OPERATION

Step 1. Apply Power to the Instrument
When your device is first powered up it will display the ambient temperature (assume 75°F).

Step 2. Enter Setpoint 1 Menu
Press ⊙ one time from run mode to get to `SP 1` Setpoint 1.

Step 3. Enter the Setpoint 1 Value Submenu
Press ⊙. Display shows the previous selection of Setpoint 1.

Step 4. Change the Setpoint 1 Value
Press ⊙ or ⊙ until desired value is displayed.

Step 5. Store the Setpoint 1 Value
Set the Setpoint 1 to 10 degree higher than Process value (SP1 = 85) and press ⊙ to store, display flashes `StRd` message and advances to `SP2` Setpoint 2 Menu.

Step 6. Store the Setpoint 2 Value
Repeat steps 3 and 4. Set the Setpoint 2 to 5 degree higher than Process value (SP2 = 80) and press ⊙ to store, display flashes `StRd` message and advances to `CNFG` Configuration Menu.

Step 7. Enter the Reading Config Menu
Press ⊙ to enter `RdG` Reading Config Menu.

Step 8. Enter the submenu items of Rdg Config Menu
Press ⊙ to display `SNSR` Sensor submenu: Sensor selection for Autotune, Loop, or Ramp and Soak `F.C` is for temperature and `o°RH` is for Humidity

Step 9. Enter the submenu items of Rdg Config Menu
Press ⊙ to display Temp Unit submenu:

Step 10 Scroll thru selection for Temp Unit submenu
Press ⊙ to Scroll though the available selections of the Temperature Unit of your choice: `F` or `C`.

Step 11. Store the Temperature Unit
Press ⊙, display momentarily shows `StRd` the Unit has been stored and the instrument will go automatically to the next menu item.

Step 12. Enter the Filter Constant Submenu
Display shows `FLtR` Filter Constant Submenu.

Step 13. Display the Filter Constant Value Submenu
Press ⊙ to display the flashing, previously selected Filter Constant.

Step 14. Scroll through available Filter Constants
Press ⊙ to sequence thru Filter Constants `0001`, `0002`, `0004`, `0008`, `0016`, `0032`, `0064` and `0128`.

Step 15. Store the Filter Constant
Press ⊙ momentarily to store `0004` Filter Constant and the instrument will automatically go to the next menu item.

Step 16. Enter Alarm 1 Menu
The display will show `ALR 1` the top menu for Alarm 1. In the following steps we are going to enable Alarm 1, Deviation, Unlatch, Normally Open, Active Above, Enable at power-on and +2°F High Alarm i.e. Process Value > Setpoint 1 Value +2°F will activate Alarm 1.

▽

`Note` ⏺

▽

- If Analog Output Option is installed and enabled, the controller will skip Alarm 1 Menu item to Analog Output.
- Alarm must be DISABLED if Ramp is ENABLED.
- Alarm1 will only work for Humidity, not Temperature.

Alarm 1 is designed to monitor the humidity value around Setpoint 1 and Alarm 2 is designed to monitor the temperature value around Setpoint 2.

Step 17. Enter Alarm 1 Enable/Disable Submenu
Press ⊙ to display flashing `dSbL` `ENbL`.

Step 18. Enable Alarm 1 Submenu
If flashing `ENbL` is displayed, press ⊙, if `dSbL` is displayed, press ⊙ until `ENbL` is displayed, then press ⊙ to store and go to the next menu item.

Step 19. Select the Deviation Control Type Submenu
Press ⊙. If flashing `.dEV` Deviation is displayed press ⊙, otherwise press ⊙ until flashing `.dEV` is shown. Now press ⊙ to store and go to next menu item.

Step 20. Select the Latched Type Submenu
Press ⊙. If flashing `UNLt` Unlatched is displayed press ⊙, otherwise press ⊙ until `UNLt` is displayed. Press ⊙ to store and advance to next menu item.

Step 21. Select the Normally Open Type of Contact Closure Submenu
Press ⊙. If flashing `N.o.` Normally Open is displayed, press ⊙, otherwise press ⊙ until `N.o.` is displayed. Press ⊙ to store and advance to next menu item.

