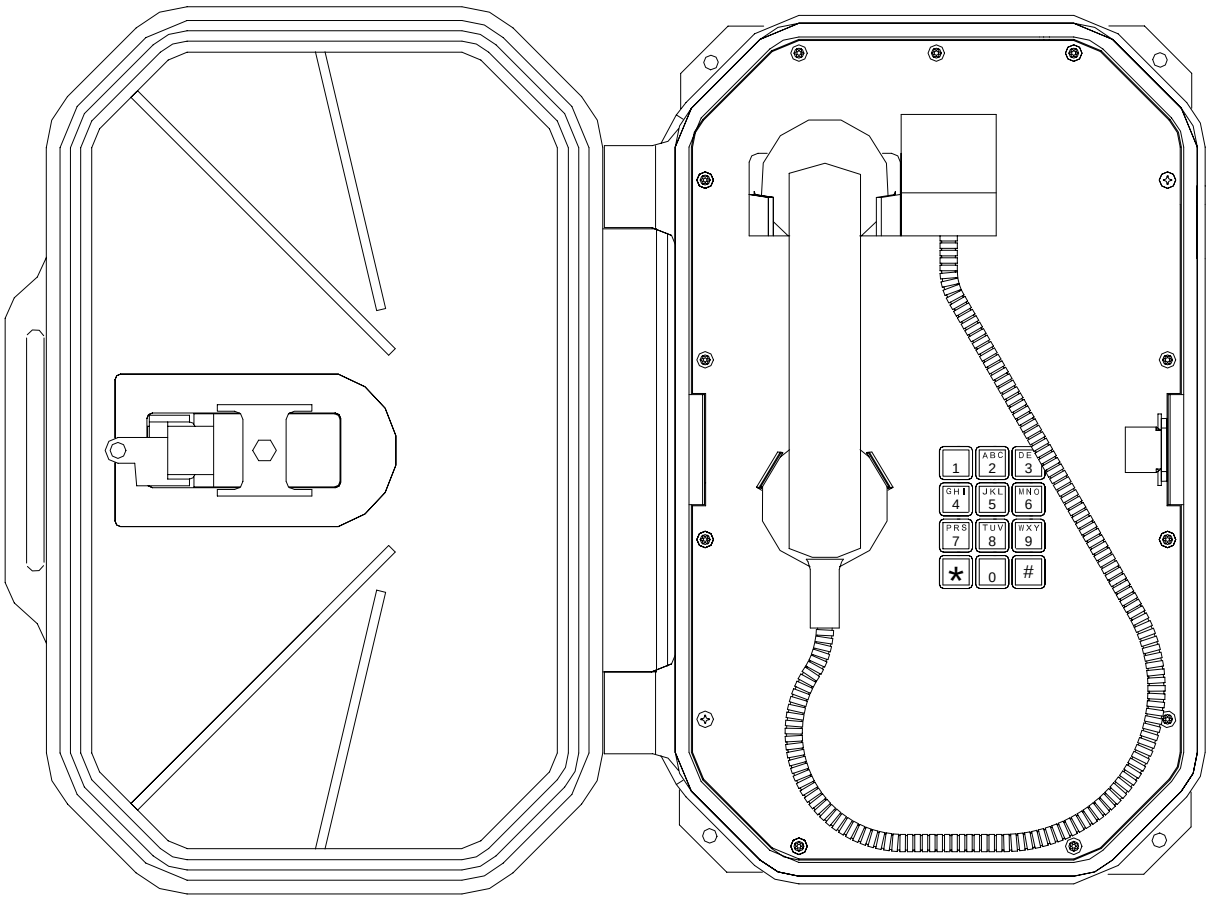
Guardian Telecom Inc. Industrial Communications Worldwide

Vandal Resistant Waterproof 4X Telephone

Model VR80

Installation and Operation



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7552 - 10th Street N.E. Calgary, Alberta, Canada T2E 8W1
Ph: 403.258.3100 \ email:info@guardiantelecom.com \ www.guardiantelecom.com

ISO 9001 CERTIFIED

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Package Contents

(1) VR80 Telephone with mounting plate
(2) Door Latch Keys
(1) Driver Bit
(14) Tamper Resistant Faceplate Screws
(1) Installation and Operation Manual

Overview

VR80 Vandal Resistant Waterproof 4X Telephone

Guardian's VR80 offers maximum efficiency under extreme environmental conditions. The sturdy urethane enclosure protects the internal circuitry against wind blown dust and rain, corrosion, splashing and high pressure water.

