elstat

PR2x Series

The PR2x Series of products are a compact design refrigeration controller with energy management options, suitable for Coolers, Subzero Coolers, Freezers, and Open Front Coolers

The Sealed fascia with touch controls provide a slick front easy to operate and maintain clean.

LED INDICATOR

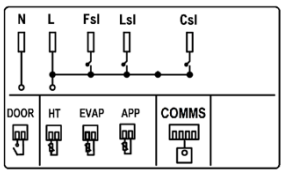
- Door
- Compressor
- Evaporator fan
- Bluetooth*

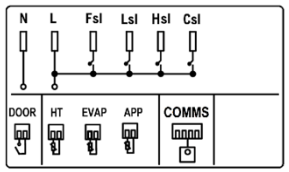
BUTTONS

- Up
- Set
- Down

ELECTRICAL CONNECTIONS

All mains AC voltage input and output connections are be made with 90° Female Spade/Tab insulated connectors, 6.3mm (1/4 inch) wide, using wire of appropriate current rating.





N - Mains Neutral (in)
L - Mains Live (in)
FSL - Fan switched live (out)
CSL - Compressor switched live (out)
LSL - Light switched live (out)
HSL - Heater switched live (out)
Communications port
Door switch input
Evap sensor input
Condenser sensor input
Appliance sensor input

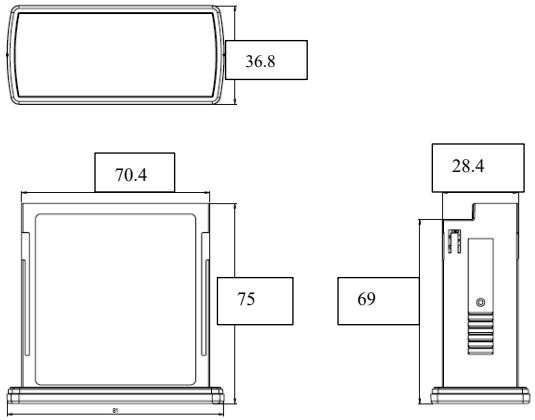
Approved Ratings		Maximum IEC rating 240AC
PR23 EMD 3 OUTPUTS	Compressor	9(9) A p.f. 0.6
	Lights	2(2) A p.f. 0.6
	Fan Motor	2(2) A p.f. 0.6
PR24 EMD 4 OUTPUTS	Compressor	9(9) A p.f. 0.6
	Lights	2(2) A p.f. 0.6
	Fan Motor	2(2) A p.f. 0.6
	Heater	2(2) A p.f. 0.6

ENVIROMENTAL RATINGS

Characteristic	Value
Ingress Protection	IP65 Front Fascia, IP30 at rear (pending testing
Maximum Operating Temperature	50oC (122oF)

TEMPERATURE INPUT RANGES

Sensor	Input Range
Appliance Sensor	-35°C to +35°C
Condenser Sensor	0°C to +125°C
Evaporator Sensor	-35°C to +35°C



PRODUCT APPROVALS

CE	CONFORMITÉ EUROPÉENE / EUROPEAN CONFORMITY (CE) EN60730-1 EN60730-2-9
IEC	INTERNATIONAL ELECTROTECHNICAL COMMISSION (IEC) IEC60730-1 IEC60730-2-9 Glow wire: IEC60335-1
EMC	ELECTROMAGNETIC COMPATIBILITY (EMC) EN55014-1, EN55014-2, EN61000-6-1, EN61000-6-3, EN61000-3-2, EN61000-3-3

Features	PR23/24	PR23BT/24BT
Touch Control	✓	✓
Adjustable Display	✓	✓
Energy Saving Algorithms	✓	✓
Real Time Clock		✓
Internal Battery for RTC		✓
Bluetooth		✓
iBeacon		✓
Eddystone		✓

