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7034 is four setpoint temperature controller. It		Viewing set points	1
tures and user friendly parameters. It is	SEE 1	To set Cutout value of First relay/SSR.	1
Heating as well as Cooling applications. In	SEE2	To set Cutout value of second relay.	2
nd other Relays work in On-Off mode	SEL3	To set Cutout value of Third relay.	2
the SZ-7034 offer several protection	SEEY	To set Cutout value of Fourth relay.	2
are easily understood by the examples	InPt	To select the type of sensor.	3
instruction manual.	002	To select type of output.	4
ontroller can be used for several applications	H-C	To set relay mode as per application.	4
asuring range as follow:	[trl	To set Control Action of Output.	5
ermocouple : 0 °C to 700 °C	Prbd	To set Proportional Band. This parameter is activated in Proportional Mode only.	5
ermocouple : 0 °C to 999 °C TD : -99 °C to 850 °C	H95 I	To set Hysterisis (differential) for RELAY1/ SSR. Activated in On-Off mode only.	6
: -99.9 °C to 99.9 °C	CYEr	To set cycle Time in seconds. Activated in Proportional mode only.	7
	oFSE	To set manual offset for proportional band. Activated in Proportional mode only.	7
	H952	To set Hysterisis (differential) for RELAY2.	8
	<i>НУ53</i>	To set Hysterisis (differential) for RELAY3.	8
	8924	To set Hysterisis (differential) for RELAY4.	8
	EdLI	To set Time Delay for RELAY1/SSR.This parameter is activated in On-Off Mode only.	9
	EdL2	To set Time Delay for RELAY2.	10
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CALЬ	To set Probe calibration.	13
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	Descrip	tion of parameters and fu	inctio	ns.	
Sr.No.	Parameter	Parameter setting method.	Min	Max	Fact
	Viewing Set Points	Function:To display setpoints. The Setpoints can not be changed but can only be viewed in this mode.			
SET	Press and hold SET key for 0.5 second and release	The value of setpoint1 will be displayed and respective LED will flash. To view next set point press SET key. After fourth Set point, if you press SET key, the control goes into the normal mode.			
		SET mode			
	To change Set point1 to 4 (SET1 to SET4)	Function: To set Cutout value of relay 1 to 4.			
SET	Press and hold SET key for 2 seconds and release.	Display will show " <i>5EL</i> / " & flash. To go to other setpoints, use up or down key.			
1	Set point1	Function: To set Cutout value of first relay/SSR.	LSLE	HSLE	0
	To change the " <i>5EŁ I</i> " parameter, press SET key.	Use UP/DOWN keys to get desired value. After setting desired value press SET key & display will show "" which confirms that value has been stored in memory.			

	Descrip	tion of parameters and fu	inctic	ons.			Descrip	tion of parameters and fu	inctio	ns.	
		Parameter cotting	Range				Parameter cotting		Range	3	
ir.No.	Parameter	method.	Min	Max	Fact. Set	Sr.No.	Parameter	method.	Min	Max	Fac Se
2	Set point2	Function: To set Cutout value of second relay.	LSLŁ	HSLE	0		To set other parameters.	Program mode			
	To change the " <i>SEŁ2</i> " parameter, press SET	Use UP/DOWN keys to get desired value. After setting desired value press SET key & display will show ""				(Prg)	Hold down/prg key for 2 seconds.	Display will show " <i>InP</i> Ł" & flash. To go to other parameters, use up / down keys.			
	key.	which confirms that value has been stored in memory.				1	Sensor Type	Function: To select the type of sensor.			
3	Set point3	Function: To set Cutout value of third relay.	LSLE	HSLE	0		To change the " InPt "	Use UP/DOWN keys to get desired value. After setting	<i>ЕС-</i> Ј	rEd3	٤С
	To change the " <i>5EŁ3</i> " parameter, press SET key.	Use UP/DOWN keys to get desired value. After setting desired value press SET key & display will show "" which confirms that value has been stored in memory.					parameter, press the SET key.	desired value press SET key & display will show "" which confirms that value has been stored in memory. $\xi \mathcal{L}$ -J : J type Thermocouple $\xi \mathcal{L}$ -P : K type Thermocouple			
4	Set point4	Function: To set Cutout value of fourth relay.	LSLE	HSLE	0			ר במביב wire RTD ר במשיר 3 wire RTD			
	To change the " <i>SEŁ</i> 4 " parameter, press SET key.	Use UP/DOWN keys to get desired value. After setting desired value press SET key & display will show "" which confirms that value has been stored in memory. Once the set key is pressed, the control goes into the normal mode.						Note : If sensor type is changed, following parameter will be changed to their factory set values . HSLt = 700(J) / 999(K) / 850(rtd2) / 99.9(rtd3) LSLt = 0(J/K)/-99(rtd2) / -99.9(rtd3)			
								CALb = 0 & All Set points = 0			
	I	2				L		3		I	<u> </u>

