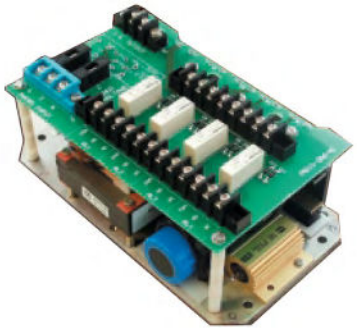
TX6626 • TX6636 • TX6635
Datasheet & Operating Instructions

Intrinsically Safe Power Supply

Environments: Mining • Tunnelling

TX6626
With Ex d housing



TX6635 • TX6636
Open chassis

Features

- 12 V dc at 500 mA output option (Ex d version)
- 7.5 dc at 1500 mA output option (open-chassis version)
- Robust Ex d housing version for use in Group I hazardous areas
- Open chassis version for OEM application in safe areas & explosion protected apparatus only
- Available with four intrinsically safe control relays for isolated switching of external apparatus - saving the cost and installation of a separate Ex d relay unit
- Choice of input voltages: 110 V ac or 230 V ac

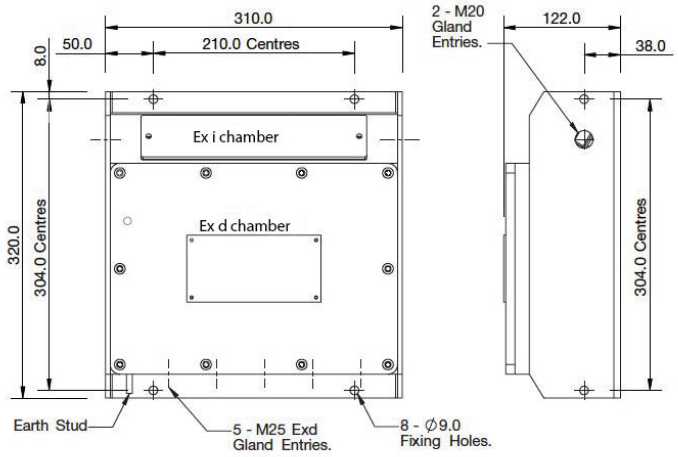
Trolex Limited www.trolex.com

Technical Information

Input Voltage:	110 V ac or 230 V ac 50/60 Hz
Output Voltage:	12 V dc or 7.5 V dc ±0.2 V
Output Current:	500 mA at 12 V 1500 mA at 7.5 V
Operating temperature:	TX6626: -5 ˚C to +40 ˚C TX6635/6 -5 ˚C to +70 ˚C
Humidity:	0 to 95 % RH non-condensing
Protection:	IP65

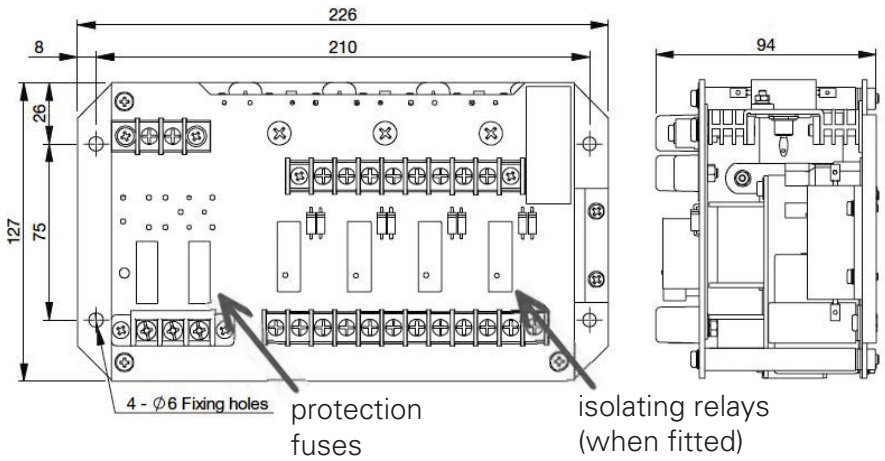
Dimensions

TX6626 Intrinsically Safe Power Supply with Ex d Housing



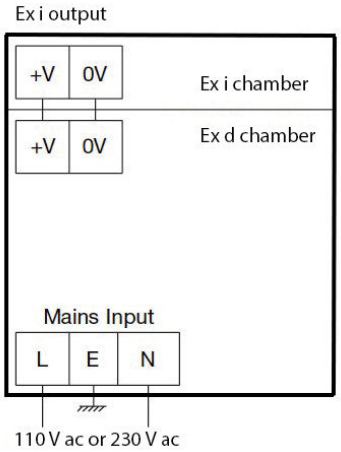
TX6635 • TX6636 Intrinsically Safe Power Supply with Open Chassis

