



sartorius
mechatronics

Sartorius Combics Ex Indicator Intelligent weighing in hazardous areas



turning science **into solutions**

Sartorius Combics 3 Ex. The series with many combination options.

The explosion-protected indicators of the Combics 3 series from Sartorius are ideally suited for use in hazardous areas where explosive gas and dust mixtures occur (Zones 1 and 21).

The many possibilities for combining Combics 3 explosion-protected equipment is characteristic of today's flexibility. You can have a complete weighing solution in stainless steel with Combics explosion-protected platforms (standard capacities up to 3 t). If you need a precision platform

with high accuracy along with your high-capacity platform, you can connect an additional digital platform to the Combics 3 display and control unit.

An even broader field of weighing applications is opened up by the seamless integration options for the entire range of load cells from Sartorius. The Ex approval rating on Combics indicators is extended to all components. This lets you take advantage of the full performance potential of the Combics' built-in A/D converter.

Documents verifying intrinsic safety are included with your explosion-protected Combics 3 indicator to make your system configuration simpler and more economical.

The Combics data interfaces with upgradeable modules ensure future-proof capabilities for documentation, data transmission and networking. The flexibility of the Combics 3 indicator includes the power supply options as well. Simply choose the basic indicator model you need and use the power supply that best suits conditions in your premises at any given time. You can use a 110 to 230 V power supply located inside or outside the hazardous area or opt for a 24-V industrial module for 19" installation in a control panel. An external battery pack is also available for mobile operation.

Thanks to the application programs integrated into the explosion-protected Combics 3 indicator, you can upgrade or configure your indicator's functionality at any time, depending on the tasks at hand. Use Combics 3 as a simple weight indicator for platforms and weigh cells with all the benefits of convenient operation and configuration and the excellent readability of its backlit graphical display, or as a sophisticated terminal with application programs, such as checkweighing, classification or filling. And Combics 3 is bus-capable, for trouble-free integration into a higher-order process control system.

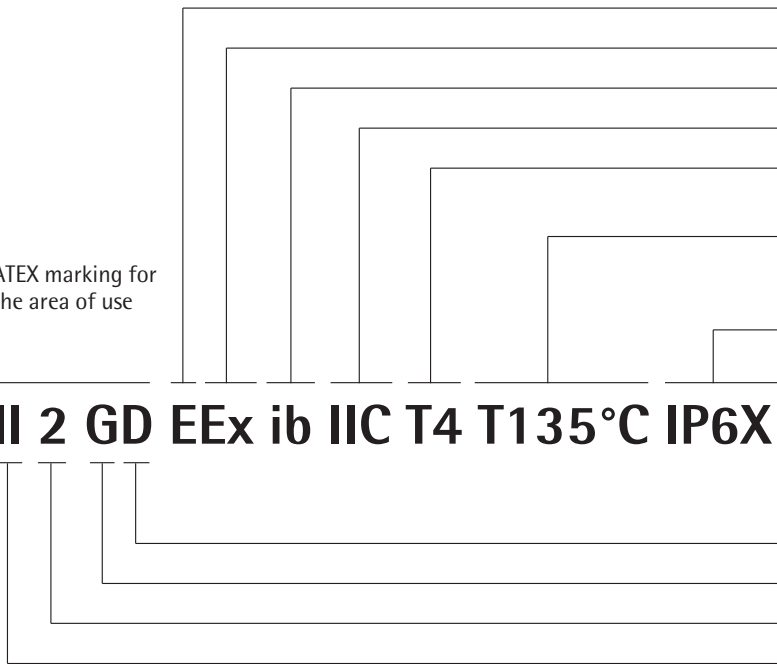
Combics 3 Ex from Sartorius: the "brains" behind all your weighing operations. It works hard for you, where you need it most.





ATEX marking for the area of use

II 2 GD EEx ib IIC T4 T135°C IP6X

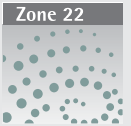


Note:

For use in Zones 2 and 22, you can order the standard indicator with Option Y2.



