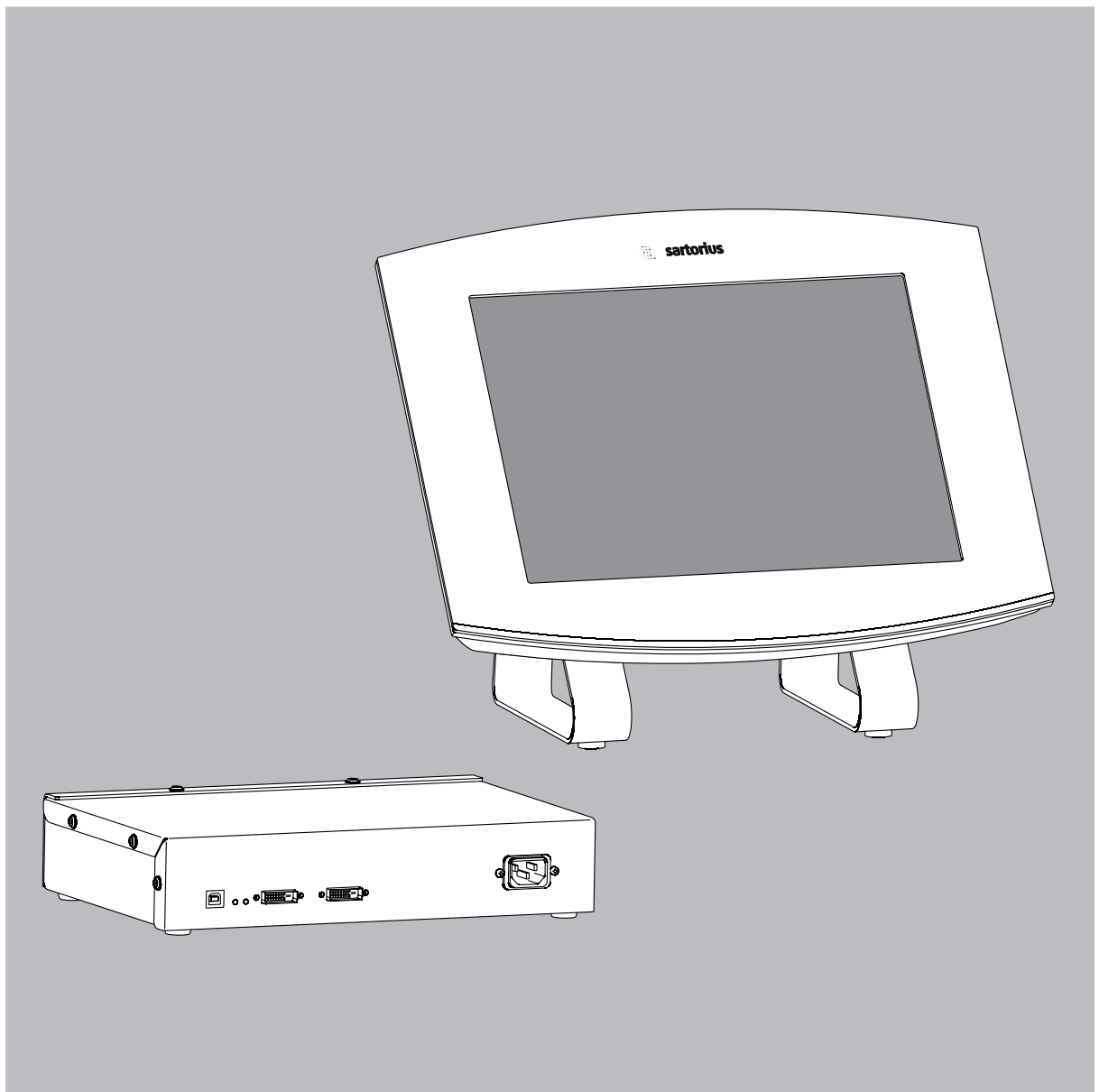


Operating Instructions

Sartorius TopMix2.Touch

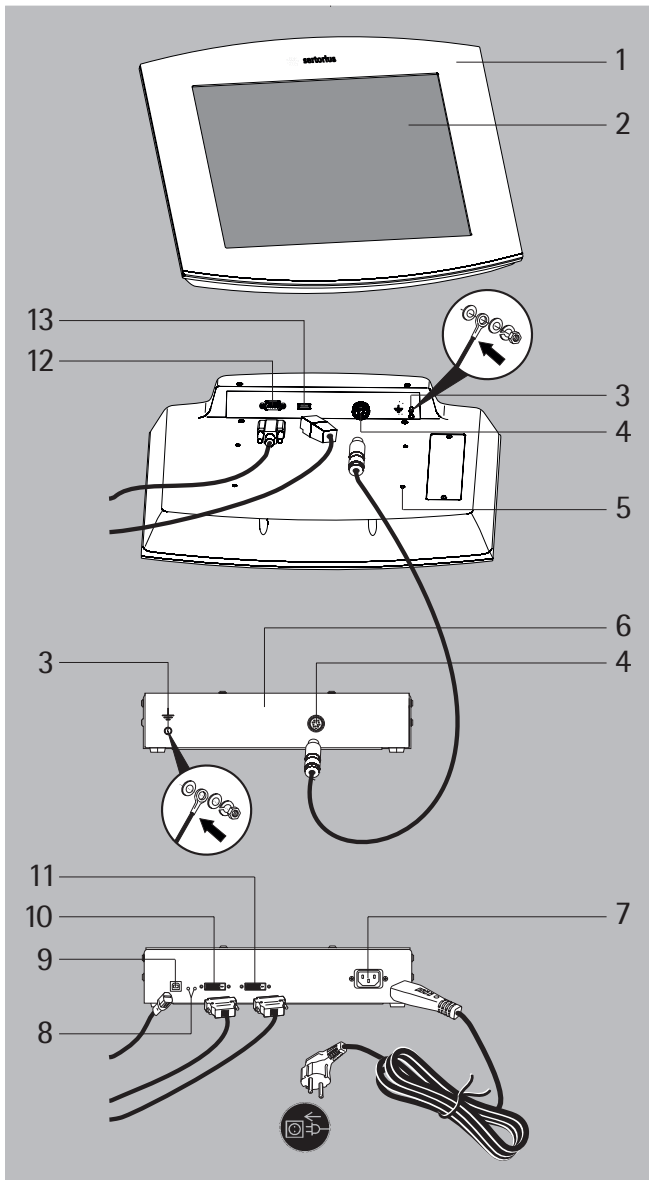
Model TM02-X
Paint-mixing terminal/control panel for potentially explosive areas



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General View of the Equipment



Item	Description
1	Control unit
2	Touch screen
3	Equipotential bonding connector
4	Ex-link cable connection YCC01-0049M20, length: 20 m; connects the terminal/control panel to the ex-link converter
5	Bore holes (4x) for support bracket YWB06
6	Ex-link converter
7	Connector for the power cord, supply voltages: from 90 to 264 VAC
8	LEDs
9	Interface
10	Connection between the ex-link converter and a standard PC outside the potentially explosive area Connector for the VGA video cable YCC01-0039M3, length: 3 m
11	Connector for monitor (VGA test monitor) outside the potentially explosive area
12	Scale connection, e.g.: PMA7501-X
13	USB socket for keyboard

User Information

About these Installation Instructions

- ▶ Please read these installation instructions carefully before putting the equipment into operation for the first time.
- ▶ Make sure to follow the safety instructions.
- ▶ Keep these installation instructions in a safe place that is easily accessible to all personnel who operate this equipment.
- ▶ If these instructions are lost, please contact Sartorius for a replacement or download the latest manual from our website, www.sartorius.com.

Warning/Danger Symbols

Warning/danger symbols used in these instructions:



This symbol identifies hazards which have a high probability of resulting in death or serious physical injury if not avoided.



This symbol identifies hazards that can result in moderate or mild injuries if not avoided.



This symbol identifies hazards associated with the risk of material damage.



This symbol identifies useful information and tips.

Explanation of Symbols

The following symbols are used in these instructions:

- ▶ Indicates a required action
- ▷ Describes what happens after you have performed a particular step
 1. Perform steps in the specified order
 - 2.
- Indicates an item in a list

Intended Use

The Sartorius TopMix2.Touch has been designed for use in paint-mixing applications. It consists of an operator terminal (TM02-X, monitor and touch screen) and an ex-link converter (YCO12-Z) which is installed outside the potentially explosive area. They are both linked together by the special 20 m cable provided.

The TM02-X is used in potentially explosive areas. An explosion-protected, intrinsically safe scale can be connected to the TM02-X. The intrinsically safe TopMix2.Touch keyboard YKB01TM-X may optionally be connected to the TM02-X terminal/control panel.

A PC may be connected to the ex-link converter (YCO12-Z) outside the potentially explosive area using a DVI video and USB cable.

The scale connected to the TM02-X can be controlled by the user's software installed on the PC.

The process data are visible on the TM02-X DVI display at all times during mixing. A test monitor may also be connected to the ex-link converter (YCO12-Z) outside the potentially explosive area.



Make sure to read and store these installation instructions carefully before installing and operating your TopMix paint-mixing weighing system.



The TM02-X terminal/control panel may not be used as a standard office PC.

Safety Precautions

Legal Information

This device meets stipulated safety requirements. Improper use or handling, however, can result in damage and/or injury.

The manufacturer is not responsible for any damage caused by non-compliance with warnings or safety instructions.

- The requirements pertaining to applicable installation regulations must be followed when using electrical equipment in systems and environmental conditions with increased safety requirements.



The use of the terminal/control panel and the ex-link converter (YCO12-Z) is not permitted in legal metrology or in medical areas or potentially explosive areas containing dust or explosive materials.

