# CAREL

**MPXPRO 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.

## Please note

Please read these instructions in conjunction with the parameter list and the installation manual.

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 H2.

At first power up of the controller, the main parameters need to be configured for the start up procedure. Each parameter needs to be checked and/or modified by pressing the SET button. To end up the procedure hold the PRG button for 5 seconds.

## Literature available

Installation manual:

+0300055EN

Technical leaflets:

+050001175 MPXPRO wiring & network connections

+050001185 MPXPRO start-up guide

+050001190 MPXPRO functions, parameters & alarms

## Frequent parameters (F)

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.

## Configuration parameters (C)

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

PRESS ARROW "UP" or "DOWN" to enter the password value "22".

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

## Advanced parameters (A)

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

PRESS ARROW "UP" or "DOWN" to enter the password value "33".

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

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**Technical literature can be downloaded from www.carel.com**

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# MPXPRO Summary of operating parameters

| Code | Block | Parameter | Unit | Type | Min. | Max. | Def. | New |
|---|---|---|---|---|---|---|---|---|
| /2 | Pro | Analogue probe measurement stability | - | A | 1 | 15 | 4 | |
| /4 | Pro | Virtual probe composition (0=outlet probe Sm/100=inlet probe Sr) | % | C | 0 | 100 | 0 | |
| /5 | Pro | Temperature unit of measure (0=°C / 1=°F) | - | A | 0 | 1 | 0 | |
| /6 | Pro | Display decimal point (0=enabled / 1=disabled) | - | A | 0 | 1 | 0 | |
| /t | Pro | display signals/alarms on remote disp. (0=enabled / 1=disabled) | - | A | 0 | 1 | 0 | |
| /t1 | Pro | Display on user terminal | - | C | 0 | 14 | 12 | |
| /t2 | Pro | Display on remote display | - | A | 0 | 14 | 12 | |
| /to | Pro | Configure remote terminal / remote display | - | A | 0 | 3 | 3 | |
| /P1 | Pro | Type of probe group 1 (S1, S2, S3) | - | A | 0 | 3 | 0 | |
| /P2 | Pro | Type of probe group 2 (S4, S5) | - | A | 0 | 3 | 0 | |
| /P3 | Pro | Type of probe group 3 (S6) | - | A | 0 | 4 | 0 | |
| /P4 | Pro | Type of probe group 4 (S7) | - | A | 0 | 6 | 0 | |
| /P5 | Pro | Type of probe group 5:serial probes (S8 to S11) | - | A | 0 | 15 | 0 | |
| /FA | Pro | Assign outlet temperature probe (Sm) | - | C | 0 | 11 | 1 | |
