User Guide

DG501C

CE

EUROPEAN COMMUNITY DIRECTIVES
This equipment meets all requirements of European Community Directives for Low Voltage (72/23/EEC), General Safety (92/59/EEC), and Electromagnetic Compatibility (89/336/EEC).

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Introduction

The DG501C controller

- allows the complete automatic control and management of the air-conditioning plant type chosen among the various applications (see, further for a list) configured and existing in the controller. In order to enable the required application, it is sufficient to carry out the controller electrical connections according to the relevant scheme and to follow the instructions in the present manual.
- once the controller has been installed and connected, it is started up by simply switching on power supply. No configuration intervention on the part of the user is needed. The only necessary operations, to be carried out from the display, are to set time and time schedules. In any case, it will be possible, using the display, to supervise and correct the origin values of the variables.

Consider that:

- **no particular instrument, even the PC, is required to install and use DG500**.
- **all operations are carried out through the display in a simple and user-friendly way.**

Start-up

Once the application type, from 1 to 9, has been chosen, and the relevant connections have been carried out, stick the label (supplied in the package) which identifies the scheme number. This has the purpose to make it evident for future interventions on the plant.

- Verify that the isolating strap, protecting the battery, has been removed, as described in the paragraph LCD panel mounting at page 7
- Switch on power supply.
- After some moment, on the display the date and time appear. Press **Esc.**
- Using the navigation button, select the menu **Set Clock**, set the current date and time and confirm using the Enter button.
- Press **Esc**. to go back to the start menu and verify the correct date and time are set.

At this time, if the pre-set parameters related to time programming (i.e. permanent operation) and to the set value of the variables satisfy the plant requirements, the **controller becomes immediately operating**.

In the frequent case a customised time and daily schedule is required, scroll the menu up to the time to be modified (primary air or fan coil) and enter the required data using the procedure described below.

Ex. 1 Programme: Monday to Friday, on 08, off 17. Saturday and Sunday off

	On	Off	On	Off
Monday, Tuesday, Wednesday, Thursday, Friday	08:00	17:00	17:00	17:00
Saturday, Sunday	00:00	00:00	00:00	00:00

Ex. 2 Programme: Monday to Friday on 08, off 12, on 13,30 on 17, Saturday on 08, off 13, Sunday off

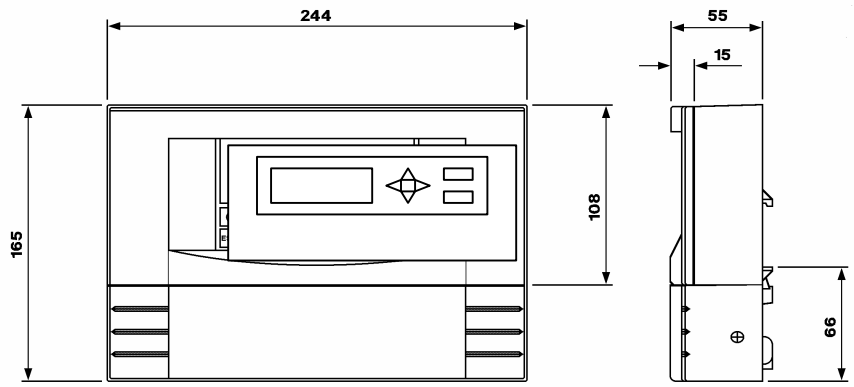
	On	Off	On	Off
Monday, Tuesday, Wednesday, Thursday, Friday	08:00	12:00	13:30	17:00
Saturday	08:00	13:00	13.00	13.00
Sunday	00:00	00:00	00:00	00:00

In order to edit the set values of the required variables or, simply to monitor values of the variables and sets, refer to the Menu description below.
Consider that the analogue inputs, which are not connected, are displayed as ------, the digital ones are marked by Off.

Installation

Product Description

The DG500 Controller has a moulded polycarbonate base, protection class IP 40, and a LCD screen for displaying and entering parameters. Its compact size allows easy inclusion in an electrical enclosure.



Two Versions of the DG500 Controller are available:

- the wall mountable version (with or without DIN rail)
- the panel mountable version, using kit DG510

Inspection

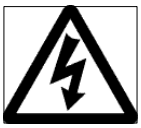
Inspect carton for damage. If damaged, notify carrier immediately. Inspect controller for damage. Return damaged products.

Requirements

(items not provided)

- Tools:
  - Drill and bits for panel mounting screws.
  - Digital Volt-Ohm-Meter (DVM.
- EN 60742 power transformer supplying a nominal 24Vac (20.4 to 30Vac) with a minimum rating of 10VA, 50/60Hz. In case of more than one controller use a transformer supplying 10 VA x number of controllers.
- Three No. 10 self-starting screws for wall mounting or 35mm DIN rail for mounting.

Precautions



WARNINGS – ELECTRICAL SHOCK HAZARD!
DISCONNECT POWER BEFORE INSTALLING OR REMOVING THE COVER.

General Precautions

- Follow Static precautions when installing this equipment.
- Use copper conductors that are suitable for 75°C.
- Make all connections according to electrical wiring diagram, national and local electrical codes.

Static Precautions
Static charges damage electronic components. The microprocessor and associated circuitry are extremely sensitive to static discharge. Use the following precautions when installing, servicing, or operating the system:

- Work in a static-free area.
- Discharge static electricity by touching a known, securely grounded object.
- Use a wrist strap connected to earth ground when handling the controller's printed circuit board.

European Community Directives
This equipment meets all requirements of European Community Directives for Low Voltage (72/23/EEC), General Safety (92/59/EEC), and Electromagnetic Compatibility (89/336/EEC).

Communication Network Wiring Precautions
- Use screened cables.
- If the cable is installed in areas of high RFI/EMI, the cable must be in conduit.
- Do not mix network wiring with other types of wiring (power, DO, AO, DI or UI).

Digital Output Precautions
- Do not mix DO wiring with other types of wiring (AO, DI or UI).
- Output terminals accept 1.5mm² wire. The selected wire gauge must be consistent with load current.

Power Supply Wiring Precautions
- This product contains a non-isolated half-wave rectifier power supply and must not be powered by transformers used to power other devices containing non-isolated full-wave rectifier power supplies.
- Do not mix power wiring with communication networks, AO, UI or DI wiring.
- Use an EN 60742 power transformer supplying a nominal 24Vac (20.4 to 30Vac) with a minimum rating of 10VA at 50/60Hz (controller only). The supply to transformer must have a breaker or disconnect.
- The transformer frame must be grounded.

Location
DG500 controllers are suitable for indoor use only. When selecting a mounting location, make certain the following conditions are met:
- Do not install where excessive moisture, corrosive fumes, vibration or explosive vapours are present.
- Do not install near large contactors, electrical machinery or welding equipment.

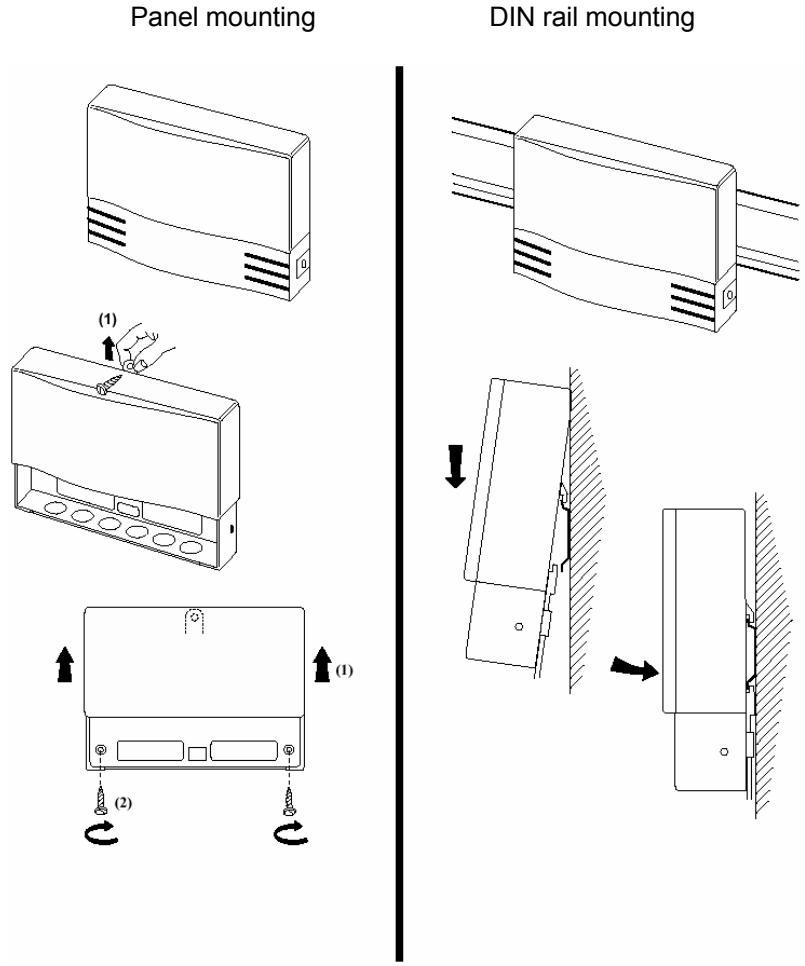
- Allow 150mm clearance from contactors, switches and associated cabling.

Locate where ambient temperatures do not exceed 50°C or fall below 0°C and relative humidity does not exceed 95% or fall below 5%, non-condensing.

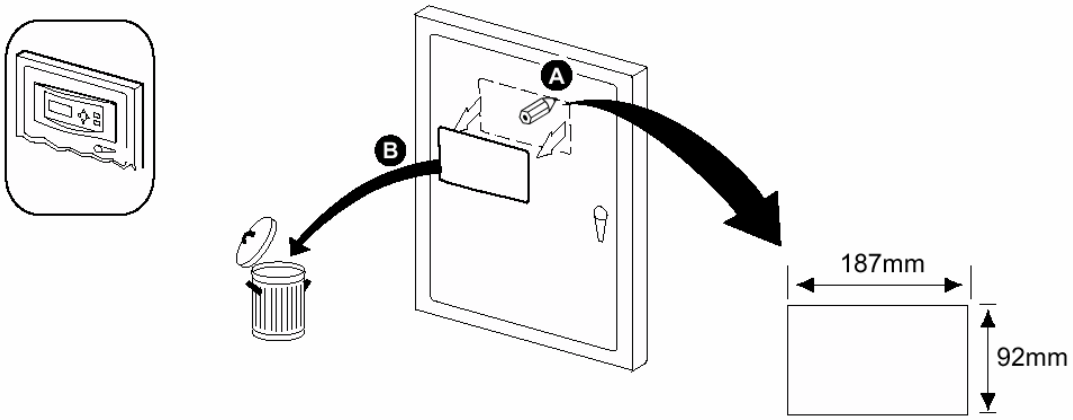
Wall or DIN rail mounting

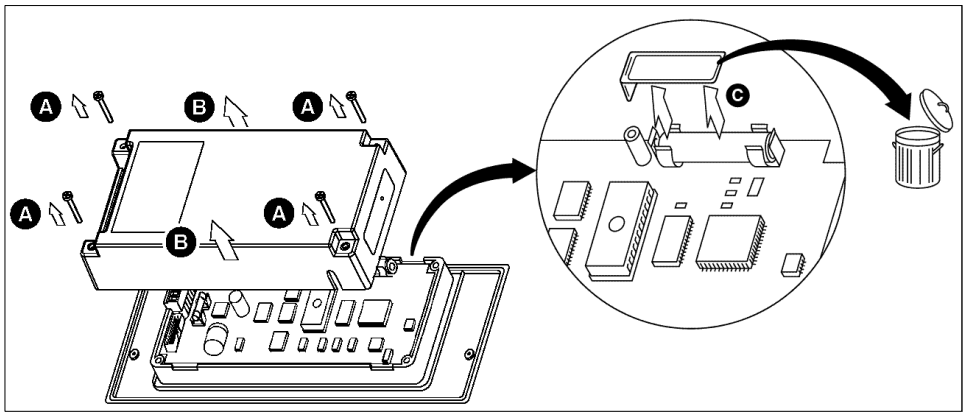
1. Select mounting location. Allow minimum 50mm clearance around controller.
2. Do the following to mount controller on a panel without DIN rail:
   a. Loosen two screws securing terminal cover and remove cover.
   b. Lift wall mounting bracket clip (located on top back of controller).
   c. Using a No. 10 self-starting screw, install top screw.
   d. Level controller.
   e. Using two No. 10 self-starting screws, install bottom screws.
   f. Re-install the terminal cover. (May be left off until wiring is completed.)
3. Do the following to mount controller on a DIN rail:
   a. While pulling down on DIN rail locking bracket, snap controller base on a 35mm DIN mounting rail.
   b. Release DIN rail locking bracket.

