Installation Guide
ICONIC
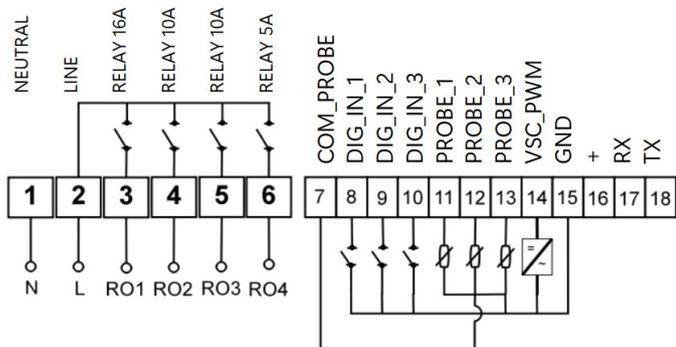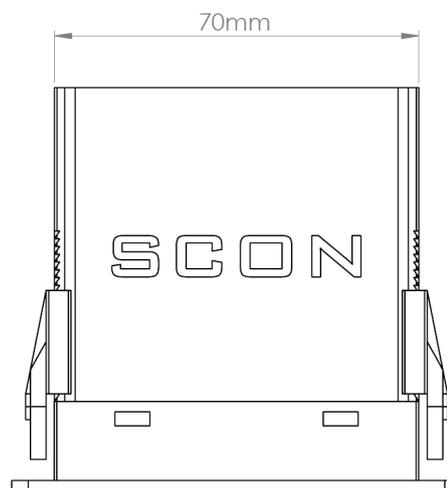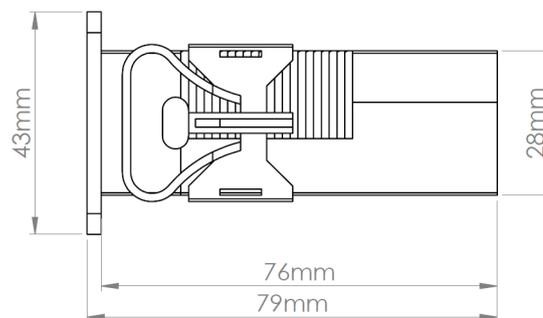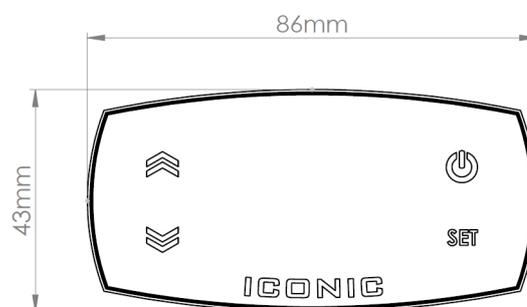
Temperature controller

Technical Specification

POWER SUPPLY			100-240V 50-60Hz Switch Mode Power Supply Max 2W	
Analog Inputs	7	Pr-C	COM_Probe	Probe's commond connection
	8	Sw-1	D.IN-1 Door Switch	Open-Close
	9	Sw-2	D.IN-2 Door Switch	Open-Close
	10	Pr-4	Probe-1 Scon NTC 10K	Internal Temperature1
Dijital Input/Output	12	Sw-1	Probe-2 Scon NTC 10K	Internal Temperature2
	13	Sw-2	Probe-3 Scon NTC 10K	Evaporator Temperature
	14	Sw-3	D.IN-3 / D.OUT-1	Door Switch / Defrost Fnished Output	Open-Close/ 0-5V DC Output
AC OUTPUT	3	RO1	Out-1 16A	240VAC Resistive
	4	RO2	Out-2 10A	240VAC Resistive
	5	RO3	Out-3 10A	240VAC Resistive
	6	RO4	Out-4 7A	240VAC Resistive
AC INPUTS	1	N	Neutral 17.5A	nominal current
	2	L	Line 17.5A	nominal current

Display

Touch key 1   Touch key 4
Touch key 2   Touch key 3

	Press Type	
Touch Keys	Press	Press and hold
1	Up	Key lock On-Off
2	Down	Light On-Off
3	Set	Parameter Menu
4	Night Mode	Turn Off Cooling

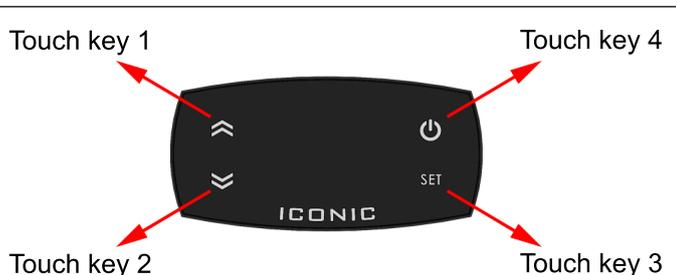## Dimensions

86mm
43mm
43mm
28mm
76mm
79mm
70mm

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I C O N I C
Temperature controller