- The intrinsically safe terminal/control panel and the ex-link converter (YCO12-Z) have been manufactured in accordance international standards (see certificates in the appendix).
The TopMix can be operated with intrinsically safe Sartorius scales in the hazardous area/location, e.g.: PMA7501-X (see: "Verification of Intrinsic Safety", drawing number 36942-751-60, for ATEX and "Control drawing", drawing number 36942-751-07, for Canada and the USA).



The IP protection of the TM02-X terminal/control panel and the ex-link converter YCO12-Z is IP40 as per IEC60529. The device must be handled carefully in accordance with the IP protection rating. The environment must be suitably secured.



The TopMix meets all requirements for electromagnetic compatibility (EMC). Interference stronger than the maximum values specified in the standards (see Declarations of Conformity) should be avoided.



The casing on all connection cables as well as the casing on the wires inside the equipment housing are made of PVC. Chemicals that corrode this material must be kept away from these cables. None of the components of the TopMix should be exposed to ambient temperatures outside the range of 0°C to 40°C during operation. Sufficient ventilation must be provided, in order to avoid excessive build-up of heat.



The equipment must only be used indoors. Avoid generating static electricity on glass and plastic parts. The TM02-X terminal/control panel and the ex-link converter (YCO12-Z) must be connected to the equipotential bonding conductor using a suitable low resistance method. All electrical circuits are earthed and electrically connected to the metal parts of the device.

- The installation must be checked for correct function and safety by a trained and qualified person at appropriate intervals (e.g. checking the cable for damage).
- Operating personnel must be trained to recognize faulty operating states and to be able to initiate the necessary safety measures (e.g. disconnecting the ex-link converter YCO12-Z from the power supply).



Proceed with extreme caution when using pre-wired connection cables purchased from other manufacturers, as the pin assignments may not be compatible with Sartorius equipment. Only use cables and cable lengths approved by Sartorius.

- The operator is solely responsible when using cables not supplied by Sartorius.



The ex-link converter (YCO12-Z) should only be opened by trained personnel with the power disconnected. Danger to life: do not touch conductive parts of the power supply wiring!



The TM02-X terminal/control panel must be installed and operated, such that the front glass panel cannot be damaged (e.g. by falling objects). If the glass panel is damaged, disconnect the device from the power supply immediately.



A defective device may only be repaired by trained service technicians in accordance with Sartorius guidelines. Only original replacement parts should be used. Always ensure that the equipment is disconnected from AC power before performing any maintenance, cleaning, or repair work. If the equipment is opened by anyone other than persons authorized by Sartorius, all claims under the manufacturer's warranty are forfeited. If necessary, speak to your dealer or the Sartorius Service Center.

Ex Zone 1 (Category 2 Equipment)

- In accordance with Directive 94/9/EC, the TopMix terminal (TM02-X) is a category 2 device, suitable for use in Zone 1 potentially explosive areas.
EC Type Examination Certificates: DEKRA 12ATEX0246 X marking: II 2G Ex ib mb IIB T4 Gb
- The ex-link converter (YCO12-Z) is an associated electrical equipment for use outside the potentially explosive area with the following marking II (2)G [Ex ib Gb]IIB as per EC Type Examination Certificate No DEKRA 12ATEX0246 X
It may only be connected to supply voltages of 90 V to 264 V at a frequency of 48 – 62 Hz.

IECEX

The TopMix terminal, the keyboard and the ex-link converter are also IECEX certified by DEKRA (see Certificate IECEX DEK 12.0072X in the appendix).

Class I, Division 1 / Class I, Zone 1

The TopMix terminal, the keyboard and the ex-link converter are certified by FM Approvals for use in hazardous locations in Canada and in the USA (see Certificates Compliance in the appendix).



If the device is used in potentially explosive areas, the relevant national electrical codes and safety regulations must be observed. Ask the dealer or Sartorius Service Center about the guidelines that apply in their country.

The following points must be followed:



The TopMix should only be opened by trained personnel with the power disconnected.



The device is intended to be installed exclusively in locations that offer sufficient protection against the penetration of solid foreign bodies or water. The safety of the equipment is compromised by foreign bodies and water.

The terminal/control panel must be protected against damage and direct or indirect penetration of water and foreign bodies (< 1 mm diameter).



Avoid generating static electricity on the glass panel of the touch screen and plastic casing. The equipotential bonding conductor of the device must be connected properly, in accordance with the commonly accepted technical standards.

Only clean the device as stipulated in the cleaning instructions.

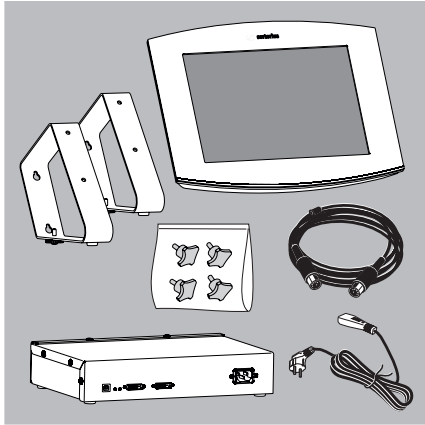


Take care that the glass panel of the touch screen is not damaged (e.g. by falling objects, impacts or extreme pressure).

If the glass panel is damaged, disconnect the device from the power supply immediately.



The surface of the touch screen should not be touched with pointed, sharp, hard, or rough objects. You should only use the touch pen provided or your finger tip. Do not use parts of clothing (e.g. sleeves) or sponges for cleaning because these can scratch the surface (e.g. due to rivets, buttons in the sleeve, or sand in the sponge). The device must be protected from unnecessarily extreme temperatures, corrosive chemical vapors, moisture, shocks, and vibrations. Note the connection data (see EC Type Examination Certificate of the device and/or the safety instructions, drawing no. 36942-750-16). If a non-intrinsically safe scale is connected, then you cannot connect an intrinsically safe scale later on.



Equipment Supplied

- ▶ Remove the device from the packaging.

The TopMix comprises the following system components:

- Terminal/control panel (TM02-X), with liquid crystal display and touch screen for use in Zone 1 potentially explosive areas
- Ex-link converter (YCO12-Z) for installation outside of the potentially explosive area
- TopMix ex-link cable YCC01-0049M20, for connecting the terminal/control panel (TM02-X) to the ex-link converter, length: 20 m
- DVI video cable YCC01-0051M3 to connect a standard PC to the ex-link converter outside the potentially explosive area, length: 3 m
- TopMix PC USB cable (YCC01-0040M3) to connect a standard PC to the ex-link converter outside the potentially explosive area, length: 3 m
- D-SUB 9-pin cable YCC01-0041M3 to connect a scale, length: 3 m
- Power supply cable for the ex-link converter
- 3 Grounding cables YCC01-X046M2
- Installation instructions
- Bracket for wall and table installation (YWB06)

Plus any optional accessories not illustrated.

- ▶ After unpacking the equipment, check immediately for any visible external damage. If you detect any damage, proceed as directed in the “Safety Inspections” chapter (page 13).

Installation



The TopMix TM02-X terminal/control panel is authorized for use in Zone 1 potentially explosive areas (see documents).

IMPORTANT

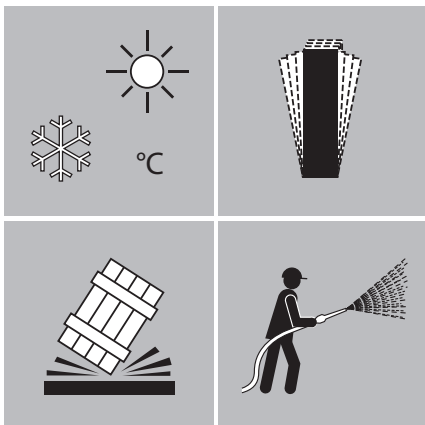
Make absolutely sure that the device is unplugged from the power supply before connecting/disconnecting data transfer or control lines.

Installation Location



Choose a suitable location where the power supply will not be exposed to drafts, heat radiation, moisture, or vibrations.

- ▶ Remove the protective film from the touch screen.




Installation Instructions

The following ambient conditions must be avoided when selecting the installation location of the terminal/control panel (TM02-X) and the ex-link converter (YCO12-Z) so you can work with extra speed and accuracy:

- Uneven installation location
- Drafts
- Extreme moisture or chemical vapors
- Extreme heat (e.g. avoid placing the terminal/control panel in close proximity to a heater or exposing it to direct sunlight) Do not set up the device in a control cabinet or in any other poorly ventilated location.
If several ex-link converters are used, do not stack them.
- Extreme vibrations

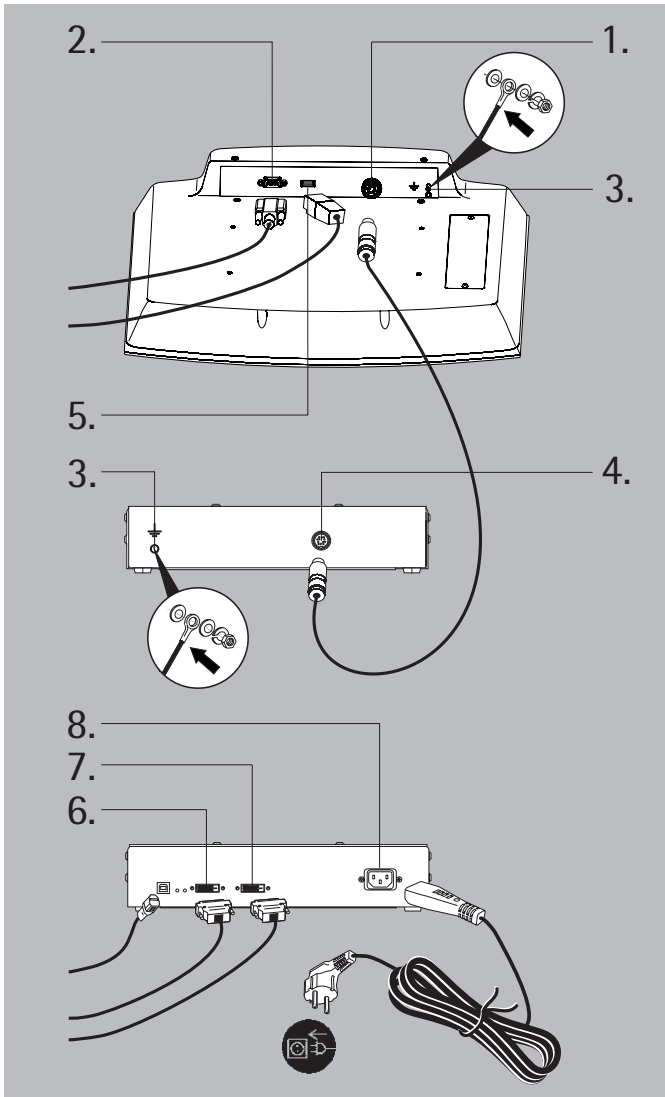


Follow all warnings and safety precautions.

