sartorius

**Competence
for safety**
Economy Ex series

Zone 1

Economy and PMA series scales with capacities ranging from 0.1g to 150 kg

Economy series, design "a"

Design "b"

Design "c"

Economy EB
Thanks to their rugged construction, high degree of overload protection and side-impact protection, these scales are ideal for use in industrial settings. All feature a backlit display, which ensures error-free operation. In addition, a special, optimally combined mechatronic system consisting of Sartorius strain gauges, an A/D converter and interference compensation provides for reliable weighing results with a display resolution of 30,000 digits. And if you need quick weight readouts, Sartorius SPEED UP technology delivers results in no time.

Scales in this series are available with the following applications that can be selected by menu code: Counting, mass unit conversion by toggling, weighing in percent (absolute readout or difference – with automatic taring function), second tare memory, 1-l standard formula calculation, totalizing, toggling between gross/net values, and averaging.

An RS-232C data interface (for printer/PC) comes standard.

The power supply must always be ordered separately – models for use within or outside hazardous areas and for specific countries are available (please refer to the typical scale configuration and accessories).
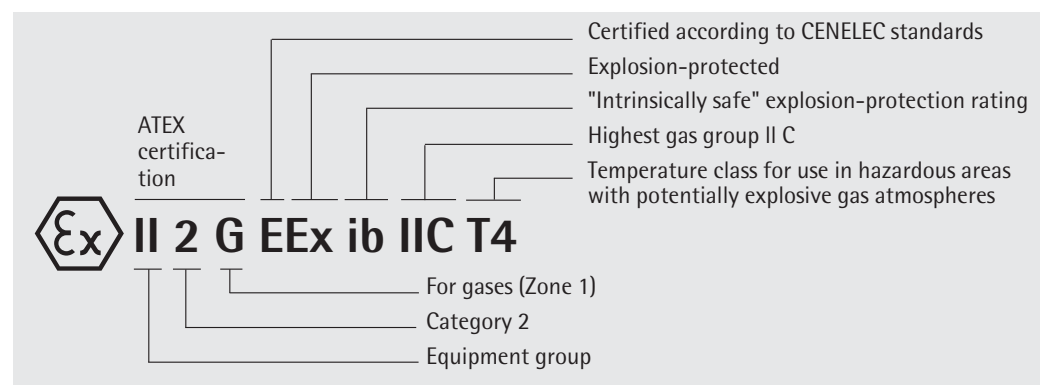

Standard PMA scale, design "d"

PMA
When it comes to performance under rugged ambient conditions, PMA scales meet all your demands. The round, stainless steel weighing pan features a wrap-around design, which means the edges of the pan extend over the sides of the unit to protect the weighing system from dust and spillage of liquids.

Using the scale's built-in formula calculator, you can calculate and weigh the contents of paint cans in various sizes just as easily as the standard, one-liter can.

All scales in the PMA series come with an AC adapter for use outside hazardous areas. Power supplies for use within a hazardous area are also available upon special request – these must be ordered separately.

ATEX certification for Economy series scales: for use in Zones 1 and 2

ATEX certification

Certified according to CENELEC standards
Explosion-protected
"Intrinsically safe" explosion-protection rating
Highest gas group II C
Temperature class for use in hazardous areas with potentially explosive gas atmospheres

$\langle\text{Ex}\rangle$ **II 2 G EEx ib IIC T4**

For gases (Zone 1)
Category 2
Equipment group

Economy | PMA

Model		EB6DCE–IX	EB15DCE–IX	EB35EDE–IX	EB60EDE–IX
Capacity	kg	6	15	35	60
Readability	g	0.2	0.5	1	2
Platform size	mm	320 × 240	320 × 240	400 × 300	400 × 300
Protection rating against foreign objects and water		IP54	IP54	IP54	IP54
Net weight	kg	5	5	8	8
Design		a	a	b	b

