Uninterruptible Power Supply (UPS)

with Intrinsically Safe Output and 25 Ah Battery Backup

Environments: Mining • Tunnelling

Features

- Robust stainless steel housing
- Regulated output is current limited and has continuous short circuit protection
- 25 Ah back-up battery with automatic uninterrupted power transfer
- 12 V, 750 mA Ex ia Ma certified output
- Analogue output signal to show battery charge status
- Volt-free contact to show mains input status

Benefits

- Can remain on standby battery power in Ex ia Ma area conditions
- Available power can be remotely monitored via the battery charge analogue output signal
- ac mains failure can be remotely monitored via a volt-free output contact
- Spacious termination facilities to connect heavy-duty mining cables
- Sealed unit requires no user maintenance or examination
- Ex eq certification eliminates any maintenance costs of Ex d style enclosures

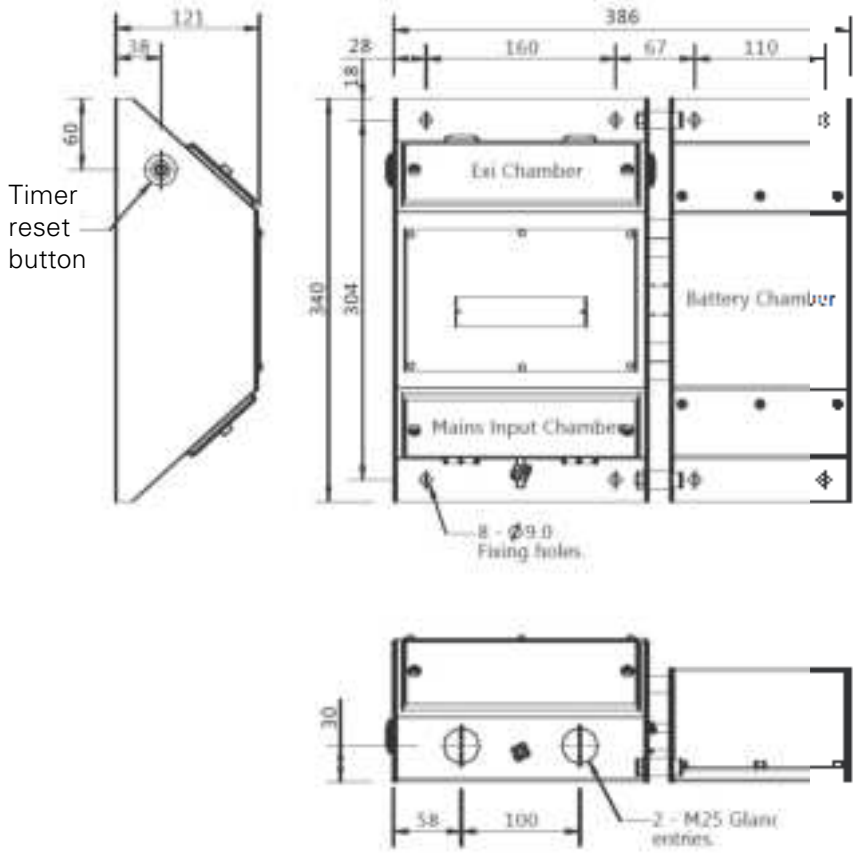
Functional Overview

The power supply converts an ac supply voltage into a stabilised and regulated intrinsically safe source, ideal for supplying power to approved sensors and electronic control devices in hazardous areas.

