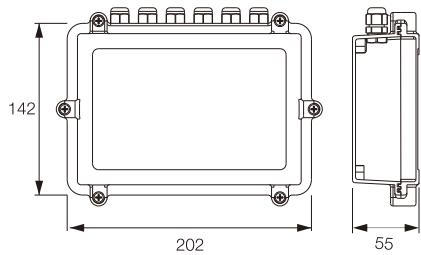
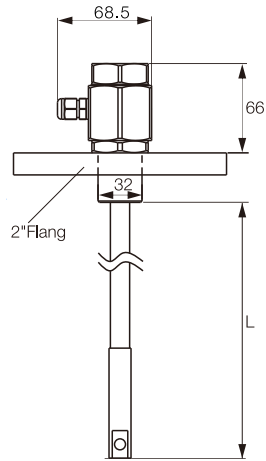


EST210 One Wire Grain Temperature Sensor

SPECIFICATION

(unit:mm)



SPECIFICATION

1-Wire grain temperature sensor

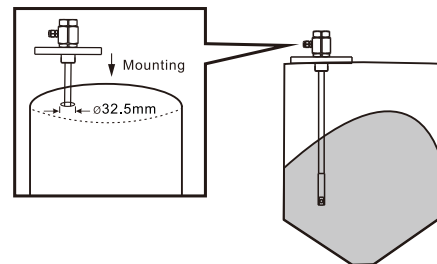
Measuring range	-10~85°C
Resolution	0.1°C
Accuracy	±0.5°C
Length	Max. 30 m
Sensor amount	Max. 30 pcs
Sensor interval	Every 1 m
Cable material	XLPE coating
Tensile strength	4500 kgf
IP rating	IP67
Ambient temp. (Ta)	T80°C: -40 ≤ Ta ≤ 70°C T95°C: -40 ≤ Ta ≤ 80°C

FineLink (1-Wire)

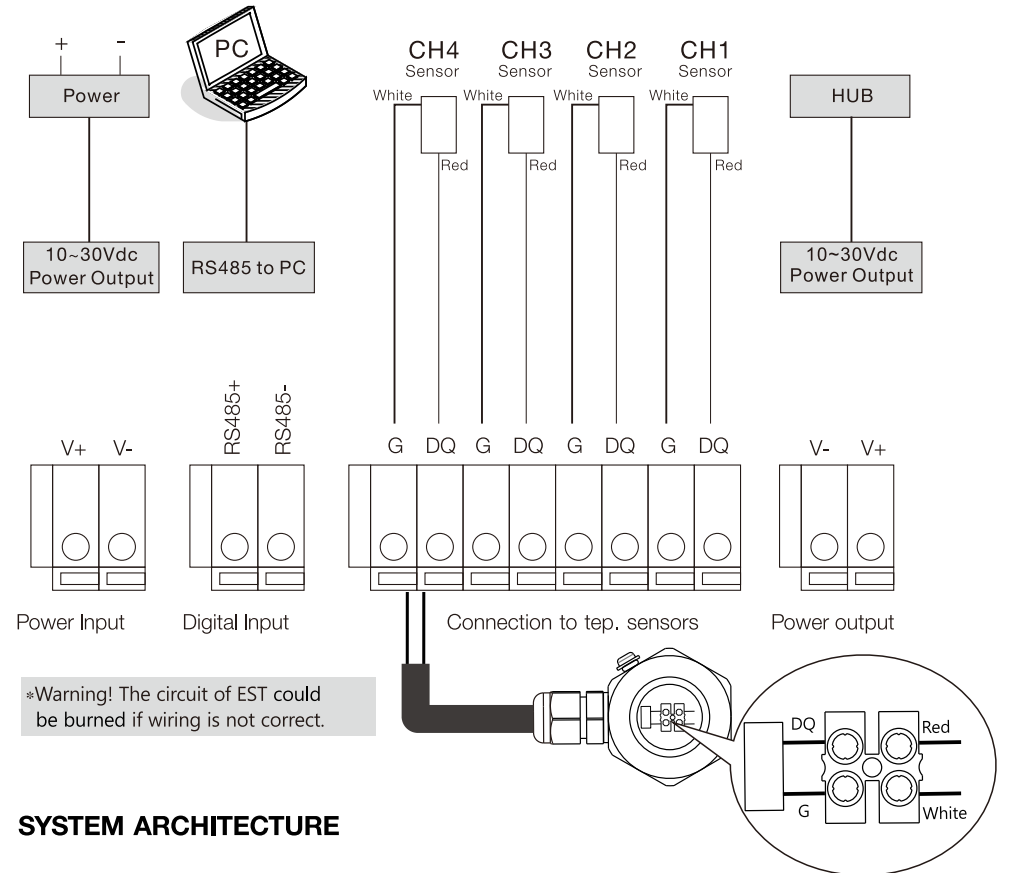
Supply voltage	10~30 Vdc
Ambient temp.	-40~80°C
Connection port	Max. 4
Housing	Aluminum alloy (ADC-12)
Communication interface	RS-485
RS-485 baud rate	9600~115200
IP rating	IP67

