VPG force sensors
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# Weight Indicator

## FEATURES

- Large six-digit LCD display (0.8 in, 21 mm)
- Built-in weighing and counting modes
- Alibi memory retains last 100k transactions
- Drives up to 10 x 350 Ω load cells (4/6 wires) or 20 × 700 Ω load cells
- Two serial ports (RS232) for printing and networking, including various serial stream formats
- Selectable standard Digital I/O with four dry-relay outputs/two opto-isolated inputs
- Standard RS 485, full duplex Interface
- Compatible with digital load cell interface
- 20 mA serial port for a remote display
- Stainless steel enclosure (IP67)
- Custom ticket printing—gross, net and setpoint format can be customized up to 300 characters and print time and date, unit ID, and consecutive ticket number
- Accumulation—weights are totaled, with armed print function
- Batching—up to eight batch steps with latched or continuous outputs for gross, net and delay setpoint. Actions include trip high or low, wait for standstill, print, accumulate and tare
- Keyed tare—preset tare value can be entered when the gross weight is at zero
- Local/remote—remote unit displays weight and transmits key press commands to the local unit
- User and operator password protection
- Audit trail tracking
- Time and date
- Plug and play ready for option card interchange

## OPTIONS

- Rechargeable battery 5.3 A/h, 18 h operation
- Analog output 0/2–10 VDC or 0/4–20 mA
- Additional digital I/O card, four dry-relay outputs/two opto-isolated inputs for setpoints and batching
- Ethernet TCP/IP and USB 2.0 board



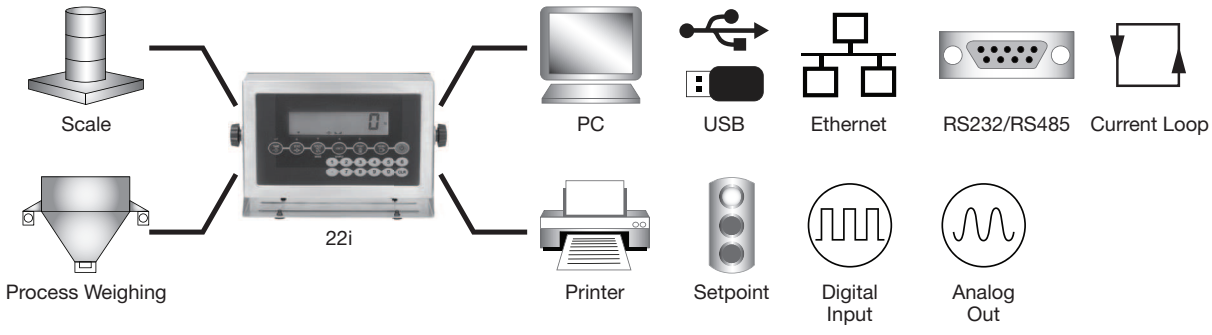
## APPLICATIONS

- Bench and floor scales
- Counting scales
- Inventory control
- Process weighing
- Truck scales
- Various industrial systems

## DESCRIPTION

The INTUITION 22i is a versatile, general-purpose weight indicator equipped with a large LCD and a wide range of industrial and commercial applications. With its bluish backlight display, the indicator is the perfect solution for a low-intensity-light environment. In addition, the unit is equipped with an optional rechargeable battery, which allows up to 42 hours of operation time.The 19-key panel enables easy operation, calibration, and setup of the instrument. Two password protection levels allow both the user and operator to access the instrument's setup and configuration menu. An integral printer interface allows easy, programmable, ticket formatting. Automatic date and time storage with the real-time clock option clearly documents all printout records. A broad range of communication interfaces allows streaming and printing in several channels.

## CONFIGURATION





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Weight Indicator

# SPECIFICATIONS

## PERFORMANCE

**Resolution**
Selectable up to 100000 dd

**Conversion Speed**
5–40 samples per second (selectable)

**Sensitivity**
0.5 µV/Vsi for approved scales,
0.1 µV/Vsi for non-approved scales

**Full Scale Range**
Up to 4 mV/V (20 mV)

**Analog Input Range**
1 mV/V–4 mV/V

**Linearity**
Within 0.01% of full scale

**Excitation**
+5 V ±0.1 VDC with sense (6 wires)

**Number of cells**
Up to 10 x 350 Ω load cells

**Filters**
Rolling average or adaptive filter (selectable)

**Offset Drift**
≤13 nV/°C

**Span Drift**
≤13 ppm/°C

**A/D Converter Type**
Sigma-Delta, ratiometric

**Count By**
x1, x2, x5, x10, x20, x50

**Decimal Point**
Between any digits of the weight display

**Calibration Methods**
Dead load and span with optional post calibration tuning of mV/V values

**Weighing Functions**
Automatic zero tracking, motion detection, overload and underload detection, auto-zero on power-up, manual zero, manual tare, preset tare, net mode, unit selection (lb/kg/oz/tn/t/g)

**Operating Modes**
Normal (weigh), piece counting, configuration setup, user menu setup, test

**Supported Applications**
Custom ticket printing, basic weighing, accumulation, batching mode (up to 8 setpoints), preset tare, local and remote

**Supported Features**
Time and date, ALIBI memory (100k weight registrations), audit trail tracking, unit ID, sleep mode with automatic wakeup