For use in safe areas or within approved explosion protected apparatus only

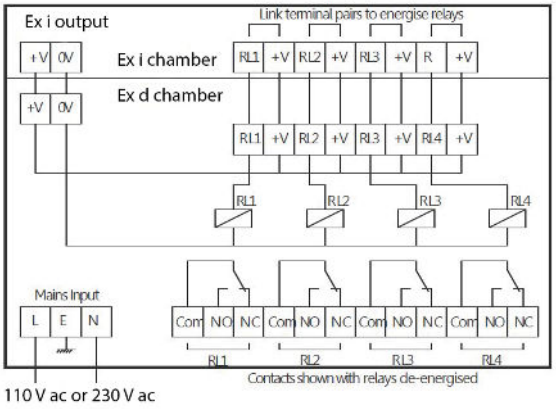


Connections

TX6626 Intrinsically Safe Power Supply with Ex d Housing



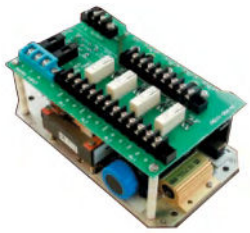
Basic PSU

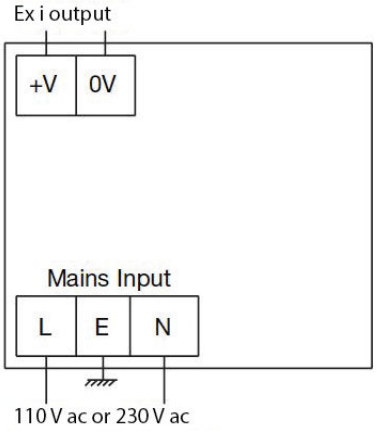


PSU with relays

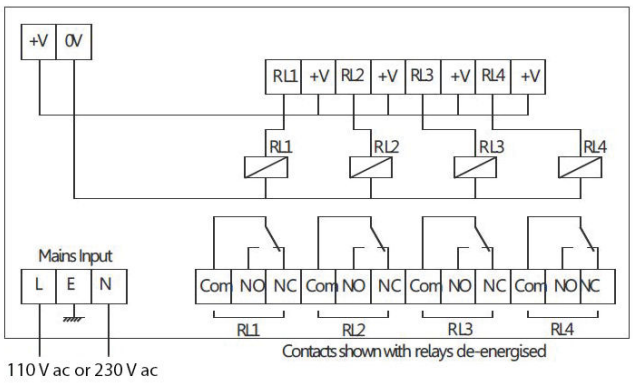
TX6635 • TX6636 Intrinsically Safe Power Supply with Open Chassis

For use in safe areas or within approved explosion protected apparatus only





Basic PSU

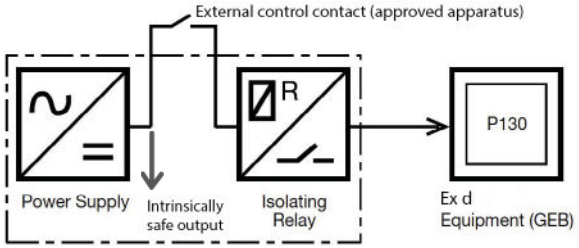


PSU with relays

Isolating Relays

TX6626 and TX6636 can be fitted with isolating relays. The operating coils of the relays are intrinsically safe and the contacts are clearance compatible for switching non-intrinsically safe apparatus in separate Ex d enclosures.

