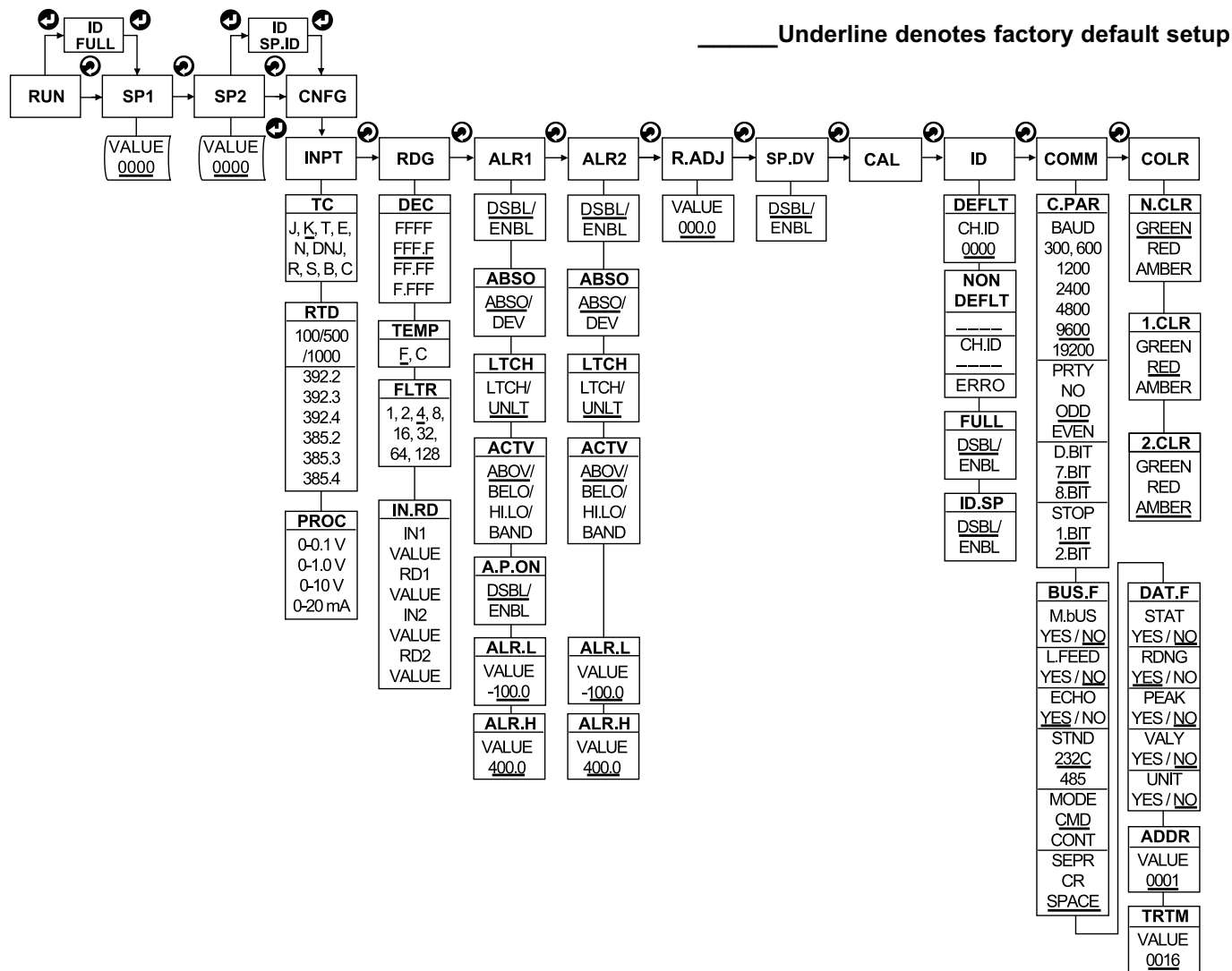


**FLOW CHART**

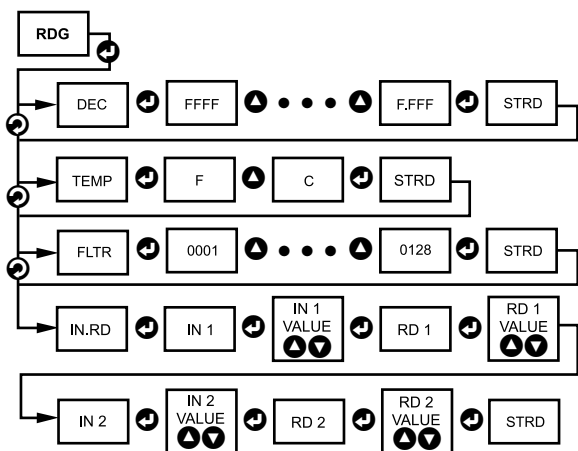


Below is a flowchart showing how to navigate through all top level menus by pressing the and buttons.

