



## Combics 2 Scale indicator CAIS(L)2



- Display LCD, 20 mm, 14-segments, 7 digit Weight Value with Status information, back lit
- Housing in stainless steel IP44 or IP69K
- 2. scale connection optional
- Verified up to  $3 \times 3,000se$  and 10,000e
- Data interface RS232 included
- Optional: 2. Interface RS232, RS485, RS422, 0-20 mA, Profibus-DP, digital E|A, Ethernet TCP|IP, Modbus TCP
- Optional for ATEX Zone 2 and 22
- Optional internal alibi memory

Combics provides support in all areas of your process chain, from manual formulations up to PC controlled production checks. The modular system allows tailor-made configuration of the individual components for each area. We also produce individual complete solutions according to your specific applications.

Based on the specific requirements of various industries and the basic legal conditions, Sartorius has developed intelligent solutions for all weighing applications, from incoming goods through to production on a large technical scale.

The Combics series supports the production of high-quality, appealing and safe products. The unrivalled precision of Combics helps

- control flexible production
- reduce costs
- improve product quality
- raw materials to be used optimally
- increase output

A design made for longevity and flexibility stands for reliability.

The hygienic design of our solutions complies with today's extremely important hygiene regulations without compromise. The devices can be cleaned very easily and thus allow Combics to be used even under tough conditions and with high safety standards.

The materials and surfaces used significantly contribute to minimizing contamination risks. All Combics scales meet EHEDG specifications.

The easy to operate concept, in combination with the clearly labeled keys, helps prevent errors and makes it simpler for new users to learn how to use the scales.

The intelligent software guarantees optimum support in logging and documenting data. Comprehensive interfaces to data management systems and process controls allow optimum integration.

Typical weighing applications are supported by diverse software applications.

Additionally, we support you by qualifying according to your requirements. We provide certificates and documentation according to GMP, ISO, ATEX, OIML and FDA regulations.

## Technical Data

### Housing

Material: stainless steel 1.4301

Ingress protection:

CAIS2: IP69K

CAISL2: IP44

RoHs conform

### Display

LCD, back lit,

Weight value: 20 mm, 7 digit, 14 segments

Status Symbols

### Keypad

28 keys, foil

### Data Interface

RS232

optional:

RS232

RS485/422

Analog output 0 | 4..20 mA, 0-10 V, 16-bit

Digital I | O (5 In- and 5 Outputs)

Profibus DP

Ethernet TCP | IP and Modbus TCP

Connection of digital SBI/XBPI scales instead of the internal A | D Converter possible.

Supply of one digital platform possible.

### Internal Alibi Memory

optional:

130,000 Data sets

Optional: it is possible to use a 10,000e A | D converter instead of or additional to the internal 3,000e A | D converter.

Combits 2 supports 2 Weighing Points (Scale)

### Resolution (verifiable, Class III)

3,000e or  $2 \times 3,000e$  (MR | MI)

smallest signal 0.672  $\mu\text{V}/e$

optional:

10,000e class III accord. EN 45501;

OIML R 76,

smallest signal 0.328  $\mu\text{V}/e$

### Resolution (not verified)

smallest usable signal: 0.2 or 0.1  $\mu\text{V}/d$

### Load Cell Supply

8.4 V

### Minimum Load Impedance

83 Ohm bis 2,000 Ohm

### Measuring Signal

0 mV to 29.4 mV

### Measuring Signal for Dead Load

0.45 mV to 6.3 mV

### Power Cable

Length 3 m

### Operating Temperature Range

-10°C to 40°C

### Power Supply

100-240 V<sub>AC</sub> (-15% | +10%), 50-60 Hz, max. 17 W/23 VA

optional:

15.5-24 V<sub>DC</sub> ( $\pm 10\%$ ), max. 12 W

13-17 V<sub>AC</sub> ( $\pm 10\%$ ), 50-60 Hz, max. 12 W

### Battery Operation

Optional:

