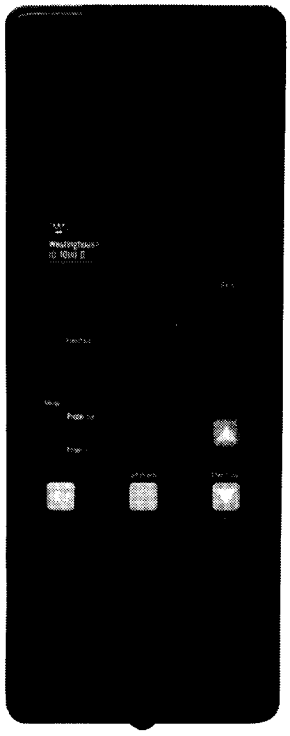
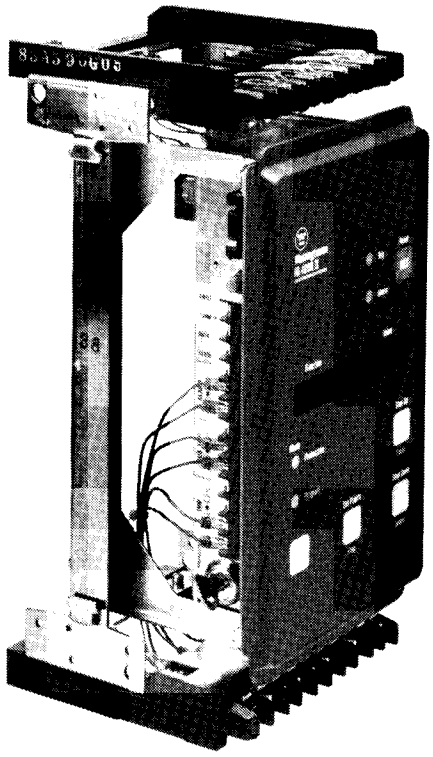
Instructions for IQ-1000 II Drawout Case Module

I.L. 17385A



IQ-1000 II Drawout Case Module
Style No. 2D78558G03



IQ-1000 II Chassis Assembly
Style No. 2D78558G04

Fig. 1 Drawout Case Configured IQ-1000 II

1.0 Introduction and Product Description.

The IQ-1000 II Drawout Case Module is a dust-tight and water-resistant enclosure designed to protect the IQ-1000 II from harsh industrial environments and to allow rapid, simple changeout of the IQ-1000 II unit. Changeout of the IQ-1000 II may be done without powering down its associated motor and process machinery for most applications.

The enclosure itself consists of a steel case with a rugged, gasketed plastic cover. The IQ-1000 II unit for the drawout case is a modified production unit which is mounted into a chassis-type cradle that slides into the drawout case (see Figure 1). Electrical connections between the IQ-1000 II chassis assembly and the external terminals on the rear of the drawout case are prewired at the factory. All functions of the standard IQ-1000 II are available with the drawout case module. All user-made electrical connections are made to the terminals on the exterior of the drawout case. Refer to the IQ-1000 II user's manual, TD 17297B, for the IQ-1000 II operating and programming instructions.

NOTE: This industrial control is designed to be installed, operated and maintained by adequately trained workers. These instructions do not cover all details, variations, or combinations of the equipment, its storage, delivery, installation, checkout, safe operation, or maintenance. Care must be exercised to comply with local, state and national regulations, as well as safety practices, for this class of equipment.