No.of relays:	4	
Relay contact rating:	10 A at 230 V ac	
Coil voltage:	7.5 V dc	12 V dc
Coil resistance:	324 Ω	580 Ω
Nominal current:	25 mA	20 mA



Order Reference

TX6626 Intrinsically Safe Power Supply with Ex d Housing • 12 V dc output
ATEX Group I

	No isolating relays	4 isolating relays
110 V ac input	TX6626.35.00.105.01	TX6626.35.19.105.01
230 V ac input	TX6626.35.00.106.01	TX6626.35.19.106.01

TX6636 Intrinsically Safe Power Supply with Open Chassis • 12 V dc output
For use in safe areas or within approved explosion protected apparatus only

		No isolating relays	4 isolating relays
110 V ac input	ATEX Grp I	TX6636.35.00.105.01	TX6636.35.19.105.01
230 V ac input	ATEX Grp I	TX6636.35.00.106.01	TX6636.35.19.106.01
110 V ac input	IECEx (AUS) Grp I	TX6636.35.00.105.06	TX6636.35.19.105.06
230 V ac input	IECEx (AUS) Grp I	TX6636.35.00.106.06	TX6636.35.19.106.06

TX6635 Intrinsically Safe Power Supply with Open Chassis • 7.5 V dc output
For use in safe areas or within approved explosion protected apparatus only

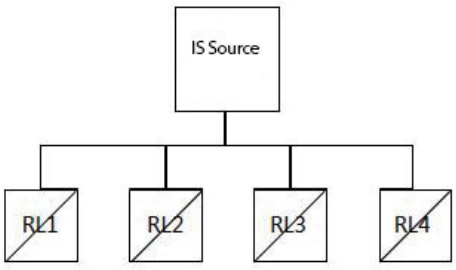
		No isolating relays
110 V ac input	ATEX Grp I	TX6635.35.00.105.01
230 V ac input	ATEX Grp I	TX6635.35.00.106.01
110 V ac input	IECEx (AUS) Grp I	TX6635.35.00.105.06
230 V ac input	IECEx (AUS) Grp I	TX6635.35.00.106.06

Precautions • TX6626 Ex d

- Ensure that all covers on Ex d housings and their fixing devices are properly secured in compliance with statutory Ex d regulations before switching on the input supply.
- Never remove the cover of an Ex d housing whilst the input supply is connected. Isolate elsewhere before removing the cover in accordance with statutory regulations.
- The housing of all power supplies must be securely earthed in compliance with statutory regulations.

Precautions • General

- Ex d housings must be inspected and maintained regularly in accordance with statutory regulations.
- All cables entering the Ex d housing must be terminated with suitable Ex d certified cable glands.
- The cabling between the Power Supply and other approved intrinsically safe devices must comply with the cable parameters specified in the appropriate Ex certification of the device being used.
- It is good practice to check the condition of the mating flame path surfaces on the Ex d chamber cover whenever it is removed.
- Five M25 threaded cable entries are provided on the underside of the Ex d chamber for connecting the incoming Power Supply and for connections to relay contacts if these are fitted.



- All unused cable entries must be blanked off with an approved stopping plug.
- The requirements of the Ex d certification of the TX6620 Series Intrinsically Safe Power Supply demand that electrical isolation must be provided in the mains Power Supply feed. The isolation should be mounted adjacent to the Power Supply.

Certification and Conformity

1. TX6626 Power Supply

CE Ex	ATEX (European Union) certification for use in underground mines (Group I). Complies with ATEX Directive 2014/34/EU.
	Standards: EN IEC 60079-0:2018 EN 60079-1:2014 EN IEC 60079-11:2024

1.1. Underground mines

Product Code:	Ex Certificate Number:	Ex Certification Code:
TX6626.35.xx.xxx.01 Power Supply	CML 21ATEX21183X	I M2(M1) Ex db [ia Ma] I Mb Ta = -20 ˚C to +40 ˚C

1.2. The following Special Conditions for Use apply to the certificates listed above:

The following conditions relate to safe installation and/or use of the equipment.

i. A means of electrical isolation shall be provided on the supply side of the enclosure.
ii. The cover fixings shall be of grade A2-70 stainless steel or stronger.
iii. In accordance with clause 5.1 of EN 60079-1, the flameproof joints shall not be repaired; for maintenance or repairs contact the manufacturer.