Just take a look at the combination possibilities on the following pages.



ATEX-compliant approval:

II 3 GD EEx nR II T6 T80°C

Certified according to CENELEC standards

Explosion-protected

Type of protection: "intrinsic safety"

Highest apparatus subgrouping for gas, II C

Temperature class for use in potentially explosive gas atmospheres

Temperature range for use in potentially explosive gas atmospheres caused by air | dust mixtures

IP protection

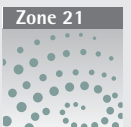


For dusts (Zone 21)

For gases (Zone 1)

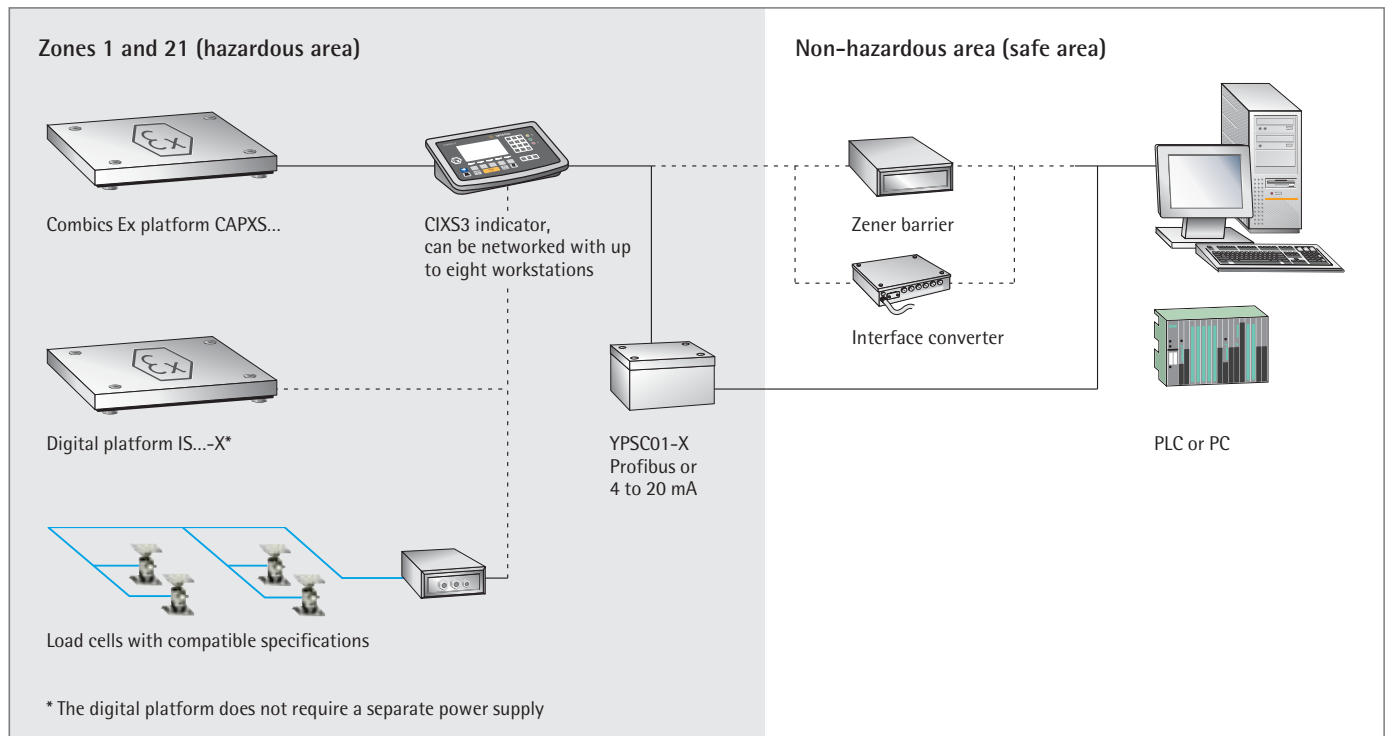
Category 2

Class

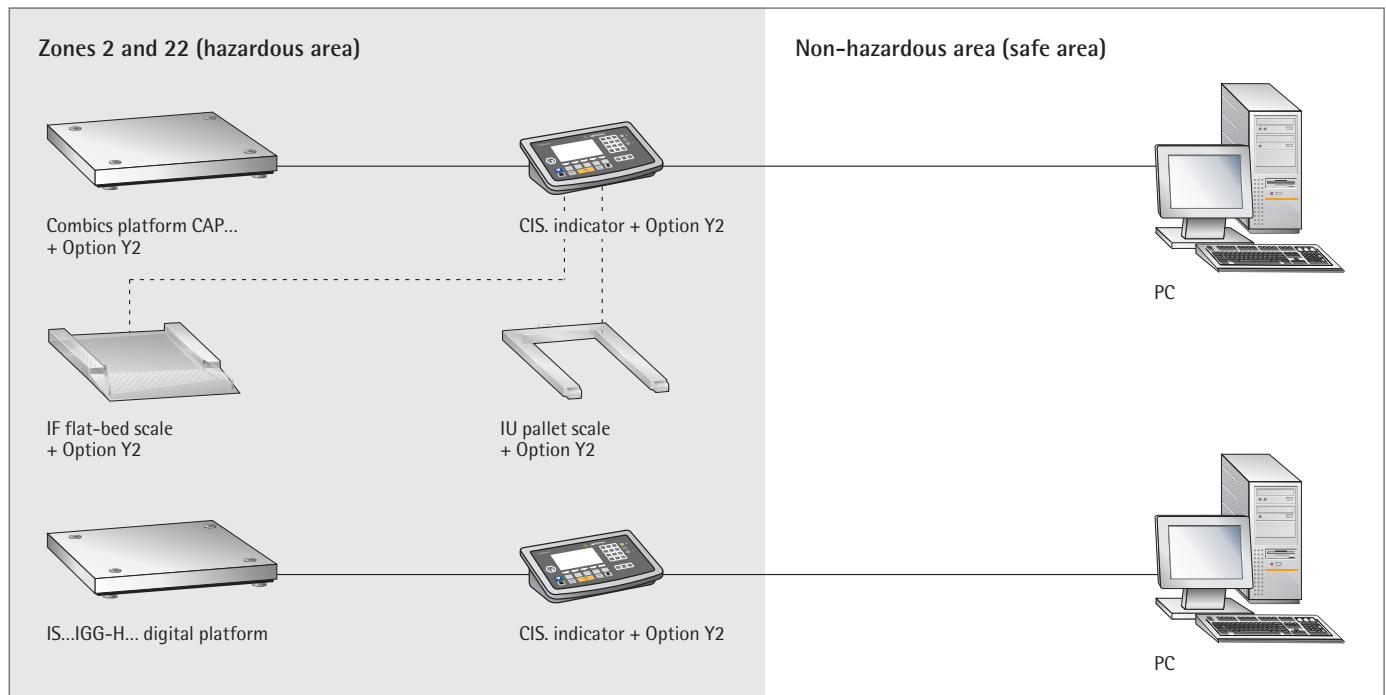


Configuration examples

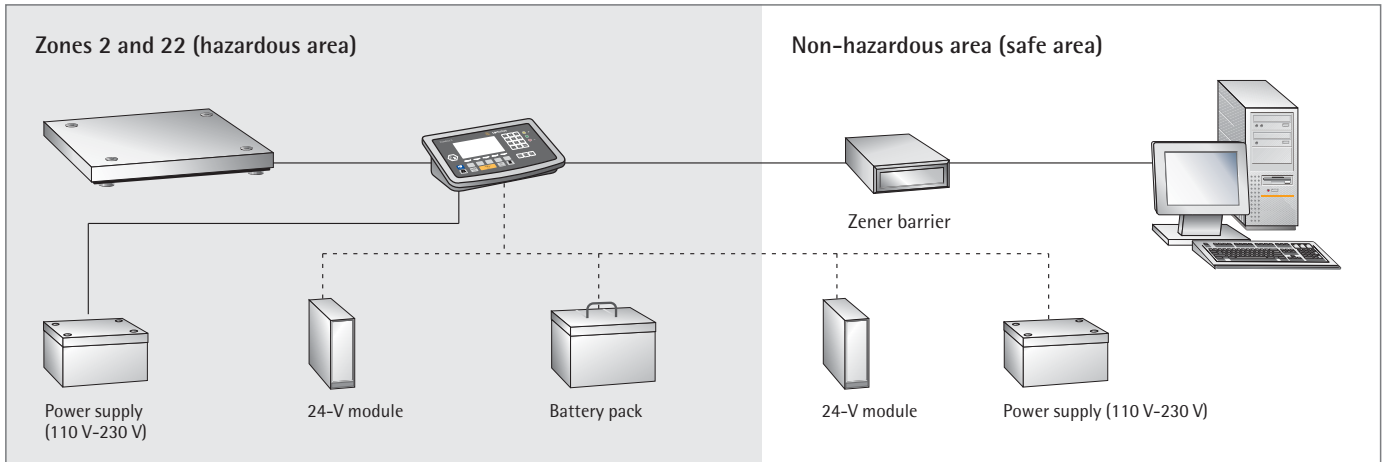
Combics Ex components for Zones 1 and 21



Combics standard components + Option Y2 for use in Zones 2 and 22



Typical minimum configuration of a Combiics scale:



Power supply module specifications

Input voltage 100...240 VAC

Consumption: 25 VA; frequency: 50|60 Hz

For:

- Variable cable lengths
- Cable connections via plug connectors (separable without opening the unit) or via cable glands
- Additional power module
- Analog data output port or Profibus DP

YPS01-X..

(Power supply for installation in hazardous area)

II 2 G Ex e mb[ib] IIC T4

II 1 D (2)G Ex tD A20 [ib]IIC IP6X T130°C

YPS01-Z..

(Power supply for installation in non-hazardous area)

II (2) GD [Ex ib] IIC

Input voltage 20...28 VDC

For:

YPS02-XV24

(24-V industrial power supply module for installation in a control panel; Ex; non-Ex) II 2 G 1 D EEx m[ib] IIC T4 T80° IP6x