The VR80 is approved with a CSA Type 4X rating, making it the ideal telephone for use in wet or corrosive atmospheres such as chemical plants or offshore platforms.

Features

Enclosure

- Polyurethane body construction
- weatherproof and corrosion resistant
- spring loaded, locking hinged door
- tamper resistant faceplate screws
- steel mounting bracket – zinc dichromate plated and powder coated

Keypad

- Standard 3x4 matrix

Encapsulated Circuitry

- encapsulated circuit boards are resistant to corrosive agents (e.g. H_2S, SO_2 and NH_3) and environments with high humidity

Magnetic Reed Hook Switch

- No moving parts

Surge Arrestor and Field Replaceable Fuse

- Prevents damage to the electronic circuitry in the event of a high voltage spike on the telephone line

Wall Mount

- Easily mounted on any sturdy vertical structure

Noise Reducing Microphone

- allows a high level of intelligibility in locations with high background noise

Tone (DTMF) Operation

- factory set to tone (DTMF) dialing
- can be ordered set for pulse dialing or configured in the field

Armored Handset Cord

- withstands severe use

Hearing-Aid Compatible

- compatible with inductively coupled hearing-aid devices

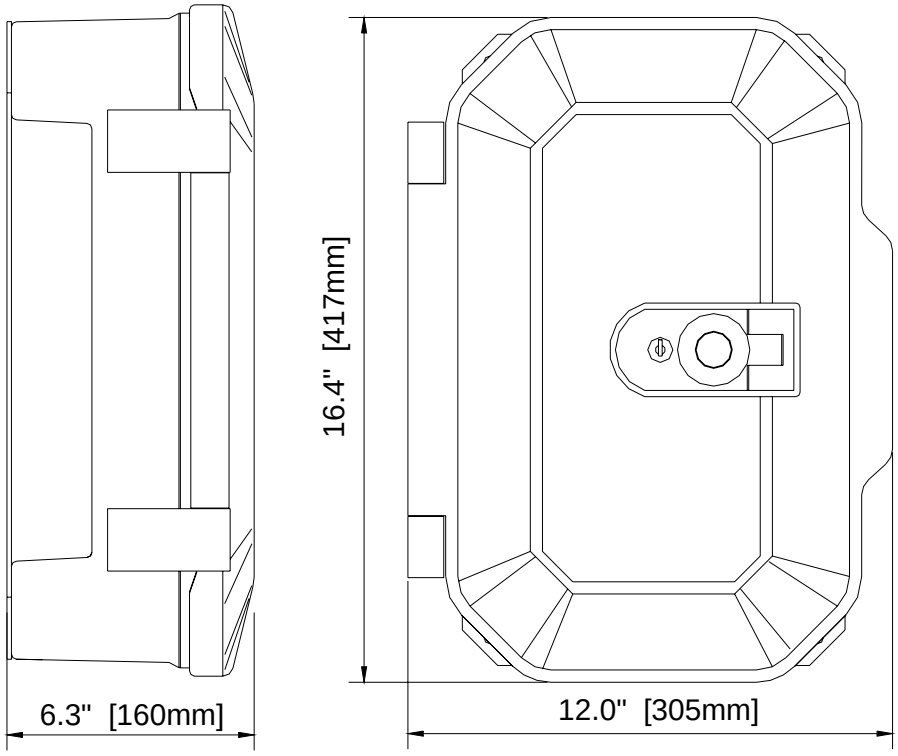

Figure 1 - Overall Dimensions

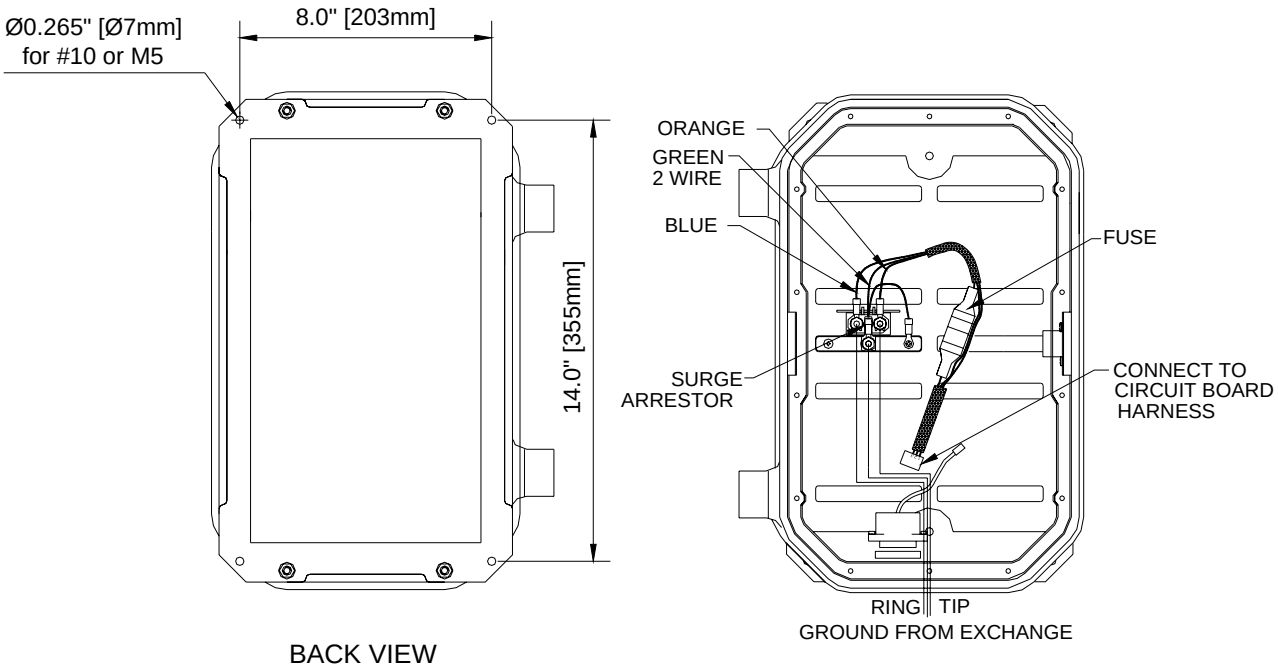

Figure 2 - Installation

Installing the VR80

- Follow all appropriate electrical codes and use only approved electrical fittings for the installation.
- For waterproofing purposes apply Teflon tape to all glands and conduits.
- Choose a wall location that is free of obstructions and permits space for ½" NPT conduit runs.

