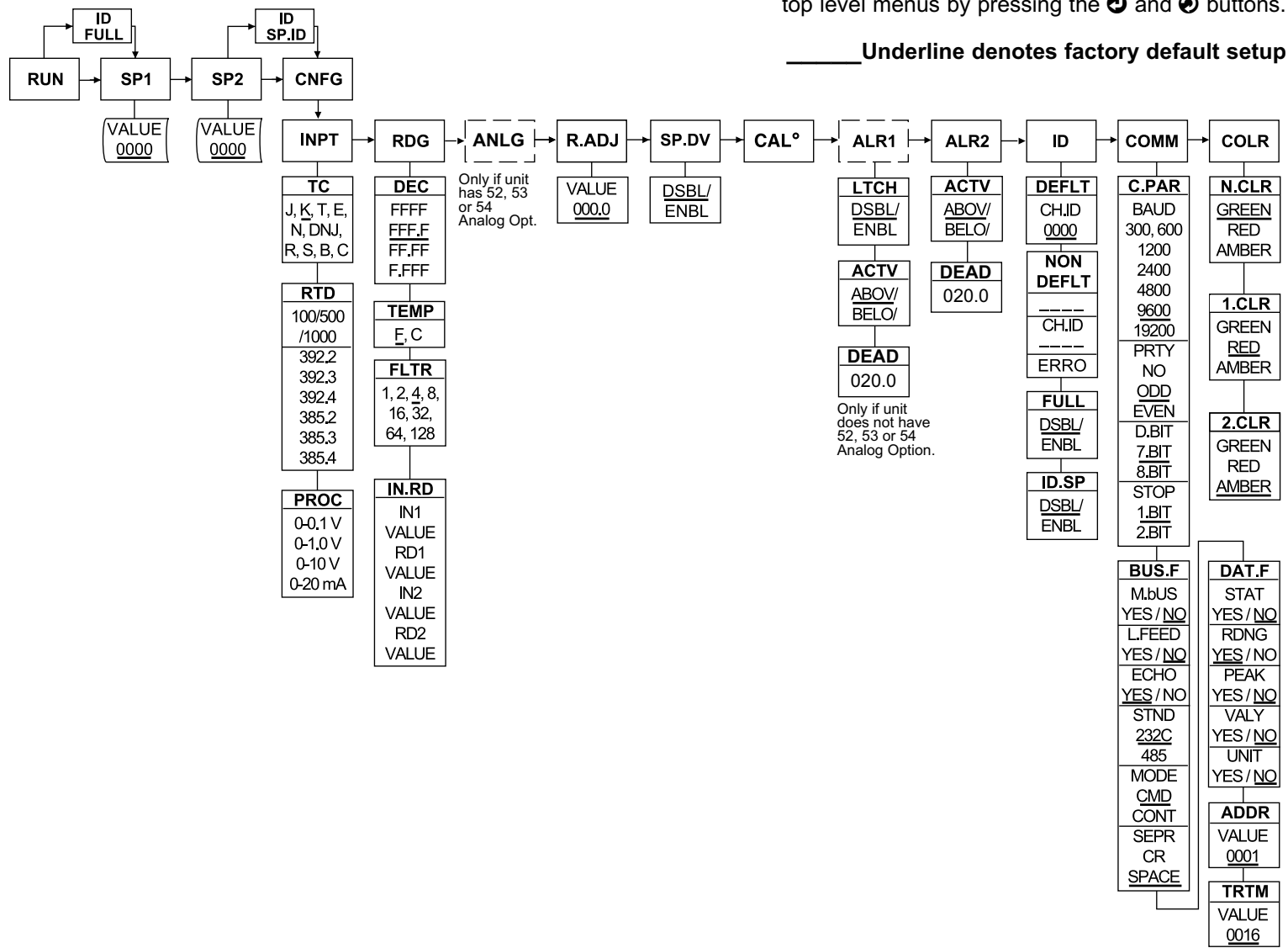


FLOW CHART



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

 Underline denotes factory default setup

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, Analog Voltage and Current

Output 2':
Relay 250 Vac @ 3 A Resistive Load,
SSR, Pulse
[†] Only for Alarms

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
^{††} 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:
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 NEWPORT to comply with all worldwide safety and EMC/EMI regulations that apply. NEWPORT is constantly pursuing certification of its products to the European New Approach Directives. NEWPORT will add the CE mark to every appropriate device upon certification.