- Before startup, make sure that the power cable is properly connected to the power supply. In particular, the protective conductor must be connected to the housing of the ex-link converter. Connect all devices to the potential equalisation using a ground connection cable (not included) via the equipotential bonding conductor terminals  on the device.
Make sure that the cable gauge conforms with national specifications.
Installation must be carried out properly by trained personnel and according to commonly accepted technical standards.
- Only cables and cable lengths approved by Sartorius should be used, which take account of the limitations of the cable lengths due to the capacity and inductance values (see appendix on EC Type Examination Certificate) and the EMC behavior.
- The external devices connected to the ex-link converter should not be able to supply peak voltages greater than 375 V to the limits of the ex-link converter.
- The system should only be operated for the first time when it is certain that the area is not potentially explosive.
- If deviations due to transport damage are evident during startup (no display, no backlighting, etc.), the system should be disconnected from the power supply and service professionals should be contacted.
Make absolutely sure that the device is unplugged from the power supply before connecting/disconnecting data transfer or control lines.
The explosion-protected TopMix paint-mixing weighing system should be set up in accordance with commonly accepted technical standards. The applicable national electrical codes and safety regulations for your particular country must be observed.
- Before commissioning the weighing system in potentially explosive areas, a check must be carried out by or under the supervision of a qualified electrician to ensure that the system is in good working order.

Installing the TM02-X Terminal/Control Panel

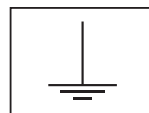
Connecting to the Ports



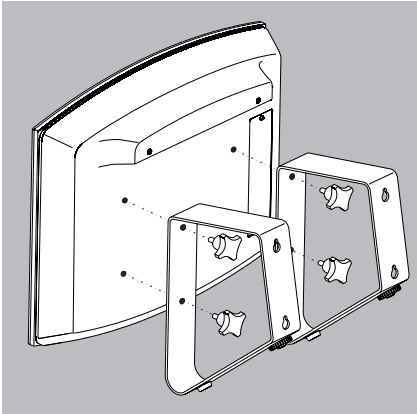
Secure all plugs and wires to the TopMix using the respective safety screws or retaining clips so that no plug can come loose accidentally from the device during operation.

Only use cables and cable lengths approved by Sartorius, see Accessories.
Cables not provided by Sartorius are the responsibility of the operator.

1. Screw the TopMix ex-link cable YCC01-0040M20 (length: 20 m) to the terminal/control panel.
2. Scale connection e.g.: PMA 7501-X
Connect the PMA with the D-SUB 9-pin cable YCC01-0041M3.
Tighten the safety screws firmly.
3. Connect the equipotential bonding connector.
This explosion-protected system should be set up according to commonly accepted technical standards. The applicable national electrical codes and safety regulations for your particular country must be observed. Before commissioning the TopMix, a check must be carried out by or under the supervision of a qualified electrician to ensure that the system is in good working order.
Check whether or not the competent authorities (e.g. industrial supervisory board) need to be informed. It is also necessary to carry out inspections of the system during operation.
Inspection intervals should be such that any significant defects that may occur can be identified in good time. Inspections should be carried out at least once every three years. The applicable requirements and guidelines should also be observed during operation.



Establish a low resistance connection between the TM02-X terminal/control panel and the ex-link converter YC012-Z using a suitable grounding cable with a gauge of at least 4 mm² (included) via the equipotential bonding conductor connections (PA) on the device. Installation must be carried out properly by trained personnel and according to commonly accepted technical standards. The system should only be operated for the first time when it is certain that the area is not potentially explosive. If deviations due to transport damage are evident during startup (e.g. no display, no backlighting), the system should be disconnected from the power supply and service professionals should be contacted.



- ▶ The terminal/control panel (TM02-X) can also be attached to the wall. Attach the bracket using the 4 screws. For drilling template, see chapter Scale Drawings (Dimensions).



When mounting the terminal/control panel on the wall, the mounting surface and fasteners must be capable of supporting a minimum weight of 40 kg. The fasteners can withstand a force up to four times greater than the weight of the device.



Make sure you use the appropriate fasteners/accessories and tool.

Installing the Ex-Link Converter (YCO12-Z)

4. Insert the TopMix ex-link cable YCC01-0049M20 (length: 20 m) into the ex-link converter (YCO12-Z) (Ex side). Tighten the safety screws firmly.
5. USB port:
Insert TopMix PC USB cable (YCC01-0040M3) for connecting a standard PC to the ex-link converter outside the potentially explosive area (PC side), length: 3 m.
6. Insert the connecting cable (DVI video cable YCC01-0051M3) for connecting a standard PC to the ex-link converter outside the potentially explosive area (PC side), length: 3 m. Tighten the safety screws firmly.
7. Option to connect a monitor (inspection monitor) outside of the potentially explosive area (PC side).
8. Connect the device to power supply (PC side).



Follow all warnings and safety precautions.



The ex-link converter (YCO12-Z) can also be attached to a wall or under a table.

Mains Connection

Power is supplied via the power cord provided. In the ex-link converter YCO12-Z there is a built-in power supply which is designed to operate at supply voltages between 90 and 264 V and at a frequency of 47-63 Hz. If the stated supply voltage/frequency is outside of this specification or the type of power supply plug does not match the rating or standard you use, please contact your dealer.



The ex-link converter YCO12-Z is only suitable for installation outside of the potentially explosive area.
When operating the TopMix (TM02-X) in potentially explosive areas, follow the current standards and regulations for the installation of devices in hazardous areas/locations.

Switching the TopMix Weighing System On and Off

- ▶ The terminal/control panel (TM02-X) can be switched on and off by switching the PC on and off.
- > The ex-link converter YCO12-Z remains in standby mode, even when the PC is switched off.
 A green LED (on the D-SUB plug) illuminates brightly.

If the PC is switched on, the green LED flashes.

The terminal/control panel is switched on by recognizing the video signal.

LEDs: LED – red:
 permanent = error

 LED – green:
 permanent = operational
 flashing = operational plus video data

- ▶ Switch the system off when it is not in use.
- ▷ The TM02-X terminal/control panel is now ready for operation and can be turned on.

Care and Maintenance

Service

Regular servicing by a Sartorius technician will ensure continued functional safety. Sartorius offers its customers service contracts with regular maintenance intervals ranging from 1 month to 2 years.

The maintenance interval depends on operating conditions and requirements.

Repairs



Disconnect defective equipment from power supply immediately. Repair work must be performed only by authorized Sartorius service technicians using original replacement parts. Repairs performed by untrained persons may result in considerable hazards for the user.

Safety Inspections

Safe operation of the device is no longer ensured when:

- the device has visible damage or is no longer working;
- the equipment has been stored for a relatively long period under unfavorable conditions.

In this case, notify the Sartorius Service Center. Maintenance and repair work may only be performed by authorized service technicians who have access to the required maintenance manuals and instructions and have attended relevant service training courses. If you are sending your TopMix to be repaired:

- ▶ remove as much paint residue as possible and disconnect all cables before sending, in order to avoid any further damage;
- ▶ enclose a description of the error.

Cleaning



Make sure no liquid enters the interior of the housing. Do not use any aggressive cleaning agents. Concentrated acid and alkali solutions or pure alcohol should also not be used. Spraying the device with water or blowing compressed air through the device is not permitted.

- ▶ Turn off the device before cleaning the touch screen, since touching the screen could trigger unwanted inputs.
- ▶ Use a lint-free damp cloth to clean the device.



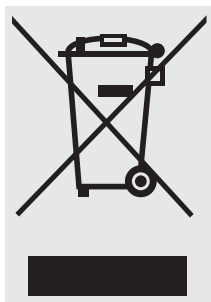
Do not apply any cleaning agents to ID labels or printed surfaces.

Corrosive Environment

- ▶ Remove all traces of corrosive substances from the device on a regular basis.

Storage and Shipping Conditions

- Permissible storage temperature: -20 °C – +70 °C



Disposal

The packaging is made of environmentally friendly materials that can be used as secondary raw materials. If you no longer require the packaging, you can dispose of it free of charge in Germany through the Vfw dual system (contract number D-59101-2009-1129). Otherwise you should dispose of the material in accordance with the waste disposal regulations that are applicable in your area. The device, including its accessories and batteries, should not be disposed of as household waste. It should instead be recycled as electric/electronic equipment. For more information regarding disposal and recycling, please contact our local service representatives. Our partners listed on the following website will also be able to provide assistance within the EU:

- 1) Go to <http://www.sartorius.com/de>.
- 2) Select the “Service” menu item.
- 3) Then select “Information on Disposal.”
- 4) Addresses for the local Sartorius disposal contacts can be found in the PDF files available for download on this page.

Sartorius will not take back equipment contaminated with hazardous materials (ABC contamination) – either for repair or disposal.

Detailed information, including service addresses for returning your device for repair or disposal, can be found on our website (www.sartorius.com) or requested from a Sartorius Service Center.

Serial Number Coding



The manufacture date of this device is encoded in the serial number.

