

Tx transmitter specification

Precision locator range



Tx Precision Locate Transmitters Specification

1. Product Summary

| | |
|----------------------------------|--|
| 1.1 Product Overview: | The Tx family of signal transmitters has been designed to complement Radiodetection's advanced high-precision cable and pipe locators including the RD8200, RD7200, marker locator and PCM ranges |
| 1.2 Product Descriptions: | Signal transmitter |
| 1.3 Intended Use: | Multi-function transmitter |
| 1.4 Standard Equipment: | <ul style="list-style-type: none"> ▪ Transmitter ▪ Integrated tool tray ▪ Earth spool ▪ Earth spike ▪ Direct connection leads ▪ Magnet |

2. Performance

| | Tx-5 | Tx-10 | Tx-10B iLOC |
|--------------------------------------|-------------|--------------|--------------------|
| 2.1 Max power output: | 5W | 10W | 10W |
| 2.2 Max voltage output: | 90V | 90V | 90V |
| 2.3 Max current output: | 0.5A | 0.5A | 0.5A |
| 2.4 Induction field strength: | 0.9 | 1 | 1 |

3. Power Output

| | | | | | |
|--------------------------------|-----------------------------------|----------------|----------------|----------------|----------------|
| 3.1 Induction settings: | 10%, 20%, 50% and 100% of maximum | | | | |
| 3.2 Direct Connection: | 4 signal levels | | | | |
| | CD Frequencies* | Level 1 | Level 2 | Level 3 | Level 4 |
| | 256Hz/512Hz | 35mA | 70mA | 140mA | 245mA |
| | 285Hz/570Hz | 35mA | 70mA | 140mA | 275mA |
| | 320Hz/640Hz | 35mA | 70mA | 140mA | 305mA |
| | 380Hz/760Hz | 35mA | 70mA | 140mA | 350mA |
| | 460Hz/920Hz | 35mA | 70mA | 140mA | 350mA |
| | Single Frequencies* | Level 1 | Level 2 | Level 3 | Level 4 |
| | 163Hz – 4 kHz | 10mA | 50mA | 200mA | 500mA |
| | 8kHz – 33kHz | 5mA | 20mA | 100mA | 500mA |
| 65kHz – 200Hz | 2mA | 10mA | 50mA | 200mA | |

* Model dependent, Maximum current

4. Transmit Functions

| 4.1 Active Frequencies* | Operation Mode | Tx-5 | Tx-10 | Tx-10B iLOC | |
|-------------------------|--|------|-------|-------------|---|
| 163Hz | DC CD Clamp | | | ▪ | |
| 208Hz | | | | ▪ | |
| 273Hz | | | | ▪ | |
| 340Hz | | | | ▪ | |
| 400Hz | | | | ▪ | |
| 440Hz | | | | ▪ | |
| 460Hz | | | | ▪ | |
| 480Hz | | | | ▪ | |
| 484Hz | | | | ▪ | |
| 491Hz | | | | ▪ | |
| 512Hz | | | ▪ | ▪ | ▪ |
| 560Hz | | | | | ▪ |
| 570Hz | | | ▪ | ▪ | ▪ |
| 577Hz | | | ▪ | ▪ | ▪ |
| 584Hz | | | | | ▪ |
| 624Hz | | | | | ▪ |
| 640Hz | | | ▪ | ▪ | ▪ |
| 760Hz | | | ▪ | ▪ | ▪ |
| 815Hz | | | | | ▪ |
| 870Hz | | | ▪ | ▪ | ▪ |
| 920Hz | | ▪ | ▪ | ▪ | |
| 940Hz | DC Induction CD Clamp | ▪ | ▪ | ▪ | |
| 982Hz | | | | ▪ | |
| 1090Hz | | ▪ | ▪ | ▪ | |
| 1450Hz | | ▪ | ▪ | ▪ | |
| 4kHz (4096Hz) | DC Induction CD Clamp Signal Clamp LPC/LCC | ▪ | ▪ | ▪ | |
| 8kHz (8192Hz) | | ▪ | ▪ | ▪ | |
| 8440Hz | | ▪ | ▪ | ▪ | |
| 9.8kHz (9820Hz) | | ▪ | ▪ | ▪ | |
| 33kHz (32,768Hz) | | ▪ | ▪ | ▪ | |
| 65kHz (65,536Hz) | | ▪ | ▪ | ▪ | |
| 82kHz | | ▪ | ▪ | ▪ | |
| 83kHz (83,000Hz) | | ▪ | ▪ | ▪ | |
| 83kHz (83,077Hz) | | ▪ | ▪ | ▪ | |
| 131kHz (131,072Hz) | | ▪ | ▪ | ▪ | |
| 200kHz | | ▪ | ▪ | ▪ | |

