The AD-4961 consists of four units: infeed conveyor unit, weighing conveyor unit, control unit and base unit, allowing fast and simple assembly.

In the case of system shutdown, no need to wait for a service engineer to respond to the issue—simply replace the unresponsive module to shorten system downtime and maximize production efficiency.

With its modular structure, the AD-4961 allows for rapid and simple installation or relocation.

Protected from dust and water to IP65 standards. Hygienic design with the entire system washable.

Product images can be quickly uploaded to the checkweigher from a USB flash drive, making product identification and uploading fast and simple.

The display utilizes a high visibility touch panel color LCD with user friendly Graphic User Interface (audio guidance support function included).

With a newly developed digital load cell and an ultra-high speed processing module, high level precision of 0.08g (3σ)*1 has been realized. With this high accuracy checkweigher, you can minimize the giveaway of materials above the specified weight and contribute to reductions in production costs.

With its modular structure, the AD-4961 allows for rapid and simple installation or relocation.

*1 For AD-4961-2KD-2035, accuracies depend on product shape / condition and installation positioning.
By inputting throughput (products per minute) or belt speed (m/min), optimal weighing conditions can be automatically set, allowing for precision weighing without inputting various settings.

**New functions**

**1. Feedback control**

This function outputs the difference from the target value in filling and packing machines when there is a difference between the target and actual values (pulse width output method using DO output and zone output method using multiple DO outputs).

**2. Weighing Mode**

Addtion of Optimal Mode

Optimal mode extends the sampling time to ensure accuracy.

This mode is effective for measurement of small, light products and long (dimension) products.

Note: The judgment timer is extended leading to a throughput that is lower than standard judgment processing.

Additionally, rejection processing may not be received in time due to delayed judgment output of rejectors connected at subsequent stages.

**3. Target weight tracking**

The target weight tracking function calculates a moving average for weighing values and sets a new target value based on the target, high limit and lower limit values and the settings for the target weight tracking. This function allows the checkweigher to perform checkweighing while tracking changes in weight of the products. Select “Enable” to use the target weight tracking function.

**4. Reject confirmation**

Reject confirmation is a function for monitoring products using a photosensor that is attached to the ending side of the flow, such as the passing or discharging side of a rejector. Allows users to check for errors in which products other than those specified pass as OK.

**5. DO (Digital Output) additional features**

Consecutive Fail, Error Output, Total Number Count, Conforming Item Count

Bin Full, Reject Confirmation

**6. DI (Digital Input) additional features**

Air Pressure Error, Bin Full, Emergency Stop, Reject Confirmation

**7. Dump Printing**

Print raw data summary results or statistical data on an RS-232C connected printer capable of dump printing (such as the AD-8126).

Print the raw summary data or weighing data from processing small numbers (approximately 100pcs/min or less).

Data can be sent to a serial connected computer if desired.

**8. Serial connection**

Weighing results transmitted by RS-232C after each measurement.
**Operational history**

The history of configuration changes can be recorded and displayed. Suitable for use in HACCP programs along with the weighing history function.

Users can be registered and their scope of permitted operations controlled according to 4 management levels.

- [Operator]
- [Supervisor]
- [Quality Manager]
- [Administrator]

By assigning each user to the appropriate level of access, inadvertent operations can be avoided.*2

*2 "Operator" is set when the power is turned on.

**Weighing history**

Weighing results are automatically recorded in a USB flash drive during weighing.

Output data: date, time, group product number, weight data and judgments.

**Weighing history output example:**

- 2016/10/3, 19:45:56, 54, 01–001, 150.1, Over
- 2016/10/3, 19:46:00, 58, 01–001, 70.5, Under
- 2016/10/3, 19:46:04, 52, 01–001, 0.0, Detect Two
- 2016/10/3, 19:46:08, 56, 01–001, 0.0, Unsplit
- 2016/10/3, 19:46:12, 60, 01–001, 100.5, Metal
- 2016/10/3, 19:46:16, 54, 01–001, 105.1, Ext 1
- 2016/10/3, 19:46:20, 78, 01–001, 95.5, Ext 2

Only USB memory formatted in FAT32 can be used.

The weighing history that is outputted to the USB memory is saved in the memory root in CSV format.