The format is as follows:

YMM x x x x x
 Y Year
 1 2000–2006
 2 2007–2013
 3 2014–2020, etc.

The Y column indicates the year group, which covers a period of 7 years. Within each year group, the months (M M) are counted up from 13.

Year:	2013	2014	2015	2016	2017	etc.
MM:	85–96	13–24	25–36	37–48	49–60	etc.

Example: 288xxxx (April 2013). “xxxxx” is a consecutive number, increasing by one every month.

Specifications

TopMix TM02-X with Ex-link Converter (YCO12-Z)

Model		TM02-X
Permitted operating/ambient temperature	°C	+0 to +40
Housing measurements (W×D×H)		
TopMix control unit	mm	420×315×332 (with bracket)
Ex-link converter (W×D×H)	mm	320×240×71
Net weight, TopMix control unit, approx.	kg	7
ex-link converter, approx.	kg	2
bracket	kg	1.5
ex-link cable	kg	1.5
Power connection		
	V	100 – 240 V ~
Frequency		
	Hz	50 – 60
Power consumption (typ.)		
	VA	50
Device ID [explosion protection]		
Terminal/control panel TM02-X		II 2G Ex ib mb IIB T4 Gb DEKRA 12ATEX0246 X)
Ex-link converter YCO12-Z		II (2)G [Ex ib Gb]IIB DEKRA 12ATEX0246 X)
The terminal/control panel is suitable for use in Zone 1 potentially explosive areas in accordance with Directive 94/9/EC (category 2 equipment).		
IP protection rating		
		IP 40 (as per EN 60529/IEC60529)

Ambient Conditions

Environment	For indoor use only
Ambient temperature: Storage and transport	-10°C to +60°C
Ambient temperature: Operation	0°C to +40°C
Maximum relative humidity	80% for temperatures up to 31°C, decreasing linearly up to 50% relative humidity at 40°C

Safety of Electrical Equipment

In accordance with EN 61010-1:2010
Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 1: General requirements

Electromagnetic Compatibility

In accordance with EN 61326-1:2006
Electrical equipment for measurement, control, and laboratory use
EMC requirements – Part 1: General requirements

Defined immunity to interference:

Industrial areas

Emissions:

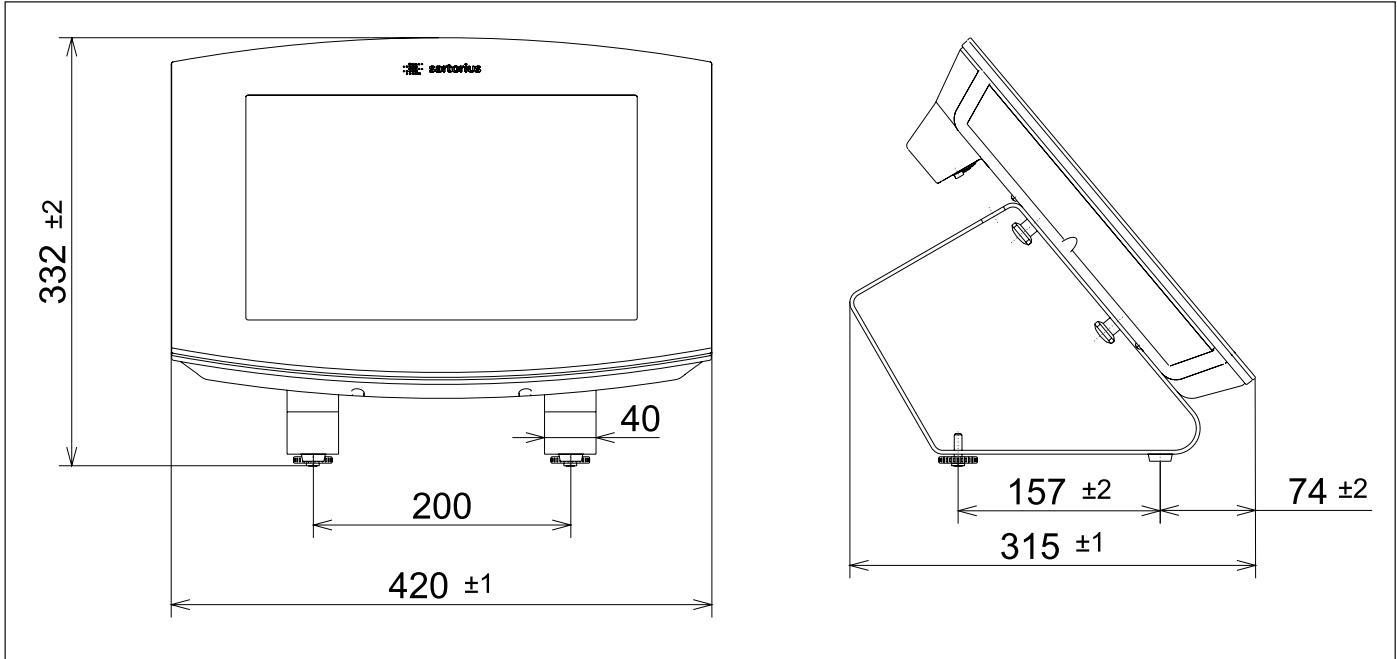
Class B: Suitable for use in residential areas and areas that are directly connected to a low voltage network

Accessories

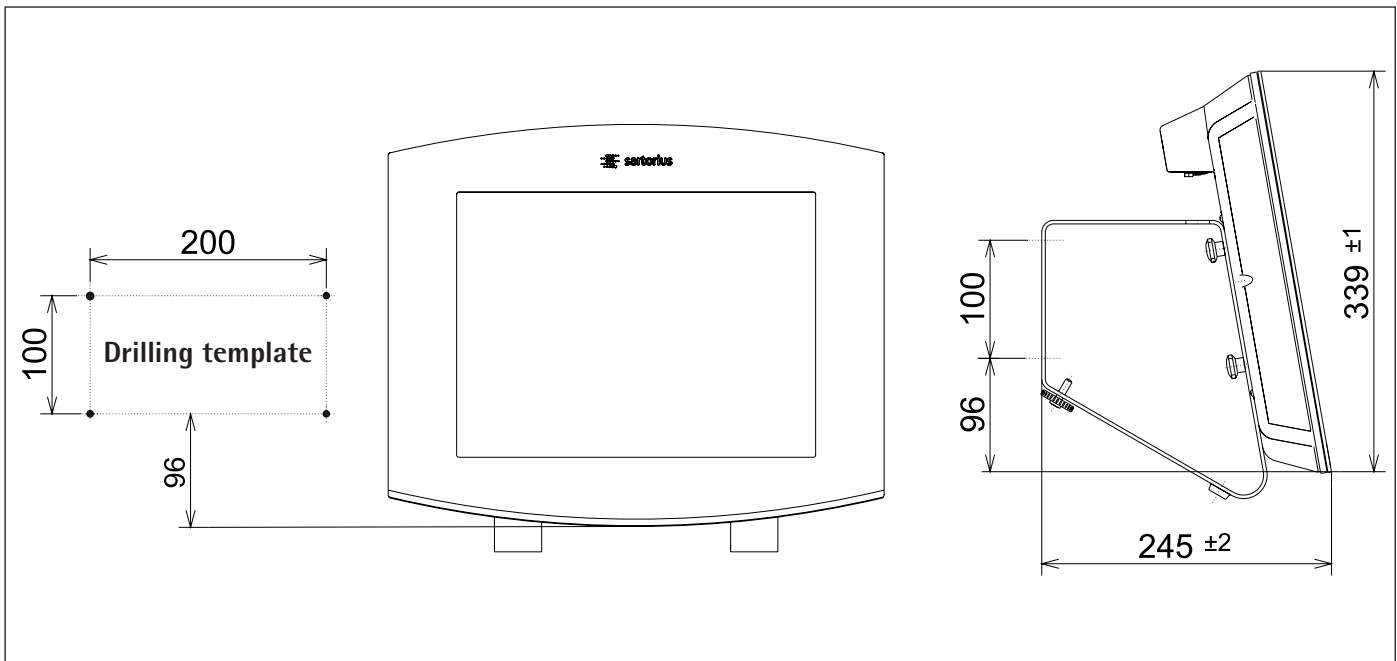
Description	Order No
TopMix2.Touch terminal/control panel for Zone 1 potentially explosive areas	TM02-X
Ex-link converter	YCO12-Z
Touch pen	YTP-TM02
Ex-link cable (20 m)	YCC01-0049M20
Video cable DVI (3 m)	YCC01-0050M3
USB cable (3 m)	YCC01-0040M3
D-SUB 9-pin cable (3 m)	YCC01-0041M3
Bracket for wall and table installation	YWB06
- Grounding cable	YCC01-X046M2
Dust cover	YDC02TM

Scale Drawings (Dimensions)

Table-Top Use:



Wall Mounting:



Dimensions in millimeters



EU-Konformitätserklärung EU Declaration of Conformity



sartorius

Hersteller
Manufacturer Sartorius Lab Instruments GmbH & Co. KG
37070 Goettingen, Germany

erklärt in alleiniger Verantwortung, dass das Betriebsmittel
declares under sole responsibility that the equipment

Geräteart
Device type Anzeigeeinheit, Ex-Link Konverter, Tastatur
Terminal, Ex-Link Converter, Keyboard

Modell
Model TM02-X, YC012-Z, YKB01TM-X

in der von uns in Verkehr gebrachten Ausführung allen einschlägigen Bestimmungen der folgenden Europäischen Richtlinien – einschließlich deren zum Zeitpunkt der Erklärung geltenden Änderungen – entspricht und die anwendbaren Anforderungen folgender harmonisierter Europäischer Normen erfüllt:
in the form as delivered fulfils all the relevant provisions of the following European Directives – including any amendments valid at the time this declaration was signed – and meets the applicable requirements of the harmonized European Standards listed below:

2014/30/EU Elektromagnetische Verträglichkeit
Electromagnetic compatibility
EN 61326-1:2013

2011/65/EU Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten (RoHS)
Restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)
EN 50581:2012

2014/34/EU Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen
Equipment and protective systems intended for use in potentially explosive atmospheres
EN 60079-0:2012 +A11:2013, EN 60079-11:2012, EN 60079-18:2015, EN 61010-1:2010

Kennzeichnung	II (2) G	[Ex ib] IIB Gb	Ex-Link Converter Type YC012-Z
Marking	II 2 G	Ex ib mb IIB T4 Gb	Terminal Type TM02-X
	II 2 G	Ex ib IIB T4 Gb	Keyboard Type YKB01TM-X

EG-Baumusterprüfbescheinigung Nummer
EC-Type Examination Certificate number DEKRA 12ATEX0246 X

Anerkennung der Qualitätssicherung (Produktion)
Quality Assurance Notification (production) FM13ATEX0092

Jahreszahl der CE-Kennzeichenvergabe | *Year of the CE mark assignment:* 18

Sartorius Lab Instruments GmbH & Co. KG
Goettingen, 2018-01-10

Dr. Reinhard Baumfalk
Vice President R&D

Dr. Dieter Klausgrete
Head of International Certification Management

Diese Erklärung bescheinigt die Übereinstimmung mit den genannten EU-Richtlinien, ist jedoch keine Zusicherung von Eigenschaften. Bei einer mit uns nicht abgestimmten Änderung des Produktes verliert diese Erklärung ihre Gültigkeit. Die Sicherheitshinweise der zugehörigen Produktdokumentation sind zu beachten.

This declaration certifies conformity with the above mentioned EU Directives, but does not guarantee product attributes. Unauthorised product modifications make this declaration invalid. The safety information in the associated product documentation must be observed.

Doc: 2014114-02 SLI14CE001-02.de,en 1 / 1 PMF: 2014113 OP-113_fo1_2015.10.12

FCC Supplier's Declaration of Conformity



Device type Terminal, Ex-Link Converter, Keyboard

Type series TopMix

Model TM02-X, YCO12-Z, YKB01TM-X

Party issuing Supplier's Declaration of Conformity / Responsible Party – U.S. Contact Information

Sartorius Corporation
5 Orville Dr Suite 200
11716 Bohemia, NY
USA
Telephone: +1.631.254.4249

FCC Compliance Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Information to the user

Note: This equipment has been tested and found to comply with the limits for a **class B** digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:



- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

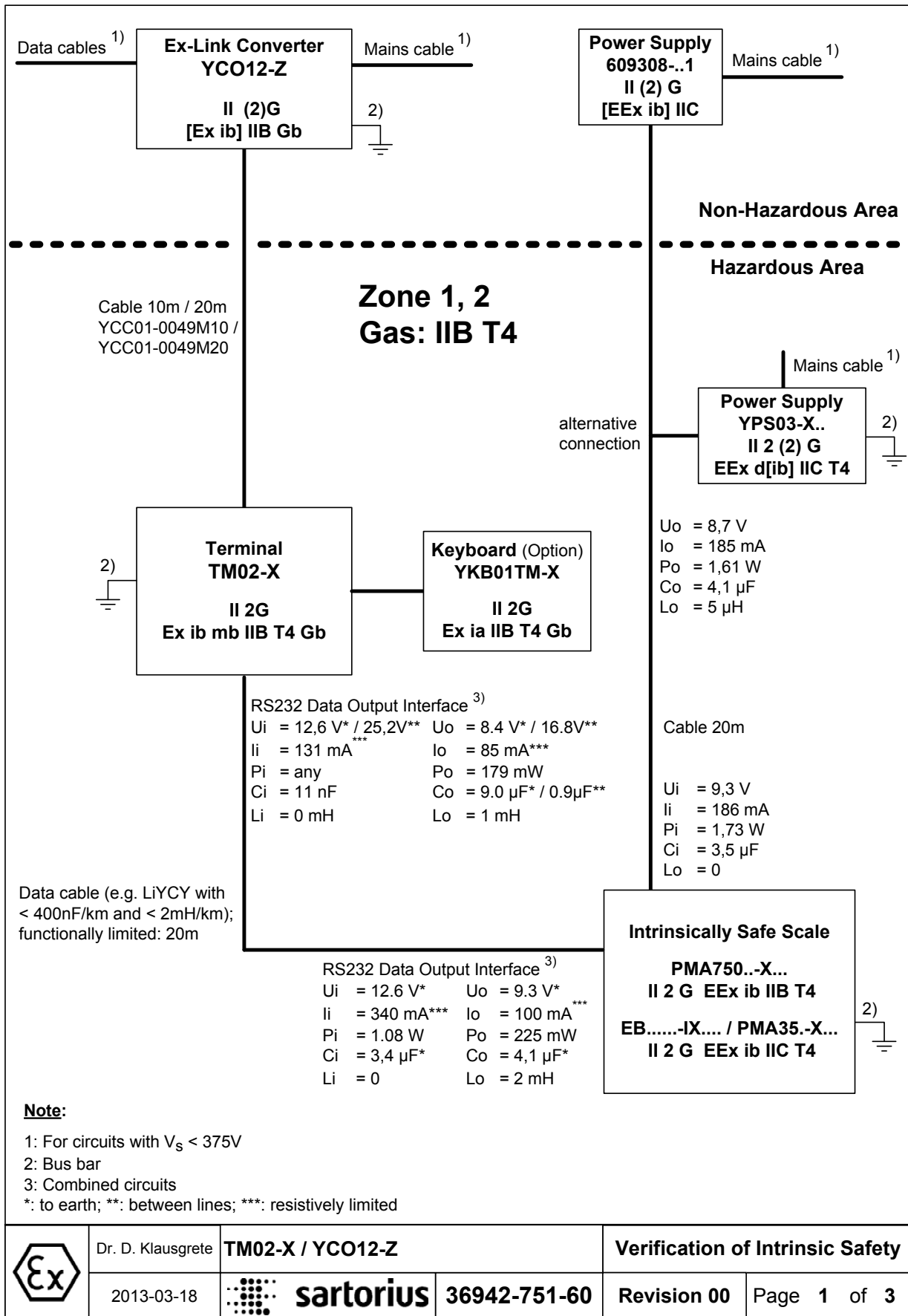
Connections between the device and peripherals must be made using shielded cables in order to maintain compliance with FCC radio frequency emission limits.

Any modifications made to this device that are not approved by Sartorius may void the authority granted to the user by the FCC to operate this equipment.

These safety instructions apply to the installation, operation, maintenance and repair of the equipment

- 1) Install the equipment in compliance with applicable laws, rules and regulations, ordinances and standards. In particular, be sure to conform to the European Standards EN 60079-14 (Explosive atmospheres – Part 14: Electrical installations design, selection and erection). For more information see „Verification of Intrinsic Safety“ 36942-751-60 (ATEX) and „Control Drawing“ 36942-751-07 (for use in the USA and in Canada).
- 2) Be sure to follow the installation, operating, maintenance and servicing instructions given in the manuals supplied.
- 3) The equipment shall be installed in such a way that it is protected against the entry of solid foreign objects or water capable of impairing the safety of the apparatus. Reduce the risk of mechanical damage to a minimum.
- 4) Exposure to UV radiation is not allowed!
- 5) The connecting cable of the display unit must be prevented against damage and stress caused by strain.
- 6) Prior to opening the equipment, disconnect the power supply or make sure that there is no potentially explosive atmosphere or any other explosion hazard in the surrounding area!
- 7) The data cable connected to the equipment is considered as intrinsically safe circuit. The connection is secured against accidental disconnection and may only be plugged in or disconnected when the power is switched completely off. Check the correct function of the data transfer before you use the equipment in a hazardous location.
- 8) If the equipment does not operate properly, unplug it immediately from line power (mains supply)!
- 9) All metal parts must be electrically connected to the terminal for the equipotential bonding conductor (PA). The equipment operator is obligated to connect a lead with a gauge of at least 4 mm² (cross section) to the PA terminal located on the side of the housing of the YCO12-Z and TM02-X. The low resistance of this connection to the PA bus bar must be checked when the system is installed at the intended place of use. The shielding of the connecting cables may only be used for grounding when no impermissible difference in voltage is generated and, if necessary, the shielding is able to conduct the equipotential current.
- 10) Avoid generating static electricity. Use only a damp cloth to wipe down the equipment. The equipment operator shall be responsible for preventing any risks caused by static electricity.
- 11) Keep chemicals and other agents, which can corrode the housing seals and cable sheaths, away from the equipment. These agents include oil, grease, benzene, acetone and ozone. If you are not sure about the safety of a certain substance, please contact the manufacturer.
- 12) Use equipment only in the temperature ranges indicated. Avoid exposing the equipment to heat.
- 13) The equipment operator is responsible for any non-Sartorius cables used.
- 14) At reasonable intervals, have your equipment installation checked for proper functioning and safety by a trained and certified technician.
- 15) If your equipment needs to be repaired, use only original spare parts supplied by the manufacturer!
- 16) Any tampering with the equipment by anyone, other than repair work done by authorized Sartorius service technicians, will result in the loss of EX conformity and in the forfeiture of all claims under the manufacturer's warranty. Only authorized specialists may open the equipment.
- 17) Modifications, including those to be carried out by Sartorius employees, may be permitted only after the express written authorization has been obtained from Sartorius.