Parameter utput Type o change ie "out" arameter, ress the ET key. elay mode	Parameter setting method. Function: To select the type of output for first output.(i.e. RELAY1) Use UP/DOWN keys to get desired value . After setting desired value . After setting desired value press SET key & display will show "" which confirms that value has been stored in memory. rLy - Relay1 55r - SSR Function: To set relay mode as per application.	Min rL9	Max 55r	Fact. Set	<u>Sr.No</u>	Parameter Control Action To change the " <i>(LrL</i> " parameter, press the SET key.	Parameter setting method. Function: To set Control Action of Output for first output. Use UP/DOWN keys to get desired value. After setting desired value press SET key & display will show "" which confirms that value has been stored in memory. onoF - On- Off mode <i>BroP</i> . Deconstigned	Min onoF	Max ProP
utput Type o change ie "out" arameter, ress the ET key. elay mode	Function: To select the type of output for first output (i.e. RELAY1) Use UP/DOWN keys to get desired value . After setting desired value press SET key & display will show "" which confirms that value has been stored in memory. <i>rLY</i> - Relay1 55 <i>r</i> - SSR Function: To set relay mode as per application.	г.LУ НЕЯĿ	55r	<i>rL</i> 9	4	Control Action To change the "£trL " parameter, press the SET key.	Function: To set Control Action of Output for first output. Use UP/DOWN keys to get desired value. After setting desired value press SET key & display will show "" which confirms that value has been stored in memory.	onoF	ProP
o change e " סעל" arameter, ress the ET key. elay mode	Use UP/DOWN keys to get desired value . After setting desired value press SET key & display will show "" which confirms that value has been stored in memory. <i>rLY</i> - Relay1 55 <i>r</i> - SSR Function: To set relay mode as per application.	HERE	[To change the " <i>LerL</i> " parameter, press the SET key.	Use UP/DOWN keys to get desired value. After setting desired value press SET key & display will show "" which confirms that value has been stored in memory.		
elay mode	Function: To set relay mode as per application.	HERE	C1				- Proportional		
change	Use UP/DOWN keys to get		LOOL	HERE			Note : If "H-C" parameter is selected as "Cool", Control action cannot be selected as "ProP"		
ie " <i>H-L</i> " arameter, ress the ET key.	desired value. After setting desired value press SET key & display will show " " which confirms that value has been stored in memory.				5	Proportional Band	Function: To set Proportional Band .This parameter is activated in Proportional Mode only. This Parameter is only for RELAY1/SSR	0.1°C	99.9°C
	<i>HERE</i> - Heating (Forward) <i>LooL</i> - Cooling (Reverse) Note : If "H-C" parameter is selected as "Cool", "CtrL" parameter will be set to "onoF".					To change the <i>"Prbd"</i> Parameter, press the SET key.	Use UP/DOWN keys to get desired value. After setting desired value press SET key & display will show "" which confirms that value has been stored in memory. This is the proportional band		
ar E	ameter, ss the T key.	After setting desired value ss the T key. After setting desired value press SET key & display will show "" which confirms that value has been stored in memory. HERt - Heating (Forward) Cool Cooling (Reverse) Note : If "H-C" parameter is selected as "Cool", "Ctrl." parameter will be set to "onoF".	After setting desired value press SET key & display will show "" which confirms that value has been stored in memory.	After setting desired value ss the T key. After setting desired value press SET key & display will show "" which confirms that value has been stored in memory. HERE - Heating (Forward) Cool - Cooling (Reverse) Note : If "H-C" parameter is selected as "Cool", "Ctrl." parameter will be set to "onoF".	After setting desired value ss the press SET key & display will that value has been stored in memory. <i>HERL</i> - Heating (Forward) <i>Lool</i> - Cooling (Reverse) Note : If "H-C" parameter is selected as "Cool", "CtrL" parameter will be set to "onoF".	After setting desired value armeter, ss the T key. After setting desired value press SET key & display will show "" which confirms that value has been stored in memory. 5 <i>MERt</i> - Heating (Forward) <i>LooL</i> - Cooling (Reverse)	After setting desired value sameter, sthe sthe tress SET key & display will tress with a value has been stored in memory. Proportional Band <i>MERE</i> - Heating (Forward) <i>LooL</i> - Cooling (Reverse) To change the " <i>P-bd</i> " Parameter, press the SET key. Note: If "H-C" parameter is selected as "Cool", "CtrL" parameter will be set to "onoF".	After setting desired value Proportional Function: To set Proportional ss the press SET key & display will Band This parameter is show "" which confirms that value has been stored in Mode only. This Parameter is memory. HERE - Heating (Forward) Use UP/DOWN keys to get Lool - Cooling (Reverse) Note: If "H-C" parameter is Selected as "Cool", "CtrL" Note: if "H-C" parameter will be set to "onoF". SET key. SET key. Which confirms that value has been stored in memory.	After setting desired value, ss the show "" which confirms that value has been stored in memory. Proportional Band Function: To set Proportional Band 0.1°C 5 Band Band Band Control of the setting brow "" 0.1°C 4 Proportional brow "" Weight of the setting brow "" 0.1°C 0.1°C 5 Merican State Proportional brow "" Band Band Band 0.1°C 6 Merican State Image: the setting converted in Proportional <i>Local</i> - Cooling (Reverse) Use UP/DOWN keys to get the "Prbd" Use UP/DOWN keys to get desired value press SET key gress the SET key. Vise UP/DOWN keys to get desired value press SET key which confirms that value has been stored in memory. 7 This is the proportional band set in degrees. This is the proportional band set in degrees.

