CAREL

IR33 Universal Series

Set Point

PRESS & HOLD "SET" for 1 second **"St1"** will be displayed.

On releasing the button the current value of Set point 1 will be displayed.

PRESS ARROW "UP" or "DOWN" to set the desired value for set point 1.**

PRESS "SET" to confirm the value.

If there is only 1 set point then the controller will then display the current value of the measured variable (eg room temperature).

If the controller has been programmed for more than 1 set point (see c0), then "St2" will be displayed.

PRESS ARROW "UP" or "DOWN" to set the desired value for set point 2.

PRESS "SET" to confirm the value.

Please note

Please read these instructions in conjunction with the parameter list.
It is recommended that the controllers be programmed before connecting or activating the plant to be controlled (eg. Compressors…).

** If the controller keypad is locked, the value will not change. See parameter c50.

Literature available

Installation manual: +030220801
Technical leaflets: +050003085 (DN33)
+050003086 (IRDR to DN33)
+050003090 (IR33)
+050003095 (IR32 to IR33)

Frequent parameters (P)

PRESS & HOLD "PRG" for approx 5 seconds.

The first frequent parameter P1 will be displayed.

A) PRESS ARROW "UP" or "DOWN" until reaching the parameter to be modified.

B) PRESS "SET" to display the associated value.

C) PRESS ARROW "UP" or "DOWN" to increase or decrease the value.

D) PRESS "SET" to temporarily save the value.

Repeat the operations A to D to set other parameters.

E) **PRESS & HOLD "PRG"** for 5 seconds to permanently save the new values.

All parameters

PRESS & HOLD "PRG" & "SET" for approx 5 seconds until the displays shows 0.

PRESS ARROW "UP" or "DOWN" to enter the password value "77".

Repeat the operations A to E to set other parameters and save.

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For technical support contact CAREL Australia Pty Ltd

Sydney Office PH: 02 8762 9200 Email: cst.au@carel.com

www.carel.com

CAREL **IR33 Universal Summary of operating parameters**

Code	Parameter	Unit	Type	Min.	Max.	Def.	New
St1	Set point 1	°C/°F	F	c21	c22	20	
St2	Set point 2	°C/°F	F	c23	c24	40	
c0	Operating mode (ie heating, cooling, alarm…)	-	C	0	9	2	
	1 = all outputs direct (cooling), 2 = all outputs reverse (heating),						
	3 = 1/2 outputs direct 1/2 reverse (cooling and heating),						
	4 = pulse with modulation, 5 = alarm mode, 6 = direct / reverse						
	from digital input 1, 7 = direct with set point change from digital						
	input 1, 8 = reverse with set point change from digital input 1,						
	9 = direct / reverse with 2 set points						
P1	Differential 1	°C/°F	F	0.1	99.9	2.0	
P2	Differential 2	°C/°F	F	0.1	99.9	2.0	
P3	Dead zone differential	°C/°F	F	0	99.9	2.0	
c4	Compensation coefficient (validity mode 1 or 2)	-	C	-2	2	0.5	
c5	Type of control (0 = P, 1 = PI)	-	C	0	1	0	
c6	Delay between stage starting	s	C	0	255	5	
c7	Minimum time between activation of the same output	min	C	0	15	0	
d1	Min. time between deactivation of 2 different outputs	s	C	0	255	0	
c8	Minimum off time for each output	min	C	0	15	0	
c9	Minimum on time for each output	min	C	0	15	0	
c10	Status of control outputs with probe alarm (0 = All off,1 = All on,	-	C	0	3	0	
	2 = Cool on heat off, 3 = Cool off heat on)						
c11	Output rotation	-	C	0	7	0	
c12	PWM cycle time	s	C	0.2	999	20	
c13	Type of probe (note: for IR33*7 models, options 0 to 3 only)	-	C	0	16	0	
	0 = NTC, 1 = NTC high temp, 2 = PTC, 3 = Pt1000, Pt1000 high						
	temp, 5 = Pt100, 6 = Pt100 high temp, 7 = T/couple J, 8 = T/couple						
	J high temp, 9 = T/couple K, 10 = T/couple K high temp, 11 = 0-1						
	Vdc, 12 = -0.5-13Vdc, 13 = 0-10Vdc, 14 = 0-5Vdc ratiometric,						
	15 = 0-20mA, 16 = 4-20mA						
P14	Calibration of probe 1	°C/°F	F	-99	99.9	0	
P15	Calibration of probe 2	°C/°F	F	-99	99.9	0	
c15	Minimum value for probe 1 with current / voltage signal	-	C	-199	c16	0	
c16	Maximum value for probe 1 with current / voltage signal	-	C	c15	800	100	
d15	Minimum value for probe 2 with current / voltage signal	-	C	-199	d16	0	
d16	Maximum value for probe 2 with current / voltage signal	-	C	d15	800	100	
c17	Sensor response (probe disturbance filter)	-	C	1	15	4	
c18	Temperature measurement units (0 = °C, 1 = °F)	-	C	0	1	0	
c19	Operation of probe 2	-	C	0	11	0	
	0 = not enabled, 1 = differential mode, 2 = cooling compensation,						
	3 = heating compensation, 4 = compensation always active,						
	5 = logic on absolute set point, 6 = logic on differential set point,						
	7 = 2 circuits, 8 = control on higher p. value, 9 = control on lower						
	p. value, 10 = control by B2, 11 = auto h/c changeover from B2						
c21	Minimum value of set point 1	°C/°F	C	-199	c22	-50	
c22	Maximum value of set point 1	°C/°F	C	c21	800	110	
c23	Minimum value of set point 2	°C/°F	C	-199	c24	-50	
c24	Maximum value of set point 2	°C/°F	C	c23	800	110	

