

Performance

Resolution	100,000# (+/-500,000 internal)
A/D Conversion	60 Hz
Flash Memory	512k Bytes
Calibration	Selectable, 5 point linearization or enter L.C. mV/V F.S.
A/D Filtering	GSE FIR (Finite Input Response) Filter with selectable display update rate
Units of Measure	4 user defined per scale
Custom Units	2 user defined per scale (ie. Tons)
Zero Adjustment	Selectable, 0.01 – 100% F.S.
Span Adjustment	0.1 – 20mV/V
Non-Linearity	0.005%FS, L.C. Dependent
Operating Temp	-10°C - +40°C
Excitation Power	12 – 350 ohm bridges
Input Signal Connect	4 or 6 conductors with sense leads
Excitation Current	350 mA, short circuit protected
Excitation Voltage	10VDC short circuit protected
Time/Date Clock	Volatile, battery backed optional
Warranty	2 Year Limited

Electrical

Power Input	AC, 90 - 250VAC, 50/60Hz
	DC, 10 - 32VDC
Fuse	0.5A 3A-Blow (when using AC power)

Setpoint I/O

I/O Scan Rate	16ms maximum
Number of I/O	8 maximum physical, optional 16 Total (8 physical, 8 logical)
Output Voltage Rating	20 – 240 VAC @1A 30 – 60 VAC @2A
Input Voltage Rating	60 – 135 VAC 200 – 250 VAC 3 – 30 VDC
I/O Timer Resolution	10ms
Remote Contact Input	2 total for TARE, PRINT, START, STOP, etc. invokes macros 6 & 7 if programmed.

Communications

Part 1	RS232 Full Duplex or RS485 Multi-drop optional or 20mA Current Loop optional
Part 2	RS232 Full Duplex, no RTS on COMM 2
Protocols	Modbus™
Baud Rates	150 – 58,300K bps
Custom Transmit Tables	4 - user defined RS-232 output tables
Input Interpreter Tables	15 - user defined RS-232 input tables

Options and Accessories

Note: 1 serial bus module[SBM] and 1 communication module mount internal to the enclosure.

- **Multi-Scale Module™** – allows for simultaneous monitoring of an additional signal input
- **Analog Output Module™** – isolated 16-bit signal output, 0-10VDC, 0-20mA or 4-20mA, software set, zero/gain (2 analog modules max)
- **I/O Relay Module™** – 8 Variations of Quad I/O boards. JAC & DC – 4 Output, 4 Input or 2 In / 2 Out
- **RS485 Module** – isolated serial communication module replaces RS232 on Part 1, multi-drop with 251 devices max, half or full duplex up to 4000 feet, 56K bps max
- **20mA Current Loop** – isolated serial communication module replaces RS232 on Part 1, TX-Active or Passive, RX-Passive, 9600 bps max, 12 VDC, 1000 foot loop
- **Alpha Keyboard** – allows alpha character entry into data registers such as Product Name, Part Number, etc.
- **Dura-Shield** – 0.020" layer of weatherable film lexan with adhesive backing, applied to the front of the indicator, keeps display and keypad clean in extreme environments
- **GSE ReFlash Software** – download firmware enhancements via RS232 port
- **BDM Flash Software** – download firmware enhancements via BDM port

Additional Features Common to 460/465

- **Macros** – 15 programmable macros, applies the principles of boolean logic in a sequential structure, provides a method of performing repetitive keystrokes and operations, simplifies indicator use by automating indicator operation
- **Database** – 15 programmable databases are used to manage critical application data, this powerful feature stores weight information and other user defined Data Registers such as part numbers, formulas, etc., 18 functions include store, recall, sort, upload
- **Data Registers** – 15 programmable data registers can be defined as an integer, readable integer, float or string, common data registers include part number, lot #, Operator ID, commodity code, etc.
- **Communications** – a factory default transmission will send: Gross, net and tare weights. Using the Custom Transmit Tables, other transmissions may be programmed to send weight data, Data Registers or ASCII control codes for application specific labels, reports, etc.
- **Input Interpreter Tables** are programmed to receive RS232 serial data and perform a specific task, ie. a bar code scanner scans a formula #, the data is received into an input interpreter table and invokes a macro that recalls target weights
- **Enclosure** – NEMA 4X (IP66), stainless steel
- **Display** – bright 6 digit .75" (20.3mm) Vacuum Fluorescent (VFD) with 2x5 (10 character) dot matrix for scale status and operator prompting
- **Remote Display Mode** – allows any GSE 60 series indicator to operate as a remote display (slave device), keypad can be enabled or disabled
- **Checkweigh** – set target weight(s) and tolerances, indicator identifies out of specification weighments, database can be utilized to quickly recall product target weights and tolerances
- **Batching** – Single Speed: 1-8 ingredients with Pre-Act. Two Speed: 1-4 ingredients with dribble

Model 460 Indicator

- **Keypad** – 5 key, durable elastomeric (rubber)
- **Size** – 11.01" W (27.98cm) x 7.24" H (18.39cm)
- **Weight** – 6.5 lb (2.95kg)

Model 465 Indicator

- **Keypad** – 22 key, durable elastomeric (rubber)
- **Size** – 11.01" W (27.98cm) x 8.96" H (22.76cm)
- **Weight** – 7 lb (3.18kg)
- **Truck Weighing** – truck weigh in/out routine provides a minimum 200 truck ID's, additional truck routines may be programmed per requirements.
- **Average Piece Weight (APW) Recall** – key in a part number and recall the associated APW for quick, efficient parts counting, provides storage of a minimum 200 APW's