Unit Controller (UC8) - for Air-to-Air systems

temperzone ltd

Labels (left side):
- Fault relay
- AUX relay
- Dip switches
- Earth
- Display
- Push Button
- Light indicators
- High and low pressure transducer inputs

Labels (top):
- Expansion Valve 1 / Valve 2
- Thermostat input — High Medium Low Com1 | Comp Heat Com2
- HP switch
- HP switch
- DC outputs control & 0-10V inputs — +5V DC Fan Ground | +12V DC Capacity Ground

Labels (right side):
- B / A / Ground — RS485 #1
- +12V DC / B / A / 0V — RS485 #2
- 0-10V out #1 / Ground
- 0-10V out #2 / Ground
- D1 / D2 / D3 / Sc (Ground) — DRED
- Remote on/off / Ground
- 6 Temperature sensor inputs

Labels (bottom):
- Live Neutral 230V AC
- High Medium Low Com3 Com4 — Fan output relays
- Compressor contactor
- Reverse cycle valve
- Solid state relay #1
- Solid state relay #2

Faults

LP	Low pressure protection active
HP	High pressure protection active
HI-t	High temperature protection active
FROSt	Indoor coil frost protection active
HI-SL	High suction line temperature protection active
Lo-dSH	Low discharge superheat protection active
Hi-dSH	High discharge superheat protection active
OL	Overload protection active
F10	Outdoor fan fault
F11	Indoor fan fault
F12	Low pressure transducer fault
F13	High pressure transducer fault
F14	Suction line temperature sensor fault (SL)
F15	Discharge line temperature sensor fault (DL)
F16	De-Ice temperature sensor fault (DEI)
F17	Outdoor coil temperature sensor fault (OC)
F18	Indoor coil temperature sensor fault (IC)
F19	Ambient temperature sensor fault (AMB)
F20	Superheat unknown
F21	Thermostat communication lost
F22	BMS or master communications lost
F23	Slave 1 communcations lost
F24	Slave 2 communcations lost
F25	Slave 3 communcations lost
F26	Error reading DIP switch settings
F27	Invalid fan selection
F29	High controller temperature
F30	Supply voltage out of bounds
F31	A slave unit reports a fault
F32	Controller internal communication problem
F34	Problem with pressures or transducer readings
F35	Reverse cycle valve fault
F36	Invalid dip switch settings on TZT-100 thermostat
F37	Indoor unit communications lost
F38	Indoor unit reports a fault
F39	Variable speed compressor driver fault
F40	Compression ratio too high
F41	Compression ratio too low
F42	Evaporating pressure / temperature too high
F43	Condensing pressure / temperature too low

Display Messages (Normal Operation)

UC8 X.X.X	Name and software version (shown only after power-on) e.g. 1.5.2
dELAY	Unit waits for a random delay time (up to 20s, shown only after power-on)
• (flashing)	Normal mode
– (flashing)	Unit is OFF by Remote On/Off signal
dE-ICE	De-icing the outdoor coil
c	Commissioning mode (lasts for 30 minutes)
t	Test mode (lasts about 1 minute)
HOLd	Compressor held-on or held-off by a timer
dr	DRED energy consumption restriction active
H	Indoor fan High speed selection
L	Indoor fan Low speed selection
E	Compressor model selection
A	Modbus device Address selection
J	Shared or separate outdoor fan chamber selection
d	Forced de-ice cycle

Monitoring of pressures and temperatures.
Press the push button to cycle through the following options (round robin fashion):

• or c	No temperature display (default)
sLP	Suction line pressure (kPa)
Et	Evaporating temperature (°C)
SLt	Suction line temperature (°C)
SSH	Suction side superheat (K)
dLP	Discharge line pressure (kPa)
Ct	Condensing temperature (°C)
dLt	Discharge line temperature (°C)
dSH	Discharge side superheat (K)
ICEt	Outdoor coil de-ice sensor temperature (°C)
CAP	Unit capacity (%)
EE1	Expansion valve 1 opening (%)
EE2	Expansion valve 2 opening (%)

How to activate Special Modes

- Thermostat and compressor must be OFF.
- Press and hold pushbutton until the display shows the letter that corresponds to the special mode. Note: depending on the model some special modes may not be available.
- Available special modes are:
  - t - Test mode
  - H - Indoor fan high speed selection
  - d - Forced outdoor coil de-ice cycle
  - A - Modbus address selection
  - c - Commissioning mode
  - L - Indoor fan low speed selection
  - E - Compressor model selection
  - J - Outdoor fan chamber selection
- Release the push button as soon as the display shows the correct letter.

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