INSTALLATION

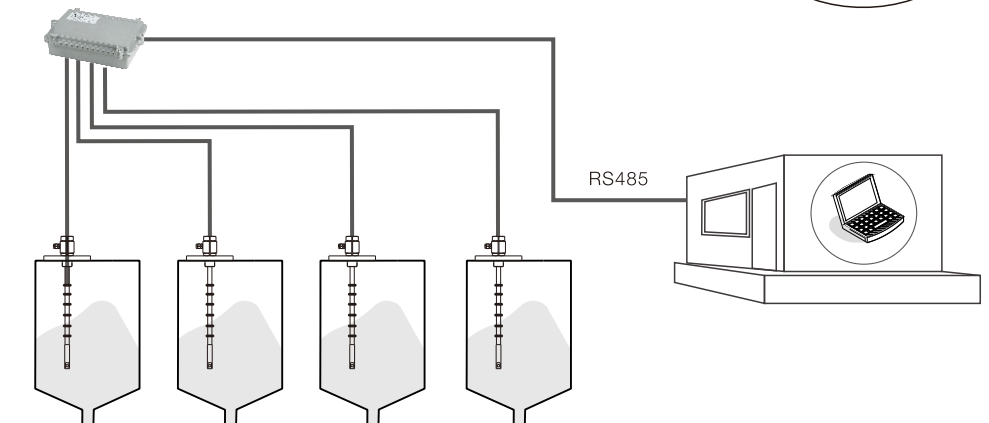
Drill a ø32.5 mm hole (extending neck or flange), and then mount the device with the flange. Please ensure the O-Ring is water proof when the device is installed out-door.



WIRING



SYSTEM ARCHITECTURE



MODBUS ADDRESS TABLE-TEMPERATURE

Parameter	Address		Type	Units	Property
	Hex	Dec			
CH 1 - 1st point's temp.	0x1020	4128	FLOAT32	°C	Read Only
CH 1 - 2st point's temp.	0x1022	4130	FLOAT32	°C	Read Only
CH 1 - 3st point's temp.	0x1024	4132	FLOAT32	°C	Read Only
CH 1 - 4st point's temp.	0x1026	4134	FLOAT32	°C	Read Only
CH 1 - 5st point's temp.	0x1028	4136	FLOAT32	°C	Read Only
CH 1 - 6st point's temp.	0x102A	4138	FLOAT32	°C	Read Only
CH 1 - 7st point's temp.	0x102C	4140	FLOAT32	°C	Read Only
CH 1 - 8st point's temp.	0x102E	4142	FLOAT32	°C	Read Only
CH 1 - 9st point's temp.	0x1030	4144	FLOAT32	°C	Read Only
CH 1 - 10st point's temp.	0x1032	4146	FLOAT32	°C	Read Only
CH 1 - 11st point's temp.	0x1034	4148	FLOAT32	°C	Read Only
CH 1 - 12st point's temp.	0x1036	4150	FLOAT32	°C	Read Only
CH 1 - 13st point's temp.	0x1038	4152	FLOAT32	°C	Read Only
CH 1 - 14st point's temp.	0x103A	4154	FLOAT32	°C	Read Only
CH 1 - 15st point's temp.	0x103C	4156	FLOAT32	°C	Read Only
CH 1 - 16st point's temp.	0x103E	4158	FLOAT32	°C	Read Only
CH 1 - 17st point's temp.	0x1040	4160	FLOAT32	°C	Read Only
CH 1 - 18st point's temp.	0x1042	4162	FLOAT32	°C	Read Only
CH 1 - 19st point's temp.	0x1044	4164	FLOAT32	°C	Read Only
CH 1 - 20st point's temp.	0x1046	4166	FLOAT32	°C	Read Only
CH 1 - 21st point's temp.	0x1048	4168	FLOAT32	°C	Read Only
CH 1 - 22st point's temp.	0x104A	4170	FLOAT32	°C	Read Only
CH 1 - 23st point's temp.	0x104C	4172	FLOAT32	°C	Read Only
CH 1 - 24st point's temp.	0x104E	4174	FLOAT32	°C	Read Only
CH 1 - 25st point's temp.	0x1050	4176	FLOAT32	°C	Read Only
CH 1 - 26st point's temp.	0x1052	4178	FLOAT32	°C	Read Only
CH 1 - 27st point's temp.	0x1054	4180	FLOAT32	°C	Read Only
CH 1 - 28st point's temp.	0x1056	4182	FLOAT32	°C	Read Only
CH 1 - 29st point's temp.	0x1058	4184	FLOAT32	°C	Read Only
CH 1 - 30st point's temp.	0x105A	4186	FLOAT32	°C	Read Only

