









21e is built to answer the needs of highly demanding applications in the aspect of transaction & data speed, number of peripheral connection, management data & security, flexibility of operation and flexibility of future expansion.

Maximum AD conversion speed up to 480 times per second plus 9 filter strength levels to meet almost all requirements from high-resolution static weighing to high-speed dynamic applications.



User definable PC output protocol means unsurpassed capability to meet all data format requirements from remote displays, production management to ERP systems.

Built-in non-resettable memory to store all details of up to 130,000+ transactions. Daily, monthly and specific period reports can be recalled and generated anytime according to your search criteria.

#### **Independently Configurable Function Modes**

- Static & Dynamic Weighing
- **Piece Counting**
- Action-Tare-Memory (ATM)
- **Peak Measuring**
- Grading and Sorting up to 10 Set Points and 8 Grades
- Checking Function for Weighing, Piece Counting, ATM, **Grading, and Sorting Function**

#### **Displays and Indications**

- 1 Primary plus 2 Secondary Displays provide Clear Information about Results, Settings, and Next Target Value of the Current Operation
- · Tri-Color Check Result Light Bars Present Pin-Point Accuracy about where and how far the Current Weight is and away from the Target Value
- · Zero, Net, Weight Unit, Memory, Lo Battery, Relay Output and Charge Status Indicators









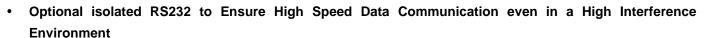
#### **Built-In Control Logic**

- Static and Dynamic Check
- Inflow and Outflow Control
- Constant Feeding
- Constant Dispensing with Auto Refilling,
- Dual Speed Filling
- Batching up to 8 Ingredients
- Dual Speed Discharge
- · Discharge and Refill
- User Programmable Logic for each and individual Relay Output



#### Connectivity

- Maximum 4 independent configurable comports.
   Maximum Baud Rate = 921600
  - ➤ Hardwire Connection Types (standard) include RS232, RS485 and TTL
  - ➤ Wireless Communication Types (optional) include Bluetooth 2.0 /4.0 and WIFI



• Optional Built-in 8-Channel Control Relay Board.

#### **Operation Features**

- Primary and Secondary Displays: -
  - ➤ Display #1: 6 x 25mm LED Numeric Digits
  - ➤ Display #2: 6 x 10mm LED Numeric Digits
  - ➤ Display #3: 6 x 10mm LED Numeric Digits
- Support Single Range, Dual Range and Dual
   Interval Operation
- Support both Tension and Compression Load / •
   Force Direction •
- Near Zero Weight Value for Dynamic Weighing to avoid False Signal Output

- Repetitive and Continuous Tare Operation
- Continuous Tare with Configurable Delay Time before Tare Action
- Real Time Clock with Backup Battery
- Watchdog System to Prevent Damages Caused by Load Cell Short-circuit.
- Configurable Tri-Color Check Result Light Bar
- Configurable Keypad, Check & System Buzzer

#### **Management Features**

- 130000+ Non-Resettable Transaction Memory
- Daily, Monthly, specific Period Report Output
- Multi Search Criteria for Report Generation
- Configurable Machine ID, Machine Group and
   Operator Number to Enhance Ease of Multi-Scales Applications and Management Records
- Customer & Product Code Input through Serial
   Scanner, Keypad or Barcode Reader
- Customer & Product Code Support Numbers, Alphabets and Selected Symbols
- Quick Access PLUs for Weight Limits, Quantity Limits and Preset Tare Values
- Direct PLUs for Customer & Product Codes
- Check Result Control for Accumulation, Data
   Printout & Data Output

- Keypad Lock Function
- Support Inquiry, Setting and Execution Commands from PC
- All Current Operation Results Output in Data Base Format Increases Ease & Efficiency of Data Management, Processing & Analysis
- Support Ticket Printer and Label Printer (Datecs LP-50 & TSC TDP-225, TDP-247, TDP-345, TTP-225, TTP-247, TTP-345)
- Selectable Portrait / Landscape Ticket Printout Format
- 10 x Built-in Predefined Continuous / Internal Output Protocol
- User Programmable Continuous / Internal Output Protocol

