Temperature Controller

http://heater-jacket.com

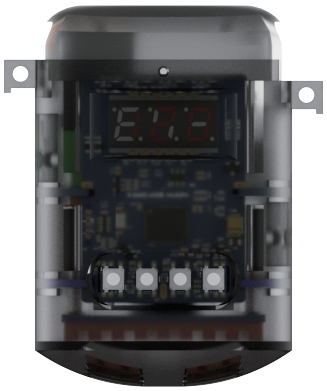
Model : ITI-HCT-22135



Temperature control devic
+ Power control module
Communication function (ModBus RTU) + Safety device control function

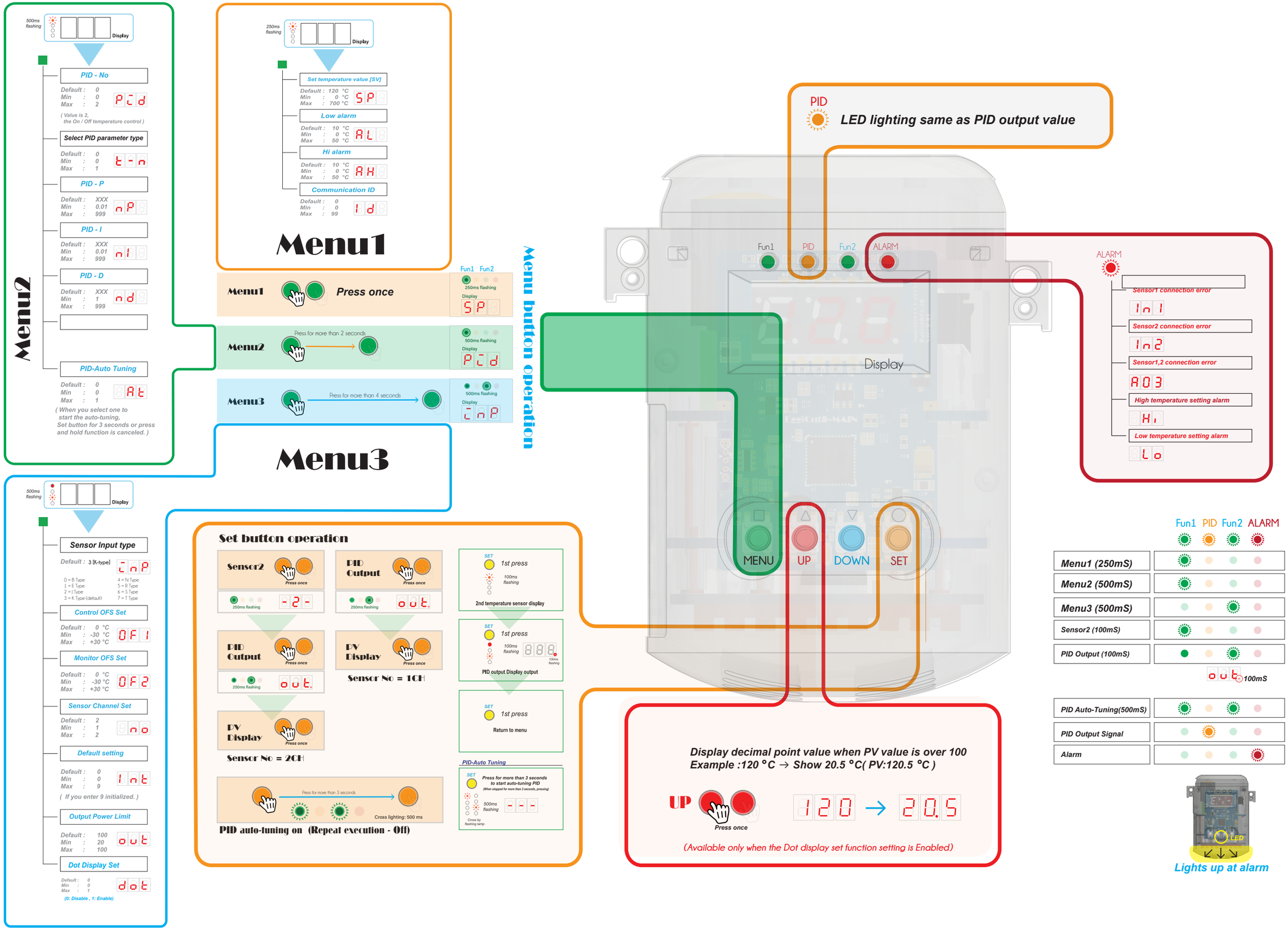
innovation
INTECH

Product Specification

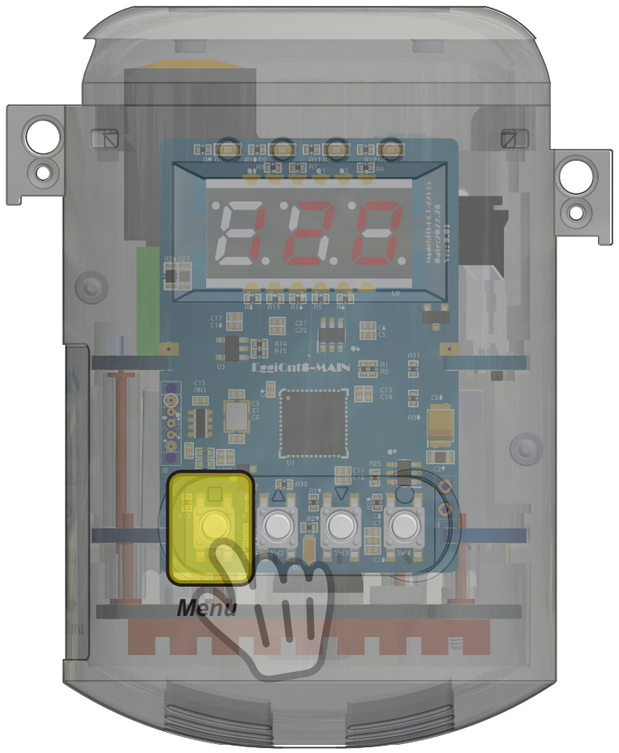
Product photo	  CE		
Measurement sensor	Temperature measurement (thermocouple, RTD sensor measurement. Select sensor when ordering)		
Sensor type and resolution	Thermocouples (K, J, N, R, S, T, E, and B) 19-Bit Resolution , RTDs (PT100 to PT1000) 15-Bit Resolution		
Display	3-digit LED digital display (Red LED)		
Display information	-99 °C to +999 °C (Measurements detect sensor range and display limited only)		
Power	Operating Input Voltage / Frequency		1Φ AC 85~230V / 50~60Hz
	Load capacity		MAX 8A continuous use is 3A
	Power consumption		No Load : 0.5W Max: 2KW (208V/10A) (Recommended to use the maximum capacity when using a suitable heat sink.)
ESD Immunity	±6kV contact, ±15kV air discharge (Isolation: Input to Output : Minimum 4000V VAC)		
Power Ripple & Noise	50mV pk-pk (20MHz bandwidth) , AC-DC power supply		
Alarm Relay	Expected life (min.operations)	Mechanical	Min. 100 x 10^3
		Electrical (at 20 cpm)	Min. 50 x 10^6 (switching frequency: 300 times/min)
	Nominal switching capacity		10 A 250 V AC, 10 A 30 V DC
Operating Ambient Temperature / Humidity Range	-25°C to +70°C (Derate linearly from 100% at +50°C to 50% at +70°C)		
Storage Temperature / Humidity Range	-40°C to +85°C 95 %RH Max		
Dimensions (WxDxH)	W: 67 x D:61 x H: 82 mm		
Weight	163 g (Identification code for Protection : IP 20)		

Control method	P.I.D (PWM) Control ,2 constant storage control [Line frequency filtering of 50Hz and 60Hz is included] (PID constants can be entered manually on the keypad)
Communication method	RS485 (2wrie+1GND) [max id: 32] 19200 BPS / 8Bit / 1Stop / None
Safety control	Fuse + Relay + SSR module + Chip Temp (Chip Temp : Alarm control chip overheating)
Option	1. Alarm buzzer can be mounted. 2. Dual-channel temperature sensor can 3. RS232 communication with monitoring