	2012-10-25		Title	Safety Instructions	Page 1 of 1
	Dr. D. Klausgrete		Drawing number	36942-751-16	Revision 00



Dr. D. Klausgrete

TM02-X / YCO12-Z

Verification of Intrinsic Safety

2013-03-18

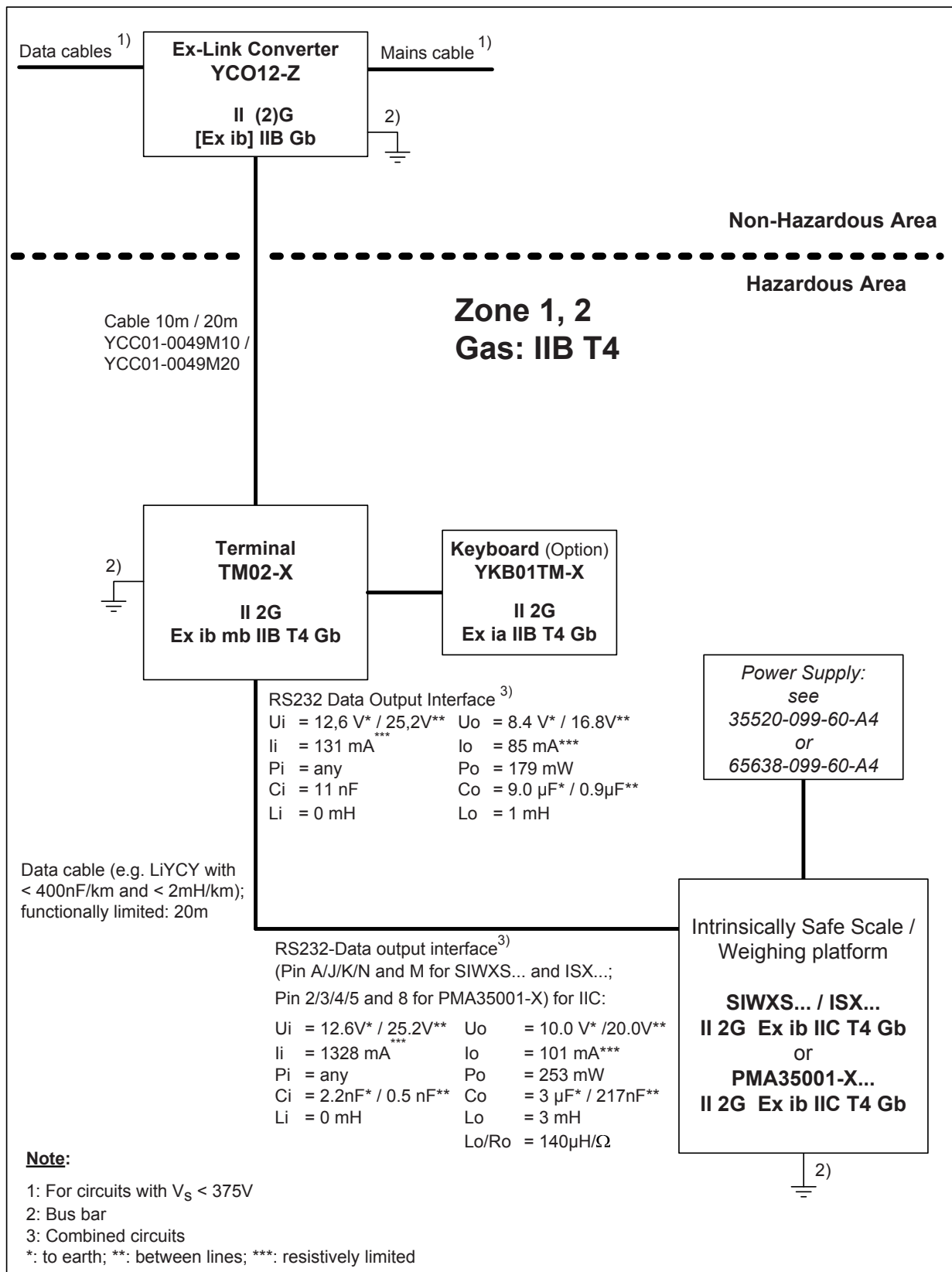


sartorius

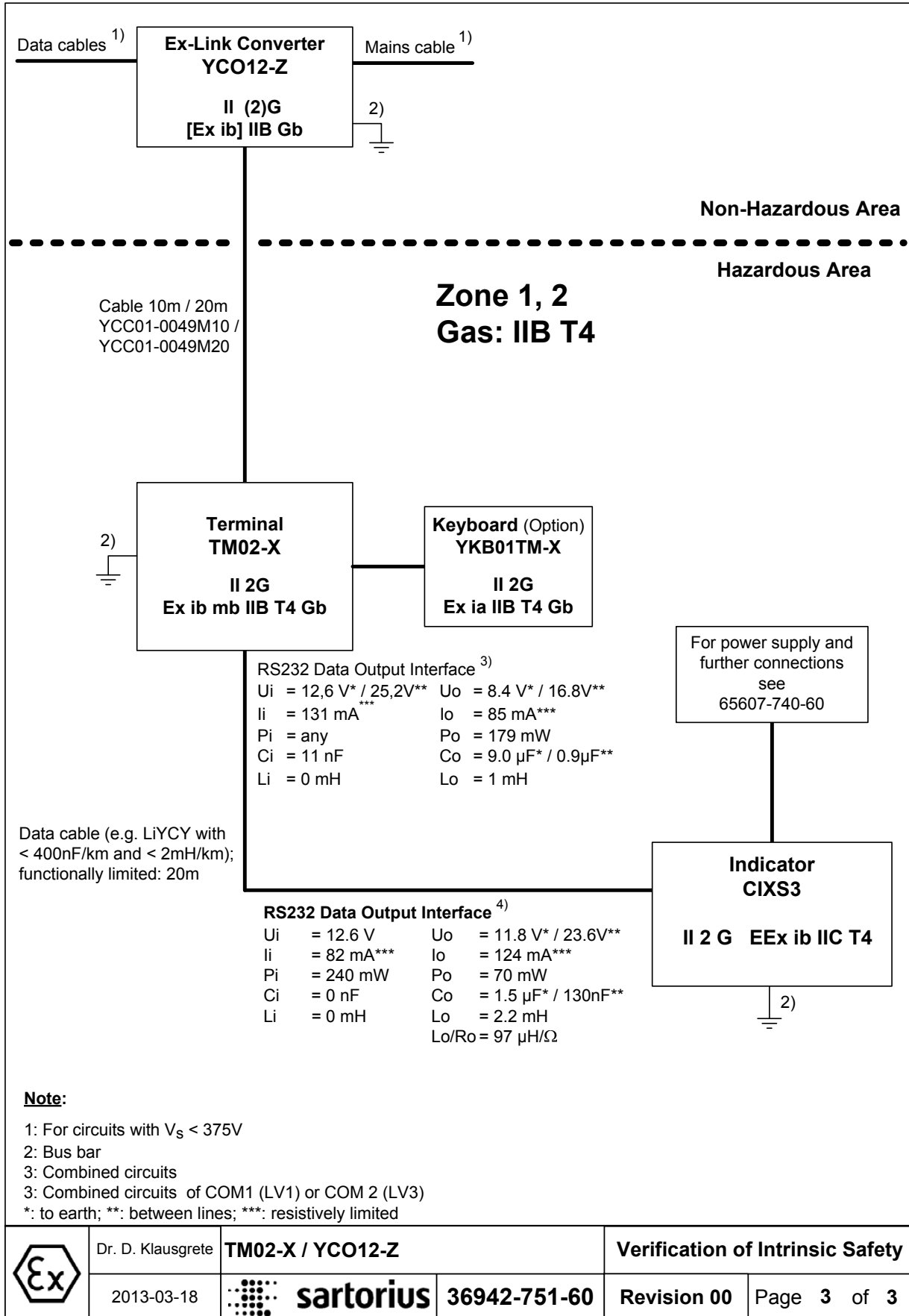
36942-751-60

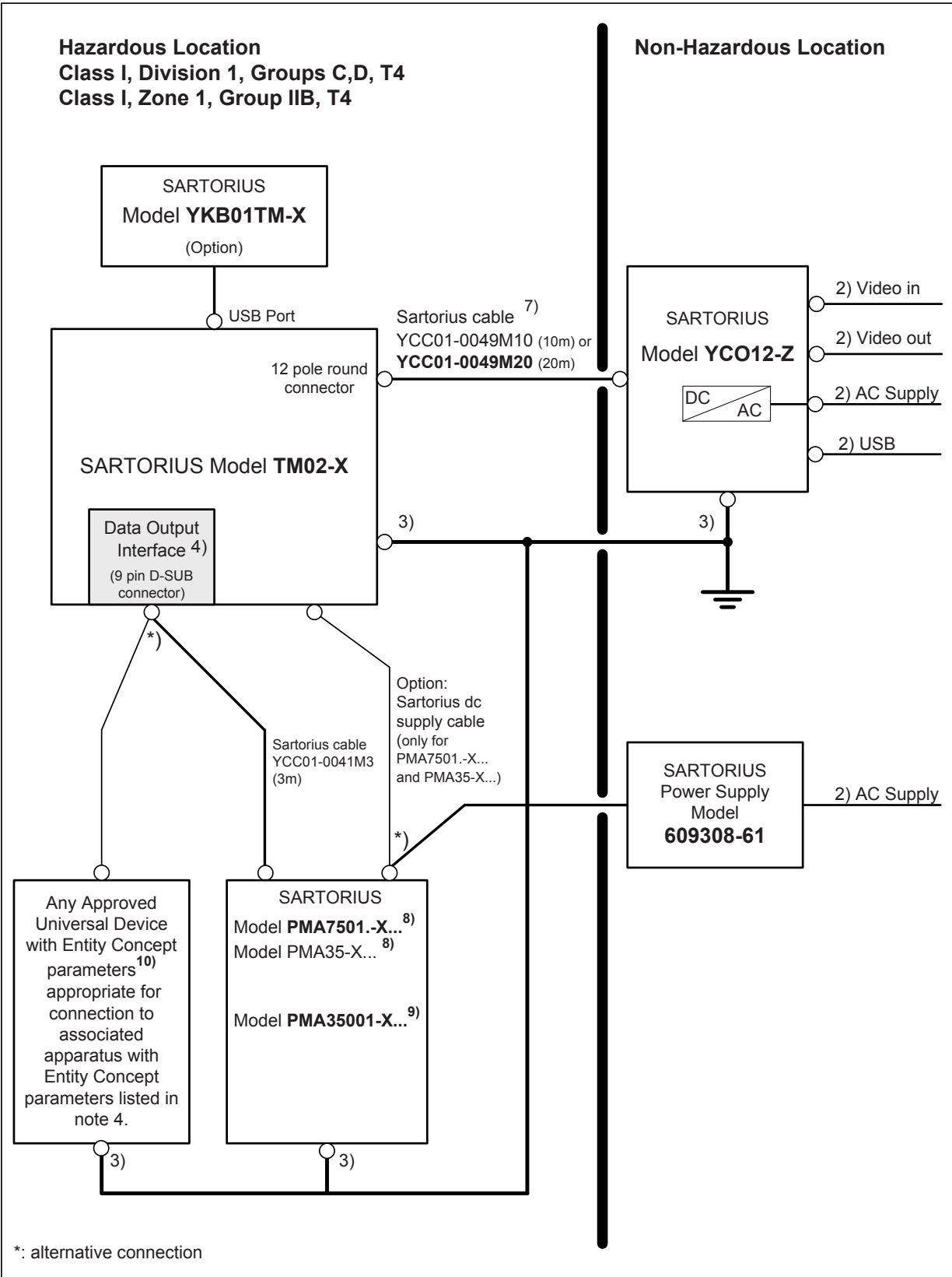
Revision 00

Page 1 of 3





	Dr. D. Klausgrete	TM02-X / YCO12-Z	Verification of Intrinsic Safety		
	2013-03-18	sartorius	36942-751-60	Revision 00	Page 2 of 3





*: alternative connection



	2012-10-25		Title	Control Drawing	Page 1 of 2
	Klausgrete		Drawing number	36942-751-07	Revision 00

Note:

- 1) USA: The installation must be in accordance with the National Electrical Code®, NFPA 70, Article 504 or 505 and ANSI / ISA-RP 12.6.
Canada: The installation must be in accordance with the Canadian Electrical Code®, Section 18.
- 2) No connection to any device that uses or generates in excess of 250Vrms or 250Vdc.
- 3) USA: The apparatus must be connected to a suitable ground electrode per National Electrical Code®, NFPA 70, Article 504 or 505. The resistance of the ground pad must be less than 1 ohm.
Canada: The apparatus must be connected to a suitable ground electrode per Canadian Electrical Code®, Section 18. The resistance of the ground pad must be less than 1 ohm.
- 4) The Entity Concept allows interconnection of intrinsically safe apparatus with associated apparatus not specifically examined in combination as a system when the approved values of Voc, Isc and Po resp. Uo, Io, Po of the associated apparatus are less than or equal to Vmax, Imax and Pi resp. Ui, Ii, Pi of the intrinsically safe apparatus and the approved values of Ca and La resp. Co and Lo of the associated apparatus are greater than Ci and Li of the intrinsically safe apparatus plus all cable parameters. The parameters for the RS232 data output interface of the TM02-X (combined circuits) are:

Vmax = Ui = 12.6 V* / 25.2V**	Voc = Uo = 8.4 V* / 16.8 V**
Imax = Ii = 131 mA***	Isc = Io = 85 mA***
Pi = Pi = any	Po = Po = 179 mW
Ci = Ci = 0	Ca = Co = 9 µF* / 0.9 µF**
Li = Li = 0	La = Lo = 1 mH

*: to earth; **: between lines; ***: resistively limited
- 5) **Ambient temperature** range: 0°C +40°C (+32°F + 104°F)
- 6) **WARNING: SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY.**
AVERTISSEMENT: LA SUBSTITUTION DE COMPOSANTS PEUT COMPROMETTRE LA SECURITE INTRINSEQUE.
- 7) Maximum cable length: 100ft (30.5m).
- 8) The Sartorius scale series PMA7501.-X... and PMA35-X... are approved/certified by FM for use in the USA and in Canada. See Certificate of Compliance and Control Drawing number 35958-001-07.
- 9) The Sartorius scale series PMA35001-X... is approved/certified by FM for use in the USA and in Canada. See Certificate of Compliance and Control Drawing number 35953-761-07.
- 10) The Sartorius scale series FC/FCA/IS.....-X... are approved/certified by FM for use in the USA and in Canada. See Certificate of Compliance and Control Drawing number 35956-000-07.
- 11) No changes to this drawing without prior FM Approval.

	2012-10-25	 sartorius	Title	Control Drawing	Page 2 of 2
	Klausgrete		Drawing number	36942-751-07	Revision 00

CERTIFICATE

(1) EU-Type Examination

(2) **Equipment or protective systems intended for use in potentially explosive atmospheres - Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number: **DEKRA 12ATEX0246 X** Issue Number: **2**

(4) Product: **TopMix2.Touch Terminal, Type TM02-X
TopMix2.Touch Keyboard, Type YKB01TM-X
Ex-Link Converter, Type YCO12-Z**

(5) Manufacturer: **Sartorius Lab Instruments GmbH & Co. KG**

(6) Address: **Otto-Brenner-Strasse 20
37079 Göttingen, Germany**

(7) This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) DEKRA Certification B.V., Notified Body number 0344 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential test report number NL/DEK/ExTR12.0086/01.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0 : 2012 + A11 : 2013 EN 60079-11 : 2012 EN 60079-18 : 2009