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Safe Connection

Functions

Temperature Control - On/Off

Use Pr-1 and/or Pr-2 to control cabinet temperature. Pr-1 and Pr-2 needs to be activated from parameters Pr1 and Pr2. A combination of Pr-1 and Pr-2 value can be used also to control temperature. It is possible to define different offsets for Pr-1 or Pr-2. Compressor runs up to Ett, minimum target temperature set at Parameters. It's off cycle finishes when temperature arrives "Ett"+"dt1". Compressor run can be switched off by Pr-3 with setting "EA3" minimum allowed Pr-3 temperature set. When Pr-3 probe reaches "EA3" value compressor switches off. It may switched off again if Pr-4 reaches to "YA4" set parameter.

Temperature Control - VSC

There are two different method to drive compressor speed. Sliding Control or PI Control needs to be selected with parameter "u5C". Sliding Control uses "dt2" Delta2 for VSC, "dt3" Delta3 for VSC, "5uP" shift_up_period, "5uU" shift_up_value.
PI Control uses "4P9" Kp(Propotional Gain) and "4I9" 1000*Ki (Integral Gain).
Min and max frequency setup need to be set by parameters "YcF" VSC max frequency "EcF" VSC min frequency in any case when variable speed compressor needs to be used.

Fan Control

Evaporator FAN motor working mode can be selected as follows;
0: No Fan,
1: Always on,
2: follow CPS,
3: On w CPS, duty at CPS off period,
4: duty by set,
5: on even during electric defrost with parameters "Fct" and "FcE" for both day and eco mode. Some delays related with compressor can be set and On-Off duty working topology is possible by setting Fan Cycle and Fan On periods

Defrost Control

There are 5 different type defrost selection with parameter "dtY"
0: No Defrost, There is no defrost parameters works for defrost. Relay output with Selenoid is avoided. If Heater output selected for any Relay, Heater is run as ON for "Ed1 " minutes and OFF for "Yd1 " minutes.Yd1
1: Fan, During defrost period Compressor is switched OFF and Evaporator Fan Motor is ON.
2: Heater, Electrical Heater is used for Defrosting and there is one heater output.
3: Dual Heater; Two heater is connected to two different Relays that works parallel
4: Hot-Gas Defrost; Selenoid valve needs to be defined as one of the Relay Output. If another Relay also defined as Heater, it runs during waiting, defrost and drop-in period while Selonoid is activated only during active defrost period

