Combics 1 Scale Indicator CAIS(L)1

Scale indicator

– Display LCD, 20 mm 14-segments, 7 digit
  Weight Value with status information,
  back lit

– Housing in stainless steel IP44 or IP69K

– Integrated A│D-converter for connection
  of analogue Platforms eg. Combics, IU, IF
  and also Load Cells

– Verfied up to 3 × 3,000.e 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

– Internal alibi memory as option

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:
CAIS1: IP69K
CAISL1: IP44

RoHs conform

Display
LCD, back lit,
Weight value: 20 mm, 7 digit, 14 segments
Status Symbols

Keyboard
6 key, foil

Data interface
RS232

optional:
RS232
RS485/422
Analogue output 0│4..20 mA, 0-10 V, 16-bit
Digital I│O (5 In- and 5 Outputs)
Profibus DP
Ethernet TCP│IP, Modbus TCP

Connection of digital SBI/XBPI scales instead
of the internal A│D Converter possible,
inclusive supply.

Internal alibi memory
optional:
130,000 Data sets

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

Combics1 supports 1 Weighing Point (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 to 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_{AC} (-15%│+10%), 50 – 60 Hz,
max. 17 W/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°C Dc

Interference emission
Acc. to EN 61326-1,
Class B (IEC 61326-1)

Electrical safety
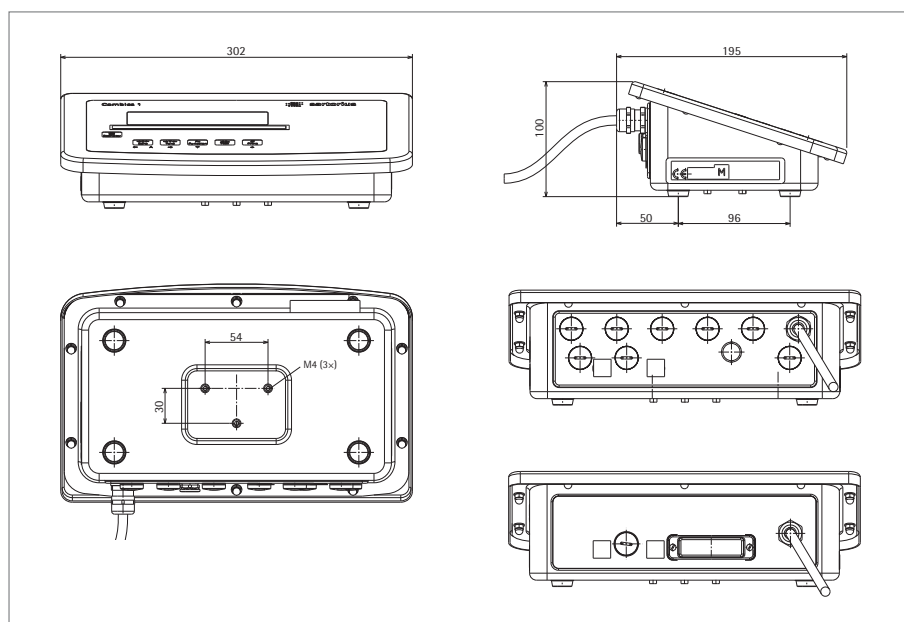Acc. to EN 61010-1 (IEC 61010-1)
EN60950 (IEC950)

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

Net weight
2.3 kg

Application Combics 1

Combics 1 supports the following functions:

Weighing
– Zero the weighing instrument
  by pressing a key
– Store the weight on the instrument
  as tare by pressing a key
– Tare container weight automatically

Press key to toggle the display between
– Gross and net values,
– 1st and 2nd weight unit, or
– normal and 10-fold higher resolution

Print Weight Value
Print│Sent Data to PC System and Label Print
– GMP-compliant printout
– Automatic printing
– Automatic data output

Automatic Taring
With this function the first load placed on the weighing instrument that exceeds the specified minimum load is stored, at stability, in the tare memory. The weighing instrument returns to the initial state when the load is less than 50% of the minimum load.

Automatic Printing
With this function the first weight value that exceeds the specified minimum load is printed. If the menu code for automatic taring is also active, the weighing instrument is only tared when the minimum load is exceeded; the value is not printed.

Key board lock
The key board can be locked for entering data.