(* DC = Direct Connection, LPC = Live Plug Connector, LCC= Live cable Connector

| 4.2 Fault Find | Tx-5 | Tx-10 | Tx-10B iLOC |
|----------------|------|-------|-------------|
| 8kHz (8192Hz) | ▪ | ▪ | ▪ |
| CDFF | | ▪ | ▪ |

| 4.3 Current Direction | Tx-5 | Tx-10 | Tx-10B iLOC |
|-----------------------|------|-------|-------------|
| 219.9Hz / 439.8Hz | | ▪ | ▪ |
| 256Hz / 512Hz | | ▪ | ▪ |
| 280Hz / 560Hz | | ▪ | ▪ |
| 285Hz / 570Hz | | ▪ | ▪ |
| 320Hz / 640Hz | | ▪ | ▪ |
| 380Hz / 760Hz | | ▪ | ▪ |
| 460Hz / 920Hz | | ▪ | ▪ |
| 680Hz / 920Hz | | ▪ | ▪ |
| 680Hz / 340Hz (INV) | | ▪ | ▪ |
| 800Hz / 400Hz (INV) | | ▪ | ▪ |
| 920Hz / 460Hz (INV) | | ▪ | ▪ |
| 968Hz / 484Hz (INV) | | ▪ | ▪ |
| 1168Hz / 584Hz (INV) | | ▪ | ▪ |
| 1248Hz / 624Hz (INV) | | ▪ | ▪ |
| 4096 / 8192Hz 'MFCD' | | ▪ | ▪ |

| | |
|----------------------------|--|
| 4.4 Information displayed: | <ul style="list-style-type: none"> ▪ Battery level indicator ▪ Operation mode readout ▪ Standby icon ▪ Output level indicator ▪ Mode of operation indication ▪ Induction ▪ Direct connection ▪ Clamp mode ▪ DC power connected indicator ▪ A-frame: Indicates when the transmitter is in Fault-Find Mode ▪ CD Mode: Indicates when the transmitter is in Current Direction Mode ▪ Voltage warning indicator: Indicates that the transmitter is outputting potentially hazardous voltage levels or high voltage across DC output leads ▪ Volume level indicator ▪ Pairing icon: Appears when the transmitter and locator are connected via iLOC ▪ Bluetooth icon: Indicates status of Bluetooth connection. Flashing icon means pairing is in progress (Tx-10B) ▪ Measurements: Voltage, current, power and impedance |
|----------------------------|--|

5. Transmitter Enhancements

| | |
|--|---|
| 5.1 Current Direction™ (CD) | Provides current direction (CD) signals to enable the locator to differentiate individual utilities (Tx-10 and Tx-10B) |
| 5.2 iLOC™ | Allows remote control of the transmitter from a compatible locator, up to 450m (1400 feet) away! (Tx-10 and Tx-10B) |
| 5.3 SideStep™ | Shifts the locate and transmitter frequency by several Hz, out of the bandwidth of other locate signals that may be interfering with the locate (Tx-10B) |
| 5.4 SideStep <i>auto</i> | Automatically selects the best frequency to use based on the load impedance (works only in direct connect mode) |
| 5.5 Fault Find | Enables the use of an accessory A-Frame with a compatible locator to detect and pinpoint pipe's coating and insulation faults and cable's sheath fault |
| 5.6 Boost | Sets the transmitters to output its maximum output power indefinitely or for a predefined period of time (Tx-10 and Tx-10B) |
| 5.7 Maximum Voltage Selection | Allows the user to increase the voltage, and the current, output to a maximum of 90 Vrms |
| 5.8 Eco Mode | Automatically reduces the output power to allow full depletion of the alkaline batteries. An audio and visual warning provides user feedback (only available with alkaline batteries) |
| 5.9 Power Selector | Restricts the power output of the transmitter to a predefined level |
| 5.10 Automatic overvoltage protection system | In the event of an erroneous direct connection to a high voltage line (up to 250V), a warning symbol is displayed advising the operator to take action |

