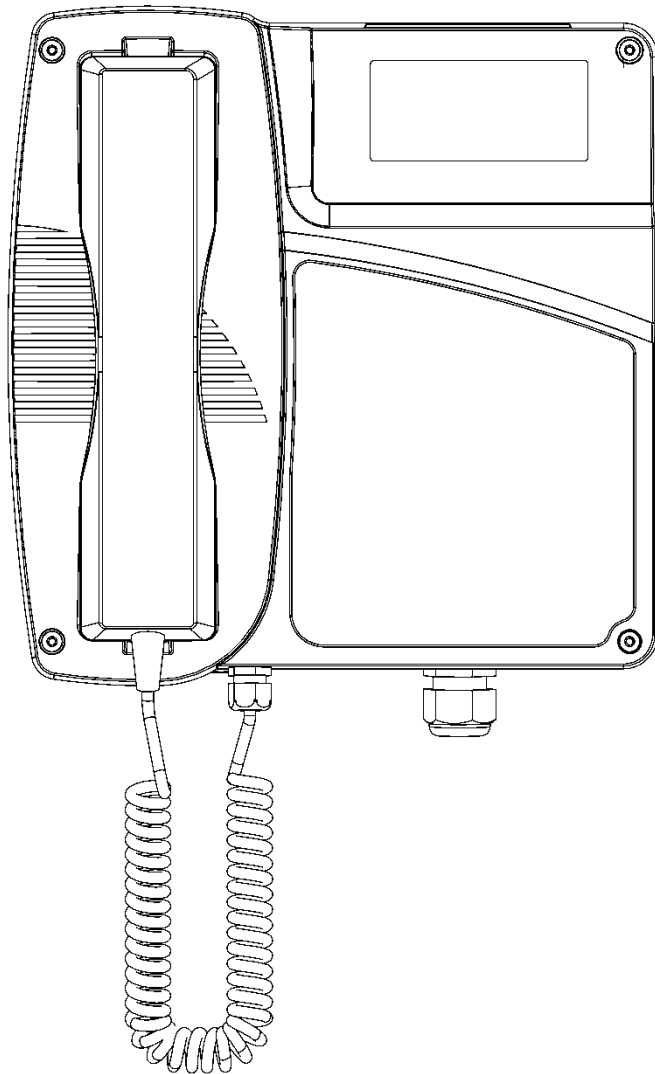


Desktop Ringdown Telephones DTR-31-Z & DTR-41-Z “ZONE-2”

Installation & Operation



P007208 Rev. D 160418 4/18/2016 12:39 PM

Table of Contents

Package Contents	2
Models	2
Accessories	2
Overview	3
Features	3
Installation	6
Wiring	7
Retrofitting Supplemental Receiver, Strobe Light/Ringer	8
Field Repairs & Adjustments.....	9
Operating the DTR-Z	10
Cleaning Tips for Guardian Telephones.....	10
Product Specifications	11
Replacement Parts	12
EC Declaration of Conformity.....	13
Warranty.....	15
Disclaimer.....	15
Warning.....	15
Service Telephone Number	15
Feedback.....	15
Guardian Product Return	16

Table of Figures

Figure 1 - Features	4
Figure 2 - Overall Dimensions.....	4
Figure 3 - Wall Installation of Base	5
Figure 4 - Wiring	5
Figure 5 - Example of Label.....	5
Figure 6 - Temporary Mounting for Wiring.....	7

Package Contents

- (1) DTR-Z-2 Hazardous Area Desk Top Ringdown Telephone
- (1) Installation & Operation Manual
- (1) Parts bag containing handset clips & screws, 3mm Allen key for faceplate screws & one Ring Detect Relay Enable jumper wire.

Models

- P3038 DTR-31-Z - Volume Control on Handset and Curly Cord
- P3039 DTR-41-Z - Volume Control on Handset and Armored Cord

Accessories

- P3024 Zone 1 Supplemental Receiver Kit

Overview

Desk Top Ringdown Telephones ZONE-2

ZONE-2 Desk Top ringdown telephones provide safe, reliable communications in hazardous areas that are prone to high humidity, chemical vapors, dust and physical abuse. Hands Free operation is standard on all models. A Supplemental receiver option is available that can be held against the ear opposite to the handset, in order to improve speech recognition in noisy environments.