Model		EB60FEG–IX	EB150FEG–IX	PMA7500–X	PMA7500D–X	PMA7200–XCEV3
Capacity	kg	60	150	7.5	2.0/7.5	7.2
Readability	g	2	5	0.1	0.05/0.1	0.1
Platform size	mm	500 × 400	500 × 400	⌀ 233	⌀ 233	⌀ 233
Verification scale interval	g	–	–	–	–	1 g
Minimum capacity (EC directive for the EU)	g	–	–	–	–	5 g
Accuracy class		–	–	–	–	K
Protection rating against foreign objects and water		IP54	IP54	IP40	IP40	IP40
Net weight approx.	kg	24	24	5	5	5
Design		c	c	d	d	d

Approval for Economy* power supplies

Country	Approval rating for Economy Ex scales	Power supply for use in hazardous areas	Power supply for use in non–hazardous areas
EU except the UK	EEx ib IIC T4 II 2 G	YPS03–XDR	609308-011
UK	EEx ib IIC T4 II 2 G	YPS03–XGR	609308-211
USA	IS CLI DIV 1 GP A, B, C, D T4	YPS03–XKR	609308-61
Canada	INT. SAFE CLI DIF 1 GP A, B, C,DT4	YPS03–XKR	609308-61

Cable lengths of the power supply (m) primary|secondary|maximum extension: hazardous area 3/3/20   Non-hazardous area 2/20/–
* Economy Ex explosion-protected scales do not include a power supply. Please order one separately
  (see Accessories for Economy/PMA series scales)

Certification for PMA* power supplies

Country	Approval rating for PMA series scales	Power supply for use in hazardous areas	Power supply for use in non–hazardous areas
EU	Except the UK EEx ib IIC T4 II 2 G	YPS03–XDR	609308-011
UK	EEx ib IIC T4 II 2 G	YPS03–XGR	609308-211
USA	IS CLI DIV 1 GP C, D T4	YPS03–XKR	609308-61
Canada	INT. SAFE CLI DIV1 GP C, D T4	YPS03–XKR	609308-61
Australia/New Zealand	Ex ib IIC Class I Zone I	–	609308-4

Cable lengths of the power supply (m) primary|secondary|maximum extension: hazardous area 3/3/20   Non-hazardous area 2/20/–
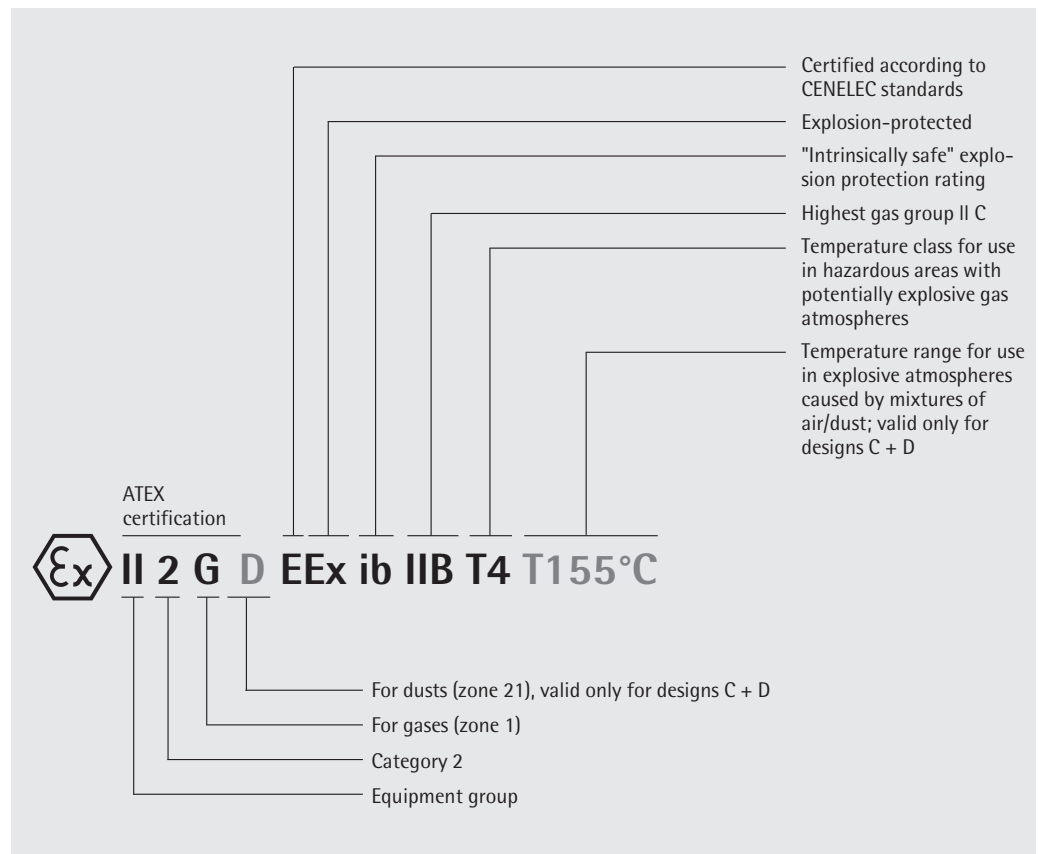* PMA Ex explosion-protected scales include an AC adapter for use in non-hazardous areas.

