Combics 3 Scale Indicator CAIS(L)3

- Graphical Display LCD, 20 mm, 7 digit Weight Value with Status information, back lit

- Housing in stainless steel IP44 or IP69K

- 2. and 3. scale connection optional

- Verified up to 3 × 3,000e and 10,000e

- 2 × Data interfaces RS232 included

- Optional: 3. 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:
CAIS3: IP69K
CAISL3: IP44

RoHs conform

Display
Graphical LCD, back lit,
Weight value: 20 mm, 7 digit,
Status Symbols

Keypad
30 keys, foil

Data interfaces
2 × 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.

Combics 3 supports 3 Weighing Points (Scale)

Resolution (verifiable, Class III)
3,000e or 2 × 3,000e (MR|MI)
smallest signal 0.672 µV/e
optional:
10,000e class III accord. EN 45501;
OIML R 76,
smallest signal 0.328 µV/e

Resolution (not verified)
smallest usable signal: 0.2 or 0.1 µV/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℃ to 40℃

Power Supply
100–240 V_{AC} (-15%|+10%), 50–60 Hz,
max. 17W /23 VA

optional:
15.5–24 V_{DC} (±10%), max. 12 W
13–17 V_{AC} (±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℃ Dc

Interference Emission
Acc. to EN 61326-1,
Class B (IEC 61326-1)
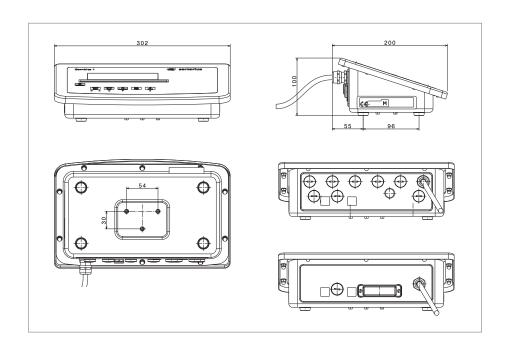
Electrical Safety
Acc. to EN 61010-1 (IEC 61010-1)
EN60950 (IEC950)

Interference Immunity
Acc. to EN 61326-1,
industrial areas (IEC 61326-1)

Net Weight
2.3 kg

Application Combics 3

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,
  – 1st and 2nd 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 individual 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.

Optional

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

Basic filling – automatic singlecomponent filling to a target weight, for attaining a target fill quantity through addition or subtraction, with transaction counter, totalizing, statistics.

Filling Plus - like "Basic filling", additionally: filling optimization, material feed and container weight monitor, 100 product memories.

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 Reference
CAIS3: graphic backlit LCD display with 20 mm weight value 2 RS-232 data interfaces, (cable glands).
Material: complete stainless steel, protection class: IP69K

CAISL3: graphic backlit LCD display, with 20 mm weight value 2 RS-232 data interfaces, (D-SUB 25-pin socket).
Material: complete stainless steel, protection class: 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 3 only
COM 1: RS232	Standard	
COM 2: RS232	Standard	
UNICOM		
RS232	A1	YDO02C-232
RS422	A2	YDO02C-485
RS485	A3	YDO02C-485
Digital 5 inputs|5 outputs	A5	YDO02C-DIO
Analog output	A9	YDO02C-AO
Profibus – DP	B1	YDO02C-DP
Ethernet TCP|IP and Modbus TCP	B9	YDO02C-ETH
Replacement 1st Weighing Point|Scale Connection instead of internal A|D Converter (3000e)		
RS-232 interface for digital platform	A6	YDI02C-WPD
RS-485 interface for digital platform	A7	YDI02C-WPD
2nd Weighing Point|Scale Connection		
Analog platform 10,000e	A20	YDI02C-WP10
RS-232 interface for digital platform	A62	YDI02C-WPD
RS-485 interface for digital platform	A72	YDI02C-WPD
Equipment		
24 volt AC adapter	L8	
Built-in alibi memory	E5	
ATEX zones 2 and 22 protection class (CAIS3 only)	Y2	