Features

Housing and Handset

- high impact thermoset – static dissipative

Mounting

- desk top or wall mounted

Audio Mode

- handset

Surge Arrestor

- protects the user in the event of a high voltage spike on the telephone line

Resettable Fuse

- prevents damage to the electronic circuits in the event of a high voltage spike on the telephone line

Magnetic Reed Hook Switch

- no moving parts

Built In Ring Detect Relay

- 250VAC 5 Ampere Ring Detect Relay, (no need for an external RDR)

Handset Cord

- 6' heavy duty curly cord on DTR-31-Z
- armored cord on DTR-41-Z

Hearing-Aid Compatible (HAC) Receiver

- compatible with inductively coupled hearing-aid devices

Receiver Volume Control

- Switch in handset provides 15dB of audio range

Wide Temperature Range

- -30° C to +60° C (-22° F to +140° F) Refer to Specifications

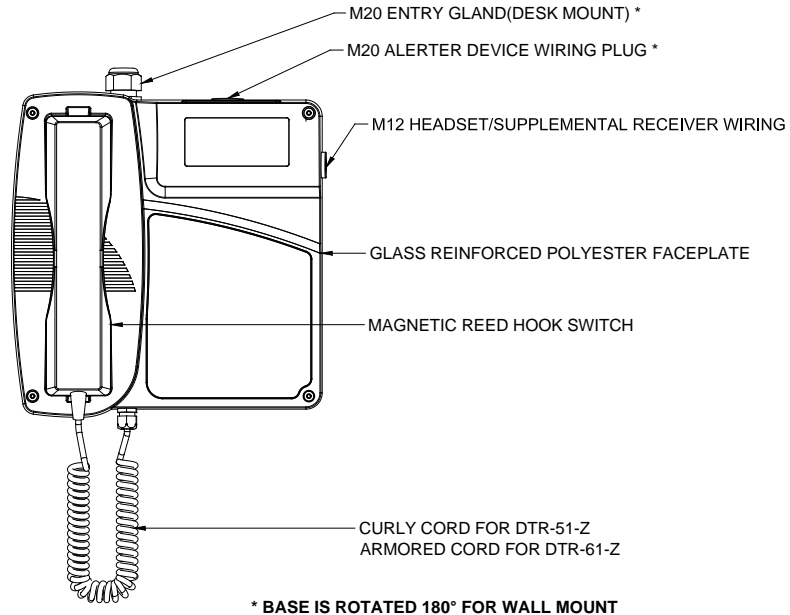


Figure 1 - Features

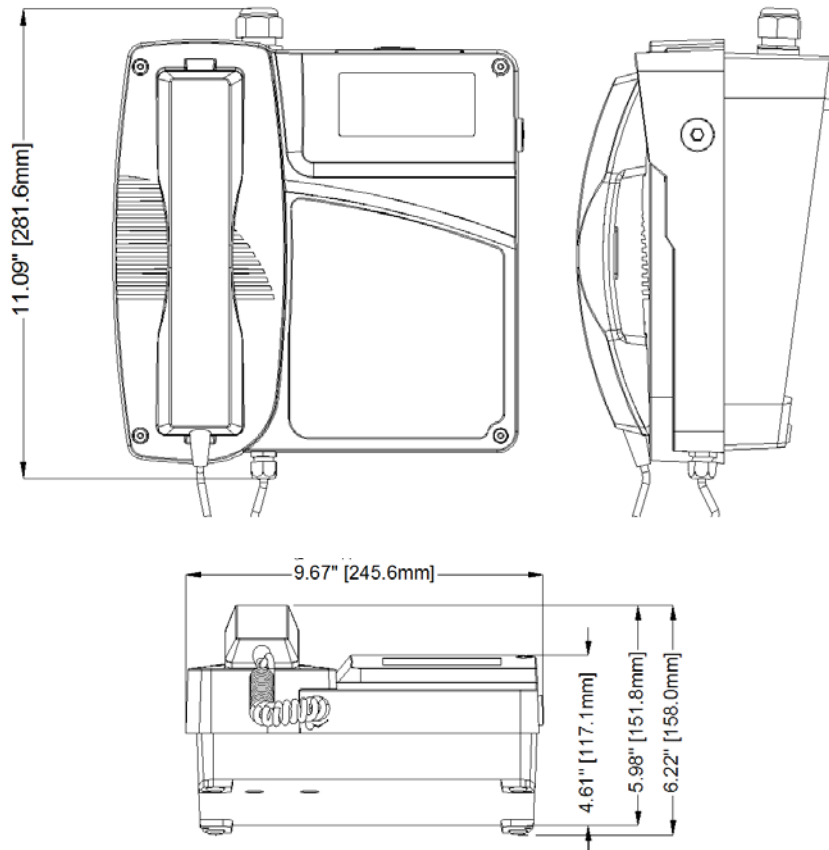


Figure 2 - Overall Dimensions

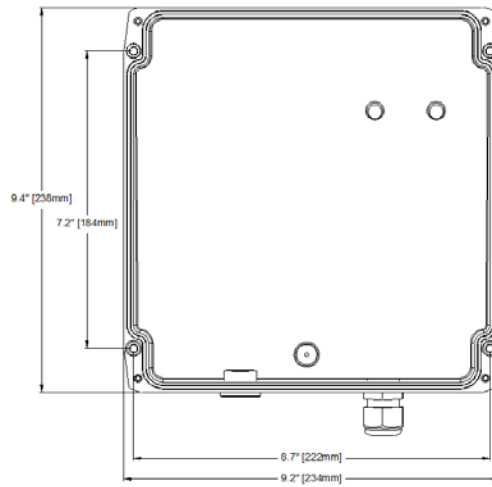


Figure 3 - Wall Installation of Base

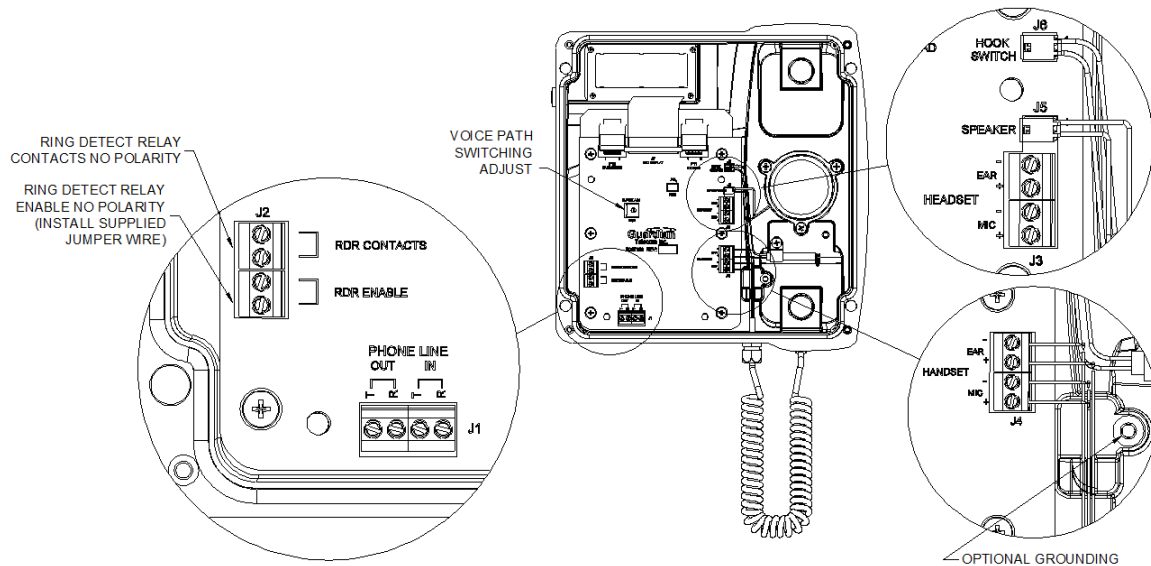


Figure 4 - Wiring

 Guardian Telecom Inc. www.guardiantelecom.com	DTR-31-Z Desk/Wall Mount Telephone		 Pb-free