Zone 1

Zone 21

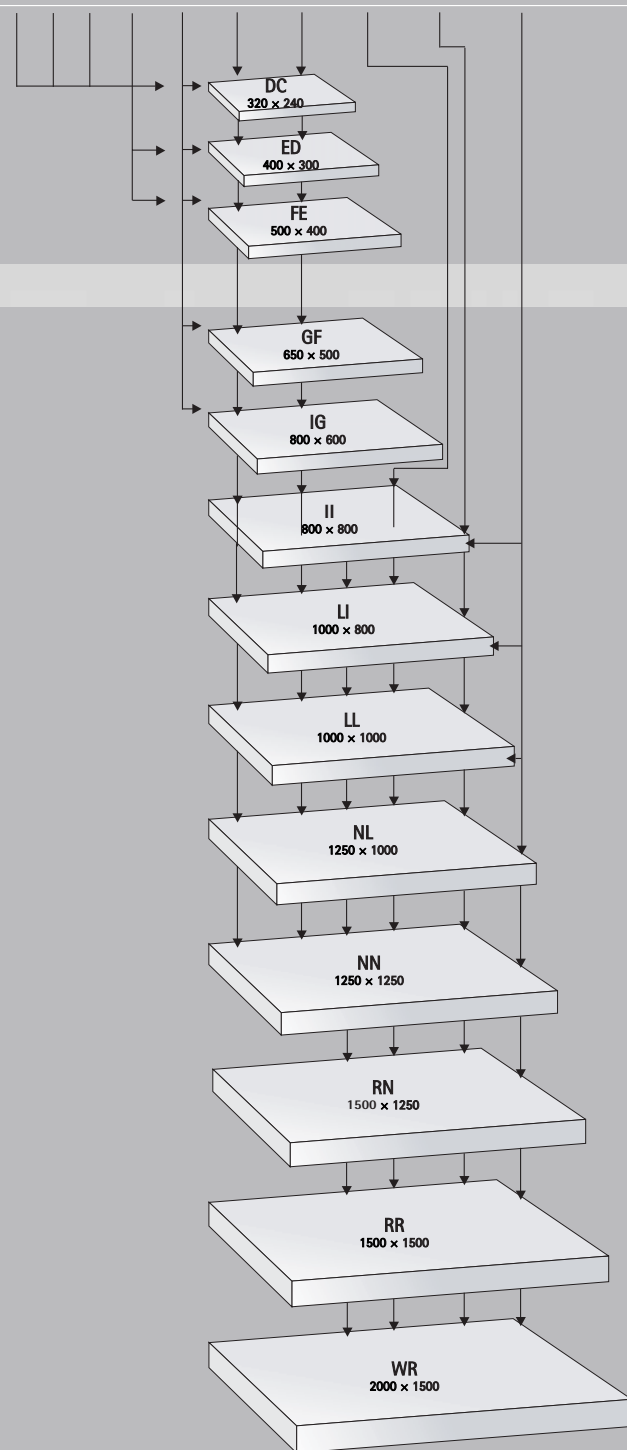## "Stainless steel" Economy series with capacities ranging from 0.2 g to 3 t
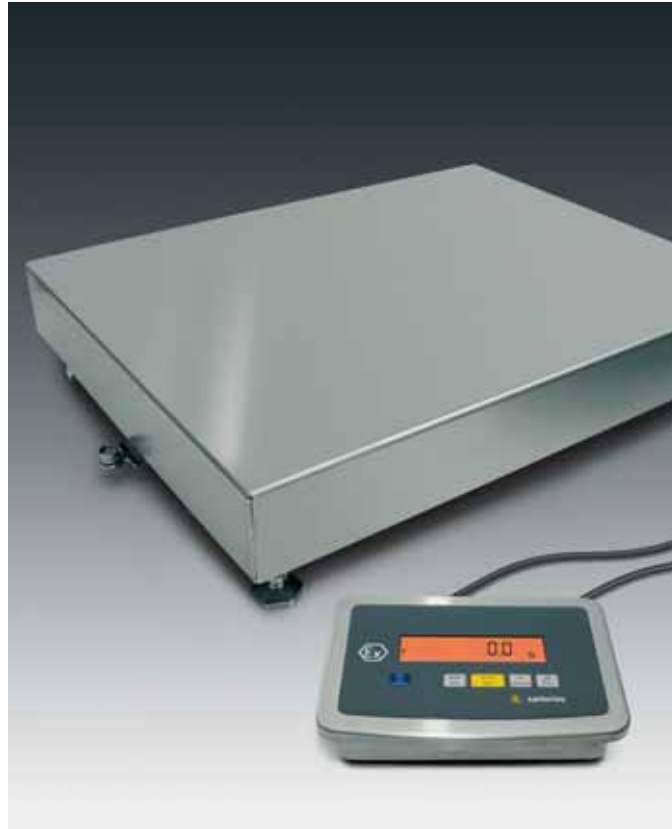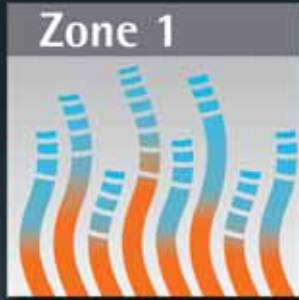
This intrinsically safe series of scales is intended for use in industrial production areas located in zones 1 and 21 that are at risk of explosion from gas or dust. Their completely stainless steel design and high IP protection rating make Economy "Stainless Steel" scales ideal for use in rugged production areas. The series features models with capacities ranging from 3 kg to 3 t in 45 different platform sizes.