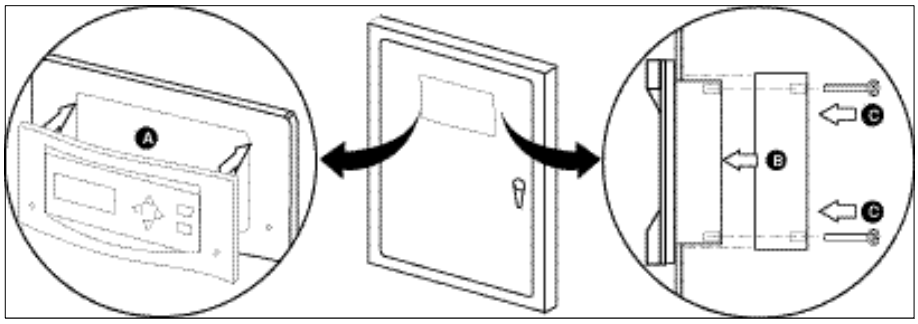
Mounting Methods



LCD Panel Mounting using DG510 Kit







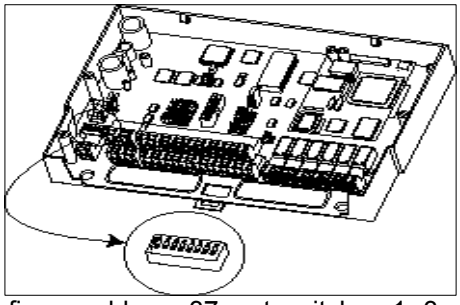
Communication only for networks with more than one controller

DG500 can operate as a stand-alone device or on larger installations connected to a NCP communication network.

Addressing

The default address for a standalone DG500 Controller is “Subnet 1 Node 2”, i.e. switch 2 set to ON.
Each DG500 Controller has a unique address for communicating with a PC or modem.

a) Ensure the controller is not powered up.
b) Set switches 1 to 7 to the appropriate ON/OFF position to enable the binary address.
c) Power up the controller.



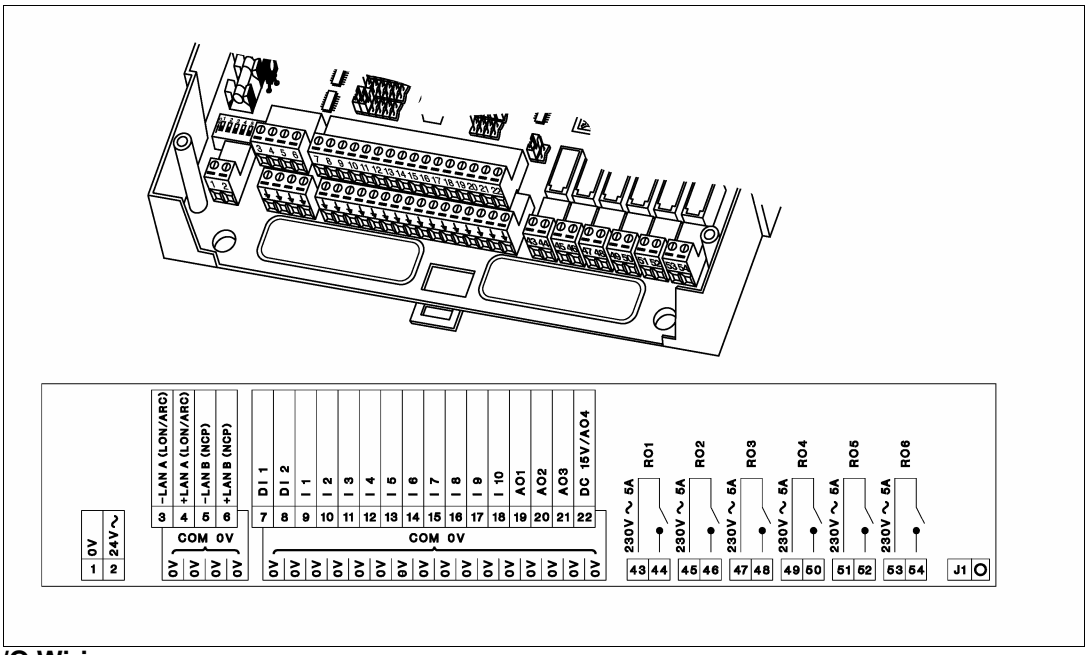
Example: to configure address 37: set switches 1, 3 and 6 to ON and the other switches to OFF position.

Wiring

The following electrical connections can be made to DG500 controllers:

- NCP connection to a MicroNet NCP Interface (MNN-MI-100) and other NCP type DG50XX controllers
- I/O connections, including:
  - Ten configurable Universal Inputs (UIs)
  - Two digital inputs
  - Six digital outputs (Line Relay)
  - Four analogue outputs (0 to 10V)
- 24 Vac nominal EN 60742 power source and earth ground power connection.

DG500 Terminal Connections



I/O Wiring

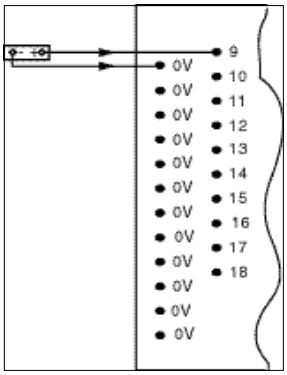
I/O connections include 10 configurable universal inputs (UIs), 2 digital inputs (DI), 6 digital outputs (Line relay), and 4 analogue outputs (AO). The DOs are line relays for switching up to 230Vac, 5A loads. Four analogue outputs provide 0 to 10V.

WARNINGS – ELECTRICAL SHOCK HAZARD!
DISCONNECT POWER FROM BOTH THE CONTROLLER AND DIGITAL OUTPUTS BEFORE MAKING TERMINATIONS OR CHANGING CONFIGURATION INPUT JUMPERS.

Voltage input

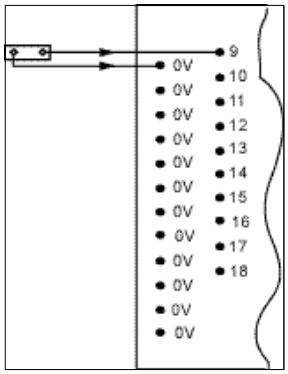
Note: An externally powered 0 to 10Vdc sensor (transmitter) is required. The input impedance of a DG500 voltage input is 150 KΩ

1. Review Precautions section.
2. Connect positive signal wire from 0 to 10Vdc device to desired input terminal.
3. Connect negative signal wire to one common (0V) terminal
4. Make certain input configuration jumper is in Voltage position (Link C).



Resistive (NTC temperature sensors) Input

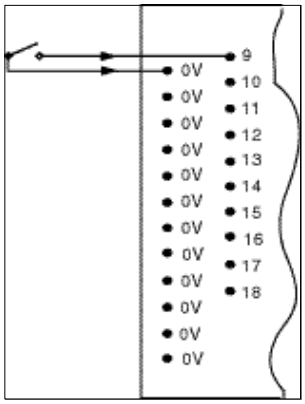
1. Review Precautions section.
2. Connect one wire from sensor or resistive device to desired input terminal. Polarity is not important.
3. Connect other wire to one common (0V) terminal.
4. Make certain input configuration jumper is in Resistive position (Link A).



Digital inputs

Note: Only dry (voltage free) contacts can be monitored. Maximum count frequency is once every two seconds.

1. Review Precautions section.
2. Connect one wire from field contact to desired input terminal. Polarity is not important.
3. Connect other wire to one common (0V) terminal.
4. Make certain input configuration jumper is in Digital position (Link B).

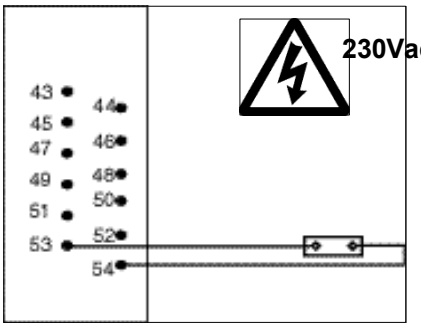


Digital Outputs (DO)

Note: Each load must be externally powered.
Relay outputs must control single-phase loads (only 24Vac or 230 Vac –110 VA) otherwise, use external relays.
DOs 1 through 6 are Form A (N.O.) relay outputs for switching up to 230Vac, 5A loads only.

1. Review Precautions section.

2. Connect one wire from load to be switched to desired input terminal (43, 45, 47, 49, 51 or 53).
3. Connect other side of load to output terminal (44, 46, 48, 50, 52 or 54).



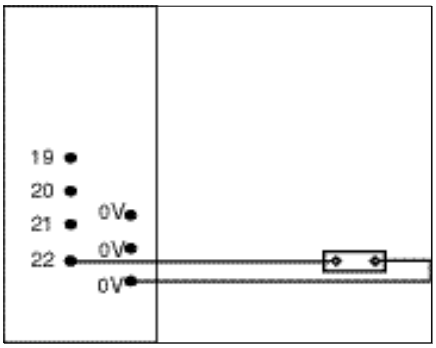
Load Switch by Relay Output

Analogue Outputs (AO)

AOs, 1 through 4, supply from 0 to 10Vdc to modulate a voltage-controlled device, i.e. valve and/or damper actuator applications.

- Minimum input impedance for a device or actuator operated by an AO is 10KΩ.
- The maximum current that a 0-10Vdc output can source is 1mA.

1. Review Precautions section.
2. Connect positive signal wire to desired output terminal (19, 20, 21 or 22).
3. Connect negative signal wire to one common (0V) terminal.