See: *Figure 1 - Overall Dimensions.*

- Ensure mounting can support 16 lbs (7.3 kg) and any additional foreseeable load.
- Ensure that none of the electrical connection circuits are live.
- Separate the faceplate from the housing by removing the two temporary, factory installed screws and unplugging the wiring harness from the faceplate.
- To change the Tone/Pulse setting to pulse, if required:

Tip: *The VR80 is factory preset for DTMF tone.*

  - o Move the jumper from pins 1 & 2 of the Tone/Pulse connector to pins 2 & 3.
  - o To change the setting back to tone move the jumper back to pins 1 & 2.

See:.*Figure 3 - Setting Dialing Mode*

- Use the template provided or the mounting bracket to locate and drill holes for mounting screws.
- Secure the unit to the wall.

Tip: *Use ¼" or M8 screws to secure the unit to the wall.*

- Bring cable into the enclosure through the conduit entrance and attach individual wires from the exchange (Tip/Ring/Ground) to the surge arrestor, (Tip & Ring are not polarity sensitive.). If a conduit hub is used, ensure it is grounded to the ground stud.

See: *Figure 2 - Installation*

- Plug the wiring harness back into the faceplate and secure the faceplate using the tamper resistant screws and driver bit provided.
- Connect the telephone lines at the local exchange or demarcation block.
- Test the unit by making calls to and from another station.

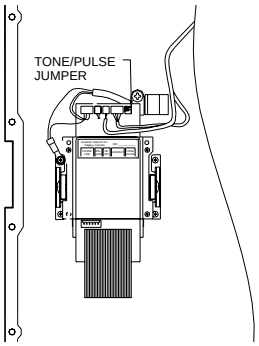

Figure 3 - Setting Dialing Mode

Operation

- Once your Model WP80 Telephone has been properly installed and energized, operation is identical to most other single line telephones.