Depending on your local conditions with regard to line voltage, you can choose to use a power supply within or outside the hazardous area. To enable data transfer to a printer or a controller in the non-hazardous area, the scales are equipped with an RS-232C data interface (or an RS-422 interface as an option for distances up to 1,000 m). An interface converter (RS-232C-RS-232C or optionally RS-422-RS-232C) ensures that the hazardous area is separated from the non-hazardous area.

Certified according to CENELEC standards

Explosion-protected

"Intrinsically safe" explosion protection rating

Highest gas group II C

Temperature class for use in hazardous areas with potentially explosive gas atmospheres

Temperature range for use in explosive atmospheres caused by mixtures of air/dust; valid only for designs C + D

ATEX certification

⟨Ex⟩ **II 2 G D EEx ib IIB T4 T155°C**

For dusts (zone 21), valid only for designs C + D

For gases (zone 1)

Category 2

Equipment group

Economy Ex complete scale

EC1X	S	1	–	300	FE	–	L
Display unit	Material: S = stainless steel	Number of load cells		Selection of capacities in kg			Resolution: 15,000 d = L

Selection of capacities in kg

| 3 | 6 | 15 | 30 | 60 | 150 | 300 | 600 | 1500 | 3000 |

Readability in g

| 0.2 | 0.5 | 1 | 2 | 5 | 10 | 20 | 50 | 100 | 200 |

DC
320 × 240

ED
400 × 300

FE
500 × 400

EC1X	S	4
		Number of load cells

GF
650 × 500

IG
800 × 600

II
800 × 800

LI
1000 × 800

LL
1000 × 1000

NL
1250 × 1000

NN
1250 × 1250

RN
1500 × 1250

RR
1500 × 1500

WR
2000 × 1500

Code for platform
dimensions for EC1XS

C	= 240
D	= 300│320
E	= 400
F	= 500
G	= 600│650
I	= 800
L	= 1,000
N	= 1,250
R	= 1,500
W	= 2,000

Example of an order number for an EC1XS scale with 4 load cells:
EC1XS4–1500 LL-L

Typical weighing configuration for the EC1XS

Hazardous area	Non-hazardous area

Power supply
YPS05-X.

