VPG force sensors
Celtron • Revere • Sensortronics • Tedea-Huntleigh

Weight Indicator

FEATURES

- Large six-digit LED 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



OIML

CE

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

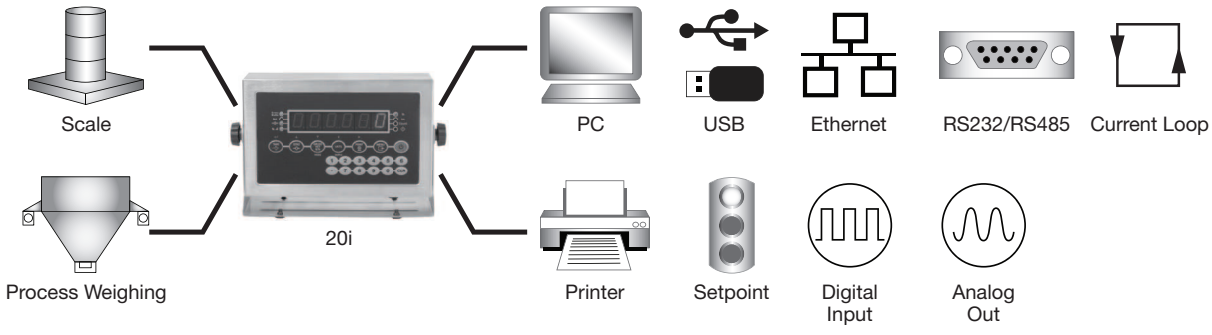
- Bench and floor scales
- Counting scales
- Inventory control
- Process weighing
- Truck scales
- Various industrial systems

DESCRIPTION

The INTUITION 20i is a versatile, general-purpose weight indicator, with a wide range of industrial and commercial applications. The seven-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, LED

Digit Height
20 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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Weight Indicator

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

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 20i

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:

20i-S-S-1-NC1-NBT is the part number for a standard, unmodified 20i indicator with the correct power option for the European region.
20i-S-S-4-ANA-BAT: unit comes with 220 VAC, China, type I plug; analog O/P card; and with battery, unassembled.
20i-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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