Menu Structure

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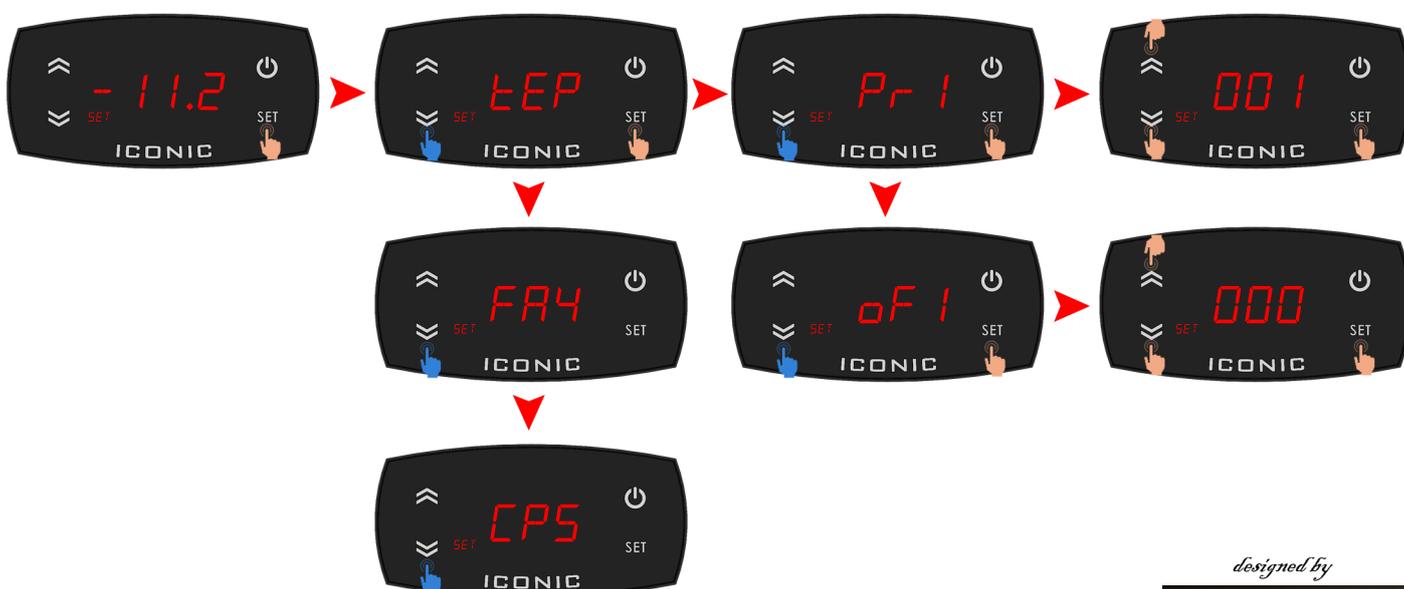
Menu Group	Menu Code	Parameter Name	Range	Details	Default
Menu	**SEt**	**Password**	**0-29**		
Password	PAS	Password	0-29	if it is 20 and set pressed other	10
Temperature	**tEP**				
	Pr1	use_Pr-1	0-1	Probe-1 setup; 0: Not Connected, 1:Connected	1
	oF1	Pr-1 offset	-10 / +10	Adds to read value	0
	Pr2	use_Pr-2	0-1	0: Not Connected, 1:Connected	0
	oF2	Pr-2 offset	-10 / +10	Adds to read value	0
	Pr3	use_Pr-3	0-1	0: Not Connected, 1:Connected	0
	oF3	Pr-3 offset	-10 / +10	Adds to read value	0
	Pr4	use_Pr-4	0-2	0: Not Connected, 1:Ambient, 2:Condenser	0
	oF4	Pr-4 offset	-10 / +10	Adds to read value	0
	PrP	Pr-1_%	0-100	100:Pr-1, 0:Pr-2, 1-99: Pr-1&Pr-2 Combination	100
	Ett	Min Target Temperature	-127 / +127	CPS sw-off temperature	0
	dt1	Delta1	-127 / +127	CPS sw-on temperature	3
	EA3	MinAllowedPr-3	-50 / +50	Min evap Temperature to sw-off the CPS	-50
	9A4	MaxAllowedPr-4[2]	0 / 127	Max Condenser Temperature to sw-off the CPS	127
	tSE	Temperature Set Min	-127 / +127	Allowed min temp set on display	-20
	tS9	Temperature Set Max	-127 / +127	Allowed max temp set on display	12
FAN Control	**FA4**				
	Fct	Fan Control Type Day	0 / 5	0: No Fan, 1:Always on, 2:follow CPS, 3: On w CPS, duty at CPS off period, 4: duty by set, 5: on even during electric defrost	1
	FcE	Fan Control Type ECO	0 / 5	0: No Fan, 1:Always on, 2:follow CPS, 3: On w CPS, duty at CPS off period, 4: duty by set, 5: on even during electric defrost	2
	FdU	Fan Delay after CPS_on	0 / 255	time with seconds waits to sw-on after CPS on	0
	FdF	Fan Stop after CPS_off	0 / 255	time with seconds waits to sw-off after CPS off	30
	FAP	Fan Cycle Period	0 / 255	time with Minutes for Fan Total Cycle	0
	FOP	Fan On Period	0 / 255	time with Minutes for Fan On Cycle	0
CPS Control	**CPS**				
	Ec0	Min CPS_OnTime	0 / 255	time with Minutes for Minimum CPS ON	3
	9C0	Max CPS_OnTime	0 / 255	time with hours for Maximum CPS ON	12
	Ec1	Min CPS_OffTime	0 / 255	time with Minutes for Minimum CPS OFF	3
	9C1	Max CPS_OffTime	0 / 255	time with hours for Maximum CPS OFF	6
	dt2	Delta2 for VSC	0 / 5	Target 2 set point = Ett + dt1 + dt2	3
	dt3	Delta3 for VSC	0 / 5	Target 3 set point = Target2 + dt3	3
	SuP	shift_up_period	0 / 255	time with minutes for every shift_up update	60
	SuU	shift_up_value	0 / 25	value for every shift up increasement	20
	4P9	Kp	0 / 255	Proposional Gain	25
	4 9	1000*Ki	0 / 255	Integral Gain	10
	9cF	VSC max frequency	100 / 200	max VSC frequency	145
	EcF	VSC min frequency	20 / 60	min VSC frequency	42
	uSC	VSC Method	0 / 3	0: no VSC, 1:Sliding, 2:PI	0