| /Fb | Pro | Assign defrost temperature probe (Sd) | - | C | 0 | 11 | 2 | |
| /Fc | Pro | Assign intake temperature probe (Sr) | - | C | 0 | 11 | 3 | |
| /Fd | Pro | Assign superheated gas temperature probe (tGS) | - | A | 0 | 11 | 0 | |
| /FE | Pro | Assign saturated evaporation pressure/temperature probe (Peu/tEu) | - | A | 0 | 11 | 0 | |
| /FF | Pro | Assign defrost temperature probe 2 (Sd2) | - | A | 0 | 11 | 0 | |
| /FG | Pro | Assign auxiliary temperature probe 1 (Saux1) | - | A | 0 | 11 | 0 | |
| /FH | Pro | Assign auxiliary temperature probe 2 (Saux2) | - | A | 0 | 11 | 0 | |
| /FI | Pro | Assign ambient temperature probe (SA) | - | A | 0 | 11 | 0 | |
| /FL | Pro | Assign ambient humidity probe (SU) | - | A | 0 | 11 | 0 | |
| /FM | Pro | Assign glass temperature probe (Svt) | - | A | 0 | 11 | 0 | |
| /Fn | Pro | Assign dewpoint value (SdP) to a serial probe | - | A | 0 | 4 | 0 | |
| /c1 | Pro | Probe 1 calibration | °C/°F | F | -20 | 20 | 0 | |
| /c2 | Pro | Probe 2 calibration | °C/°F | F | -20 | 20 | 0 | |
| /c3 | Pro | Probe 3 calibration | °C/°F | F | -20 | 20 | 0 | |
| /c4 | Pro | Probe 4 calibration | °C/°F | A | -20 | 20 | 0 | |
| /c5 | Pro | Probe 5 calibration | °C/°F | A | -20 | 20 | 0 | |
| /c6 | Pro | Probe 6 calibration | | A | -20 | 20 | 0 | |
| /c7 | Pro | Probe 7 calibration | | A | -20 | 20 | 0 | |
| /U6 | Pro | Maximum value of probe 6 | bar/rH% | A | /L6 | 100 | 9.3 | |
| /L6 | Pro | Minimum value of probe 6 | bar/rH% | A | -100 | /U6 | -1 | |
| /U7 | Pro | Maximum value of probe 7 | bar/rH% | A | /L7 | 100 | 9.3 | |
| /L7 | Pro | Minimum value of probe 7 | bar/rH% | A | -100 | /U7 | -1 | |
| OFF | Ctl | On/OFF control (0=ON / 1=OFF) | - | A | 0 | 1 | 0 | |
| St | Ctl | Set point | °C/°F | F | r1 | r2 | 50 | |
| St2 | Ctl | Intake probe set point with "double thermostat" | °C/°F | A | r1 | r2 | 50 | |
| rd | Ctl | Set point differetial for St | °C/°F | F | 0.1 | 20 | 2 | |
| rd2 | Ctl | Set point differetial for St2 with "double thermostat" (0 = disabled) | °C/°F | A | 0 | 20 | 0 | |
| r1 | Ctl | Minimum set point | °C/°F | A | -50 | r2 | -50 | |
| r2 | Ctl | Maximum set point | °C/°F | A | r1 | 50 | 50 | |
| r3 | Ctl | End defrost signal by timeout (0=disabled / 1=enabled) | - | A | 0 | 1 | 0 | |
| r4 | Ctl | Automatic night-time set point variation | °C/°F | C | -50 | 50 | 0 | |
| r5 | Ctl | Maximum and minimum temperature monitoring probe | - | A | 0 | 10 | 0 | |
| rt | Ctl | Duration of the current max and min monitoring session | hour | A | 0 | 999 | - | |

