MiniPurge Interface Unit (MIU/d) Manual

ML303

<u>MPORTANT NOTE</u>

It is essential for safety that the correct cable glands and accessories are used.

Please check the entries sizes on the corresponding drawing at the back of this manual

Contents

1. Specification Sheet

See Test, Inspection and Setting Sheet supplied loose with the system.
Refer to drawings for dimensions, weights, and electrical ratings.

2. General Information

Application Suitability

- MiniPurge Interface Units (MIU) are certified for use in Hazardous Locations, where the Hazardous Location is non-mining (i.e., above ground) and where the hazard is caused by flammable gases, vapours, or combustible dusts.
- The MIU can be in Zone 1, 2 for gas and / or Zone 21, 22 for dust, or Class I, Division 1, 2 for gas and / or Class II, Division 1, 2 for dust Hazardous Locations.
- MiniPurge Interface Unit may be used for hazards of most gas or dust groups. However, apparatus associated with the MIU, such as intrinsically safe signalling circuits and other flameproof enclosures containing switching devices may be limited in their own group. The certification documentation supplied with such devices must be checked to ensure their suitability.
- As with all equipment for use in Hazardous / Classified areas, local working and installation practices for Hazardous Location equipment must be adhered to when installing and maintaining this equipment. This equipment must only be installed by personnel who are aware of the requirements for installation of electrical equipment within hazardous locations.
- MIUs are designed to be controlled primarily with compressed air. Where compressed inert gases are used (Nitrogen, for example) the user must take suitable precautions so that the build up of the inert gas does not present a hazard to health. Consult the Control of Substances Hazardous to Health (COSHH) data sheet for the gas used or relevant national requirements.
- The following materials are used in the construction of MiniPurge Interface Units. If substances that will adversely affect any of these materials are present in the surrounding environment, please consult EXPO for further guidance:

    - Stainless Steel
    - Brass
    - Aluminium (Ex d / Xp enclosure contains <1% magnesium)
    - Nitrile ('O' Rings)

- This equipment is designed for use under normal industrial conditions of ambient temperature, humidity, and vibration. Please consult EXPO before installing this equipment in conditions that may cause stresses beyond normal industrial conditions.

System Description

- EXPO range of MIUs is designed for use on a wide range of applications and enclosures. They are to be used in conjunction with a system, which provides the MIU with the necessary signals in order to produce "Volt Free / Dry Contact" alarm signals and power switching to the pressurized enclosure.
- All units are built into flameproof / explosionproof enclosures. The joint between the lid and the enclosure forms a threaded flamepath.

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- Each MIU is supplied with limited entries (refer to the drawing section for details). When additional entries have been ordered, the following restriction will apply:
    - Minimum space between entries;
        - 35mm, (1.38") for M20 or ½" NPT
        - 40mm, (1.58") for M25 or ¾" NPT
    - Entries should not be placed so close to the side that an internal surface, parallel to the thread of the entry, is cut when a threaded entry is machined.
- For USA (NEC) or Dual standard conformity, NPT entries must be used.
- For IEC / ATEX, metric or NPT entries may be used. NPT and Metric entries must not be mixed on the same enclosure.
- The standard MIU is supplied with NPT entries.
- Alternative versions of MIU are available which use intrinsically safe or increased safety switching systems to control the MIU functions. These are only available to special order. Contact the sales office for details.

The standard range of MIUs consists of 3 types:

MIU/dA

AMU-9AA1-510
Power contactor: 4PNO / 20A / 440Vac*
Alarm switch: SPCO 3A / 250Vac*
110Vac Coil for electrical override when required

AMU-9AA1-511
Power contactor: 4PNO /20A / 440Vac*
Alarm switch: SPCO 3A / 250Vac*
230Vac Coil for electrical override when required

AMU-9AA1-518
Power contactor: 4PNO / 20A / 440Vac*
Alarm switch: SPCO 3A / 250Vac*
24Vdc Coil for electrical override when required

MIU/dX

AMU-AAA1-610
Power contactor: 4PNO / 20A / 440Vac*
Signal relay: 4PNO / 5A / 250Vac*
Alarm switch: SPCO 3A / 250Vac*
110/230Vac Dual voltage supply

MIU/dT

AMU-BAA1-610
Power contactor: 4PNO / 35A / 600Vac*
Signal relay: 4PNO / 5A / 250Vac*
Alarm switch: SPCO 3A / 250Vac*
110/230Vac Dual voltage supply

*IEC rating shown, refer to drawings for detailed information on ratings including UL and CSA.

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3. Installation

- MiniPurge Interface Units are designed to be mounted in hazardous / classified locations. The MIUs are suitable for use in the following area classification. Please note that the gas group varies for European / USA area classifications.

IEC / Europe	Zone 1, 2 Zone 21, 22	Gas Group IIC Dust
USA / Canada	Class I, Divisions 1 & 2 Class II, Divisions 1 & 2	Gas Groups B, C & D Dust Groups E, F & G

- The MiniPurge Interface Unit shall be installed in accordance with relevant standards, such as EN 60079-14 or NEC 500 or 505, and / or any local codes of practice that are in force.
- The distance required free from obstructing the flamepath for ATEX / IEC:
  - Gas Group IIC is at least 40mm ($1^5/_8$").
  - Gas Group IIB is at least 30mm (1 11/64")
  - Gas Group IIA is at least 10mm (17/64")
- Cable glands, conduit or other cable entry devices shall be appropriately certified and suitable for the cable and the conditions of use and be installed in accordance with the manufacturer's instructions. EN 60079-14 contains guidance on the selection of appropriate cable glands.
- When the MiniPurge Interface Unit is to be used in conjunction with a MiniPurge Purge and Pressurization System, it shall be connected in accordance with the instructions given in this manual.
- The external earth connection of the MiniPurge Interface Unit shall be connected to earth using a minimum 4mm² / 12 AWG conductor.
- It is recommended that 6 mm / ¼" dia non-crushable pipe with appropriate 1/8" NPT fittings (not supplied) are used to connect the MIU with the MiniPurge system.
  To order suitable fittings and pipe to connect the two units see Spare Parts - Additional Items.
- MiniPurge Interface Units are supplied with NPT tapped cable entries as standard.
- In the **MIU/dA**, Power Contactor is operated directly by the pneumatic (input) Actuator.

Fig.1 MIU/dA Suggested Connection

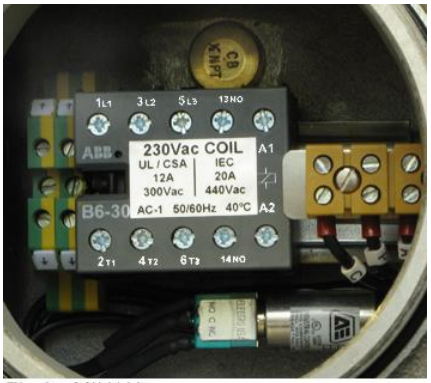

Fig 2. MIU/dA

- In the **MIU/dX**, connect the external voltage between the terminals N and 115 or 230 terminals, for 115V or 230V AC Power Supply, respectively.
- In the **MIU/dT**, connect the external voltage to the L and N terminals, and select the appropriate supply voltage using the voltage selector switch, for 115V or 230V ac supply, respectively.
- Refer to the drawing section of this manual for the wiring schematic of the unit to be installed. Also refer to Project Specific Data for possible additional information.

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4. Commissioning

- Once the MIU has been installed, the cable glands, conduit, earth connections and any other connections (e.g., pneumatic) shall be inspected for correct installation before the unit is put into service.
- Apply a thin, even layer of the grease (provided) onto the threads of the lid.
- The lid shall be correctly fitted, and the lid locking device secured.
- If the commissioning is being carried out in the Hazardous Location, appropriate precautions must be taken to prevent an incident. A relevant "Hot Work Permit" or similar must be obtained from the appropriate authority and regulations followed.

Commissioning the MIU when installed with a MiniPurge Control System

- Commissioning the MIU requires a working pressurized enclosure and MiniPurge system. For operation and commissioning instructions for the MiniPurge system, refer to the appropriate manual supplied with the MiniPurge. The description below assumes a standard Leakage Compensation MiniPurge is in use.
- Operation of the Alarm / Pressurized contact can be tested as follows:
- With the air supply turned off, there should be continuity between the A and C terminals, and no continuity between the C and P terminals.
- Close the enclosure door and turn the air supply on. The purge should begin, and the Pressurized indicator on the MiniPurge should change from "Red" to "Green". There should now be continuity between the C and P terminals, and no continuity between the C and A terminals of the MIU.
- Operation of the power switching contacts can be tested as follows:
- With the air supply off, the power switching contacts should be open circuit. Remember to turn on the power supply, for units that require a power supply to control the switching (MIU/dX and MIU/dT units).
- Close the enclosure door. Turn on the air supply. The purge cycle should begin.
- Once the purge cycle has been completed the power switching contacts will close. Both pneumatic connections between the MiniPurge and MIU are now pressurized,
- Ensure the pneumatic connections do not leak.
- The final check is the most important and must not be ignored. The enclosure should be pressurized, a purge cycle completed, and the power contacts closed. Turn the air supply to the MiniPurge off. After a few seconds, the enclosure will lose pressure and the following should happen
    - The Pressurized indicator on the MiniPurge should change from "Green" to "Red".
    - The power contacts should open disconnecting power to the enclosure.
    - There should be continuity between the A and C terminals, and no continuity between the C and P terminals.
    - The above assumes the MiniPurge system is set to "Alarm & Trip" (i.e., Disconnect) not to "Alarm Only"
- If the final check has been completed successfully, turn on the air supply to the MiniPurge.

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5. Maintenance

Where installed EXPO suggests at a minimum of every six months and /or a maximum of 2 years dependent on site conditions, to follow the maintenance routine described below:

- Inspect the condition of the enclosure and associated cable glands, conduit for any signs of damage.
- Inspect the condition of the thread and the lid locking device for any signs of corrosion or damage.
- There are no user serviceable parts within the MIU system apart from those mentioned in this manual.
- Repeat the commissioning tests to check correct operation of the system.
- Check that the air supply quality, where applicable, is still acceptable.
- Check that the system has not been modified in an unauthorised manner.
- Check that the certification labelling is legible, and that the system is suitable for the hazardous location.
- Rotate the Manual Override Key to cycle the valve and check that the contacts open (power is disconnected).

6. Fault Finding

Refer to the table below to solve any malfunction.

Problem	Potential Cure
The Alarm / Pressurized contact fails to operate.	• Check the pneumatic connection from the MiniPurge for leakage / blockage. • Check the operation of the pneumatic feed through as follows: • Unscrew the air connection to the Feed Through Actuator on the side of the MIU and use a small terminal screwdriver to manually depress the piston inside the feed through. • Pressing the piston should transfer the motion to the switch within the MIU, and the change-over action of the switch should be observed with a continuity tester.
The power switching contacts do not close. (MIU/dA units)	• The contactor is directly operated by the pneumatic Feed Through Actuator. Operation should be tested as outlined for the alarm contact above.
The power switching contacts do not close (MIU/dX and MIU/dT units)	• Check that there is power supplied to the MIU • Check operation of the pneumatic Feed Through Actuator as above for the Alarm/ Pressurized contact. • Check the voltage selection matches that of the supply • Check the fuse in the MIU. (Refer to the circuit diagram for the fuse rating.)

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7. Spare Parts List

Attention: When ordering spare parts include the serial number of the unit.

Item	Part Number
Type dA	
Contactor (110 Vac Coil) 4PNO/20A/440Vac	ECT-T000-064
Contactor (230 Vac Coil) 4PNO/20A/440Vac	ECT-T000-107
Type dX	
Contactor (24 Vac Coil) 4PNO/20A/440Vac	ECT-T000-065
Relay 4PNO/5A/250Vac	ECT-T000-025
Fuse Assembly, 250mA	EFH-0400-001
Type dT	
Contactor (24 Vac Coil) 4PNO/35A/600Vac	ECT-T000-069
Relay 4PNO/5A/250Vac	ECT-T000-025
Fuse, 630mA	EFU-C006-301
Additional items	
Direct Mounting Kit, for dA & Size 1 MiniPurge only ensure MIU is ordered with additional holes E & F	KMP-2600-000
Grease PCB 10g sachet	S0130/001
Mechanical Manual Override for dA only	AGM-GM00-428
Mechanical Manual Override for dX & dT.	AGM-GM00-452
Electrical Manual Override UL	MO/UL
Electrical Manual Override ATEX, IEC, EAC	MO(BOX)or MO(PM)
Pipe fittings to connect MiniPurge to MIU , contains; 4 x 1/8" NPT to 6mmOD, Stainless Steel	KMP-3MIU-S00
Pipe 6mmOD in Stainless Steel, sold in 1m (39") lengths	HTS-0601-500
Plug, ½" NPT, Brass, Sira 00ATEX1073U	TTP-4400-0B0

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8. Certificates

For limitations and conditions of use refer to the applicable certificate at the back of this manual:

Sira 02ATEX1129 CE **2804** Ex **II 2 G D**

Tamb -20°C +40°C	Ex db IIC T6 Gb Ex tb IIIC T80°C Db
Tamb -20°C +55°C	Ex db IIC T5 Gb Ex tb IIIC T95°C Db

IECEx SIR07.0008

Tamb -20°C +40°C	Ex db IIC T6 Gb Ex tb IIIC T80°C Db
Tamb -20°C +55°C	Ex db IIC T5 Gb Ex tb IIIC T95°C Db

INMETRO TÜV 12.1464

Tamb -20°C +40°C	Ex db IIC T6 Gb Ex tb IIIC T80°C Db IP66
Tamb -20°C +55°C	Ex db IIC T5 Gb Ex tb IIIC T95°C Db IP66

CSAE 21UKEX1068 CE **2585** Ex **II 2 G D**

Tamb -20°C +40°C	Ex db IIC T6 Gb Ex tb IIIC T80°C Db
Tamb -20°C +55°C	Ex db IIC T5 Gb Ex tb IIIC T95°C Db

NOIV.E203605* & FTRX.E181300*

* These certificates are for the Power Interlock Actuator used on the MIU/d, where the UL label must be removed during assembly.

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9. Drawings and Diagrams

See attached drawings:

TITLE	Drawing Number
MiniPurge Interface Unit Installation	XBR-MTD0-001
MIU in dA enclosure**	AMU-9AA1-510
MIU in dX enclosure**	AMU-AAA1-610
MIU in dT enclosure**	AMU-BAA1-610
Key Mechanical Pneumatic Manual Override	AGM-GM00-428
Direct Connection Kit Size 1 MP to MIU (for dA only)	KMP-2600-000
Cat 5 UTP Network Connections	

** These parts have AutoCAD.dwg blocks available from Expo upon request. The aim of a block is to allow Engineers and users to quickly build up a GA of an enclosure using Expo standard parts.

Fig. 3 MIU/dA with Manual Override fitted

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10. Project Specific Data

Recorded below are the drawing numbers detailing items specific to the project the MIU/d is supplied to.