#### **Data Base Output Format**

	Opr	Seq	Mode	Mac	MacGp	Date	Time	Name	Pcode	Gross	Tare	Net	Low	High	Result	Total.W	Unit				
Weighing	3333	1	0	8888	77	2016/10/6	11:17:08	VNFHRUDHFLQAUMCB	12345678901234567A	12.500	5.000	7.500	4.995	5.005	Abovelimit	7.50	kg				
Weighing	3333	2	0	8888	77	2016/10/6	11:17:14	VNFHRUDHFLQAUMCB	12345678901234567A	15.000	2.500	12.500	4.995	5.005	Abovelimit	20.00	kg				
Weighing	3333	3	0	8888	77	2016/10/6	11:17:22	VNFHRUDHFLQAUMCB	12345678901234567A	15.000	5.000	10.000	4.995	5.005	Abovelimit	30.00	kg				
Weighing	3333	4	0	8888	77	2016/10/6	11:17:29	VNFHRUDHFLQAUMCB	12345678901234567A	10.000	5.000	5.000	4.995	5.005	Accept	35.00	kg				
Weighing	3333	5	0	8888	77	2016/10/6	11:17:46	VNFHRUDHFLQAUMCB	12345678901234567A	7.500	2.500	5.000	9.995	10.005	Belowlimit	40.00	kg				
Weighing	3333	6	0	8888	77	2016/10/6	11:17:50	VNFHRUDHFLQAUMCB	12345678901234567A	5.000	2.500	2.500	9.995	10.005	Belowlimit	42.50	kg				
	Opr	Seq	Mode	Mac	MacGp	Date	Time	Name	Pcode	Gross	Tare	Net	Total.W	Unit	Count	Unit.W	Unit	Low	High	Result	Total.C
Piece Count	3333	1	1	8888	77	2016/10/6	11:18:18	VNFHRUDHFLQAUMCB	12345678901234567A	5.000	2.500	2.500	2.500	kg	19999	0.12499	g	19995	20005	Accept	19999
Piece Count	3333	2	1	8888	77	2016/10/6	11:18:25	VNFHRUDHFLQAUMCB	12345678901234567A	7.500	2.500	5.000	7.500	kg	40002	0.12499	g	19995	20005	Abovelimit	60001
Piece Count	3333	3	1	8888	77	2016/10/6	11:18:31	VNFHRUDHFLQAUMCB	12345678901234567A	7.500	5.000	2.500	10.000	kg	20003	0.12499	g	19995	20005	Accept	80004
Piece Count	3333	4	1	8888	77	2016/10/6	11:18:37	VNFHRUDHFLQAUMCB	12345678901234567A	7.500	5.000	2.500	12.500	kg	20003	0.12499	g	19995	20005	Accept	100007
Piece Count	3333	5	1	8888	77	2016/10/6	11:18:43	VNFHRUDHFLQAUMCB	12345678901234567A	5.000	2.500	2.500	15.000	kg	19999	0.12499	g	19995	20005	Accept	120006
Piece Count	3333	6	1	8888	77	2016/10/6	11.18.47	VNFHRUDHFLQAUMCB	123456789012345674	7.500	2,500	5.000	20.000	kσ	40002	0.12499	σ	19995	20005	Abovelimit	160008