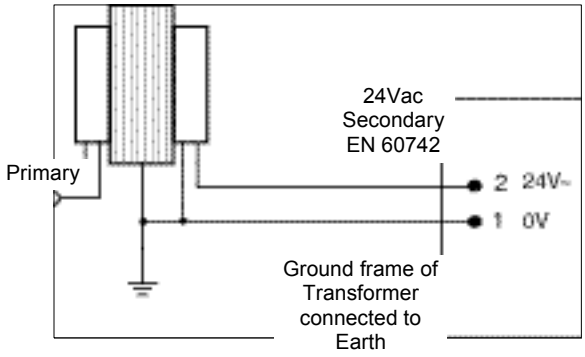
Power Supply Wiring

Note:

- This product contains a non-isolated half-wave rectifier power supply and must not be powered by transformers used to power other devices containing non-isolated full-wave rectifier power supplies.
- 24Vac power wiring can be intermixed with DO wiring.
- Twisted or untwisted cable can be used for power wiring.

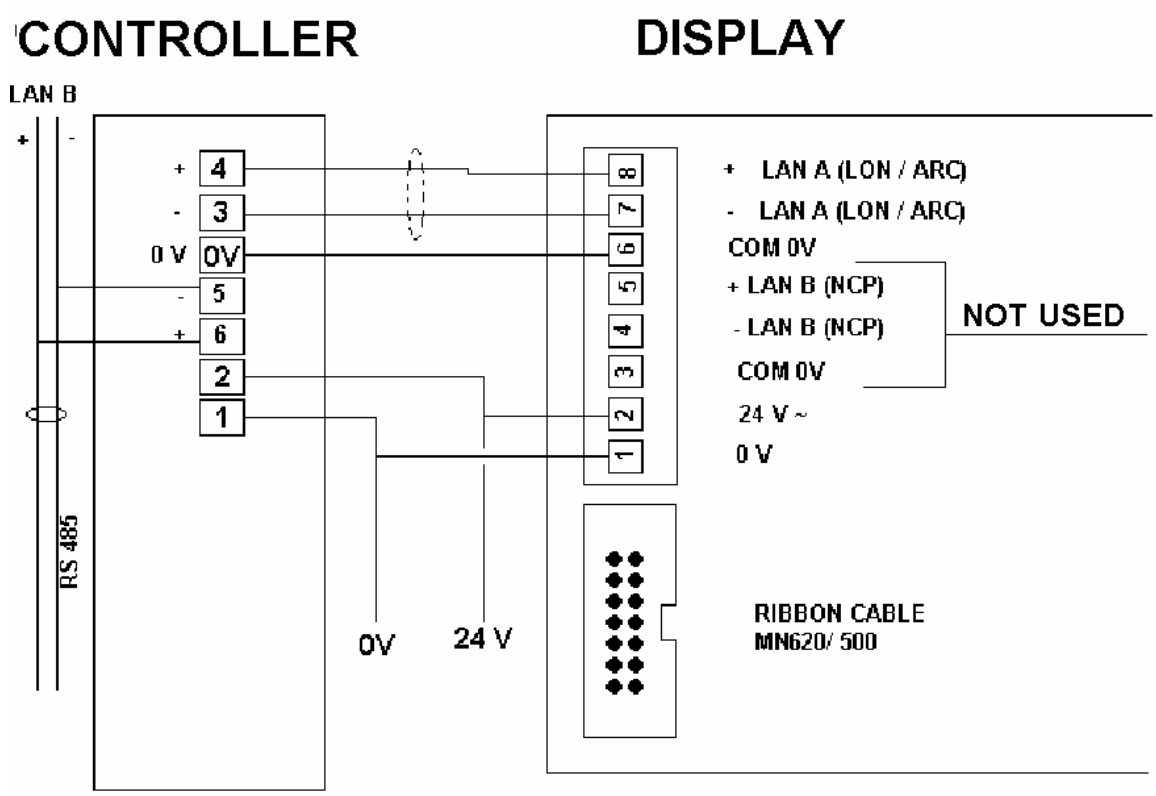
Power Wiring

1. Review Precautions section.
2. Ensure that the controller 0V terminal is connected to Earth before connecting the power wiring to the controller.
3. Connect power ground wiring to terminal 1 (0V 24G).
4. Connect power 24Vac wiring to terminal 2 (24H).



Panel mount Controller/LCD Wiring (Kit DG510)

It consists of a separate LCD and Base Unit. The two units should be wired together in the following manner.

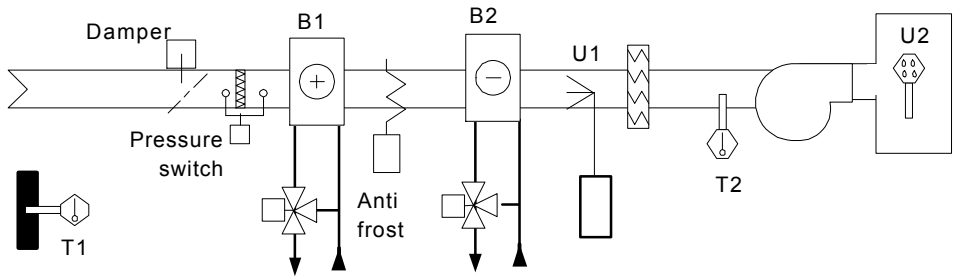


Note: in the present scheme terminal 1 of DG510 is on the flat cable side.

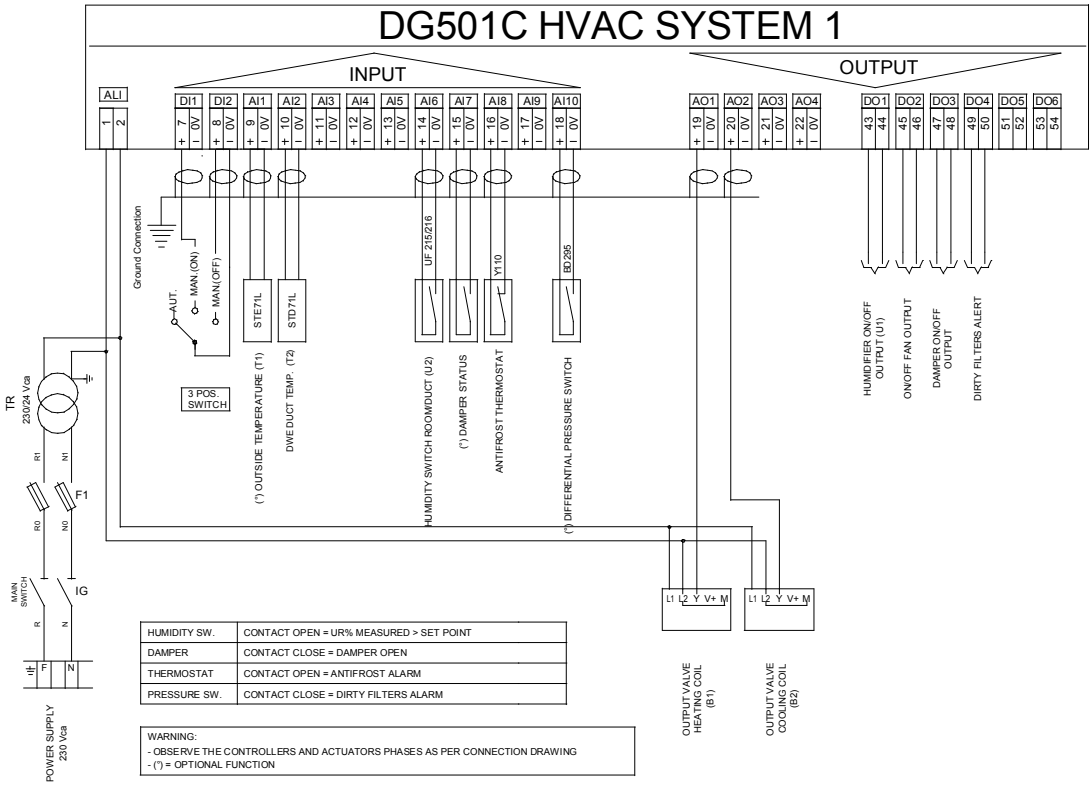
Installation Checklist

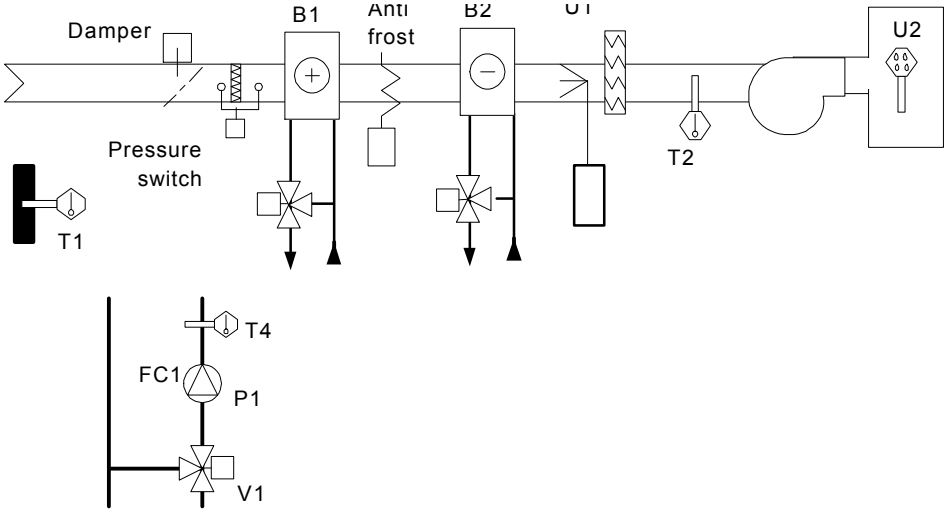
1. If controller is part of a NCP network, verify network wiring between controller and other devices is effected according to job wiring diagram and national and local electrical codes.
2. Verify 24Vac power is provided from a power transformer conforming to EN 60742 and wiring is carried out according to job wiring diagrams and with national and local electrical codes.
3. Verify input jumpers are in correct position.
4. Verify outputs are wired according to job wiring diagram and with national and local electrical codes.
5. Make certain current requirements of the controlled device do not exceed rating of controller digital outputs.