Step 22. Select the Above Type of Active Submenu
Press ⊙. If flashing `AboV` Above is displayed, press ⊙, otherwise press ⊙ until `AboV` is displayed. Press ⊙ to store and advance to next menu item.

Step 23. Enable Alarm 1 at Power On (`A.P.oN`)
Press ⊙. If flashing `ENbL` is displayed, press ⊙, otherwise press ⊙ until `ENbL` is displayed. Press ⊙ to store and advance to next menu item.

Step 24. Enter Alarm 1 High Submenu
Press ⊙ twice to skip `ALR.L` Alarm 1 Low value. `ALR.L` is for below & `ALR.H` for above.

Step 25. Set the Alarm 1 High value (`ALR.H`)
Press ⊙. Press ⊙ or ⊙ until value to set the display to `002.0`. Press ⊙ to save.

Step 26. Enter the Alarm 2 Menu
The display will show `ALR2` the top menu for Alarm 2. Repeat steps from 17 to 25 to set for Alarm 2 the same conditions as for Alarm 1.

Step 29. Configuration of Display Color Selection
Press ⊙ until the `COLR` Display Color Selection Menu appears on the Display. Configure `COLR` as `N.CLR` / `GRN` (green), `1.CLR` / `REd` (red), `2.CLR` / `AMbR` (amber). Please refer to the operator's manual if needed.

For color change on Setpoints refer to Owners Manual Section 2.

SPECIFICATION

SENSOR SPECIFICATIONS
Relative Humidity Accuracy/Range:
±2% for 10 to 90%
±3% for 5 to 10% and 90 to 95%
±4% for 0 to 5% and 95 to 100%
Non-linearity: ±3%
Hysteresis: ±1% RH
Response Time:
8 sec, tau 63%
Repeatability: ±0.1%
Resolution: 0.1%, 12bit

Temperature Accuracy/Range*:
±0.5°C for 5 to 45°C (±1°F for 41 to 113°F);
up to ±1.5°C for -40 to 5°C and 45 to 124°C
(up to ±2.7°F for -40 to 41°F and 113 to 257°F)
*NOTE: extended temp range is for Probe only, the Controller's operating temp is 0-50°C
Response Time:
5 to 30 sec, tau 63%
Repeatability: ±0.1°C
Resolution: 0.1°C, 14 bit

METER SPECIFICATIONS
Display:
4-digit, 9-segment LED,
- 10.2 mm (0.40"): DPiTH-i8DV Dual Vertical
- 10.2 mm (0.40") and 21 mm (0.83") DPiTH-i8DH Dual Horizontal
Red, green, and amber programmable colors for setpoint and temperature units.

Output 1[†]:
Relay 250 Vac @ 3 A Resistive Load, SSR, Pulse
Output 2[†]:
Relay 250 Vac @ 3 A Resistive Load, SSR, Pulse
[†] *Only with -AL Limit Alarm option*
Options: Communication
RS-232 / RS-485 or 10BaseT or Excitation: 24 Vdc @ 25 mA
Exc. not available for Low Power Option
Line Voltage/Power:
90 - 240 Vac ±10%, 50 - 400 Hz*, or 110 - 375 Vdc, **5 W**
* No CE compliance above 60 Hz
Low Voltage Power Option:
20 - 36 Vdc or 24 Vac** ±10%, **4 W**
** Units can be powered safely with 24 Vac but No Certification for CE/UL are claimed.
Dimensions:
Dual Horizontal: 48H x 96W x 127D mm (1.89 x 3.78 x 5")
Dual Vertical: 48W x 96H x 127D mm (1.89 x 3.78 x 5")
Weight:
295 g (0.65 lb)
Approvals:
CE per EN61010-1:2001

WARNING: These products are not designed for use in, and should not be used for, patient-connected applications.

⚠ This device is marked with the international caution symbol. It is important to read the Setup Guide before installing or commissioning this device, as the guide contains important information relating to safety and EMC.

It is the policy of OMEGA to comply with all worldwide safety and EMC/EMI regulations that apply. OMEGA is constantly pursuing certification of its products to the European New Approach Directives. OMEGA will add the CE mark to every appropriate device upon certification.

