



Sartorius Combiics Ex
Intelligent weighing in
hazardous areas

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' subsidiary GWT. 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.

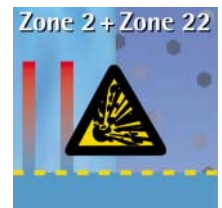
Thanks to the application programs integrated into the explosion-protected Combics 3 indicator, you can upgrade or configure your indicator's functionality at any time, depending on the tasks at hand. Use Combics 3 as a simple weight indicator for platforms and weigh cells, with all the benefits of convenient 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.



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.



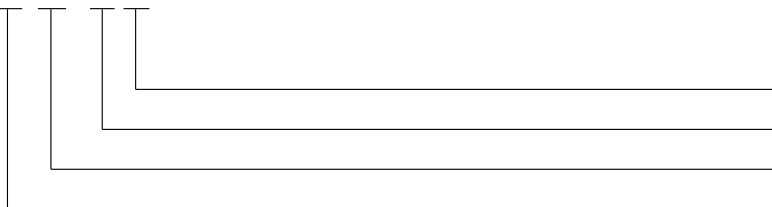
ATEX-compliant approval:
 II 3 GD EEx nR II T6 T80°C

- 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

ATEX marking for the area of use



II 2 GD EEx ib IIC T4 T135°C IP6X

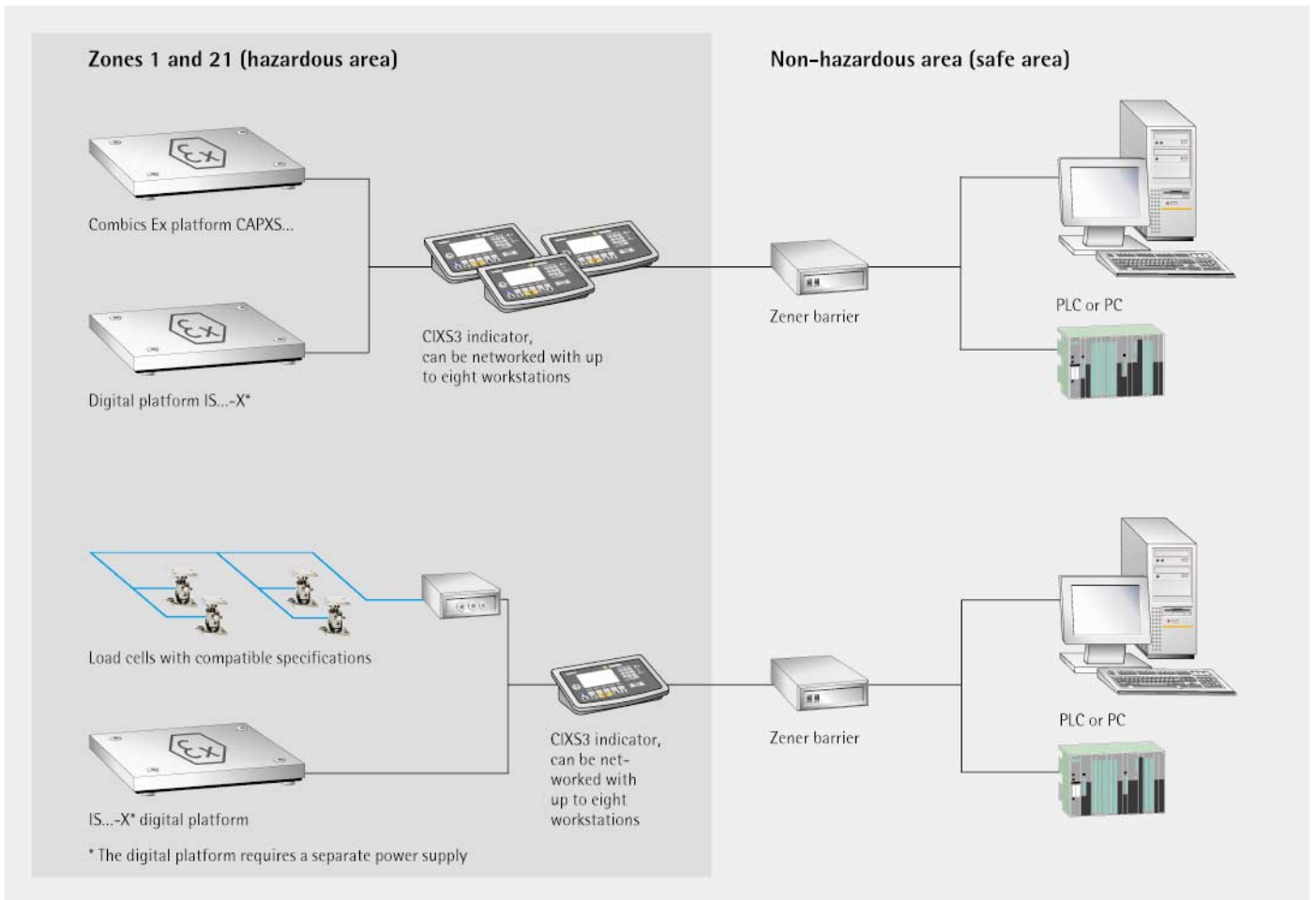


- For dusts (Zone 21)
- For gases (Zone 1)
- Category 2
- Apparatus subgrouping

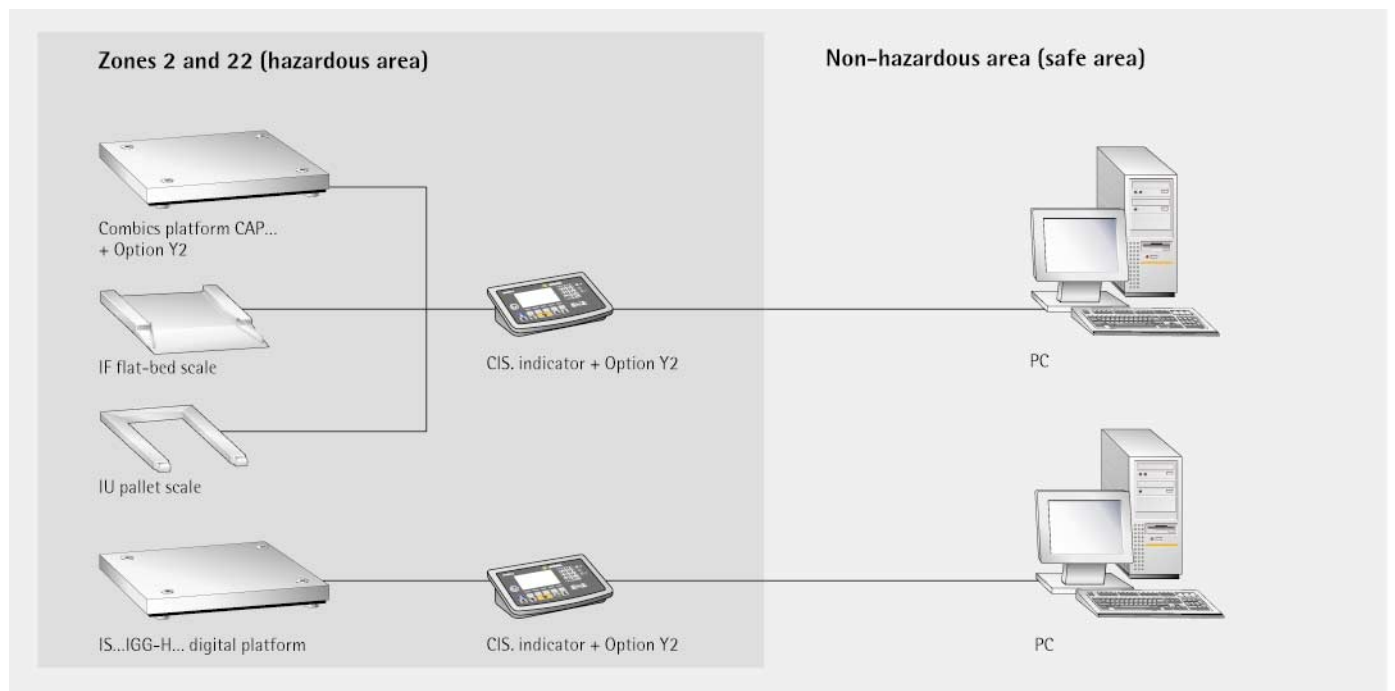


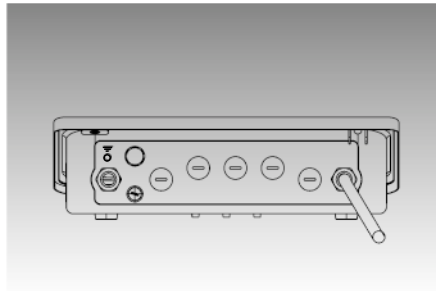
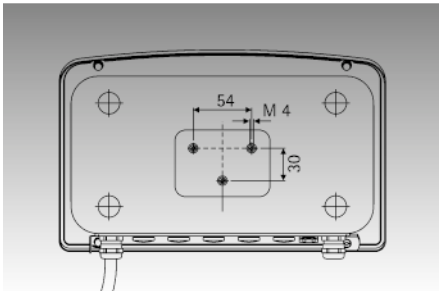
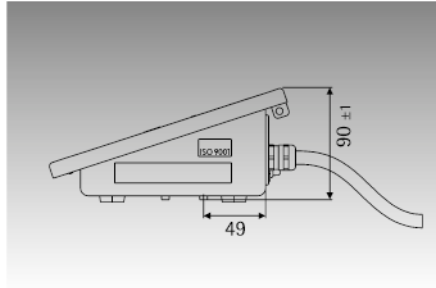
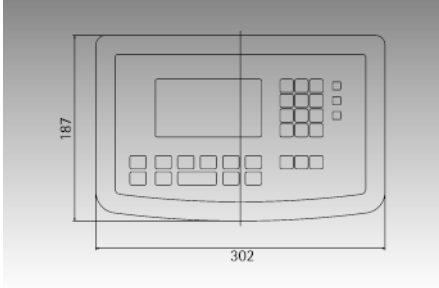
Configuration examples

Combiex components for Zones 1 and 21



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





Power supply module specifications

Input voltage 100 ... 240 VAC
Consumption: 25 VA; frequency: 50|60 Hz
for:

YPS02-X..
(Power supply for installation in hazardous area)
EEx d[ib] IIC T4 II 2 G IP6X II 1 DT 135°

YPS02-Z..
(Power supply for installation in non-hazardous area),
[EEx ib] IIC II (2) G II (1) D