How to Set Up Functions



How to Set Up Functions



	Fun1	PID	Fun2	ALARM
Menu1 (250mS)	●	○	○	○
Menu2 (500mS)	●	○	○	○
Menu3 (500mS)	○	○	●	○
Sensor2 (100mS)	●	○	○	○
PID Output (100mS)	●	○	●	○
out 100mS				
PID Auto-Tuning(500mS)	●	○	●	○
PID Output Signal	○	●	○	○
Alarm	○	○	○	●

Press once

Menu1

250ms flashing — Display

Set temperature value [SV]
Default : 120 °C
Min : 0 °C
Max : 700 °C

Low alarm
Default : 10 °C
Min : 0 °C
Max : 50 °C

Hi alarm
Default : 10 °C
Min : 0 °C
Max : 50 °C

Communication ID
Default : 0
Min : 0
Max : 99

Press for more than 2 seconds

Menu2

500ms flashing — Display

PID - No
Default : 0
Min : 0
Max : 2
(Value is 2, the On / Off temperature control)

PID - P
Default : XXX
Min : 0.01
Max : 999

PID - I
Default : XXX
Min : 0.01
Max : 999

PID - D
Default : XXX
Min : 1
Max : 999

PID AT Output Power
Default : 75
Min : 50
Max : 100

PID-Auto Tuning
Default : 0
Min : 0
Max : 1
(When you select one to start the auto-tuning, Set button for 3 seconds or press and hold function is canceled.)

Press for more than 4 seconds

Menu3

500ms flashing — Display

Sensor Input type
Default : 3 [K-type]

0 = B Type	4 = N Type
1 = E Type	5 = R Type
2 = J Type	6 = S Type
3 = K Type (default)	7 = T Type

Control OFS Set
Default : 0 °C
Min : -30 °C
Max : +30 °C

Monitor OFS Set
Default : 0 °C
Min : -30 °C
Max : +30 °C

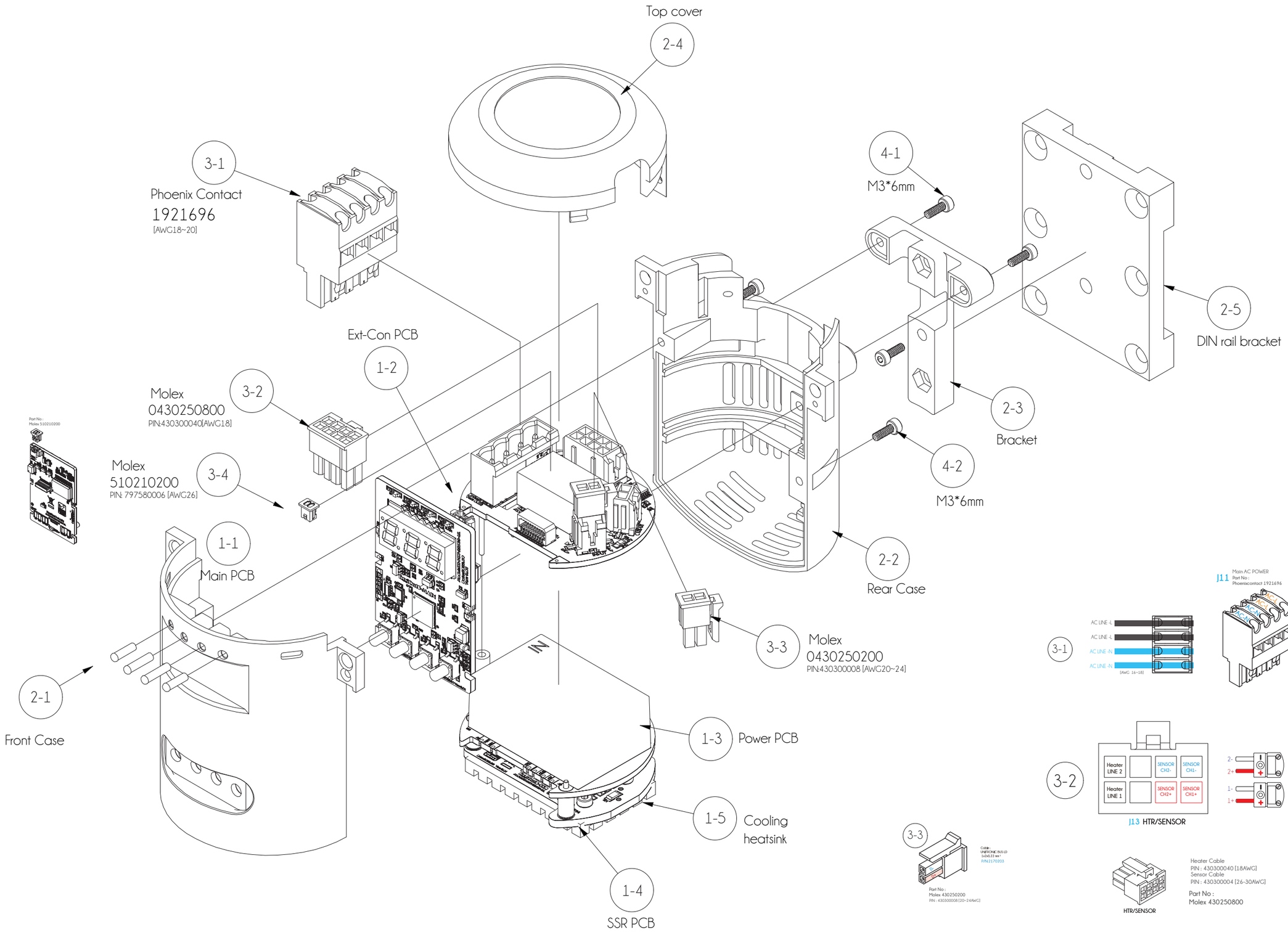
Sensor Channel Set
Default : 1
Min : 1
Max : 2