The information contained in this document is believed to be correct, but OMEGA Engineering, Inc. accepts no liability for any errors it contains, and reserves the right to alter specifications without notice.

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QUICK START ➤

i Series ℂℰ

DPiTH-i8DH, DPiTH-i8DV
Humidity + Temperature Monitor
CNiTH-i8DH-AL, CNiTH-i8DV-AL
Humidity + Temperature Limit Alarm

omega.com®
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MADE IN USA

OMEGAnet® On-Line Service omega.com	Internet e-mail info@omega.com

This Quick Start Reference provides information on setting up your instrument for basic operation. The latest complete Communication and Operational Manual as well as free Software and ActiveX Controls are available at *www.omega.com/specs/iseries* or on the **CD-ROM enclosed with your shipment**.

SAFETY CONSIDERATION

⚠ **This device is marked with the international Caution symbol.**

The instrument is a panel mount device protected in accordance with EN61010-1:2001. Remember that the unit has no power-on switch. Building installation should include a switch or circuit-breaker that must be compliant to IEC 947-1 and 947-3.

SAFETY:
- Do not exceed voltage rating on the label located on the top of the instrument housing.
- Always disconnect power before changing signal and power connections.
- Do not use this instrument on a work bench without its case for safety reasons.
- Do not operate this instrument in flammable or explosive atmospheres.
- Do not expose this instrument to rain or moisture.

EMC:
- Whenever EMC is an issue, always use shielded cables.
- Never run signal and power wires in the same conduit.
- Use signal wire connections with twisted-pair cables.
- Install Ferrite Bead(s) on signal wire close to the instrument if EMC problems persist.

MOUNTING
Panel Mounting Instruction:
1. Using the dimensions from the panel cutout shown in exploded views, cut an opening in the panel.
   45mm +.61/-.00 x 92mm +.81/-.00 with R 1.5, 4 places (1.772"+.024/-.000 x 3.622"+.032/-.000 with R 0.06", 4 places) Panel thickness: 6.4mm (0.25") max / 0.8mm (0.03") min.
2. Remove sleeve from the rear of the case by removing thumbnuts.
3. Insert the unit into the opening from the front of the panel, so the gasket seals between the bezel and the front of the panel.
4. Slip the sleeve over the rear of the case.
5. Tighten the thumbnuts to hold the unit firmly in the panel.

DPiTH-i8DH shown with -2 Probe
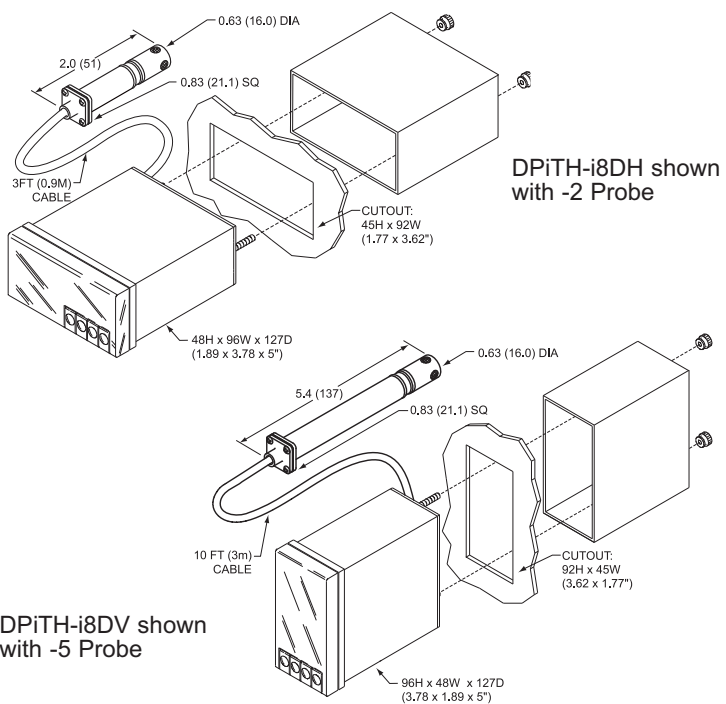
DPiTH-i8DV shown with -5 Probe

Disassembly Instruction:

If necessary, the unit may be removed from the panel and opened.