	Descrip	don of parameters and te		Donge			Descrip	tion of parameters and te		no. Donac	
Sr.No.	Parameter	Parameter setting method.	setting Nange Sr.No. Paramete		Parameter	Parameter setting method.	Min	Max	Fac		
		Example: If Set point1 is 60°C & Proportional band(Prbd) is 10°C then, proportional action takes place between 50°C to 60°C.			Set	6	Cycle time	Function: To set cycle Time in seconds. Activated in Proportional mode only.	1 sec	99 sec	20 s
5.1	Hysterisis 1	Function: To set Hysterisis (differential) for RELAY1/ SSR. Activated in On-Off mode only. Use UP/DOWN keys to get	0.1°C	99.9°C	2.0°C		To change the "[9][," parameter press the SET key.	Use UP/DOWN keys to get desired value. After setting desired value press SET key & display will show "" which confirms that value has been stored in memory.			
	the" H95 I" parameter, press the SET key.	desired value. After setting desired value press SET key & display will show "" which confirms that value has been stored in memory. This parameter value is the differential between cut out and cut-in temperature.						Example: If Cycle Time is set to 10 sec, the duty cycle of Relay1/SSr ON-OFF in proportional band will be 10sec. ON time + OFF time = 10 sec			
		Example : (In cooling mode): If the set point is 40.0° C and Hysterisis is set at 2.0° C, then when the system reaches 40.0° C the Relay will cut out				7	Manual Offset	Function: To set manual offset for proportional band. Activated in Proportional mode only.	-99.9°C	99.9°C	0.0
		Since the Hysterisis is 2.0°C, the Relay will cut in (restart) at 42.0°C (40.0°C+2.0°C). (In Heating mode): If the set point is 40.0°C and Hysterisis is set at 2.0°C, then when the system reaches 40.0°C, the Relay will cut cut. Since the Hysterisis is 2.0°C, the Relay will cut in (restart) at 38.0°C(40.0°C-2.0°C).					To change the "oF5" " parameter press the SET key.	Use UP/DOWN keys to get desired value. After setting desired value press SET key & display will show "" which confirms that value has been stored in memory. This parameter decides the position of Proportional band.			

	Descrip	tion of parameters and fu	inctic	ons.			Descrip	tion of parameters and fu	inctio	ns.	
		Parameter setting		Range	•			Parameter setting		Range	e
Sr.No.	Parameter	method.	Min	Max	Fact. Set	Sr.No	. Parameter	method.	Min	Max	Fact Set
		Example: If "oFSt" is 0.0° C, Set point1 is 60° C, Prbd = 10.0° C ,then proportional band is 50° C to 60° C(Proportional action will take place between 50° C to 60° C).				11	Time Delay 1	Function: To set Time Delay for RELAY1/SSR. This parameter is activated in On-Off Mode only	0 Min	20 Min	0 Min
		But for the same settings of Set point1 and Prbd, if "oFSt" is set to 5.0°C, then proportional band will be 55 °C to 65°C.					To change the " <i>¿dL</i> /" Parameter,	Use UP/DOWN keys to get desired value. After setting desired value press SET key & display will show "" which			
8	Hysterisis 2	Function: To set Hysterisis (differential) for RELAY2.	0.1°C	99.9°C	2.0°C		SET key.	confirms that value has been stored in memory. This			
	To change the <i>"ዘሣ52"</i> Parameter,	Use UP/DOWN keys to get desired value. After setting desired value press SET key						the compressor from restarting in a short period of time.			
	press the SET key.	& display will show "" which confirms that value has been stored in memory.						Example: If this parameter is set to 3 minutes, the Relay will cut off at the set temperature,			
9	Hysterisis 3	Function: To set Hysterisis (differential) for RELAY3.	0.1°C	99.9°C	2.0°C			even if the differential is achieved earlier. This			
	To change the <i>"Hy53"</i> Parameter, press the SET key.	Use UP/DOWN keys to get desired value. After setting desired value press SET key & display will show " " which confirms that value has been stored in memory.						parameter is good to protect the life of the compressor or even in applications where the probe is placed at places where there are sudden & short changes in temperature.			
10	Hysterisis 4	Function: To set Hysterisis (differential) for RELAY4.	0.1°C	99.9°C	2.0°C						
	To change the <i>"\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</i>	Use UP/DOWN keys to get desired value. After setting desired value press SET key & display will show "" which confirms that value has been stored in memory.									