External battery package

### EX Approval

Optional for use in zone 2 and 22

ATEX: II 3G Ex nA IIC T4 Gc

II 3D Ex tD IIIC T80°C Dc

### Interference Emission

Acc. to EN 61326-1,

Class B (IEC 61326-1)

### Electrical Safety

Acc. to EN 61010-1 (IEC 61010-1)

EN60950 (IEC950)

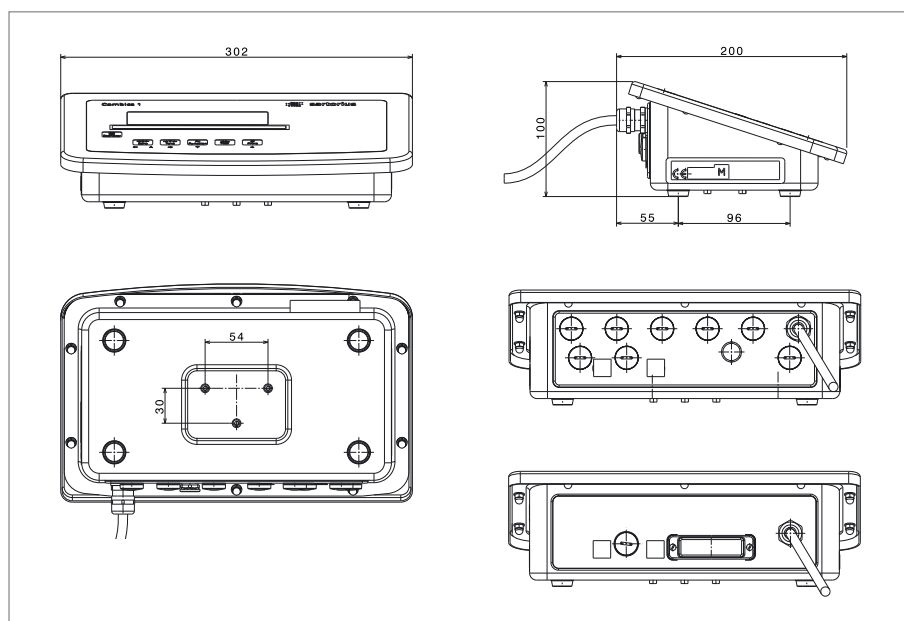
### Interference Immunity

Acc. to EN 61326-1,

industrial areas (IEC 61326-1)

### Net Weight

2.3 kg



## Application CombiCS 2

### Weighing

The basic weighing function is available at all times.

Features:

- Zero the weighing instrument by pressing a key
- Store the weight on the instrument as tare by pressing a key
- Tare container weight automatically
- Enter tare weight through bar code scanner
- Enter tare weight through numeric keypad
- Delete tare values by manual entering
- Press key to toggle the display between:
  - Gross and net values,
  - 1<sup>st</sup> and 2<sup>nd</sup> weight unit, or
  - normal and 10-fold higher resolution
- Weighing with two scales
- Individual data ID codes with numeric values for identifying weight values
- Print weight value:
- GMP-compliant printout
- Automatic printing
- Automatic data output

### Scale Function

Calibration | Configuration Counter on Standard Weighing; Instruments Password protection; Acoustic Signal; Keypad lock, Automatic Power-off; Display backlighting; SQmin-Function

### Product Data Memory

With the data memory product – or tare values can be stored. The memory can save 100 entries.

### Counting

With the Counting application, you can determine the number of parts that each have approximately equal weight.

### Neutral Measurement

When the Neutral Measurement application is selected, you can use your weighing instrument to measure the length, surface and volume of parts that have roughly the same specific weight. The o symbol is displayed as the weight unit.

### Averaging (Animal Weighing)

With the Averaging application, you can use your weighing instrument for calculating weights as the average of a number of indi-

vidual weighing operations. These individual operations are also known as "subweighing operations." This function is used to determine weights under unstable ambient conditions or for weighing unstable samples (such as live animals).