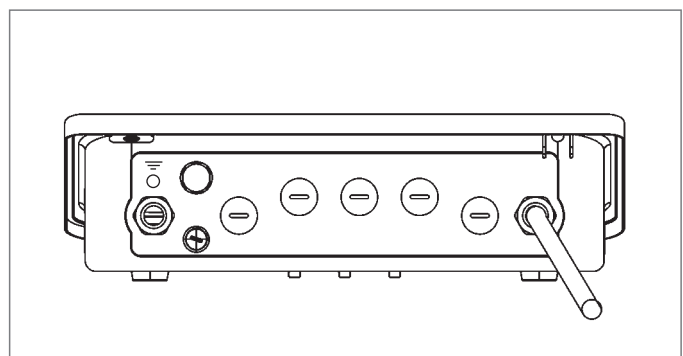
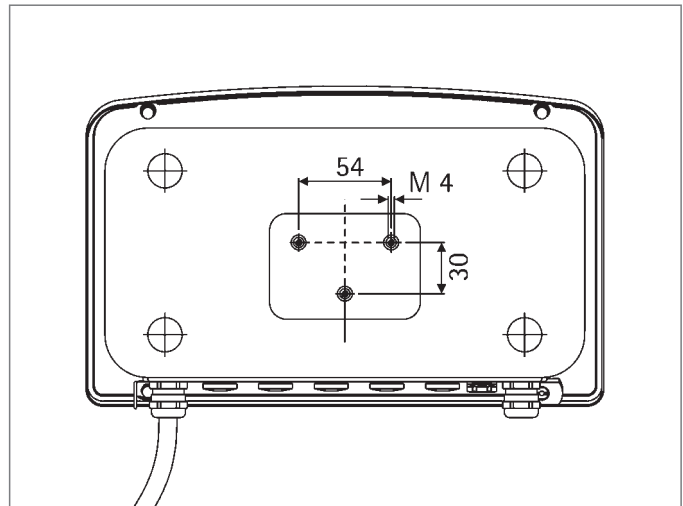
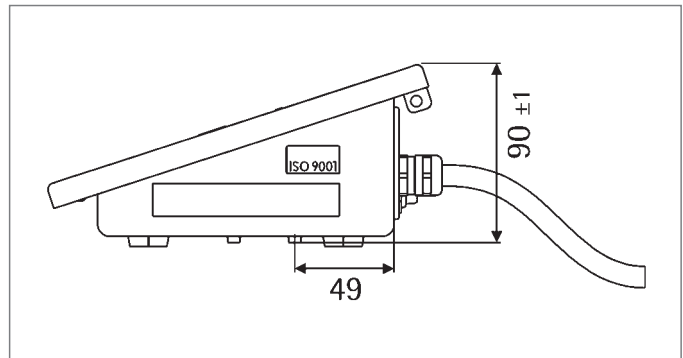
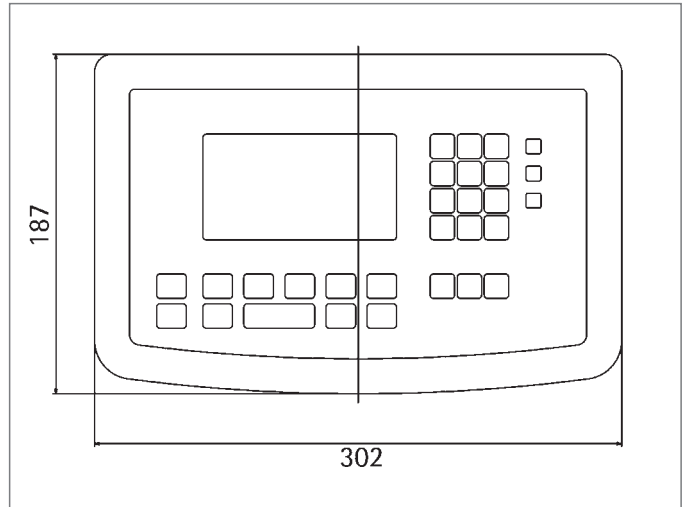
YRB02-X

(External rechargeable battery pack for use in hazardous area, with deep discharge protection). Approx. 30 hours operation, depending on conditions of installation and use.

II 2G 1D EEx em[ib] IIC T4 T 80°C

Indicator specifications

Maximum readability	31,250 digits
Accuracy classes	III IIII
Verification scale interval (as single-range or multiple-range or multi-interval scale)	3,000 e, 2 × 3,000 e acc. to EN 45501
Load cell connection	
Supply voltage	6 V
Available sensor technology	6-or 4-conductor technology
Bridge impedance	83 ohms to 2,000 ohms
Measuring signal	0.3 mV to 24 mV
Measuring signal dead load	0.3 mV to 4.2 mV
Measuring signal variation	3 mV to 19.8mV
Measuring signal verification scale interval	0.48 μV/e1 to 3.16 μV/e1
Sensitivity	4 million digits max. (internal)
Digital protective interface	According to EN45501
Data interface	Bidirectional RS-232C interface with control outputs (standard equipment)
Additional data interface	Optional
Display	108 × 58 mm graphic display, backlit
Housing	
Material	AISI 304 stainless steel
Dust and water protection acc. to EN60529	IP67
Operating temperature range	-10 °C to +40 °C
Power supply	100–240 VAC (-15/+10 %), 50–60 Hz, max. 17 W/23 VA
DC supply	Optional 15.5–24 VDC (+/-10%), max. 12 W
AC supply	Optional 13–17 VAC (+/-10%), 50–60 Hz, max. 12 W
Battery operation	Optional external rechargeable battery
Limitation of emissions	Acc. to EN61326+A1, Class B (IEC 61326+A1)
Defined immunity to interference	Acc. to EN61326+A1, industrial environment (IEC61326+A1)
Electrical safety	Acc. to EN61010-1 (IEC 1010-1), EN60950 (IEC 950)



Sartorius Combics 3 Ex: Indicator and accessories.