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°C IP6x

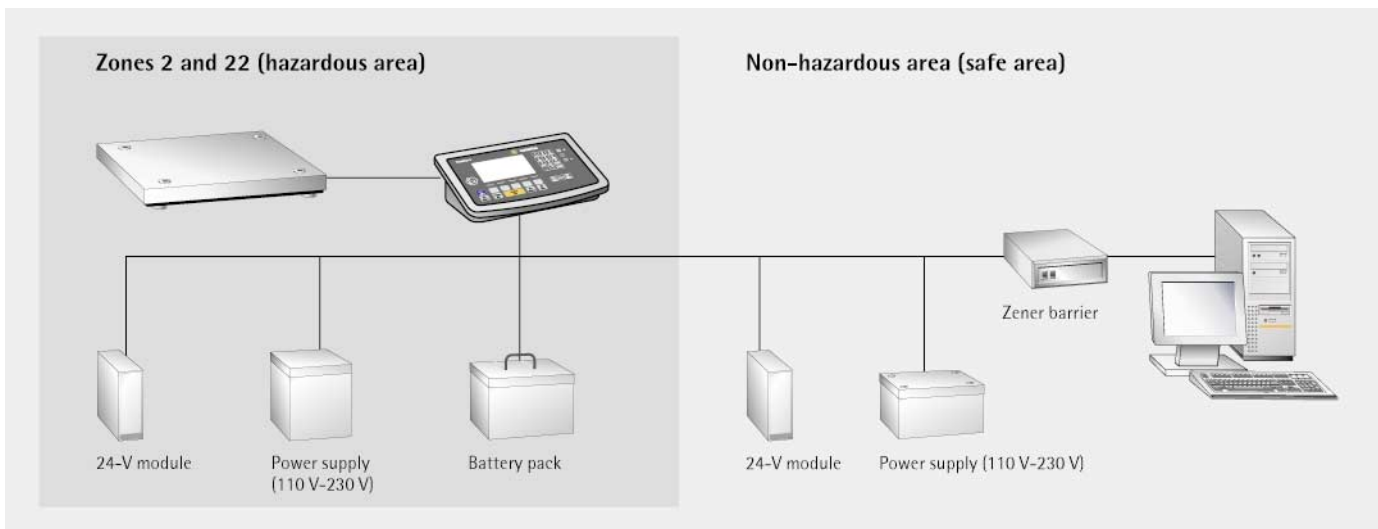
YRB02-X
(External rechargeable battery pack for use in hazardous area, with deep discharge protection)
Approx. 30 hours operation, depending on conditions of installation and use
II 2G 1D EEx em[ib] IIC T4 T80°C

Indicator Specifications

Maximum readability	31,250 digits
Accuracy classes	III IIII
Verification scale interval (as single-range, multiple-range or multi-interval scale)	3,000 e, 2 x 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 19.8 mV
Measuring signal verification scale interval	0.48 µV e1 to 3.16 µV e1
Sensitivity	4 million digits max. (internal)
Digital protective interface	acc. to EN45501
Data interface	Bidirectional RS-232C interface with control outputs (standard equipment)