2.0 Installation.

The drawout case is designed to be mounted semi-flush to a standard thickness panel or enclosure door. Semi-flush mounting requires an FT-32 sized cutout and drilling four .250" mounting holes (see Figure 2) (the two 1/4-20 threaded standoffs on the rear of the case are not used). To secure the drawout case to the panel, first remove the unit's front cover. Loosen the knurled screw on the bottom of the front cover, swing the bottom of the cover away from the drawout case and lift the top of the cover off of the case. Open the exposed knife switches at

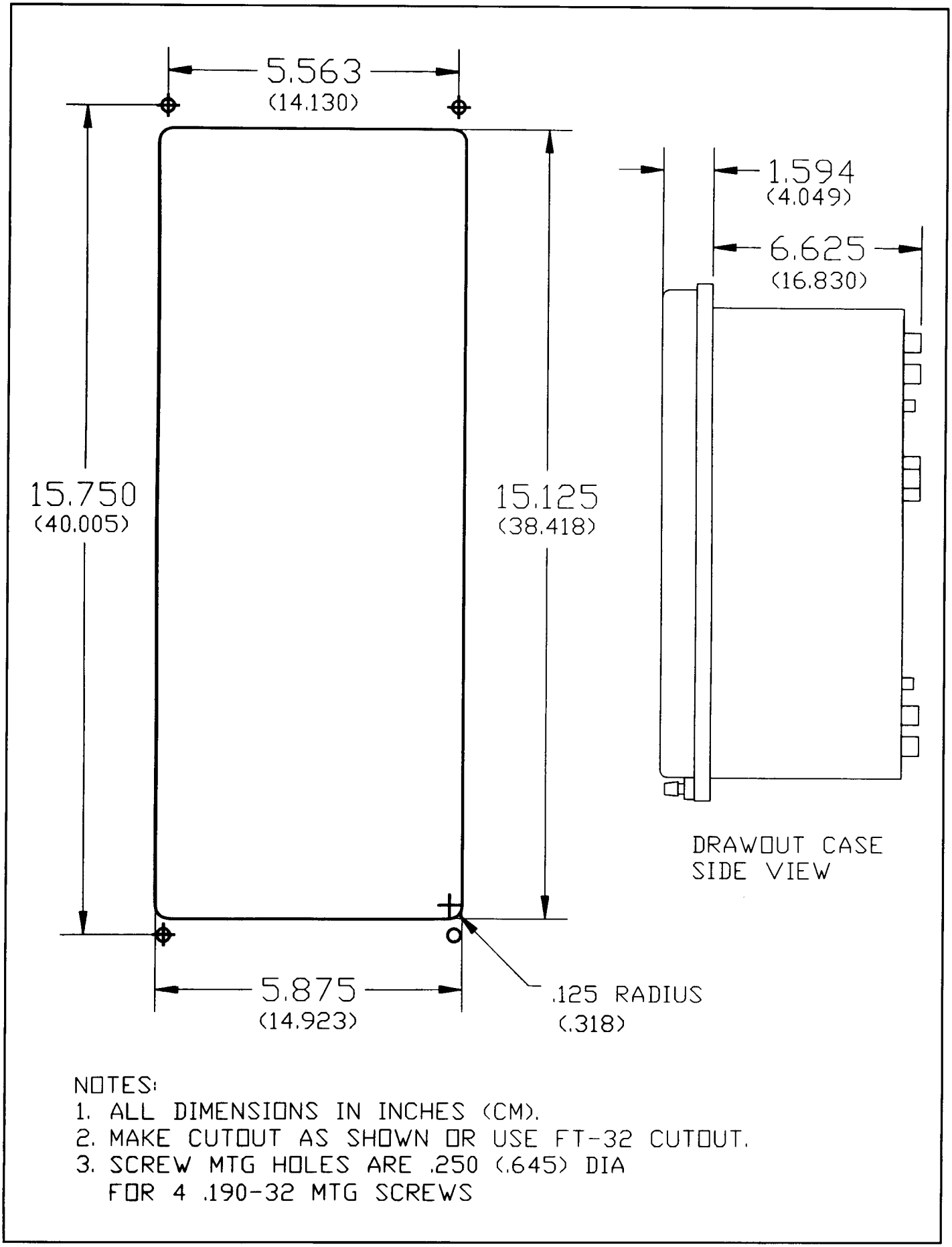


Fig. 2 Cutout and Clearance Dimensions for IQ-1000 II Drawout Case.

the top and bottom of the drawout case by pivoting them up or down as required. Grasp the IQ-1000 II by the faceplate edges and pull outward, removing the chassis assembly, and set it off to the side. Insert the drawout case into the cutout and attach it to the panel using the hardware provided.

