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Tech TALK

A TECHNICAL PRODUCT PUBLICATION

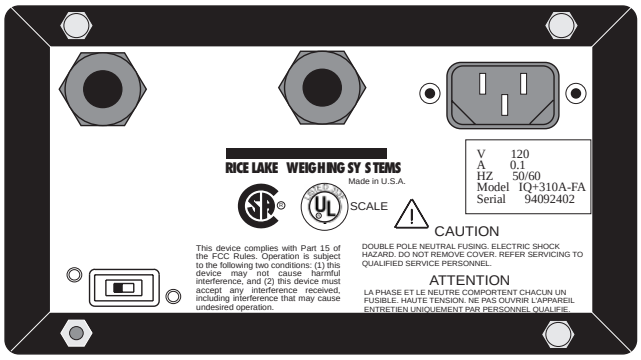
New Faster, Friendlier IQ plus® 310A Indicator

The popular IQ plus 310 has been completely revised inside and out with the features many of you have been requesting. The new model has been named the IQ plus 310A to avoid confusion. This Tech Talk highlights the changes, then details retrofitting and parts interchangeability issues between the older IQ plus 310's and the new IQ plus 310A.

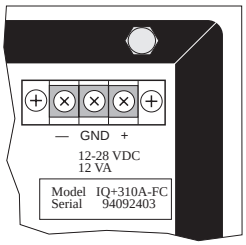
OUTSIDE PHYSICAL IMPROVEMENTS

The IQ plus 310A looks a little different because the enclosure is .5" shorter from front to back (5.1" compared to 5.6" for the IQ plus 310). For easy interchangeability with existing panel-mounted IQ plus 310's, front panel and panel mounting dimensions remain the same.

To make the power cord easily removable without opening the case, the AC cord now plugs into a quick-connect socket on the rear of the case.



12 VDC models have a screw terminal connector on the rear of the enclosure. As in the AC version, this allows disconnecting the power at the enclosure without having to open the case. When either a 120 VAC or 12 VDC NEMA 4 model is ordered, the deeper IQ plus 310 enclosure (5.6" deep) with compression watertight cord grips will be furnished, and power cords are not removable.



The front panel now has LED annunciators to show the mode (lb, kg, or Entry Mode). A selection of overlays for other less common units is included in the accessory kit. For applications where it will not be necessary to change units, the UNITS key can instead be configured as a display TEST key, and a TEST overlay is included to cover the UNITS key on the keypad.

INTERNAL PHYSICAL IMPROVEMENTS

A cleaner and simpler interior space is at once apparent when the new case is opened.

The separate display board and CPU board of the IQ plus 310 have now been combined into a single unit with dramatically fewer components. There is even enough room on the new CPU/Display board for a label listing the load cell and communications connections to help the serviceman caught without a manual.

The power supply board has been changed and also has fewer components, while still retaining the flexibility for switching from 120 VAC to 230 VAC in the field.

To make wiring connections faster, all wiring terminals have clearly-marked pinout labels. In addition, the new "pluggable" terminal blocks were used because of your suggestion for fast installation in tight quarters. Clear labeling was made possible by eliminating the seldom-used 20 mA Current Loop communications capability from the EDP port. Previously, a series of jumpers had to be added to set up the 20 mA CL mode for the EDP port. The new streamlined system with full-time bidirectional RS-232 for the EDP port eliminates the need for the extra jumpers. The Printer port, with both simplex RS-232 and 20 mA CL, has some important improvements described below under *New Operating Features*.

NEW OPERATING FEATURES

The AC-powered version now has enough power to drive six 350-ohm load cells, and the DC version will drive eight 350-ohm load cells. Both AC and DC models are compatible with intrinsic safety barriers.

The requested change in operating speed came about through the development of a true state-of-the-art A/D

converter. A new single-chip A/D converter boosts the update rate from a fast 20 to a high-speed 50 updates per second. It also increases internal resolution from 300,000 to 1,000,000. To prevent this high-speed update rate from causing a "jumpy" display, the IQ plus 310A has added a programmable display update parameter. This new parameter setting allows the installer to have the display update as often as four times per second and as little as once every 4 seconds. Unlike the IQ plus 310 models, this new display update function is completely independent of the serial communication functions.

Baud rate through both serial ports has been increased to a maximum 19200 baud. Previously, printer data could only be sent from the Printer port; now both serial ports can transmit ticket data to a printer.