The product is marked with the following warning:

WARNING. DO NOT OPEN WHEN ENERGISED.
AFTER DE-ENERGISING, WAIT 5 MINUTES BEFORE OPENING.

The product shall only be serviced and repaired by Trolex Ltd or a local Trolex service agent approved by Trolex Ltd in order to maintain the explosion protection of the product.

2. TX6635 and TX6636 Power Supply Chassis

CE Ex	ATEX (European Union) certification for use in underground mines (Group I). Complies with ATEX Directive 2014/34/EU.
	Standards: EN IEC 60079-0:2018 EN IEC 60079-11:2024
IECEx	IECEx (International) certification for use in underground mines (Group I) in Australia (including Queensland) and New Zealand.
	Standards: IEC 60079-0:2017 IEC 60079-11:2011

2.1. Underground mines

Product Code:	Ex Certificate Number:	Ex Certification Code:
TX6635.35.xx.xxx.01 Power Supply Chassis	CML 21ATEX21184X	I (M1) [Ex ia Ma] I Ta = -20 ˚C to +70 ˚C
TX6636.35.xx.xxx.01 Power Supply Chassis		
TX6635.35.xx.xxx.06 Power Supply Chassis	IECEx TSA 09.0006X	[Ex ia Ma] I Ta = -20 ˚C to +70 ˚C
TX6636.35.xx.xxx.06 Power Supply Chassis		

2.2. The following Special Conditions for Use apply to the certificates listed above:

The following conditions relate to safe installation and/or use of the equipment.

i. When the apparatus is installed within a potentially explosive atmosphere, an additional alternative type of protection as listed in EN/IEC 60079-0 must be provided and installed in accordance with the requirements of EN/IEC 60079-25.

ii. When the equipment is installed in the safe area, it must be installed in an enclosure providing a degree of protection of not less than IP 20 and installed in accordance with the requirements of EN/IEC 60079-25.

3. Entity parameters for Intrinsic Safety

The following entity parameters apply to TX6626, TX6635 and TX6636 Power Supplies:

Input Terminal Block TB1 (L, N):

Um = 121 Vrms for the 110 V ac nominal input

Um = 253 Vrms for the 230 V ac nominal input

Output Terminals 1, 2:

TX6635	TX6626 and TX6636
Uo = 9 V	Uo = 14.4 V
Io = 3.47 A	Io = 2.37 A
Po = 12.5 W	Po = 9.84 W
Ci = 0	Ci = 0
Li = 0	Li = 0
Co = 1000 µF	Co = 20 µF
Lo = 54 µH	Lo = 100 µH
Lo/Ro = 48 µH/Ω	Lo/Ro = 54 µH/Ω

Optional Relay Boards (RL1 – RL4):
Ui = 14.4 V (terminals 4, 6, 8 and 10 wrt 2)
Um = 250 V ac (terminals 11-13, 14-16, 17-19 and 20-22)

Installation of equipment

The installation of the product must only be carried out by competent personnel. Each installation needs to be considered with reference to the local safety regulations and authorities. Refer to the following standards for additional guidance:

- IEC/EN 60079-14
- IEC/EN 60079-25

Refer to the Certification Section of this document and to the relevant certificates for any installation parameters and special conditions of safe use.

Commissioning / verification tests prior to first use.

Prior to commissioning and first use, the product shall be inspected for any visible damages and integrity of the enclosure. Never use the product that has damaged housing in hazardous locations.

Maintenance

The maintenance of the product must only be carried out by competent personnel. Maintenance shall be considered with reference to the local safety regulations and authorities. Refer to the following standards for additional guidance:

- IEC/EN 60079-17

It is recommended to periodically check the condition of the product.

At Trolex, we save lives.

We believe that no person should risk their life to earn a living.

Our aim is to become the world's leading name in health and safety technology, through pioneering products that provide real-world benefits to our customers, whenever workers operate in hazardous environments.

For more information about Trolex, please contact us at:

Website
www.trolex.com

Enquiries
sales@trolex.com

Telephone
+44 (0) 161 483 1435

Trolex Ltd
Newby Road, Hazel Grove
Stockport, Cheshire
SK7 5DY, United Kingdom

@TrolexUK