Default setting
Default : 0
Min : 0
Max : 9
(If you enter 9 initialized.)

Output Power Limit
Default : 100
Min : 20
Max : 100

Dot Display Set
Default : 0
Min : 0
Max : 1
(0: Disable , 1: Enable)

Product Exploded View



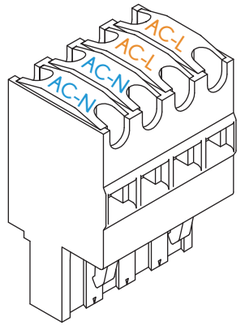
Heater Cable
PIN : 430300040 [18AWG]
Sensor Cable
PIN : 430300004 [26-30AWG]

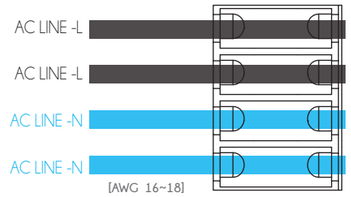
Part No :
Molex 430250800

External terminal cable connection

J11 Main AC POWER
Part No :
Phoenixcontact 1921696

3-1

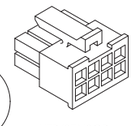




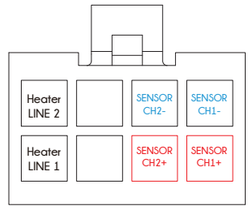
Heater Cable
PIN : 430300040 [18AWG]
Sensor Cable
PIN : 430300004 [26-30AWG]

Part No :
Molex 430250800

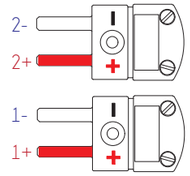
3-2



HTR/SENSOR



J13 HTR/SENSOR

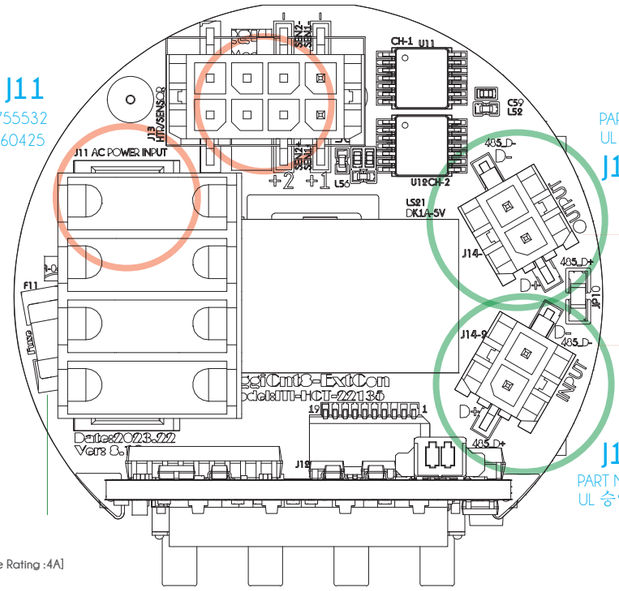


SENSOR CH2
Thermocouples
(K, J, N, R, S, T, E, and B)