       Underline denotes factory default setup

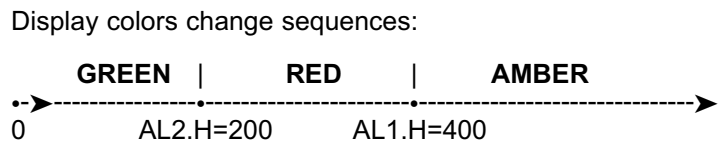
**READING CONFIGURATION SETUP (operation example)**

Below is a flowchart showing how to navigate through the submenus of the Reading Configuration menu item by pressing the front buttons.

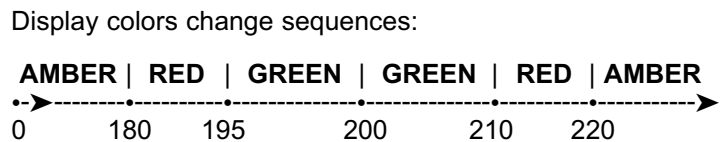


**DISPLAY COLOR SETUP (examples)**

**Example 1:**  
 Alarm setup: Absolute, Above, Alarm 2 HI Value "ALR.H" =200, Alarm 1 HI Value "ALR.H"=400  
 Color Display setup: Normal Color "N.CLR"=Green, Alarm 1 Color "1.CLR"=Amber, Alarm 2 Color "2.CLR"=Red



**Example 2:**  
 Set Point 1 = 200,  
 Set Point 2 = 200  
 Alarm 1 setup: Deviation, Band, "ALR.H" = 20  
 Alarm 2 setup: Deviation, Hi/Low, "ALR.H" = 10", "ALR.L" = 5"  
 Color Display setup: "N.CLR"=Green, "1.CLR"=Amber, "2.CLR"=Red



**SPECIFICATION**

**Accuracy:**  
 ±0.5°C temp;  
 0.03% rdg. process typical

**Resolution:**  
 1°/0.1°; 10 µV process

**Temperature Stability:**  
 0.04°C/°C RTD;  
 0.05°C/°C TC @ 25°C (77°F);  
 50 ppm/°C process

**Display:**  
 4-digits, 9-segments LED,  
 21 mm (0.83") with red, green and amber programmable colors

**Input Types:**  
 Thermocouple, RTD, Analog Voltage and Current

**TC (ITS 90):**  
 J, K, T, E, R, S, B, C, N, L

**RTD (ITS 68):**  
 100/500/1000 ohm Pt sensor  
 2-, 3-, or 4-wire; 0.00385 or 0.00392 curve

**Voltage:**  
 0 to 100 mV, 0 to 1 V, 0 to 10 Vdc

**Current:**  
 0 to 20 mA (4 to 20 mA)

**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  
**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, 4 W  
 \* No CE compliance above 60 Hz

**Low Voltage Power Option:**  
 12 - 36 Vdc, 3 W\*\*  
 \*\* Units can be powered safely with 24 Vac but No Certification for CE/UL are claimed.

**Dimensions:**  
 48 H x 96 W x 74 D mm  
 (1.89 x 3.78 x 2.91")

**Weight:**  
 295 g (0.65 lb)

**Approvals:**  
 UL, C-UL, 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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**WARRANTY/DISCLAIMER**

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **one (1) year** from the date of purchase. In addition to OMEGA's standard warranty period, OMEGA Engineering will extend the warranty period for **four (4) additional years** if the warranty card enclosed with each instrument is returned to OMEGA.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion, or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components which wear are not warranted, including but not limited to contact points, fuses, and traces.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by it will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESS OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES, INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive, and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.