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Code	Parameter	Unit	Type	Min.	Max.	Def.	New
P25	Low temperature alarm threshold on probe 1	°C/°F	F	-199	P26	-50	
P26	High temperature alarm threshold on probe 1	°C/°F	F	P25	800	150	
P27	Alarm differential on probe 1	°C/°F	F	0	99.9	2	
P28	Alarm time delay on probe 1	min	F	0	250	120	
P29	Alarm type on probe 1 (0 = relative, 1 = absolute)	-	F	0	1	1	
P30	Low temperature alarm threshold on probe 2	°C/°F	F	-199	P31	-50	
P31	High temperature alarm threshold on probe 2	°C/°F	F	P30	800	150	
P32	Alarm differential on probe 2	°C/°F	F	0	99.9	2	
P33	Alarm time delay on probe 2	min	F	0	250	120	
P34	Alarm type on probe 2 (0 = relative, 1 = absolute)	-	F	0	1	1	
c29	Digital input 1 configuration	-	C	0	12	0	
	0 = not used, 1 = ext al auto reset circuit 1, 2 = ext al man reset						
	circuit 1, 3 = delayed ext al man reset circuit 1, 4 = ON/OFF,						
	5 = start/stop cycle from button, 6 = override outputs circuit 1,						
	7 = E17 signal delayed, 8 = E17 signal, 9 = ext al auto reset						
	circuit 2, 10 = ext al man reset circuit 2, 11 = delayed ext al man						
	reset circuit 2, 12 = override outputs circuit 2						
c30	Digital input 2 configuration (setting as per c29)	-	C	0	12	0	
c31	Status of control outputs with alarm from DI (0 = All off, 1 = All on,	-	C	0	3	0	
	2 = Heat off others unchanged, 3 = Cool off others unchanged)						
c32	Serial connection address	-	C	0	207	1	
c33	Special operation mode (! DO NOT CHANGE - please refer to	-	C	0	1	0	
	manual for special operation)						
c50	Lock keypad and remote control	-	C	0	2	1	
	0 = keypad disabled remote control enabled, 1 = everything						
	enabled, 2 = everything disabled						
c51	Code for enabling the remote control (0 = no code required)	-	C	0	255	0	
c52	Display (0 = probe 1, 1 = probe 2, 2 = DI 1, 3 = DI 2)	-	C	0	3	0	
	4 = setpoint 1, 5 = setpoint 2, = 6 = probe 1 alternating w probe 2)						
c53	Enable buzzer (0 = enabled, 1 = disabled)	-	C	0	1	0	
c56	Delay at start-up	s	C	0	255	0	
c57	Soft start circuit 1	min/°C	C	0	99	0	
d57	Soft start circuit 2	min/°C	C	0	99	0	
c62	ti_PID1 (integral factor)	s	C	0	999	600	
c63	td_PID1 (derivative factor)	s	C	0	999	0	
d62	ti_PID2 (integral factor)	s	C	0	999	600	
d63	td_PID2 (derivative factor)	s	C	0	999	0	
c64	Auto-tuning (0 = disabled, 1 = enabled)	-	C	0	1	0	
c66	Start enabling interval (note: For IR33*7 Enabling direct threshold)	°C/°F	C	-199	800	-50	
c67	End enabling interval (note: For IR33*7 Enabling reverse threshold)	°C/°F	C	-199	800	150	
c68	Enable cut off operation (0 = enabled, 1 = disabled)	-	C	0	1	0	
P70	Enable operating cycle	-	F	0	3	0	
	0 = disabled, 1 = keypad, 2 = digital input, 3 = real time clock						
P71	Operating cycle: duration of step 1	min	F	0	200	0	
P72	Operating cycle: temperature set point step 1	°C/°F	F	-199	800	0	
P73	Operating cycle: duration of step 2	min	F	0	200	0	
P74	Operating cycle: temperature set point step 2	°C/°F	F	-199	800	0	