SENSOR CH1
Thermocouples
(K, J, N, R, S, T, E, and B)

J13 PART NUMBER: 43045-0816
UL 승인 ID: FILE E 29179

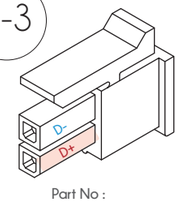
J11
PART NUMBER: 1755532
UL 승인 ID: FILE E60425



[Ampere Rating :4A]

PART NUMBER: 43045-0215
UL 승인 ID: FILE E 29179
J14-1

3-3



ModBus RTU

D+

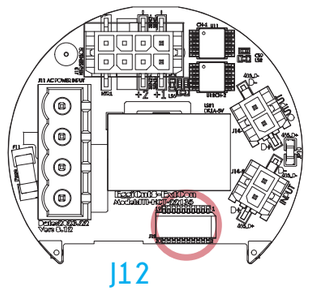
Cable :
UNITRONIC BUS LD
1x2x0,22 mm²
P/N:2170203

Part No :
Molex 430250200
PIN : 430300008 [20~24AWG]

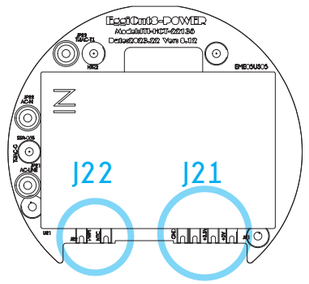
J14-2
PART NUMBER: 43045-0215
UL 승인 ID: FILE E 29179

AL SIG OUT

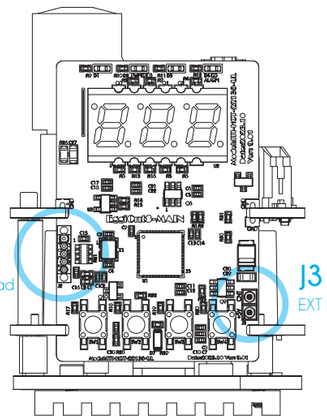
Part No :
Molex 510210200



J12
PART NUMBER: 53309-2070
RoHS 인증서 첨부

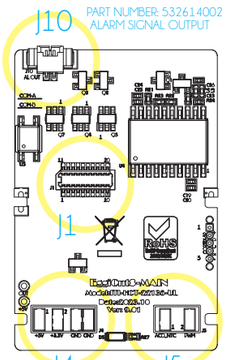


J21,J22 PCB PAD
(부품이 아님)