DG501C APPLICATIONS

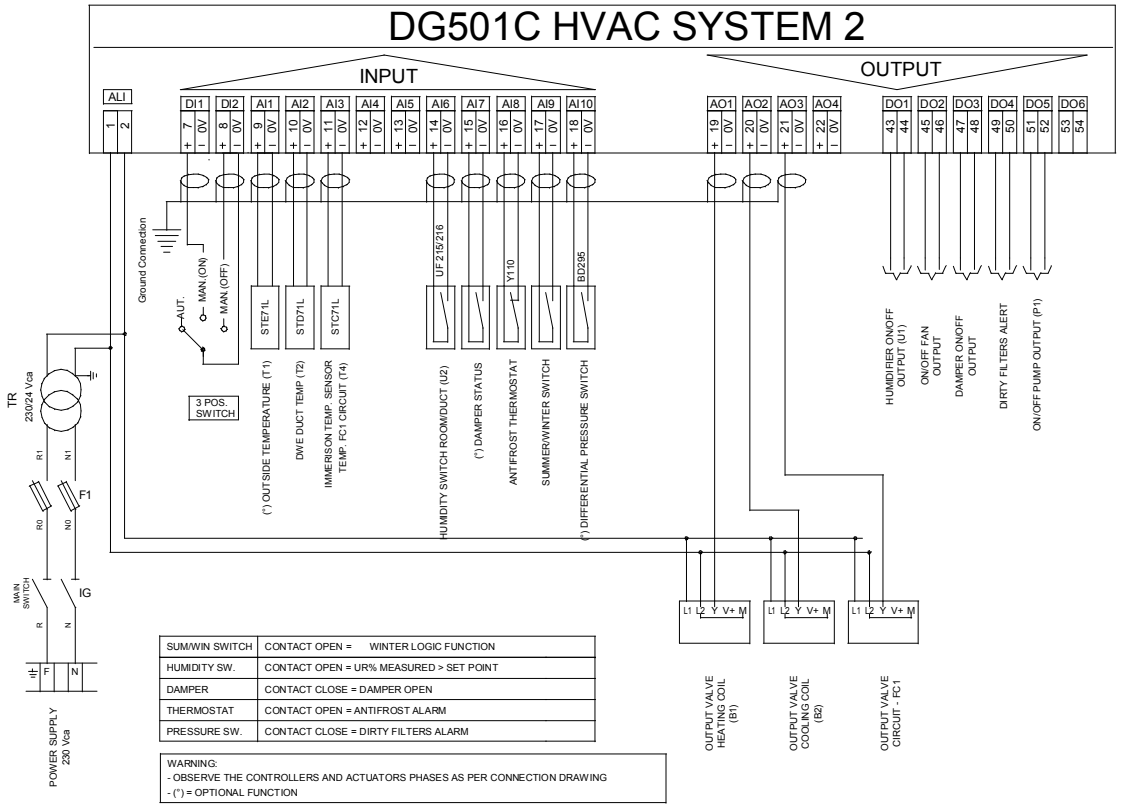


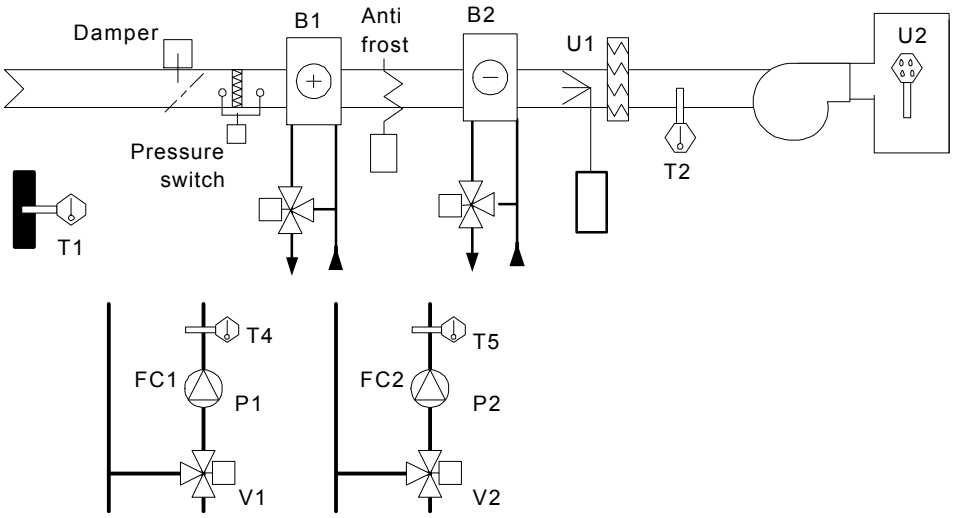
1: Primary air. 2 coils (heating, cooling), humidification. Compensated or set point adjustment of the dew point. On/Off humidifier, anti-frost thermostat.
The inputs marked by ° are optional. The stroke end, if not used, must be short-circuited, in order to have a “On” value; the others must be left free.



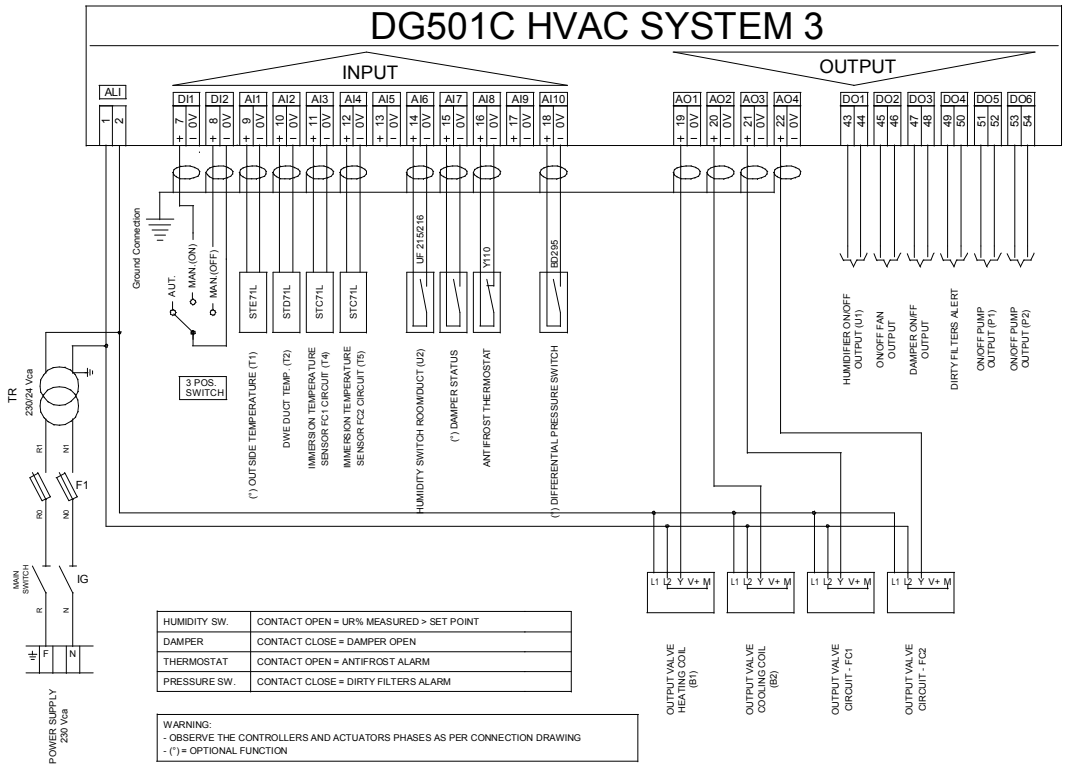


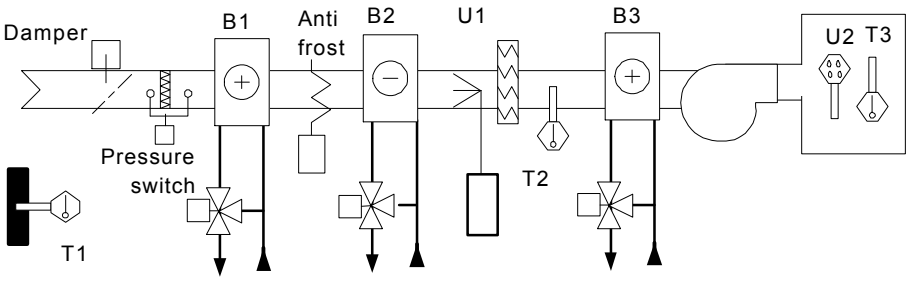
2: 1+ 2-pipe fan-coil water production. Compensated or set point control of hot water in winter; compensated or set point control of cold water through external summer/winter switch.
The inputs marked by ° are optional. The stroke end, if not used, must be short-circuited, in order to have a “On” value; the others must be left free.



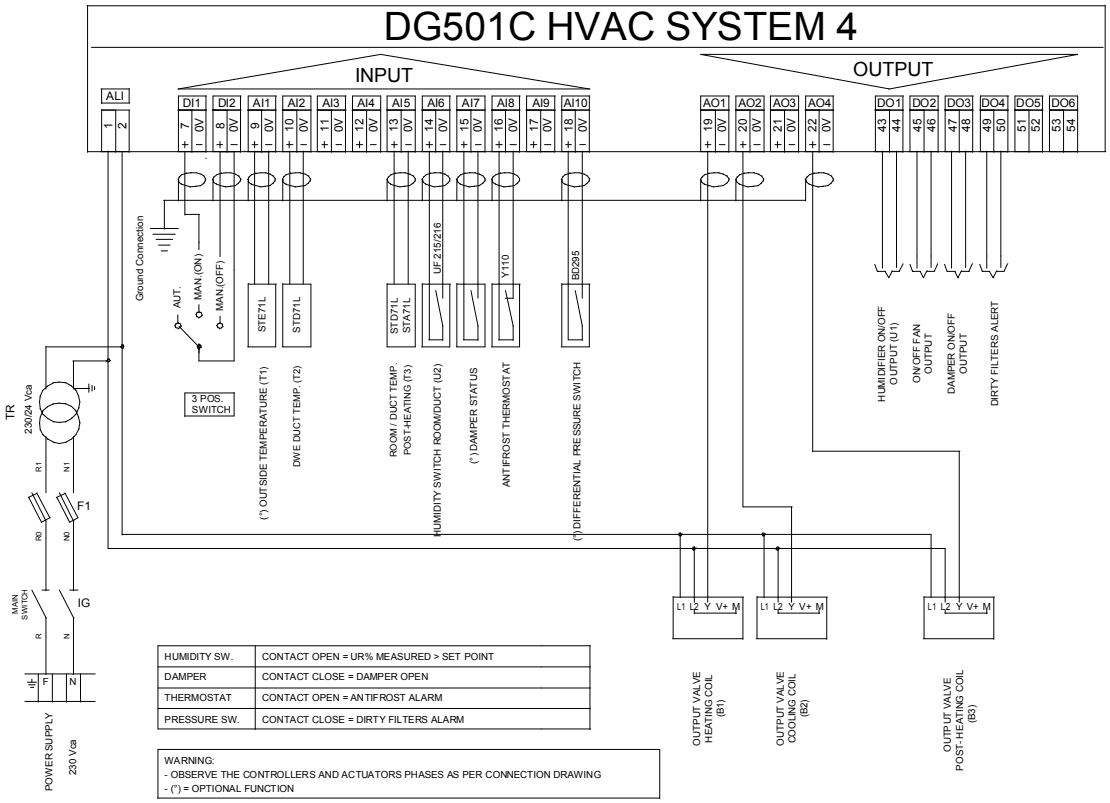


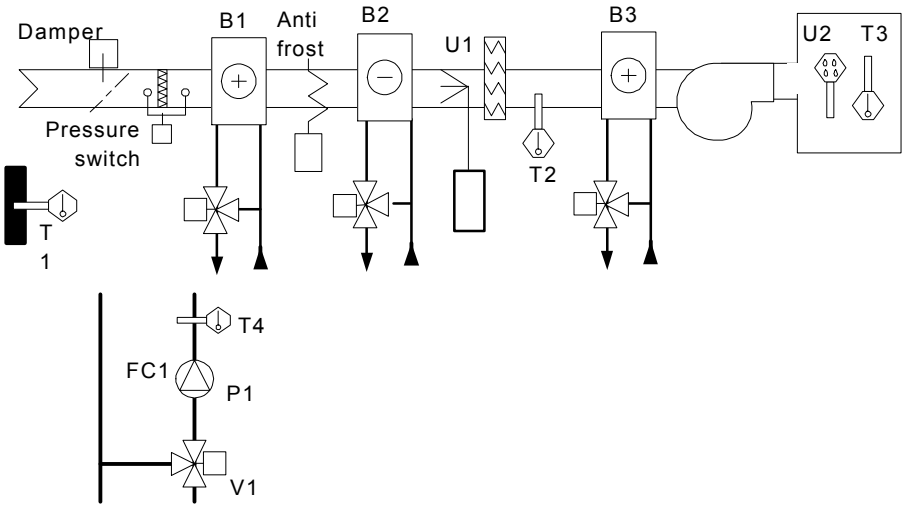
3: 1+ 4-pipe fan-coil water production. Compensated or set point control of hot water in winter; compensated or set point control of cold water.
The inputs marked by ° are optional. The stroke end, if not used, must be short-circuited, in order to have a “On” value; the others must be left free.