	Drawing Number	Title
1		
2		
3		
4		
5		
6		

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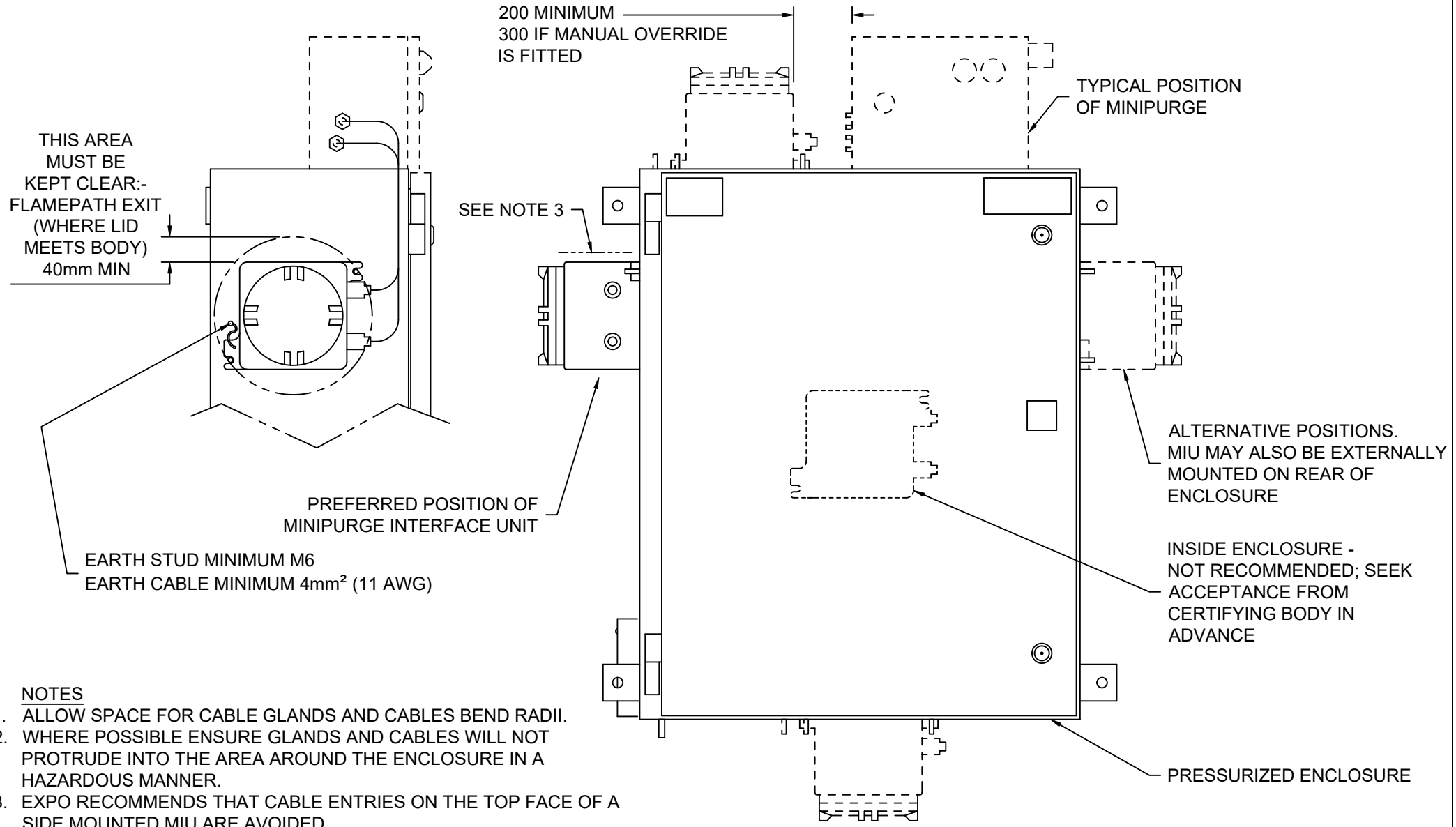
8	7	6	5	4	3	2	1
3RD ANGLE PROJECTION	DIMENSIONS IN mm [ ] DENOTES IMPERIAL	TOLERANCES UNLESS OTHERWISE STATED FLATNESS TO BE LESS THAN 0.4 OVER ANY 100mm LENGTH DECIMALS X ±0.5, X.X ±0.2, X.XX ±0.1, X.XXx ±0.05 ANGLE STD ±1°	DO NOT SCALE IF IN DOUBT ASK				



NOTES

1. ALLOW SPACE FOR CABLE GLANDS AND CABLES BEND RADII.
2. WHERE POSSIBLE ENSURE GLANDS AND CABLES WILL NOT PROTRUDE INTO THE AREA AROUND THE ENCLOSURE IN A HAZARDOUS MANNER.
3. EXPO RECOMMENDS THAT CABLE ENTRIES ON THE TOP FACE OF A SIDE MOUNTED MIU ARE AVOIDED.

REVISION	MOD #	DATE	DRAWN	CHECKED	APPROVED
04	DQN-12447	01/09/20	CE	AR	AW
03	5034	07/08/10			JPdB
02	4094	13/12/05			PAO

DRAWN DATE: 26/01/2005
DRAWING STATUS: CERT REL
REVISION: 04
SCALE: N.T.S
A3
MATERIAL:
FINISH:
WEIGHT (Kg):

Expo Technologies Limited
SURREY TW16 5DB UNITED KINGDOM

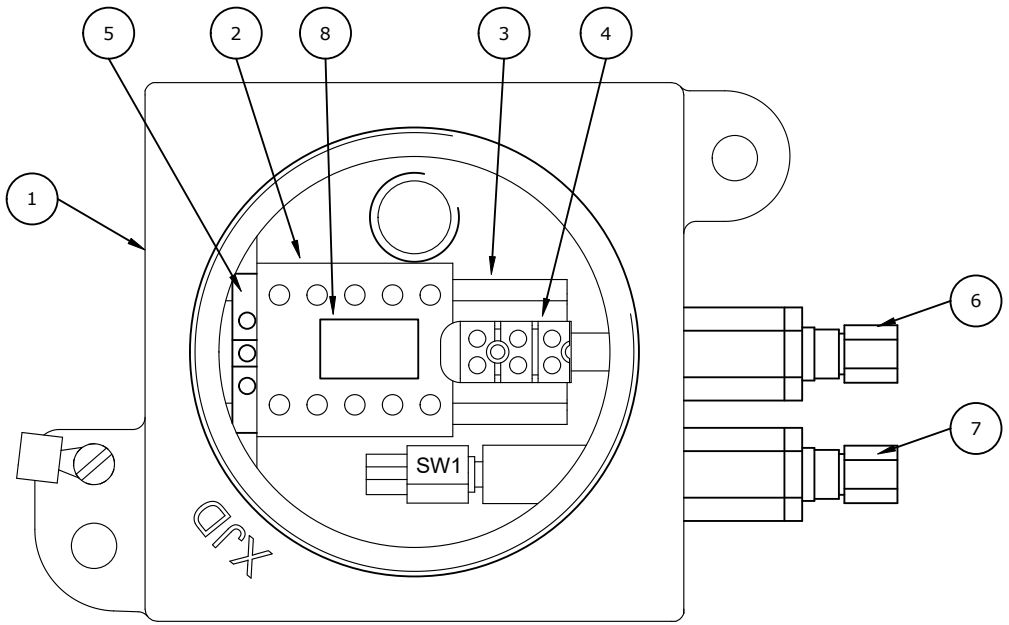
TITLE: MINIPURGE INTERFACE UNIT INSTALLATION

DRAWING No. XBR-MTD0-001

SHEET No. 1 OF 1

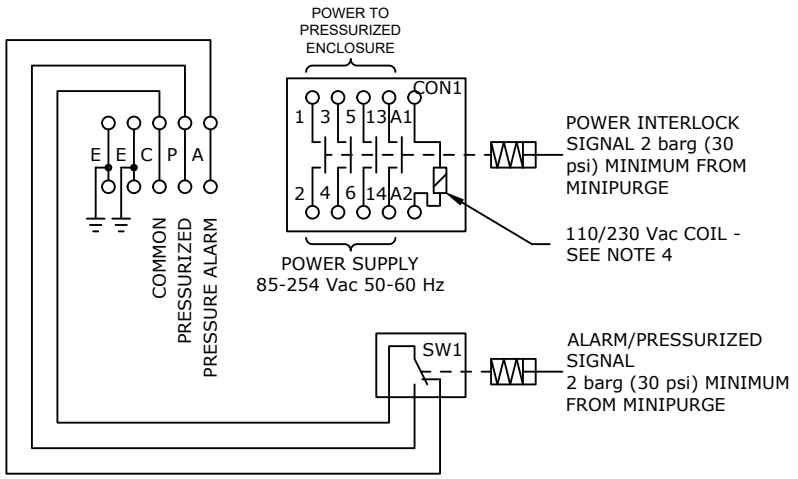
expo Technologies

8	7	6	5	4	3	2	1
3RD ANGLE PROJECTION	DIMENSIONS IN mm [ ] DENOTES IMPERIAL	TOLERANCES UNLESS OTHERWISE STATED FLATNESS TO BE LESS THAN 0.4 OVER ANY 100mm LENGTH DECIMALS X ±0.5 X.X ±0.2 X.XX ±0.1 X.XXx ±0.05 ANGLE STD ±1°	DO NOT SCALE IF IN DOUBT ASK				



ITEM	QTY	DESCRIPTION
1	1	Ex d / EXPLOSIONPROOF ALUMINIUM HOUSING
2	1	CONTACTOR CON1: UL AND CSA: 3 PHASE: 3HP 480Vac GENERAL USE: 12A 300Vac IEC: AC1 20A 440Vac T<40°C AC1 16A 440Vac T<55°C AC3 4kW 400Vac T<55°C AC3 9A 400Vac T<55°C COIL 50/60Hz at 40°C: 110Vac FOR MIU AMU-9AA1-510 230Vac FOR MIU AMU-9AA1-511 24Vdc FOR MIU AMU-9AA1-518
3	1	TERMINAL RAIL
4	3	ALARM/PRESSURIZED TERMINAL BLOCK
5	2	EARTH TERMINAL BLOCK
6	1	POWER INTERLOCK ACTUATOR
7	1	ALARM/PRESSURIZED ACTUATOR FOR SW1 UL CSA AND IEC: 6A 125Vac OR 3A 250Vac
8	1	RATING LABEL

WIRE SIZE FOR CONTACTOR AND TERMINALS: 2.5mm² (14 AWG) MAX



NOTES

1. EXPO EXPLOSIONPROOF PRODUCTS ARE DESIGNED TO FULFIL THE APPLICABLE REQUIREMENTS OF IEC, ATEX & NEC ARTICLE 500 HAZARDOUS (CLASSIFIED) LOCATION INSTALLATIONS.
2. THIS MINIPURGE INTERFACE UNIT IS SUITABLE FOR USE IN THE FOLLOWING HAZARDOUS LOCATIONS:
   CLASS I DIV 1 GROUP B, C & D, UL COMPLIANCE
   CLASS II DIV 1 GROUP E, F & G NEMA 4, 7 & 9
   SIRA 02ATEX1129 Ex II 2 GD
   ZONE 1 GAS GROUP IIC Ex d IIC T6 (Tamb -20°C TO +40°C) OR T5 (Tamb -20°C to +55°C)
   ZONE 21 DUST Ex tD A21 IP6X T80°C OR T95°C (Tamb -20°C to +55°C)
   IECEx SIR07.0008
   ZONE 1 GAS GROUP IIC Ex d IIC T6 (Tamb -20°C TO +40°C) OR T5 (Tamb -20°C to +55°C)
   ZONE 21 DUST Ex tD A21 IP6X T80°C OR T95°C (Tamb -20°C to +55°C)
3. WEIGHT: 3kg (6.5lbs)
4. COIL IS ONLY USED AS PART OF ELECTRICAL MANUAL OVERRIDE, WHEN REQUIRED.

REVISION	MOD #	DATE	DRAWN	CHECKED	APPROVED
08	DQN-12447	25/08/20	CE	AR	AW
07	6090	07/05/14			SM
06	4993	10/05/12			SB

DRAWN DATE: 26/05/2004
DRAWING STATUS: CERT REL
REVISION: 08
SCALE: N.T.S
A3
MATERIAL:
FINISH:
WEIGHT (Kg): 3.0

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TITLE: STANDARD MIU IN dA BOX LAYOUT

DRAWING No.: AMU-9AA1-510

SHEET No. 1 OF 2

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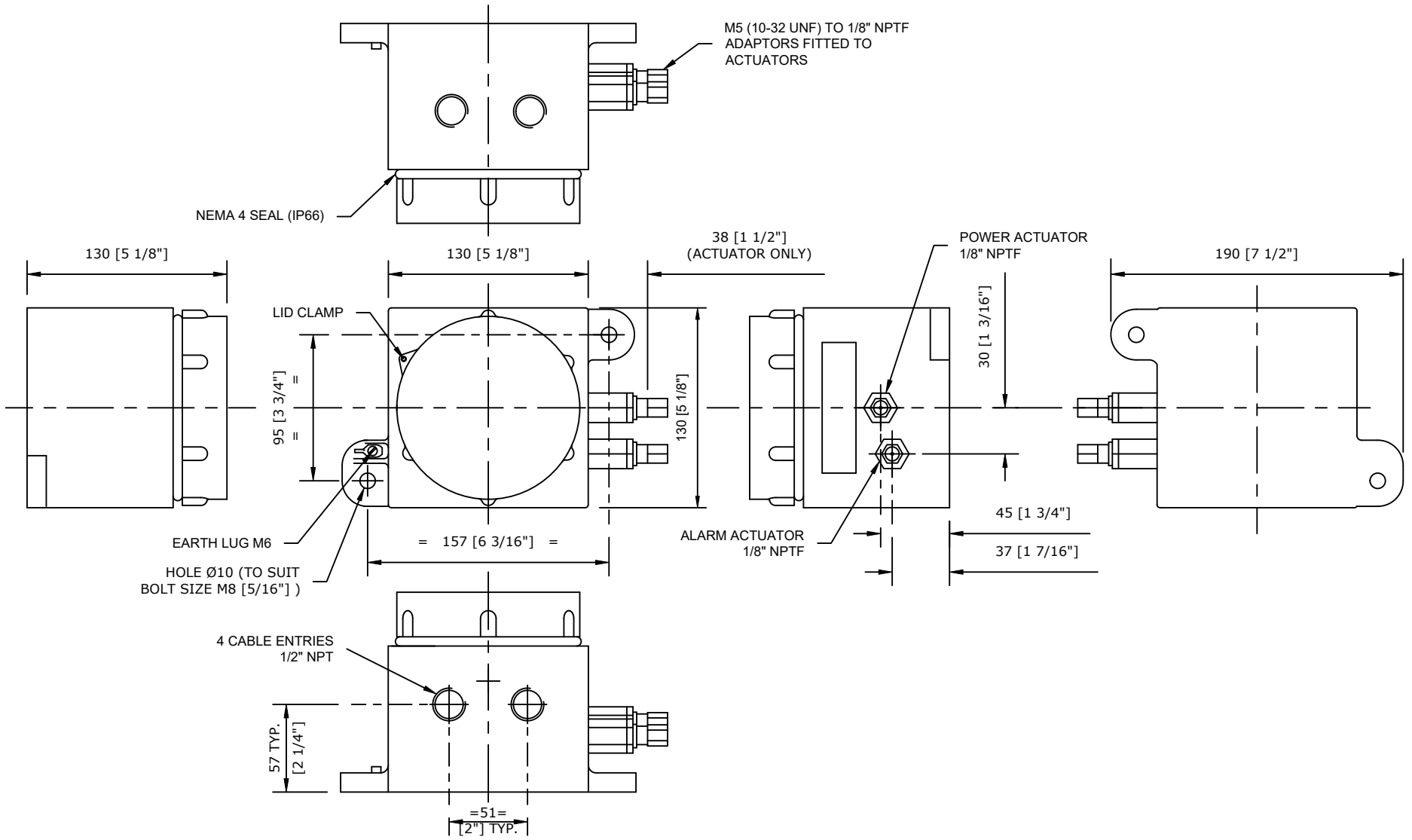
8	7	6	5	4	3	2	1