6. Configurability

| | |
|----------------------------------|--|
| 6.1 Languages | Fourteen: English, French, German, Dutch, Polish, Czech, Slovakian, Spanish, Portuguese, Swedish, Italian, Turkish, Russian, Hungarian |
| 6.2 Active frequency selection | All active frequencies available can be individually enabled or disabled |
| 6.3 Locator mode | Selects available Active frequencies and CD pairs depending on the locator used |
| 6.4 Volume Control | Mute, 1,2 and 3 |
| 6.5 Battery Type | Li-Ion, Ni-MH or Alk |
| 6.6 Power Selector | 1,2,3,5 and 10W (10W only for Tx-10 and Tx-10B) |
| 6.7 Max Voltage | Low or High |
| 6.8 SideStep <i>auto</i> (OPT F) | Start |
| 6.9 Boost | ON, 5, 10 and 20 Min (Tx-10 and Tx-10B) |
| 6.10 Bluetooth | On, Off, Reset and Pair (Tx-10B) |

7. Connectivity

| | |
|--------------------------|---|
| 7.1 Wireless connections | Bluetooth class 1 (Tx-10B) |
| 7.2 Wireless range¹ | Up to 450m /1400' (Tx-10B) |
| 7.3 Wired connections | Mini-USB 2.0: Connect to a PC to update transmitter Power In: Connects to an external power supply Accessory port: Connect Radiodetection accessories |

8. Power options

| | |
|--|---|
| 8.1 Alkaline or NI-MH | 8x D cells |
| 8.2 Rechargeable battery | Custom Lithium-Ion (Li-Ion) battery pack |
| 8.3 Battery run-time (continuous) ² | Alk: 4 hours NI-Mh: 7 hours Li-Ion: 8 hours |
| 8.4 DC IN | 12V, 3A |

9. Physical Characteristics

| | |
|--|--|
| 9.1 Construction | Injection Molded ABS Plastic |
| 9.2 Weight | With Alkaline: 3.9 kg / 8.6 lb Li-Ion: 3.8 kg / 8.3 lb |
| 9.3 Dimensions | 350 x 220 x 220 mm / 30.8 x 8.7 x 8.7 in |
| 9.4 Ingress Protection rating | IP65: Protected against dust ingress and jets of water ³ applied from any direction |
| 9.5 Display type | High contrast custom made monochrome LCD |
| 9.6 Audio options | Built-in water-resistant speaker |
| 9.7 Operating temperature ⁴ | -20°C to 50°C / - 4°F to 122°F |
| 9.8 Storage temperature | -40°C to 70°C / - 40°F to 158°F |

10. Centros™ Manager PC Software

| | |
|-------------------------------------|---|
| 10.1 Operating System Compatibility | Microsoft® Windows® 7, 8, 8.1, 10, 32 and 64-bit versions |
| 10.2 Function | Software update |

11. Warranty and Maintenance

| | |
|---|--|
| 11.1 Manufacturer's warranty duration | 3 years standard, on registration |
| 11.2 Recommended calibration and maintenance schedule | Annual, or at the beginning / end of a lease period if earlier |
| 11.3 Storage recommendation | Store in a clean and dry environment. Ensure all terminals and connection sockets are clean, free of debris and corrosion and are undamaged |
| 11.4 Cleaning | Clean with a soft, moistened cloth. Do not use: <ul style="list-style-type: none">▪ Abrasive materials or chemicals▪ High pressure jets of water If using this equipment in foul water systems or other areas where biological hazards may be present, use an appropriate disinfectant. |

12. Certification and Compliance

| | |
|--------------------------|--|
| 12.1 Standards | |
| Safety: | EN 60950-1:2006+A2:2013 EN 60950-22:2006 |
| EMC: | EN 61326-1:2013 EN 300 330-2 (V1.5.1) EN 301 489-3 (V1.6.1) EN 301 489-17 (V2.2.1) |
| 12.2 European directives | Radio Equipment 2014/53/Eu ROHS Directive: 2011/65/EU Declaration of conformity is available from www.radiodetection.com |
| 12.3 Radio | FCC, IC |
| 12.4 Environmental | WEEE compliant ROHS compliant |
| 12.5 Manufacturing | ISO 9001:2008 |