	II 3G Ex e ic mc IIC T5 II 3D Ex tD A22 IP66 T100°C -30°C ≤ Ta ≤ +60°C Line Voltage: 24-56V, 20 - 120mA Peak Ringer Sens.=128V, DC=50V Um=178V	II 3G Ex e ic mc IIC T6 II 3D Ex tD A22 IP66 T80°C -30°C ≤ Ta ≤ +45°C	
CE Ex		P3038-YYM0000 	
WARNING: EXPLOSION HAZARD, DO NOT DISCONNECT WHILE CIRCUIT IS LIVE, UNLESS AREA IS KNOWN TO BE NON-HAZARDOUS. REFER TO USER GUIDE FOR INSTALLATION.			
MADE IN CANADA			

Figure 5 - Example of Label

Installation

- The DTR ZONE-2 ringdown telephone utilizes the features of the PABX to route calls to the desired location.
- Follow all appropriate electrical codes and use only approved electrical fittings for the installation.
- If required install primary surge protection outside of the classified area.
- Ensure that none of the electrical connection circuits are live by disconnecting the Tip and Ring conductors at the demarcation block or PABX.
- If the built in Ring Detect Relay is to be utilized to activate an external alarm ensure that the power conductors are not live.
- Using the 3mm Allen Key provided loosen the four faceplate captive screws to detach the faceplate from the base.
- The telephone may be installed on a flat surface or wall mounted.

