



EZ Scan

B-Scanner

User Manual



Revision 1.2

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WARNING!!!

Do not carry or hold the scanner by the encoder cable. Strain to the encoder cable will destroy the encoder.

B-Scanner Specifications

Design Intent

The B-Scanner is a small, lightweight single axis encoded scanner designed to perform manual B-scans using the included transducers. This durable scanner will scan 3.5" or greater diameter components circumferentially and the spring loaded transducer will adjust its height to the surface.

- Scans pipe with 3.5" inches or greater diameter circumferentially
- Scans at up to 450°F (intermittently)
- High resolution encoder
- Magnetic wheels - prevent slipping and hold the scanner's weight
- Self-adjusting, spring loaded transducer mechanism
- Irrigation ports
- Compatible - connectors available for most UT systems

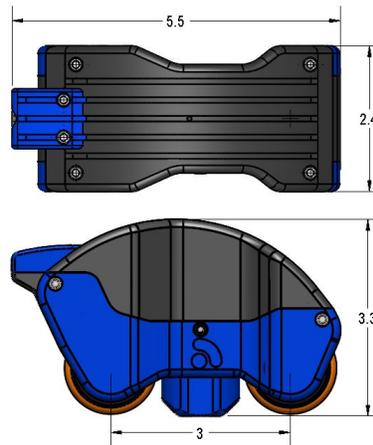
Dimensions and Weight



Shipping case:

Dimensions: 13.50" x 11.00" x 4.00"

Weight 3.5 Lbs.



Scanner dimensions:

Dimensions: 5.5" x 2.4" x 3.3"

Weight: 1lb

Working Temperature

This B-Scanner is rated for intermittent use at temperatures up to 450°F. The scan time limits for use in elevated temperatures are listed below. Operating the scanner above the temperature limit or the scan time limit will void the warranty.

Ambient - 175°F – unlimited scan time

175°F - 350°F – 10 seconds max followed by 3 minutes to cool down

351°F - 450°F – 5 seconds max followed by 5 minutes to cool down

Encoder Information

Encoder Resolution of B-Scanner Cart

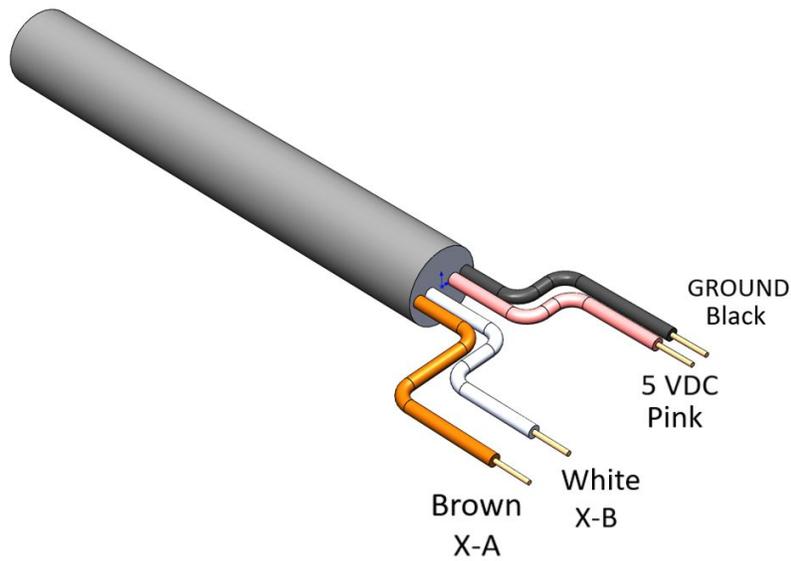
- Ticks per Inch 1406 / Ticks per MM 55.3
- Encoder P/N RME-688-1000p

Encoder Wiring Diagram

Cable length: 5meter (15ft) other lengths available upon request.

