AD-4401

High Performance Weighing/Batching Indicator

Performance Plus!

High Speed - High Accuracy - Fail Safe Operation

Fuzzy Logic

ISO 9000 CERTIFIED

A&D ...Clearly a Better Value

A&D Company, Limited

http://www.aandd.jp

AD-4401

Fuzzy Logic

High Performance Weighing/Batching Indicator

For batching, loss-in-weight, check weig or simple static weighing.

Features

- 100 times/sec. High Speed Sampling.
- High display resolution to 16,000 counts.
- Up to1 million counts of A/D resolution.
- Monitor & control weighing and batching with external or internal resolution.
- Fuzzy and Automatic Free Fall Compensation (AFFC) for consistently accurate batching results.
- Enter control setpoints through front keys or remotely through external thumbwheels.
- Automatic weight and/or count accumulation.
- Sub display provides feedback on all setpoints & simplifies calibration.
- Supplementary flow function assures accurate performance on each batch.
- A host of communications capabilities:
  RS-232C, RS-422/485, BCD, analog output and standard 4-20mA Current Loop.
- Connect up to 10 AD-4401's with A&D's RS-422/485.
- Compact DIN size housing speeds installation & reduces space.
- Digital Span Calibration enhances technical support and difficult installations.
- Splash proof front panel and keys (IP-65).
- High sensitivity 0.3μV/d for more accurate measurements.
- Automatic batching and customer programming capability.
- Bright, clear fluorescent displays.
- Hold and peak hold functions.
- User programmed timer settings and alarms improve operational safety & performance.
- Weigh-In and Loss-in-Weight batching.

System Self-Diagnostics

The most important factor in the installation of any weighing or controlling system is to assure that all cables, I/O connections and options are set up and working correctly. This can be very time consuming and difficult, adding to the expense of the installation. The AD-4401 solves this problem by providing System Self-Diagnostics that can check:

- All installed options
- All I/O connections (without the need for test equipment)
- Setpoint connections
- Control keys
- A/D converter input value

Superior Free-Fall Control

The type of material being batched, ambient temperature, flow rate, consistency of the material, and many other factors impact the accuracy of any batching process. The AD-4401 provides two types of free fall compensation which may be selected according to batching conditions. Fuzzy Free Fall Compensation is particularly effective in batching inconsistent material, such as sand with stones; honey, whose flow rate changes according to ambient temperature; and flour, which is susceptible to sticking to the sides of the discharge gate.

High performance A/D converter

New Sigma Delta A/D converter IC provides high speed, high resolution and high sensitivity in a very small package, that saves space, reduces parts and lowers cost.

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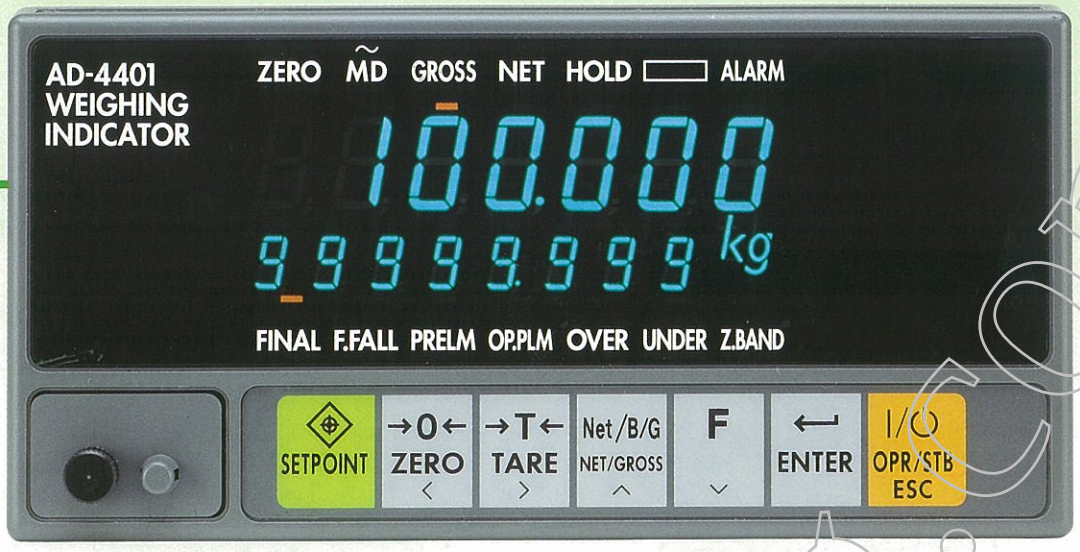
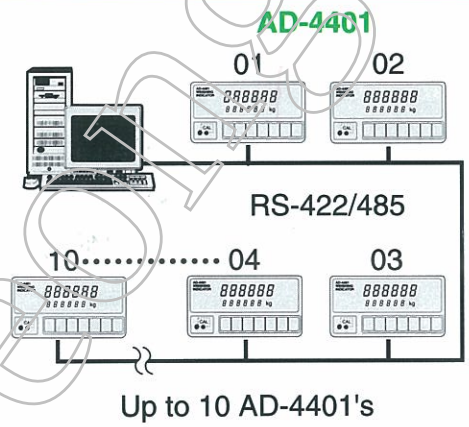