except in respect of those requirements listed at item 18 of the Schedule.

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

(12) The marking of the product shall include the following:



II (2) G [Ex ib] IIB Gb (Ex-Link Converter Type YCO12-Z)
II 2 G Ex ib mb IIB T4 Gb (Terminal Type TM02-X)
II 2 G Ex ib IIB T4 Gb (Keyboard Type YKB01TM-X)

Date of certification: 22 Februari 2017

DEKRA Certification B.V.

R. Schuller
Certification Manager

Page 1/3



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DEKRA Certification B.V. Meander 1051, 6825 MJ Arnhem P.O. Box 5185, 6802 ED Arnhem The Netherlands
T +31 88 96 83000 F +31 88 96 83100 www.dekra-certification.com Registered Arnhem 09085396

(13) **SCHEDULE**(14) **to EU-Type Examination Certificate DEKRA 12ATEX0246 X** Issue No. 2(15) **Description**

The Ex-Link Converter, Type YCO12-Z, functions as a barrier between the equipment that is located in the non-hazardous area, and the TopMix2.Touch Terminal, Type TM02-X, that is located in the hazardous area.

The Ex-Link Converter provides the intrinsically safe supply and data transfer of the Terminal. Sartorius cable, type YCC01-0049Mxx, connects the Ex-Link converter to the terminal.

The Terminal is provided with connection facilities for a separately certified intrinsically safe weighing unit and the intrinsically safe TopMix2.Touch Keyboard, Type YKB01TM-X.

Ambient temperature range 0 °C to +40 °C.

Electrical dataEx-Link Converter Type YCO12-Z:

Power supply input (J14): $U = 100 \dots 240 \text{ Vac}$, $U_m = 250 \text{ V}$.
Video input (J10), USB input (J12), Monitor output (J11): $U_m = 250 \text{ V}$.

Cable type YCC01-0049Mxx

Maximum length 30,5 meters. Each pair of wires has maximum $C = 20 \text{ nF}$ and $L = 30 \mu\text{H}$.

Terminal, Type TM02-X:

Keyboard connection (USB Type connector), in type of protection intrinsic safety Ex ib IIB, with following maximum values:

$U_o = 6,0 \text{ V}$, $I_o = 188 \text{ mA}$, $P_o = 806 \text{ mW}$, $C_o = 47 \mu\text{F}$, $L_o = 30 \mu\text{H}$.

Supply output for the Weighing Unit, in type of protection intrinsic safety Ex ib IIB, with following maximum values:

$U_o = 8,8 \text{ V}$, $I_o = 150 \text{ mA}$, $P_o = 1,23 \text{ W}$, $C_o = 10 \mu\text{F}$, $L_o = 100 \mu\text{H}$.

Data (RS232) output for the Weighing Unit (SUB-D Connector), only for connection to a certified intrinsically safe circuit in type of protection intrinsic safety Ex ib IIB, with following maximum values:

$U_i = 12,6 \text{ V}^* / 25,2 \text{ V}^{**}$, $I_i = 131 \text{ mA}^{***}$, $P_i = \text{any}$; $C_i = 11 \text{ nF}$, $L_i = 0 \mu\text{H}$.

$U_o = 8,4 \text{ V}^* / 16,8 \text{ V}^{**}$, $I_o = 85 \text{ mA}$, $P_o = 179 \text{ mW}$, $C_o = 9 \mu\text{F}^* / 0,9 \mu\text{F}^{**}$, $L_o = 1 \text{ mH}$.

* = to ground, ** = between lines, *** = resistively limited.

The intrinsically safe scale series PMA7501.-X..... (KEMA 05ATEX1247 X) may be connected to the Data output and the Supply output of Terminal, Type TM02-X.

TopMix2.Touch Keyboard, Type YKB01TM-X:

USB Connector (Power and data interface in type of protection intrinsic safety Ex ib IIB; combined circuits):

$U_i = 6,0 \text{ V}$, $I_i = \text{any}$, $P_i = 900 \text{ mW}$, $C_i = 60 \mu\text{F}$ $L_i = 0 \mu\text{H}$.

All intrinsically safe circuits are connected to the earthed metal enclosure.

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Form 227A
Version 1 (2016-04)



(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate DEKRA 12ATEX0246 X** Issue No. 2

Installation instructions

The instructions provided with the product shall be followed in detail to assure safe operation.

(16) **Report Number**

No. NL/DEK/ExTR12.0086/01.