J2
ISP download

J3
EXT Fan



J10 PART NUMBER: 532614002
ALARM SIGNAL OUTPUT

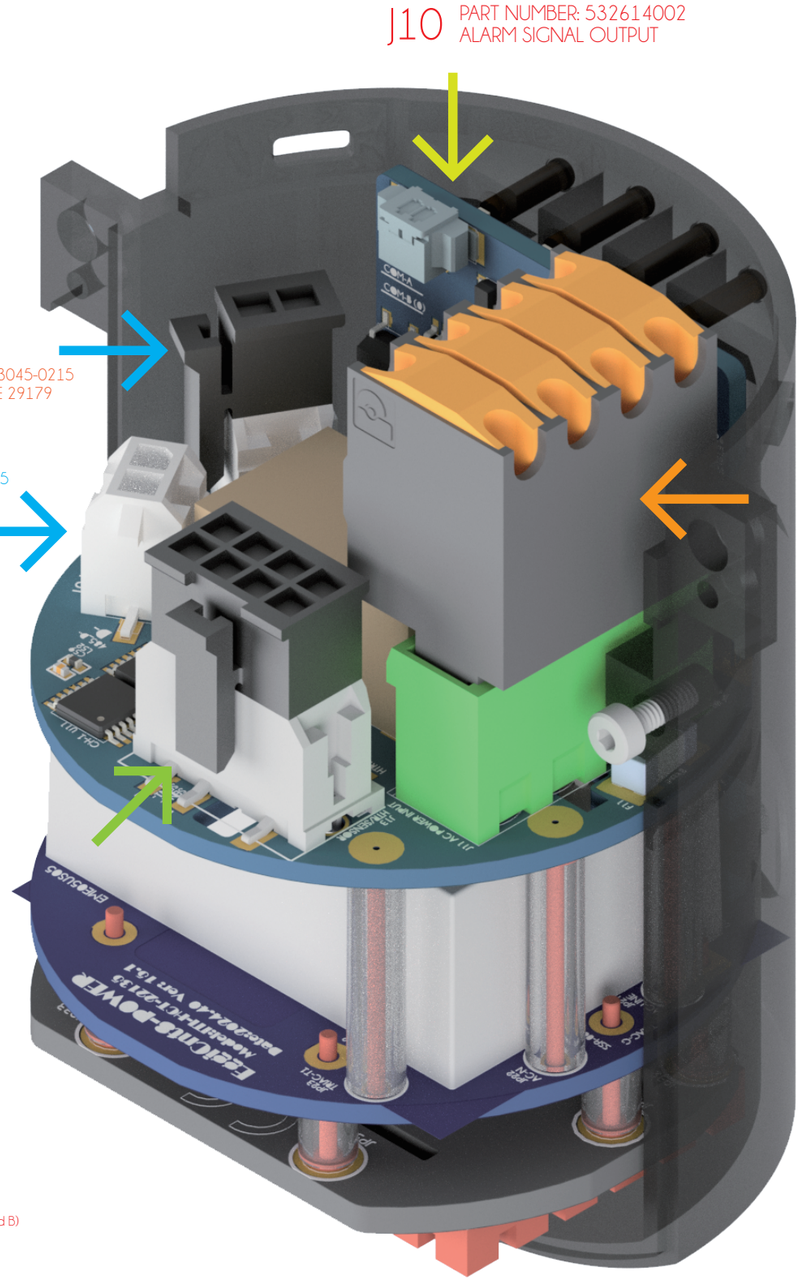
J1
PART NUMBER: 524652071
RoHS 인증서 첨부

J4
EXT PWR SIG

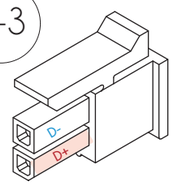
J5
EXT CONTROL SIG

(J2,J3,J4,J5 모두 PCB PAD)

Terminal cables connection



3-3

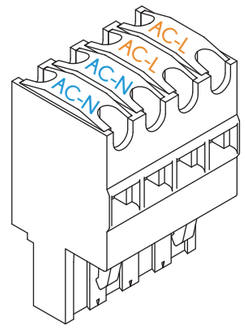


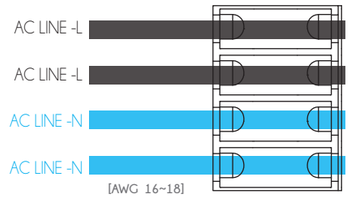
Cable :
UNITRONIC BUS LD
1x2x0,22 mm²
P/N:2170203

Part No :
Molex 430250200
PIN : 430300008 [20~24AWG]

3-1

Main AC POWER
Part No :
Phoenixcontact 1921696

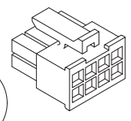




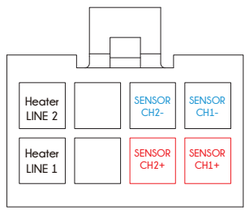
Heater Cable
PIN : 430300040 [18AWG]
Sensor Cable
PIN : 430300004 [26-30AWG]