Customer programmable Control I/O Pins and "F" function key

Each batching installation has different control I/O requirements. The AD-4401 adapts to these requirements by allowing the programming of each of its Control I/O pins. The user may assign up to 6 input functions from a selection of 14, including: Zero, Tare, Batch Start, Emergency Stop, Discharge Start, Clear Tare, Accumulation, Hold and others. Up to 8 output functions from a selection of 16 may also be selected, including: Zero Band, Under & Over Limits, Full-Medium-Dribble Flow, Discharge Gate Open, Batch Finish and others.
Additionally, the programmable "F" function key on the front key pad of the AD-4401 may be programmed for special operation, including: Manual Print, Hold, Batch Start, Emergency Stop, Clear to Zero, Clear Tare or Clear Total. (The U.S. version may be programmed for lb/kg conversion).

Eight Modes of Weighing/Batching Programs are available for:

- Weigh-in Batching
- Loss-in-Weight Batching
- Check Weighing



Sub Displays

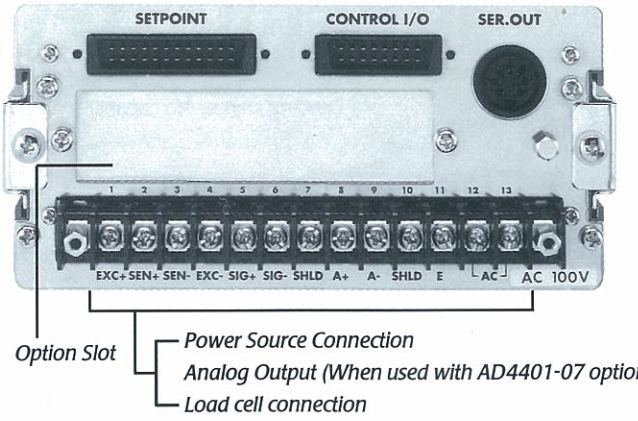
Tare, Final weight, Accumulated weight, Count of measurements, plus Calibration settings.

Rear Panel View

Standard Serial Output:
20mA current loop output to A&D's peripheral device

Setpoint:
Changes settings of each comparison value using a thumbwheel or AD4401-05 Setpoint unit

User Defined Control I/O Pins:
Select 6 of 14 control input commands
Select 8 of 16 control output commands



