

Langfang Zhaoqing Temperature Measurement Cable Co., Ltd.

Producer: Li Zhe tel / wechat : 18533653000

Commissariat Bungalow
warehouse temperature
measurement scheme

Detailed
explanation
of
Scheme

Langfang Zhaosui Temperature
Measurement Cable Co., LTD

Designer: Li Zhe

telephone:18533653000

I. System overview and design significance

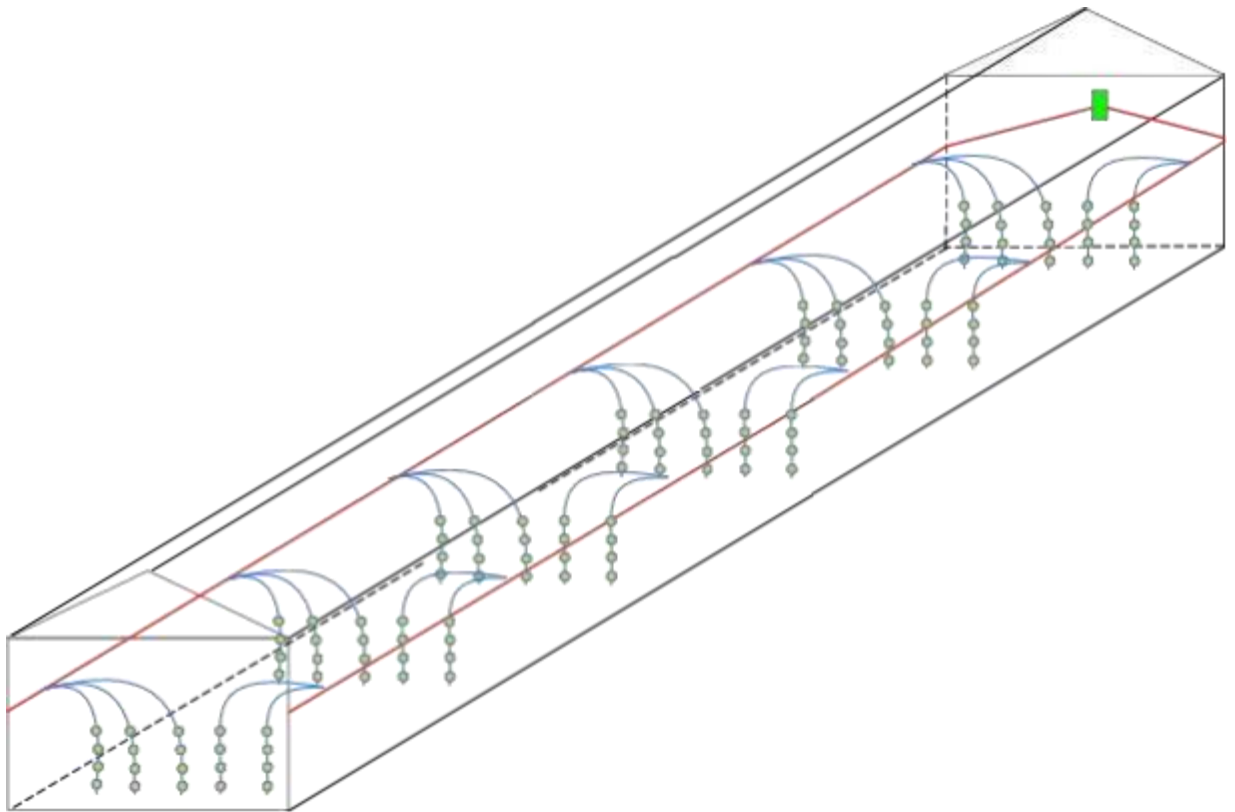
This scheme is designed to monitor the temperature inside the granary, and insert N temperature measuring cables into the grain to measure the temperature.

Cable built-in N temperature measurement points, each temperature measurement cable is connected through a two-stage parallel temperature measurement collector.

The temperature measuring collector converts the signal of the temperature measuring sensor to wireless, or the wired (485) signal sends the wireless signal receiver next to the temperature measuring computer, and finally realizes the effect of monitoring the internal temperature of the food.

Food damage is caused by two main reasons: mildew, and insect pests. Both cases are accompanied by a phenomenon, — : elevated food temperatures in abnormal areas.