⚠ **Warning: Disconnect all ac power from the unit before proceeding.**

1. Remove all wiring connections from the rear of the instrument, by unplugging the power and input connectors.
2. The meter is front removable from the case
3. Pull the board assembly out of the case.

WIRING

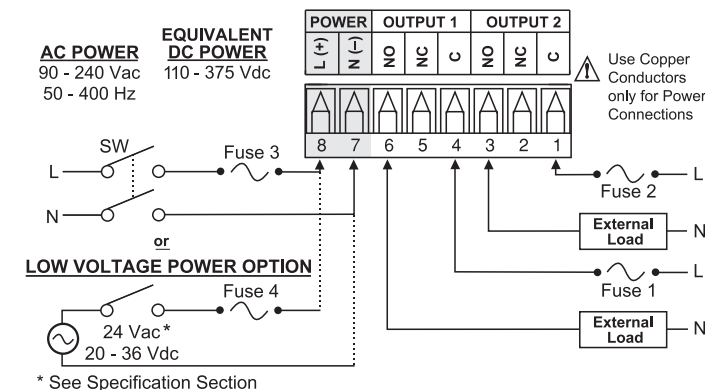Wire the instrument according to the figure shown below.

⚠ **Warning: Do not connect ac power to your device until you have completed all input and output connections. This device must only be installed by a specially trained electrician with corresponding qualifications. Failure to follow all instructions and warnings may result in injury!**

Rear View
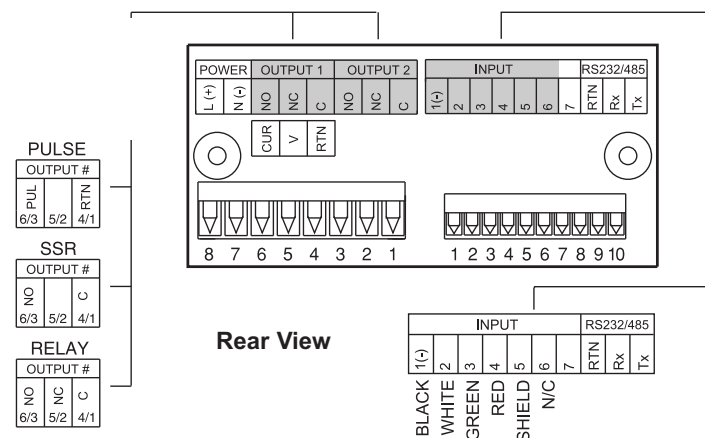
Note☞ Refer to Operator's Manual for important Input Probe Shield wiring notes

Connect the main power connections as shown in the figure below.

AC POWER 90 - 240 Vac 50 - 400 Hz
EQUIVALENT DC POWER 110 - 375 Vdc

Use Copper Conductors only for Power Connections

LOW VOLTAGE POWER OPTION
24 Vac* 20 - 36 Vdc

* See Specification Section

FUSE	Connector	Output Type	For 115Vac	For 230Vac	DC
FUSE 1	Output 1	Relay	3 A(T)	3 A(T)	-
FUSE 2	Output 2	Relay	3 A(T)	3 A(T)	-
FUSE 3	Power	N/A	100 mA(T)	100 mA(T)	100 mA(T)
FUSE 4	Power	N/A	N/A	N/A	400 mA(T)

Note☞ Output 1 and 2 are for -AL Limit Alarm Option only.

DESCRIPTION OF FRONT PANEL
The upper display may be RH, Temperature or Dewpoint readings depending on your Reading Configuration selections. Factory defaults are shown. The Dual Display allows the user to observe the Relative Humidity or Dewpoint (upper display) and Temperature Value (lower display), at the same time.