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# MPXPRO Summary of operating parameters page 2

| Code | Block | Parameter | Unit | Type | Min. | Max. | Def. | New |
|---|---|---|---|---|---|---|---|---|
| rH | Ctl | Maximum temperature acquired in the session | °C/°F | A | - | - | - | |
| rL | Ctl | Minimum temperature acquired in the session | °C/°F | A | - | - | - | |
| r6 | Ctl | Probe for night-time control (0=virtual probe / 1=intake probe) | - | C | 0 | 1 | 0 | |
| ro | Ctl | Control offset with probe error | °C/°F | A | 0 | 20 | 0 | |
| r7 | Ctl | Master solenoid valve configuration (0 = local / 1=network valve) | - | C | 0 | 1 | 0 | |
| c0 | Cmp | Delay enable compressor and evaporator fans on power up | min | A | 0 | 240 | 0 | |
| c1 | Cmp | Minimum time between successive starts | min | A | 0 | 15 | 0 | |
| c2 | Cmp | Minimum OFF time | min | A | 0 | 15 | 0 | |
| c3 | Cmp | Minimum ON time | min | A | 0 | 15 | 0 | |
| c4 | Cmp | ON time for duty setting operation (Toff=15 minutes fixed) | min | A | 0 | 100 | 0 | |
| cc | Cmp | Running time in continuous cycle | hour | A | 0 | 15 | 1 | |
| c6 | Cmp | Low temperatuer alarm bypass time after continuous cycle | min | A | 0 | 240 | 60 | |
| c7 | Cmp | Defrost priority over continuous cycle (0=no / 1=yes) | - | A | 0 | 1 | 0 | |
| d0 | dEF | Type of defrost (elec 0=temp, 2=time / hot gas 1=temp, 3=time) | - | C | 0 | 6 | 0 | |
| d2 | dEF | End defrost synchronised by master (0=no / 1=synchronised) | - | A | 0 | 1 | 0 | |
| dI | dEF | Maximum interval between consecutive defrosts | hour | C | 0 | 240 | 8 | |
| dt1 | dEF | End defrost temperature (read by Sd) | °C/°F | F | -50 | 50 | 8 | |
| dt2 | dEF | End defrost temperature (read by Sd2) | °C/°F | A | -50 | 50 | 8 | |
| dP1 | dEF | Maximum defrost duration | min | F | 1 | 240 | 45 | |
| dP2 | dEF | Maximum secondary evaporator defrost duration | min | A | 1 | 240 | 45 | |
| d4 | dEF | Defrost on power-up (0=disabled / 1=enabled) | - | A | 0 | 1 | 0 | |
| d5 | dEF | Defrost delay on power-up (if d4=1) (0=delay disabled) | min | A | 0 | 240 | 0 | |
| d6 | dEF | Display on terminals during defrost | - | C | 0 | 2 | 1 | |
| dd | dEF | Dripping time after defrost (fans off) (0=no dripping) | min | A | 0 | 15 | 2 | |
| d7 | dEF | Skip defrost (0=disabled / 1=enabled) | - | A | 0 | 1 | 0 | |
| d8 | dEF | Bypass high temperature alarm time after defrost and door open | min | C | 1 | 240 | 30 | |
| d9 | dEF | Defrost priority over compressor protection times (0=no / 1=yes) | - | A | 0 | 1 | 1 | |
| Sd1 | dEF | Defrost probe reading | °C/°F | F | - | - | - | |
| Sd2 | dEF | Secondary evaporator defrost probe reading | °C/°F | A | - | - | - | |
| dC | dEF | Tima base for defrost (0=hours/minutes / 1=minutes/seconds) | - | A | 0 | 1 | 0 | |
| d10 | dEF | Defrost time in "running time" mode (0=function disabled) | min | A | 0 | 240 | 0 | |
| d11 | dEF | Defrost temperature threshold in "running time" mode | °C/°F | A | -50 | 50 | -30 | |
| d12 | dEF | Pressure probe alarm management during defrost | - | A | 0 | 3 | 0 | |
| dS1 | dEF | Compressor off time in "sequential stop" defrost mode | min | A | 0 | 45 | 0 | |
| dS2 | dEF | Compressor operating time in "sequential stop" defrost mode | min | A | 0 | 240 | 120 | |
| ddt | dEF | Additional end defrost temperature delta in "power defrost" mode | °C/°F | A | -20 | 20 | 0 | |
| ddP | dEF | Additional maximum defrost time delta in "power defrost" mode | min | A | 0 | 60 | 0 | |
| dn | dEF | Nominal "skip defrost" duration | % | A | 0 | 100 | 75 | |
| d1S | dEF | Number of daily defrosts (td1) | - | C | 0 | 14 | 0 | |
| d2S | dEF | Number of daily defrosts (td2) | - | C | 0 | 14 | 0 | |
| dH1 | dEF | Pump down phase duration (0=pump down disabled) | s | A | 0 | 999 | 0 | |
| dHG | dEF | Type of multiplexed hot gas defrost | - | A | 0 | 1 | 0 | |
| AA | Alm | Assign probe for high (AH) and low (AL) temperature alarms | - | F | 1 | 14 | 1 | |
| AA2 | Alm | Assign probe for high (AH2) and low (AL2) temperature alarms | - | A | 1 | 14 | 1 | |
| A0 | Alm | High and low temperature alarm reset differential | °C/°F | F | 0.1 | 20 | 2 | |
| A1 | Alm | Alarm thresholds (AL, AH) type (0=relative to St / 1=absolute) | - | F | 0 | 1 | 0 | |
| A2 | Alm | Alarm thresholds (AL2, AH2) type (0=relative to St2 / 1=absolute) | - | A | 0 | 1 | 0 | |