ENCODER WIRE COLORS

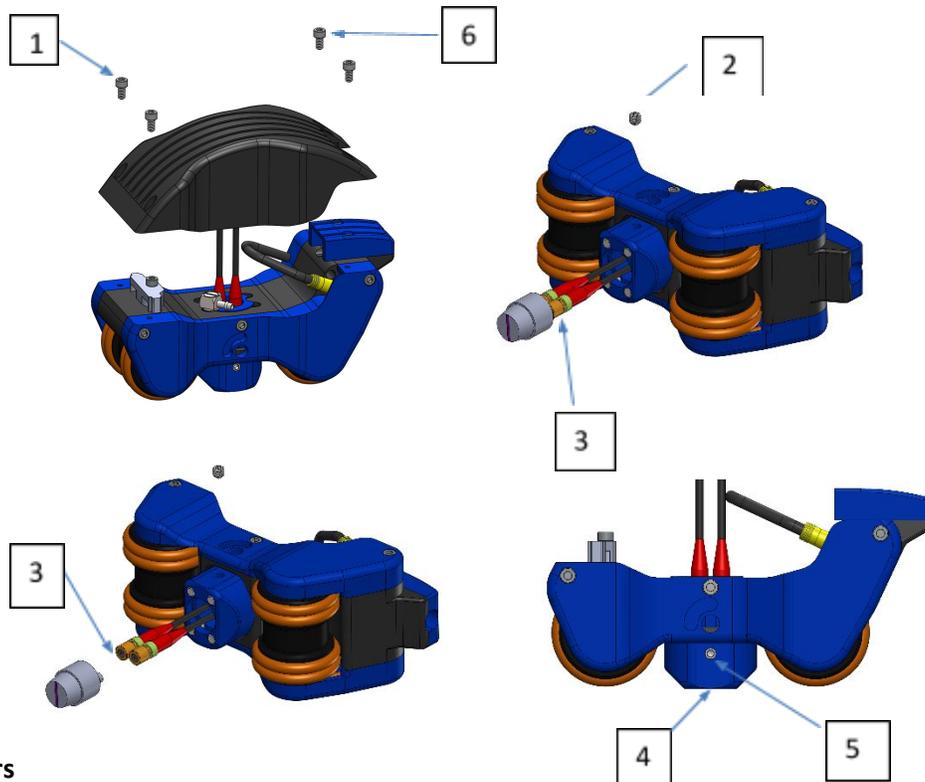
- BROWN - XA
- WHITE - XB
- BLUE (NOT USED)
- BLACK - Ground
- GREY (NOT USED)
- PINK – 5vdc



Set-Up

Transducer Removal/Installation

1. Remove the 4 top cover screws using a 7/64" hex driver.
2. Loosen, but do not remove the set screw on the side of the probe plunger using a 3/32" hex driver.
3. Unscrew the microdot connectors from the probe.
4. Install new probe flush to the bottom face of the probe plunger.
5. Tighten set screw using 3/32" hex key.
6. Reinstall top cover and tighten the 4 screws using a 7/64" hex driver.