Front Views

Relative Humidity Upper Display
Temperature Lower Display

DPiTH-i8DH   **DPiTH-i8DV**
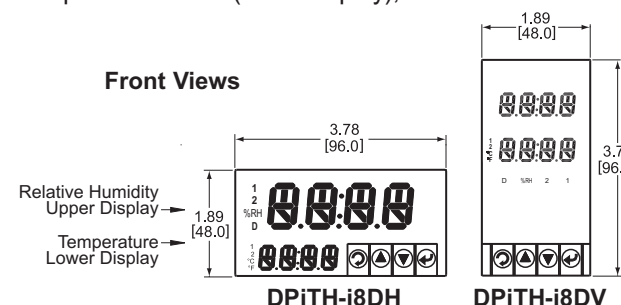
1	Output 1/Setpoint 1/ Alarm 1 indicator
2	Output 2/Setpoint 2/ Alarm 2 indicator
°C	°C unit indicator for Temperature or Dewpoint
°F	°F unit indicator for Temperature or Dewpoint
%RH	Display shows the Percent Relative Humidity
D	Display shows the Dewpoint
⊕	Changes display to Configuration Mode and advances through menu items*
▲	Used in Program Mode:
▼	Used in Program Mode:
⊙	Accesses submenus in Configuration Mode and stores selected values*

CONFIGURATION
The instrument has two different modes of operation. Run Mode: used to display Temperature and Relative Humidity. Menu Configuration Mode: used to navigate through the menu options and configure the controller.

CONFIGURATION FLOW CHART
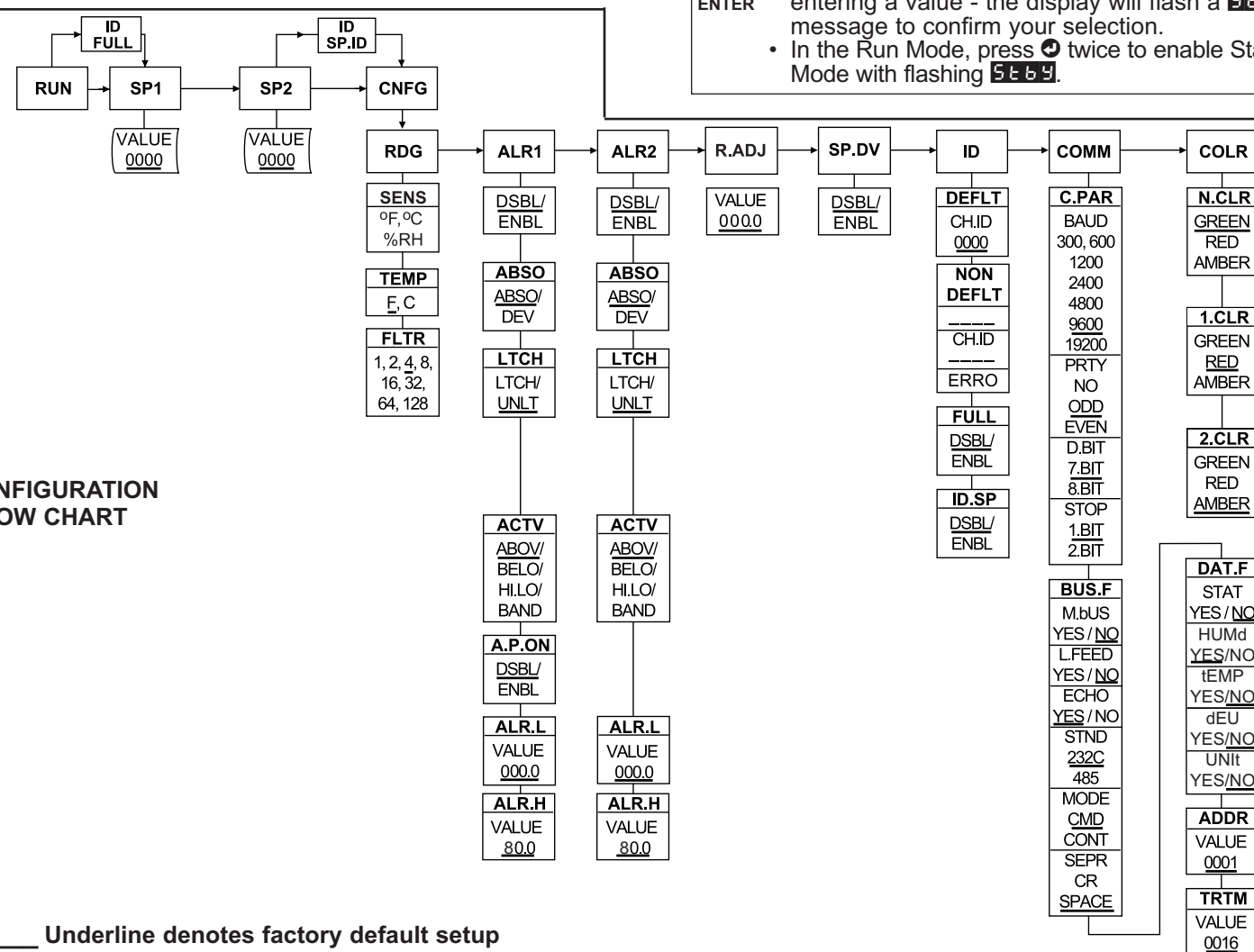
_____ Underline denotes factory default setup