Application Kits for Combics 3 (instead of the above basic applications)

Basic filling – Automatic single-component filling to target weight in filling or dispenser proportioning applications with transaction counter, totalizing and statistics functions	H3
Filling with extras - like "Basic Filling," also includes: Filling optimization, material and container weight monitoring, data memory for 100 products	H4
Combination of application programs: Weighing, Counting, Neutral measurement, Weighing in percent, Animal weighing, Checkweighing, Classification (3 or 5 classes), Totalizing; up to 3 applications can be combined with each other	I2

Separable Scale Connection

Separable plug-in connection between indicator WP1 and platform, socket on indicator (0.2 m), plug included separately	X1
Separable plug-in connection between indicator WP2 and platform, socket on indicator (0.2 m), plug included separately	X6

Cable for 1st Scale Connection

IS platform connection cable to digital WP1 interface – 12-pin round socket	M41
Connection cable for EA|EB|LA| CP to digital WP1 interface – 25-pin D-SUB plug	M42
Connection cable for QA|QC|FB| FC to digital WP1 interface – 12-pin round socket	M43

Cable for 2nd Scale Connection

IS platform connection cable to digital WP2 interface – 12-pin round socket	M97
Connection cable for EA|EB|LA| CP to digital WP2 interface – 25-pin D-SUB plug	M98
Connection cable for QA|QC|FB| FC to digital WP2 interface – 12-pin round socket	M99

Connection Cable	Option for CAIS (IP69K)			Accessory for CAIS (IP69K)	Accessory for CAISL (IP44)	
					For COM1 and UNICOM, 25–pin D–SUB plug on the Combics side	**For COM2, 9–pin D–SUB plug on the Combics side**
	Unicom	**COM1**	**COM2**	**Open cable ends on Combics side**		
Connection cable for YBR03FC barcode scanner for internal, separate connection – 5-pin DIN socket, 1 m	M8			YCC02-BR02	–	
Connection cable for YDP12/04/14 printer – 9-pin D-SUB plug, 6 m	M33	M3	M23	YCC02-D09M6	YCC01-01CISLM3 (3 meters)	YCC04-D09M6
Connection cable for YDP20-0CE printer or PC – 9-pin D-SUB socket, 6 m	–	M9	–	YCC02-D09F6	–	YCC04-D09F6
Connection cable for PC – 9-pin D-SUB socket	M34	M4	M24	YCC02-D09F6	7357314	YCC04-D09F6
Connection cable for digital Sartorius scales – 25-pin D-SUB plug, 6 m	M32	M2	M22	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 digital Sartorius scales – 12-pin round plug, 6 m	M35	M5	M25	YCC02-R12M6	YCC01-02ISM3 (3 meters)	YCC04-R12M6
Connection cable for various accessories – 12-pin round socket, 6 m	–	M6	–	YCC02-R12F6	YCC01-03CISLM3 (3 meters)	YCC04-R12F6
Connection cable for various accessories and the IS platform – 12-pin round socket, 6 m	M37	M7	M27	YCC02-R12F6	YCC01-03CISLM3 (3 meters)	YCC04-R12F6
Connection cable with open cable ends, 6 m	M12	–	M12	YCC02-RELAIS02	YCC02-RELAIS01	YCC02-RELAIS02
Ethernet connection cable with RJ45 plug, 7 m	M38	–	–	YCC02-RJ45M7	–	–
Connection cable from RS-232 data interface to USB port on PC2 – 25-pin D-SUB plug|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 diconnectable 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 opoto coupler input (0 – 30 V)	YSB01
Digital input- | output module for connecting Combics 3 to external control units, with 8 open collector outputs (50 mA) and 7 TTL-compatible inputs (0 – 30 V)	YSB02
Relay box for connecting Combics 3 to external control units	VF3033