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**RETURN REQUESTS/INQUIRIES**

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR WARRANTY RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR NON-WARRANTY REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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**iSeries**  
**DPi8C Compact Temperature & Process Monitor**  
**CNi8C-AL Compact Temperature & Process Limit Alarm**



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**START HERE**

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/series](http://www.omega.com/specs/series) or on the CD-ROM enclosed with your shipment.

**SAFETY CONSIDERATION**

**Warning:** This device is marked with the international Caution symbol.

The instrument is a panel mount device protected in accordance with EN 61010-1:2001, electrical safety requirements for electrical equipment for measurement, control and laboratory. 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.

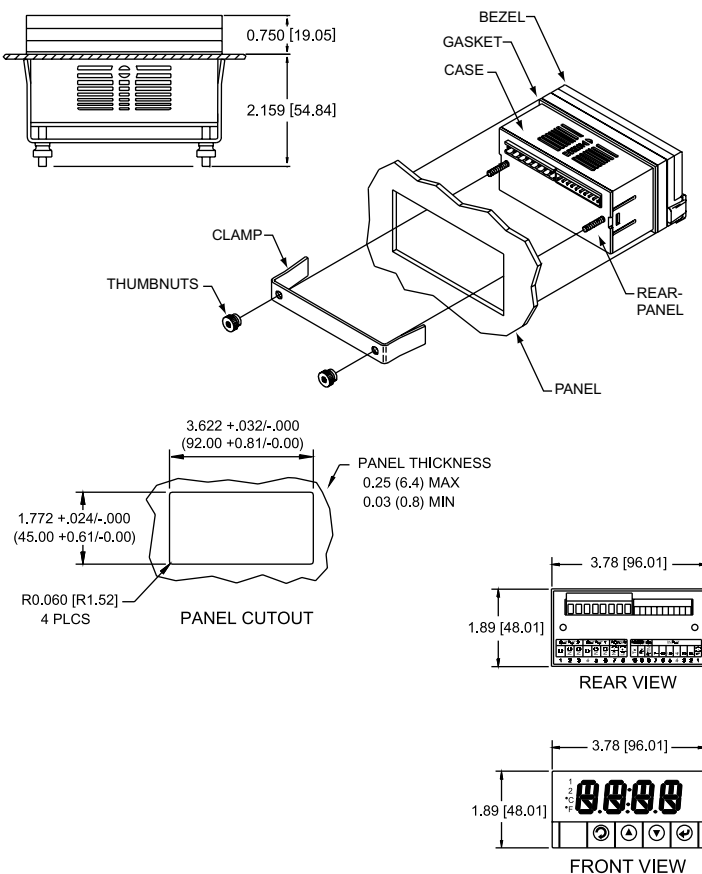
**SAFETY:**

- 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 diagram shown, cut an opening in the panel.
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.

**Disassembly Instruction:**

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

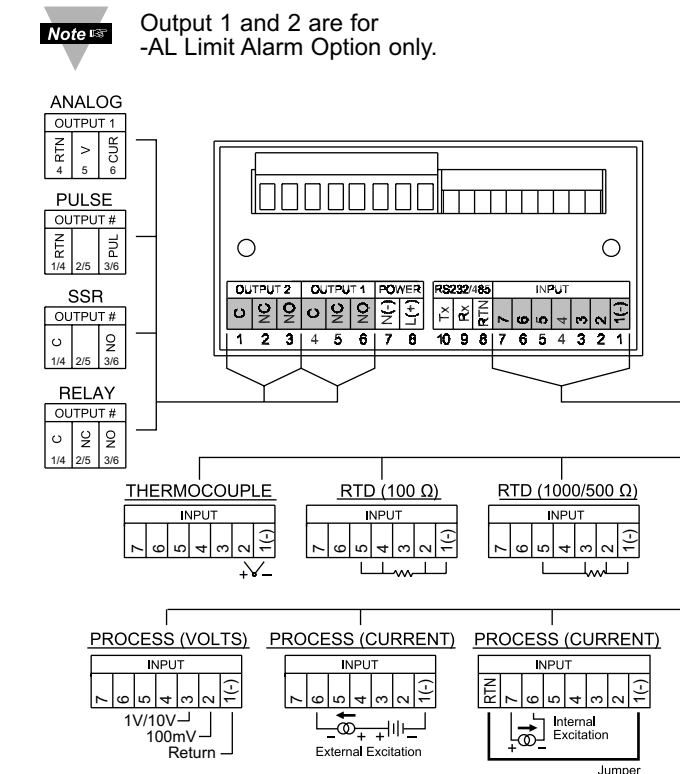
**Warning:** Disconnect all ac power from the unit before proceeding.

