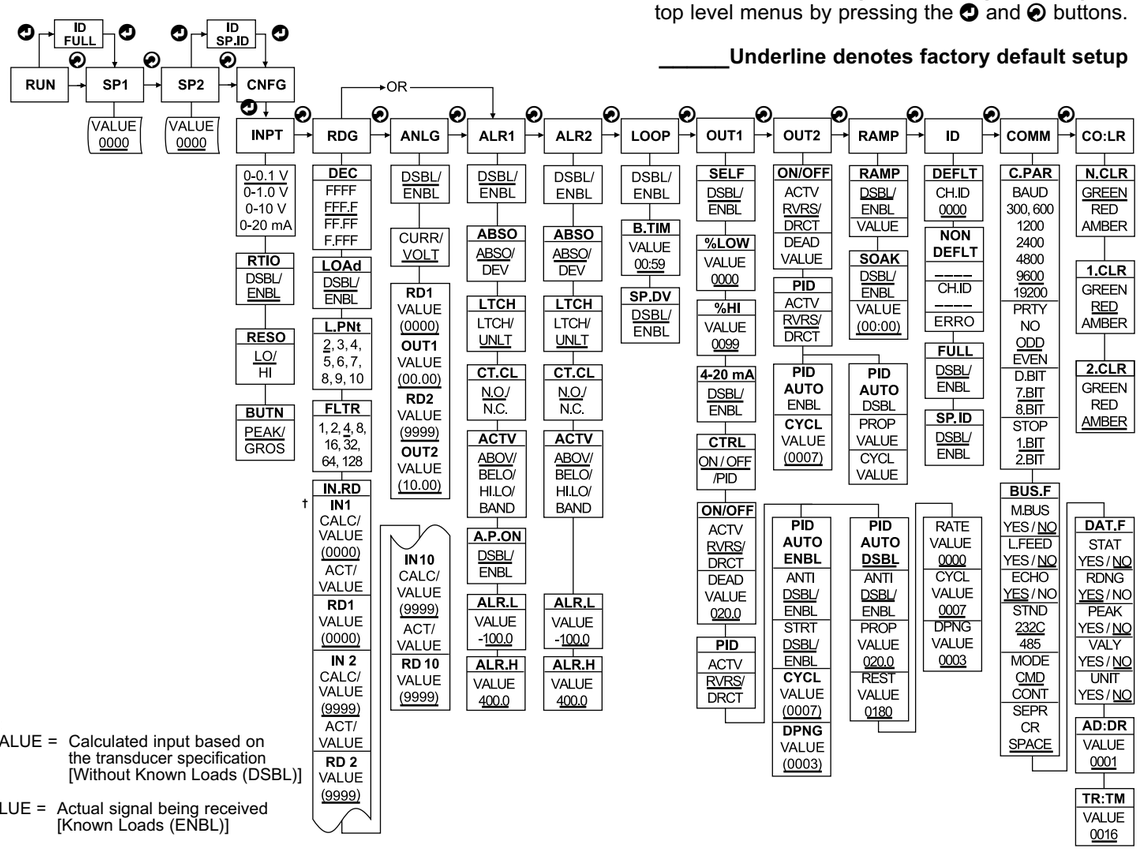
FLOW CHART

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

_____Underline denotes factory default setup

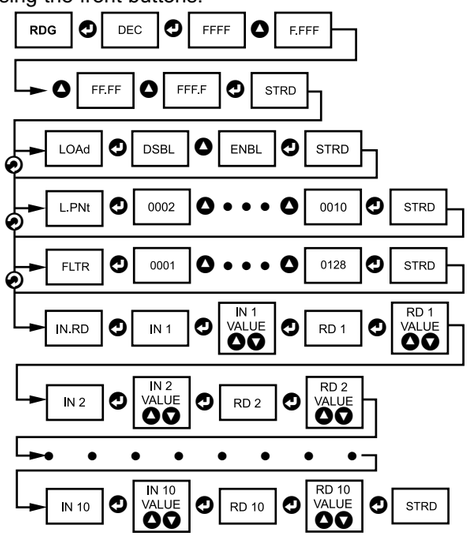


†Where:
CALC/VALUE = Calculated input based on the transducer specification [Without Known Loads (DSBL)]

ACT/VALUE = Actual signal being received [Known Loads (ENBL)]

READING CONFIGURATION SETUP (operation example)

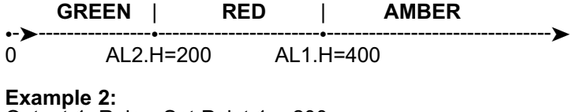
Below is a flowchart showing how to navigate through the submenus of the Reading Configuration menu item by pressing the front buttons.