This system monitors the temperature inside the granary, timely handles the high temperature area, and can effectively reduce it Grain loss caused by "mildew", "insect pests" and other reasons.



Material name	Model /specification	Remarks	unit	dosage
Temperature measuring host	ZS- DLL	Effective wireless transmission distance: 7000m	A set of	One factory/unit
Temperature measuring machine	ZS- RTU	Up to 800 temperature measurement points can be collected. ModbusRTU version is available	A set of	One warehouse/unit or less than 800 temperature measurement points/ unit
Temperature measuring cable	ZS- P-1 ZS- G- 1	Insert grain bin temperature cable in silo	A piece of	According to actual situation
Grain communication line	ZS- FR	Connect the temperature measuring cable to the main communication line	individual	According to actual situation
The main communication line		Wire connecting grain surface communication line and temperature measuring machine	meter	According to actual situation
Temperature and humidity sensor		Measure the temperature and humidity inside the granary	individual	According to actual situation
Grain wire plug		Connecting grain-flour line	meter	According to actual situation

				ation
Temperature measurement software		With cyclic monitoring, stereoscopic view, print data, historical query, temperature alarm, graph and other functions. It can support mobile phone APP and remote computer terminal. It supports the general/branch structure and can add up to 200 subsidiaries.	A Set of	One factory/set

Number of temperature measuring cables Design Standard (Gb)

Length /5+1 (remaining 1 forward 1) x width /5+1 (remaining 1 forward 1)

Number of temperature measuring cables:

2-4.9 meters with 3 points

5-6.9 meters with 4 points

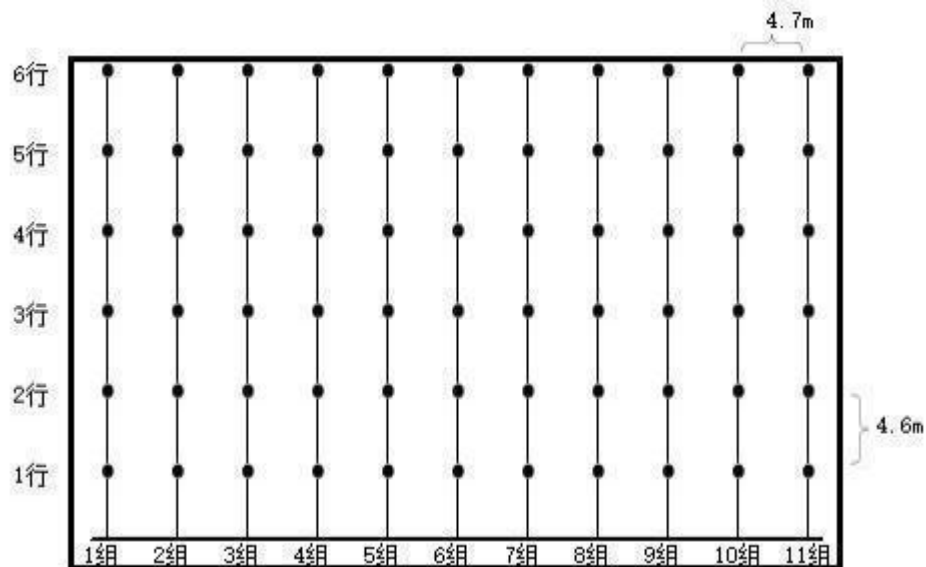
7-7.9 meters with 5 points 8 meters with 6 points

Note: The number of temperature measuring cables can be specified by oneself.

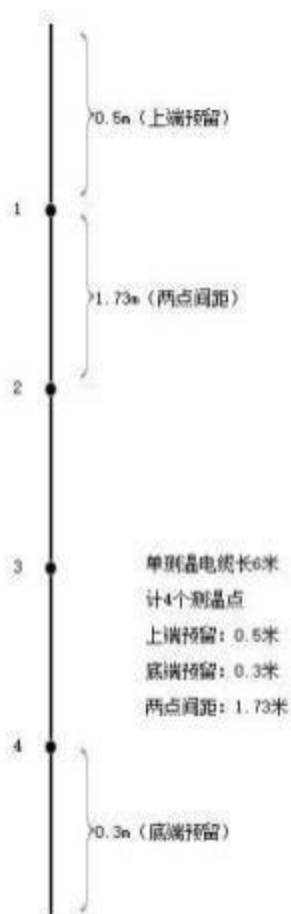
Example: the material required for a 48*24*6m high grain surface square bin.