Part No :
Molex 430250800

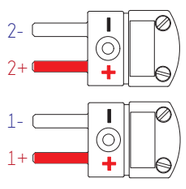
3-2



HTR/SENSOR



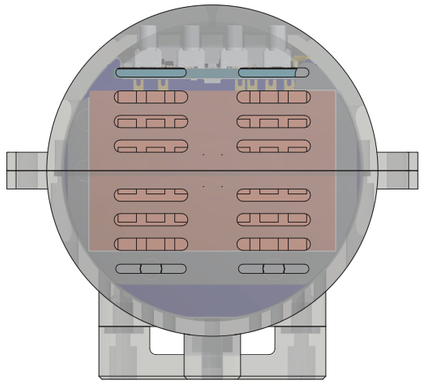
J13 HTR/SENSOR

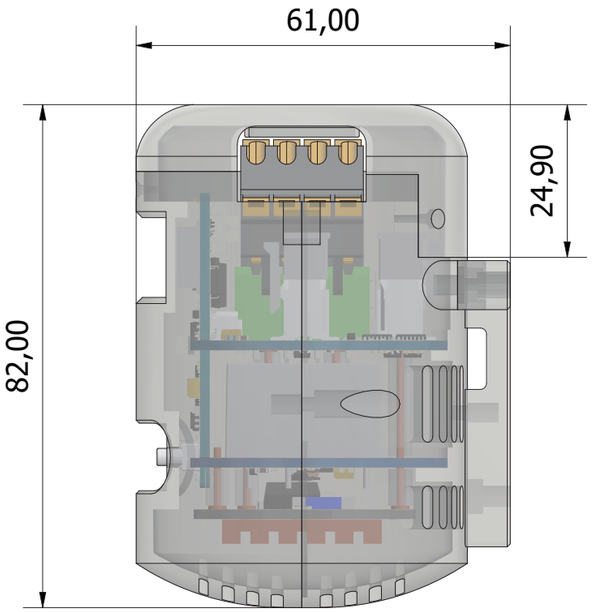


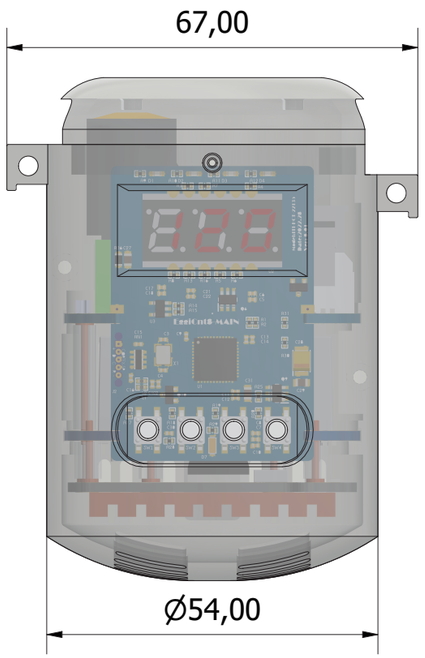
SENSOR CH2
Thermocouples
(K, J, N, R, S, T, E, and B)

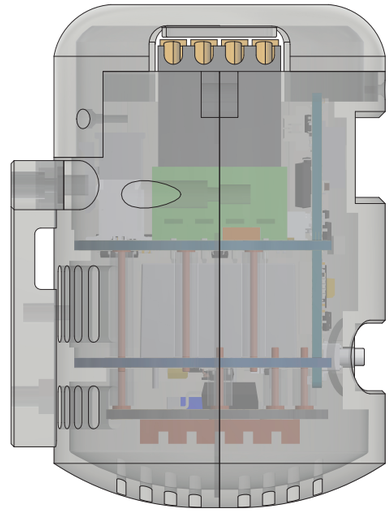
SENSOR CH1
Thermocouples
(K, J, N, R, S, T, E, and B)