Calibration│Configuration Counter on Standard Weighing Instruments
These two mutually independent counters automatically keep track of changes made in calibration│adjustment parameters and in the operating menu. Counter values are stored in an EEPROM, and remain stored during the entire service life of this memory chip.

Automatic Power-off
It can be configured the Combics to shut down automatically following a specified interval of no user activity.

SQmin-Function
Display the allowed minimum Weight "SQmin" (Sample Quantity Minimum) according to United States Pharmacopeia (USP). By accurate weighing of materials for define the content a measuring capability of 0.1% net weight is accepted. With this additional Function it is always guaranteed, that the Weighing results are always with in the tolerances and according to your quality system.

Conditions
To use this functions a Services technician needs to install the scale. He calculate the min weight according to your Quality System and load this values into the scale. This values will be documentated though a certificate "scales test acording to USP". The comlete measuring results are written in this certificate. After this activation of this function the SQmin parameter cannot be change by the user. So a secure and accurate weighing procedure is guaranteed.

Sample Printout

Order number

CAIS1: Display LCD, backlit, 20 mm weight value. Data interface RS232, cable glands.
Material: complete stainless steel, ingress protection: IP69K

CAISL1: Display 20 mm LCD, backlit. Data interface RS232, (D-SUB 25-pin female 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
COM 1: RS232	Standard	
UNICOM		
RS232	A1	YDO02C-232
RS422	A2	YDO02C-485
RS485	A3	YDO02C-485
Digital 5 In-│5 Outputs	A5	YDO02C-DIO
Analogue Output	A9	YDO02C-AO
Profibus – DP	B1	YDO02C-DP
Ethernet TCP│IP and Modbus	B9	YDO02C-ETH
Exchanging of 1. Weighing Point│Scale connection instead of the internal A│D Converter (3,000e)		
Analogue platform 10,000e	A10	
Interface RS232 for digital platform	A6	YDI02C-WPD
Interface RS485 for digital platform	A7	YDI02C-WPD
Further Options		
24 V Power Supply	L8	
Internal Alibi Memory	E 5	
EX Approval for ATEX Zone 2 und Zone 22	Y2	
Disconnectable Scale Connection		
Disconnectable plug-in between indicator WP1 - platform, indicator with female connector (0.2 m) plug included separately	X1	
Cable for 1. Scale Connection		
Connecting cable for IS Plattform to WP1 – 12 pin round female connector	M41	
Connection cable for EA│EB│LA│CP to WP1 – 25-pin D-Submini connector	M42	
Connection cable for QA│QC│FB│FC to WP1 – 12 pin round male connector	M43	

Connection cables	Option for CAIS (IP69K)		Accessories for CAIS (IP69K)	Accessories for CAISL (IP44)
	Unicom	COM1	open–ended cable on Combics side	25–pin D–SUB female connector on Combics side
Connecting cable for printer YDP12/04IS, – 9-pin D–SUB male connector, 6 m	M33	M3	YCC02-D09M6	YCC01-01CISLM3
Connecting cable for printer YDP20-0CE or PC, – 9-pin D–SUB female connector, 6 m	--	M9	YCC02-D09F6	--
Connecting cable for PC – 9 pin D–SUB female	M34	M4	YCC02-D09F6	7357314
Connecting cable for Sartorius scales, – 25-pin D–SUB male connector, 6 m	M32	M2	YCC02-D25M6	YCCDI-01M3 (3 meter)
Connecting cable for accessories – 25 pin D–SUB female	--	M1	YCC02-D25F6	7357312
Connecting cable for Sartorius scales, – 12-pin round male connector, 6 m	M35	M5	YCC02-R12M6	YCC01-02ISM3 (3 meter)
Connecting cable for accessories – 12 pin round female	--	M6	YCC02-R12F6	YCC01-03CISLM3 (3 meter)
Connecting cable for accessory and IS platforms, – 12-pin round female connector, 6 m	M37	M7	YCC02-R12F6	YCC01-03CISLM3 (3 meter)
Connecting cable to open ended cable, 6 m	M12	--	YCC02-RELAIS02	YCC02-RELAIS01
Ethernet connecting cable with RJ45 male connector, 7 m	M38	--	YCC02-RJ45M7	--
Connecting cable from RS232 to USB-Connector, – 25-pin D–SUB Sfemale connector│USB connector, 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 Statistic	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 accessories

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