Serial	Name	Specification	Model	Unit	Quantity	Note
1	Temperature measuring cable	6 meters	4 layer point	ZS-P-1	root 66	6 pieces / group * 11 group
2.	Grain surface communication line	Drag-resistant steel wire type	ZS-FR meter : 286			Double line core + tensile steel wire type + thickened outer sheath
3	Main communication line	Multi-core communication ground type	ZS-FRD m 88			Multi-wire core + tensile steel wire type + thickened outer sheath
4	Grain wire plug	Aviation needle insertion	The ZS-Pin was only 11th			Grain surface wire plug, waterproof and anti-fumigation, with glue pad
type						
5	ZS-RTU-51					Support radio station transmission, support cable communication
6	Temperature and humidity sensor (multi-point set type) into		The ZS-HUM was only 1 in the case			Temperature measurement accuracy ± 0.5 Wet measurement accuracy $\pm 3\%$

The layout diagram is :



The point diagram of a single cable is shown



III . System composition

The system composition is basically divided into:

Temperature measuring cable(measuring temperature and transmit temperature signal to the temperature extension terminal)

Temperature measuring extension(convert signal in temperature measuring cable to wireless or wired signal to host)

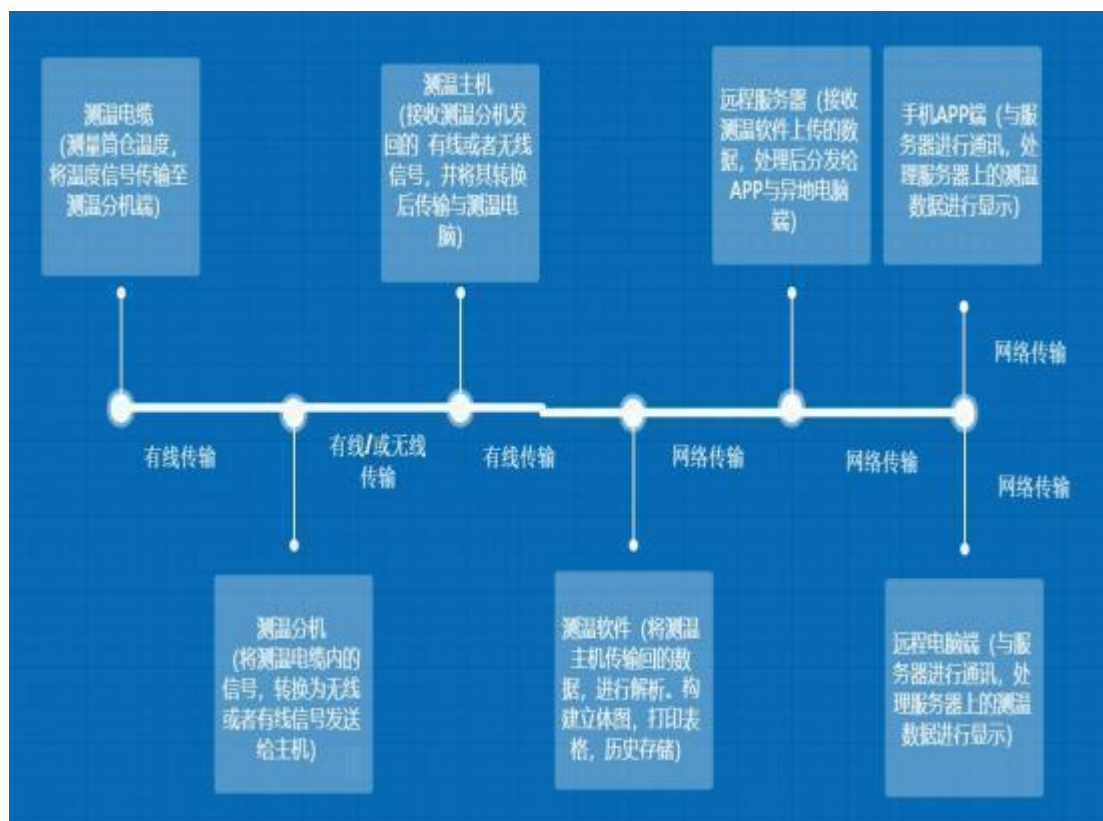
Temperature measuring host(receive the wired or wireless signal sent back from the temperature extension, and convert it for transmission and measurement Temperature computer)

Temperature measuring software(the data transmitted back by the temperature measuring host for analysis.)