### Weighing in Percent

With the Weighing in Percent application, you can use your weighing instrument to obtain weight readouts in percent which are in proportion to a reference weight. The L symbol is displayed as the weight unit.

### Checkweighing

When the Checkweighing application is selected, you can check whether sample weights correspond to a specified target weight; i.e., whether the weight on the weighing instrument is within a given tolerance range. The tolerance range is defined by upper and lower limits. The result is displayed in the main indicator, in the bar graph and by colorcoded LEDs.

### Classification

With the Classification application, you can determine whether the weight of a given sample lies within the limits of a defined weight class.

### Totalizing

With the Totalizing application, you can add weight values to the totalizing memory. The number of values added to the memory is also stored ("transaction counter").

### Net-Total Formulation

When the Net-Total Formulation application is selected, you can weigh in different components up to a defined total. Each component is saved in the net-total memory. You can print out both the total weight and the individual weights of the components.

### Combination of Applications

The following table explains how applications can be combined. The basic function weighing is always available.

### Combination of Applications

Application 1 (basic function)	Application 2 (check function)	Application 3 (protocol function)
counting	-	totalizing
counting	checkweighing	totalizing
counting	checkweighing	-
counting	classification	-
neutral measurement	-	totalizing
neutral measurement	checkweighing	totalizing
neutral measurement	checkweighing	-
neutral measurement	classification	-
animal weighing	-	totalizing
animal weighing	checkweighing	totalizing
animal weighing	checkweighing	-
animal weighing	classification	-
percentage weighing	-	totalizing
percentage weighing	checkweighing	totalizing
percentage weighing	checkweighing	-
percentage weighing	classification	-
-	-	net total formulation
-	checkweighing	totalizing

### Order Number

CAIS2: Display LCD, backlit. 20 mm weight value. Data interface RS232, (cable glands).  
Material: complete stainless steel, ingress protection: IP69K

CAISL2: Display LCD, backlit. 20 mm weight value. Data interface RS232, (D-SUB 25-pin female connector), PS/2 connector.  
Material: complete stainless steel, ingress protection: IP44

### Options

The choice of many different options allows the scales to be customized to suit the user's specific applications. If the option code is given with the order, the scales are delivered with the required features. (Options can be retrofitted by ordering the respective accessories).

### Options and Accessories CAISL (IP44) and CAIS (IP69K)

Interfaces	Order number as option	Order number as accessory for CAIS 2 only
COM 1: RS232	Standard	

### UNICOM

RS232	A1	YD002C-232
RS422	A2	YD002C-485
RS485	A3	YD002C-485
Digital 5 In- 5 Outputs	A5	YD002C-DIO
Analogue Output	A9	YD002C-AO
Profibus – DP	B1	YD002C-DP
Ethernet TCP IP and Modbus TCP	B9	YD002C-ETH

### Exchanging of 1st Weighing Point | Scale Connection instead of the internal A | D Converter (3,000e)

Interface RS 232 for digital platform	A6	YDI02C-WPD
Interface RS 485 for digital platform	A7	YDI02C-WPD

### 2nd Weighing Point | Scale Connection

Analog Platform 10,000e	A20	YDI02C-WP10
Interface RS 232 for digital platform	A62	YDI02C-WPD
Interface RS 485 for digital platform	A72	YDI02C-WPD

### Further Options

24 V Power Supply	L8	
Internal Alibi Memory	E5	
EX Approval for ATEX Zone 2 and Zone 22	Y2	

### Disconnectable Scale Connection

Disconnectable plug-in between indicator WP1 – platform, indicator with female connector (0.2 m) plug included separately	X1	
Disconnectable plug-in between indicator WP2 – platform, indicator with female connector (0.2 m) plug included separately	X6	