Transducers

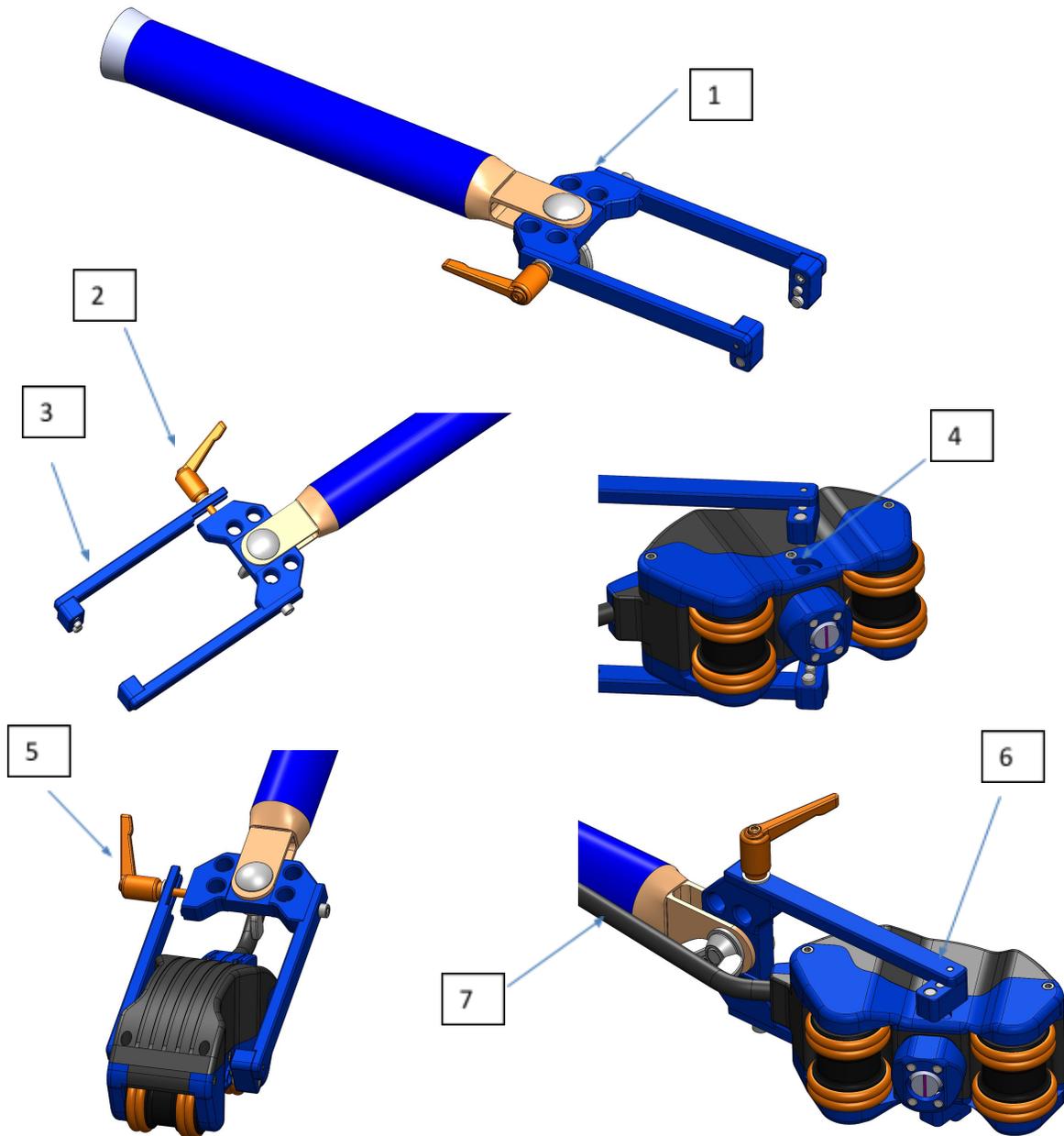
Description	Part Number
Dual element 3/8" diameter 5MHz, focus 0.375", suited for high temp, 450F intermittent usage **	P-BSP-A
Dual element 3/8" diameter 5MHz "Composite", focus 0.375". Ambient temp usage	P-BSP-B
Dual element 1/4" diameter 10MHz, focus 0.200", Ambient temp usage	P-BSP-C
Dual element 1/2" diameter 2MHz, focus 1.50"; suited for high temp, 450F intermittent usage	P-BSP-E

** Standard transducer for this scanner, other transducers are optional, use the code described in the **Transducers** section to order a different transducer.