1. Remove all wiring connections from the rear of the instrument, by unplugging the power and input connectors.
2. Remove both thumbnuts and set aside.
3. Remove the sleeve and set aside.
4. Remove the meter from the panel and bend the side panel detents on the case outward to release the board. Pull the board assembly out of the case.

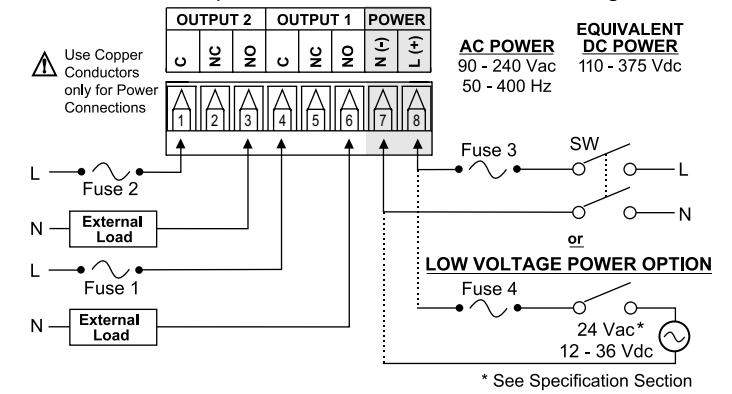
**WIRING**

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!



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



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.

**CONFIGURATION**

Table 3.1 Button Function in Configuration Mode

<b>MENU</b>	<ul style="list-style-type: none"> <li>• To enter the Menu, the user must first press <b>MENU</b> button.</li> <li>• Use this button to advance/navigate to the next menu item. The user can navigate through all the top level menus by pressing <b>MENU</b>.</li> <li>• While a parameter is being modified, press <b>MENU</b> to escape without saving the parameter.</li> </ul>
<b>(UP)</b>	<ul style="list-style-type: none"> <li>• Press the up <b>(UP)</b> 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.</li> <li>• Holding the <b>(UP)</b> button down for approximately 3 seconds will speed up the rate at which the set point value increments.</li> <li>• In the Run Mode press <b>(UP)</b> causes the display to flash the PEAK value – press again to return to the Run Mode.</li> </ul>
<b>(DOWN)</b>	<ul style="list-style-type: none"> <li>• Press the down <b>(DOWN)</b> button to go back to a previous Top Level Menu item.</li> <li>• Press this button twice to reset the controller to the Run Mode.</li> <li>• When a numerical value is flashing (except set point value) press <b>(DOWN)</b> to scroll digits from left to right allowing the user to select the desired digit to modify.</li> <li>• When a setpoint value is displayed press <b>(DOWN)</b> to decrease value of a setpoint that is currently being modified. Holding the <b>(DOWN)</b> button down for approximately 3 seconds will speed up the rate at which the setpoint value is decremented.</li> <li>• In the Run Mode press <b>(DOWN)</b> causes the display to flash the VALLEY value – press again to return to the Run Mode.</li> </ul>
<b>ENTER</b>	<ul style="list-style-type: none"> <li>• Press the enter <b>ENTER</b> button to access the submenus from a Top Level Menu item.</li> <li>• Press <b>ENTER</b> to store a submenu selection or after entering a value — the display will flash a <b>SETRd</b> message to confirm your selection.</li> <li>• To reset flashing Peak or Valley press <b>ENTER</b>.</li> <li>• In the Run Mode, press <b>ENTER</b> twice to enable Standby Mode with flashing <b>SEtBy</b>.</li> </ul>

**Note:** Reset: Except for Alarms, modifying any settings of the menu configuration will reset the instrument prior to resuming Run Mode.