**USB memory**

- Approx. 6MB memory size is required for 8 hours operation at the maximum throughput (320pcs/min.)
- Approx. 7GB memory size is required for 24 hours 365 days operation.

*USB Flash Drive not included.

**Modbus**

Equipped with Modbus RTU/Modbus TCP as standard.

With Modbus communication, seamless connection can be easily achieved.

Operations such as stop and start weighing, collecting data and changing product can all be set from an external device.

**Various inputs/outputs**

Rejector output, alarm output, metal detector input, RS-232C, TCP/IP and USB interfaces are equipped as standard.

Storing data in a USB flash drive or outputting to a printer are also possible.

**Ethernet based printer**

Histogram, X/R control charts and summary reports can be outputted to a PostScript printer via Ethernet.

**Data summary**

Various summary data such as histograms (frequency including defects), X charts, R charts, total summaries, and others are available.

You can visually confirm fluctuation of weighing results and adjust your manufacturing machine accordingly.
After weighing, press the PDF key on the summary display. A PDF report is outputted to a USB flash drive. The same reports can be printed out by pressing the PRINT key when a PostScript printer is connected to the checkweigher.

Weighing history and operation history are stored in a USB flash drive. You can also output histogram, X/R control charts or summary data to a USB flash drive in PDF format. A USB flash drive needs to be inserted before weighing.

*USB Flash Drive not included.
Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>AD-4961-600-1224</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity</td>
<td>600g</td>
</tr>
<tr>
<td>Resolution</td>
<td>0.01g</td>
</tr>
<tr>
<td>Accuracy (3σ)*1</td>
<td>0.08g</td>
</tr>
<tr>
<td>Max. throughput</td>
<td>400pcs/min</td>
</tr>
<tr>
<td>Conveyor belt width</td>
<td>120mm</td>
</tr>
<tr>
<td>Conveyor length</td>
<td>Weighing: 240mm</td>
</tr>
<tr>
<td></td>
<td>Infeed: 360mm</td>
</tr>
<tr>
<td>Transport medium</td>
<td>Urethane belt</td>
</tr>
<tr>
<td>Max. product dimensions</td>
<td>Length:22 to 200mm, Width: 120mm</td>
</tr>
<tr>
<td>Weighing sensor</td>
<td>Strain gauge load cell</td>
</tr>
<tr>
<td>Display</td>
<td>7inch touch panel color display (WVGA)</td>
</tr>
<tr>
<td>Operation method</td>
<td>Touch panel (resistive film type), operation buttons</td>
</tr>
<tr>
<td>Number of recorded items</td>
<td>1,000 items (10 groups x 100 items)</td>
</tr>
<tr>
<td>Communication functions</td>
<td>Modbus TCP / Modbus RTU / RS-232C/485 (selectable) / TCP/IP (PostScript printer) / USB (for PostScript printer, USB memory, data storage, image import use)*3</td>
</tr>
<tr>
<td>External input</td>
<td>Non-voltage contact input 4 points</td>
</tr>
<tr>
<td>External output</td>
<td>Relay output 8 points</td>
</tr>
<tr>
<td>Dust/water resistance specifications</td>
<td>IP65</td>
</tr>
<tr>
<td>Operation temperature/humidity range</td>
<td>−5 to 40°C/humidity below 85% (with no condensation)</td>
</tr>
<tr>
<td>Power supply*4</td>
<td>Single phase AC100 to 240V (+10% / -15%), 50/60Hz 180VA</td>
</tr>
<tr>
<td>External dimensions*2</td>
<td>Length: 700mm / Width: 660mm / Height: 710 to 860mm</td>
</tr>
<tr>
<td>Weight*2</td>
<td>Approx. 35kg</td>
</tr>
<tr>
<td>Material</td>
<td>Display: ABS resin</td>
</tr>
<tr>
<td></td>
<td>Conveyor unit: Aluminum (alumite coating) and PP resin</td>
</tr>
<tr>
<td></td>
<td>Control box: Stainless steel</td>
</tr>
<tr>
<td></td>
<td>Base unit: Stainless steel</td>
</tr>
</tbody>
</table>

*1 Depends on the shape and the condition of the product and installation environment.
*2 Values for external dimensions and weight are for the standard condition without rejector.
*3 USB memory must be formatted to FAT32.
*4 Please prepare a φ4-7mm power cable.