Push Handle Installation

Installing and removing the push handle kit

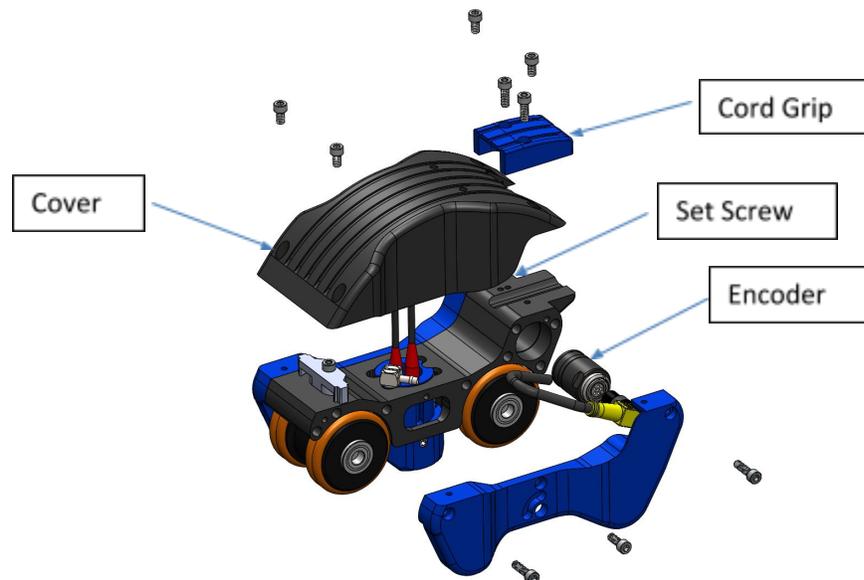
1. Push Handle Kit with short 12" extension (6 foot long handles are available)
2. Loosen the orange handle on the side of the push pole kit
3. Slightly move the loosened side out
4. Place the pins in the pockets on the sides of the B-Scanner
5. Tighten the orange handle
6. Make sure the handle moves freely without any resistance
7. Cable tie the umbilical to the bottom side of the push handle