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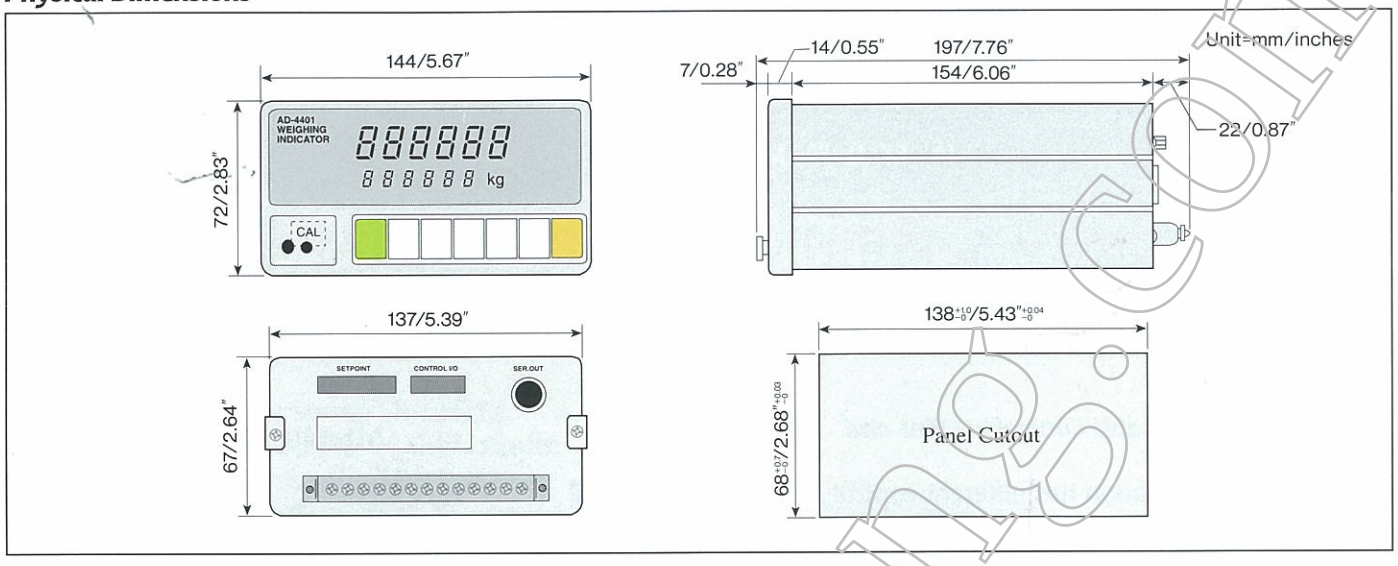
High Performance Weighing/Batching Indicator

Physical Dimensions



Specifications

ANALOG INPUT AND A/D CONVERSION

Input Sensitivity	Greater than 0.3μV/d
ZERO Adjustment Range	−0.0mV~+20mV
Load Cell Excitation	10V DC ±5% 230mA, Remote Sensing (Up to 8 load cells at 350/load cell)
Zero Temperature Coefficient	±(0.2μV+0.0008% of dead load)/°C
Span Temperature Coefficient	8ppm/°C of reading
Non-Linearity	0.01% of full scale
Input Noise	±0.3μVp-p
Input Impedance	10M(Min.)
A/D Conversion Method	Sigma Delta
A/D Resolution	1,000,000. counts(Max.)
A/D Conversion Rate	Approximately 100 times/second

DIGITAL SECTION

Main Display	7-segment, 7-digit 13mm(H) blue fluorescent, Displays the weight
Sub Display	7-segment, 8-digit 7mm(H) blue fluorescent, Displays Tare, Final weight, Accumulated weight, Count of measurements
Display Resolution	16000D
Minimum Division	Times 1, ×2, ×5, ×10, ×20, ×50
Maximum Display	"999950"
Under ZERO Indication	"−" minus sign
Annunciators	
Keys	Setpoint, Zero, Tare, Net/Gross, Enter, OPR/STB, F, CAL
Programmable "F" Keys	Select one: Emergency Stop, Clear to zero, Clear tare, Clear total, Manual Print, Hold, Loading start or No capability

GENERAL

Power	85~132V AC or 170~264V AC 50/60Hz
Net Weight	Approximately 1.3kg(2.7 lb)
Operating Temperature	−5°C~40°C(23°F~104°F)
Storage Temperature	−15°C~70°C(−5°F~158°F)
Operating Humidity	Less than 85% RH(non-Condensing)
Physical Dimensions	144(W) × 72(H) × 197(D) mm 5.67(W) × 2.83(H) × 7.76(D) inches
Panel Cutout Dimensions	138+1.0/−0(W) × 68+0.7/−0(H) mm 5.43+0.04/−0(W) × 2.68+0.03/−0(H)inches
Memory Battery Backup	Lithium over six years without AC power
Standard Accessories	Manual, Fuse, Sticker, Serial Connector, Load cell connector, Rubber foot, Terminal cover

Options

OP-01	Parallel BCD Output (Open Collector)
OP-03	Serial Interface RS-422/485
OP-04	Serial Interface RS-232C
OP-05	Setpoint Unit
OP-07	Analog Output(4~20mA)

Only one can be selected from 01, 03, or 04.

Specifications subject to change for improvement without notice.

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