A much-requested Print Latch function has now been added to the Printer port. This assures that the indicator will "remember" a print command given while the scale was in motion, and will automatically process it as soon as the scale achieves standstill.

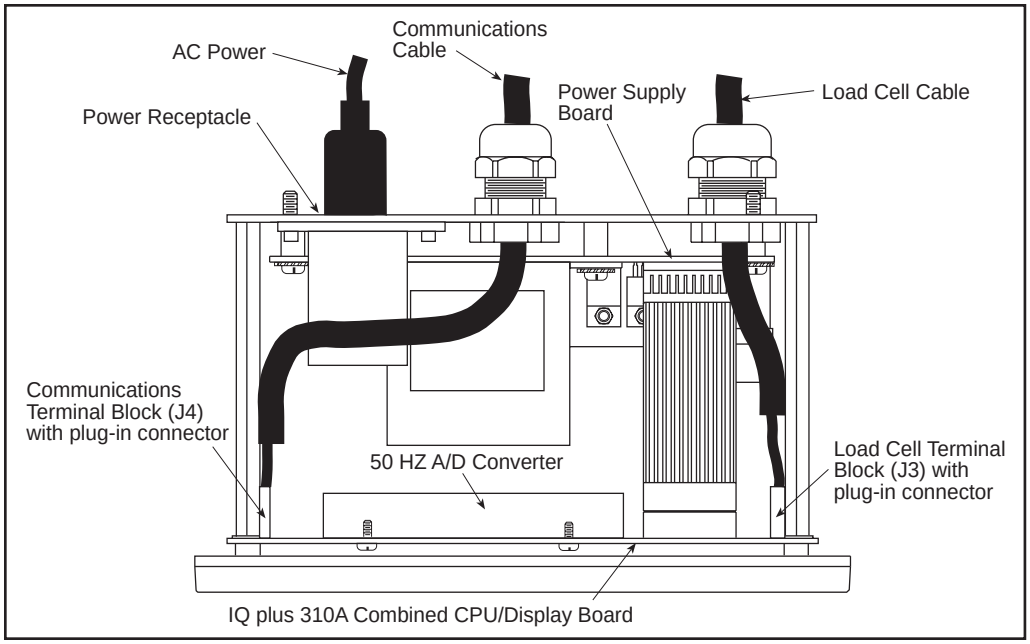
Real flexibility has been added to the IQ plus 310A keypad. Both the TARE and UNITS keys can be locked out to prevent unauthorized use by an operator. Both of these keys can be disabled through separate parameter selections. To prevent *any* keyboard use by an operator, the entire keypad can be disabled with a digital input remote switch.

When used outside the United States, the keypad can be customized for international use with the European standard "B" (BRUTTO) replacing "G" (GROSS) as the units annunciator. When used internationally in countries with a metric standard, the UNITS key would never be used to switch to "lb" and it can be changed into a TEST key, if desired, to activate a display testing sequence.

Digital filtering control has been simplified, while still retaining the unique RATTLETRAP® system of vibration damping. Selecting the appropriate amount of filtering involves three latched digital filters. When the first filter is set, the other two automatically default to that same setting. For complex applications, the other two filters can be unlatched and become fine adjusters to "tweak" the filtering value, honing in on the exact amount of filtering needed.

UPDATING AND RETROFITTING IQ PLUS 310'S

With the exciting features of the new IQ plus 310A, you may want to upgrade existing IQ plus 310 units with the new combined CPU/Display board. The new board will work with older IQ plus 310 power supplies. The only minor difficulty involves the IQ plus 310 annunciators. Because the new LED's are closer to the front membrane than before, the "units" insert must be trimmed so that it fits up against the inside of the keypad. You can eliminate this by replacing the original keypad with a new style membrane keypad when the new board is replaced.



While the new CPU/Display board will work with existing IQ plus 310 power supplies, the new IQ plus 310A Power Supply board will not work with the older CPU or Display boards. Inventories of the original IQ plus 310 Power Supply boards, Display boards, and CPU boards will be maintained by our Service Department.

RICE LAKE WEIGHING SYSTEMS
Service Department
715-234-2003
Saturdays: 8:00 a.m.–12 noon CT
Weekdays: 6:30 a.m.–12 midnight CT