3RD ANGLE PROJECTION

DIMENSIONS IN mm
[ ] DENOTES IMPERIAL

TOLERANCES UNLESS OTHERWISE STATED
DECIMALS X ±0.5, X.X ±0.2, X.XX ±0.1, X.XXx ±0.05
ANGLE STD ±1°
FLATNESS TO BE LESS THAN 0.4 OVER ANY 100mm LENGTH

DO NOT SCALE
IF IN DOUBT ASK



REVISION	MOD #	DATE	DRAWN	CHECKED	APPROVED
08	DQN-12447	25/08/20	CE	AR	AW
07	6090	07/05/14			SM
06	4993	10/05/12			SB

DRAWN DATE: 26/05/2004
DRAWING STATUS: CERT REL
REVISION: 08
SCALE: N.T.S
A3

MATERIAL:
FINISH:

WEIGHT (Kg): 3.0

Expo Technologies Limited
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TITLE: STANDARD MIU IN dA BOX LAYOUT

DRAWING No. AMU-9AA1-510

SHEET No. 2 OF 2

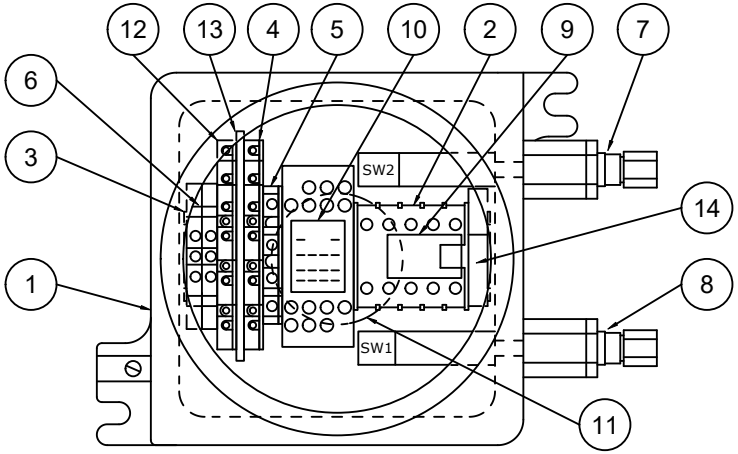
8	7	6	5	4	3	2	1

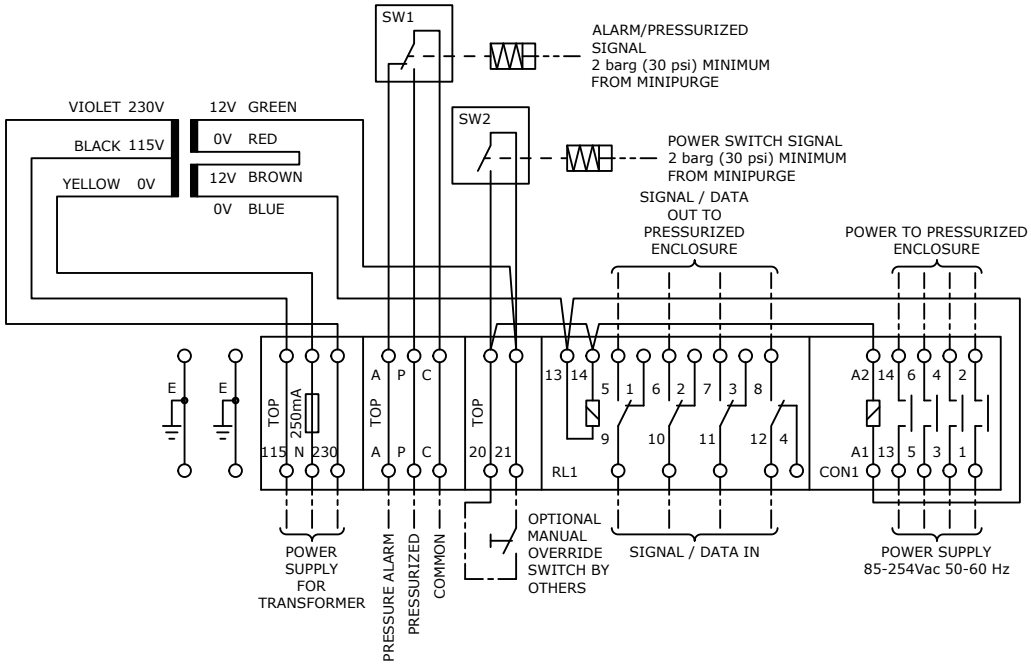
3RD ANGLE PROJECTION

DIMENSIONS IN mm
[ ] DENOTES IMPERIAL

TOLERANCES UNLESS OTHERWISE STATED
FLATNESS TO BE LESS THAN 0.4 OVER ANY 100mm LENGTH
DECIMALS X ±0.5, X.X ±0.2, X.XX ±0.1, X.XXx ±0.05
ANGLE STD ±1°

DO NOT SCALE
IF IN DOUBT ASK





ITEM	QTY	DESCRIPTION
1	1	Ex d / EXPLOSION PROOF ALUMINIUM HOUSING
2	1	CONTACTOR CON1:
		UL AND CSA:
		3 PHASE: 3HP 480Vac
		GENERAL USE: 12A 300Vac
		IEC:
		AC1 20A 440Vac T<40°C
		AC1 16A 440Vac T<55°C
		AC3 4kW 400Vac T<55°C
		AC3 9A 400Vac T<55°C
		COIL 24Vac 50/60Hz
3	1	TERMINAL RAIL
4	1	TERMINAL BLOCK TRIPLE DECK
5	1	TERMINAL BLOCK DOUBLE DECK
6	2	EARTH TERMINAL BLOCK
7	1	POWER INTERLOCK ACTUATOR FOR SW2
		RATING: UL, CSA & IEC: 6A 125Vac / 3A 250Vac
8	1	ALARM/PRESSURIZED ACTUATOR FOR SW1
		RATING: UL, CSA & IEC: 6A 125Vac / 3A 250Vac
9	1	RATING LABEL
10	1	RELAY RL1
	1	RATING: CONTACTS: AC1 5A 250Vac COIL: 24Vac 50/60Hz
11	1	TRANSFORMER
12	1	FUSE ASSEMBLY FITTED WITH 250mA FUSE
13	1	PARTITION FOR TERMINAL SEPARATION
14	1	END BRACKET

WIRE SIZE FOR CONTACTOR, RELAY AND TERMINALS: 2.5mm² (14 AWG) MAX

NOTES

1. EXPO EXPLOSIONPROOF PRODUCTS ARE DESIGNED TO FULFIL THE APPLICABLE REQUIREMENTS OF IEC, ATEX & NEC ARTICLE 500 HAZARDOUS (CLASSIFIED) LOCATION INSTALLATIONS.

2. THIS MINIPURGE INTERFACE UNIT IS SUITABLE FOR USE IN THE FOLLOWING HAZARDOUS LOCATIONS:
   CLASS I DIV 1 GROUP B, C & D, UL COMPLIANCE
   CLASS II DIV 1 GROUP E, F & G NEMA 4, 7 & 9
   SIRA 02ATEX1129 Ⓔx II 2 GD
   ZONE 1 GAS GROUP IIC Ex d IIC T6 (Tamb -20°C TO +40°C) OR T5 (Tamb -20°C to +55°C)
   ZONE 21 DUST Ex tD A21 IP6X T80°C OR T95°C (Tamb -20°C to +55°C)
   IECEx SIR07.0008
   ZONE 1 GAS GROUP IIC Ex d IIC T6 (Tamb -20°C TO +40°C) OR T5 (Tamb -20°C to +55°C)
   ZONE 21 DUST Ex tD A21 IP6X T80°C OR T95°C (Tamb -20°C to +55°C)

3. WEIGHT: 3.6kg (8lbs).

REVISION	MOD #	DATE	DRAWN	CHECKED	APPROVED
06	DQN-12447	25/08/20	CE	AR	AW
05	4993	10/05/12			SB
04	4491	13/06/08			JPdB

DRAWN DATE: 27/05/2004
DRAWING STATUS: CERT REL
REVISION: 06
SCALE: N.T.S
A3

MATERIAL
FINISH

WEIGHT (Kg): 3.6

Expo Technologies Limited
SURREY TW16 5DB UNITED KINGDOM

TITLE: STANDARD MIU IN dX BOX LAYOUT

DRAWING No.: AMU-AAA1-610

SHEET No. 1 OF 2

expo Technologies

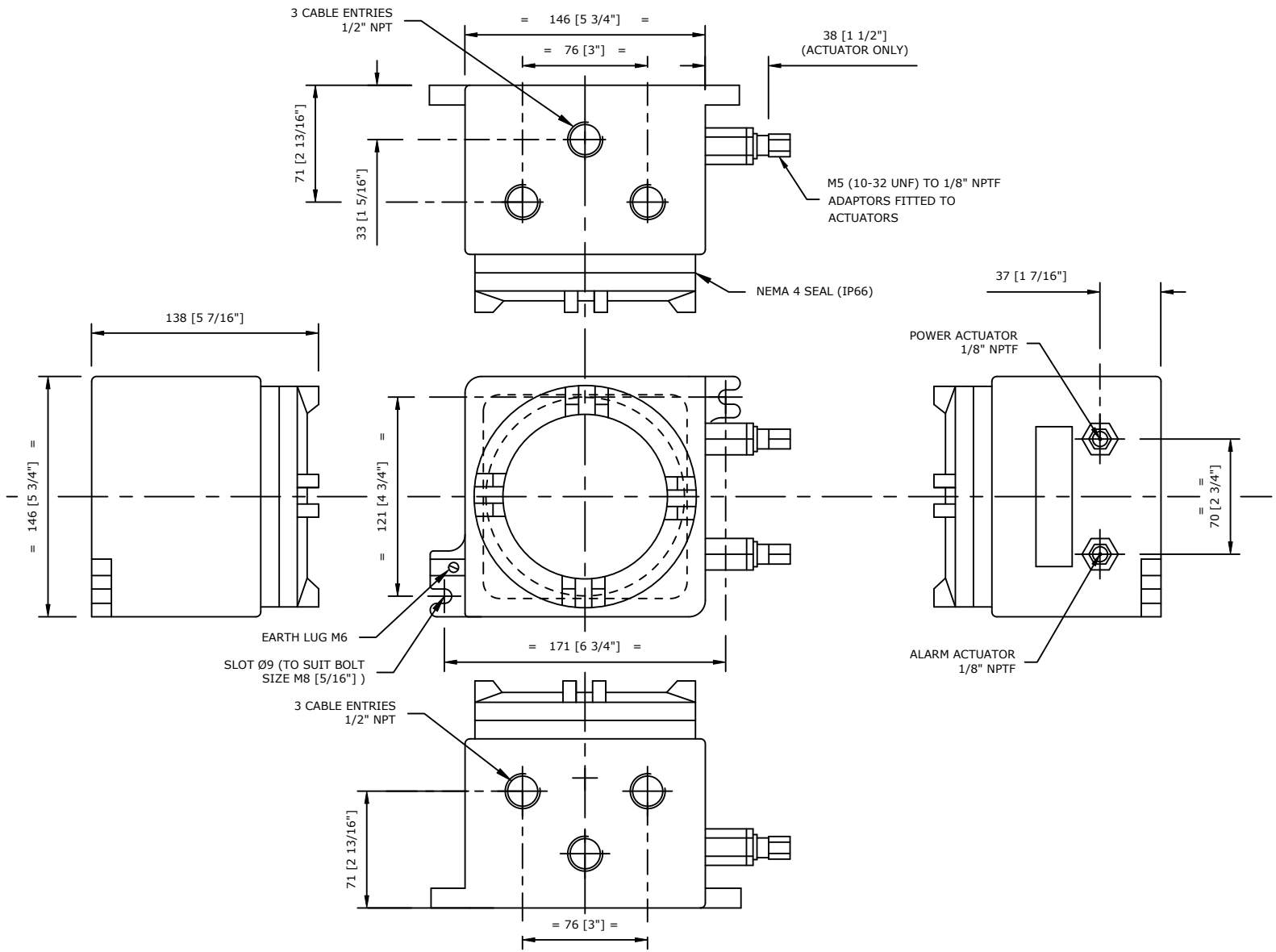
8	7	6	5	4	3	2	1

3RD ANGLE PROJECTION

DIMENSIONS IN mm
[ ] DENOTES IMPERIAL

TOLERANCES UNLESS OTHERWISE STATED
FLATNESS TO BE LESS THAN 0.4 OVER ANY 100mm LENGTH
DECIMALS X ±0.5, X.X ±0.2, X.XX ±0.1, X.XXx ±0.05
ANGLE STD ±1°

DO NOT SCALE
IF IN DOUBT ASK



REVISION	MOD #	DATE	DRAWN	CHECKED	APPROVED
06	DQN-12447	25/08/20	CE	AR	AW
05	4993	10/05/12			SB
04	4491	13/06/08			JPdB

DRAWN DATE: 27/05/2004
DRAWING STATUS: CERT REL
REVISION: 06
SCALE: N.T.S
A3

MATERIAL:
FINISH:

WEIGHT (Kg): 3.6

Expo Technologies Limited
SURREY TW16 5DB UNITED KINGDOM

TITLE: STANDARD MIU IN dX BOX LAYOUT

DRAWING No. AMU-AAA1-610

SHEET No. 2 OF 2

expo Technologies

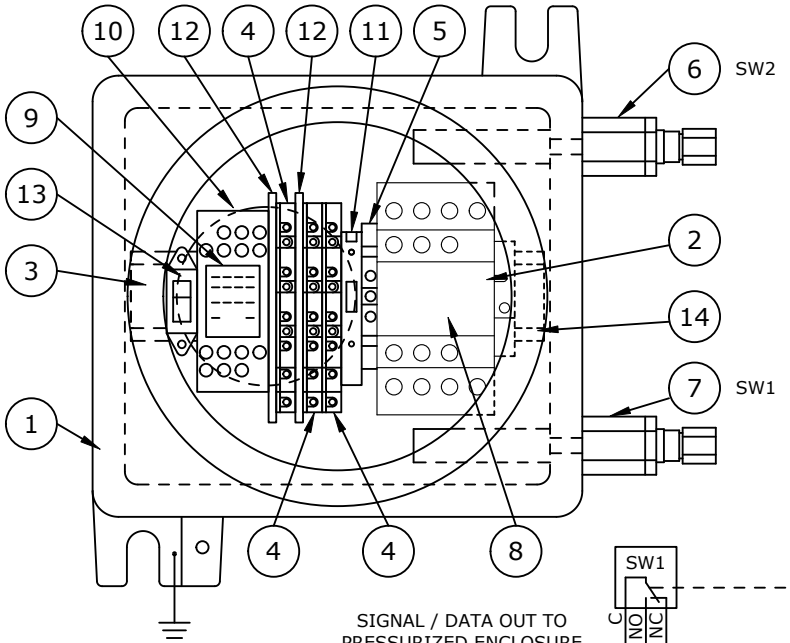
8	7	6	5	4	3	2	1

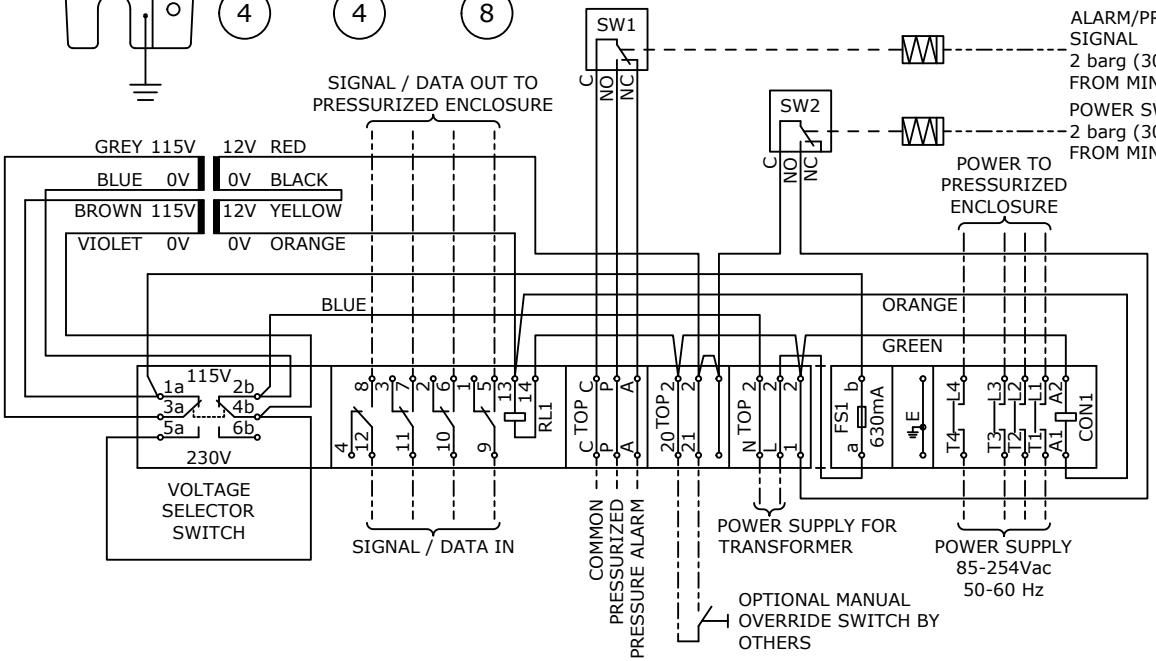
3RD ANGLE PROJECTION

DIMENSIONS IN mm
[ ] DENOTES IMPERIAL

TOLERANCES UNLESS OTHERWISE STATED
DECIMALS X ±0.5, X.X ±0.2, X.XX ±0.1, X.XXx ±0.05
ANGLE STD ±1°
FLATNESS TO BE LESS THAN 0.4 OVER ANY 100mm LENGTH