YDI

Interface converter
or Zener barrier
YCO01-Y
YDI05-Z

ib

PLC or PC

Power supply
YPS05-Z.

Printer

Typical weighing configuration for the EB-X│PMA

Hazardous area II 2 G	Non-hazardous area

YPS02-XV24   YPS03-X   YRB02-X

YPS02-XV24   609308-..

Power supply
(110 V–230 V)

24-V
module

Power supply
(110 V–230 V)

Rechargeable
battery

24 V
module

ib

Interface
converter or
Zener barrier

PC

PLC

Economy EB-X

Foot switch

Printer
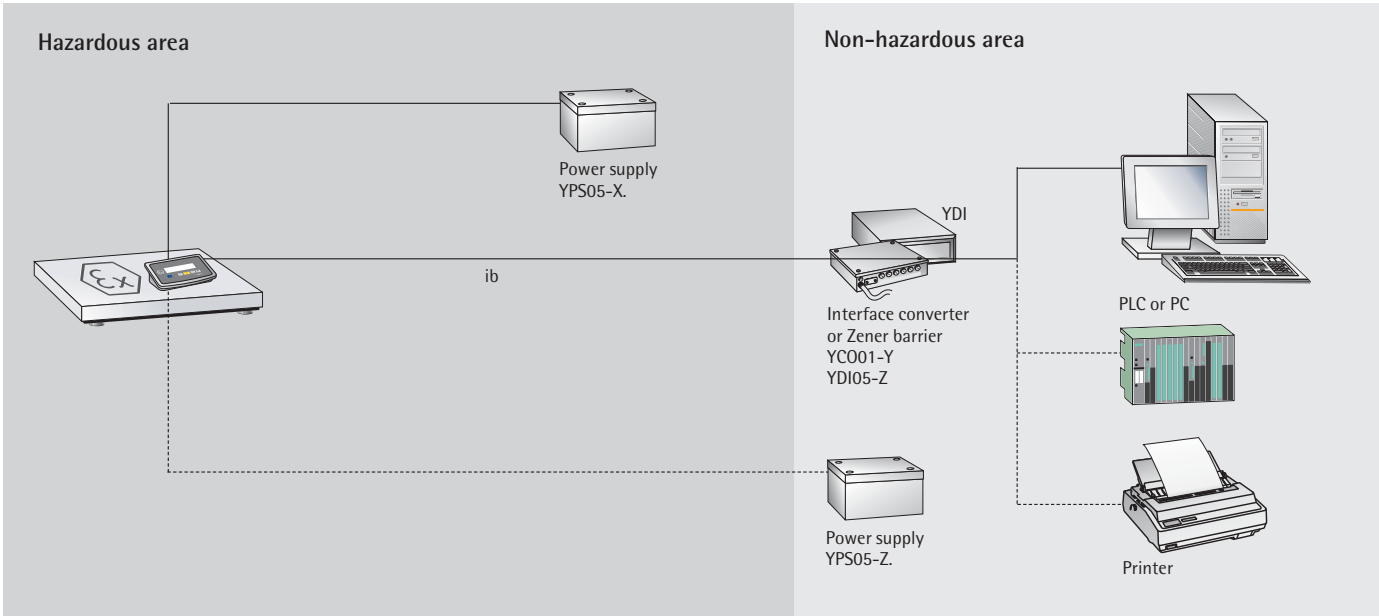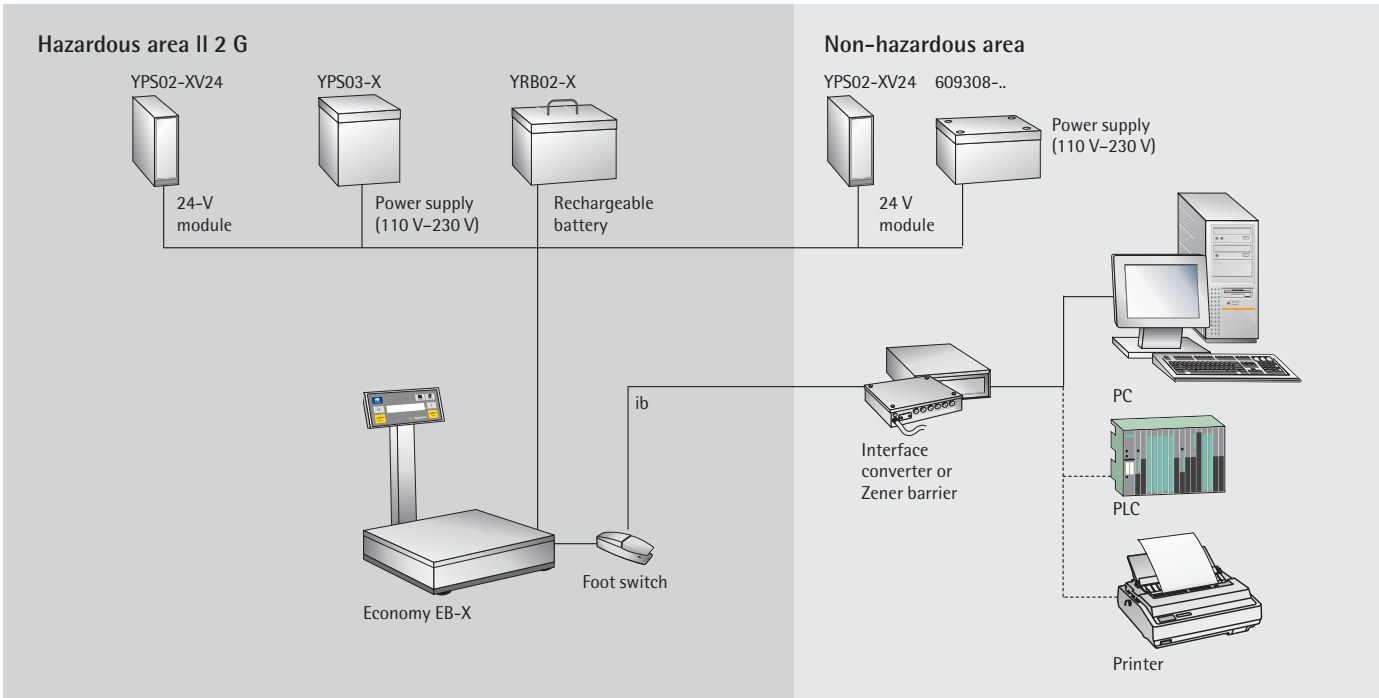
-------- Alternative configuration variation