	Descrip	tion of parameters and fu	Inctio	ons.			Descrip	tion of parameters and fu	inctio	ns.	
		Parameter setting		Range	э			Parameter setting		Range	•
Sr.No.	Parameter	method.	Min	Max	Fact. Set	lo.	Parameter	method.	Min	Мах	Fac Se
12	Time Delay 2	Function: To set Time Delay for RELAY2.	0 Min	20 Min	0 Min	5 7 f	Time delay for set point	Function: To set the time for set point interchange.	0 Hr	12 Hr	0 Hi
	To change the " <i>ŁdL2</i> " Parameter, press the SET key.	Use UP/DOWN keys to get desired value. After setting desired value press SET key & display will show "" which confirms that value has been stored in memory. This parameter is used to protect the compressor from restarting in a short period of time.				T t F S	Interchange To change the " <i>5P In</i> " Parameter press the SET Key	Use UP/DOWN keys to get desired value. After setting desired value press SET key & display will show " " which confirms that value has been stored in memory. Example: If "SPIn" is set to d Hre set routs will			
13	Time Delay 3	Function: To set Time Delay for RELAY3.	0 Min	20 Min	0 Min			interchange after every 4 Hrs.			
	To change the " <i>¿d[3</i> " Parameter, press the SET key.	Use UP/DOWN keys to get desired value. After setting desired value press SET key & display will show "" which confirms that value has been stored in memory. This parameter is used to protect the compressor from restarting in a short period of time.						1.e. if industry SET1 = $20^{\circ}C$ SET2 = $40^{\circ}C$ SET3 = $50^{\circ}C$ SET4 = $60^{\circ}C$ SET4 = $60^{\circ}C$ SET4 = $20^{\circ}C$ SET3 = $40^{\circ}C$ SET3 = $40^{\circ}C$ SET4 = $50^{\circ}C$			
14	Time Delay 4	Function: To set Time Delay for RELAY4.	0 Min	20 Min	0 Min			After 8 hrs SET1 = 50° C			
	To change the " <i>Łd</i> L4" Parameter, press the SET key.	Use UP/DOWN keys to get desired value. After setting desired value press SET key & display will show " " which confirms that value has been stored in memory. This parameter is used to protect the compressor from restarting in a short period of time.						SET3 = 20°C SET4 = 40°C Note: This parameter is applicable in Cooling mode only. If this parameter is set to 0 it will be disabled.			
		In a short period of time.						11			

	Descrip	tion of parameters and fu	inctio	ns.			Descrip	otion of parameters and fu	inctio	ns.	
SrNo	Parameter	Parameter setting		Range	Fact	Sr No	Parameter	Parameter setting		Range) East
51.140.	i arameter	method.	Min	Max	Set	01.140.	rarameter	method.	Min	Max	Set
16	Higher set limit	Function: To set maximum limit for set points as per the sensor selected.	Maxim um Set point among 4 Set points	700°C (J) 999°C (K) 850°C (rtd2) 99.9°C (rtd3)	700°C			Example: Setting this parameter at 20.0°C will not allow the set points to go below 20.0°C. Also, if the temperature reaches 20.0°C or goes below, the display will show " LL " (Low Temp) indicating that the temperature has gone below the			
	To change	Use UP/DOWN keys to get						range in this parameter.			
	the " H5LE " Parameter press the SET Key	desired value, After setting desired value press SET key & display will show " " which confirms that value has been stored in memory.				18	Probe calibration	Function: To set Probe calibration.	-20°C -20.0°C (rtd3)	20°C/ 20.0°C (rtd3)	0°C
		Example: Setting this parameter at 60.0° C will not allow the set points to go above 60.0° C. Also, if the temperature reaches 60.0° C or above, the display will show " HL " (High Temp) indicating that					To change the " <i>CRLb</i> " parameter press the SET key.	Use UP/DOWN keys to get desired value. After setting desired value press SET key & display will show "" which confirms that value has been stored in memory.			
		the temperature has gone above the range in this parameter.						Example: The temperature on the display is 28.0°C, whereas			
17	Lower set limit	Function: To set minimum limit for set points as per the sensor selected.	0°C (J) 0°C(K) -99°C (rtd2) -99.9° C (rtd3)	Minim- um Set point among 4 Set points	O°C			the actual temperature is 30.0° C. You will need to set the "CALb" parameter to 2.0, which means that once out of the programming mode, the temperature will show 30.0° C (28.0°C + 2.0°C)			
	To change the <i>"L5L</i> Ł" Parameter press the SET key.	Use UP/DOWN keys to get desired value. After setting desired value press SET key & display will show "" which confirms that value has been stored in memory.									
		Contd.									