| Code | Block | Parameter | Unit | Type | Min. | Max. | Def. | New |
|---|---|---|---|---|---|---|---|---|
| AL | Alm | Low temperature alarm threshold | °C/°F | F | -50 | 50 | 4 | |
| AH | Alm | High temperature alarm threshold | °C/°F | F | -50 | 50 | 10 | |
| AL2 | Alm | Low temperature alarm 2 threshold | °C/°F | A | -50 | 50 | 0 | |
| AH2 | Alm | High temperature alarm 2 threshold | °C/°F | A | -50 | 50 | 0 | |
| Ad | Alm | Delay time for high and low temperature alarms | min | F | 0 | 240 | 120 | |
| A4 | Alm | Configuration of digital input DI1 on S4 | - | C | 0 | 9 | 0 | |
| A5 | Alm | Configuration of digital input DI2 on S5 | - | C | 0 | 9 | 0 | |
| A6 | Alm | Configuration of solenoid/compressor control during ext alarm | min | A | 0 | 100 | 0 | |
| A7 | Alm | Delay time for delayed external alarm | min | C | 0 | 240 | 0 | |
| A8 | Alm | Configuration of function of virtual digital input | - | A | 0 | 8 | 0 | |
| A9 | Alm | Select digital input propagated from master to slaves | - | A | 0 | 5 | 0 | |
| A10 | Alm | Configuration of digital input DI3 on S6 | - | C | 0 | 9 | 0 | |
| A11 | Alm | Configuration of digital input DI4 on S7 | - | C | 0 | 9 | 0 | |
| A12 | Alm | Configuration of digital input DI5 | - | C | 0 | 8 | 0 | |
| Ar | Alm | Signal alarms from slave to master (0=not enabled / 1=enabled) | - | A | 0 | 1 | 1 | |
| A13 | Alm | Hot gas safety procedure for slave offline | - | A | 0 | 1 | 0 | |
| F0 | Fan | Evaporator fan management (0=always on / 1&2 see manual) | - | C | 0 | 2 | 0 | |
| F1 | Fan | Evaporator fan activation threshold (only if F0=1 or 2) | °C/°F | F | -50 | 50 | -5 | |
| F2 | Fan | Evaporator fans with compressor off (0 =see F0 / 1= always off) | - | C | 0 | 1 | 1 | |
| F3 | Fan | Evaporator fans during defrost (0=on / 1=off) | - | C | 0 | 1 | 1 | |
| Fd | Fan | Post dripping time after defrost (fans off with control active) | min | C | 0 | 15 | 1 | |
| Frd | Fan | Fan activation differential (incllluding variable speed) | °C/°F | F | 0.1 | 20 | 2 | |
| F5 | Fan | Evaporator fan cut-off temperature (hysteresis 1°C) | °C/°F | F | F1 | 50 | 50 | |
| F6 | Fan | Maximum evaporator fan speed | % | A | F7 | 100 | 100 | |
| F7 | Fan | Minimum evaporator fan speed | % | A | 0 | F6 | 0 | |
| F8 | Fan | Evaporator fan peak time (0=function disabled) | s | A | 0 | 240 | 0 | |
| F9 | Fan | Select fan control with output PWM1/2 (0=pulse / 1=duration) | - | A | 0 | 1 | 1 | |
| F10 | Fan | Evaporator fan forcing time at maximum speed | s | A | 0 | 240 | 0 | |
| | Eud | Electronic expansion valve parameters - See manual | | | | | | |
| In | CnF | Type of unit (0=slave / 1=master) | - | C | 0 | 1 | 0 | |
| Sn | CnF | Number of slaves in the local network (0=no slave) | - | C | 0 | 5 | 0 | |
| H0 | CnF | Serial or master slave network address | - | C | 0 | 199 | 199 | |
| H1 | CnF | Configuration of output AUX1 | - | C | 0 | 11 | 8 | |
| H2 | CnF | Disable keypad and remote control functions (1=all enabled) | - | A | 0 | 5 | 1 | |
| H3 | CnF | Remote control enabling code (0=no code) | - | A | 0 | 255 | 0 | |
| H4 | CnF | Terminal buzzer (if present) (0=enabled / 1=disabled) | - | A | 0 | 1 | 0 | |
| H5 | CnF | Configuration of output AUX2 | - | C | 0 | 11 | 8 | |
| H6 | CnF | Terminal keypad lock configuration | - | A | 0 | 15 | 0 | |
| H7 | CnF | Configuration of output AUX3 | - | C | 0 | 11 | 8 | |
| H8 | CnF | Output switched with time bands (0=light / 1=aux) | - | C | 0 | 1 | 0 | |
| H9 | CnF | Select function associated with the "aux" button (0=light / 1=aux) | - | C | 0 | 1 | 0 | |
| H10 | CnF | Configure compressor digital output logic (0=direct /1=reverse) | - | A | 0 | 1 | 0 | |
| H11 | CnF | Configure evaporator fan digital output logic (0=direct /1=reverse) | - | F | 1 | 14 | 1 | |
| | CnF | rHx parameters for anti-sweat function parameters - See manual | | | | | | |
| | Hst | Alarm log parameters - See manual | | | | | | |
| | HcP | HACCP alarms parameters - see manual | | | | | | |
| | rtc | Real Time clock parameters - See manual | | | | | | |