Maintenance

- The only field repair possible is the setting of the dialing mode and the replacement of fuses. All other repairs or alterations must be carried out by Guardian Telecom or an Authorized Service Depot. See **Warranty and Disclaimer for details.**

See: *in Installation Section and Fuse Replacement below.*

Fuse Replacement

- Disconnect the telephone from Tip and Ring power supplied by the PABX or central office before attempting to replace the fuse.
- Carefully remove the front cover assembly and separate from the housing by disconnecting the harness plugs. NOTE that the handset and all electronics are attached to the front plate.
- Replace fuse in fuse holder with a 0.25 amp 3AG fast blow fuse.
- Carefully replace the front plate and install all 14 screws. Do not over tighten the cover screws, there is a flexible gasket between the cover and the body. Excessive tightening of the screws deforms the gasket and reduces the weather resistance of the set.

Tip: *Use the drive bit for tamper resistant screws supplied with the telephone*

See: *Figure 2 - Installation*

WARNING!

- Replace only with a 0.25 amp 3AG fast blow fuse. Failure to do so will void the warranty.
- If, on reconnecting power, the fuse fails, 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 120 volts AC.

Engineering Specifications	
Electrical Performance	
Audible Range Frequency Response	300 - 3400 Hz
Dialing Method	DTMF or 40/60 Pulse at 10 PPS
Transmit Objective Loudness Rating (TOLR)	-38 +/- 3 dB
Receive Objective Loudness Rating (ROLR)	50 +/- 3 dB
Side Tone Objective Loudness Rating (SOLR)	11 +/- 4 dB
Ringer Output	>65 dB
FCC Ringer Equivalence Number (REN)	0.8 A
Set Impedance	600 ohms Nominal
Maximum Loop	15,000 ft (4,600 m) of 22 awg Copper
Electrical Requirements	
Ringer Sensitivity	40 - 100 V, 16 - 25 Hz
Line Voltage	24 - 56 VDC
Loop Current	20 - 120 mA
Connection Method	Surge Arrestor Terminal Block
Fuse	¼ Amp 3AG Fast blow
Environmental	
Weather and Corrosion Resistant	Enclosure 4X
Temperature	-40^{O} to +60^{O} C (-40^{O} to +140^{O} F)
Humidity	0 to 95% RH
Dust Resistant	Full Enclosure Gasket
Mechanical	
Hook Switch (Cradle Switch) Life	>1 000 000 Operations
Body Construction	Polyurethane
Faceplate	Stainless Steel
Dimensions	16.4 x 12.0 x 6.3 inches (417 x 305 x 160 mm)
Net Weight	16 lbs (7.3 kg)
Handset Material	High Impact ABS
Microphone	Noise Reducing Electret
Receiver	Hearing Aid Compatible
Standard Mounting	Vertical Wall
Connections	1/2” NPT Threaded Openings
Hardware Material	Stainless Steel

Compliance	
MILITARY STANDARDS	MIL-STD 810E
WATERPROOF ENCLOSURE	CSA TYPE 4X

Models and Options

- **P5080** Model VR80 Weatherproof 4X Telephone
- **P5081** Model VR81 Weatherproof 4X Telephone (Ringdown)

Accessories

- **P7224** Potted ring detect relay, (internal to telephone)
- **P7225** Weatherproof ring detect relay, (external to telephone)
- **P7228** Potted off-hook detect relay, (internal to telephone)
- **P7229** Weatherproof off-hook detect relay, (external to telephone)
- Loud Ringer

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

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

For the purposes of installing the product and replacing fuses only this device may be opened and reassembled by qualified personnel, following the instructions in the product manual.

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.
7552 - 10th Street N.E.
Calgary, Alberta, Canada T2E 8W1
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.
Step I - On-Site Correction
• 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 blow the telephone's internal, user-replaceable fuse. In the event of fuse burn-out, disconnect the telephone from the power source, replace the fuse, and reconnect following the wiring diagrams provided with the product.
Step II - Return Materials Authorization (RMA)
• 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 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 returled 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.")
Step III - Factory Authorized Service
• 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.

Notes:

Model No.
Part No.
Serial No.
Date of Purchase

Guardian Telecom Inc.
7552 - 10th Street N.E.
Calgary, Alberta, Canada T2E 8W1
Toll-free 1-800-363-8010
Ph. (403) 258-3100
Fax. (403) 253-4967
www.guardiantelecom.com
E-mail: sales@guardiantelecom.com

Industrial Communications Worldwide

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