ISPLAY COLOR SETUP (examples)

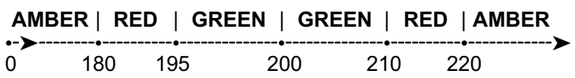
Example 1:
Output 1 & Output 2: SSR
Alarm setup: Absolute, Above, Alarm 2 HI Value "ALR.H" =200, Alarm 1 HI Value "ALR.H"=400
Color Display setup: Normal Color "N.CLR"=Green, Alarm 1 Color "1.CLR"=Amber, Alarm 2 Color "2.CLR"=Red

Display colors change sequences:



Example 2:
Output 1: Relay, Set Point 1 = 200,
Output 2: Relay, 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

Display colors change sequences:



SPECIFICATION

Accuracy:
0.03% rdg.
Resolution:
10 / 1 µV process
Linearization Points:
10 points
Temperature Stability:
50 ppm/°C process
Display:
4-digit, 9-segment LED, 10.2 mm (0.40") with red, green and amber programmable colors
Input Types:
Analog Voltage and Current
Voltage:
0 to 100 mV, 0 to 1 V (±100 mV), 0 to 10 Vdc
Input Impedance:
10 MΩ for 100 mV
1 MΩ for 1 or 10 Vdc
Current:
0 to 20 mA (5 Ω load)

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
Options: Communication
RS-232 / RS-485 *or*
Excitation: 5 Vdc @ 40 mA, 10 Vdc @ 60 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:
25.4 H x 48 W x 126.3 D mm (1.0 x 1.89 x 5")
Weight:
127 g (0.28 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. OEMGA 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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MADE IN USA

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 triacs.

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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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MQS3536/1204

QUICK START

CE

MADE IN USA

iSeries

CNiS32
Process / Strain Gauge Controller

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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/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.

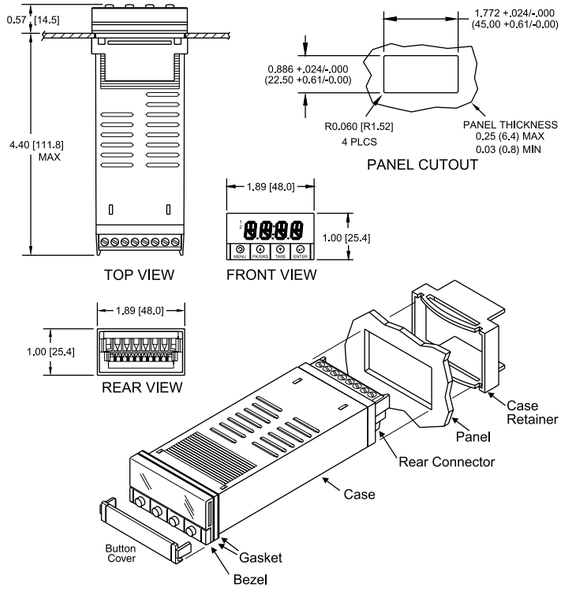
SAFETY:

- 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 diagram shown above, cut an opening in the panel.
2. 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.
3. Slide the retainer over the rear of the case and tighten against the backside of the mounting panel.

Disassembly Instruction:

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

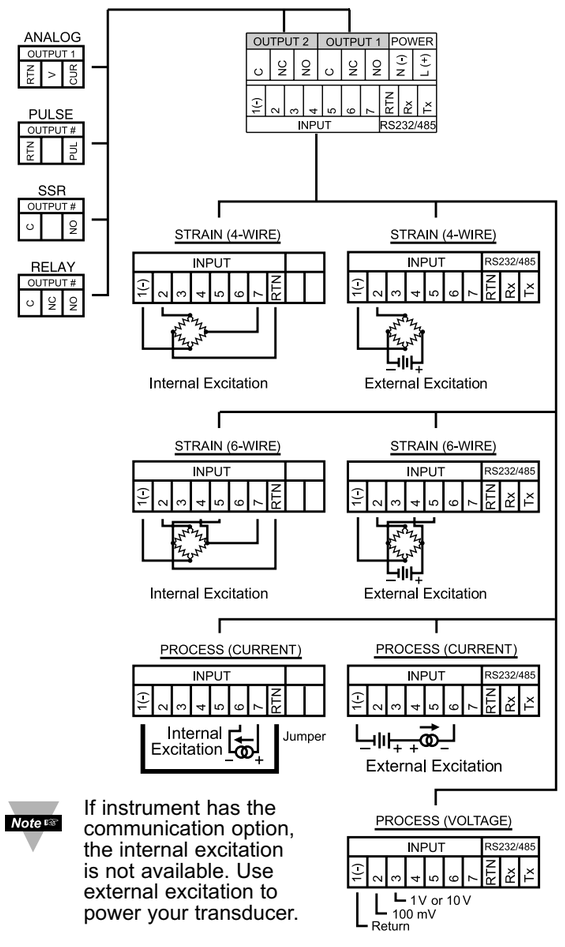
Warning: Disconnect all ac power from the unit before proceeding.