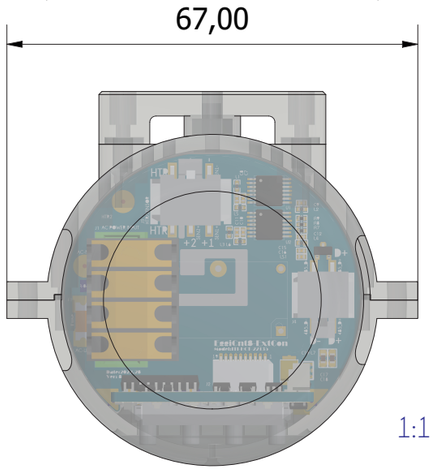
Product appearance size



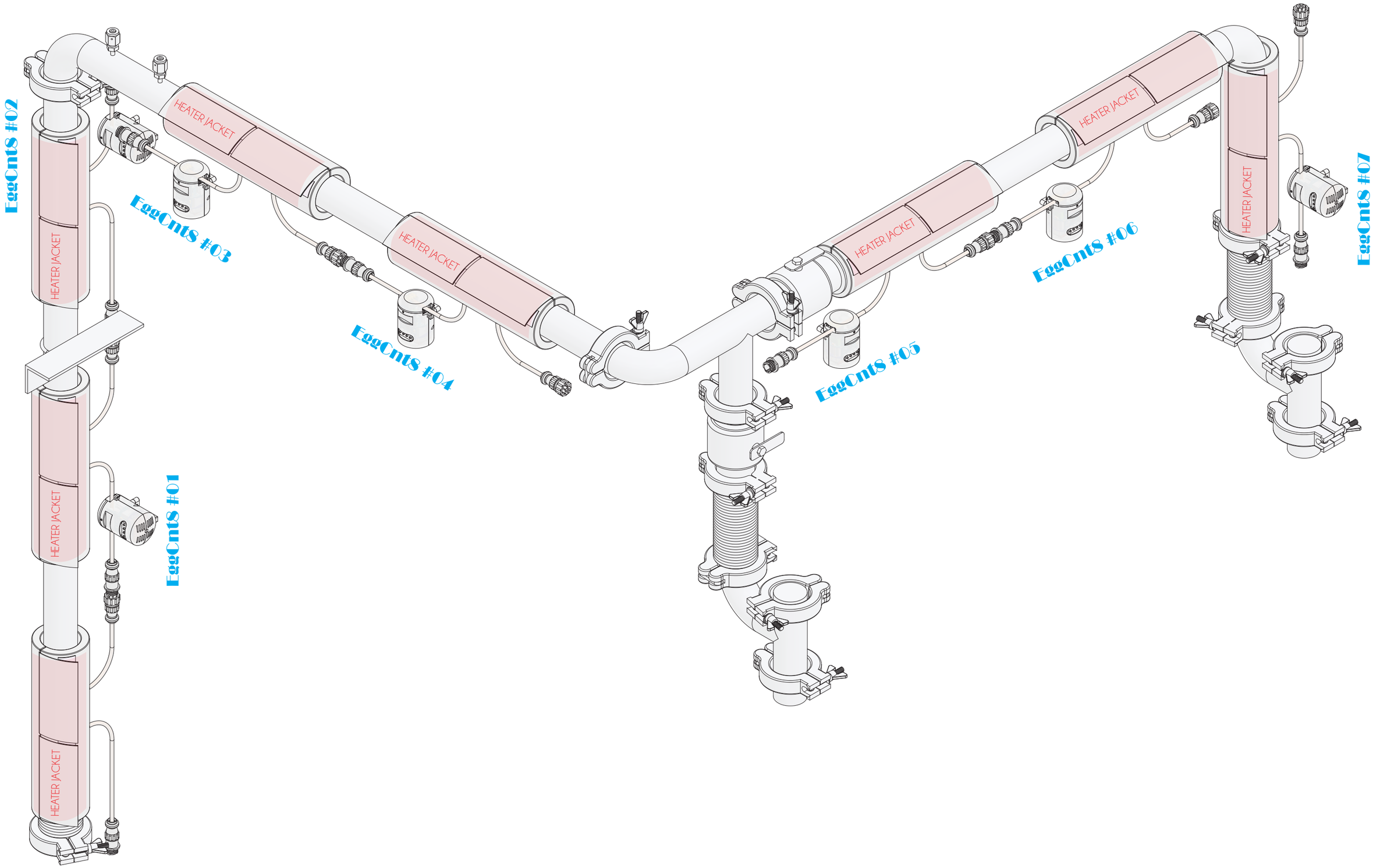








1:1 actual size


EggCntS #02
EggCntS #03
EggCntS #04
EggCntS #05
EggCntS #06
EggCntS #07
EggCntS #01
HEATER JACKET
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