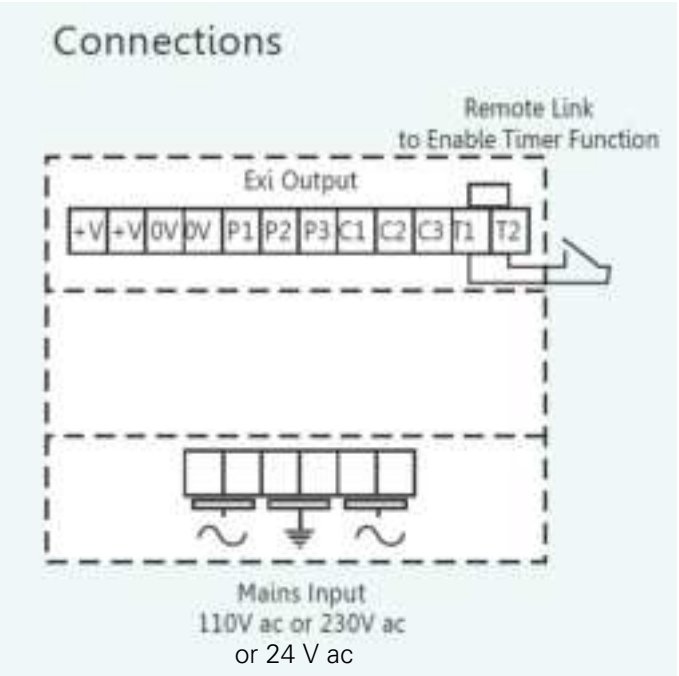
Technical Information

❶ Input Voltage:	110 V ac ± 10% or 230 V ac ± 10% - 50/60 Hz
❷ Output Voltage:	12 V dc -0 V/+0.6 V
Output Current:	750 mA
Output Ripple/Noise:	150 mV max
Line Regulation:	<5% over the input voltage range
Load Regulation:	<5% over 0 to 90% of load current <10% between 90% and 100% of load current
Voltage Limiting:	Over voltage detection with crowbar protection and short circuit protection
Current Limiting:	Automatic current limiting of the intrinsically safe output also limits the current to less than the rupturing capacity of the output protection fuse.
❸ Max. Operating Temperature:	–20°C to +40°C
Storage Temperature:	–20°C to +70°C
Humidity:	0 to 95% RH, non-condensing
Vibration Limits/Low Frequency:	0.25 mm peak, sinusoidal vibration in the range 10 Hz to 100 Hz in 3 perpendicular planes
Medium Frequency:	2g peak, sinusoidal vibration in the range 10 Hz to 600 Hz in 3 perpendicular planes
Mechanical Shock:	1000 shocks of 40g minimum in 3 perpendicular planes
Housing Material:	Stainless steel
Weight:	35 kg
❹ Back-up Battery:	Sealed lead-acid - 25 Ah Automatic charge control to full capacity Automatic uninterrupted output power transfer following input power failure
Power Fail Indication:	Relay contacts change state on power failure. Contact rating: 0.25 A at 30 V dc max.
Charge Condition:	Analogue output signal proportional to the charge level of the battery Choice of 0.4 V to 2.0 V or 4 to 20 mA signals
Battery life:	6 years with normal usage
Ex Certification:	Group I - Please refer to user manual for full certification details

Dimensions



Connections



+V = 12 V dc intrinsically safe output

0V = 0 V intrinsically safe output

P1 = C
P2 = N/C
P3 = N/O
} Power Fail Relay

C1 = 0.4 to2 V
C2 = 0 V
C3 = 4 to 20 mA
} Charge Condition Monitor Output

T1
T2
} Timer Control Terminals

Battery Conserve Timer

The TX6648 Power supply is fitted with a Battery Conserve Timer.

The timer is used to conserve battery power when used on mobile machinery where battery support will only be required for short intervals between long periods.

- The battery will be charged in the normal way when the main power is ON
- The battery back-up output will be terminated 30 minutes after the main power is OFF
- The battery back-up outout may be re-instated at any time for a period of 30 minutes by operation of a pushbutton on the side of the power supply housing or a remote pushbutton connected to T1 and T2
- The timer is disabled by fitting a link between T1 and T2

Order Reference

ATEX & IECEx Certification	
110 V ac supply:	**TX6648.35.105.101.1206.19**
230 V ac supply:	**TX6648.35.106.101.1206.19**
24 V ac supply:	**TX6648.35.103.101.1206.19**

MASC Certification	
110 V ac supply:	**TX6649.35.105.101.1206.05**
230 V ac supply:	**TX6649.35.106.101.1206.05**
24 V ac supply:	**TX6649.35.103.101.1206.05**

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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.

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