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

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WARRANTY/DISCLAIMER

NEWPORT Electronics, 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 NEWPORT's standard warranty period, NEWPORT Electronics will extend the warranty period for **four (4) additional years** if the warranty card enclosed with each instrument is returned to NEWPORT.

If the unit malfunctions, it must be returned to the factory for evaluation. NEWPORT's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by NEWPORT, if the unit is found to be defective, it will be repaired or replaced at no charge. NEWPORT'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 NEWPORT's control. Components which wear are not warranted, including but not limited to contact points, fuses, and triacs.

NEWPORT is pleased to offer suggestions on the use of its various products. However, NEWPORT 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 NEWPORT, either verbal or written. NEWPORT warrants only that the parts manufactured by it will be as specified and free of defects.

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CONDITIONS: Equipment sold by NEWPORT is not intended to be used, nor shall it be used: (1) as a "Basic Component" under 10 CFR 21 (NRC), used in or with any nuclear installation or activity; or (2) in medical applications or used on humans. Should any Product(s) be used in or with any nuclear installation or activity, medical application, or used on humans, or misused in any way, NEWPORT assumes no responsibility as set forth in our basic WARRANTY/DISCLAIMER language, and, additionally purchaser will indemnify NEWPORT and hold NEWPORT harmless from any liability or damage whatsoever arising out of the use of the Product(s) in such a manner.

RETURN REQUEST/INQUIRIES

Direct all warranty and repair requests/inquiries to the NEWPORT Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO NEWPORT, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM NEWPORT'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 consult NEWPORT for current repair BEFORE contacting NEWPORT:

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, have the following information available BEFORE contacting NEWPORT:

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

NEWPORT'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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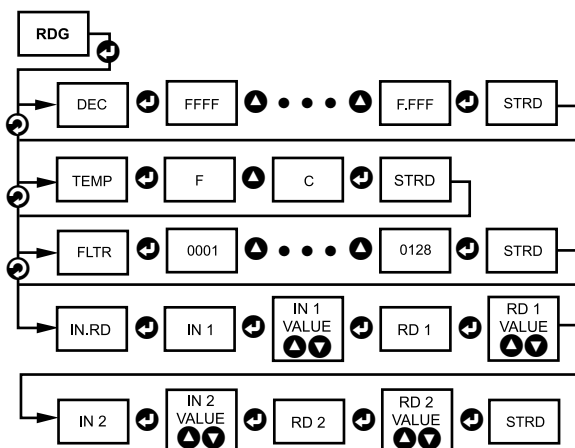
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PATENT NOTICE: This product is covered by one or more of the following patents: U.S. Pat. No. Des. 336,895; 5,274,577; 6,243,021 / Canada 2052599; 2052600 / Italy 1249456; 1250938 / France Brevet No. 91 12756 / Spain 2039150; 2048066 / UK Patent No. GB2 249 837; GB2 248 954 / Germany DE 41 34398 C2. The is a Trademark of OMEGA Engineering, Inc. USED UNDER LICENSE. Other U.S. and International patents pending or applied for.

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.

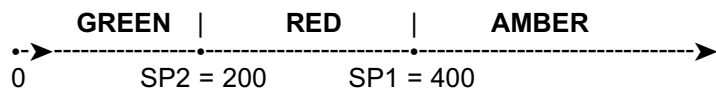


DISPLAY COLOR SETUP

Example:

Alarm setup: Above, SP2 Value = 200, SP1 Value = 400
Color Display setup: Normal Color "N.CLR"=Green, Alarm 1 Color "1.CLR"=Amber, Alarm 2 Color "2.CLR"=Red

Display colors change sequences:



i8C Compact Temperature & Process Simplified Menu (-SM)

For immediate technical or application assistance please call:

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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.newportUS.com/i 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 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.

