# Trade Scales Limited

## Weight Displays

## <u>R400 Series Weight Displays</u>

### Features

Flexibility is the key with its award winning modular accessory design. Modules include: additional serial options, input/outputs, analogue output, external buttons and battery or AC option.

- Superior IP65 housings - available in both ABS (R420) and stainless steel (R423), each with a high impact polycarbonate lens to protect the LCD from knocks.
- Robust I/O - designed for direct connection into PLC's, or direct drive up to 400mA each with up to 32 I/O control points.
- Simple setup - through the menu system, either directly using the alpha numeric keypad or through a configuration utility connected using a dedicated front panel optical communications port.
- Operator friendly - large two line display (29mm and 18mm) that uses logical prompts along with dedicated and programmable function keys. Printing can be tailored with custom record, docket or report printouts.

## Application Software

The application software is specified by the K4xx designation. One of the unique features of the R400 series is the capacity to upgrade the application by simply purchasing the application software and swapping out the keypad overlay. This capability dramatically lowers stocking and maintenance costs.

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|---|---|---|
| R420-K401 | Counting with piece weight entry<br>Custom unit switching | The R420-K401 is a general purpose indicator with many advanced features:<br>▸ Programmable printing for customized dockets and reports<br>▸ Custom Unit Switching allows complete flexibility in the definition of alternative weighing units |
| R420-K402 | Product storage<br>Setpointing<br>Analogue Output | The R420-K402 adds set pointing, analogue output and multiple-product configuration to the K401.<br>▸ Powerful product configuration allows for parameters like setpoint targets, piece weights and units conversions to be stored for each product<br>▸ Flexible setpoint configuration for improved system integration. Each setpoint can be individually configured to instrument status or weight target triggers |
| R420-K411 | 10 Batching stages<br>Fill, Dump, Wait and Pulse stages<br>6 Materials<br>3 Speed Fill<br>Fill correction using jogging or inflight<br>Dump to time or weight | The R420-K411 indicator provides a powerful and flexible batching controller. Dedicated batching keys and an intuitive interface make this product ideal as the primary control point for the system.<br>▸ The multi-line display shows batch progress, current weight, target weights, material name along with dedicated batch status annunciators<br>▸ Programmable printing for customized dockets and reports<br>▸ Detailed reporting with material usage and batch statistics, along with QA records of every batch run when combined with the data logger<br>▸ Batching operation flexibility where batch size can be varied by either weight or proportion and the operator can set number of batches to run |

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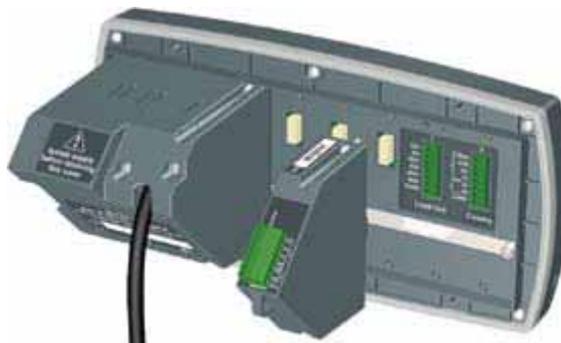
## Rugged Load Cell Input

- Designed to take 16x350 ohm load cells; providing flexibility and reducing the need for summing hardware, simplifying the installation and saving money
- Protected with onboard transorbs; designed to limit damage to the load cell input from external voltage surges, all built into a 10,000 div trade approved indicator.

## Superior Diagnostics and Support

Diagnostic tools and features to assist the installer in system commissioning and maintenance.

- Hardware configuration report summarises how the indicator hardware is setup, providing a record for maintenance purposes or fault finding
- Force Output and Test Input functions allow the installer to specifically test I/O to assist in site setup
- Modules can be swapped in and out without recalibration of the indicator, saving time and effort
- An LED on each I/O provides a visual status;
- Overload counter to review if the scale has been overloaded to assist in maintenance
- The magnetically coupled infra-red port on the front panel provides a convenient temporary connection to a laptop for simplified setup when combined with Rinstrum's PC configuration software, Viewer