DO NOT SCALE IF IN DOUBT ASK





NOTES

1. EXPO EXPLOSIONPROOF PRODUCTS ARE DESIGNED TO FULFIL THE APPLICABLE REQUIREMENTS OF IEC, ATEX & NEC ARTICLE 500 HAZARDOUS (CLASSIFIED) LOCATION INSTALLATIONS.
2. THIS MINIPURGE INTERFACE UNIT IS SUITABLE FOR USE IN THE FOLLOWING HAZARDOUS LOCATIONS:
   CLASS I DIV 1 GROUP B, C & D, UL COMPLIANCE
   CLASS II DIV 1 GROUP E, F & G NEMA 4, 7 & 9
   SIRA 02ATEX1129 Ex II 2 GD
   ZONE 1 GAS GROUP IIC Ex d IIC T6 (Tamb -20°C TO +40°C) OR T5 (Tamb -20°C to +55°C)
   ZONE 21 DUST Ex tD A21 IP6X T80°C OR T95°C (Tamb -20°C to +55°C)
   IECEx SIR07.0008
   ZONE 1 GAS GROUP IIC Ex d IIC T6 (Tamb -20°C TO +40°C) OR T5 (Tamb -20°C to +55°C)
   ZONE 21 DUST Ex tD A21 IP6X T80°C OR T95°C (Tamb -20°C to +55°C)
3. WEIGHT: 6.7kg (15lbs).

ITEM	QTY	DESCRIPTION
1	1	Ex d / EXPLOSIONPROOF ALUMINIUM HOUSING
2	1	CONTACTOR CON1 COIL:
		UL AND CSA:
		3 PHASE: 3HP 480Vac
		GENERAL USE: 12A 300Vac
		IEC:
		AC1 40A/690Vac T < 40°C
		AC1 40A/440Vac T < 55°C
		AC3 15kW/90Vac T < 55°C
		AC3 25A/690Vac T < 55°C
		COIL 50/60Hz:
		24Vac
3	1	TERMINAL RAIL
4	3	TERMINAL BLOCK TRIPLE DECK
5	1	EARTH TERMINAL BLOCK
6	1	POWER INTERLOCK ACTUATOR FOR SW2
		RATING: UL, CSA & IEC: 6A 125Vac / 3A 250Vac
7	1	ALARM/PRESSURIZED SWITCH ACTUATOR FOR SW1
		RATING: UL, CSA & IEC 6A 125Vac / 3A 250Vac
8	1	RATING LABEL
9	1	RELAY RL1:
		CONTACTS: 5A 250Vac
		COIL: 24Vac 50/60Hz
10	1	TRANSFORMER
11	1	FUSE ASSEMBLY FITTED WITH 630mA FUSE
12	2	PARTITION FOR TERMINAL SEPARATION END BRACKET
13	1	VOLTAGE SELECTOR SWITCH
14	1	END BRACKET

WIRE SIZE FOR TERMINALS AND RELAY: 2.5mm² (14 AWG) MAX
WIRE SIZE FOR CONTACTOR: 8.0mm² (8 AWG) MAX 2.5mm² (14 AWG) MIN

REVISION	MOD #	DATE	DRAWN	CHECKED	APPROVED
07	DQN-12447	25/08/20	CE	AR	AW
06	4993	10/05/12			SB
05	5386	04/11/11			JPdB

DRAWN DATE: 03/06/2004
DRAWING STATUS: CERT REL
REVISION: 07
SCALE: N.T.S
A3

MATERIAL
FINISH

WEIGHT (Kg): 6.3

Expo Technologies Limited
SURREY TW16 5DB UNITED KINGDOM

TITLE: STANDARD MIU IN dT BOX LAYOUT

DRAWING No.: AMU-BAA1-610

SHEET No. 1 OF 2

expo Technologies

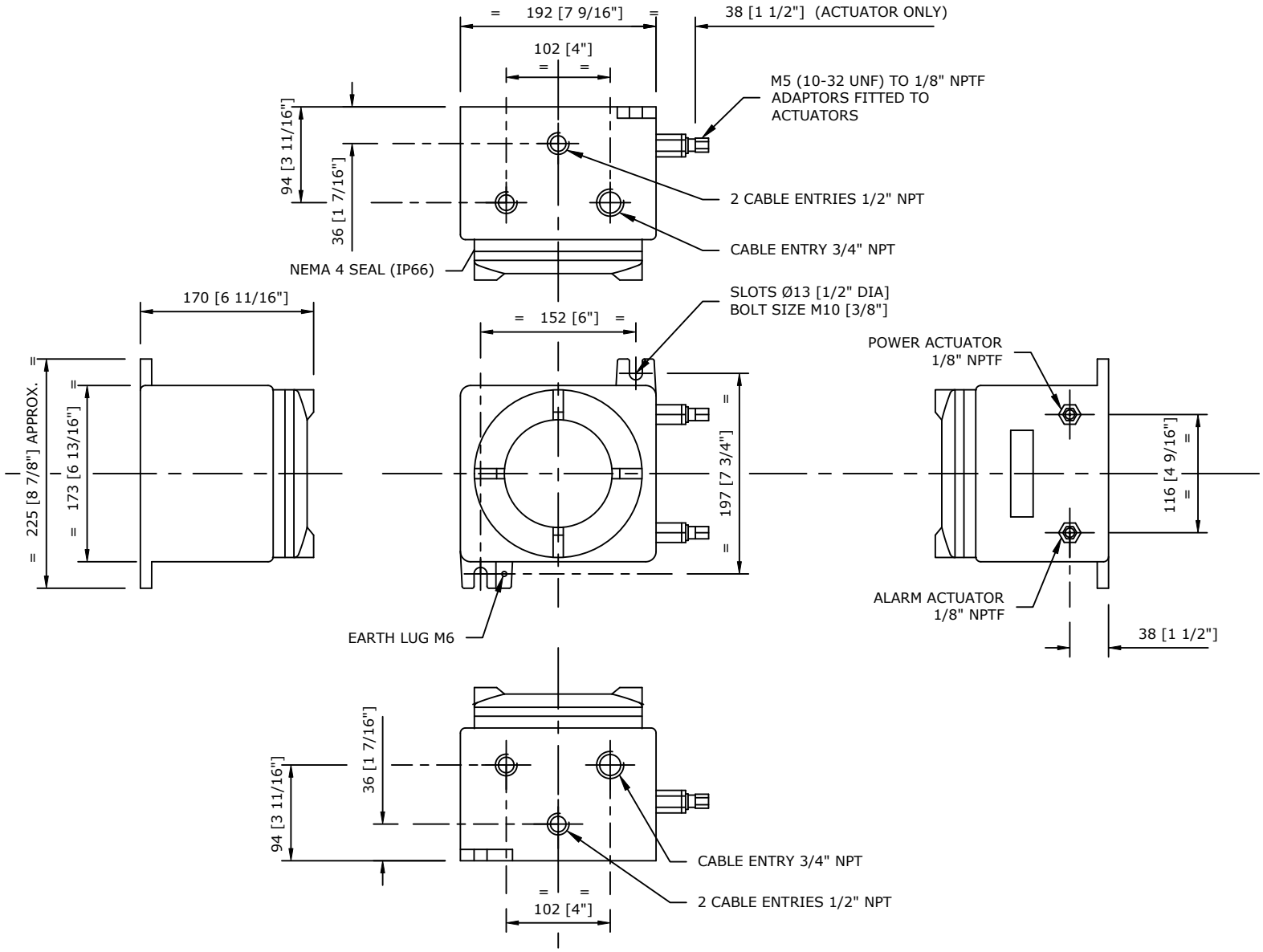
8	7	6	5	4	3	2	1

3RD ANGLE PROJECTION

DIMENSIONS IN mm
[ ] DENOTES IMPERIAL

TOLERANCES UNLESS OTHERWISE STATED
FLATNESS TO BE LESS THAN 0.4 OVER ANY 100mm LENGTH
DECIMALS X ±0.5, X.X ±0.2, X.XX ±0.1, X.XXx ±0.05
ANGLE STD ±1°

DO NOT SCALE
IF IN DOUBT ASK



REVISION	MOD #	DATE	DRAWN	CHECKED	APPROVED
07	DQN-12447	25/08/20	CE	AR	AW
06	4993	10/05/12			SB
05	5386	04/11/11			JPdB

DRAWN DATE: 03/06/2004
DRAWING STATUS: CERT REL
REVISION: 07
SCALE: N.T.S
A3

MATERIAL
FINISH

WEIGHT (Kg): 6.3

Expo Technologies Limited
SURREY TW16 5DB UNITED KINGDOM

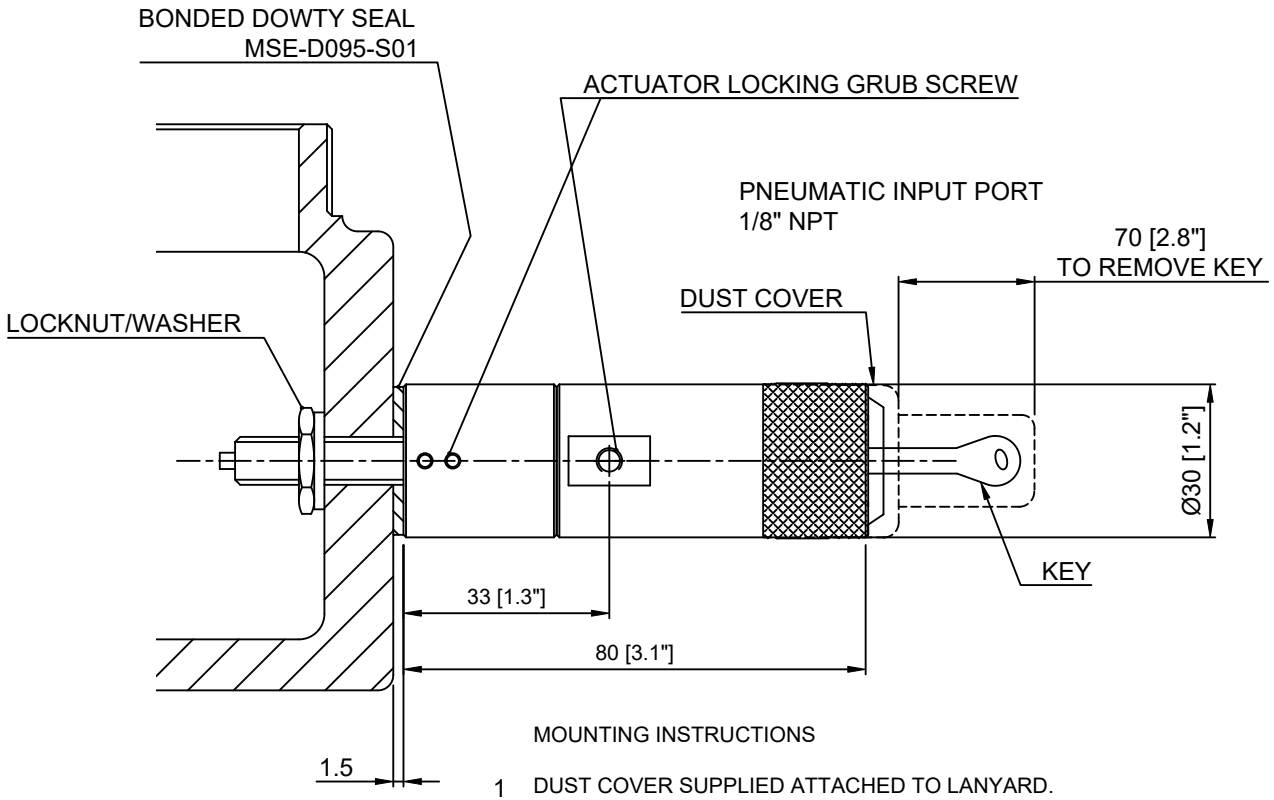
TITLE: STANDARD MIU IN dT BOX LAYOUT

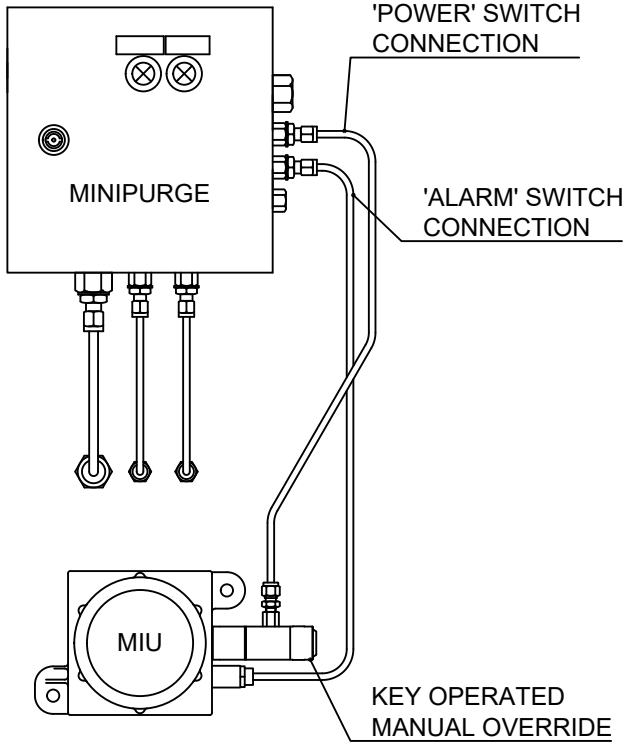
DRAWING No.: AMU-BAA1-610

SHEET No. 2 OF 2

expo Technologies

8	7	6	5	4	3	2	1
3RD ANGLE PROJECTION	DIMENSIONS IN mm [ ] DENOTES IMPERIAL	TOLERANCES UNLESS OTHERWISE STATED DECIMALS X ±0.5 X.X ±0.2 ANGLE STD ±1° FLATNESS TO BE LESS THAN 0.4 OVER ANY 100mm LENGTH X.XX ±0.1 X.XXx ±0.05	DO NOT SCALE IF IN DOUBT ASK				





TYPICAL CONNECTION BETWEEN MINIPURGE PO AND MIU

MOUNTING INSTRUCTIONS

1 DUST COVER SUPPLIED ATTACHED TO LANYARD.

2. SUPPORT ACTUATOR ASSEMBLY WHEN TIGHTENING PNEUMATIC FITTINGS - 5Nm (3.7lbf/ft) MAXIMUM

3. SCREW ACTUATOR ASSEMBLY INTO MIU

4. CONTINUE UNTIL PNEUMATIC INPUT IS ALIGNED IN THE DESIRED DIRECTION. REFER TO AGM-GM00-428-BP

5. LOCK ACTUATOR ASSEMBLY FROM INSIDE MIU USING LOCKNUT/WASHER. AND ACTUATOR LOCKING GRUB SCREW USING A

6. 1.5mm ALLEN KEY

IF NECESSARY, ADJUST POSITION OF CONTACTOR ON DIN RAIL WITHIN MIU FOR CORRECT OPERATION.