1. Make sure the AC power is disconnected.
2. Remove all wiring connections from the rear of the meter. To remove power and input connectors bend the side panel detents on the case outward to release the connectors, then pull connectors from the meter.
3. To remove meter from the case, squeeze left and right sides of the bezel to release, then pull from case.

WIRING

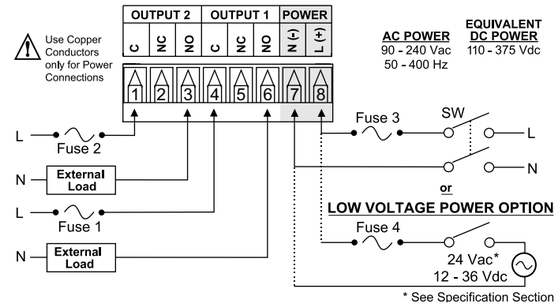
Wire the instrument according to the figure shown below.

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!



Note If instrument has the communication option, the internal excitation is not available. Use external excitation to power your transducer.

Connect the main power connections in the figure shown 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)

CONFIGURATION

Button Functions 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.
PK/GRS (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. • Holding the ▲ button down for approximately 3 seconds will speed up the rate at which the setpoint value is incremented. • In the Run Mode pressing ▲ causes the display to flash the PEAK or GROSS value – press again to return to the Run Mode.
TARE (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 setpoint 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 pressing ▼ causes the display to flash TARE value to tare your reading (zeroing).
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. • To reset flashing PEAK or GROSS press ⦿. • In the Run Mode, press ⦿ twice to enable Standby Mode with flashing `Stby`.

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

DISPLAY ABBREVIATIONS

SP1	Set Point 1 Value	**SP2**	Set Point 2 Value
CNFG	Configuration Menu	**INPt**	Input Type (Range)
INPt	Input Type (range)	**0 - 0.1**	100 mV Input Voltage
0 - 1.0	1 V Input Voltage	**0 - 10**	10 V Input Voltage
0 - 20	20 mA Input Current		
Rtio	Ratiometric Operation	**RESO**	Display Resolution
bUtN	Button Peak/Gross	**PEAk**	Peak Value
GROS	Gross Value		
RdG	Reading Configuration		
dEC	Decimal Point	**F.FFF ..FFFF**	Decimal Point Position
LOAd	Input Load	**EnbL**	Scaling with Known Loads (Actual Value)
DSbL	Scaling without Known Loads (Calculated Value)	**L.PNt**	Linearization Points
0002... ...0010	Number of Linearization Points	**FLtR**	Filter Constant
0001.. ..0128	Filter Constant Value	**IN.Rd**	Input/Reading Scale and Offset Menu
IN 1	Input 1	**Rd 1**	Reading 1
IN 2	Input 2	**Rd 2**	Reading 2
ANLG	Analog Output	**CURR**	Current Output
VoLt	Voltage Output	**Rd 1**	Reading 1
Out.1	Output 1	**Rd 2**	Reading 2
Out.2	Output 2		
ALR1	Alarm 1 Menu	**AbSo**	Absolute Mode
_dEV	Deviation Mode	**LtcH**	Latched Mode
UNLt	Unlatched Mode	**Ct.CL**	Contact Closure
N.o.	Normally Open	**N.c.**	Normally Closed
ActV	Active Type	**AboV**	Active Above
bELo	Active Below	**Hi.Lo**	Above High/Below Low
bANd	Above or Below Band	**A.P.oN**	Alarm Enable/Disable at Power On
ALR.L	Alarm Low Value	**ALR.H**	Alarm High Value
ALR.2	Alarm 2 Menu		
LOOP	Loop Break Menu	**b.tIM**	Loop Break Time
R.AdJ	Reading Adjust	**SP.dN**	Set Point Deviation
OUt1	Output 1 Menu	**SELF**	Manual Control
₀ºLO	Percent Low	**₀ºHI**	Percent High
CtRL	Control Type	**ON.OF**	On/Off Control
4 -20	Amplitude Control	**PId**	PID Control
ActN	Action Type	**RVRS**	Reverse Action
dRct	Direct Action	**ANt1**	Anti Integral
AUto	Auto PID	**A.tUN**	Auto Tune PID
StRt	Start Auto Tune PID	**PRoP**	Proportional Band
RESt	Reset Setup	**RAtE**	Rate Setup
CYCL	Cycle Time	**dPNG**	Damping Factor
dEAd	Dead Band		
OUt2	Output 2 Menu		
RAMP	Ramp Time	**SOAk**	Soak Time
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
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		
dSbL	Disable	**ENbL**	Enable
ERRO	Error	**+ OL**	Input (+) Overload

*** For abbreviations of Communication Option see Communication Manual.**