Instruction Sheet
RamPAC Multi-turn Resolver Installation

This document shows you how to mount and wire the multi-turn resolver, a RamPAC option that measures shut height. The resolver can be ordered in 180-turn and 1800-turn versions. Each turn is equivalent to a specified number of rotations of the ram adjust motor as it moves the ram up and down. The resolver provides an electrical output proportional to the number of rotations of the resolver shaft.

Installation of the multi-turn resolver varies from press to press. If you have difficulty mounting the resolver, contact Wintriss Tech. Support.

⚠ WARNING

ELECTRIC SHOCK HAZARD

- Disconnect main power at the SmartPAC before installation.
- Disconnect all power to the press, press control, and other equipment used with the press.
- Remove all fuses and "tag out" per OSHA 1910.147 Control of Hazardous Energy (Lockout/Tagout).
- Ensure that installation is performed by qualified personnel.

Failure to comply with these instructions could result in death or serious injury.

CAUTION

RESOLVER DAMAGE

Install the resolver with care, following these instructions precisely, to prevent permanent, irreparable damage to the resolver.

Failure to comply with these instructions could result in property damage.

Mounting

To mount the multi-turn resolver, perform the following steps, referring to Figure 1, page 2 for resolver mounting dimensions:

1. Determine an appropriate location on your press to mount the resolver, considering the following factors:
   - A coupling must be fabricated to connect the resolver shaft to the ram adjust shaft.
   - A bracket is usually required to mount the resolver.
   - The entire resolver assembly (body, shaft, and bracket) should move together with the ram when the press is running.

- Make sure that neither the resolver nor the coupling hits any part of the press when it is running throughout the shut height adjustment range.
- The resolver has a military-style connector.
- Allow enough cable from the resolver to prevent the cable from stretching when the ram is at its lower limit. Also allow enough cable for a service loop.
- Make sure that the resolver cable does not get hung up on any part of the press.
- When mounted, the resolver should be easily accessible.