AD-4961-600-1224
with optional display stand, tower light, anti-static breeze break and air jet rejector

Anti-static breeze break
for AD-4961-600-1224
AD-4961-11-1224
Length: 320mm, Width: 263mm
Three stage pass height adjustable: 60mm, 105mm, and 150mm
Material: PVC anti-static plate

Air jet rejector
for AD-4961-600-1224
AD-4984-1246

Three-way rejection (two air nozzles)
Screening capability: 400pcs/min.
Please prepare an air compressor with a φ10mm air tube for connection to the filter regulator of the rejector.
Air supply: 0.5Mpa, 2.6NL/time
### Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>AD-4961-2KD-2035</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity</td>
<td>2,000g</td>
</tr>
<tr>
<td>Resolution</td>
<td>0.01g/0.1g</td>
</tr>
<tr>
<td>Accuracy (3σ)*1</td>
<td>0.08g/0.18g</td>
</tr>
<tr>
<td>Max. throughput</td>
<td>320pcs/min</td>
</tr>
<tr>
<td>Conveyor belt width</td>
<td>200mm</td>
</tr>
<tr>
<td>Conveyor length</td>
<td>350mm</td>
</tr>
<tr>
<td>Transport medium</td>
<td>Urethane belt</td>
</tr>
<tr>
<td>Conveyor belt speed</td>
<td>15 to 120m/min</td>
</tr>
<tr>
<td>Max. product dimensions</td>
<td>Length: 30 to 300mm Width: 200mm</td>
</tr>
<tr>
<td>Weighing sensor</td>
<td>Strain gauge load cell</td>
</tr>
<tr>
<td>Display</td>
<td>7inch touch panel color display (WVGA)</td>
</tr>
<tr>
<td>Operation method</td>
<td>Touch panel (resistive film type), operation buttons</td>
</tr>
<tr>
<td>Number of recorded items</td>
<td>1,000 items (10 groups x 100 items)</td>
</tr>
<tr>
<td>Communication functions</td>
<td>Modbus TCP/Modbus RTU/RS-232C/485 (selectable) / TCP/IP (PostScript printer) / USB (for PostScript printer, USB memory, data storage, image import use) 3</td>
</tr>
<tr>
<td>External input</td>
<td>Non-voltage contact input 4 points</td>
</tr>
<tr>
<td>External output</td>
<td>Relay output 8 points</td>
</tr>
<tr>
<td>Dust/water resistance specifications</td>
<td>IP65</td>
</tr>
<tr>
<td>Operation temperature/humidity range</td>
<td>-5 to 40°C / humidity below 85% (with no condensation)</td>
</tr>
<tr>
<td>Power supply *4</td>
<td>Single phase AC100 to 240V (+10% / -15%), 50/60Hz 180VA</td>
</tr>
<tr>
<td>External dimensions *2</td>
<td>Length: 700mm / Width: 660mm / Height: 710 to 860mm</td>
</tr>
<tr>
<td>Weight *2</td>
<td>Approx. 35kg</td>
</tr>
<tr>
<td>Material</td>
<td>Display : ABS resin</td>
</tr>
<tr>
<td></td>
<td>Conveyor unit : Aluminum (alumite coating) and PP resin</td>
</tr>
<tr>
<td></td>
<td>Control box : Stainless steel</td>
</tr>
<tr>
<td></td>
<td>Base unit : Stainless steel</td>
</tr>
</tbody>
</table>

1*1 Depends on the shape and the condition of the product and installation environment.
2*2 Values for external dimensions and weight are for the standard condition without rejector.
3*3 USB memory must be formatted to FAT32.
4*4 Please prepare a φ4-7mm power cable.

