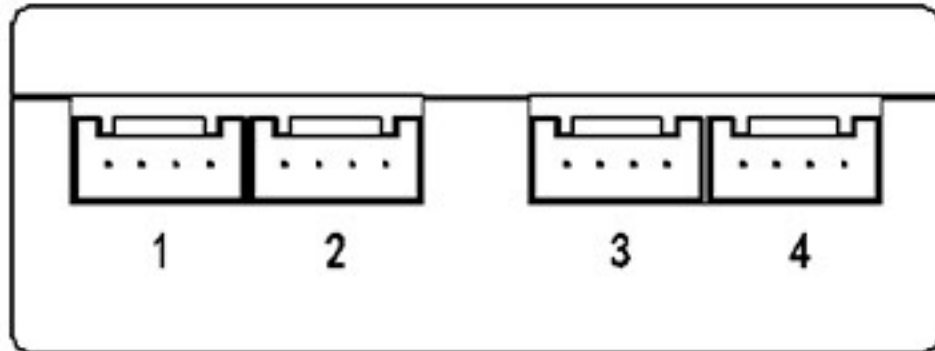
Mechanics
1. Mechanical Dimensions (mm-inch)
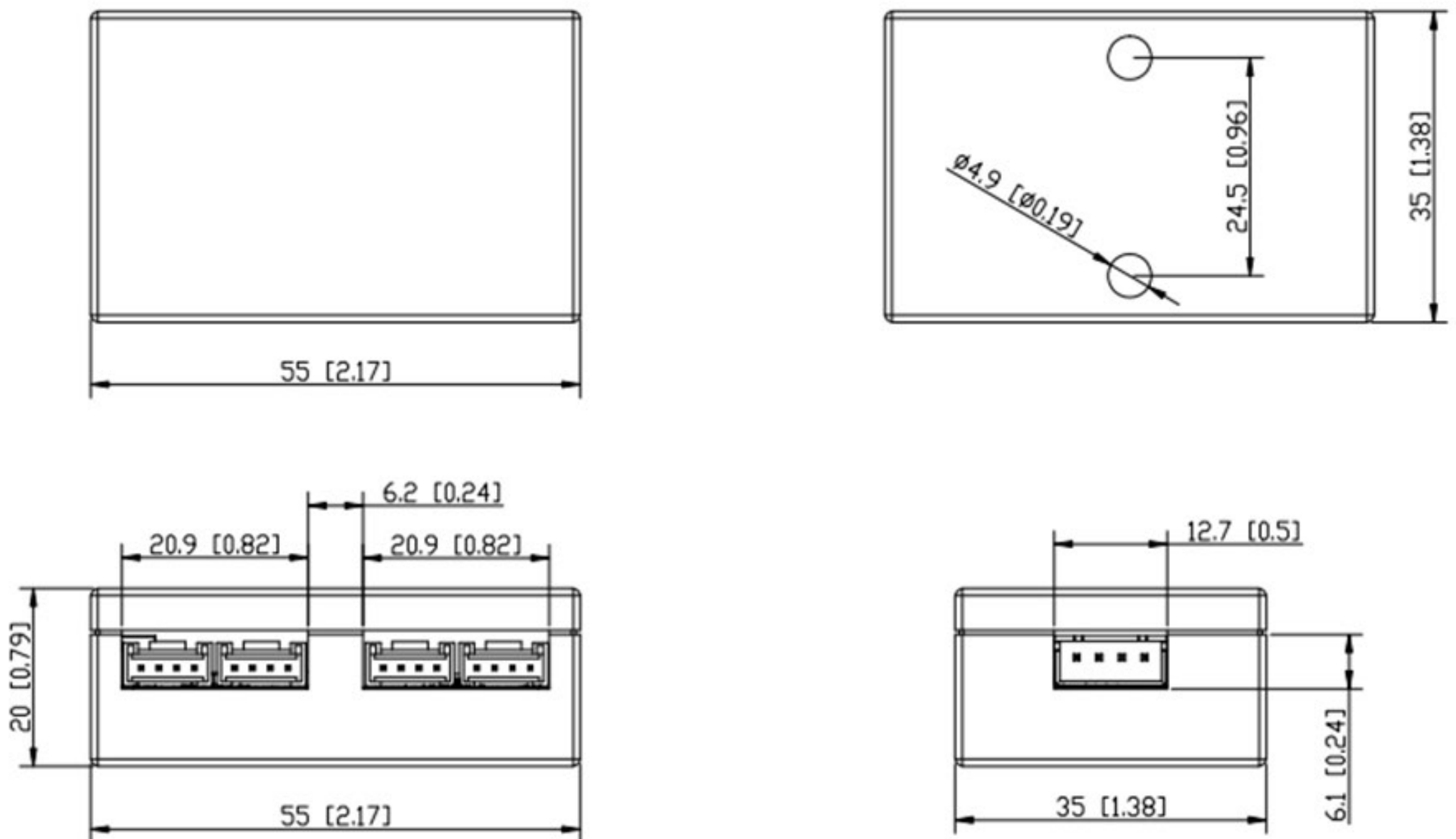
2. Pin out

(1) Module converter interface

Interface Number	Name	Description	Remark
1	Interface 1	Ranging module interface 1	(1)
2	Interface 2	Ranging module interface 2	(1)
3	Interface 3	Ranging module interface 3	(1)
4	Interface 4	Ranging module interface 4	(1)
5	Main Interface	Main interface of module coverter	(2)

Remark:

(1) Ranging module interface 1~4: used to connect with our regular FF-beginning protocol ranging module.

(2) The main interface of the transfer module: Docking with the user interface.
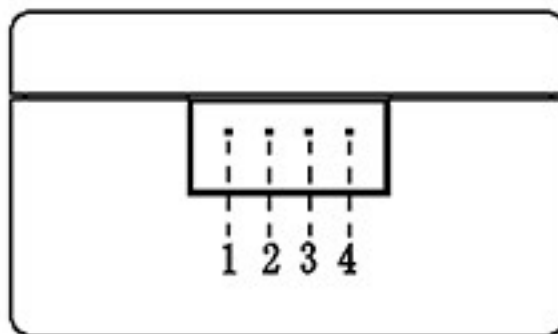
(2) Ranging module interface
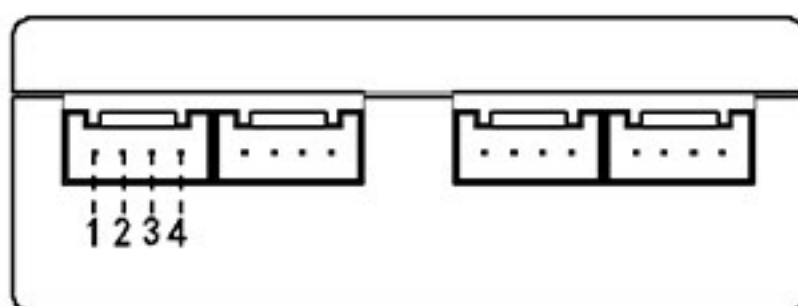
Pin No.	Function name	Description
1	RX	Data input
2	TX	Data outputt

3	GND	GND
4	VCC	Power input

Note:

1. The interfaces 1 to 4 of the ranging module is exactly the same, only interface 1 is described.

2. Ranging module interface 1~4 can only connect with the ranging module specified

(3) Main Interface

Number	UART Output	RS485 Output	IIC output	Switch Output	Description
1	RX	B	SDA	RX	Different output interface with different function
2	TX	A	SCL	TX	Different output interface with different function
3	GND	GND	GND	GND	GND
4	VCC	VCC	VCC	VCC	Power input