Parameter	Address		Type	Units	Property
	Hex	Dec			
CH 3 - 1st point's temp.	0x1098	4248	FLOAT32	°C	Read Only
CH 3 - 2st point's temp.	0x109A	4250	FLOAT32	°C	Read Only
CH 3 - 3st point's temp.	0x109C	4252	FLOAT32	°C	Read Only
CH 3 - 4st point's temp.	0x109E	4254	FLOAT32	°C	Read Only
CH 3 - 5st point's temp.	0x10A0	4256	FLOAT32	°C	Read Only
CH 3 - 6st point's temp.	0x10A2	4258	FLOAT32	°C	Read Only
CH 3 - 7st point's temp.	0x10A4	4260	FLOAT32	°C	Read Only
CH 3 - 8st point's temp.	0x10A6	4262	FLOAT32	°C	Read Only
CH 3 - 9st point's temp.	0x10A8	4264	FLOAT32	°C	Read Only
CH 3 - 10st point's temp.	0x10AA	4266	FLOAT32	°C	Read Only
CH 3 - 11st point's temp.	0x10AC	4268	FLOAT32	°C	Read Only
CH 3 - 12st point's temp.	0x10AE	4270	FLOAT32	°C	Read Only
CH 3 - 13st point's temp.	0x10B0	4272	FLOAT32	°C	Read Only
CH 3 - 14st point's temp.	0x10B2	4274	FLOAT32	°C	Read Only
CH 3 - 15st point's temp.	0x10B4	4276	FLOAT32	°C	Read Only
CH 3 - 16st point's temp.	0x10B6	4278	FLOAT32	°C	Read Only
CH 3 - 17st point's temp.	0x10B8	4280	FLOAT32	°C	Read Only
CH 3 - 18st point's temp.	0x10BA	4282	FLOAT32	°C	Read Only
CH 3 - 19st point's temp.	0x10BC	4284	FLOAT32	°C	Read Only
CH 3 - 20st point's temp.	0x10BE	4286	FLOAT32	°C	Read Only
CH 3 - 21st point's temp.	0x10C0	4288	FLOAT32	°C	Read Only
CH 3 - 22st point's temp.	0x10C2	4290	FLOAT32	°C	Read Only
CH 3 - 23st point's temp.	0x10C4	4292	FLOAT32	°C	Read Only
CH 3 - 24st point's temp.	0x10C6	4294	FLOAT32	°C	Read Only
CH 3 - 25st point's temp.	0x10C8	4296	FLOAT32	°C	Read Only
CH 3 - 26st point's temp.	0x10CA	4298	FLOAT32	°C	Read Only
CH 3 - 27st point's temp.	0x10CC	4300	FLOAT32	°C	Read Only
CH 3 - 28st point's temp.	0x10CE	4302	FLOAT32	°C	Read Only
CH 3 - 29st point's temp.	0x10D0	4304	FLOAT32	°C	Read Only
CH 3 - 30st point's temp.	0x10D2	4306	FLOAT32	°C	Read Only