REVISION	MOD #	DATE	DRAWN	CHECKED	APPROVED
02	DQN-12447	26/08/20	CE	AR	AW
01	DRAWN	22/07/19	AR	RJ	CE

DRAWN DATE: 22/07/2019
DRAWING STATUS: CERT REL
REVISION: 02
SCALE: N.T.S
A3

MATERIAL: SEE PART DETIAL
FINISH:
WEIGHT (Kg):

Expo Technologies Limited
SURREY TW16 5DB UNITED KINGDOM

TITLE: KEY ACTUATOR PNEUMATIC MAN. OVERRIDE

DRAWING No. AGM-GM00-428

SHEET No. 1 OF 1

DO NOT SCALE IF IN DOUBT ASK

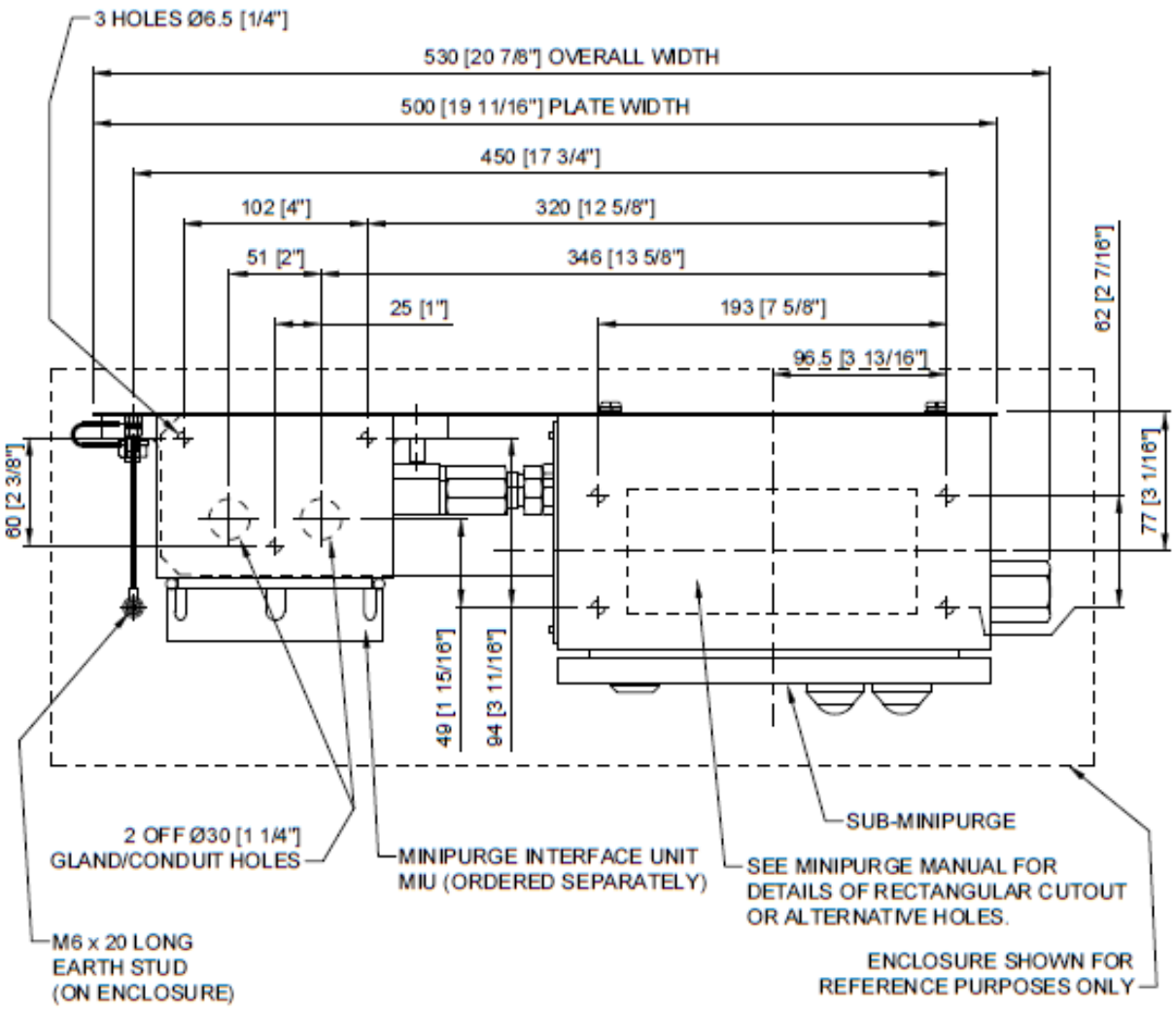
TOLERANCES UNLESS OTHERWISE STATED
FLATNESS TO BE LESS THAN 0.4 OVER ANY 100mm LENGTH

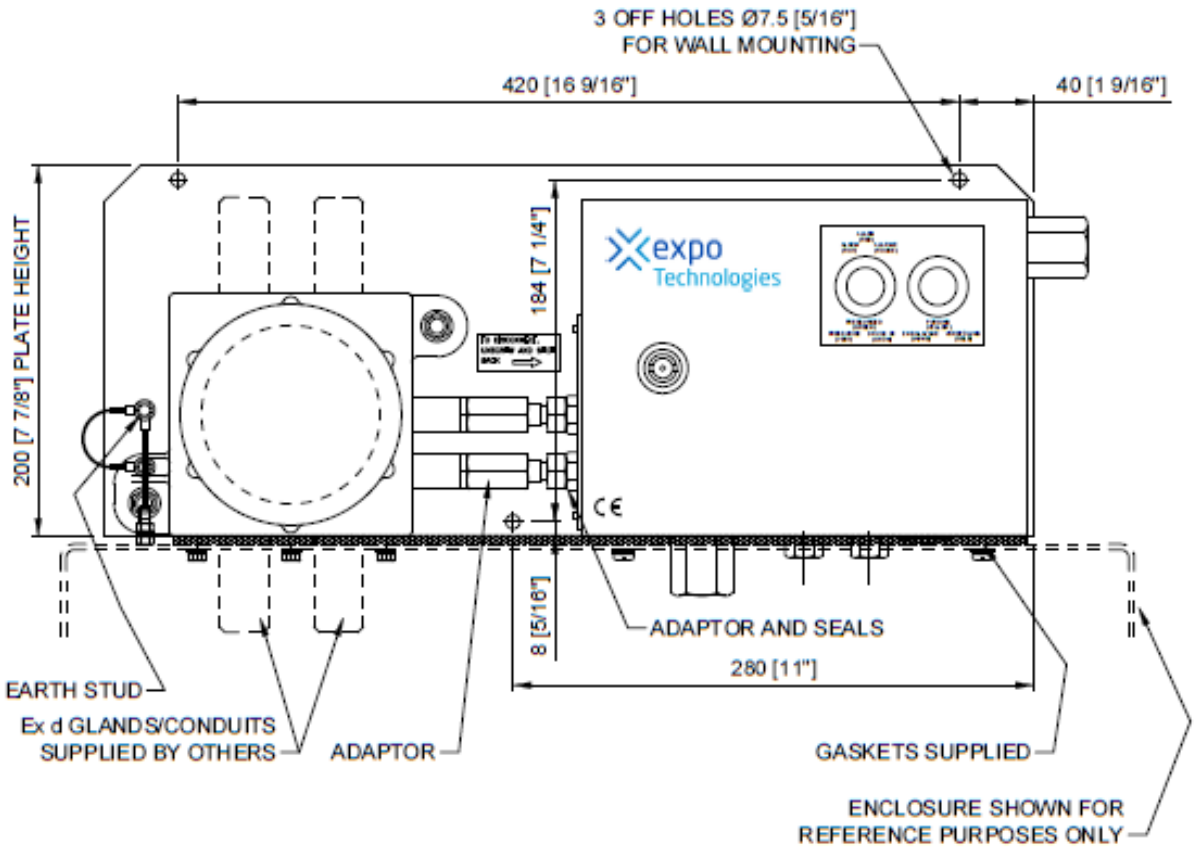
DECIMALS
X ±0.5
X.X ±0.2
X.XX ±0.1
X.XXX ±0.05

ANGLE
STD ±1°

DIMENSIONS IN mm
[ ] DENOTES IMPERIAL

3RD ANGLE PROJECTION





TOTAL WEIGHT = 11Kg (24 POUNDS)

REVISION	MOD #	DATE	DRAWN	CHECKED	APPROVED	DRAWN DATE	MATERIAL
08	DCN-12447	26/08/20	CE	AR	AW	02/08/2004	
07	8250	13/01/15			SJM	DRAWING STATUS: CERT REL	REVISION: 08
06	5919	18/09/12			SB	SCALE: N.T.S	A3

WEIGHT (Kg)

Expo Technologies Limited
SURREY TW16 5DB UNITED KINGDOM

TITLE: DIRECT CONNECTION KIT SIZE 1MP TO MIU

DRAWING No: KMP-2600-000

SHEET No. 1 OF 3

expo Technologies

A B C D E F
1 2 3 4 5 6 7 8

ASSEMBLY INSTRUCTIONS

1. Prepare holes and cutouts in the enclosure. The Gasket (Item 6) may be used as a template.

2. Lightly lubricate the 'O' ring grooves in the SWITCH ACTUATORS using the grease specified in note 8. Fit 10 mm 'O' rings (item 4). Screw M15 adapters (item 1) over the 'O' rings.

3. Fit grub screws (item 7) so that the MIU can be clamped to the top of the enclosure.

4. Into each MINIPURGE OUTPUT PORT fit male 1/8" adapter (item 2). Lightly lubricate the 'O' ring grooves with the grease specified in note 8 and carefully fit 7.6mm 'O' ring (item 3).

5. Fit the MIU to the M8 studs on the mounting plate (item 5) using items 16 and 18.

6. Remove the existing screws from the back of the MiniPurge. Discard the black rubber washers.

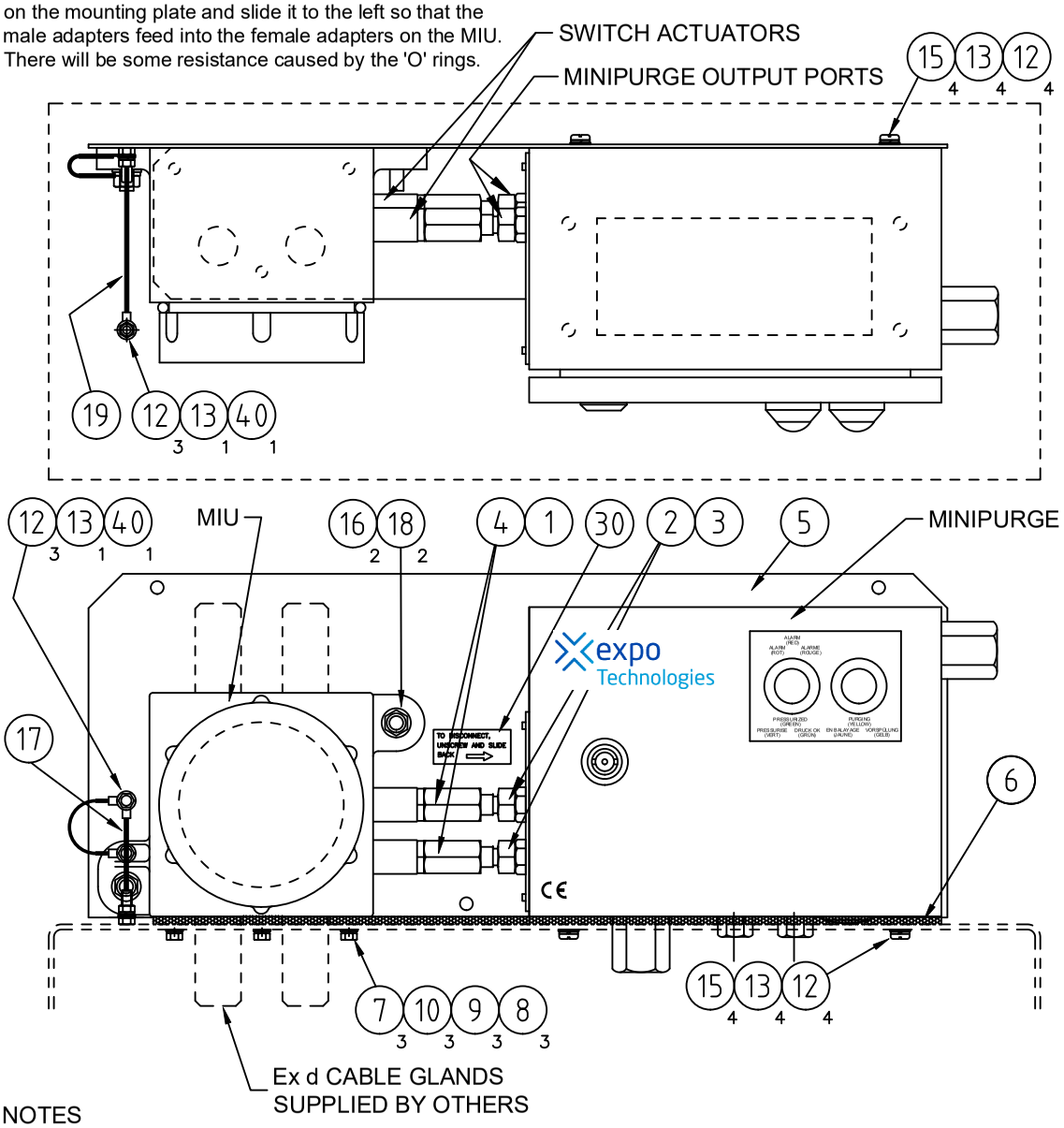
7. Lay the assembly on a flat surface. Position the MiniPurge on the mounting plate and slide it to the left so that the male adapters feed into the female adapters on the MIU. There will be some resistance caused by the 'O' rings. When the M6 holes in the back of the MiniPurge line up with the 4 holes in the mounting plate fix the MiniPurge in place with the screws removed in (6) above and items 12, 13 and 15.

8. Connect the MIU EARTH POINT to the M6 stud on the mounting plate using item 19 (earth lead) with Items 12, 13 and 40 (M6 nuts and washers).