		Demonster e etting		Range)
Sr.No.	Parameter	Parameter setting method.	Min	Max	Fact Set
19	Keypad Lock	Function: To lock keypad.	00	9ES	no
	To change the " <i>LICL</i> " " parameter, press the set key	Use UP/DOWN keys to set desired range. After setting the desired range, press the set key and you will see "" which confirms that the value has been stored in memory. This parameter locks the keypad so that tampering is not possible by by-standers. no : keypad unlocked ½5: keypad locked When locked all the parameters can only be viewed, but cannot modified and when you enter the parameter it will display "LDC" in adt then it will show the value of parameter.			
20	Reset parameter	Function: To restore default settings.	no	YES	no
	To change the " <i>r E5t</i> " parameter press the SET key.	When set to " <u>YE5</u> ", all parameters are programmed to factory set values. Useful to debug setting related problems.			

			D ((1)		Range	•	
Sr.No.	Pa	rameter	method.	Min	Max	Fact Set	
21	END para) meter.	Function: To end programming.				
	To e prog ing, the \$ key.	nd ramm- press SET	Once the set key is pressed, the control goes into the normal mode.				
Mess	sage	Tompo	Description	mum lin	nit of th	ne set	
Ор	erati	ng me	ssages				
Mess	sage		Description				
		lomno	Iemperature equal or above the maximum limit opoint. ("#5L&")				
Н	ε	point. ("HSLE")				
H L	Е Е	Tempe point. (Tempe point. (" <i>HSLE</i> ") rature equal or below the minim " <i>LSLE</i> ")	num lim	it of the	e set	
Н 5.	е е F	point. (Temper point. (Prober given r	" <i>H5LE</i> ") rature equal or below the minin" " <i>L5LE</i> ") circuit open or without probe or ange.	num lim temper	it of the	e set out of	
H L 5.	٤ ۶ ۶	point. (Tempe point. (Probe given n	" <i>HSLE</i> ") rature equal or below the minin <i>'LSLE</i> ") circuit open or without probe or ange.	temper	it of the	e set	

	ata	
Auusing Jimensions Aounting Jonnection Nata Storage Borage temp Accuracy Yower Input Operating Temp Jensor Type Jessolution Display ED status	 Black, ABS Plastic Front - 96x96 mm Depth- 110 mm Panel with clamps. Screw terminal blocks. ≤ 1.5mm2 one wire/terminal only. Non-Volatile EEPROM Memory -20°C to 70°C(non-condensing) ± 0.1% of full scale / ± 1°C 100 to 265 VAC 5°C to 50°C(non-condensing) RTD/ J / K 0.1°C for 3 wire RTD & 1°C for 2 wire RTD, J, K . 4 digits display, size 0.56" (7 segments) 1. SSR On/Off Relay2 On/Off Relay3 On/Off Relay4 On/Off 	$\begin{array}{c} \hline \hline \\ $
Control Action or Relay1 /SSR Relay Mode uput Jutput Probe Fail Actio Contacts	 ALARM On/Off 1. Proportional 2. On-Off Heating / Cooling. To J or Tc K or RTD 2/3 wires 4 SPDT Relay, 5A/250Vac 1 SPDT Alarm Relay, 5A/250Vac SSR selectable for first Relay. n: Relay OFF C-NO-NC for 4 relays, C-NO for ALARM Relay. 	12 13 14 15 16 17 18 19 20 22 0 0 0 0 0 0 0 0 0 SSR_+ NO C NO C NO 100-265V RELAY 1 RELAY 2 A