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|---|---|
| Versatile Power Options - DC, AC and battery | The wide DC operating range eliminates the need for third party power supplies saving on system complexity and cost. The rechargeable battery version is design to achieve maximum time between recharges. |
| Precise Robust Analogue Output | <ul><li>The analogue output module provides a 4-20mA or 0-10V analogue output</li><li>Output isolated to resist system noise and interference therefore reducing unnecessary callouts</li><li>Precise with a 400Hz (2.5msec) update rate and 1/65,000 resolution</li></ul> |
| Input/Output Modules | The indicator can be configured with up to 32 I/O. Direct connection between I/O points is supported and outputs are isolated to resist system noise. These high side (400mA current source) drivers are capable of driving low voltage actuators directly or can be connected directly with PLC controllers. |
| Additional Serial Communications Ports | Fully isolated: RS232/RS232, RS232/RS485, RS485/485 |
| Button Module | Provides four (4) voltage free inputs for use with switches or thumbwheels |
| DIN Rail Mount Relay Outputs | The optional relay outputs are used with R42x input/output modules to provide eight (8) voltage free relay outputs rated to 250VAC and 8A |

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## Specifications

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|---|---|---|---|
| **Resolution** | Up to 100,000 divisions, minimum of 0.25mV/division | | |
| **Approvals** | FCC, CE, C-tick, Trade Approval Australia NMI(S-463) 10,000 d @0.7uV/d<br>Trade Approval Europe OIML R76 10,000 d @0.7uV/d | | |
| **Zero Cancellation** | +/- 2.0mV/V | | |
| **Span Adjustment** | 0.1mV/V to 3.0mV/V | | |
| **Excitation** | 7.4V for up to 16 x 350 or 32 x 700 ohm load cells (4-wire or 6-wire plus shield)<br>Maximum total load cell resistance: 1,000 ohms | | |
| **A/D Type** | 24bit Sigma Delta with ±8,388,608 internal counts | | |
| **Operating Environment** | Temperature: −10 to +50˚C ambient<br>Humidity: <90% non-condensing<br>Storage: −20 to +50˚C ambient<br>IP65 when panel mounted or with rear boot (otherwise IP40) | | |
| **Display** | LCD with 4 alpha-numeric displays and LED backlighting:<br>Primary display: 6 x 28.4mm high digits with units and annunciators<br>2nd display: 9 x 17.6 mm digits with units<br>3rd display: 8 x 6.1 mm digits<br>4th display: 4 x 7.6 mm digits | | |
| **Setup and Calibration** | Full digital with visual prompting in plain messages | | |
| **Digital Filter** | Sliding window average from 0.1 to 30.0 seconds | | |
| **Zero Range** | Adjustable from +/-2% to +/-20% of full capacity | | |
| **Standard Power Input** | Input 12 to 24VDC (15 VA max) - ON/OFF key with memory feature | | |
| **Variants** | **AC** | AC power supply. Input: 110/240VAC 50/60Hz. Output: 12VDC 15VA | |
| | **Battery** | 2.5AH NiMH rechargeable battery pack.<br>Charger Input: 110/240VAC 50/60Hz. Output: 12VDC | |
| **Optical Data Communications** | Magnetically coupled infra-red communications.<br>Conversion cables available for RS-232 or USB | | |
| **Correction** | 10 point linearity correction | | |
| **Serial Outputs** | Serial 1A: RS-232 serial port for remote display, network or printer supports.<br>Serial 1B: RS-485 transmit only for remote display Transmission rate: 2400, 4800, 9600 or 19200 baud | | |
| **Assignable Function Key** | 3 | | |
| **Operating Modes** | Single Range, Dual Range and Dual Interval | | |
| **Battery Backed Clock Calendar** | Battery life 10 years minimum | | |
| **Application Software** | **K401** | **K402** | **K411** |
| **Functions** | 250 Products<br>Custom printing, custom unit switching, counting, manual hold, peak hold, auto output and totalising | | 100 Recipes<br>Printing, Auto output<br>6 Material, Inflight and Jogging Correction, 3 Speed Fill, Up to 10 Batching Stages: Fill, Dump, Wait and Pulse stages |
| **Setpoints** | - | 8 | |
| **Analogue Output** | - | 1 (Optional Module) | |
| **Additional Communications** | - | Optional Modules<br>RS232/RS232<br>RS232/RS485<br>RS485/RS485 | |
| **Button Input** | - | 4 Buttons (Optional Module) | |
| | **R420** | **R423** | |
| **Case Materials** | ABS Panel Mount | Stainless Steel Flush Mount | |
| **Packing Weights** | Indicator: 1kg | Indicator: 1.2kg | |
| **Optional Mounting** | ABS desk mount<br>Stainless steel bracket for wall mounting<br>Stainless steel stand for pole or wall mounting | - | |