---

**AD-4961-2KD-2035 External Dimensions**

**AD-4984-2046 External Dimensions**

**Air jet rejector for AD-4961-2KD-2035 AD-4984-2046**

Three-way rejection (two air nozzles) Screening capability: 320pcs/min. Please prepare an air compressor with a 10mm air tube for connection to the filter regulator of the rejector. Air supply: 0.5Mpa, 2.6NL/time
### Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
<td>AD-4961-6K-3050</td>
</tr>
<tr>
<td><strong>Capacity</strong></td>
<td>6,000g</td>
</tr>
<tr>
<td><strong>Resolution</strong></td>
<td>0.1g</td>
</tr>
<tr>
<td><strong>Accuracy (3σ)</strong></td>
<td>1.0g</td>
</tr>
<tr>
<td><strong>Max. throughput</strong></td>
<td>145pcs/min</td>
</tr>
<tr>
<td><strong>Conveyor belt width</strong></td>
<td>300mm</td>
</tr>
<tr>
<td><strong>Conveyor belt speed</strong></td>
<td>10 to 80m/min</td>
</tr>
<tr>
<td><strong>Max. product dimensions</strong></td>
<td>Length: 80 to 450mm Width: 300mm</td>
</tr>
<tr>
<td><strong>Weighing sensor</strong></td>
<td>Strain gauge load cell</td>
</tr>
<tr>
<td><strong>Display</strong></td>
<td>7-inch touch panel color display (WVGA)</td>
</tr>
<tr>
<td><strong>Operation method</strong></td>
<td>Touch panel (resistive film type), operation buttons</td>
</tr>
<tr>
<td><strong>Number of recorded items</strong></td>
<td>1,000 items (10 groups x 100 items)</td>
</tr>
<tr>
<td><strong>Communication functions</strong></td>
<td>Modbus TCP / Modbus RTU / RS-232C / RS-485 (selectable) / TCP/IP (PostScript printer) / USB (for PostScript printer, USB memory, data storage, image import use)</td>
</tr>
<tr>
<td><strong>External input</strong></td>
<td>Non-voltage contact input 4 points</td>
</tr>
<tr>
<td><strong>External output</strong></td>
<td>Relay output 8 points</td>
</tr>
<tr>
<td><strong>Dust/water resistance specifications</strong></td>
<td>IP65</td>
</tr>
<tr>
<td><strong>Operation temperature/humidity range</strong></td>
<td>-5 to 40°C / humidity below 85% (with no condensation)</td>
</tr>
<tr>
<td><strong>Power supply</strong></td>
<td>Single phase AC100 to 240V (+10% / -15%), 50/60Hz 180VA</td>
</tr>
<tr>
<td><strong>External dimensions</strong></td>
<td>Length: 1005mm Width: 736mm Height: 720 to 870mm</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>Approx. 50kg</td>
</tr>
<tr>
<td><strong>Material</strong></td>
<td>Display: ABS resin</td>
</tr>
<tr>
<td></td>
<td>Conveyor unit: Aluminum (alumite coating) and PP resin</td>
</tr>
<tr>
<td></td>
<td>Control box: Stainless steel</td>
</tr>
<tr>
<td></td>
<td>Base unit: Stainless steel</td>
</tr>
</tbody>
</table>

*1 Depends on the shape and the condition of the product and installation environment.
*2 Values for external dimensions and weight are for the standard condition without rejector.
*3 USB memory must be formatted to FAT32.
*4 Please prepare a φ4-7mm power cable.

---

**AD-4961-6K-3050 External Dimensions**

AD-4961-6K-3050 Checkweigher with optional display stand, tower light and pusher rejector
Options

Display stand
AD-4961-01
The display is attached on the opposite side from the standard display position, across from the user. The display is located approx. 310mm above the conveyor belt.

Tower light
AD-4961-02
Highly visible three color LED tower light. Easy configuration with the AD-4961 checkweigher using DO (Digital Output) map setting.

Anti-static upper breeze break
AD-4961-11
Anti-static breeze break prevents air currents to the weighing conveyor and static electricity to achieve accurate weighing. Clearance between the conveyor belt and the breeze break is 135mm. Usage together with the lower breeze break is recommended. Material: PVC anti-static plate

Lower breeze break
AD-4961-12
Prevents air currents from underneath the system to ensure accurate weighing. Usage together with the upper breeze break is recommended. Material: Stainless steel

Cross plate
AD-4961-13
Eliminates gaps between infeed conveyors and weighing conveyors to transfer products smoothly. Suitable for weighing small products. Material: Stainless steel

Product guide
AD-4961-14
Installed on both infeed and weighing conveyors. Adjusts products to be conveyed on the center of both conveyors. Applicable product width is from 50mm to 100mm. Material: Stainless steel

Rejctor for AD-4961-2KD-2035
Please prepare an air compressor with a 6mm air tube for connection to the filter regulator of the rejector. Air supply: 0.5MPa, 0.1NL/time

AD-4981-2057
Screening capability 120pcs/min.