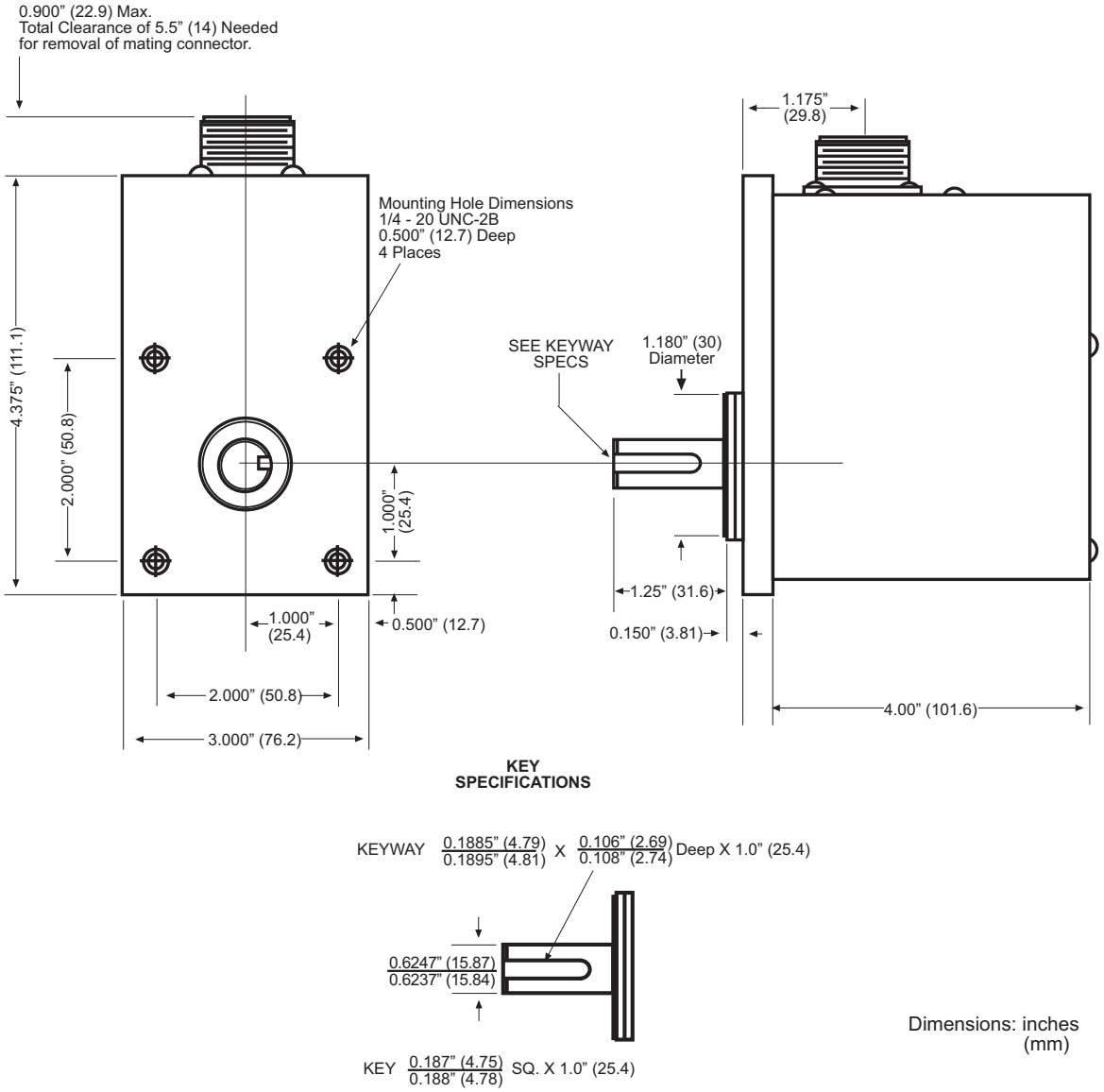


Figure 1. Multi-turn Resolver Mounting Dimensions

2. Inch the ram down to 180°.
3. Fabricate a mounting bracket for the resolver if necessary.

4. Mount the resolver, referring to Figure 1 for dimensions.
5. Determine a location on the press to mount the junction box, preferably right above the resolver on the crown of the press where it is easily accessible (see Figure 2-10 in the RamPAC manual for an example of a mounting location for the junction box when used with a linear position transducer).
6. Mount the junction box, referring to Figure 2-9 in the RamPAC manual for mounting dimensions.
7. Fabricate a coupling to connect the resolver shaft to the ram adjust shaft, referring to Figure 1 for keyway dimensions.
8. Zero the resolver by doing the following:
   a. Facing the ram adjust shaft, determine whether the shaft turns clockwise or counterclockwise as the ram moves up.
   b. Wire the resolver to the RamPAC, following the wiring diagram in Figure A at the end of the document for counterclockwise rotation or swapping the black and yellow wires in both "coarse" and "fine" cables as instructed in the note to Figure A for clockwise rotation (see *Wiring*, page 4).
   c. Access the RamPAC Initialization Menu from the SmartPAC Main Initialization Menu.
   d. Highlight the INITIALIZE PARAMETERS item and press ENTER to initialize RamPAC parameters.
   e. Enable the SHUT HEIGHT item by highlighting it and pressing ENTER until the "ENABLED" setting is displayed.
   f. Press the F3 (Shut Height Setup) function key to access the Shut Height Initialization Menu.
   g. Press F5 (Save Lower Limit) on the Shut Height Initialization Menu.
   h. Turn the resolver until the value displayed in the Save Lower Limit window is between 0 and 50.

> **NOTICE**
>
> Do not allow the value in the Save Lower Limit window to move below zero. If you do, the count will increase suddenly to a five-digit number (e.g., 55890).

   i. Press ENTER to save the Lower Limit setting and close the window.
9. Install the coupling you fabricated in step 7 between the resolver shaft and the ram adjust shaft.
10. Set and save the ram upper limit by doing the following:
    a. Press F4 (Save Upper Limit) on the Shut Height Initialization Menu.
    b. Move the ram to its upper limit, observing the value in the Save Upper Limit window. The value should increase. If it doesn't, check the wiring between RamPAC and the resolver.

c. When the ram is at its upper limit, press ENTER to save this setting and close the window.