9. Remove the protective film from the adhesive layer on the gasket (item 6). Making sure that the holes in the gasket are aligned with the holes in the enclosure press the gasket, adhesive side down, onto the enclosure surface.

10. Place complete assembly in position feeding grub screws and fittings through the enclosure. Fix using items 8, 9 and 10 (M5 nuts and washers) for the MIU and items 12,13 and 15 (M6 x 20 pan hd screws + washers) for the MiniPurge. Fit cable glands (not supplied).

11. Fit earth lead (Item 17) between the M6 Stud on the mounting plate (Item 5) and the M6 stud on the enclosure using M6 locknuts and washers (Items 12, 13 and 40).



NOTES

1. MiniPurge and MIU must be ordered separately.
2. MiniPurge must be either 1XLC/ss/PO or 1XCF/ss/PO.
3. MIU must be dA Type AMU-9AA1-510 or AMU-9AA1-511 with additional holes E and F.
4. Cable glands into MIU must be Ex d and suitable for hazardous location and cable.
5. Allow enough space within the enclosure for cable glands and pneumatic pipework.
6. Manual override option is not possible with this kit.
7. Earth cable to be at least 4mm² CSA (AWG 11).
8. Vacuum grease or silicon grease must be used. The recommended grease is Dow Corning MS4.

DO NOT SCALE IF IN DOUBT ASK

TOLERANCES UNLESS OTHERWISE STATED
FLATNESS TO BE LESS THAN 0.4 OVER ANY 100mm LENGTH

DECIMALS X ±0.5 X.X ±0.2 X.XX ±0.1 X.XXx ±0.05

ANGLE STD ±1°

DIMENSIONS IN mm [ ] DENOTES IMPERIAL

3RD ANGLE PROJECTION

REVISION	MOD #	DATE	DRAWN	CHECKED	APPROVED
08	DQN-12447	26/08/20	CE	AR	AW
07	6250	13/01/15			SJM
06	5619	18/09/12			SB

DRAWN DATE 02/08/2004
DRAWING STATUS CERT REL
REVISION 08
SCALE N.T.S
MATERIAL
FINISH
A3

WEIGHT (Kg)

Expo Technologies Limited
SURREY TW16 5DB UNITED KINGDOM

TITLE
DIRECT CONNECTION KIT SIZE 1MP TO MIU

DRAWING No. KMP-2600-000

SHEET No. 2 OF 3

expo Technologies

8	7	6	5	4	3	2	1
3RD ANGLE PROJECTION	DIMENSIONS IN mm [ ] DENOTES IMPERIAL	TOLERANCES UNLESS OTHERWISE STATED FLATNESS TO BE LESS THAN 0.4 OVER ANY 100mm LENGTH DECIMALS X ±0.5 X.X ±0.2 X.XX ±0.1 X.XXx ±0.05 ANGLE STD ±1°	DO NOT SCALE IF IN DOUBT ASK				

1	HFX-E715-000	ADAPTOR FEMALE/FEMALE M15(F) TO 12 MM BORE	2	
2	HFY-ZZA0-000	ADAPTOR 1/8" TO 12 MM OD TUBE	2	
3	MSE-R007-6R0	SEAL O RING ID 7.6, OD 12.4	2	
4	MSE-R010-0R1	O RING NITRILE 70, SIZE 10 ID X 1.3 CROSS SECT	2	
5	MPA-S000-054	Plate MIU mounting	1	
6	MGA-R000-034	GASKET TOP MOUNT MINIPURGE + MIU	1	
7	FGM-0503-0ES	SCREW GRUB M5 X 30 SKT CUP PT A2 STAINLESS	3	
8	FNM-05F0-00S	NUT M5 FULL A2 STAINLESS	3	
9	FWM-05PA-00S	WASHER M5 PLAIN FORM A A2 STAINLESS	3	
10	FWM-05S0-00S	WASHER M5 SGL COIL SPRING A2 STAINLESS	3	
12	FWM-06S0-00S	WASHER M6 SGL COIL SPRING A2 STAINLESS	16	
13	S0019/027	WASHER M6, SEALOC	8	
15	FBM-0602-0GS	SCREW M6 X 20 PAN HD SLT A2 STAINLESS	8	
16	FNM-08N0-00S	NUT M8 NYLOC A2 STAINLESS	2	
17	AGE-CAL0-032	ASSY, EARTH LEAD 60MM LONG M6 RINGS	1	
18	FWM-08PA-00S	WASHER M8 FORM A A2 STAINLESS	2	
19	AGE-CAL0-033	ASSY, EARTH LEAD 160MM LONG M6 RINGS	1	
20	XBR-7TD0-007	DRAWING MIU MOUNTING KIT	1	
22	KMP-2600-000P	KIT ASSEMBLY PARTSLIST, PRINT OFF FROM ETSS	1	
30	MLA-Z000-001	LABEL MIU MOUNT PLATE (INSTRUCTIONS)	1	
40	FNM-06T0-00S	NUT M6.(LOCKNUT) A2 STAINLESS	4	

REVISION	MOD #	DATE	DRAWN	CHECKED	APPROVED
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DRAWN DATE: 02/08/2004
DRAWING STATUS: CERT REL
REVISION: 08
SCALE: N.T.S
A3

MATERIAL:
FINISH:
WEIGHT (Kg):

Expo Technologies Limited
SURREY TW16 5DB UNITED KINGDOM

TITLE: DIRECT CONNECTION KIT SIZE 1MP TO MIU

DRAWING No. KMP-2600-000

SHEET No. 3 OF 3

expo Technologies

EU Authorised Representative:
ExpoPharma Engineering Services Ltd
46 Eastcote Drive, Little Island,
Co. Cork, T45 WR68, Ireland.
Email: EUAR@expopharma.ie

Manufacturer:
Expo Technologies Ltd
Unit 2, The Summit, Hanworth Road,
Sunbury-on-Thames, TW16 5DB, U.K.
Email: sales@expoworldwide.com

EU Declaration of Conformity CE

This declaration of conformity is issued under the sole responsibility of the manufacturer and EU authorised representative named above:

Object of the declaration:

Product Name:	MiniPurge Controller System
Product Options:	This declaration covers all variants associated with the above product

The object of the declaration described above is in conformity with the relevant Union harmonization legislation:

Type of Legislation:
Electromagnetic Compatibility Directive (EMC) 2014/35/EU
ATEX Directive 2014/34/EU

The Following harmonised standards and technical specifications have been applied:

Type of Legislation:	**General Standard:**	**Reference Standard:**
EMC Directive:	Generic standards - Immunity for industrial environments	EN 61000-6-2:2005
	Generic standards - Emission standard for industrial environments	BS EN IEC 61000-6-4:2007
ATEX Directive:	Equipment general requirements	EN IEC 60079-0:2018/AC:2020
	Equipment protection by intrinsic safety "i"	EN 60079-2:2014
	Equipment protection by pressurized enclosure "p"	EN 60079-11:2012

Notified Body:

NB Name:	ExVeritas
NB Number:	2804

Technical documentation and assessments are in the Expo Technologies confidential technical file SC004.

For and on behalf of Expo Technologies Ltd

John Paul De Beer
Managing Director

Date: 7th May 2024

1 **EU-TYPE EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **Sira 02ATEX1129** Issue: **8**

4 Equipment: **Minipurge Interface Unit Type MIU/d**

5 Applicant: **Expo Technologies Limited**

6 Address: Unit 2, The Summit
Hanworth Road
Sunbury on Thames
Surrey TW16 5DB
UK

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

8 CSA Group Netherlands B.V., notified body number 2813 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 60079-0:2012/A11:2013 EN 60079-1:2014 EN 60079-31:2014

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to Specific Conditions of Use identified in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:

For Types dA, dX and dT	For Types dK and dN	Breather drain installed
II 2 G D	II 2 G D	II 2 G
Ex db IIC T* Gb	Ex db IIB + H_2 T* Gb	Ex db IIB+H_2 T3 Gb
Ex tb IIIC T*°C Db	Ex tb IIIC T*°C Db	
Ta = -20°C to +*°C	Ta = -20°C to +*°C	Ta = -20°C to +55°C

Signed: Michelle Halliwell

Title: Director of Operations

SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE **Sira 02ATEX1129**
Issue 8

13 **DESCRIPTION OF EQUIPMENT**

The Minipurge Interface Units comprise a flameproof enclosure with various internal equipment dependent upon the application. The enclosures used are either Expo dA, dX, dT, dK or dN depending upon the size or type required.

The range of enclosures have the same basic geometry but are of differing sizes. The enclosures are all essentially square in profile with a circular lid. The joint between the lid and the enclosure forms a threaded flamepath; the lid is secured by means of a locking device. There is an option to include bosses for the installation of internal apparatus. Mounting is by means of two or more tapped holes in the rear face or by the use of mounting pads. Two or more protruding mounting lugs are optional.

External earthing facilities comprise M4 (or larger) earth studs on the surface of the box or mounting pads; the studs are equipped with nuts, washers and anti-rotation lugs. Alternatively or additionally, external earthing may be provided at the mounting lug(s). Tapped holes in the earth lugs between anti-rotation ribs are optional.

Internal earthing is provided either by a tapped hole in the internal rear face or by means of conventional rail-mounted earth terminals secured to the internal rear face.

"O" ring seals may be used to enhance the ingress protection rating.

The enclosures may be manufactured from copper-free aluminium, grey iron, S.G. iron, phosphor bronze, gunmetal or stainless steel.

Cable entry facilities are provided on the sides and rear of the enclosure.

To allow the control of the internal equipment, linear feed through devices, Type C9L, may be utilised as required. These are installed in the areas designated for cable entry devices. The feed through device comprises a threaded barrel with a central shaft secured with circlips at each end. The device is secured in the wall (or rear) of the enclosure by means of a locknut and optional thread sealing washer. An optional external "O" ring seal around the shaft, outside the flamepath, can improve the IP rating. The feed through can be fitted with unspecified external operators, e.g. push-buttons.

The scope of this certificate covers a range of internal components which may be installed within the flameproof enclosure, including limitations with respect to their location. Typical internal equipment comprises terminals, switches, contactors, relays and some intrinsically safe equipment. Although this certificate allows the lusion of this intrinsic safety equipment, it does not endorse their intrinsic safety properties (see certificate conditions).

Variation 1

This variation introduced the following changes:

i. The company name was changed from Expo-Telektron Safety Systems Ltd. to Expo Technologies Ltd. together with a change of company logo.

ii. The Minipurge Interface Unit Type MIU/d was allowed to be used in the presence of combustible dust; the marking of the equipment to include the following:

II 2 G D IP6X

Variation 2

This variation introduced the following change:

i. The Minipurge Interface Unit Type MIU/d was allowed to be used in a maximum upper ambient temperature of +55°C with a temperature classification of T5.

Variation 3

This variation introduced the following changes:

i. The Minipurge Interface Unit Type MIU/d was assessed and found to comply with the requirements of EN 60079-0:2006, EN 60079-1:2004, EN 61241-0: 2006 and EN 61241-1: 2004.

ii. The type dK and dN enclosures were introduced.

Variation 4 - This variation introduced the following change:

i. The recognition of the Applicant's address change from Summer Road, Thames Ditton, Surrey KT7 0RH to Unit 2, The Summit, Hanworth Road, Sunbury on Thames, Surrey TW16 5DB.

Variation 5 - This variation introduced the following change:

i. The option of using a Killark Type KDB breather drain was introduced resulting in an alternative marking.

II 2 G Ex d IIB+H_2 T3 Ta = -20°C to +55°C.

Variation 6 - This variation introduced the following change:

i. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, EN 60079-0:2006, EN 60079-1:2004, EN 61241-0:2006 and EN 61241-1:2004 were replaced by EN 60079-0:2012/A11:2013, EN 60079-1:2014 and EN 60079-31:2014, the markings were updated accordingly, and removed from the description.

14 **DESCRIPTIVE DOCUMENTS**

14.1 **Drawings**

Refer to Certificate Annexe.

14.2 **Associated Reports and Certificate History**

Issue	Date	Report number	Comment
0	7 June 2002	R51A7166A	The release of prime certificate.
1	15 August 2005	R51A11088A	The introduction of Variation 1.
2	2 September 2005	R51A13816A	The introduction of Variation 2.

SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE Sira 02ATEX1129
Issue 8

Issue	Date	Report number	Comment
3	27 April 2007	R51L15967A	This Issue covers the following changes: • All previously issued certification was rationalised into a single certificate, Issue 3, Issues 0 to 2 referenced above are only intended to reflect the history of the previous certification and have not been issued as documents in this format. • The company name was changed to Expo Technologies Ltd. The introduction of Variation 3.
4	05 October 2012	R29097A/00	The introduction of Variation 4.
5	30 June 2015	R70006555A	The introduction of Variation 5.
6	31 July 2015	R70006555B	The introduction of Variation 6.
7	15 October 2019	1571	• Transfer of certificate Sira 02ATEX1129 from Sira Certification Service to CSA Group Netherlands B.V. • EC Type-Examination Certificate in accordance with 94/9/EC updated to EU Type-Examination Certificate in accordance with Directive 2014/34/EU. *(In accordance with Article 41 of Directive 2014/34/EU, EC Type-Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Variations to such EC Type-Examination Certificates may continue to bear the original certificate number issued prior to 20 April 2016.)*
8	31 May 2023	N/A	Issued to correct the marking of the Unit with a Breather Drain Installed

15 **SPECIFIC CONDITIONS OF USE** (denoted by X after the certificate number)

15.1 None.

16 **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II** (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

17 **CONDITIONS OF MANUFACTURE**

17.1 The use of this certificate is subject to the Regulations Applicable to Holders of CSA Group Netherlands B.V. certificates.

17.2 Holders of EU-Type Examination Certificates are required to comply with the conformity to type requirements defined in Article 13 of Directive 2014/34/EU.

17.3 Only the internal components listed in the manufacturer's drawing EP90-6 may be installed in the Minipurge Interface Units, in accordance with the geometrical restrictions laid down in manufacturer's drawings EP90-8A, EP90-8X, EP90-8T and SD7529.

Project Number 70006555
This certificate and its schedules may only be reproduced in its entirety and without change
CSA Group Netherlands B.V. Utrechtseweg 310, Building B42, 6812AR Arnhem, The Netherlands

SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE **Sira 02ATEX1129**
Issue 8

17.4 The scope of this certificate, though allowing 'intrinsically safe equipment' to be installed in accordance with condition 17.3, does not imply compliance with EN 60079-11: 2007 for either the installation or output parameters of such equipment.

Certificate Annexe

Certificate Number: CSANe##ATEX####
Equipment:
Applicant:

Issue 0

The drawings associated with this Issue were replaced by those listed in Issue 3.

Issue 1

The drawings associated with this Issue were replaced by those listed in Issue 3.

Issue 2

The drawings associated with this Issue were replaced by those listed in Issue 3.