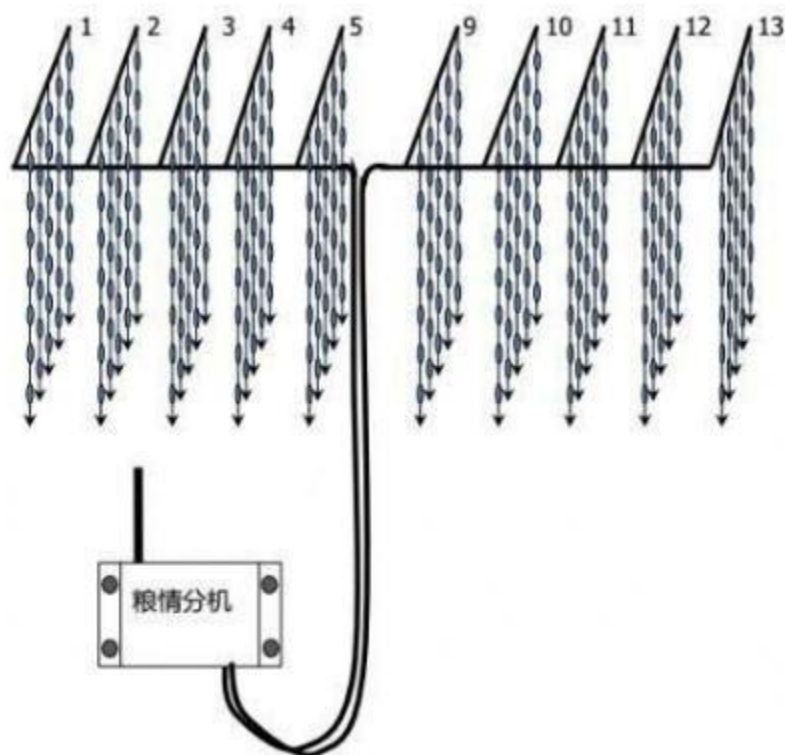
Remote server(receiving data uploaded by temperature measurement software, processed and distributed to APP and remote computer terminal)

Mobile phone APP terminal(communicate with the server and process temperature measurement data on the server for display)

Remote computer side(communicate with server and display temperature measurement data on server)



Silo surface system architecture diagram:



IV . Param e t er s of th e ma in equ i pm en t :

The parameters of the temperature measuring cable (ZS-P-1, ZS-G-1)two versions are shown in the description of the temperature measuring cable.

Details of the temperature measuring software are provided in the software manual.

1. Basic parameters of the temperature measuring collector

product model	ZS - RTU -800	Product manufacturer	Langfang Zhaosui Temperature Measurement Cable Co. , LTD
Voltage input	9-24v (1A)	Communication parameters	9600bps, 8 data bits, 1 stop bits, no effect test
Temperature measurement resolution	0.1℃	Support chip	DS 18 B 20/ CT 1820/ QT 18 B 20/ GX 18 B 20

Langfang Zhaoqing Temperature Measurement Cable Co., Ltd. Producer: Li Zhe
 tel / wechat : 18533653000

joggle	1. Power supply input. Temperature measurement input 1 Road 485 output	protocol	Custom wired protocol Custom wireless protocol MODBUS — RTU protocol
Capability	Single-channel 1400 temperature measurement point Single channel of 1200m (Note : Reduce points and distance in strong interference environments)	Number of temperature measuring channels	4 channel
Temperature measurement and sampling polling time	120s	working temperature	-40°C-80°C

Langfang Zhaosui Temperature Measurement Cable Co., LTD. 0316-5830830 Sunhuheluo Industrial Zone, Dacheng County, Hebei Province www.zscewen .cn