## ENVIRONMENTAL

**Operating Temperature**
–10°C to +40°C (14°F to 104°F)

**Storage Temperature**
–25°C to +70°C (–13°F to +158°F)

**Relative Humidity**
0–95% RH, non-condensing

## DISPLAY AND KEYBOARD

**Display**
6 digits, 7 segments, LCD

**Digit Height**
21 mm

**Status Enunciators**
Gross, net, center of zero, standstill, kg/primary units, lb/secondary units, counting, preset tare

**Keypads**
7-functions + 12 numeric keys (standard)

## ELECTRICAL

**Voltage**
230 VAC @ 50/60 Hz

**Current (typical)**
2 A

**Power Consumption (typical)**
11 W

**Battery Operation (Optional)**
3.7 V, 5300 mA/h internal rechargeable battery, discharge time 18 h; standby time 56 h
(1 x 350 Ω load cell, no options installed)

## DIGITAL INPUTS AND OUTPUTS

**X2 Logic Input per Board**
2 inputs, opto-isolated, up to 24 V input, active-low

**X4 Logic Output per Board**
4 outputs, dry-relay contacts, rating: 2 A, 30 VDC
(up to 2 x I/O boards can be installed)

Without removing the standard digital I/O, user can have additional digital I/O as an option making a total of 8 logic outputs (dry-relay contact) or 4 opto-isolated voltage inputs.

## SERIAL COMMUNICATION

**Serial Port 1 or 2**
RS-232, programmable

**Serial Port 3**
RS485, programmable
4/6 wires, fully isolated

**Baud Rate**
9600–19200 bps, full duplex
7/8 data bits, even/odd/none



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**Applications**
Printer output, weight output, EDP output, local-remote protocols, and continuous output, remote printer

**Ethernet Port (Optional)**
TCP/IP server and client with DHCP

**Applications**
Printer output, weight output, EDP output, continuous output, remote printer

**USB 2.0 Port (Optional)**
Host PC Device (OTG)

**Applications**
Printer output, weight output, EDP output, Load and save configuration data to flash drive

**Note: The Ethernet and USB ports are located on the same optional board.**

## ANALOG OUTPUT (OPTIONAL)

**Resolution**
16 bit DAC

**Voltage Output**
0–10 V

**Current**
0–20 mA or 4–20 mA

**Linearity**
Voltage Output: 0.01% of full scale
Current Output: 0.08% of full scale

**Offset Drift**
Voltage Output: ±2 ppm/C° of full scale
Current Output: ±3 ppm/C° of full scale

Without removing the standard digital I/O, user can have additional digital I/O as an option making a total of 8 logic outputs (dry-relay contact) or 4 opto-isolated voltage inputs

## ENCLOSURE—STAINLESS STEEL

**Dimensions (L x H x D)**
9.5 in x 6 in x 2.75 in
24 cm x 15 cm x 7 cm

**Mounting**
Tilt mount

**Protection**
IP67

**Wiring Connections**
Cable glands

## APPROVALS (ACCURACY CLASS III)

**OIML R-76**
10000d single interval
Test certificate no.TC8084

CE Marking

**Ordering Information is on next page.**



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Weight Indicator

## ORDERING INFORMATION FOR INTUITION 22i

**MOD - K - E - P - OP1 / OP2**

**MODEL**
20i = LED display

**KEYPAD**
S = With 12 numeric keyboard + 7-functions

**ENCLOSURE**
S = Stainless Steel

**POWER**
1 = 230 VAC, Europe, type F plug
2 = 230 VAC, UK, type G plug
3 = 230 VAC, India, type D plug
4 = 220 VAC, China, type I plug
5 = 115 VAC, US, type B plug

**OP1 / OP2** — See below for description

**Standard units will come with RS 485 and D I/O as default.**

**OP1 / OP2**

**OPTION CARD (OP1)***
ANA = 1 x analog output card
DIO = 1 x digital I/O card
ETU = 1 x Ethernet Kit + USB card with 4 types of cable
NC1 = No option card, not in combination of NBT

**BATTERY OPTION (OP2)**
BAT = Rechargeable battery
NBT = No battery included

***CARD OPTION RESTRICTIONS**

- Maximum of up to two option cards per device can be installed at one time.
- Option card(s) selected in this section will be shipped with the main unit, unassembled.
- See the “Spares and Components” section below for additional card purchase.

**Example Completed Part Numbers:**

22i-S-S-1-NC1-NBT is the part number for a standard, unmodified 22i indicator with the correct power option for the European region.
22i-S-S-4-ANA-BAT: unit comes with 220 VAC, China, type I plug; analog O/P card; and with battery, unassembled.
22i-S-S-2-ETU-NBT: unit comes with 230 VAC, UK, type G plug; USB card with 4 different cable types; and it does not come with a battery.

## SPARES AND COMPONENTS

**RTSP XXXX**

RTSP0070 = Bracket for option cards (supports up to two card slots)
RTSP0580 = USB and Ethernet card installation kit
RTSP0590 = Analog output card installation kit
RTSP0600 = Digital I/O card installation kit
RTSP0090 = Rechargeable battery
RTSP0870 = RS485 card installation kit



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