Parameter	Address		Type	Units	Property
	Hex	Dec			
CH 2 - 1st point's temp.	0x105C	4188	FLOAT32	°C	Read Only
CH 2 - 2st point's temp.	0x105E	4190	FLOAT32	°C	Read Only
CH 2 - 3st point's temp.	0x1060	4192	FLOAT32	°C	Read Only
CH 2 - 4st point's temp.	0x1062	4194	FLOAT32	°C	Read Only
CH 2 - 5st point's temp.	0x1064	4196	FLOAT32	°C	Read Only
CH 2 - 6st point's temp.	0x1066	4198	FLOAT32	°C	Read Only
CH 2 - 7st point's temp.	0x1068	4200	FLOAT32	°C	Read Only
CH 2 - 8st point's temp.	0x106A	4202	FLOAT32	°C	Read Only
CH 2 - 9st point's temp.	0x106C	4204	FLOAT32	°C	Read Only
CH 2 - 10st point's temp.	0x106E	4206	FLOAT32	°C	Read Only
CH 2 - 11st point's temp.	0x1070	4208	FLOAT32	°C	Read Only
CH 2 - 12st point's temp.	0x1072	4210	FLOAT32	°C	Read Only
CH 2 - 13st point's temp.	0x1074	4212	FLOAT32	°C	Read Only
CH 2 - 14st point's temp.	0x1076	4214	FLOAT32	°C	Read Only
CH 2 - 15st point's temp.	0x1078	4216	FLOAT32	°C	Read Only
CH 2 - 16st point's temp.	0x107A	4218	FLOAT32	°C	Read Only
CH 2 - 17st point's temp.	0x107C	4220	FLOAT32	°C	Read Only
CH 2 - 18st point's temp.	0x107E	4222	FLOAT32	°C	Read Only
CH 2 - 19st point's temp.	0x1080	4224	FLOAT32	°C	Read Only
CH 2 - 20st point's temp.	0x1082	4226	FLOAT32	°C	Read Only
CH 2 - 21st point's temp.	0x1084	4228	FLOAT32	°C	Read Only
CH 2 - 22st point's temp.	0x1086	4230	FLOAT32	°C	Read Only
CH 2 - 23st point's temp.	0x1088	4232	FLOAT32	°C	Read Only
CH 2 - 24st point's temp.	0x108A	4234	FLOAT32	°C	Read Only
CH 2 - 25st point's temp.	0x108C	4236	FLOAT32	°C	Read Only
CH 2 - 26st point's temp.	0x108E	4238	FLOAT32	°C	Read Only
CH 2 - 27st point's temp.	0x1090	4240	FLOAT32	°C	Read Only
CH 2 - 28st point's temp.	0x1092	4242	FLOAT32	°C	Read Only
CH 2 - 29st point's temp.	0x1094	4244	FLOAT32	°C	Read Only
CH 2 - 30st point's temp.	0x1096	4246	FLOAT32	°C	Read Only