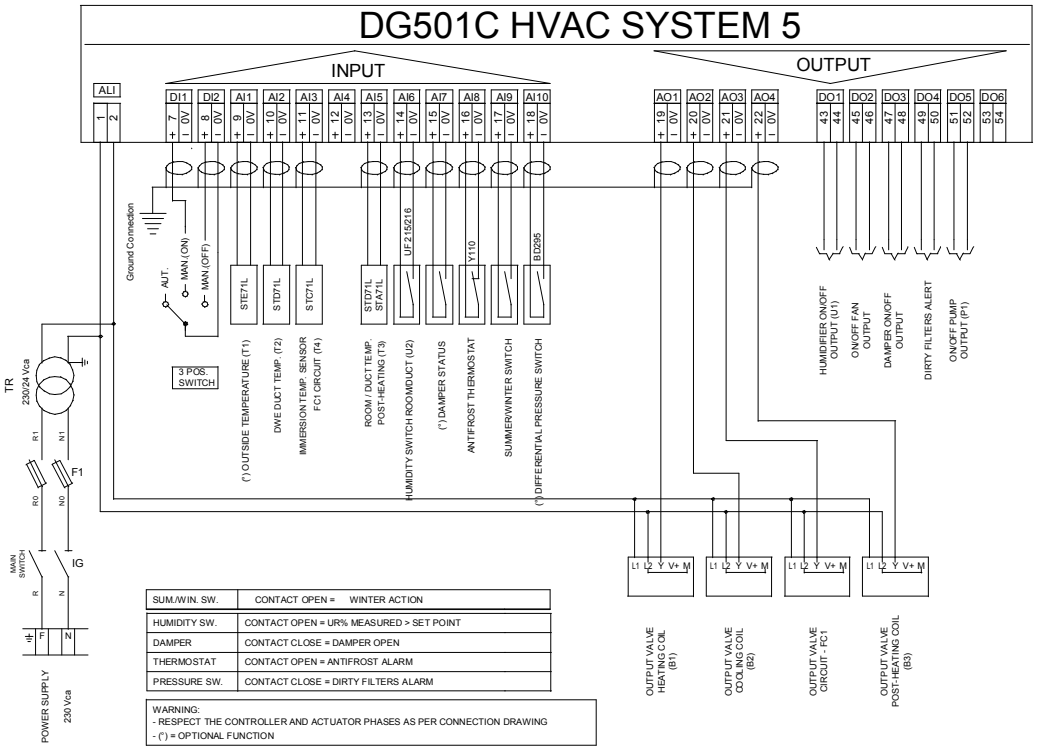


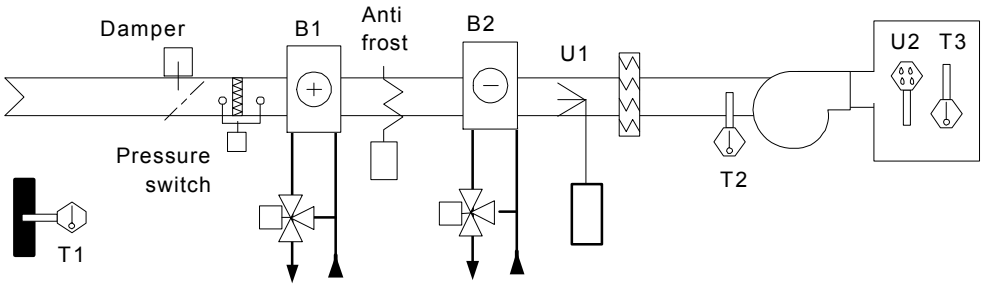
4: Primary air. 3 coils (heating,cooling, post-heating) humidification. Compensated or set point control of dew point and supply temperature. On/Off humidifier, anti-frost thermostat.
The inputs marked by ° are optional. The stroke end, if not used, must be short-circuited, in order to have a “On” value; the others must be left free.



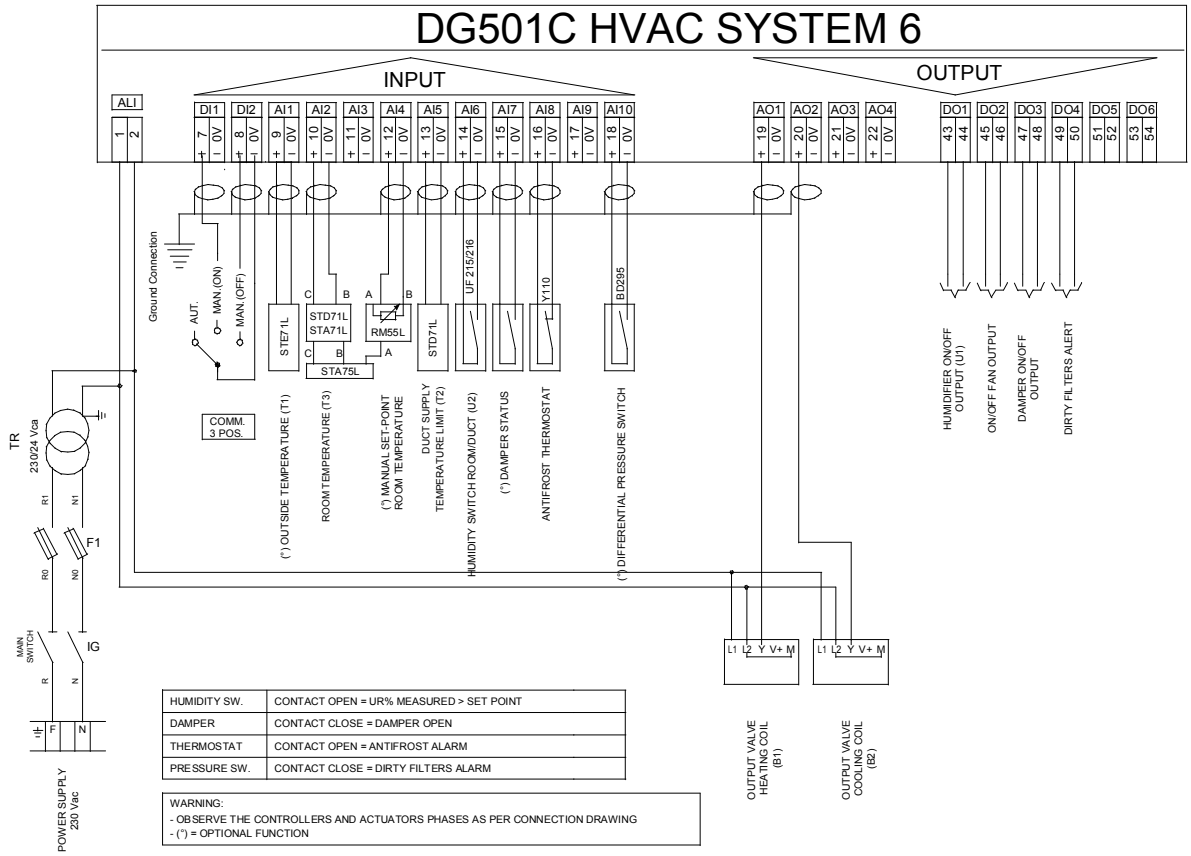


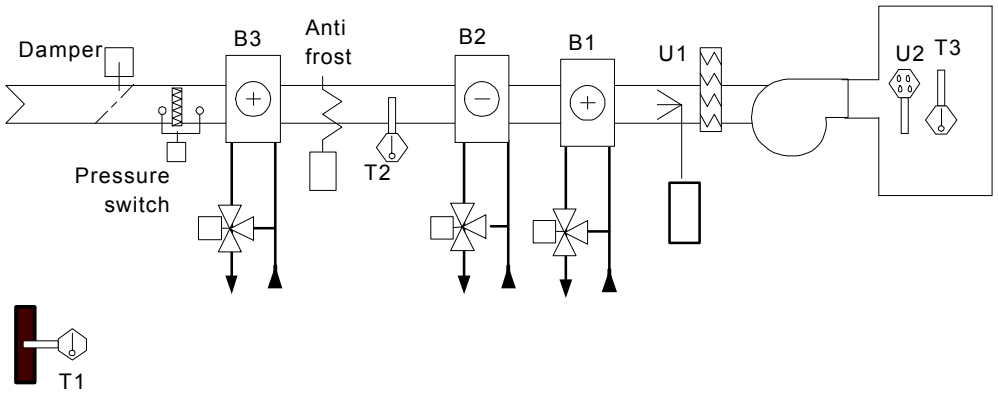
5: 4 + 2-pipe fan-coil water production. Compensated or set point control of hot water in winter; compensated or set point control of cold water through external summer/winter switch.
The inputs marked by ° are optional. The stroke end, if not used, must be short-circuited, in order to have a “On” value; the others must be left free.