Button Function in Configuration Mode

⊕ MENU	• To enter the Menu, the user must first press ⊕ button. • Use this button to advance/navigate to the next menu item. The user can navigate through all the top level menus by pressing ⊕. • While a parameter is being modified, press ⊕ to escape without saving the parameter.
▲ (UP)	• Press the up ▲ button to scroll through "flashing" selections. When a numerical value is displayed press this key to increase value of a parameter that is currently being modified. • Pressing the ▲ button for approximately 3 seconds will speed up the rate at which the set point value increments. • In the Run Mode, pressing the ▲ button changes display from RH readings to Temperature readings.
▼ (DOWN)	• Press the down ▼ button to go back to a previous Top Level Menu item. • Press this button twice to reset the controller to the Run Mode. • When a numerical value is flashing (except set point value) press ▼ to scroll digits from left to right allowing the user to select the desired digit to modify. • When a setpoint value is displayed press ▼ to decrease value of a setpoint that is currently being modified. Pressing the ▼ button for approximately 3 seconds will speed up the rate at which the setpoint value is decremented. • In the Run Mode, pressing the ▼ button changes from RH readings to Dewpoint readings.
⊙ ENTER	• Press the enter ⊙ button to access the submenus from a Top Level Menu item. • Press ⊙ to store a submenu selection or after entering a value - the display will flash a **StRd** message to confirm your selection. • In the Run Mode, press ⊙ twice to enable Standby Mode with flashing **Stby**.

Configuration Flow Chart items:

ID FULL — **RUN** — **SP1** — **SP2** — **CNFG**

SP1: VALUE 0000
SP2: VALUE 0000
ID SP.ID

RDG
- SENS: °F, °C / %RH
- TEMP: F, C
- FLTR: 1, 2, 4, 8, 16, 32, 64, 128

ALR1
- DSBL/ENBL
- ABSO: ABSO/DEV
- LTCH: LTCH/UNLT
- ACTV: ABOV/BELO/HI.LO/BAND
- A.P.ON: DSBL/ENBL
- ALR.L: VALUE 000.0
- ALR.H: VALUE 80.0

ALR2
- DSBL/ENBL
- ABSO: ABSO/DEV
- LTCH: LTCH/UNLT
- ACTV: ABOV/BELO/HI.LO/BAND
- ALR.L: VALUE 000.0
- ALR.H: VALUE 80.0

R.ADJ
- VALUE 000.0

SP.DV
- DSBL/ENBL

ID
- DEFLT: CH.ID 0000
- NON DEFLT: CH.ID / ERRO
- FULL: DSBL/ENBL
- ID.SP: DSBL/ENBL

COMM
- C.PAR: BAUD 300, 600, 1200, 2400, 4800, 9600, 19200
- PRTY: NO / ODD / EVEN
- D.BIT: 7.BIT / 8.BIT
- STOP: 1.BIT / 2.BIT
- BUS.F: M.bUS YES/NO / L.FEED YES/NO / ECHO YES/NO / STND 232C / 485 / MODE CMD / CONT / SEPR CR / SPACE

COLR
- N.CLR: GREEN / RED / AMBER
- 1.CLR: GREEN / RED / AMBER
- 2.CLR: GREEN / RED / AMBER
- DAT.F: STAT YES/NO / HUMd YES/NO / tEMP YES/NO / dEU YES/NO / UNIt YES/NO
- ADDR: VALUE 0001
- TRTM: VALUE 0016