Combics 3 indicator, stainless steel housing IP67 protected (incl. 1x RS-232C interface and 1x configurable interface for RS-232C, RS-422 or RS-485 data communication) CIXS3

Mechanical accessories

Installation kit for pit frame installation (disconnectable, plug-in style cable for Combics indicator)	YAS99I
Brackets for wall mounting, stainless steel	YDH01CIS
Brackets for wall mounting, stainless steel, tiltable indicator	YDH02CIS
Floor-mounted column	YDH03CIP
Floor-mounted column, stainless steel	YDH03CIS
Base for installing floor-mounted column, stainless steel	YBP03CIS
Retainer for mounting external battery pack	YBPH01

Software

Flexible formatting options for printouts (e.g., for bar codes with variable font size, graphics, etc.). Ask your sales consultant!

Sartorius WinScale scale driver software for Windows® 95|98|2000|NT. Displays the scale readout on your PC monitor and provides secure, verifiable memory for storing data that is subject to legal control. RS-232C. YCC01-09ISM5 connecting cable required YSW03

SartoConnect data transfer software for data communication between Sartorius units and PCs YSC02

For general accessories (e.g. printers, various connecting cables,...), please refer to the data sheet, price list or visit www.sartorius-mechatronics.com.

Power supplies

24-V industrial power supply module	YPS02-XV24
External rechargeable battery pack, min. 30 hours' operation	YRB02-X
Battery charger for YRB02-X	YRB02LD
Configurable power supply and communication system for installation in hazardous areas Zones 1, 21; 100-240 V	YPSC01-X
Configurable power supply and communication system for installation in non-hazardous areas, 100-240 V	YPSC01-Z

Additional accessories

In-use dust covers (2)	YDC01CI-X
Electrical accessories, WLAN Ex Client for incorporating mobile weighing solutions	YWL01-X
Explosion-protected barcode radio scanner	YBR01-X
Zener barrier for network connection (without cable)* YDI01-Z	
Zener barrier for connecting a printer and/or PC, 20-m cable in safe area*	YDI02-Z
Zener barrier, as for YDI02-Z with open cable ends for connection via a cable gland	YDI02-ZCX
Zener barrier (4 data lines, 4 control lines) 20-m cable in safe area*	YDI03-Z

* YCC02-XR14F02 connecting cable required

Options – The magic word that means unbeatable convenience.

You are already familiar with the proven quality of accessories from Sartorius. Now, they are available with extra service, making it even easier to connect Combics indicators to your equipment. Let us know which accessories

you need from our options list, and we will configure your indicator at the factory. This saves time and will let you start using your new platform as soon as you get it.

Interfaces

Connection options IS-X platform vial RS-485/XBPI to WP1 (instead of the AD converter)	A19
Cable for digital platform to RS-485 (only in conjunction with A19)	M26
RS-232/PS2 (UniCOM)	A35
RS-485/PS2 (UniCOM)	A36
RS-422/PS2 (UniCOM)	A37

Approvals outside of ATEX approval areas are available upon request.

Connecting cable with cable gland

A variety of connecting cables with pre-attached cable glands available.

Application kits

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", but additionally includes: Filling optimization, material and container weight monitoring, data memory for 100 products	H4
Combination of user programs: weighing, counting, neutral measurement, weighing in percent, animal weighing, checkweighing, classification (3 or 5 classes), totalizing; up to 3 three applications can be combined with one another	I2