**DISPLAY ABBREVIATIONS**

<b>SP1</b>	Set Point 1 Value	<b>SP2</b>	Set Point 2 Value
<b>CNFG</b>	Configuration Menu		
<b>INPt</b>	Input Type Menu	<b>t.c</b>	Thermocouple Input
<b>k...J</b>	Thermocouple Type	<b>Rtd</b>	RTD Input
<b>385.2</b>	RTD Curve and Connection Type (2, 3, 4-Wire)	<b>100</b>	100_/500_/1000_ RTD Sensor
<b>392.4</b>		<b>1000</b>	
<b>PROC</b>	Process Input		
<b>0 - 0.1</b>	100 mV Input Voltage	<b>0 - 1.0</b>	1 V Input Voltage
<b>0 - 20</b>	20 mA Input Current	<b>0 - 10</b>	10 V Input Voltage
<b>RdG</b>	Reading Configuration	<b>dEC</b>	Decimal Point
<b>F.FFF</b>	Decimal Point Position	<b>FLtR</b>	Filter Constant
<b>..FFFF</b>			
<b>0001..</b>	Filter Constant Value	<b>IN.Rd</b>	Input/Reading Scale and Offset Menu
<b>..0128</b>			
<b>IN 1</b>	Input 1	<b>IN 2</b>	Input 2
<b>Rd 1</b>	Reading 1	<b>Rd 2</b>	Reading 2
<b>ALR1</b>	Alarm 1 Menu	<b>AbSo</b>	Absolute Mode
<b>dEV</b>	Deviation Mode	<b>Ltch</b>	Latched Mode
<b>UNLt</b>	Unlatched Mode	<b>Ct.CL</b>	Contact Closure
<b>N.o.</b>	Normally Open	<b>N.c.</b>	Normally Closed
<b>ActV</b>	Active Type	<b>AbOV</b>	Active Above
<b>bELo</b>	Active Below	<b>Hi.Lo</b>	Above High/Below Low
<b>bANd</b>	Above or Below Band	<b>A.P.oN</b>	Alarm Enable/Disable at Power On
<b>ALR.L</b>	Alarm Low Value	<b>ALR.H</b>	Alarm High Value
<b>ALR.2</b>	Alarm 2 Menu		
<b>R.AdJ</b>	Reading Adjust	<b>SP.dN</b>	Set Point Deviation
<b>Id</b>	ID Code Menu	<b>CH.Id</b>	Change ID Code
<b>FULL</b>	Full ID	<b>SP.Id</b>	Set Point ID
<b>COMM</b>	Communication Option*	<b>NONE</b>	Communication is Not Installed
<b>C.PAR</b>	Communication Parameters	<b>bAUd</b>	Baud Rate
<b>PRtY</b>	Parity	<b>odd</b>	Odd
<b>EVEN</b>	Even	<b>No</b>	No
<b>dAtA</b>	Data Bit	<b>7.bit</b>	7 Data Bit
<b>8.bit</b>	8 Data Bit	<b>StOP</b>	Stop Bit
<b>1.bit</b>	1 Data Bit	<b>2.bit</b>	2 Stop Bit
<b>bus.F</b>	Bus Format	<b>M.bus</b>	Modbus Protocol
<b>LF</b>	Line Feed	<b>ECHO</b>	Echo
<b>StNd</b>	Communication Standard	<b>232C</b>	RS-232
<b>485</b>	RS-485	<b>ModE</b>	Data Flow Mode
<b>CMD</b>	Command Mode	<b>CoNt</b>	Continuous Mode
<b>SEPR</b>	Data Separation Character	<b>SPCE</b>	Space
<b>cR</b>	Carriage Return	<b>dAt.F</b>	Data Format
<b>stAt</b>	Alarm Status	<b>RdNG</b>	Transmit Reading Value
<b>PEAK</b>	Transmit Peak Value	<b>GROS</b>	Transmit Gross Value
<b>UNit</b>	Units of Measurement	<b>AddR</b>	Multipoint Address
<b>tR.tM</b>	Transmit Color Selection	<b>N.CLR</b>	Normal Color Display
<b>COLR</b>	Display Color Selection	<b>2.CLR</b>	Alarm 2 Color Display
<b>1.CLR</b>	Alarm 1 Color Display	<b>AMbR</b>	Display Color is Amber
<b>REd</b>	Display Color is Red		
<b>GRN</b>	Display Color is Green		
<b>ENbL</b>	Enable	<b>dSbL</b>	Disable
<b>ERRo</b>	Error	<b>+ OL</b>	Input (+) Overload
<b>+OPN</b>	Input (+) Open		

\* For abbreviations of Communication Option see Communication Manual.