Additional data interface	Optional
Display	108 x 58 mm graphic display, backlit 58
Housing	
Material	AISI 304 stainless steel
Dust and water protection acc. to EN60529	IP67
Operating temperature range	-10°C to +40°C (+14 to +104°F)
Power supply	100-240 VAC (-15 +10%), 50-60Hz, max. 17W 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 pack
Limitation of emissions	Acc. to EN61326+A1, Class B (IEC 61326+A1)
Defined immunity to interference	Acc. to EN61326+A1, industrial environment (IEC 61326+A1)
Electrical safety	Acc. to EN61010-1 (EC 1010-1), EN60950 (IEC 950)

Typical minimum configuration of a Combi scale:



Sartorius Combiics 3 Ex: indicator and accessories

Combiics 3 indicator, stainless steel housing, IP67 protected (incl. 1 RS-232C interface and 1 configurable interface for RS-232C, RS-422 or RS-485 data communication)	CIXS
Printers and printer accessories	
Verifiable printer with functions for date, time and statistical evaluations	YDP03-OCE
Printer paper (5 rolls; length per roll: 50 m) for data printer	6906937
Replacement ink ribbon cartridge for printer	6906918
Verifiable strip and label printer with thermal direct print head, paper width 108 mm, with adapter cable (12-contact round connector) and external power supply	
Adapter cable YCC01-01CISLM3 required for CISL models.	
With 120-V power supply (USA)	YDP12IS-OCE-V120
With 220-V power supply (EU)	YDP12IS-OCE-V220
With 240-V power supply (UK)	YDP12IS-OCE-V240
Printer paper (1 roll) for YDP12IS -OCE printer, 108 mm x 75 m, thermal-sensitive paper	69Y03196
Labels for YDP12IS-OCE printer, extra large, 108 x 127 m, 305 labels	69Y03195
Verifiable strip and label printer with thermal print head, paper width 60 mm, with adapter cable (12-contact round connector) and external power supply.	
Adapter cable YCC01-01CISLM3 required for CISL models.	
With 120-V power supply (USA)	YDP04IS-OCE-V120
With 220-V power supply (EU)	YDP04IS-OCE-V220
With 240-V power supply (UK)	YDP04IS-OCE-V240
Printer paper (3 rolls) for YDP02/04IS-OCE, 60 mm x 75 m, thermal sensitive paper	69Y03090
Labels for YDP02/04IS-OCE, small, 58 x 30 mm, 1,000 labels	69Y03092
Labels for YDP02/04IS-OCE, medium, 58 x 76 mm, 500 labels	69Y03093
Labels for YDP02/04IS-OCE, large, 58 x 100 mm, 350 labels	69Y03094
Mechanical accessories	
Installation kit for pit frame installation (disconnectable, plug-in style cable for Combiics indicator)	YAS99I
Brackets for wall mounting, stainless steel	YDH02CIS
Floor-mounted column	YDH03CIP
Floor-mounted column, stainless steel	YDH03CIS
Base for installing floor-mounted column	YBP03CIP
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 connecting your Sartorius scale to a computer running Windows® 95 98 NT. This software lets you load the data recorded by your scale in a PC application program such as Microsoft Excel or Access. Includes a cable for connecting the scale to a PC	YSC011
Power supplies	
Battery charger for YRB02-X external rechargeable battery pack	YRB02LD
24-V industrial power supply module	YPS02-XV24
External rechargeable battery pack, min. 30 hours' operation	YRB02-X
Flame-proof power supply for use in hazardous areas, 100 to 240 V EU excluding UK	YPS02-XDR YPS02-XGR
Flame-proof power supply for use in hazardous areas, 100 to 240 V EU excluding UK	YPS02-ZDR YPS02-ZGR
Connecting cables	
Cable with cable gland for connecting a scale or an IS platform, 14-pin round male connector, 0.2 m	YCC02-XR14 F02
Cable with cable gland for connecting a Zener barrier, 14-pin round male connector, 0.2 m	YCC02-XR14 F02
Additional accessories	
In-use dust covers (2)	YDC01CI-X
Anti-theft locking device	YTP01CI
Cable gland for Combiics CIS models; IP67 protected	YAS04CIS
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 Combiics indicators to your equipment. Let us know which accessories you need, 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.

Additional accessories

Anti-theft locking device	L7
Connecting cable with cable gland, for CIS indicators only	
Connecting cable with cable gland for Sartorius scale or IS platform	M5
Connecting cable with cable gland for Zener barrier	M7
Application kit	
"Basic Filling"	H3
"Filling with Extras"	H4

"Basic Filling" and "Filling with Extras" application kits** can be installed in the indicator. Please contact us for information on the required accessories.

** for single-component filling

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