Parameter	Address		Type	Units	Property
	Hex	Dec			
CH 4 - 1st point's temp.	0x10D4	4308	FLOAT32	°C	Read Only
CH 4 - 2st point's temp.	0x10D6	4310	FLOAT32	°C	Read Only
CH 4 - 3st point's temp.	0x10D8	4312	FLOAT32	°C	Read Only
CH 4 - 4st point's temp.	0x10DA	4314	FLOAT32	°C	Read Only
CH 4 - 5st point's temp.	0x10DC	4316	FLOAT32	°C	Read Only
CH 4 - 6st point's temp.	0x10DE	4318	FLOAT32	°C	Read Only
CH 4 - 7st point's temp.	0x10E0	4320	FLOAT32	°C	Read Only
CH 4 - 8st point's temp.	0x10E2	4322	FLOAT32	°C	Read Only
CH 4 - 9st point's temp.	0x10E4	4324	FLOAT32	°C	Read Only
CH 4 - 10st point's temp.	0x10E6	4326	FLOAT32	°C	Read Only
CH 4 - 11st point's temp.	0x10E8	4328	FLOAT32	°C	Read Only
CH 4 - 12st point's temp.	0x10EA	4330	FLOAT32	°C	Read Only
CH 4 - 13st point's temp.	0x10EC	4332	FLOAT32	°C	Read Only
CH 4 - 14st point's temp.	0x10EE	4334	FLOAT32	°C	Read Only
CH 4 - 15st point's temp.	0x10F0	4336	FLOAT32	°C	Read Only
CH 4 - 16st point's temp.	0x10F2	4338	FLOAT32	°C	Read Only
CH 4 - 17st point's temp.	0x10F4	4340	FLOAT32	°C	Read Only
CH 4 - 18st point's temp.	0x10F6	4342	FLOAT32	°C	Read Only
CH 4 - 19st point's temp.	0x10F8	4344	FLOAT32	°C	Read Only
CH 4 - 20st point's temp.	0x10FA	4346	FLOAT32	°C	Read Only
CH 4 - 21st point's temp.	0x10FC	4348	FLOAT32	°C	Read Only
CH 4 - 22st point's temp.	0x10FE	4350	FLOAT32	°C	Read Only
CH 4 - 23st point's temp.	0x1100	4352	FLOAT32	°C	Read Only
CH 4 - 24st point's temp.	0x1102	4354	FLOAT32	°C	Read Only
CH 4 - 25st point's temp.	0x1104	4356	FLOAT32	°C	Read Only
CH 4 - 26st point's temp.	0x1106	4358	FLOAT32	°C	Read Only
CH 4 - 27st point's temp.	0x1108	4360	FLOAT32	°C	Read Only
CH 4 - 28st point's temp.	0x110A	4362	FLOAT32	°C	Read Only
CH 4 - 29st point's temp.	0x110C	4364	FLOAT32	°C	Read Only
CH 4 - 30st point's temp.	0x110E	4366	FLOAT32	°C	Read Only

CAUTION

- EST210 measures temperature of material. Sensor can be mounted directly on the top of the silo by thread connection.
- To avoid the cable damage, please fix the cable to the bottom of tank. The tensile force does not exceed 30 kgf.
- EST210 temperature sensor can't work alone, must use it with one-wire FineLink together.
- For signal stable, FineTek recommend customer use CAT5E or CAT6 UTP cable and connect with insulated ICD connector.
- In order not to damage the temperature sensor, please don't use multi-meter's omic mode nor any mode which provide voltage source to test 1-Wire Grain Temperature Sensor.
- The total length of sensor cable and wiring cable is not longer than 100 meters.
- Please reset/reconnect the system & sensor after first installation or hardware changing.

- Instructions are as following.
- Connected with MMS System: Please press "RESCAN" button after installation or hardware changing.
 - Not Connected with MMS System: Please refer to the table below to reset/reconnect.

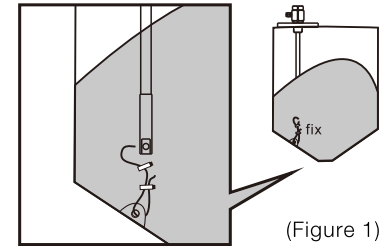
Addr(Hex)	Addr(Dec)	NAME	Fomat
1110	4368	MODBUS BAUDRATE(*1)	Long
1117	4375	TEMPERATURE SCAN(*2)	Sigend
111B	4379	SAVE SYSTEM DATA(*3)	Sigend

*1:9600,19200,38400,57600,115200 value only.

*2:Set value "1" to start scan.

*3:Set value "1" to save data. after temperature scan.

- For the best and stable performance on signal connection, strongly recommend EST temperature cable "must" be equipped with IPC (Industrial computer) which has MMS software installed already. It will generate cost and charge to the customers who WITHOUT FineTek's IPC, but requesting after service for commissioning and troubleshooting for signal connection.
- It will take 15 seconds to warm up for each time the power turned off. Please refer to the seventh point of "CAUTION", also need to rescan and save the data.



(Figure 1)