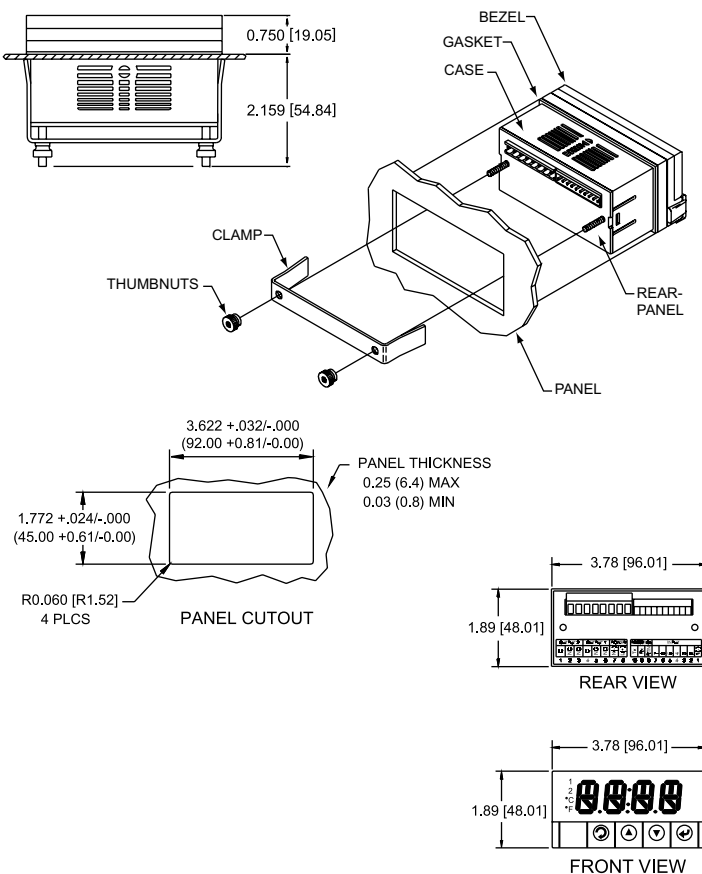
SAFETY:

- 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:

- Using the dimensions from the panel cutout diagram shown, cut an opening in the panel.
- Remove sleeve from the rear of the case by removing thumbnuts.
- 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.
- Slip the sleeve over the rear of the case.
- 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.

- Remove all wiring connections from the rear of the instrument, by unplugging the power and input connectors.
- Remove both thumbnuts and set aside.
- Remove the sleeve and set aside.
- 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

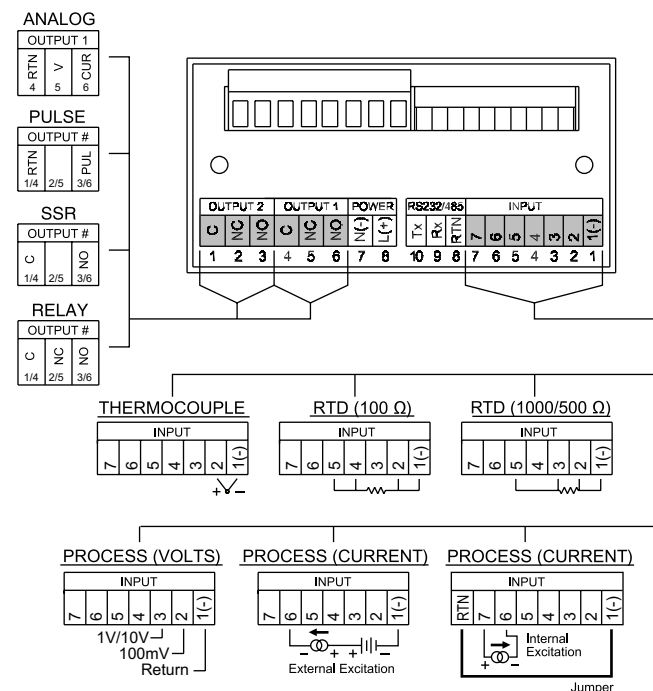
Wire the instrument according to the figure shown below.