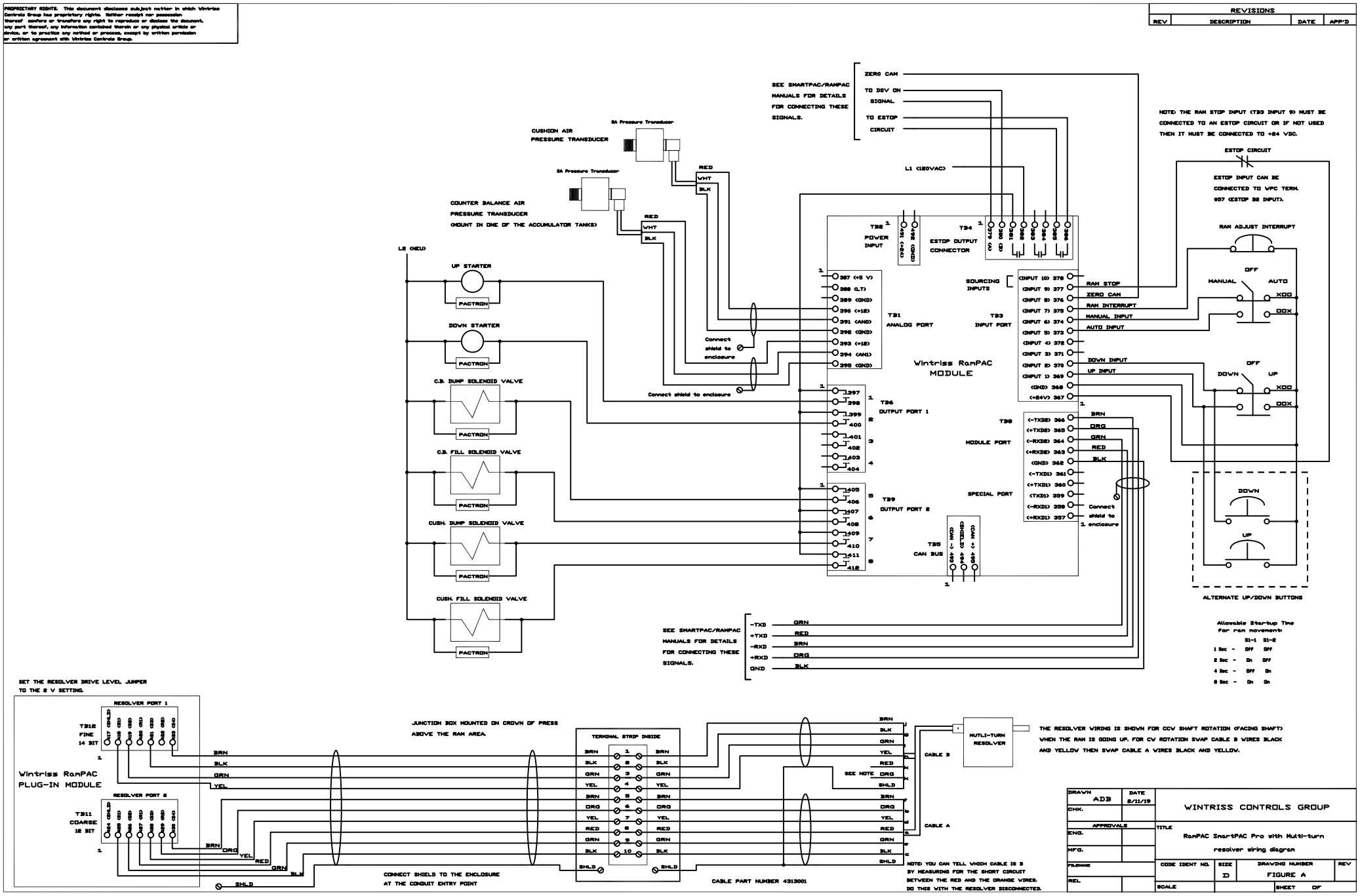
11. Complete the rest of the shut height Initialization procedure, referring to Chapter 3 in the RamPAC manual.

Wiring

To wire the multi-turn resolver, perform the following steps, referring to the wiring diagram in Figure A at the end of this document.

1. Plug the military-style connector at one end of one of the resolver cables into the resolver and tighten down.
2. Connect the wires in cable A and cable B at the other end of this cable to the appropriate terminals in the junction box as shown in Figure A.
3. Plug the two Phoenix connectors at one end of the other resolver cable into the appropriate terminal blocks on the multi-turn resolver daughter board on the RamPAC Control board. The Phoenix connector on the “coarse” line plugs into TB 11, the connector on the “fine” line into TB 12.
4. Connect the wires at the other end of the second resolver cable to the appropriate terminals in the junction box as shown in Figure A.

REVISIONS			
REV	DESCRIPTION	DATE	APP'D



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CHK.			
APPROVALS			
ENG.			
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WINTRISS CONTROLS GROUP

TITLE: RamPAC SmartPAC Pro with Multi-turn resolver wiring diagram

CODE IDENT NO.	SIZE	DRAWING NUMBER	REV
	D	FIGURE A	

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