Database Output Content Illustration: - Weighing and Piece Count Mode

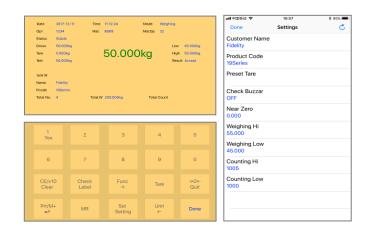
#### **Printout Formats**

Time 14:03:25	Name ASDFGHJKLQWERTYUIO	Name ASDFGHJKLQWERTYUIO
Date 2017-02-27	Pcode 123456789012345678	Pcode 123456789012345678
Seq 1	Opr 0123	Opr 0123
Name ASDFGHJKLQWERTYUIO	Mac 6666	Mac 6666
Pcode 123456789012345678	MacGp 22	MacGp 22
Net 15.000kg	D-1- 0047 00 07	D-4- 0047 00 07
Tare 0.000kg	Date 2017-02-27	Date 2017-02-27
Gross 15.000kg	Time 13:58:54	On The Not
Total 15.000kg	ا ا	Seq Time Net
	Seq Gross Net	001 14:00:17 4.999 kg
1 45.0041	001 5.000 5.000 kg	002 14:00:20 4.999 kg
High 15.001kg	002 5.000 5.000 kg	003 14:00:23 4.999 kg
Low 14.999kg	003 5.000 5.000 kg	004 14:00:27 4.999 kg
Accept	004 10.000 10.000 kg	005 14:00:30 4.999 kg
	005 10.000 10.000 kg	006 14:00:33 4.999 kg
	006 10.000 10.000 kg	006 Total 29.994 kg
	006 45.000 kg	006 Total 29.994 kg
	006 45.000 kg	Max 4.999 kg
	Max 10.000 kg	Min 4.999 kg
	Max 10.000 kg Min 5.000 kg	Diff 0.000 kg
	Diff 5.000 kg	1
	g	x 4.9990 kg Sd 0.0000 kg
	x 7.5000 kg Sd 2.7386 kg	Srel 0.0000 %
	Srel 36.5147 %	Siei
	Siei 36.3147 %	
Printout Format #2	Printout Format #4	Printout Format #5
	with Statistic Results Ouput	with Statistic Results Ouput

#### **Apps for Smart Phones & Devices**

iOS App (i19) & Android App (a19) are available for free download at App Store and Google Play respectively. Both Apps support connection via Bluetooth and WIFI.

These Apps are so powerful that actually they turn your smart devices into a handheld terminal, remote display, remote data input center and controller of your FM product connected.



#### **End User PC Software**

- Freeware Specially Created to Support End Users
- Real Time Operation Status Monitoring
- Operation Parameters Setting
- Real Time Process Monitoring
- · Individual and Totalized Record Storage
- Database File Output



#### **Options**

- Stainless Steel Wall/Desk Mount Holder
- SP-POS58IV & SP-POS88IV Thermal Ticket Printer
- LP-50, TDP-225, TTP-225, TTP-247, TTP-345 Label Printer
- Serial Barcode Reader
- WM Wireless Communication Module
- RD-DOT Dot Matrix Remote Display
- Bluetooth 4.0BLE Module
- Bluetooth 2.0 Module
- Isolated RS232
- Built-in 8-Channel Control Relay Board (Factory Installation)
- WIFI Module
- DPP-250 Bluetooth Thermal Printer



#### **Specifications**

Capacity and Readability	Free Setting				
Weighing Range	Single Range, Dual Interval				
Weight Units	kg, g, lb				
Displays	<ul> <li>Display #1: - 6 x 25mm LED Numeric Digits</li> <li>Display #2: - 6 x 10mm LED Numeric Digits</li> <li>Display #3: - 6 x 10mm LED Numeric Digits</li> </ul>				
Load Cell Connection	<ul> <li>Excitation Voltage = 5V DC</li> <li>Support both 4-wire &amp; 6-wire Load Cells</li> <li>Maximum Load Cell Connection = 10 x 350Ω or 20 x 700Ω Load Cells</li> <li>Maximum Load Cell Rated Output 4mV/V</li> </ul>				
A/D Converter & Internal Resolution	<ul> <li>24 bit Low-Noise Delta to Sigma (Δ-Σ)</li> <li>3.200,000 Counts at 15 mV</li> <li>Minimum input per d = 0.05μV</li> </ul>				
AD Conversion Speed	15, 30, 60, 120, 240, 480 times/second Selectable				
Max. Tare Range	<ul> <li>-Max for Single Weighing Interval or</li> <li>-Max₁ (Subtractive Tare)</li> </ul>				
Calibration Methods	<ul> <li>2 Span Points Calibration (Linearity Calibration), or</li> <li>1 Span Point Calibration, or</li> <li>Numeric Calibration Through Keyboard</li> </ul>				
Power Source	<ul> <li>Built-in Rechargeable Battery = 6V, 4AH</li> <li>External Power Adaptor = DC 12V, 1A</li> </ul>				
Accessories	Pillar Mount Holder (ψ35~38mm), Built-in Rechargeable Battery, Universal Power Adaptor, Dust Cover				
Packing	Individually Packed  • Dimensions = 36 x 32 x 16cm. Net / Gross = 2.35 / 2.85kg 6 Units in Shipping Carton • Dimensions = 102 x 35 x 35cm. Net / Gross = 17.00/ 18.50kg				
Operation Environment	-10 ~ 40°C. Non-condensed. R.H.≦ 85%				

In the interest of improvement, specifications may change prior to notice