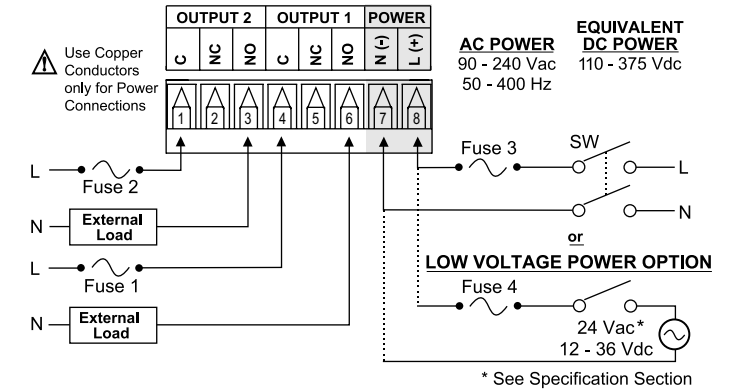
Warning: Do not connect ac power to your device until you have completed all input and output connections. This device must only be installed by a specially trained electrician with corresponding qualifications. Failure to follow all instructions and warnings may result in injury!



Output 1 and 2 are for Alarms only.



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)



Output 1 and 2 are for Alarms only.

CONFIGURATION

Table 3.1 Button Function in Configuration Mode

	<ul style="list-style-type: none"> To enter the Menu, the user must first press . 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.
	<ul style="list-style-type: none"> 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. Holding the button down for approximately 3 seconds will speed up the rate at which the set point value increments. In the Run Mode press causes the display to flash the PEAK value – press again to return to the Run Mode.
	<ul style="list-style-type: none"> 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. Holding the button down for approximately 3 seconds will speed up the rate at which the setpoint value is decremented. In the Run Mode press causes the display to flash the VALLEY value – press again to return to the Run Mode.
	<ul style="list-style-type: none"> 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 SETRd message to confirm your selection. To reset flashing Peak or Valley press . In the Run Mode, press twice to enable Standby Mode with flashing Stby.



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

DISPLAY ABBREVIATIONS

SP1	Set Point 1 Value	SP2	Set Point 2 Value
CNFG	Configuration Menu		
INPt	Input Type Menu	t.c	Thermocouple Input
k...J	Thermocouple Type	Rtd	RTD Input
385.2	RTD Curve and Connection Type (2, 3, 4-Wire)	100	100_/500_/1000_ RTD Sensor
392.4		1000	
PROC	Process Input		
0 - 0.1	100 mV Input Voltage	0 - 1.0	1 V Input Voltage
0 - 20	20 mA Input Current	0 - 10	10 V Input Voltage
RdG	Reading Configuration	dEC	Decimal Point
F.FFF	Decimal Point Position	FLtR	Filter Constant
0001..	Filter Constant Value	IN.Rd	Input/Reading Scale and Offset Menu
..0128			
IN 1	Input 1	IN 2	Input 2
Rd 1	Reading 1	Rd 2	Reading 2
R.AdJ	Reading Adjust	SP.dV	Set Point Deviation
ALR1	Alarm 1 Menu	LtCH	Latched Mode
ActV	Active Type	AboV	Active Above
bELo	Active Below	dEAd	Deadband
ALR2	Alarm 2 Menu		
Id	ID Code Menu	CH.Id	Change ID Code
FULL	Full ID	SP.Id	Set Point ID
COMM	Communication Option*	NONE	Communication is Not Installed
C.PAR	Communication Parameters	bAUd	Baud Rate
PRtY	Parity	odd	Odd
EVEN	Even	No	No
dAtA	Data Bit	7.bit	7 Data Bit
8.bit	8 Data Bit	StOP	Stop Bit
1.bit	1 Data Bit	2.bit	2 Stop Bit
bUS.F	Bus Format	M.bUS	Modbus Protocol
LF	Line Feed	ECHO	Echo
StNd	Communication Standard	232C	RS-232
485	RS-485	MOdE	Data Flow Mode
CMd	Command Mode	CONt	Continuous Mode
SEPR	Data Separation Character	SPCE	Space
CR	Carriage Return	dAt.F	Data Format
stAt	Alarm Status	RdNG	Transmit Reading Value
PEAK	Transmit Peak Value	VALY	Transmit Valley Value
UNit	Units of Measurement	AddR	Multipoint Address
tR.tM	Transmit Color Selection		
COLR	Display Color Selection	N.CLR	Normal Color Display
1.CLR	Alarm 1 Color Display	2.CLR	Alarm 2 Color Display
REd	Display Color is Red	AMbR	Display Color is Amber
GRN	Display Color is Green		
ENbL	Enable	dSbL	Disable
ERRo	Error	+ OL	Input (+) Overload
+OPN	Input (+) Open		

* For abbreviations of Communication Option see Communication Manual.