

UNIPULSE CORPORATION

F701 Weighing Controller

F701 is suitable for Hopper scale, Packing scale, Check-weighing and Batching systems. Full digital front panel calibration, High speed A/D Conversion rate and powerful digital processing capabilities of 100 times/sec. allow top speed and accuracy for your applications.

Self-Check function and Watch-Dog in CPU, ROM and internal circuit ensure excellent reliability. Typical set-point processing includes three-gate feed and discharge gate controls (Feed/ Discharge control function). Automatic free fall compensation constantly updates the free fall value for greater filling accuracy.

Numeric keyboard for Tare and Set-point entry, Key entry protection. Two(2) Zero, Span adjustment ranges, two(2) types of gain can be selected according to the output of load cell.

Unipulse standard 2-wire serial interface SI/F for connecting Unipulse printer and remote displays. Printer could print daily, monthly report with each necessary items, remote displays could display Gross, Net, Tare weight and Accumulated value. Option BCD output, RS-232C communication interface, RS-485 communication interface, D/A Converter and Set-point interface.



Specifications

1. Analog

Load cell excitation	DC 10 +/-5%
Load cell current	120mA (4-350 ohm load cells)
Load cell cabling	4-wire standard 6-wire with remote sensing

Zero adjustment range	0-1.5 mV/V for HI gain, 0-3.0 V/V for Low gain (digital adjustment) Input of approx. 0.5 mV/V or 1.0 mV/V
Span adjustment range	Selectable adjust to zero by dip switch on the rear panel 0.5-1.5 mV/V for HI gain, 1.0-3.0 mV/V for LOW gain (digital adjustment) 2 types gain selectable according to the output of load cell
Non-linearity	within 0.01%FS
Analog filter	Bessel type low-pass filter (-12dB/oct.) 2,4,6,8 Hz selectable
Conversion rate	100 times/sec. (10mS)
Display resolution	1/10,000 (Legal for Trade), 1/40,000 expanded
Secondary Calibration	Secondary calibration be carried out without actual load, just connecting a resistor to one of the bridges
2. Display	
Display	Original Vacuum Fluorescent Display
Figure display	Seven(7) digits, 18.5mm (0.73 inch) high
Weighing value display	5 digits, Plus/Minus sign in
Decimal point	Configurable to 0, 0.0, 0.00, 0.000
Scale capacity	5 digit (up to 99999)
Min. scale division	1 to 100 selectable
Over-scale display	Input of A/D conversion overflow/ Net weight over the set net value/ Gross weight over the set gross value/
Center zero	'→ 0 ←' turns on when the displayed value is at the center of zero (0+/-1/4 scale).
Unit	Selectable lb, N, g, kg, t none
Status display	Indicated by fixed character display. SP3/ SP2/ SP1/ LOCK/ ZT/ ZALM/ STAB/ TARE/ NET/ GROSS/ HI LIM/ HI/ GO/ LO/ LO LIM/ HOLD/ NZ
3. Setting	
Setting method	Keyboard operation (with key click buzzer) or setting through the host computer by RS-232C (option)
Memory of set values	Initial set values: NOV RAM (Non-volatile RAM) Other set values: C-MOS RAM backup by a lithium battery (Effective more than 7 years, depending on operating conditions)
Protections of set values (LOCK)	Set values and calibration can be protected from MIS-operation
4. External I/O Signal	
Input signals (8)	Signals are input by shorting or opening Input and COM terminals. Gross/ Net, Digital Zero ON, Tare Subtraction ON, Tare Subtraction OFF, Hold/ Judgment, Feed/ Discharge, Start and Stop
Output Signals (12)	The output signal circuit is an open-collector output of a transistor. Near Zero, SP1, SP2, SP3, Under, Over, Lower Limit, Upper Limit, Stable, Weight error/ Sequence error, Go/ Complete, Run

Connector pin assignment

Adaptable plug: DDK 57-30240 (attached to the F701) or its equivalent

1	*	COM	13	*	COM
2	in	G/N	14	in	Hold or Judgement
3	in	D/Z ON	15	in	Feed/Discharge
4	in	Tare Subtraction ON	16	in	Start *1
5	in	Tare Subtraction OFF	17	in	Stop *1
6	out	Near Zero	18	out	Lower limit
7	out	SP1	19	out	Upper Limit
8	out	SP2	20	out	Stable
9	out	SP3	21	out	Weight Error or Sequence Error *2
10	out	Under	22	out	Go or Complete *2
11	out	Over	23	out	RUN
12	*	COM	24	*	COM

5. Interface

2- wire serial interface (SI/F) Connects Controller to printer and remote displays (up to 3 units).

Interface for the set point (SP1) Interface for inputting set values for feeding/ discharging via digital switches.

(Option)

BCD parallel data output interface Transmits weight data to a PLC or other BCD devices.

(BCO) (Option)

RS-232 communication interface Weight data, status and set values can be written or read by a host computer.
(232) (Option)

RS-485 communication interface Addressable serial communication for connecting several units
(485) (Option) Transmission distance: is longer than RS-232C.

D/A converter (DAC) Weight data converted to an analog signal (voltage or current)
(Option)

6. General Specifications

Power voltage AC100V, 120V, 200V, or 220V +10%, -15% selectable 50/60Hz

Power consumption 15VA

Environment Operating temperature: -10 to +40D. Celsius

Storage temperature: -20to +85D. Celsius

Humidity: 85%RH max. (non-condensing)

Dimension 192W x96H x 150D mm (7.56W x 3.78H x 6.30D inch)

Panel cutout size 186W x 92H x +0.5/-0 mm (7.32W x 3.62H +0.02/-0 inch)

Weight Approx. 2.2kg (4.85 lb)