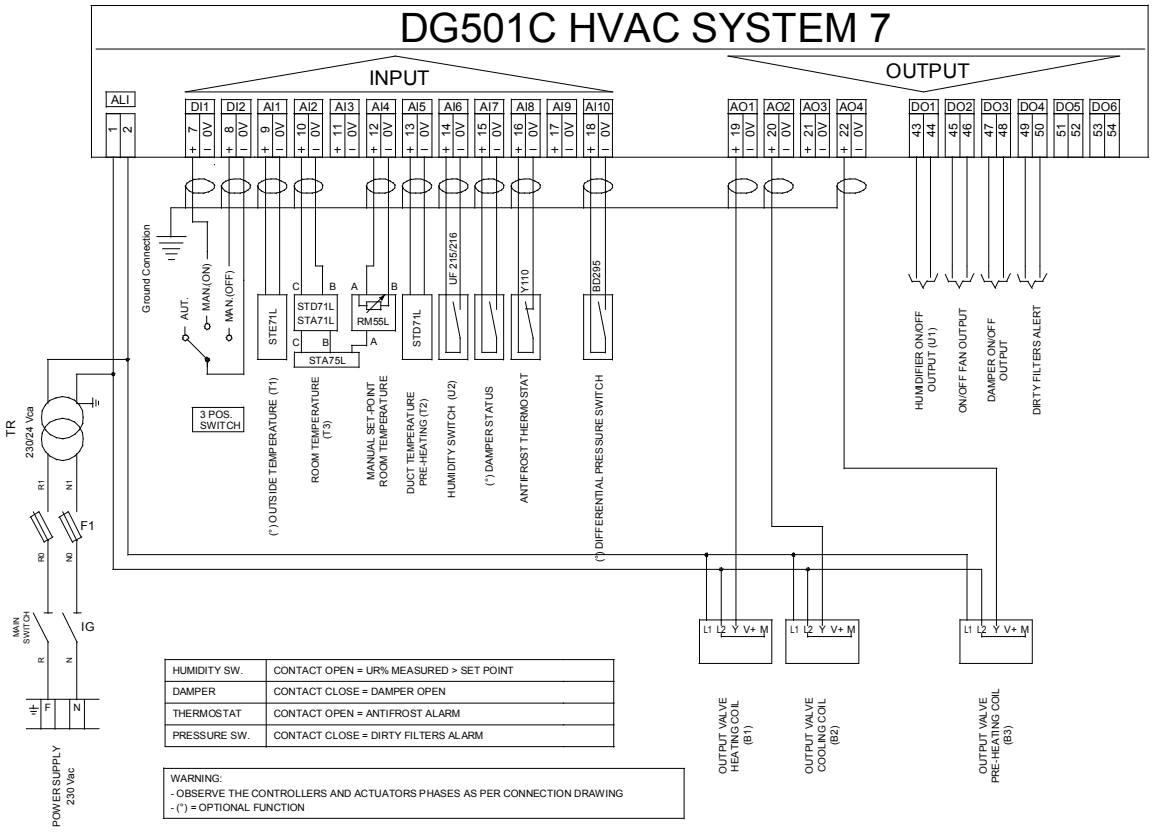


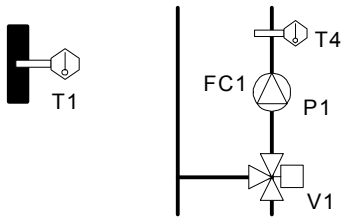
6: AHU outside air. Heating, cooling, humidification. Compensated or set point control of room temperature. Supply limit. On/Off humidifier. Anti-frost thermostat. Room temperature manual control (optional).
The inputs marked by ° are optional. The stroke end, if not used, must be short-circuited, in order to have a “On” value; the others must be left free.



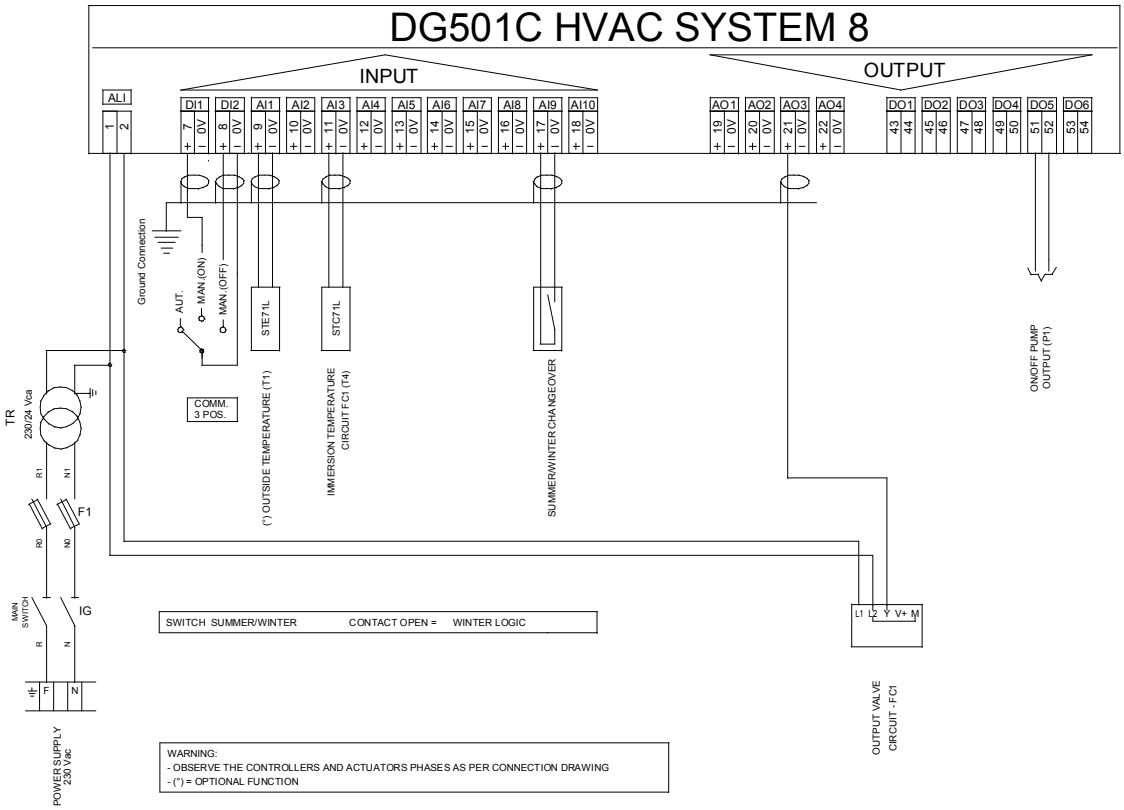


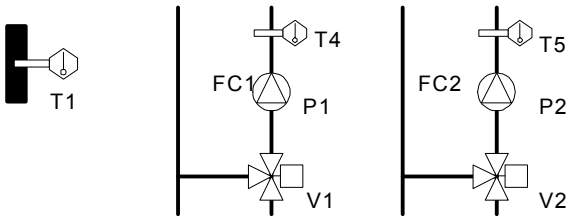
7: AHU outside air. Pre-heating, heating, cooling, humidification.Compensated or set point control of pre-heating and room temperature. On/Off humidifier. Anti-frost thermostat. Room temperature manual control (optional).
The inputs marked by ° are optional. The stroke end, if not used, must be short-circuited, in order to have a “On” value; the others must be left free.



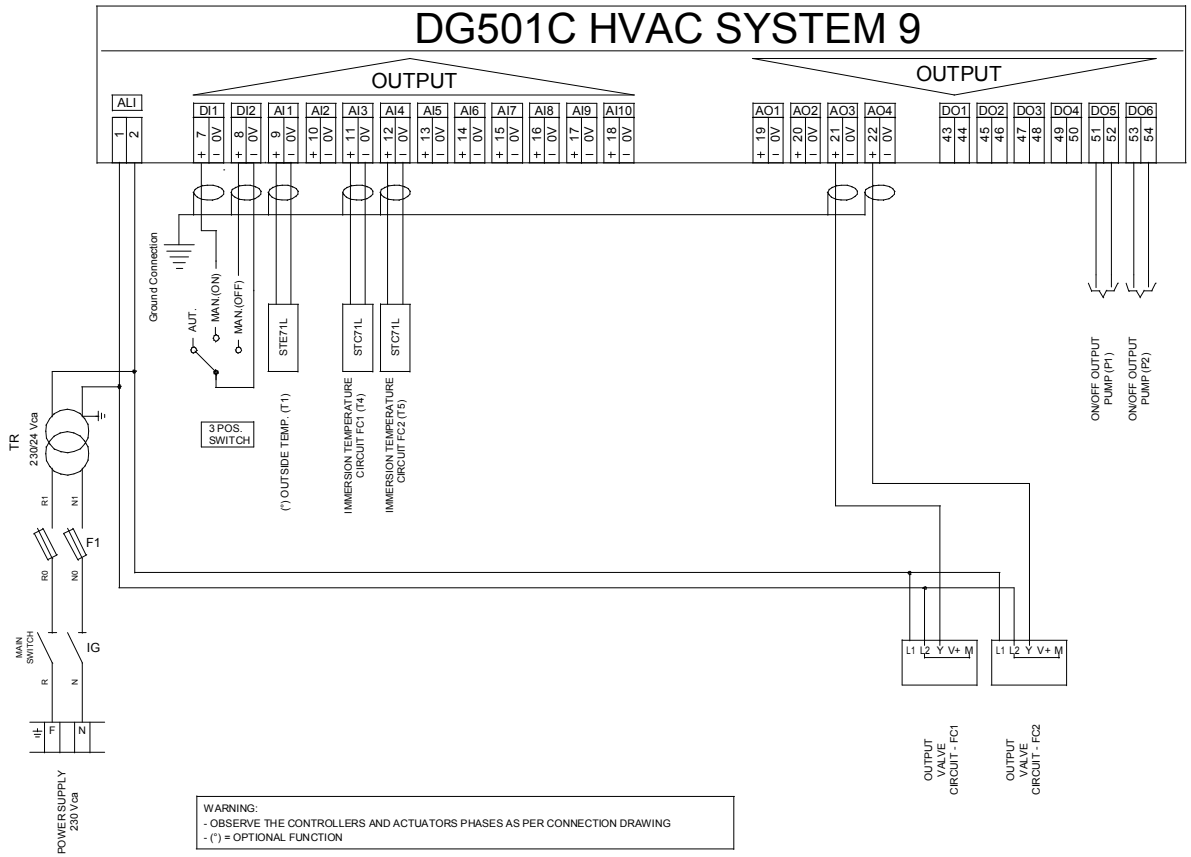


8: 2-pipe fan-coil water production. Compensated or set point control of hot water in winter; compensated or set point control of cold water through external summer/winter switch.
The inputs marked by ° are optional.



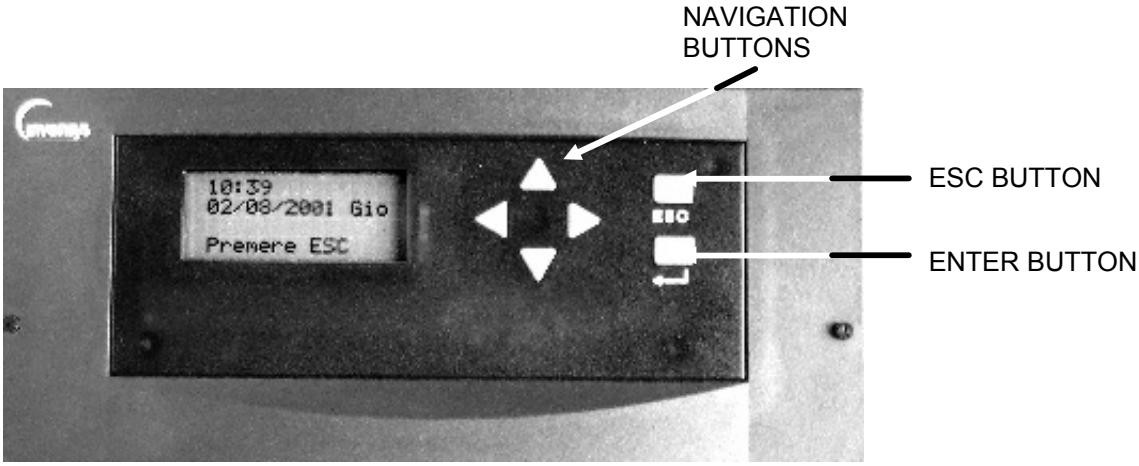


9: 4-pipe fan-coil water production. Compensated or set point control of hot water in winter; compensated or set point control of cold water.
The inputs marked by ° are optional.



