

# Model 600/I Universal Weight Transmitter with IBOX 2000/4

- **The practical and economic way to turn any industry standard load cell into a smart 'digital' load cell**
- **Ideal for platform scales and vessel weighing where high-integrity weighing and simple trouble shooting are critical**
- **Ultra-high 24 bit resolution (over 16 million counts) with fast 50 Hz conversion for precise weighing and dosing**
- **Built-in system diagnostics to pinpoint a damaged load cell**
- **RS232, 422 or 485 serial port with ModBus™ RTU**
- **16-bit 4-20 mA analogue output**
- **9-point linearisation compensation**
- **Optional Fieldbus connectivity with Profibus-DP, TCP/IP and more**



Model 600/I digital weight indicator

## NOVA WEIGH

Model 600/I weight transmitter with  
IBOX 2000/4

The combination of the 600/I weight transmitter and the IBOX 2000/4 is a totally new concept in industrial weighing instrumentation.

In place of the normal local junction box, each IBOX 2000/4 takes up to 4 load cell signals and each channel is digitised by a dedicated high resolution 24-bit ADC. The output of the IBOX is a serial data string (RS232 or 485 according to distance) that includes the individual weight data from each cell.

Because the 600/I receives each load cell value individually, not only is the total weight precisely calculated, but also, additionally, the 600/I automatically monitors ...

- Drift
- Connection failures
- Uneven weight distribution

The 600/I automatically scans the weight signals and provides an alarm output if a load cell error is diagnosed. A technician can use the alphanumeric display of the 600/I to view each load cell (mV and engineering units). A thorough trouble-shooting can be quickly completed without test equipment and without downtime.

The 600/I has a number of other powerful features that deliver real benefits in service ...

- Temporary load cell emulation – compensates for a damaged cell allowing system to remain in service until load cell replaced
- Digital corner adjustment – adjusts for different values detected by load cells during start-up
- The calibration match algorithm automatically trims and calibrates the scale in one pass of test weights

### Connectivity

Connectivity options include

- 4 – 20 mA
- RS232 & RS422 / 485 with Modbus
- Profibus-DP and Ethernet (options)

Note ... where a second RS485 port is required then an SC 600 serial converter can be fitted.

### Digital inputs and outputs

Two volt-free contact setpoints are provided. One of these can be configured as a setpoint, the other provides an alarm if the 600/I detects a load cell error.

Two opto-isolated inputs are fitted. These perform the functions of Zero/Tare (dependent upon mode) and Print.

## Technical Specification

600/I weight transmitter	
Display	LCD alphanumeric, black lighted, 2 x 16 character, 5 mm
Keypad	4 membrane keys, tactile feedback
Parallel inputs and outputs	Inputs: 2 opto-isolated 24 Vdc PNP (requires external power supply) Outputs: 2 volt-free NO relays (115 Vac/30 Vdc, 0.5 A)
Serial	COM1 RS232 full duplex, COM2 RS422/485 half duplex, 1,200 - 115,200 Baud selectable
Standard protocols	ASCII, ModBus™ RTU
Fieldbus (optional)	Profibus-DP and Ethernet
Analogue	Opto-isolated, 16-bit DAC 0 - 5/10 Vdc (10 K $\Omega$ min load) or 0/4 - 20 mA (300 $\Omega$ max load), linearity < 0.03% of FS
Dimensions	100 x 75 x 110 mm (w x h x d)
Power requirements	
Voltage and VA	24 Vdc +/- 15%, 10 W, provides 5 Vdc, 2 watts to the IBOX
Construction and housing	
Enclosure/mounting	ABS plastic/DIN Rail
Protection	IP54 (front panel of 600/I)
Connections	2-part terminal block, max conductor size
Environmental	
Operating temperature	-10 - +40°C
Storage temperature	-20 - +60°C
Relative humidity	85% non-condensing

IBOX 2000/4	
Channels	Four load cell channels per IBOX. Max 16-channels per system
Non-linearity	Better than +/- 0.01% of full scale
A/D type and conversion rate	24-bit, 6-updates per second
Span linearisation	9-point
Load cell circuit	5 V excitation with 6-wire connection including sense circuit. Suitable for use with zener barriers
Signal range	-1.5 mV/V to + 3.5 mV/V
Temperature effect up to 40°C	Zero < 0.0002% of FS/°C Span < 0.0003% of reading /°C
Filtering	0.1 Hz to 25 Hz selectable
Serial ports	COM1 RS232 full duplex, COM2 RS485 half duplex
Dimensions	128 x 72 x 20 mm (w x h x d) board only



Model 2000/4 IBOX shown in optional enclosure



# NOVA WEIGH



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BS EN ISO 9001:2000 Cert No: FM 11445

Nova Weigh's policy of constant product development dictates that we may alter specifications and or the appearance of our product range without notice.