Desk Top Configuration

- If the telephone is to be desk top mounted set the base in the desired location.

Wall Mount Configuration

- If the telephone is to be wall mounted choose a location that is free of obstructions and permits space for wiring. Mount the base with the deepest dimension on the bottom. Mount as follows:
 - The telephone weighs 3.95 kilograms (8.68 pounds), ensure that the mounting can support four times the weight of the unit; that is 15.8 kilograms (34.8 pounds). Wall anchors are not included; follow the manufacturer's instructions when installing anchors.
 - Mounting to concrete or cinder block. Lead expansion anchors with M4 (#8) screws are recommended.
 - Mounting to drywall. Hollow wall anchors (Molly Bolts) with M4 (#8) screws are recommended.
 - Mounting to other surfaces. It is the responsibility of the installer to ensure that the base is attached in such a way as to support the weight specified above.
- Install the handset retainer clips on the faceplate using the hardware supplied.

See: Figure 2 - Overall Dimensions.

Special Conditions for Safe Use (Gas & Dust)

(1) The enclosure must be opened in a non-hazardous location in order to make the necessary connections. The connecting cable must be suitable for use in the EX environment (see IEC60079-14 & IEC61241-14) and be secured using the cable gland provided.

(2) The volt free contacts for the ring detect circuit must only be connected to external equipment suitably rated for its end-use EX environment (see IEC60079-14 & IEC61241-14) and be secured using the cable gland provided.

(3) During installation, it must be ensured that external wiring to connectors J1 and J2 must be sheathed to within 10mm of the terminals. External wiring shall be rated for a minimum of 250V and run so that 50mm separation is maintained between wiring and terminals/connectors other than J1 and J2.

Wiring

- **WARNING: Use properly sized cable to ensure a gas/dust tight seal at the cable gland, (M12 – 2 to 5mm), (M20 – 8 to 13mm). Take care not to lose parts of the gland if the cap is removed.**
- If the telephone is wall mounted temporarily hang the faceplate on the right side of the base using two of the faceplate screws. Be careful not to lose the "O" ring retainers.
- Insert the Tip and Ring cable through the M20 gland and connect the conductors to the Phone-Line-In terminal block.
- If an extension telephone is installed the phone line out terminals may be utilized. A four conductor cable can be used, or an additional cable can be run through the spare 20mm opening; if it is not occupied for other purposes.
- Install the Supplemental receiver if provided.
- If an external alerter device is utilized remove the M20 plug, install an appropriate cable gland and connect the wiring to the Ring Detect Relay terminal block. Enable the Ring Detect Relay by inserting the jumper wire provided across the Ring Detect Relay Enable terminals.
- Mount the face plate and secure the captive screws to the base.
- Connect the Tip and Ring conductors at the demarcation block.
- If the built in Ring Detect Relay is utilized apply power to the conductors.

Programming

- Program the PABX if necessary.

Testing

- Test the unit by calling to and from another unit on the exchange.

Tip: If cable diameter is not in the range of the M12 or M20 glands provided an approved reducer and smaller gland can be fitted.

See: Figure 6 - Temporary Mounting for Wiring

See: Figure 4 - Wiring

Tip: Refer to the documentation provided with this accessory.

See: Figure 1 - Features & Figure 4 - Wiring

Tip: Torque screws to 1.65 ft/lbs (1.36Nm)