LCD DISPLAY

It allows displaying and/or editing the controller parameters, inputs and outputs.



Menu Options Description

NOTE: The default proportional band of the loop is = 15K. In case the loop controls on a room or return sensor, it is advisable to edit the proportional band = 2K.

Out Temp 1
It displays outside temperature. Its presence enables compensation on each control loop. If it is not present, fixed control is carried out on each loop (see the relevant submenu).

AHU schedule 2

	On	Off	On	Off
Monday	00:00	23:59	23:59	23:59
Tuesday	00:00	23:59	23:59	23:59
Wednesday	00:00	23:59	23:59	23:59
Thursday	00:00	23:59	23:59	23:59
Friday	00:00	23:59	23:59	23:59
Saturday	00:00	23:59	23:59	23:59
Sunday	00:00	23:59	23:59	23:59

See the paragraph Start-up in order to customise time schedules.

Press. Swh 3
It displays the pressure switch status. On = dirty filter.

Hum. Swh 4
It displays the humidity switch status. On = humidity < setpoint

Dmp Stat 5
It displays the status of the stroke end micro switch. On = open damper.

Frost P. 6
It displays the antifrost alarm status. On = antifrost alarm.

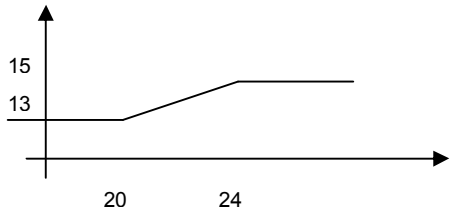
Sat.+ Amb. 1-5
Select this menu for application from 1 to 5 – primary air management with eventual post-heating.

Supply T 7
It displays supply temperature.

Fixed SP 8
Value of the fixed (editable) SP for saturation temperature; it is on only if the outside sensor is not connected. Default value 14°C.

Saturat. Comp. 9
Compensation curve for saturation temperature.

outside t.	saturation SP
20	13
24	15



It is possible to edit and/or add values to the curve. In case it is necessary to delete already existing value pairs, just set a saturation t. value equal to the preceding one in the table.
Example:

outside t.	Saturation SP
20	13
24	15
28	18

outside t.	Saturation SP
20	13
24	15
28	15

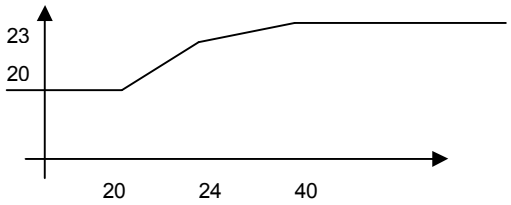
Sat. SP 10
Actual operating Set point for HC and CC coils (read-only).

Amb. T 11
It displays the room temperature. It is present only in applications with post-heating (4 and 5). Read-only.

Fixed SP 12
Value of the fixed (editable) SP for room temperature; it is on only if the outside sensor is not connected. Default value 22°C.

Ambient Comp. 13
Compensation curve for room temperature.

outside t.	room SP
20	20
24	23
40	36



It is possible to edit and/or add values to the curve. In case it is necessary to delete already existing value pairs, just set a room t. value equal to the preceding one in the table.
Example:

outside t.	Room SP
20	20
24	23
40	36

outside t.	Room SP
20	20
24	23
40	23

Amb. SP 14
Actual operating set point for post-heating coil (read-only).

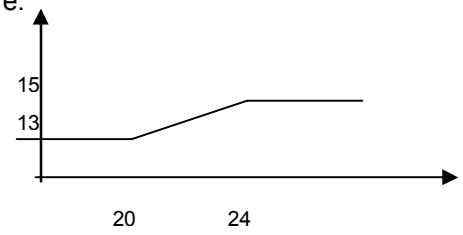
Amb.+ PreR. 6-7
Select this menu for applications 6 and 7 –primary air management with eventual pre-heating.

Amb. T. 15
It displays la room temperature. Read-only.

Fixed SP 16
Value of the fixed (editable) SP for room temperature; it is on only if the outside sensor is not connected. Default value 14°C.

Ambient Comp. 17
Compensation curve for room temperature.

outside t.	Room SP
20	13
24	15



It is necessary to edit such curve with suitable values. It is advisable to use the curve described at point 13.

It is possible to edit and/or add values to the curve. In case it is necessary to delete already existing value pairs, just set a saturation t. value equal to the preceding one in the table.

Example:

outside t.	Room SP
20	13
24	15
28	18

↓

outside t.	Room SP
20	13
24	15
28	15

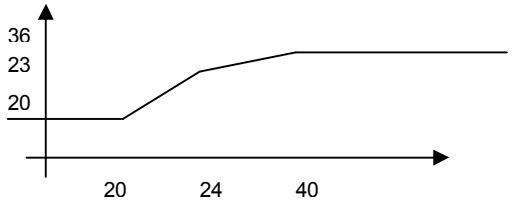
Amb. SP 18
Actual operating set point for HC and CC coils (read-only).

Preh. T. 19
It displays pre-heating temperature. Read-only.

Fixed SP 20
Value of the fixed (editable) SP for pre-heating temperature; it is on only if the outside sensor is not connected. Default value 22°C. Advised value 14°C

Preheat. Comp. 21
Compensation curve for pre-heating temperature.

outside t.	Pre-heating SP
20	20
24	23
40	36



It is necessary to edit such curve with suitable values. Advised values:

outside t.	Pre-heating SP
-5	10
5	15
20	20

It is possible to edit and/or add values to the curve. In case it is necessary to delete already existing value pairs, just set a room t. value equal to the preceding one in the table
Example:

outside t.	Pre-heating SP
20	20
24	23
40	36

↓

outside t.	Pre-heating SP
20	20
24	23
40	23

Preh. SP 22
Actual operating set point for pre-heating coil (read-only).

Heat Loop
Select this menu to display and/or edit the values related to the heating coil B1.

Opening 23
It displays the valve opening percentage (read-only).

P. Band 24
It displays the loop proportional band (read/write). Default value: 15.

I Time 25
It displays the loop integral time (read/write). Default value: 90.

Test? 26
If it is set to On, it overrides the valve outlet at 100%, disabling the coil control. Set it back to Off at the end of the test phase.

Cool Loop
Select this menu to display and/or edit the values related to the cooling coil B2.

Opening 27
It displays the valve opening percentage (read-only).

P. Band 28
It displays the loop proportional band (read/write). Default value: 15.

I Time. 29
It displays the loop integral time (read/write). Default value: 90.

Test? 30
If it is set to On, it overrides the valve outlet at 100%, disabling the coil control. Set it back to Off at the end of the test phase.

Preheat. Loop
Select this menu to display and/or edit the values related to the Post/Pre heating coils.

Opening 31
It displays the valve opening percentage (read-only).

P. band 32
It displays the loop proportional band (read/write). Default value: 15.

I Time. 33
It displays the loop integral time (read/write). Default value: 90.

Test? 34
If it is set to On, it overrides the valve outlet at 100%, disabling the coil control. Set it back to Off at the end of the test phase.

Limit ? 35
This option can be used only with application number 6. If it is set to On, it enables the minimum loop management on supply. Default value: off

Min. SP 36
This option can be used only with application number 6. Minimum limit (read/write). Default value 15°C.

Hum. Swh. 37
On/Off humidifier status reading.

Fan 38
Fan output v.

Damper 39
Damper output status reading.

Filter 40
It is On if the pressure variation persists for at least 10 minutes.

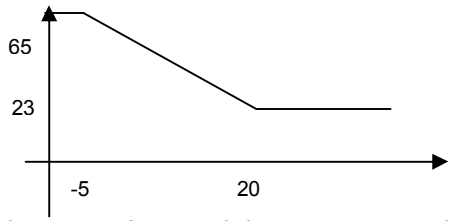
Fan Coil
Select this menu for fan coil control.

Heat T. 41
It displays the hot fluid temperature. Read-only.

Fixed SP 42
Value of the fixed (editable) SP for hot fluid temperature; it is on only if the outside sensor is not connected. Default value 65°C.

Heat Comp. 43
Compensation curve for hot fluid temperature.

outside t.	Hot SP
-5	65
20	23



It is possible to edit and/or add values to the curve. In case it is necessary to delete already existing value pairs, just set a room t. value equal to the preceding one in the table
Example:

outside t.	Hot SP
-5	65
20	23
40	36

↓

outside t.	Hot SP
-5	65
20	23
40	23

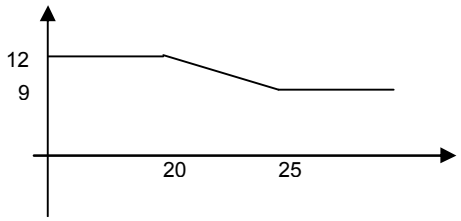
Heat SP 44
Actual operating set point for heating loop (read-only).

Cool T. 45
It displays the cold fluid temperature. Read-only.

Fixed SP 46
Value of the fixed (editable) SP for cold fluid temperature; it is on only if the outside sensor is not connected. Default value 9°C.

Cool Comp. 47
Compensation curve for cold fluid temperature.

outside t.	Cold SP
20	12
25	9



It is possible to edit and/or add values to the curve. In case it is necessary to delete already existing value pairs, just set a room t. value equal to the preceding one in the table.
Example:

outside t.	Cold SP
20	12
25	9
40	8

↓

outside t.	Cold SP
20	23
25	9
40	9

Cool SP 48
Actual operating set point for cooling loop (read-only).

Note. In case of 2-pipe fan coil, T. Hot and T. Cold will display the same value.

Heating Loop
Select this menu for menu to display and/or edit the data related to the fan coil hot fluid distribution.

Opening 49
It displays the valve opening percentage (read-only).

B. Band. 50
It displays the loop proportional band (read/write). Default value: 15.

I Time 51
It displays the loop integral time (read/write). Default value: 90.

Test? 52
If it is set to On, it overrides the valve outlet at 100%, disabling the coil control. Set it back to Off at the end of the test phase.

Cooling Loop
Select this menu for menu to display and/or edit the data related to the fan coil cold fluid distribution.

Opening 53
It displays the valve opening percentage (read-only).

P. Band. 54
It displays the loop proportional band (read/write). Default value: 15.

I Time 55
It displays the loop integral time (read/write). Default value: 90.

Test? 56
If it is set to On, it overrides the valve outlet at 100%, disabling the coil control. Set it back to Off at the end of the test phase.

Pump FC1 57
It displays the digital output status of the 2-pipe fan coil pump or of hot fluid distribution in four-pipe fan coil.

Pump FC2 58
It displays the digital output status of cold fluid distribution in four-pipe fan coil. Do not use in two-pipe fan coil.