Maintenance

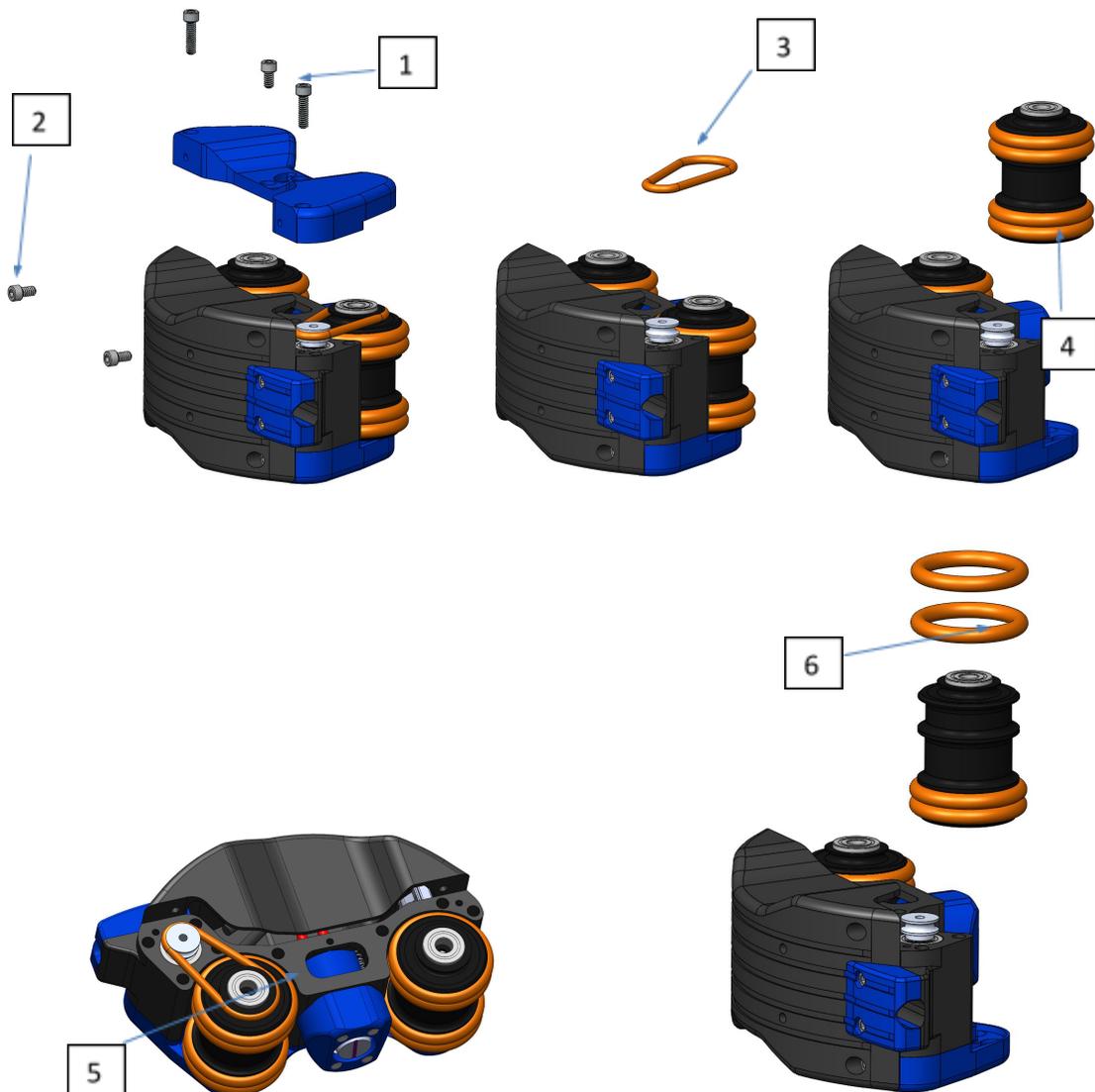
Encoder Replacement

- In the event that you may have to replace the encoder or encoder cord follow these steps.
 1. Remove the 4 top cover screws using a 7/64" hex driver.
 2. Remove the side cover shown by taking out the 3 screws. Note the length as the center screw is shorter and needs to be installed back in the center location.
 3. Remove the cord grip cover screws and set aside.
 4. Loosen the set screw located underneath the cord grip cover.
 5. Pull out on the encoder cord, the encoder should slide out easily. Do not pull on it if it is stuck check to make sure the set screw is loose enough.
 6. Remove the encoder cord and install the new encoder by reversing these steps.



Wheel Tread Replacement/Encoder Drive Belt Replacement

- In the event that you may have to replace the wheel tread rings or the encoder drive belt follow these steps.
 1. Remove the side cover shown by taking out the 3 screws. Note the length as the center screw is shorter and needs to be installed back in the center location.
 2. Remove the two top cover screws
 3. Take off the encoder drive belt
 4. Take out the wheel assembly by pulling up on it
 5. Replace the encoder drive belt with a new one
 6. Replace the wheel tread rings with new ones
 7. Reverse order to assemble



Components

List of replacement components

ITEM	QTY.	PART NUMBER	DESCRIPTION
1	3	AS-050	SHCS 6-32 X .375 SS
2	5	AS-086	SHCS 6-32 X .25 SS
3	5	AS-089	SHCS 6-32 X .500 SS
4	2	BS-007	SPRING
5	1	BS-021	BARBED FITTING
6	1	BS-031	PROBE HOLDER
7	1	BS-040	B SCANNER MAIN BODY
8	1	BS-041	B SCANNER LEFT SIDE COVER
9	1	BS-042	B SCANNER RIGHT SIDE COVER
10	1	BS-043	B SCANNER CORD CLAMP
11	1	BS-044	B SCANNER COVER SHELL
12	1	BS-045	B SCANNER INTERNAL CORD GRIP
13	1	BS-046	ENCODER DRIVE BELT
14	4	BSP-S02	WEAR PINS
15	1	BSP-S04	SET SCREW 10-32 X 3/16
16	1	NS-005	SET SCREW 10-32, 1/4"
17	1	RME-005	MAGNET 1/8" X 1/4" DIAMETRICALLY MAGNETIZED
18	1	RME-688-1000p	AUT MAGNETIC ENCODER .688 DIA
19	1	US-006	DRIVE BELT PULLEY
20	1	US-014	BEARING