Accessories

EB–X and PMA

Description	Order no.
Interfaces	
Interface converter for installation in non-hazardous areas or zones 2 and 22 to connect peripheral devices in the non-hazardous area; intrinsically safe data interfaces: RS-232C, RS-485, RS-422, TTY, 4 digital I/O, data interfaces in the non-hazardous area: RS-232C, RS-485, RS-422, TTY, USB, 4 digital I/O	YCO01-Y
Printers and printer accessories	
Label printer verifiable for use in legal metrology with thermal printing head, up to 60 mm paper width, with external 100–240-volt AC adapter	YDP04IS-0CEUV
Labels for YDP04IS-0CEUV + YDP12IS-0CEUV: Labels, 58 × 30 mm (quantity: 1,000) Labels, 58 × 76 mm (quantity: 500) Labels, 58 × 100 mm (quantity: 380)	69Y03092 69Y03093 69Y03094
Printer paper for YDP04IS-0CEUV + YDP12IS-0CEUV: 3 paper rolls; 60 mm x 75 m, thermal-sensitive paper	69Y03090
Printer verifiable for use in legal metrology with date, time and statistics program	YDP03-0CE
5 paper rolls, 50 m each, for YDP03-0CE/YDP04)	6906937
Ink ribbon cassette (spare) for YDP03-0CE/YDP04)	6906918
Mechanical accessories	
Display holder for bench or wall mounting (for remote use)	YDH03EA
Holder (for the YDH03IS column, YDH02CIS or wall mounting) for explosion-protected rechargeable battery YRB02-X	YBPH01
Power supplies	
Power supply for installation outside the hazardous area – EU except the UK (220–240 V)	609308-011
Power supply for installation outside the hazardous area – UK (220–240 V)	609308-211
Power supply for installation outside the hazardous area – USA (100–120 V)	609308-61
Power supply for installation inside the hazardous area – EU except for the UK (220–240 V)	YPS03-XDR
Power supply for installation inside the hazardous area – UK (220–240 V)	YPS03-XGR
Power supply for installation inside the hazardous area – USA (100–120 V)	YPS03-XKR
Explosion-protected rechargeable battery for zones 1, 21, 20	YRB02-X
Cables	
Connecting cable for explosion-protected rechargeable battery in hazardous areas; for EB-X scales with round female connector to round male connector, 7-pin	YCC02-XRBEX
Cable without connectors LiY6x(2x0.14C)Y Blue sheathing; recommended, for example, for RS-422 interface, digital IN, 1 m = 1 cable	YCC422-X
Cable without connectors LiY6x(2x0.14C)Y Blue sheathing; recommended, for example, for RS-232C interface, 1 m = 1 cable	YCC232-X
Cable without connectors 5x0.52 LiYCY Blue sheathing; recommended, for example, for TTY 10 mA interface (fits optional TTY interfaces), 1 m = 1 cable	YCCTTY10-X
Cable without connectors, 2x0.22 LiYCY Blue sheathing; recommended, for example, for RS-485 interface, 1 m = 1 cable	YCC485-X
Cable without connectors, 6x2xAWG24; recommended, for example, for RS422 interface, digital OUT, RS232C, 1 m = 1 cable	YCC422-Y
Round male connector for configuring own cable, 14-pin, IP65	69Y03166

Description	Order no.
Electrical accessories	
Zener barrier (4 data lines) to connect accessories in non-hazardous areas, e.g., printer/PC; cable length between scale and Zener barrier 20 m	YDI02-Z
T-connector (1 input, 2 outputs), 14-pin Round connector, 1-m cable for connecting the foot switch and a printer	YTE02-X
Foot switch to activate tare or print functions 2-m cable (installation by Fast Factory)	YPE05-X
Charger for explosion-protected rechargeable battery YRB02-X (located in non-hazardous area)	YRB02LD

Economy "Stainless Steel" EC1XS

Description	Order no.
Power supplies	
Power supply for installation outside the hazardous area, includes country-specific cord with female connector (IEC 320/7)	YPS05-ZD
Power supply for installation within a hazardous area	YPS05-XD
Mechanical accessories	
Column for the complete scale	YBH01CWS
Floor-mounted column	YDH03CIS
Base for installing the YDH03CIS floor-mounted column	YBP03CIS
Bracket for wall-mounting the display unit	YDH01CIS
Bracket for wall-mounting the display unit (tiltab6)	YDH02CIS
Retainer plate for display unit	YDH12CWS
Cable gland	YAS04CIS
Electrical accessories	
Interface converter (with various options; s. 65710-740-50-A4) standard: RS-232C <--> RS-232C option A25: RS-422 <--> RS-232C for YDO05-X Indicate cable length to scale when ordering	YDI05-Z
Interface converter and cable without connectors (please refer to Accessories for the EB-X)	YCO01-Y
Foot switch with cable gland (M16x1.5) YAS04CIS must be installed at the weighing location	YPE05-X
Interfaces	
RS-422 data interface	YDO05-X
Printers	
Printer	YDP03-0CE
Printer	YDP04IS-0CE
Cables	
Cable (5 m), 12-pin round to 25-contact D-SUB (PC)	YCC01-03ISM5
Cable (5 m), 12-pin round to 9-contact D-SUB (PC)	YCC01-09ISM5
Cable (3 m), 12-pin round to 9-contact D-SUB for YDP03-0CE	YCC01-0016M3
Cable (3 m), 12-pin round to 9-contact D-SUB for direct connection to a YDP03-0CE	YCC01-0019M3
Cable (1.5 m) for connection to a YDP04IS-0CE	69Y03142