Issue 3

Drawing No.	Sheet	Rev.	Date	Description
EP90-3dA	1 of 1	6	21 Nov 06	Ex d Boxes Dimensions Key
EP90-2dA	1 of 1	3	21 Nov 06	dA Box
EP90-8A	1 of 1	4	05 Feb 07	dA Box Contents
EP90-2dX	1 of 1	2	21 Nov 06	dX Box
EP90-8X	1 of 1	4	05 Feb 07	dX Box Contents
EP90-2dT	1 of 1	2	21 Nov 06	dT Box
EP90-8T	1 of 1	4	05 Feb 07	dT Box Contents
SD7528	1 of 1	1	22 Feb 07	Key to Dimensions dK and dN Boxes
SD7529	1 of 1	1	22 Feb 07	dK and dN Boxes Contents
EP90-5	1 of 1	4	05 Feb 07	Earthing and Other Details
SD7485	1 of 1	2	15 Mar 07	Ex d Box Sealing for Dust Certification
EP90-10	1 of 1	3	27 Feb 07	Linear Feedthrough C9L
EP90-4dA	1 to 9	5	20 Feb 07	d Series Boxes Data Sheets
EP90-6	1 of 1	6	20 Feb 07	Permitted Contents for MIU/d
SD7526	1 of 1	1	20 Feb 07	MIU/d Certification Label ATEX/IECEx

Issue 4

Drawing No.	Sheets	Rev.	Date (Sira stamp)	Title
SD7526	1 of 1	2	05 Oct 12	MIU/d Certification Label

Issue 5

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
EP90-4dA	1 to 9	6	10 Apr 15	d-Series Boxes Data Sheets
SD7526	1 to 2	3	10 Apr 15	MIU/d Certification Label ATEX / IECEx

Issue 6

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
EP90-4dA	1 to 9	7	30 Jul 2015	d-Series Boxes Data Sheets
SD7526	1 to 2	4	30 Jul 2015	MIU/d Certification Label ATEX/IECEx

Issues 7 & 8. No new drawings were introduced.

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 SIR 07.0008 issue No.:4

Status: **Current**

Date of Issue: **2015-08-25** Page 1 of 4

Certificate history:
Issue No. 4 (2015-8-25)
Issue No. 3 (2015-6-30)
Issue No. 2 (2012-11-27)
Issue No. 1 (2012-10-23)
Issue No. 0 (2007-5-4)

Applicant:
EXPO Technologies Limited
Unit 2, The Summit
Hanworth Road
Sunbury on Thames
Surrey TW16 5DB
United Kingdom

Electrical Apparatus: **Minipurge Interface Unit Type MIU/d**
Optional accessory:

Type of Protection: **Flameproof and Dust**

Marking:

For Types dA, dX and dT	For Types dK and dN	Breather drain installed
Ex db IIC T* Gb	Ex db IIB + H_2 T* Gb	Ex db IIB+H_2 T3 Gb
Ex tb IIIC T*°C Db	Ex tb IIIC T*°C Db	
Ta = -20°C to +*°C	Ta = -20°C to +*°C	Ta = -20°C to +55°C

* The temperature markings are T6 and T80°C for an ambient temperature range of -20°C to +40°C or T5 and T95°C for an ambient temperature range of -20°C to +55°C

Approved for issue on behalf of the IECEx Certification Body: A C Smith

Position: Certification Manager

Signature:
(for printed version)

Date: 2015-08-25

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.

Certificate issued by:
SIRA Certification Service
CSA Group
Unit 6, Hawarden Industrial Park
Hawarden
Deeside
CH5 3US
United Kingdom

IECEx Certificate of Conformity

Certificate No.: IECEx SIR 07.0008

Date of Issue: **2015-08-25** Issue No.: **4**

Manufacturer:
EXPO Technologies Limited
Unit 2, The Summit
Hanworth Road
Sunbury on Thames
Surrey TW16 5DB
United Kingdom

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 60079-1 : 2014-06 Edition: 7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-31 : 2013 Edition: 2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"

*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:
GB/SIR/ExTR07.0032/00 GB/SIR/ExTR12.0251/01 GB/SIR/ExTR15.0139/00
GB/SIR/ExTR15.0222/00

Quality Assessment Report:

GB/SIR/QAR07.0012/00

IECEx Certificate of Conformity

Certificate No.: IECEx SIR 07.0008

Date of Issue: **2015-08-25** Issue No.: **4**

Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

The Minipurge Interface Units comprise a flameproof enclosure with various internal equipment dependent upon the application. The enclosures used are either Expo dA, dX, dT, dK or dN depending upon the size or type required, see detailed description in the certificate Annexe.

CONDITIONS OF CERTIFICATION: NO

IECEx Certificate of Conformity

Certificate No.: IECEx SIR 07.0008

Date of Issue: **2015-08-25** Issue No.: **4**

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

Issue 1 – this Issue introduced the following changes:	
1	The recognition of the Applicant's address change from Summer Road, Thames Ditton, Surrey KT7 0RH to Unit 2, The Summit, Hanworth Road, Sunbury on Thames, Surrey TW16 5DB.
Issue 2 – this Issue introduced the following changes:	
1	Issued to allow GB/SIR/ExTR12.0251/00 to be replaced by GB/SIR/ExTR12.0251/00
Issue 3 – this Issue introduced the following changes:	
1.	The option of using a Killark Type KDB breather drain was introduced resulting in an alternative marking. Ex d IIB+H_2 T3 Ta = -20°C to +55°C.
Issue 4 – this Issue introduced the following changes:	
1	Following appropriate assessment to demonstrate compliance with the latest technical knowledge, IEC 60079-0:2004 Ed 4, IEC 60079-1:2003 Ed 5, IEC 61241-0:2004 and IEC 61241-1:2004 were replaced by IEC 60079-0:2011 Ed 6, IEC 60079-1:2014 Ed 7 and IEC 60079-31:2013 Ed 2, the markings were updated accordingly, and removed from the description

Annex: IECEx SIR 07.0008_Issue 4_Annexe.pdf

Annexe to:	**IECEx SIR 07.0008 Issue 4 Annexe**
Applicant:	**Expo Technologies Limited**
Apparatus:	**Minipurge Interface Unit Type MIU/d**

Description of Apparatus

The range of enclosures have the same basic geometry but are of differing sizes. The enclosures are all essentially square in profile with a circular lid. The joint between the lid and the enclosure forms a threaded flamepath; the lid is secured by means of a locking device. There is an option to include bosses for the installation of internal apparatus. Mounting is by means of two or more tapped holes in the rear face or by the use of mounting pads. Two or more protruding mounting lugs are optional.

External earthing facilities comprise M4 (or larger) earth studs on the surface of the box or mounting pads; the studs are equipped with nuts, washers and anti-rotation lugs. Alternatively or additionally, external earthing may be provided at the mounting lug(s). Tapped holes in the earth lugs between anti-rotation ribs are optional.

Internal earthing is provided either by a tapped hole in the internal rear face or by means of conventional rail-mounted earth terminals secured to the internal rear face.

"O" ring seals may be used to enhance the ingress protection rating.

The enclosures may be manufactured from copper-free aluminium, grey iron, S.G. iron, phosphor bronze, gunmetal or stainless steel.

Cable entry facilities are provided on the sides and rear of the enclosure.

To allow the control of the internal equipment, linear feed through devices, Type C9L, may be utilised as required. These are installed in the areas designated for cable entry devices. The feed through device comprises a threaded barrel with a central shaft secured with circlips at each end. The device is secured in the wall (or rear) of the enclosure by means of a locknut and optional thread sealing washer. An optional external "O" ring seal around the shaft, outside the flamepath, can improve the IP rating. The feed through can be fitted with unspecified external operators, e.g. push-buttons.

The scope of this certificate covers a range of internal components which may be installed within the flameproof enclosure, including limitations with respect to their location. Typical internal equipment comprises terminals, switches, contactors, relays and some intrinsically safe equipment. Although this certificate allows the inclusion of this intrinsic safety equipment, it does not endorse their intrinsic safety properties (see conditions of manufacture below).

The manufacturer shall note the following conditions of manufacture:

i. Only the internal components listed in the manufacturer's drawing EP90-6 may be installed in the Minipurge Interface Units, in accordance with the geometrical restrictions laid down in manufacturer's drawings EP90-8A, EP90-8X, EP90-8T and SD7529.

ii. The scope of this certificate, though allowing 'intrinsically safe equipment' to be installed in accordance with condition i, does not imply compliance with IEC 60079-11:2006 for either the installation or output parameters of such equipment.

Sira Certification Service
Unit 6, Hawarden Industrial Park,
Hawarden, CH5 3US, United Kingdom

Tel: +44 (0) 1244 670 900
Fax: +44 (0) 1244 539 301
Email: ukinfo@csagroup.org
Web: www.csagroupuk.org

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Certificado: **TÜV 12.1464**
Certificate

Revisão: **05**
Review

Solicitante:
Applicant

EXPO TECHNOLOGIES LTD.
Unit 2, The Summit
Hanworth Road, Sunbury on
Thames. TW16 5DB – UK

Fabricante:
Manufacturer

EXPO TECHNOLOGIES LTD.
Unit 2, The Summit
Hanworth Road, Sunbury on
Thames. TW16 5DB – UK

Fornecedor / Representante Legal:
Supplier / Legal Representative

Não aplicável

Modelo de Certificação:
Certification Model

Modelo com Avaliação do Sistema de Gestão da Qualidade do Fabricante e Ensaios no Produto, conforme cláusula 6.1 do Regulamento de Avaliação da Conformidade, anexo à Portaria nº 179 do INMETRO, publicada em 18 de maio de 2010.

Regulamento / Normas:
Regulation / Standards

ABNT NBR IEC 60079-0:2020;
ABNT NBR IEC 60079-1:2016;
ABNT NBR IEC 60079-31:2014:
Portaria INMETRO n° 179 de 18/05/2010.

Produto:
Product

Unidade de interface
Modelo: MIU/d

Emissão e Validade:
Issued and Validity

Este certificado é válido de 04/02/2022 até 13/07/2024.
Concessão inicial em: 13/07/2012.

A validade deste Certificado de Conformidade está atrelada à realização das atividades de manutenção de acordo com os requisitos previstos no esquema de certificação específico. Para verificação da condição atualizada de regularidade deste Certificado de Conformidade deve ser consultado o banco de dados de produtos e serviços certificados do Inmetro.
The validity of this Certificate of Conformity is conditioned to the execution of the maintenance activities in accordance with the applicable requirements of the specific certification scheme. To confirm the regularity status of this Certificate of Conformity, the Inmetro's database of certified products and services must be consulted.

Igor Moreno
Local Field Manager

Digitally signed by TUV RHEINLAND DO BRASIL LTDA:
01950467000165
DN: c=BR, o=ICP-Brasil, st=SP, l=Sao Paulo, ou=Array, cn=TUV RHEINLAND DO BRASIL LTDA:01950467000165
Reason: Digital Signature
Location: Sao Paulo/SP/BR
Date: 04.02.2022 19:17:29 +0000

Endereço Escritório: Avenida Francisco Matarazzo, 1400
Água Branca – São Paulo – SP – CEP: 05001-903
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Revisão: **05**
Review

Marca *Brand*	Modelo / Versão *Model / Version*	Descrição *Description*	Código de Barras GTIN *GTIN Barcode*
EXPO Technologies	MIU/d	UNIDADE DE INTERFACE	Não existente

Laboratório, Relatório de Ensaios e Data:
Laboratory, Test Report and Date

Sira Test & Certification.
Relatório de ensaios: GB/SIR/ExTR07.0032/00 de Março/2007.
Relatório de ensaios: GB/SIR/ExTR07.0008 – emissão 02 de 27/11/2012.

Relatório de Auditoria e Data:
Audit Report and Date

Auditoria realizada em 07/05/2019 – PO-0260-19.

Especificações:
Description

A unidade de interface MiniPurge modelo MIU/d é formada por um invólucro "à prova de explosão" e por diversos componentes/equipamentos que podem ser instalados internamente. Os invólucros utilizados são dos modelos dA, dX, dT, dK ou dN, e possuem o mesmo formato básico, diferindo apenas no tamanho e nos componentes instalados. Os invólucros são de perfil quadrado e possuem uma tampa circular, que forma uma junta roscada entre a tampa e o invólucro, travada com a utilização de um parafuso. A instalação dos componentes é realizada com o auxílio de dois ou mais furos não-passantes na parede inferior do invólucro ou com a utilização de blocos de montagem. Opcionalmente, o invólucro pode ser fornecido com dois ou mais olhais de fixação.

O invólucro possui terminais de aterramento (M6 ou maior) na superfície externa do invólucro ou nos blocos de montagem. Esses terminais possuem porcas, arruelas e pinos anti-rotação. Alternativamente ou adicionalmente, podem ser fornecidos terminais de aterramento externos nos olhais de fixação. Opcionalmente, o invólucro pode ser fornecido com furos não-passantes entre os ressaltos anti-rotação dos terminais de aterramento. O aterramento interno é realizado através de um furo não-passante na face inferior interna do invólucro ou com a utilização de conectores de aterramento montados em trilho nessa mesma face.

O invólucro pode ser fabricado em alumínio isento de cobre, ferro fundido (cinzento ou nodular), bronze fosforoso, latão vermelho (*gunmetal*) ou aço inoxidável e pode ser fornecido com um anel de vedação *"o-ring"* para proporcionar um grau de proteção adequado.

O invólucro é fornecido com entradas roscadas nas paredes laterais e/ou na face traseira. A quantidade de entradas e a distância entre elas estão limitadas aos valores apresentados no documento nº EP90-4dA. As roscas permitidas são: 3/8" x 16 UNC, M20 x 1,5, M25 x 1,5, M32 x 1,5, M40 x 1,5 e M50 x 1,5.

Para possibilitar o controle dos equipamentos internos, o invólucro pode ser fornecido com dispositivos de passagem (feed-through) do modelo C9L. Este dispositivo é formado por uma bucha roscada e por um eixo interno, preso com anéis de fixação em ambas as extremidades. O dispositivo é fixado à parede do invólucro com uma contraporca e com uma arruela de vedação opcional. Este dispositivo de passagem pode ser fornecido com um anel de vedação *"o-ring"* - instalado em volta do eixo e fora da passagem de chama - para proporcionar um grau de proteção adequado.

As unidades de interface podem ser fornecidas com diversos componentes internos, entre eles, terminais, chaves, contatores, relés, etc. Os componentes internos devem ser selecionados e instalados de acordo com os desenhos nºs EP90-6, EP90-8A, EP90-8X, EP90-8T e SD7529.

Para confirmar sua autenticidade acesse https://tuv.3dds.digital/check/84965079104310494

Conforme art. 10, § 1° da Medida Provisória n° 2.200-2, de 24 de agosto de 2001, as declarações em forma eletrônica produzidas com a utilização de processo de Certificação Digital disponibilizado pela ICP-Brasil presumem-se verdadeiras em relação aos signatários, na forma do art. 219, da Lei 10.406, de 10 de janeiro de 2002 - Código Civil.

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Certificado: TÜV 12.1464 *Certificate*

Revisão: 05 *Review*

Regra de formação do modelo:

MIU / *(a) / *(b) / *(c) / *(d) / *(e) / **(f)

*(a) → Código referente ao sistema de purga associado

*(b) → Tipo de invólucro: dA, dX, dT, dK ou dN

*(c) / *(d) / *(e) → Números de contatos elétricos

**(f) → Sem influência no tipo de proteção

Análise e ensaios realizados:

As análises e os ensaios realizados encontram-se no relatório de análise n° CC_121464/05.