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LOADS	LoS				
	r01	RO1 Setting	0 / 3	0: not connected, 1:CPS, 2:Evap,3:Light1	1
	r02	RO2 Setting	0 / 5	0:not connected,1:Evap Fan,2: Cond Fan,3:Light2,4:Heater,5:Selenoid	2
	r03	RO3 Setting	0 / 5	0:not connected,1:Evap Fan,2: Cond Fan,3:Light3,4:Heater,5:Selenoid	3
	r04	RO4 Setting	0 / 5	0:not connected,1:Evap Fan,2: Cond Fan,3:Light4,4:Heater,5:Selenoid	3
	dtt	Day Time Setting	0 / 255	Day Time by Hour	12
	ntt	Eco Time Setting	0 / 255	Eco Time by Hour	12
	Etd	Eco Temperature Shift	0 / 20	Eco Mode Temperature Set Heat Up Delta	4
	CFt	Cond Fan Min Ambient Temp	-50 / +50	Condanser Fan Activation if Ambient Temperature over the threshold	-50
	cdt	Cond Fan Delay by Ambient Temp	0 / 255	Cond Fan Activation Delay Time(x10second) if Ambient Temp under the Threshold	18
	AtP	Alarm Temperature	-50 / +50	Alarm Temperature Limit	20
	Att	Alarm Temperature Activation Time	0 / 255	Time(minutes) to activate alarm after temperature reaches the AtP	240
DEFROST	dEF				
	dtY	Defrost Type	0 / 4	0: No Defrost, 1: Fan, 2: Heater, 3: Dual Heater 4:Hot-Gas Defrost	1
	dEA	Defrost Enable Min Ambient Temp	-50 / +50	Minimum Ambient Temperature to be able to activate a defrost	-50
	dFt	Defrost Forced by Evap Temp	-50 / +50	Evap Temperature to force a defrost activation	-50
	Ed1	Min 2 Defrost Interval	0 / 255	Minimum time as hour to be able to activate next defrost	2
	Yd1	Max 2 Defrost Interval	0 / 255	Maximum time as hour to force to activate next defrost	24
	dCt	CPS On Time for Defrost	0 / 255	CPS on time as hour to activate defrost period	6
	dEt	Defrost end Temperature	-50 / +50	Evap temperature to finish the defrost	3
	Edt	Min Defrost Duration	0 / 255	Time as minutes to set minimum defrost duration	4
	Ydt	Max Defrost Duration	0 / 255	Time as minutes to set maximum defrost duration	50
	bdt	Before Defrost Time	0 / 255	Time as 10 seconds to define waiting time to start defrost after CPS off	18
	Adt	After Defrost Time	0 / 255	Time as 10 seconds to define waiting time after defrost to CPS on	18
DISPLAY	dPL				
	Cof	Display Unit	0 / 1	0: Celcius, 1:Fahrenheit	0
	dUt	Display Value Type	0 / 3	0: Setup, 1: Pr1-2 Combination, 2:Pr-2, 3: Pr-3	1
	tcS	Temperature Change Step	0 / 5	0: 1°C, 1: 0.1°C, 2: 0.2°C, 3: 0.3°C, 4: 0.4°C, 5: 0.5°C	5
	dto	Display Temperature Offset	-50 / +50	Delta between display value and real value selected with "dUt"	0
	dEc	Display ECO?	0 / 1	0: not display ECO, 1: Display ECO	0
	ddd	Display during Defrost?	0 / 2	0: Display value "dUt", 1: Freeze Last Value, 2:Display "dEF"	1
LIGHTINIG	LLL				
	L11	Light-1 (if selected) Defination	0 / 1	0: Allways on Including ECO, 1: Day On	1
	L12	Light-1 Dig Input Selection		10: Dig Input1 Open Contact to Relay ON, 11: Digh Input1 Clsoe Contact to Relay ON	10
	L21	Light-2 (if selected) Defination	0 / 1	0: Allways on Including ECO, 1: Day On	1
	L22	Light-2 Dig Input Selection		20: Dig Input2 Open Contact to Relay ON, 21: Digh Input2 Clsoe Contact to Relay ON	10
	L31	Light-3 (if selected) Defination	0 / 1	0: Allways on Including ECO, 1: Day On	1
	L32	Light-3 Dig Input Selection		30: Dig Input3 Open Contact to Relay ON, 31: Digh Input3 Clsoe Contact to Relay ON	10