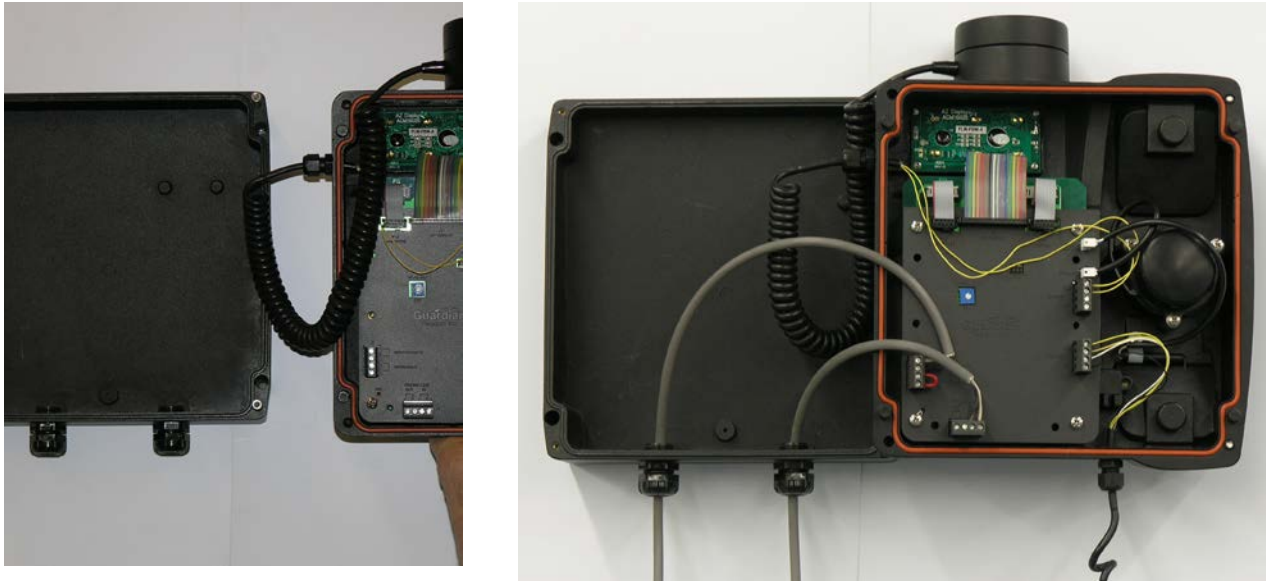


Figure 6 - Temporary Mounting for Wiring

Retrofitting Supplemental Receiver, Strobe Light/Ringer

- Disconnect telephone wiring at the demarcation block and ring detect relay power at the breaker to avoid shock and explosion hazard.
- Loosen the four captive screws in the faceplate and detach the face plate from the base.
- If the telephone is wall mounted temporarily hang the faceplate to the right side of the base using two of the faceplate screws. Be careful not to lose the "O" ring retainers.
- Install the options following the instructions below.
- Tighten cable glands securely.
- Carefully replace the front plate and install all four screws.
- Reconnect telephone and ring detect relay wiring.
- Test the unit by calling to and from another unit on the exchange.

Supplemental Receiver

- If wall mounted install the Supplemental Receiver hanger to the wall 4" to 6" to the right of the telephone.
- Remove the plug on the side of the face plate and install the M12 accessory cord gland.
- Insert the Supplemental Receiver cord through the gland into the face plate and tighten the gland.
- Connect the wiring to the headset earpiece terminal block.

Strobe Light /Loud Ringer

- Remove the alerter device M20 wiring plug from the base and install an approved cable gland.
- Insert the cord through the gland into the face plate and tighten the gland.
- Connect the Strobe Light or Loud Ringer wiring to the Ring Detect Relay terminal block.
- Enable the Ring Detect Relay by inserting the provided jumper wire across the Ring Detect Relay Enable terminals.

See: Figure 6 -
Temporary Mounting for
Wiring

Tip: Torque screws to
1.65 ft/lbs (1.36Nm).

Note: Supplemental
Receiver part no.
P3024 required.

See: Figure 1 -
Features

See: Figure 4 - Wiring

See: Figure 1 -
Features

See: Figure 4 - Wiring

Field Repairs & Adjustments

Field repairs may only be carried out by qualified technicians using OEM parts. Substitution of parts voids warranty and may pose a hazard to users of the equipment.

- Disconnect telephone wiring at the demarcation block and ring detect relay power at the breaker to avoid shock and explosion hazard.
- Loosen the four captive screws in the faceplate and detach the faceplate from the base.
- If the telephone is wall mounted temporarily hang the faceplate to the right side of the base using two of the faceplate screws. Be careful not to lose the "O" ring retainers.
- Perform the necessary repairs or adjustments.
- Carefully replace the front plate and install all four screws.
- Reconnect the Tip and Ring conductors at the demarcation block.
- Apply power to Strobe Light/Loud Ringer conductors.

Handset Replacement

- Disconnect the handset wiring from the terminal block.
- If the phone is equipped with an armored cord handset, remove the anchor screw from the armored cord lanyard.
- Loosen the handset cable gland and pull out the cord.
- Install the new replacement and tighten the gland.
- Rewire the replacement cord to the terminal block.

