

Series PCR-300/310/410/300 RC

Electronic cold store controls

Specification Data



Technical Data:

- Mains voltage /-frequency:
PCR-300, PCR-300RC:
230 V, $\pm 10\%$, 50/60 Hz (110 V, 50/60 Hz on request)
PCR-310/-410:
Controller: 12 V AC $\pm 10\%$, 50/60 Hz, 12 V DC $\pm 10\%$
Transformer: Primary: 230 V AC $\pm 10\%$, 50/60 Hz,
(110 V, 50/60 Hz on request)
Secondary: 12 V AC.
- Rated wattage: 2.5 Watt
- Display: 3-digit, 7-segment, red LED, 14.2 mm
- Resolution: 1 K
- Measuring range: $-55\text{ }^{\circ}\text{C}$ to $+50\text{ }^{\circ}\text{C}$
- Outputs:
1 relay with changeover contact, 8 A, 230 V AC,
resistive load, (cooling).
1 relay with N.O. contact, 8A, 230 V AC, resistive load,
(defrost heating).
1 relay with N.O. contact, 8 A, 230 V AC, resistive load
(fan control).

- Control performance: Two-step
- Alarm output: Opto-bidirectional triode thyristor,
250 VAC, max. load 80 mA (PCR-300, -300RC)
relay, N.O., 8 A, 230 V AC, resistive load PCR-410)
- Display accuracy: $\pm 0,5\text{ K}$ internal, ± 1 at $25\text{ }^{\circ}\text{C}$
- Operating conditions:
 0 ° to $50\text{ }^{\circ}\text{C}$, 30 to 85 % R.H. excluding dew
- Storage temperature: $-20\text{ }^{\circ}\text{C}$ to $+80\text{ }^{\circ}\text{C}$
- Data back-up: Non-volatile memory (EEPROM)
Clock: Back-up battery, approx. 1 month power
reserve (PCR-300RC)
- Selection of emergency set-point: DIP-switch,
(off = $+4\text{ }^{\circ}\text{C}$ / on = $-18\text{ }^{\circ}\text{C}$)
- Sensor type: PTC sensor
Number: 2 pieces
T1 = Control signal to compressor relay
T2 = Control signal to defrost limitation and fan control
- Cable length: 2.5 m
- Range where cable can be used: $-30\text{ }^{\circ}\text{C}$ to $+80\text{ }^{\circ}\text{C}$
not fixed.
 $-40\text{ }^{\circ}\text{C}$ to $+80\text{ }^{\circ}\text{C}$ fixed.
- Accuracy: $\pm 2\%$
- Housing:
ABS-plastic, self-extinguishing, (UL 94 V0)
PCR-300(RC): L x W x H = 85 x 70 x 61 mm,
PCR-310/-410: L x W x H = 70 x 74 x 32 mm,
Transformer: L x W x H = 47 x 52 x 34 mm
- Protective rating: Housing: IP 20, front panel: IP 52
Class of protection 2
- Terminals: 250V / 10 A screw-type terminal strips,
with wire protection, tightening torque 0.6 Nm
max. core cross section 1.5 mm²
- Weight:
PCR-300(RC): ca. 420 g (incl. 2 sensors).
PCR-310 /-410: ca. 320 g (incl. 2 sensors).
transformer: ca. 195 g
- **Only operate the unit in dry places!**

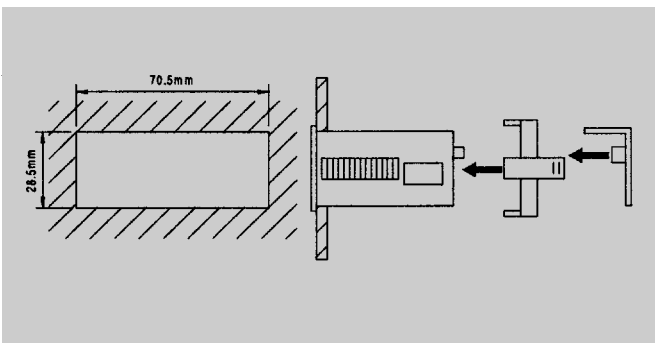
Application:

- PCR-300, PCR-310, PCR-410 and PCR-300 RC are microprocessor-controlled cold store controls for refrigeration and deepfreeze systems and feature:
 - Compressor control (dependent upon cold store temperature) with delayed start-up
 - Evaporator fan control
 - fan either in combination with compressor or
 - operating continuously or
 - switched via the evaporator thermostat.
 - Defrost control limited thermostatically, either for electrical heating or hot-gas defrosting. Defrosting is initiated via programmable intervals of time, max. 24/day.
The **PCR-300 RC** is equipped with real-time clock for defrost control. A maximum of 6 times each day can be programmed.
- The controllers have different housings:
 - PCR-300 and PCR-300RC :
Module housing for 35 mm standard rail.
 - PCR-310 and PCR-410:
“Snap-in” installation housing,
for aperture 28.5 x 70.5 mm

Installation:

- **4 DIN standard modular housings mounted on a standard rail:**
Open out the side mounting tabs. Clip the unit on to 35 mm rail and press tabs in again.
- **Snap-in installation housings:**
Fit unit in a recess 28.5 x 70.5 mm and secure with the relevant mounting frame.

a) housing with terminal cover (max. wall thickness: 22 mm):



- Use a cable clamp to secure sensor T1 in a suitable position.
- Secure evaporator sensor T2 in the evaporator fin core at the point where it is suspected icing is the greatest. It is advisable to use a point in the lower third of the finned evaporator.

Special features:

- User-friendly thanks to digital input.
- Data is not lost, even if there is a power failure, for at least 10 years.
- Adjustable switching difference.
- 2 PTC sensors with stainless steel sensor sleeves supplied as standard.
- Selectable emergency setpoint value for cold store temperature of + 4 °C / - 18 °C.

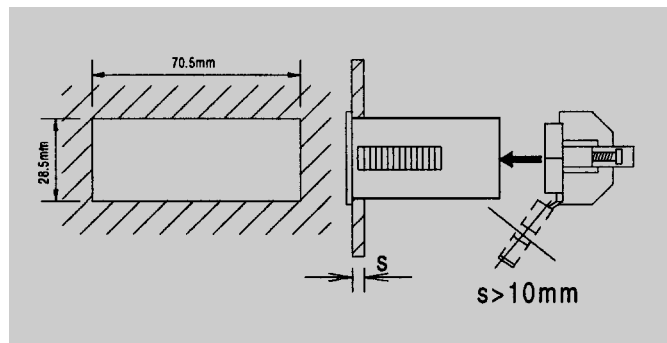
PCR-300 and PCR-300RC:

- 230 V, 50/60 Hz mains transformer installed.
- Alarm output.
- PCR-300RC with power reserve for real-time clock of 1 month in the event of a power failure

PCR-310 and PCR-410:

- External 230 V, 50/60 Hz mains transformer **TR-310** supplied as standard
- Mounting frames supplied as standard.
- PCR-410 with alarm output (relay).

b) housing without terminal cover (max. wall thickness: 18 mm):



- For walls thicker than 10 mm: remove side plastic spacers from the mounting frame.
For the final fixing at the unit side screws have to be tightened carefully.

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