(17) **Specific conditions of use**

Electrostatic charging of the equipment shall be avoided.

All intrinsically safe circuits are connected to earth.

The Terminal, Type TM02-X, shall be installed in such a way that the risk of mechanical danger is low.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at item (9).

(19) **Test documentation**

As listed in Report No. NL/DEK/ExTR12.0086/01.

(20) **Certificate history**

Issue 1 - 214995800 initial certificate
Issue 2 - 219891700 Minor constructional changes



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEX Scheme visit www.iecex.com

Certificate No.:	IECEX DEK 12.0072X	Issue No: 2	<u>Certificate history:</u>
Status:	Current	Page 1 of 4	Issue No. 2 (2017-02-22)
Date of Issue:	2017-02-22		Issue No. 1 (2016-05-04)
			Issue No. 0 (2013-03-25)
Applicant:	Sartorius Lab Instruments GmbH & Co. KG Otto-Brenner-Strasse 20 37079 Göttingen Germany		
Equipment:	TopMix2.Touch Terminal, Type TM02-X ; TopMix2.Touch Keyboard, Type YKB01TM-X ; Ex-Link Converter, Type YCO12-Z		
Optional accessory:			
Type of Protection:	[Ex Ib] ; Ex Ib, Ex mb		
Marking:	[Ex ib Gb] IIB (Ex-Link Converter Type YCO12-Z) Ex ib mb IIB T4 Gb (Terminal Type TM02-X) Ex ib IIB T4 Gb (Keyboard Type YKB01TM-X)		

Approved for issue on behalf of the IECEX
Certification Body:

R. Schuller

Position:

Certification Manager

Signature:
(for printed version)

Date:

2017-02-22

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEX Website](http://www.iecex.com).

Certificate issued by:

DEKRA Certification B.V.
Meander 1051,
6825 MJ Arnhem
The Netherlands





IECEX Certificate of Conformity

Certificate No: IECEx DEK 12.0072X Issue No: 2
 Date of Issue: **2017-02-22** Page 2 of 4
 Manufacturer: **Sartorius Lab Instruments GmbH & Co. KG**
 Otto-Brenner-Strasse 20
 37079 Göttingen
Germany

Additional Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11 : 2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-18 : 2009 Edition:3	Explosive atmospheres Part 18: Equipment protection by encapsulation "m"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

[NL/DEK/ExTR12.0086/00](#) [NL/DEK/ExTR12.0086/01](#)

Quality Assessment Report:

[GB/FME/QAR13.0020/02](#)



IECEX Certificate of Conformity

Certificate No: IECEX DEK 12.0072X

Issue No: 2

Date of Issue: **2017-02-22**

Page 3 of 4

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Ex-Link Converter, Type YCO12-Z, functions as a barrier between the equipment that is located in the non-hazardous area and the TopMix2.Touch Terminal, Type TM02-X, that is located in the hazardous area.

The Ex-Link Converter provides the intrinsically safe supply and data transfer of the Terminal.

Sartorius cable, type YCC01-0049Mxx, connects the Ex-Link converter to the terminal.

The Terminal is provided with connection facilities for a separately certified intrinsically safe weighing unit and the intrinsically safe TopMix2.Touch Keyboard, Type YKB01TM-X.

Ambient temperature range 0 °C to +40 °C.

For electrical data, refer to the Annex.

CONDITIONS OF CERTIFICATION: YES as shown below:

Electrostatic charging of the equipment shall be avoided.

All intrinsically safe circuits are connected to earth.

The Terminal, Type TM02-X, shall be installed in such a way that the risk of mechanical danger is low.



IECEX Certificate of Conformity

Certificate No: IECEX DEK 12.0072X

Issue No: 2

Date of Issue: **2017-02-22**

Page 4 of 4

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Minor constructional changed.

Annex:

[Annex to IECEX DEK 12.0072 X issue 2.pdf](#)



FM Approvals
1151 Boston Providence Turnpike
P.O. Box 9102 Norwood, MA 02062 USA
T: 781 762 4300 F: 781-762-9375 www.fmapprovals.com

CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

Ex-Link Converter. Type YCO12-Z.

AIS / I / 1 / CD – 36942-751-07*

[I / 1] / AEx [ib] / IIB – 36942-751-07*

*When connected to intrinsically safe equipment by interconnection cable, type YCC01-0049Mxx, with max length of 100ft (30.5m).

Special Condition of Use:

1. All intrinsically safe circuits are connected to earth.

TopMix2. Touch Terminal. Type TM02-X.

IS / I / 1 / CD / T4 – 36942-751-07

I / 1 / AEx ib mb / IIB / T4 – 36942-751-07

Special Condition of Use:

1. All intrinsically safe circuits are connected to earth.
2. Electrostatic charging of the equipment shall be avoided; clean only with a damp cloth.
3. This equipment shall be installed in such a way that the risk for mechanical damage is low.

Keyboard. Type YKB01TM-X.

IS / I / 1 / CD / T4 – 36942-751-07

I / 1 / AEx ib / IIB / T4 – 36942-751-07

Special Condition of Use:

1. All intrinsically safe circuits are connected to earth.
2. Electrostatic charging of the equipment shall be avoided; clean only with a damp cloth.

To verify the availability of the Approved product, please refer to www.approvalguide.com



Equipment Ratings:

Associated Intrinsically Safe for connection to Class I, Division 1, Groups C, and D; Class I, Zone 1, AEx [ib] Group IIB in accordance with Control Drawing 36942-751-07; Hazardous (Classified) Indoor Locations

Intrinsically Safe for connection to Class I, Division 1, Groups C, and D; Class I, Zone 1, AEx ib mb Group IIB in accordance with Control Drawing 36942-751-07; Hazardous (Classified) Indoor Locations

Intrinsically Safe for connection to Class I, Division 1, Groups C, and D; Class I, Zone 1, AEx ib Group IIB in accordance with Control Drawing 36942-751-07; Hazardous (Classified) Indoor Locations

FM Approved for:

Sartorius Weighing Technology GmbH
Goettingen, Germany

To verify the availability of the Approved product, please refer to www.approvalguide.com



This certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

Class 3610	2010
Class 3600	2011
Class 3810	2005
ISA-60079-0	2009
ISA-60079-11	2012
ISA-60079-18	2009

Original Project ID: 3047200

Approval Granted: May 24, 2013

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
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FM Approvals LLC



J.E. Marquedant
Group Manager, Electrical

24 May 2013

Date

To verify the availability of the Approved product, please refer to www.approvalguide.com



FM Approvals
 1151 Boston Providence Turnpike
 P.O. Box 9102 Norwood, MA 02062 USA
 T: 781 762 4300 F: 781-762-9375 www.fmapprovals.com

CERTIFICATE OF COMPLIANCE

HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS

This certificate is issued for the following equipment:

Ex-Link Converter. Type YCO12-Z.

AIS / I / 1 / CD – 36942-751-07*

[I / 1] / Ex [ib] / IIB – 36942-751-07*

*When connected to intrinsically safe equipment by interconnection cable, type YCC01-0049Mxx, with max length of 100ft (30.5m).

Special Condition of Use:

1. All intrinsically safe circuits are connected to earth.

TopMix2. Touch Terminal. Type TM02-X.

IS / I / 1 / CD / T4 – 36942-751-07

I / 1 / Ex ib mb / IIB / T4 – 36942-751-07

Special Condition of Use:

1. All intrinsically safe circuits are connected to earth.
2. Electrostatic charging of the equipment shall be avoided; clean only with a damp cloth.
3. This equipment shall be installed in such a way that the risk for mechanical damage is low.

Keyboard. Type YKB01TM-X.

IS / I / 1 / CD / T4 – 36942-751-07

I / 1 / Ex ib / IIB / T4 – 36942-751-07

Special Condition of Use:

1. All intrinsically safe circuits are connected to earth.
2. Electrostatic charging of the equipment shall be avoided; clean only with a damp cloth.

To verify the availability of the Approved product, please refer to www.approvalguide.com



Equipment Ratings:

Associated Intrinsically Safe for connection to Class I, Division 1, Groups C, and D; Class I, Zone 1, Ex [ib] Group IIB in accordance with Control Drawing 36942-751-07; Hazardous Indoor Locations

Intrinsically Safe for connection to Class I, Division 1, Groups C, and D; Class I, Zone 1, Ex ib mb Group IIB in accordance with Control Drawing 36942-751-07; Hazardous Indoor Locations

Intrinsically Safe for connection to Class I, Division 1, Groups C, and D; Class I, Zone 1, Ex ib Group IIB in accordance with Control Drawing 36942-751-07; Hazardous Indoor Locations

FM Approved for:

Sartorius Weighing Technology GmbH
Goettingen, Germany

To verify the availability of the Approved product, please refer to www.approvalguide.com



This certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

CAN/CSA-C22.2 No. 157-92	2006
CAN/CSA-C22.2 No. 61010-1	2009
CAN/CSA-C22.2 No. 60079-0	2011
CAN/CSA-C22.2 No. 60079-11	2011
CAN/CSA-C22.2 No. 60079-18	2012

Original Project ID: 3047200

Approval Granted: May 24, 2013

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
---------------	------	---------------	------

FM Approvals LLC

J.E. Marquedant

J.E. Marquedant
Group Manager, Electrical

24 May 2013

Date

To verify the availability of the Approved product, please refer to www.approvalguide.com

Sartorius Lab Instruments GmbH & Co. KG
Otto-Brenner-Strasse 20
37079 Goettingen, Germany

Phone: +49.551.308.0
www.sartorius.com

The information and figures contained in these instructions correspond to the version date specified below.

Sartorius reserves the right to make changes to the technology, features, specifications and design of the equipment without notice.

Masculine or feminine forms are used to facilitate legibility in these instructions and always simultaneously denote the other gender as well.

Copyright notice:

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This applies in particular to reprinting, translation and editing irrespective of the type of media used.

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Last updated:
10 | 2018