Code	Parameter	Unit	Type	Min.	Max.	Def.	New
P75	Operating cycle: duration of step 3	min	F	0	200	0	
P76	Operating cycle: temperature set point step 3	°C/°F	F	-199	800	0	
P77	Operating cycle: duration of step 4	min	F	0	200	0	
P78	Operating cycle: temperature set point step 4	°C/°F	F	-199	800	0	
P79	Operating cycle: duration of step 5	min	F	0	200	0	
P80	Operating cycle: temperature set point step 5	°C/°F	F	-199	800	0	
ton	Switch device ON time setting (Press Set)	-	C	-	-	-	
d	Day	day		0	11	0	
h	Hour	h		0	23	0	
m	Minute	min		0	59	0	
tof	Switch device OFF time setting (Press Set)	-	C	-	-	-	
d	Day	day		0	11	1	
h	Hour	h		0	23	0	
m	Minute	min		0	59	0	
tc	Real Time Clock date/time setting (Press Set)	-	C	-	-	-	
y	Year	year		0	99	0	
M	Month	month		1	12	1	
d	Day of the month	day		1	31	1	
u	Day of the week	day		1	7	1	
h	Hour	hours		0	23	0	
m	Minute	min		0	59	0	

Alarm table

Code	Description	Buzzer	Reset
E01	Probe B1 fault	OFF	Automatic
E02	Probe B2 fault	OFF	Automatic
E03	Digital contact open (immediate alarm)	ON	Automatic
E03	Digital contact open (delayed alarm)	ON	Automatic
E03	Digital contact open (immediate alarm with manual reset)	ON	Manual
E04	High temperature alarm probe 1	ON	Automatic
E05	Low temperature alarm probe 1	ON	Automatic
E06	Real time clock fault	OFF	Automatic / Manual
E07	EEPROM error, unit parameters	OFF	Automatic
E08	EEPROM error, operating parameters	OFF	Automatic
E09	Acquisition error. Reached max time in calculation of PID parameters	ON	Manual
E10	Calculation error. PID gain null	ON	Manual
E11	Calculation error. PID gain negative	ON	Manual
E12	Calculation error. Integral and deriv. time negative	ON	Manual
E13	Acquisition error. Reached max continuous time in calculation of gain	ON	Manual
E14	Error when starting. Situation not suitable	ON	Manual
E15	High temperature alarm probe 2	ON	Automatic
E16	Low temperature alarm probe 2	ON	Automatic
E17	Digital contact open (immediate or delayed alarm, signal only)	OFF	Automatic
E18	Digital contact open (immediate alarm or delayed with reset on circuit 2)	ON	Automatic / Manual
E19	Probe reading error (For IR33*9 only)	OFF	Automatic