**Cable for 1st Scale Connection**

Connecting cable for IS Platform to WP1 – 12-pin round female connector	M41
Connecting cable for EA   EB   LA   CP to WP1 – 25-pin D-Submini connector	M42
Connecting cable for QA   QC   FB   FC to WP1 – 12-pin round male connector	M43

**Cable for 2nd Scale Connection**

Connecting cable for IS Platform to WP2 – 12-pin round female connector	M97
Connecting cable for EA   EB   LA   CP to WP2 – 25-pin D-Submini connector	M98
Connecting cable for QA   QC   FB   FC to WP2 – 12-pin round male connector	M99

<b>Connection Cable</b>	<b>Option for CAIS (IP69K)</b>	<b>Accessory for CAIS (IP69K)</b>
Connection cable for YBR03FC barcode scanner for internal, separate connection – 5-pin DIN socket, 1 m	M8	YCC02-BR02

<b>Connection Cable</b>	<b>Option for CAIS (IP69K)</b>		<b>Accessory for CAIS (IP69K)</b>	<b>Accessory for CAISL (IP44)</b>
	<b>Unicom</b>	<b>COM1</b>	<b>Open cable ends on Combics side</b>	<b>25-pin D-SUB plug on Combics side</b>
Connection cable for printer YDP12/04IS, – 9-pin D-SUB plug, 6 m	M33	M3	YCC02-D09M6	YCC01-01CISLM3
Connection cable for YDP20-OCE printer or PC, – 9-pin D-SUB socket, 6 m	--	M9	YCC02-D09F6	--
Connection cable for PC – 9-pin D-SUB socket	M34	M4	YCC02-D09F6	7357314
Connection cable for dig. Sartorius scales, – 25-pin D-SUB plug, 6 m	M32	M2	YCC02-D25M6	YCCDI-01M3 (3 meters)
Connection cable for various accessories – 25-pin D-SUB socket, 6 m	--	M1	YCC02-D25F6	7357312
Connection cable for dig. Sartorius scales, – 12-pin round plug, 6 m	M35	M5	YCC02-R12M6	YCC01-02ISM3 (3 meters)
Connection for various accessories, – 12-pin round socket, 6 m	--	M6	YCC02-R12F6	YCC01-03CISLM3 (3 meters)
Connection for various accessories and IS platform, – 12-pin round socket, 6 m	M37	M7	YCC02-R12F6	YCC01-03CISLM3 (3 meters)
Connection cable with open cable ends, 6 m	M12	--	YCC02-RELAIS02	YCC02-RELAIS01
Ethernet connection cable with RJ45 plug, 7 m	M38	--	YCC02-RJ45M7	--
Connection cable from RS-232 data interface to USB interface on the PC, – 25-pin D-SUB USB plug, 2 m	--	--	--	YCC01-USBM2

**Software**

SNLE Sartorius Nice Label Express Software	YAD02IS
WinScale for Windows	YSW03
SartoCollect	YSC02

**Printer**

Verifiable Strip printer with date, time and statistics	YDP20-OCE
Strip or label printer, 60 mm paper width	YDP04IS-OCEUV
Strip or label printer, 108 mm paper width	YDP14IS-OCEUV
Strip or label printer with thermal head, 108 mm paper width	YDP14S-OCEUVTH

**Other Equipment**

Barcode scanner with PS/2 plug	YBR03PS2
Barcode scanner with 5-pin DIN plug	YBR03FC
Controll display red   green   red	YRD14Z
Dust covers (2 units)	YDC01CI
Connection kit with female   male connector for disconnectable cable connection of platform and indicator	YAS99I
Cable gland (PG) for cables 4.5 up to 9 mm, IP67 protected, M16 × 1,5	YAS04CIS
Kit for attaching the indicator to a switch cabinet	YAS07CI
Cable junction box stainless steel, for the connection of up to 4 load cells in one platform or for external installation, PR6130/64S	940536130642
Relay box for connecting scales to external control units, with 4 (5) relay outputs (230 V/3 A) and 1 opto coupler input (0–30 V)	YSB01

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