Supplemental Receiver Replacement

- Disconnect the supplemental receiver wiring from the terminal block.
- Loosen the cable gland and pull out the cord.
- Install the new replacement and tighten the gland.
- Rewire the replacement cord to the terminal block.

Ringer Speaker Replacement

- Unplug the speaker connector from the main board.
- Remove the screws that hold the speaker cap to get access to the speaker.
- Install the new speaker and gasket.
- Reconnect the speaker connector to the main board.

Main Circuit Board Replacement

- Label any wiring attached to the circuit board. Disconnect wiring and ribbon cable.
- Remove the six screws holding the circuit board in place. Carefully remove the board.
- Install the new board and replace the six screws and wiring.

See: Replacement Parts

See: Figure 6 - Temporary Mounting for Wiring

Tip: Torque screws to 1.65 ft/lbs (1.36Nm)

See: Figure 4 - Wiring

See: Figure 4 - Wiring

Tip: Torque screws to 2.5 in/lbs (0.28 Nm).

Fuses

- ***There are no replaceable fuses in the DTR-Z.***
- The phone line fuse on the circuit board of all models is of the resettable type and is not replaceable. If the fuse trips due to an external event it will reset in a short period of time. The duration will depend on ambient temperature and other factors. If the fuse trips repeatedly check the telephone system wiring. The fuse protects the Tip and Ring line from the telephone system. It is usually powered at 48 volts DC and must not be connected to 120VAC or 230VAC.
- The Ring Detect Relay fuse is a 5 Ampere, fast blow fuse. It is potted to prevent an exposed spark. If the fuse blows the circuit board must be replaced.

Operating the DTR-Z

Lift the handset and the telephone will dial automatically. Adjust the handset volume to a comfortable level with the volume control switches on the handset.

When the call is completed replace the handset in the cradle.

Cleaning Tips for Guardian Telephones

Guardian Telephones may occasionally need to be cleaned to maintain appearance. Generally, wiping the surface with a clean, water dampened cloth will remove most films or residues. If the soiling is too stubborn for plain water, a mild detergent solution may be used. Be sure to wipe away any detergent residue with a plain water dampened cloth. The Telephone may be cleaned with any general-purpose household glass and surface type cleaner. Do not spray the telephone directly! Spray the cleaner on a soft cloth then wipe the surface. Pre-treated cloths, like those used for eyeglasses or cameras, may be used to clean the Telephone. Premoistened towelettes may also be used, however, avoid those containing lanolin or aloe as they will leave a slippery residue. The handset and surface of the telephone may be cleaned with disinfectants used for general cleaning in a medical environment. Isopropyl alcohol may be used applied with a cloth. Avoid using alcohol on silicon based keypads, since doing so may significantly degrade legibility.

- Do not use furniture polishes, waxes or plasticizer-based cleaner (Armor All etc.)
- Do not use lanolin, aloe, glycerin or other skin care type products.
- Do not apply any solvent such as acetone, mineral spirits etc.
- Do not directly spray or immerse the handset.

Product Specifications	
Performance	
AUDIBLE RANGE FREQUENCY RESPONSE	300 – 3400 HZ
RECEIVER VOLUME ADJUSTMENT	8 STEPS, 2 dB/STEP
CONFORMS TO	RESIDENTIAL AND INDUSTRIAL AREAS ETSI TBR 38: MAY 1998 (ACOUSTICS) ETSI TBR 21: JANUARY 1998 (TELEPHONE NETWORK)
RINGER OUTPUT	>85 dB @ 1M
RINGER IMPEDANCE WITHOUT RING DETECT RELAY	>7K OHMS @25 Hz, 30-90 VAC >4K OHMS @ 50Hz, 30-90 VAC
RINGER IMPEDANCE WITH RING DETECT RELAY	>4K OHMS @25 Hz, 30-90 VAC (RDR NOT RECOMMENDED @ 50Hz)
SET IMPEDANCE	600 OHMS NOMINAL
MAXIMUM LOOP	15,000 FT (4,600 M) OF 22 AWG COPPER
Electrical	
RINGER SENSITIVITY	40 – 100 V, 16 – 25 Hz
LINE VOLTAGE	24 – 56 VDC
LOOP CURRENT	22 - 100 mA
CONNECTION METHOD	TERMINAL BLOCKS
FUSE - MAIN TELEPHONE CCT	250 mA – AUTO RESET
FUSE – RING DETECT RELAY	5 AMP 250 VOLT FAST BLOW
Environmental	
INGRESS PROTECTION RATING	IP66
OPERATING TEMPERATURE	-30° TO +60° C (-22° TO +140° F)
STORAGE TEMPERATURE	-50° TO +85° C (-58° TO +185° F)
HUMIDITY	0 TO 95% RH
DUSTPROOF	FULLY GASKETTED ENCLOSURE
Mechanical	
HOOK SWITCH (CRADLE SWITCH) LIFE	>1 000 000 OPERATIONS
HOUSING MATERIAL	GLASS FILLED POLYESTER (CARBON LOADED)
HANDSET MATERIAL	GLASS FILLED POLYESTER (CARBON LOADED)
DIMENSIONS (H x W x D) WALL MOUNTED	282 x 246 x 158 MM (11.1 x 9.7 x 6.2 INCHES)
NET WEIGHT	3.95 KG (8.68 LBS)
MOUNTING WALL STRENGTH REQUIREMENT	15.8 KG (34.8)LBS
MICROPHONE	NOISE CANCELING
RECEIVER	HEARING AID COMPATIBLE (HAC)
MOUNTING	DESK OR WALL
WIRING ACCESS	2 x M20 CABLE GLAND ENTRY POINTS