13. Compatible Accessories

| Accessory | Part description | Part number |
|---|---|--|
| Lithium-Ion battery packs | Li-Ion rechargeable battery mains kit (Includes mains charger) Li-Ion rechargeable battery pack (no charger) | 10/TX-MBATPACK-LION-K 10/TX-BATPACK-LION |
| LPC – For connecting the transmitter to domestic mains socket | Live plug connector with US, UK or EU mains plug | 10/TX-LPC-xx (xx = US, UK or EU) |
| LCC | Live Cable Connector with Crocodile clips | 10/TX-LCC |
| Lithium-Ion battery chargers | Li-Ion automotive charger Li-Ion mains charger | 10/TX-ACHARGER-LION 10/TX-MCHARGER-LION |
| Spare battery tray | 8 × D Cell battery tray (MN1300 / LR20) | 10/TX-8DCELL-TRAY |
| Transportation and storage accessories – For combined locator and transmitter | Soft Carry Bag Locator backpack and bag for Tx transmitter (without tool tray) Wheeled Flight Case Hard Case | 10/LOCATORBAG 10/LOCATOR-BACKPACK-SET 10/RD7K8KCASE 10/RD7K8KCASE-USA |
| Transmitter signal clamps – For identification and location of utilities | Metric: 50mm Locator Clamp Imperial: 2" Locator Clamp Metric: 100mm Locator Clamp Imperial: 2" Locator Clamp Metric: 130mm Locator Clamp Imperial: 5" Locator Clamp Metric: 215mm Locator Clamp Imperial: 8.5" Locator Clamp CD Clamp Signal clamp extension rod | 10/TX-CLAMP-50 10/TX-CLAMP-2 10/TX-CLAMP-100 10/TX-CLAMP-4 10/TX-CLAMP-130 10/TX-CLAMP-5 10/TX-CLAMP-8.5 10/TX-CLAMP-215 10/TX-CD-CLAMP 10/TX-CLAMP-EXROD |
| Flexitrace™ – Use with a transmitter to trace small diameter pipes | FlexiTrace 50m / 165' FlexiTrace 80m / 260' | 10/TRACE50-xx 10/TRACE80-xx (xx = GB,D,F or NL) |

All specifications are measured in test conditions, at 21°C / 70°F

¹ Tested with clear line-of-sight. Range is dependent on electrical environment and weather conditions. For optimum range, face the locator toward the transmitter and raise the transmitter 2' / 60cm from the ground.

² To provide repeatable measurements, run-time is measured at 7W and 20C.

³ Water projected by a nozzle at a pressure of 30kPa/0.3 bar / 4.4 psi in accordance with BS EN 60529 1992 A2 2013.

⁴ At very low temperatures, battery life will be degraded, LCD screen performance may slow and measurement precision may be reduced.

Our locations

Radiodetection (USA)

28 Tower Road, Raymond, Maine 04071, USA Toll Free: +1 (877) 247 3797 Tel: +1 (207) 655 8525 rd.sales.us@spx.com

Schonstedt Instrument Company (USA)

100 Edmond Road, Kearneysville, WV 25430 USA

Toll Free: +1 888 367 7014 Tel: +1 304 724 4722 schonstedt.info@spx.com www.schonstedt.com

Radiodetection (Canada)

344 Edgeley Boulevard, Unit 34, Concord, Ontario L4K 4B7, Canada

Toll Free: +1 (800) 665 7953 Tel: +1 (905) 660 9995 rd.sales.ca@spx.com

Sensors & Software Inc. (Canada)

1040 Stacey Court Mississauga, Ontario L4W 2X8, Canada

Toll-free: +1 800 267 6013 Tel: +1 (905) 624 8909 sales@senssoft.ca www.senssoft.ca

Radiodetection Ltd. (UK) – Global Headquarters

Western Drive, Bristol, BS14 0AF, UK Tel: +44 (0) 117 976 7776 rd.sales.uk@spx.com

Radiodetection (France)

13 Grande Rue, 76220, Neuf Marché, France Tel: +33 (0) 2 32 89 93 60 rd.sales.fr@spx.com

Radiodetection (Benelux)

Industriestraat 11, 7041 GD 's-Heerenberg, Netherlands Tel: +31 (0) 314 66 47 00 rd.sales.nl@spx.com

Radiodetection (Germany)

Groendahlscher Weg 118, 46446 Emmerich am Rhein, Germany Tel: +49 (0) 28 51 92 37 20 rd.sales.de@spx.com

Radiodetection (Asia-Pacific)

Room 708, CC Wu Building, 302-308 Hennessy Road, Wan Chai, Hong Kong SAR, China

Tel: +852 2110 8160 rd.sales.asiapacific@spx.com

Radiodetection (China)

Ming Hao Building D304, No. 13 Fuqian Avenue, Tianzhu Town, Shunyi District, Beijing 101312, China

Tel: +86 (0) 10 8416-3372 rd.service.cn@spx.com

Radiodetection (Australia)

Unit H1, 101 Rookwood Road, Yagoona NSW 2199, Australia Tel: +61 (0) 2 9707 3222 rd.sales.au@spx.com

Visit: www.radiodetection.com Follow us on:



Scan to see a full list of our office locations