FanCoil Schedule 59

	On	Off	On	Off
Monday	00:00	23:59	23:59	23:59
Tuesday	00:00	23:59	23:59	23:59
Wednesday	00:00	23:59	23:59	23:59
Thursday	00:00	23:59	23:59	23:59
Friday	00:00	23:59	23:59	23:59
Saturday	00:00	23:59	23:59	23:59
Sunday	00:00	23:59	23:59	23:59

See the paragraph “Start-up” to customise time schedule.

S/W C.O. 60
Outside summer/winter switch. On = Summer. If it is present and On, the On/Off humidifier is disabled, and the two-pipe fan coil uses the cooling loop.

Manual Override
Select this menu to set and/or display the data related to manual start. Such function allows starting the plant even outside the normal operating time and during holidays. It is disabled only in case Manual Off is active.

Remote 65
It displays the status of the manual start external switch. Read-only.

Display 66
It allows overriding start-up from LCD.

Status 67
It displays the actual control status. Warning: in order to control the plant with manual override on, it is sufficient that one of the two commands, external or display, is On.

Manual Shutdown
Select this menu to set and/or display the data related to manual stop. Manual stop allows switching off the plant in any period. It has a priority on any other command.

Remote 68
It displays the status of the manual stop external switch. Read-only.

Display 69
It allows overriding stop from LCD.

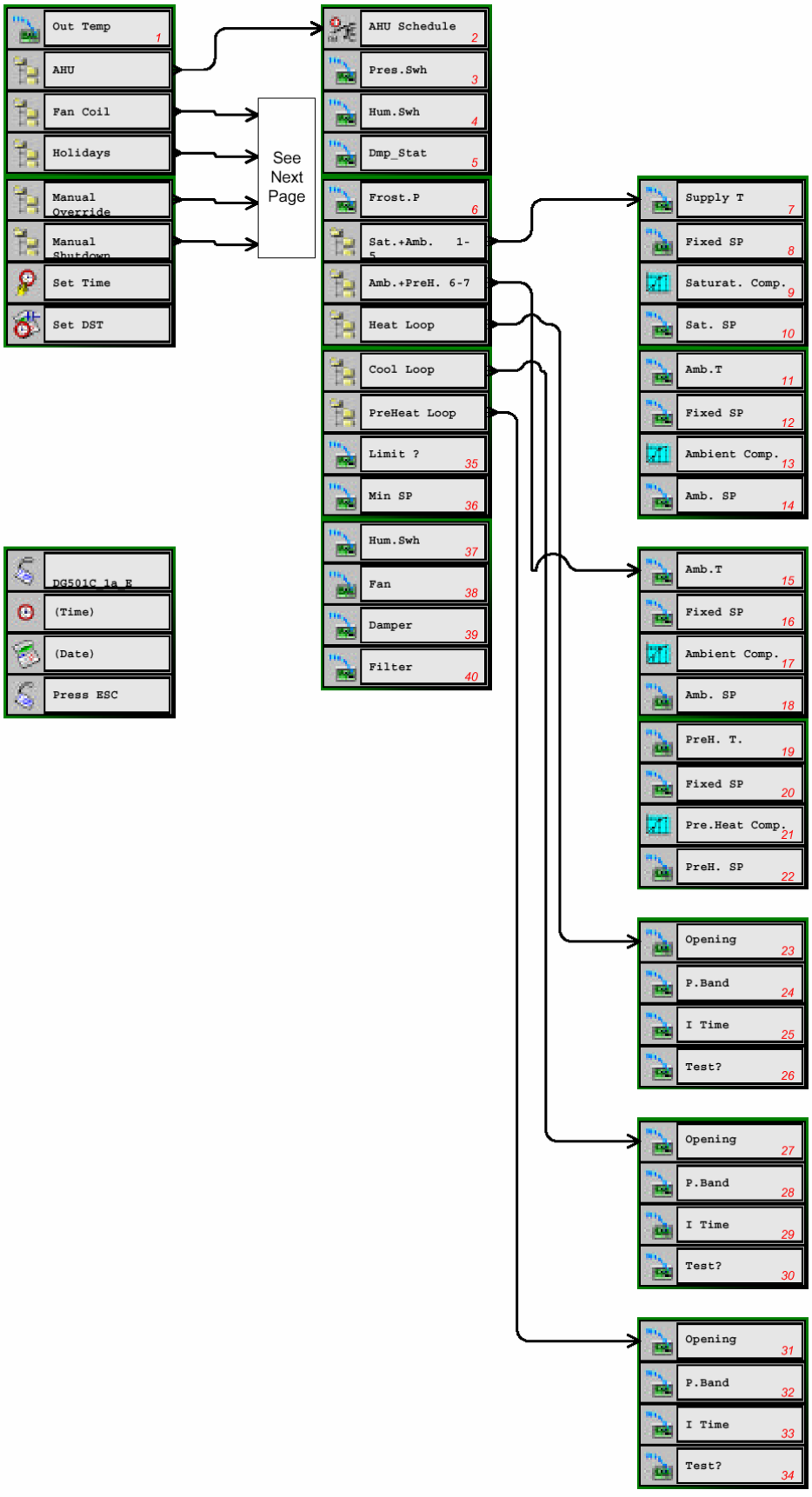
Status 70
It displays the actual control status. Warning: in order to control the plant with manual override off, it is sufficient that one of the two commands, external or display, is On.

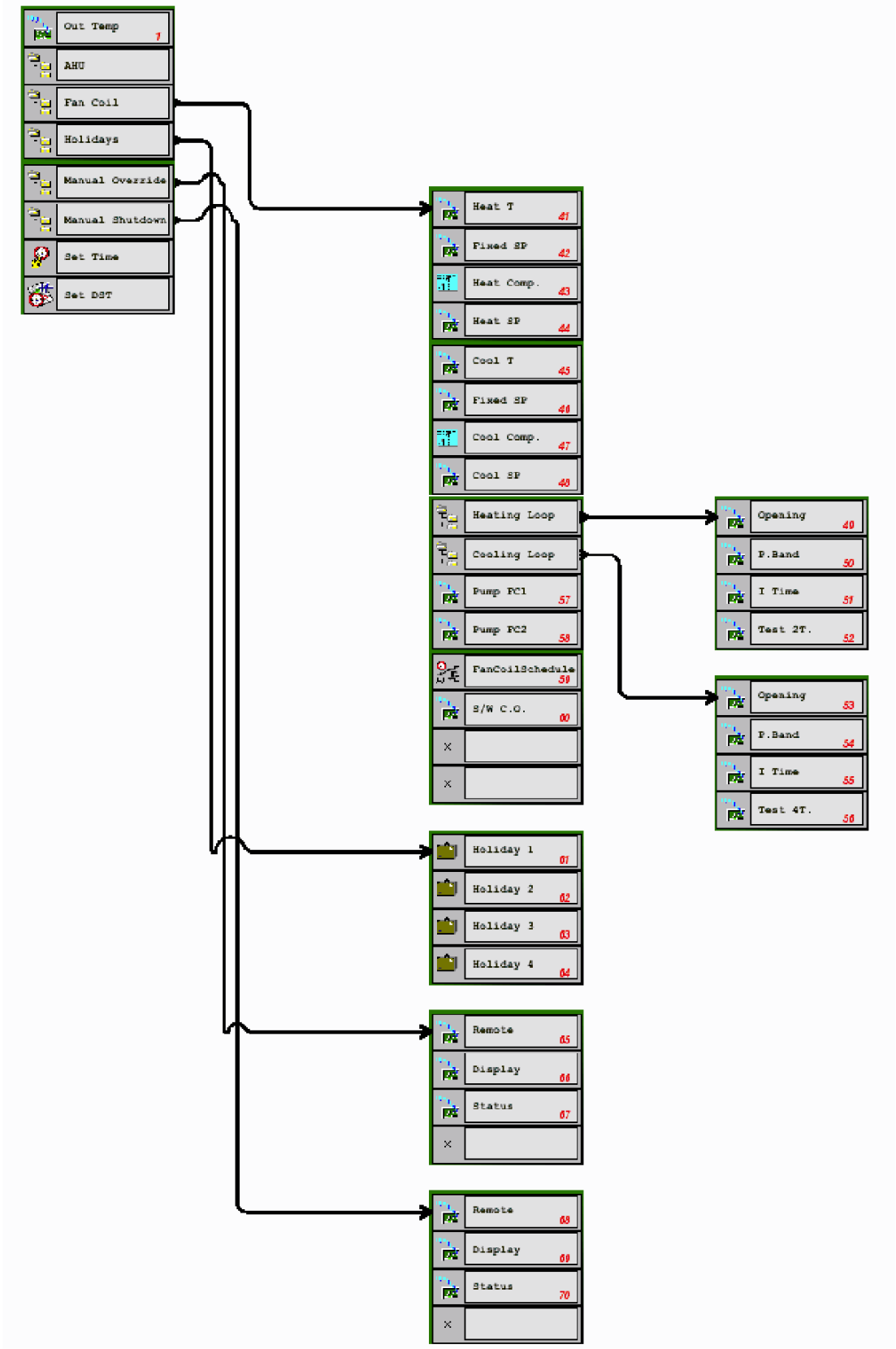
Holidays
Select this menu to set and/or display the four holiday periods.

Holidays 1…4 61-62-63-64
Each period has, as default value, start and end date equal to 01/01/01. In order to be enabled, the start date must be after the date, in which programming occurred and must not coincide with the end date.

Set clock
It allows displaying and/or editing date and time.

Set DST (Daylight Saving Time)
It allows displaying and/or editing the start and end dates of daylight saving time. In order to be enabled, the start date must be after the date, in which programming occurred.


Out Temp 1
AHU
Fan Coil
Holidays
Manual Override
Manual Shutdown
Set Time
Set DST
See Next Page
AHU Schedule 2
Pres.Swh 3
Hum.Swh 4
Dmp_Stat 5
Frost.P 6
Sat.+Amb. 1-5
Amb.+PreH. 6-7
Heat Loop
Cool Loop
PreHeat Loop
Limit ? 35
Min SP 36
Hum.Swh 37
Fan 38
Damper 39
Filter 40
DG501C 1a E
(Time)
(Date)
Press ESC
Supply T 7
Fixed SP 8
Saturat. Comp. 9
Sat. SP 10
Amb.T 11
Fixed SP 12
Ambient Comp. 13
Amb. SP 14
Amb.T 15
Fixed SP 16
Ambient Comp. 17
Amb. SP 18
PreH. T. 19
Fixed SP 20
Pre.Heat Comp. 21
PreH. SP 22
Opening 23
P.Band 24
I Time 25
Test? 26
Opening 27
P.Band 28
I Time 29
Test? 30
Opening 31
P.Band 32
I Time 33
Test? 34


Out Temp 1
AHU
Fan Coil
Holidays
Manual Override
Manual Shutdown
Set Time
Set DST
Heat T 41
Fixed SP 42
Heat Comp. 43
Heat SP 44
Cool T 45
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Heating Loop
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FanCoilSchedule 59
S/W C.O. 60
Opening 49
P.Band 50
I Time 51
Test 2T. 52
Opening 53
P.Band 54
I Time 55
Test 4T. 56
Holiday 1 01
Holiday 2 02
Holiday 3 03
Holiday 4 04
Remote 05
Display 06
Status 07
Remote 08
Display 09
Status 70