Compliance	
CE	
DECLARATION OF COMPLIANCE BY GUARDIAN TELECOM AVAILABLE	
DECLARATION OF CONFORMITY ON FOLLOWING SHEET	
ATEX – ZONE-2	II 3G Ex e ic mc IIC T5 II 3D Ex tD A22 IP66 T100° C -30C ≤ Ta ≤ +60C II 3G Ex e ic mc IIC T6 II 3D Ex tD A22 IP66 T85° C -30C ≤ Ta ≤ +45C

Replacement Parts	
Part No.	Description
P006608	Handset, coil cord
P006921	Handset, armored cord
P007198	PCBA, DTT/DTR Main circuit board
P006690	M20 Gland, ATEX compliant
P006668	M20 Plug, ATEX compliant
P006679	M12 Gland, ATEX compliant
P006862	M12 Plug, ATEX compliant
P006692	M4 Faceplate screws (4 required)
P006696	O-Ring gaskets for faceplate screws (4 required)
P006675	Faceplate gasket
P002254	Magnetic reed hook switch
P004123	Nylon fastener for hook switch
P007197	Telephone housing base
P007180	Telephone faceplate
P006656	Receiver cartridge
P007013	Microphone cartridge
P006819	Ringer Speaker
P006614	Handset retainer
P006617	Allen key for faceplate screws

EC Declaration of Conformity**EC DECLARATION OF CONFORMITY****Declaration No. P302X0309-2**

We, the undersigned:

Name of Manufacturer Guardian Telecom Inc.
 Address: Unit 105 - 3510 29th Street NE, Calgary, AB, T1Y 7E5
 Country: Canada

Declare under our sole responsibility that the following apparatus:

Product description: Desktop Telephone – Zone 2
 Part No / Model No / SN.: P3036 / DTT-30-Z / PPPP-YYMXXX
 P3037 / DTT-40-Z / PPPP-YYMXXX
 P3038 / DTR-31-Z / PPPP-YYMXXX
 P3039 / DTR-41-Z / PPPP-YYMXXX

Brand name: Guardian Telecom Inc

Are in conformity with the following relevant EC legislation:

ATEX directive 2014/34/EU
 RTTE directive 1999/5/EC
 EMC Directive 2004/108/EC

Based on the following harmonised standards:

EN60079-0:2012	IEC 60079-0:2011
EN60079-7:2007	IEC 60079-7:2006
EN60079-11:2012	IEC 60079-11:2011
EN60079-18:2009	IEC 60079-18:2009
EN61241-0 :2006	
EN61241-1: 2004	
EN60950-1:2006	
EN55022 : 2006	TBR-21
EN55024 : 1998	TBR-38

Additional EC directives:

Restriction of Hazardous Substances 2002/95/EC (RoHS)

And therefore complies with the essential requirements of those directives.