AD-4982-2035
Screening capability 150pcs/min.

Please prepare an air compressor with a 6mm air tube for connection to the filter regulator of the rejector. Air supply: 0.5MPa, 0.1NL/time

AD-4983-3050
Screening capability 60pcs/min.

Rejctor for AD-4961-6K-3050
Please prepare an air compressor with a 6mm air tube for connection to the filter regulator of the rejector. Air supply: 0.5MPa, 3.0NL/time

AD-4981-2057
Screening capability 120pcs/min.

AD-4982-2035
Screening capability 150pcs/min.

Please prepare an air compressor with a 6mm air tube for connection to the filter regulator of the rejector. Air supply: 0.5MPa, 0.1NL/time

AD-4983-3050
Screening capability 60pcs/min.
**Unit supply for AD-4961-2KD-2035**

We supply checkweigher modules individually, allowing you to build a weighing system which...

---

**Weighing unit**
**AD-4961-2K-WU**

High accuracy digital output module. Stopper mechanism protects the load cell from overload. Easy connection to the AD-4961-CNT control unit. Dust and waterproof to IP65. Motor cable included.

**Motor base unit**
**AD-4961-2035-MOB**

Motor base unit for 200mm width conveyor belt. Motor unit is pre-installed. Dust and waterproof to IP65 when used with the AX-KO4223-080 cable. 2 sets are required for the infeed conveyor and the weighing conveyor.

**Weighing conveyor unit**
**AD-4961-2035-WCV**

A conveyor unit with balance adjusted pulleys enables accurate weighing. *Different from the infeed conveyor unit.

**Color touch panel display unit**
**AD-4961-DISP**

7 inch color touch panel display with a USB memory port. Easy connection to the AD-4961-CNT control unit.

**Control unit**
**AD-4961-CNT**

Water and dust proof to IP65. Communication functions:
- Modbus TCP/Modbus RTU (RS485)
- RS232C/RS485 (selectable)
- TCP/IP for PostScript printer
- USB (USB memory for storing data, capturing images and connection to a PostScript printer.)

Base functions:
- Item registration: 1000 items
- Non-voltage inputs: 4 points
- Relay outputs: 8 points
- Power supply: Single phase AC100-240V

Load cell connection:
Please use the AD-4961-2K-WU

---

**Infeed unit**
**AD-4961-INF**

Conveyor height can be adjusted with this unit.

**Attachment brackets**
**AD-4961-UF**

Attachment brackets to fix the infeed unit and weighing unit. * 2 sets are required for the infeed unit and the weighing unit.

**Infeed conveyor unit**
**AD-4961-2035-ICV**

*The pulleys for the infeed conveyor unit are not balance adjusted. The conveyor belt is different from the one for the weighing conveyor.

**Base unit**
**AD-4961-2035-FP**

Consists of feet and side beams. 2 sets of AD-4961-UF are installed on the base unit.

**Photo sensor with attachment**
**AD-4961-81-2K**

Unit supply for AD-4961-2KD-2035

We supply checkweigher modules individually, allowing you to build a weighing system which...
Both the drive pulley and the idle pulley are balance adjusted, so they can be installed to either the infeed conveyor or the weighing conveyor.

The pulleys that were originally installed to the infeed conveyor should not be installed to the weighing conveyor.

The maintenance kit contains disposable parts that need to be replaced periodically. These maintenance parts are easy to replace, so system downtime can be minimized.

- Weighing conveyor belt: 1pc
- Infeed conveyor belt: 1pc
- Photo sensor without reflector: 1pc
- Drive pulley (balance adjusted): 1pc
- Idle pulley (balance adjusted): 1pc
- Motor unit (including a plastic gear): 1unit
- Plastic gears: 5pcs

Both the drive pulley and the idle pulley are balance adjusted, so they can be installed to either the infeed conveyor or the weighing conveyor.

The pulleys that were originally installed to the infeed conveyor should not be installed to the weighing conveyor.

We supply checkweigher modules individually, allowing you to build a weighing system which fits your production lines.