Options

External Backup Battery connected to Comms Port

GSM Modem connects over Bluetooth

GSM Modem

Config Docking Station

Config Cable

ID	Description	Default	Min	Max	Precision	Unit	Definition
SP	**S**et **P**oint	3	-35	35	0.1	Celsius	Temperature at which the compressor is switched OFF
DF	**Dif**ferential	4	0	10	0.1	Celsius	Temperature increase above SP at which compressor is switched ON
SS	**S**avings **S**et Point	8	-35	10	0.1	Celsius	Temperature at which the compressor is switched ON during Energy Saving Mode
SD	**S**avings **D**ifferential	4	0	10	0.1	Celsius	Temperature increase above SSP at which compressor is switched OFF during Energy Savings Mode
C1	APP temp **C**alibration	0	-10	10	0.1	Celsius	Appliance temperature calibration factor added to app temperature measurement
C2	EVAP temp **C**alibration	0	-10	10	0.1	Celsius	Evaporator temperature calibration factor added to evap temperature measurement
UP	**U**ninterrupted **P**ull-down	20	0	30	1	Celsius	App temperature that, If exceeded, initiates an uninterrupted pull-down. 0 = disabled (no uninterrupted pull-down) The parameter should not be set less than SP + DIF or DTD whichever is the greater
SC	Season Offset	6	0	5	1	Integer	Offset value for the different Seasons ONLY if Season Flag = 1(Summer)
CF	Temperature Scale	0	0	1	n/a	Integer	Configures the controller to display temperature in either Celsius or Fahrenheit.
RT	Rest time	3	1	30	1	minutes	Minimum time before compressor can be switched ON after being switched OFF
DP	Display Mode	1	0	1	n/a	Integer	0 = 'USE' on display during Operational Mode, 1 = Display Temp during Operational 2= Display Manipulation
DE	Defrost Interval	6	0	199	1	hours	Length of time between defrost cycles
DD	Defrost duration	15	1	199	1	mins	Length of the defrost period
DT	Defrost termination Temperature	10	-35	30	1	Celsius	Temperature threshold that, if reached during a defrost period, causes the defrost period to be terminated
DR	Defrost method	0	0	2	n/a	Integer	0 = Time based defrost (APP temp or time based termination) 1 = Temperature based defrost (EVAP sensor activation / termination) 2 = Time based (EVAP sensor termination) **Note when DF = 0, EVAP sensor input is disabled**
DA	Defrost activation temperature	-6	-30	5	1	Celsius	Sets the temperature at which defrost on demand is activated. The defrost activation temperature minimizes the risk of evaporator icing up.
DH	Heating element defrost (PR24 only)	0	0	6	n/a	Integer	Controls the behaviour of heating element supplemented defrost If [parameter dH] = 0 then the fan shall be switched ON Heater will be off. Heater will be on for nonzero value of [parameter dH] If [parameter dH] = 1 then the fan shall be switched ON regardless of any other parameter given to FN and FF or fan behaviour during the active defrost cycle If [parameter dH] = 3 then the fan shall remain on for 1minute following the end of the active defrost cycle regardless of any other parameter of fan behaviour given to FN and FF If [parameter dH] = 4 then the fan shall remain on for 2 minutes following the end of the active defrost cycle regardless of any other parameter of fan behaviour given to FN and FF If [parameter dH] = 5 then the fan shall remain on for 3 minutes following the end of the active defrost cycle regardless of any other parameter of fan behaviour given to FN and FF If [parameter dH] = 6 the compressor shall be switched ON (following the end of compressor rest time if appropriate) during the active defrost cycle. when set to dH = 2 the Heater only should be on (and the fan OFF).
FP	Fan set point	15	1	60	1	Celsius	Temperature above which the evaporator fan will run continuously regardless if door is open or closed
FN	Fan cycle ON	30	1	30	1	Time (minutes)	The duration of fan on time when the compressor is OFF
FF	Fan cycle OFF	1	0	30	1	Time (minutes)	The duration of fan OFF time when the compressor is OFF. Setting to 0 effectively disables fan cycling and should be used in OFC applications
T1	Timeout 1	6	0	12	1	hours	Length of Time Fridge stays ON from the Last Door Opening

HT	Condenser high temperature	0	50	100	1	Celsius	Condenser HT alarm threshold. If exceed HT alarm is activated. If set to any value less than 0 the HT sensor is disabled
AD	Alarm Delay	0	2	30	1	Time (minutes)	Delay before door alarms are triggered. 0 means door alarms are disabled
CT	Refrigeration failure time	72	4	100	1	hours	Length of time in hours that must elapse before refrigeration system failure alarm is activated
FU	Freeze up protection temp	0	-35	10	1	Celsius	Temperature at which freeze up protection is activated
LB	LED Brightness	40	1	99	1	Integer	LED Brightness Level
AR	Marketing Mode	0	0	1	n/a	Integer	Marketing mode is when the lights are left on even when the store is closed such that the cooler is in Energy Savings Mode. This is normally used when the cooler is in a prominent position as an advertising aid Ar = 0 – lights OFF in 'energy save mode' Ar = 1 – lights ON in 'energy save mode' Ar = 2 – Door Switch enabled ECO Mode (Use for OFC, Ensure AD = 0 to use this)
D2	Display Stability(Filter)	0	0	240	1	Integer	Length of time for the display to update after a Temperature change in 0.5 Second increments
T2	Timeout 2	6	0	12	1	hours	Length of Time the Fridge Enters Standby after T1 has elapsed
BU	Button Mode	0	0	4	n/a	Integer	Main Fascia Button Mode Bu = 0 – UP/DWN/SELECT Bu = 1 – ECO/DEFROST/ALM Bu = 2 – ECO/SEASON/ALM Bu = 3 – ECO/LIGHT/ALM Bu = 4 – ECO/DWN/ALM
SF	Season Flag	0	0	1	1	Integer	Season Flag (Winter = 0 , Summer = 1) Editable by shortcut from the Main Fascia also
DC	Decimal Place	1	0	1	1	Integer	Decimal Place e.g. 0 = Whole number e.g. 2C 1 = 2.3 C
OF	Displayed Offset	0	-10	10	1	Integer	Offset the Display by X
DL	Display Low	0	-10	15	1	Integer	Lowest Value displayed DP = 2
DU	Display High	15	0	20	1	Integer	Highest Value Displayed DP = 2
HE	Display Alarm	55	0	55	1	Integer	Shows HE Display Alarm Value to High DP = 2
HD	HT alarm temperature differential	30	0	100	1	Celsius	The temperature drop that must occur on the HT sensor in order for the HT alarm to clear
TT	HT alarm timeout	30	0	240	1	Time (minutes)	The maximum time the HT alarm is active before being cleared
CD	Compressor Stratup Delay	0	0	240	1	Time (minutes)	The time it takes for the Compressor to stratup after Power ON