Documentação descritiva do produto:

- Relatório de ensaios nº GB/SIR/ExTR07.0032/00 de Março/2007;
- Relatório de ensaios nº GB/SIR/ExTR07/0008 – Emissão 02 de 27/11/2012;
- Relatório de ensaios nº GB/SIR/ExTR12.0251/01

Documento	Descrição	Rev.	Data
EP90-3dA	Ex d Boxes Dimensions Key	6	21/11/2006
EP90-2dA	dA Box	3	21/11/2006
EP90-8A	dA Box Contents	4	05/02/2007
EP90-2dX	dX Box	2	21/11/2006
EP90-8X	dX Box Contents	4	05/02/2007
EP90-2dT	dT Box	2	21/11/2006
EP90-8T	dT Box Contents	4	05/02/2007
SD7528	Key to Dimensions of dK & dN Boxes	1	22/02/2007
SD7529	dK & dN Boxes Contents	1	22/02/2007
EP90-5	Earthing and Other Details	4	05/02/2007
SD7485	Ex d Box Sealing for Dust Certification	2	15/03/2007
EP90-10	Linear Feedthrough C9L	3	27/02/2007
EP90-4dA	d-Series Boxes Data Sheets (9 folhas)	5	20/02/2007
EP90-6	Permitted Contents for MIU/d	6	20/02/2007
SD7526	MIU/d Certification Label ATEX/IECEx	3	02/07/2015
SD7650	MIU/d TUV Certification Label	5	06/01/2022
SD7651	MIU/d Portuguese Manual Extracts	5	05/01/2022

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Certificado: TÜV 12.1464 *Certificate*

Revisão: 05 *Review*

Marcação:

As unidades de interface MiniPurge modelo MIU/d foram aprovadas nos ensaios e análise, nos termos das normas adotadas, devendo receber a marcação, levando-se em consideração o item observações.

Modelos dA, dX e dT:

Ex db IIC T5/T6 Gb
Ex tb IIIC T80 °C/T95 °C Db
IP66
-20 ºC ≤ Ta ≤ +40 ºC (T6 /T80 °C)
-20 ºC ≤ Ta ≤ +55 ºC (T5 /T95 °C)

Modelos dK e dN:

Ex db IIB+H2 T5/T6 Gb
Ex tb IIIC T80 ºC /T95ºC Db
IP66
-20 ºC ≤ Ta ≤ +40 ºC (T6 /T80 ºC)
-20 ºC ≤ Ta ≤ +55 ºC (T5 /T95 ºC)

Observações:

1. Este Certificado de Conformidade é válido para os produtos de modelo e tipo idêntico ao protótipo ensaiado. Qualquer modificação de projeto ou utilização de componentes e materiais diferentes daqueles descritos na documentação deste processo, sem autorização prévia da TÜV Rheinland, invalidará o certificado.

2. É de responsabilidade do fabricante assegurar que os produtos fabricados estejam de acordo com as especificações do protótipo ensaiado, através de inspeções visuais e dimensionais.

3. Os produtos devem ostentar, na sua superfície externa e em local visível, a Marca de Conformidade e as características técnicas da mesma de acordo com as especificações da ABNT NBR IEC 60079-0 / ABNT NBR IEC 60079-1 e Regulamento de Avaliação da Conformidade, anexo à Portaria nº 179 do INMETRO, publicada em 18 de Maio de 2010. Esta marcação deve ser legível e durável, levando-se em conta possível corrosão química.

4. Os produtos devem ostentar, em lugar visível e de forma indelével, as seguintes advertências:

"ATENÇÃO – NÃO ABRA QUANDO ENERGIZADO"

"ATENÇÃO – A TEMPERATURA DOS CABOS PODE ULTRAPASSAR 70 ºC – UTILIZE CABOS ADEQUADOS"

5. Os bujões para fechar as aberturas não utilizadas e os dispositivos de entrada de cabos (prensa-cabos, unidade seladora, etc.) devem ser certificados como à prova de explosão, adequados para as condições de uso e corretamente instalados.

Para confirmar sua autenticidade acesse https://tuv.3dds.digital/check/84965079104310494

Conforme art. 10, § 1° da Medida Provisória n° 2.200-2, de 24 de agosto de 2001, as declarações em forma eletrônica produzidas com a utilização de processo de Certificação Digital disponibilizado pela ICP-Brasil presumem-se verdadeiras em relação aos signatários, na forma do art. 219, da Lei 10.406, de 10 de janeiro de 2002 - Código Civil.

Endereço Escritório: Avenida Francisco Matarazzo, 1400
Água Branca – São Paulo – SP – CEP: 05001-903
CNPJ: 01.950.467/0001-65 – Tel.: 55 11 3514.5700
https://www.tuv.com/brasil/br/ - MS-0032142 Rev.6

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Further information are contained on the following pages.

CERTIFICAÇÃO DE PRODUTO
OCP 0004
ACREDITADO DESDE 1993

TÜVRheinland®
Precisely Right.

Certificado de Conformidade

Certificate of Conformity

Certificado: **TÜV 12.1464**
Certificate

Revisão: **05**
Review

6. As atividades de instalação, inspeção, manutenção, reparo, revisão e recuperação dos produtos são de responsabilidade do usuário e devem ser executadas de acordo com os requisitos das normas técnicas vigentes e com as recomendações do fabricante.

7. Para fins de comercialização no Brasil, as responsabilidades da alínea "e" do item 10.1 da Portaria 179 de 18 de maio de 2010, é do representante legal, do importador ou do usuário.

Este certificado está vinculado ao projeto: **P00437048**
This certificate is related to project

Natureza das Revisões e Data:
Nature of Reviews e Date

Revisão: *Review*	**00 – 13/07/2010**	**Certificação Inicial.**
	25/04/2012	**Adequação do Certificado AEX-13100 à Portaria nº179.**
	01 – 14/07/2015	**Revalidação.**
	02 – 16/09/2015	**Revisão e correção na marcação.**
	03 – 23/12/2015	**Correção na marcação.**
	04 – 30/10/2018	**Revalidação.**
	05 – 04/02/2022	**Revalidação e atualização da documentação**

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CERTIFICAÇÃO DE PRODUTO
OCP 0004
ACREDITADO DESDE 1993

UNITED KINGDOM CONFORMITY ASSESSMENT

1 **UK TYPE EXAMINATION CERTIFICATE**

2 Equipment Intended for use in Potentially Explosive Atmospheres
UKSI 2016:1107 (as amended) – Schedule 3A, Part 1

3 Certificate Number: **CSAE 21UKEX1068** Issue: **0**

4 Product: **Minipurge Interface Unit Type MIU/d**

5 Manufacturer: **EXPO Technologies Limited**

6 Address: Unit 2
The Summit
Hanworth Road
Sunbury on Thames
Surrey, TW16 5DB
UK

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

8 CSA Group Testing UK Limited, Approved Body number 0518, in accordance with Regulation 42 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended), 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 Schedule 1 of the Regulations. The examination and test results are recorded in the confidential reports listed in Section 14.2.

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

EN 60079-0:2012/A11:2013 EN 60079-1:2014 EN 60079-31:2014

Except in respect of those requirements listed at Section 16 of the schedule to this certificate. The above standards may not appear on the UKAS Scope of Accreditation, but have been added through flexible scope of accreditation, which is available on request.

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

11 This UK TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Regulations apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of this product shall be in accordance with Regulation 41 and include the following:

Refer to Schedule

J A May

Director of Operations

SCHEDULE

UK TYPE EXAMINATION CERTIFICATE **CSAE 21UKEX1068**
Issue 0

13 **DESCRIPTION OF PRODUCT**

Marking

For MIU Types dA, dX and dT without breather drain installed	**For MIU Types dK and dN without breather drain installed**	**For MIU Types dA, dX, dT, dK and dN with breather drain installed**
II 2 G D Ex db IIC T6 Gb Ex tb IIIC T80°C Db Ta = -20°C to +40°C Or alternatively Ex db IIC T5 Gb Ex tb IIIC T95°C Db Ta = -20°C to +55°C	II 2 G D Ex db IIB + H_2 T6 Gb Ex tb IIIC T80°C Db Ta = -20°C to +40°C Or alternatively Ex db IIB+H_2 T5 Gb Ex tb IIIC T95°C Db Ta = -20°C to +55°C	II 2 G Ex db IIB+H_2 T3 Gb Ta = -20°C to +55°C

The Minipurge Interface Units comprise a flameproof enclosure with various internal equipment dependent upon the application. The enclosures used are either Expo dA, dX, dT, dK or dN depending upon the size or type required.

The range of enclosures have the same basic geometry but are of differing sizes. The enclosures are all essentially square in profile with a circular lid. The joint between the lid and the enclosure forms a threaded flamepath; the lid is secured by means of a locking device. There is an option to include bosses for the installation of internal apparatus. Mounting is by means of two or more tapped holes in the rear face or by the use of mounting pads. Two or more protruding mounting lugs are optional.

External earthing facilities comprise M4 (or larger) earth studs on the surface of the box or mounting pads; the studs are equipped with nuts, washers and anti-rotation lugs. Alternatively or additionally, external earthing may be provided at the mounting lug(s). Tapped holes in the earth lugs between anti-rotation ribs are optional.

Internal earthing is provided either by a tapped hole in the internal rear face or by means of conventional rail-mounted earth terminals secured to the internal rear face.

"O" ring seals may be used to enhance the ingress protection rating.

The enclosures may be manufactured from copper-free aluminium, grey iron, S.G. iron, phosphor bronze, gunmetal or stainless steel.

Cable entry facilities are provided on the sides and rear of the enclosure.

To allow the control of the internal equipment, linear feed through devices, Type C9L, may be utilised as required. These are installed in the areas designated for cable entry devices. The feed through device comprises a threaded barrel with a central shaft secured with circlips at each end. The device is secured in the wall (or rear) of the enclosure by means of a locknut and optional thread sealing washer. An optional external "O" ring seal around the shaft, outside the flamepath, can improve the IP rating. The feed through can be fitted with unspecified external operators, e.g. push-buttons.

SCHEDULE

UK TYPE EXAMINATION CERTIFICATE **CSAE 21UKEX1068**
Issue 0

The scope of this certificate covers a range of internal components which may be installed within the flameproof enclosure, including limitations with respect to their location. Typical internal equipment comprises terminals, switches, contactors, relays and some intrinsically safe equipment. Although this certificate allows the inclusion of this intrinsic safety equipment, it does not endorse their intrinsic safety properties (see certificate conditions).

Incorporated amendments:

The product description includes the following applicable amendments. Amendments directly applicable to UKCA certification have been included in this list.

1. The Minipurge Interface Unit Type MIU/d was allowed to be used in the presence of combustible dust.
2. The Minipurge Interface Unit Type MIU/d was allowed to be used in a maximum upper ambient temperature of +55°C with a temperature classification of T5.
3. The type dK and dN enclosures were introduced.
4. The option of using a Killark Type KDB breather drain was introduced resulting in an alternative marking.

14 **DESCRIPTIVE DOCUMENTS**

14.1 **Drawings**

Refer to Certificate Annexe.

14.2 **Associated Reports and Certificate History**

Issue	Date	Report number	Comment
0	03 Jun 2021	R80078969B	The release of the prime certificate.

15 **SPECIFIC CONDITIONS OF USE** (denoted by X after the certificate number)

None

16 **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS (REGULATIONS SCHEDULE 1)**

In addition to the Essential Health and Safety Requirements covered by the standards listed in Section 9, all other requirements are demonstrated in the relevant reports.

17 **PRODUCTION CONTROL**

17.1 Holders of this certificate are required to comply with production control requirements defined in Schedule 3A, as applicable, and CSA Group Testing UK Regulations for Certificate Holders

17.2 Only the internal components listed in the manufacturer's drawing EP90-6 may be installed in the Minipurge Interface Units, in accordance with the geometrical restrictions laid down in manufacturer's drawings EP90-8A, EP90-8X, EP90-8T and SD7529.

17.3 The scope of this certificate, though allowing 'intrinsically safe equipment' to be installed in accordance with condition 17.2 does not imply compliance with EN 60079-11:2011 for either the installation or output parameters of such equipment.

Certificate Annexe

Certificate Number:	**CSAE 21UKEX1068**
Product:	**Minipurge Interface Unit Type MIU/d**
Manufacturer:	**EXPO Technologies Limited**

Issue 0

Drawing	Sheets	Rev.	Date (Stamp)	Title
EP90-2dA	1 of 1	3	23 Mar 07	dA Box
EP90-2dT	1 of 1	2	23 Mar 07	dT Box
EP90-2dX	1 of 1	2	23 Mar 07	dX Box
EP90-3dA	1 of 1	6	23 Mar 07	Ex d Boxes Dimensions Key
EP90-4dA	1 to 9	7	30 Jul 15	d-Series Boxes Data Sheets
EP90-5	1 of 1	4	23 Mar 07	Earthing and Other Details
EP90-6	1 of 1	6	23 Mar 07	Permitted Contents for MIU/d
EP90-8A	1 of 1	4	23 Mar 07	dA Box Contents
EP90-8T	1 of 1	4	23 Mar 07	dT Box Contents
EP90-8X	1 of 1	4	23 Mar 07	dX Box Contents
EP90-10	1 of 1	3	23 Mar 07	Linear Feedthrough C9L
SD7485	1 of 1	2	23 Mar 07	Ex d Box Sealing for Dust Certification
SD7528	1 of 1	1	23 Mar 07	Key to Dimensions dK and dN Boxes
SD7529	1 of 1	1	23 Mar 07	dK and dN Boxes Contents
SD8491	1 to 2	1	21 May 21	MIU/d Certification Label UKCA

UL Product iQ®

Auxiliary Devices for Use in Hazardous Locations

COMPANY

AKRON ELECTRIC INC
1025 EAGON ST
BARBERTON, OH 44203-1603 United States

E203605

Class I, Division 1, Group B, C and D, Class II, Division 1, Group E, F and G, Class III, Division 1, Open Type Operator Assemblies, Model(s): XP followed by B, DB, IB, JMH, K2L, K2R, K2S, K3C, K3L, K3R, K3S, MH, PM, PP, PTT, 2L, 2R, 2S, 3C, 3L, 3R, or 3S, may be followed by L or S, may be followed by additional suffixes, may be followed by -N4.

Class I, Division 1, Group B, C and D, Class II, Division 1, Group E, F and G, Class III, Division 1, Open Type Selector Switches, Model(s): XMS, followed by L or S, followed by 1, 2 or 4, may be followed by 2 thru 12

Class I, Division 1, Group B, C and D, Class II, Division 1, Group E, F and G, Open Type Pilot Lights, Model(s): XMPL, followed by ES, S or L followed by the letters A, B, G, R or W, and followed by the numbers 12, 24 or 120

Class I, Division 1, Group B, C and D, Class II, Division 1, Group E, F and G, Open Type Push Button Switches, Model(s): XMPB, followed by L or S, followed by 1, 2, 3 or 4, may be followed by -N4 or -N4X

Class I, Division 1, Group B, C and D, Class II, Division 1, Group E, F and G, Open Type Push Button Switches, Model(s): XPL, followed by LB or SB, followed by numbers, may be followed by N4

Last Updated on 2023-12-11

UL Product iQ®

Auxiliary Devices for Use in Hazardous Locations Certified for Canada

COMPANY

AKRON ELECTRIC INC
1025 EAGON ST
BARBERTON, OH 44203-1603 United States

E203605

Class I, Division 1, Group B, C and D, Class II, Division 1, Group E, F and G, Class III, Division 1, Open Type Selector Switches, Model(s): XMS, followed by L or S, followed by 1, 2 or 4, may be followed by 2 thru 12

Class I, Division 1, Group B, C and D, Class II, Division 1, Group E, F and G, Open Type Pilot Lights, Model(s): XMPL, followed by ES, S or L followed by the letters A, B, G, R or W, and followed by the numbers 12, 24 or 120

Class I, Division 1, Group B, C and D, Class II, Division 1, Group E, F and G, Open Type Push Button Switches, Model(s): XMPB, followed by L or S, followed by 1, 2, 3 or 4, may be followed by -N4 or -N4X

Class I, Division 1, Group B, C and D, Class II, Division 1, Group E, F and G, Open Type Push Button Switches, Model(s): XPL, followed by LB or SB, followed by numbers, may be followed by N4

Last Updated on 2023-12-11

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