The following Notified Body has been involved in the conformity assessment process:


Notified Body Sira Certification Service
 Rake Lane, Exxlestone, Chester, CH4 9JN, UK
 Notified Body No. 0518
 Role: Issue of ATEX Quality Assurance Notification (QAN)

Certification Lab TRaC Global
 Issue of ATEX EC Type Examination certificate
 Certificate No. TRAC09ATEX31237X and QAN SIRA 10 ATEX M473



Additional information:

ATEX coding  II 3G Ex e ic mc IIC T5
II 3D Ex tD A22 IP66 T100°C
-30°C ≤ Ta ≤ +60°C

 II 3G Ex e ic mc IIC T6
II 3D Ex tD A22 IP66 T85°C
-30°C ≤ Ta ≤ +45°C

Year mark first applied 2010

Name and position of person binding the manufacturer or authorised representative:

Signature

Name Ernie Mah P.Eng
Function Engineering Manager
Location Guardian Telecom Inc.
Date of issue 20-Apr-2016

Warranty

Guardian Telecom warrants your product to be free of defects in material and workmanship for a period of one year. Guardian Telecom will repair or replace any defective unit that is under warranty free of charge.

This warranty is null and void if any non-authorized modifications have been made to this product, or if it has been subjected to misuse, neglect, or accident. This warranty covers bench repairs only; such repairs must be made at Guardian Telecom or an authorized service depot. Guardian Telecom is not responsible for costs incurred for on-site service calls, freight, or brokerage.

A return authorization must be obtained prior to warranty claims or repairs.

Disclaimer

The products covered by this manual are designed for use in Industrial Environments and/or Hazardous Locations. Due to the range of possible applications for these instruments the manufacturer will not be responsible for damages or losses of any kind suffered as a result of the use of this product, including consequential damages.

Warning

This device may be opened and reassembled by qualified personnel only, for the purposes of installing the product, making adjustments and replacing components, following the instructions in the product manual. Before opening this telephone disconnect the wiring at the demarcation block.

High voltages may be present in this product when connected to telephone wiring.

Service Telephone Number

1-800-363-8010

Guardian Telecom provides a customer service telephone number which is toll-free within North America. If you need assistance when installing or operating this product, please call the toll-free telephone number between regular business hours (8:00AM-5:00PM), Mountain Standard Time. If you are calling outside of regular business hours, please leave a detailed message, and a member of Guardian Telecom's Service Department will return your call as soon as possible. If your product requires service, Guardian personnel will supply you with an RMA (return materials authorization) number over the telephone or through our web site product return page. This number must be included with your return address and the name of the person to contact.

**Guardian Telecom Inc.
Toll-free 1-800-363-8010
Ph. (403) 258-3100
Fax. (403) 253-4967
www.guardiantelecom.com**

Feedback

Guardian Telecom continually strives to make reliable, durable, and easy to use products. If you, as an installer or user of our equipment, have any suggestions for improvements to this or any of our products or documents, including this manual, we would appreciate hearing from you.

Guardian Product Return
Guardian products have been quality tested and are in full working order when shipped from the factory, given the rugged nature of these products shipping is not expected to damage a unit. In the unlikely event of a malfunction Guardian follows the three step procedure below.
<i>Step I - On-Site Correction</i>
<ul style="list-style-type: none"> • The most common source of difficulties with a new product is improper installation in one of two ways: incorrect wiring connections or connection to an incorrect power source. • Product wiring needs to be properly connected to the on-site wiring. Correct wiring instructions are shown in the user manual included with the product. • Connecting a telephone to a standard power source, rather than tip & ring, will trip the telephone's internal resettable fuse. In the event that the fuse trips, disconnect the telephone from the power source and reconnect following the wiring diagrams provided with the product.
<i>Step II - Return Materials Authorization (RMA)</i>
<ul style="list-style-type: none"> • When a product has been installed following user manual instructions, and the unit fails to operate, the user must contact Guardian Telecom to obtain authorization to return the product. This can be done by completing a RMA form online at www.guardiantelecom.com, or by calling the service telephone number given in this manual. • After providing information on the product, the owner and the nature of the problem, Guardian will issue a RMA number, to be shown on documentation returned with the product. • In addition to the RMA number, shipping documents should include name, address and telephone number of the owner along with contact information for the person responsible for the repair and/or the user who identified the malfunction. • (Where a product is being returned for repair from outside of Canada, customs documentation must show the product's serial number, date of export [date of purchase], and a notation that the equipment is: "Canadian goods returning.")
<i>Step III - Factory Authorized Service</i>
<ul style="list-style-type: none"> • Once received, each product is carefully inspected and tested. If the product is under warranty, repairs are completed and the product returned to the owner, generally within five working days of receipt by the factory. • A product that has been subjected to misuse, neglect or accident or is beyond the warranty period will be evaluated. The service department will provide the owner's representative with a repair cost estimate. Once approved, repairs are completed and the product returned, generally within five working days.

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CONNECTED. PROTECTED.

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