Make sure the drawout case is oriented with the correct end up (embossed numbers on the rear of the drawout case should be right side up).

After securing the drawout case to the panel, return the IQ-1000 II chassis assembly to the drawout case by sliding the entire assembly into the case.

WARNING: Two identical keys are supplied with the IQ-1000 II and are used to switch the unit between the Program mode and the Protection mode. DO NOT ATTACH THE TWO KEYS TO A KEY RING. Due to the configuration of the IQ-1000 II and the drawout case, an electrical shorting hazard will exist if both keys are attached to a key ring and the keys are left in the IQ-1000 II keyswitch when the unit is inserted into the drawout case. Only individual keys may be left in the keyswitch.

Close the upper and lower knife switches. Replace the cover on the drawout case by first hooking the top of the cover to the drawout case and then pivoting the cover down to the closed position. Tighten the knurled screw finger tight.

2.1 IQ-1000 II Drawout Case Wiring.

All user-made electrical connections to the IQ-1000 II drawout case module are made to the external terminals on the rear of the drawout case. Electrical connections between the IQ-1000 II chassis assembly and the drawout case are pre-wired at the factory. The only connection that is not available with a drawout-case-configured IQ-1000 II is the fiber optic port. See Figure 3 for the IQ-1000 II drawout case terminal labeling. Make wiring connections according to the installation-specific Wiring Plan Drawing developed by the application engineer.

NOTE: If the Incomplete Sequence Function is utilized in the application, remove the jumper between terminals 4 and 10 on the terminal block mounted internally on the back of the IQ 1000 II.

3.0 IQ-1000 II Unit Removal and Replacement Procedure.

The IQ-1000 II is factory-mounted and wired in a cradle-type chassis. Removal and replacement procedures are straightforward; however, all personnel should be aware of and follow standard electrical safety practices when working with any electrical equipment.

3.1 IQ-1000 II Removal Procedure.

The IQ-1000 II may be removed and replaced with another unit while its monitored and/or protected equipment is on-line and operating in most IQ-1000 II applications. If the IQ-1000 II is used in a breaker application rather than a contactor application, the IQ-1000 II **cannot** be replaced without tripping the breaker and taking the motor off-line. Also, if the application has the IQ-1000 II's Auxiliary Trip contacts wired into the starter circuit, the unit cannot be replaced without tripping the motor off-line.

CAUTION: Replacing the IQ-1000 II while its associated equipment is on-line and running leaves the equipment unprotected.

CAUTION: If the application uses a maintained pushbutton/two wire starter circuit, removing the IQ-1000 II chassis assembly may restart the motor if power to the starter is not turned off.

NOTE: If the IQ-1000 II is being used in a breaker application, turn the breaker to the OFF position before removing the IQ-1000 II from the drawout case.

Step 1 – If possible, turn off all power to the IQ-1000 II and the drawout case.

Step 2 – Loosen the knurled screw at the bottom of the drawout case front cover, swing the bottom of the cover away from the drawout case and lift off the front cover. See Figure 4.

WARNING: Potentially lethal voltages may be present and exposed on the knife switches when the drawout case front cover is removed. Personnel must exercise extreme caution when working around energized equipment.

Step 3 – To prevent a trip from occurring, open knife switches #4 through 10 at the bottom of the drawout case first. See Figure 5. Open the remaining knife switches.

WARNING: Potentially lethal voltages may be present on the side terminals of the IQ-1000 II if control power to the unit and power to associated equipment, switches and relays has not been turned off. Personnel must exercise extreme caution when working around energized equipment.

Step 4 – Firmly grasp the sides of the IQ-1000 II faceplate and pull the chassis assembly out of the drawout case.

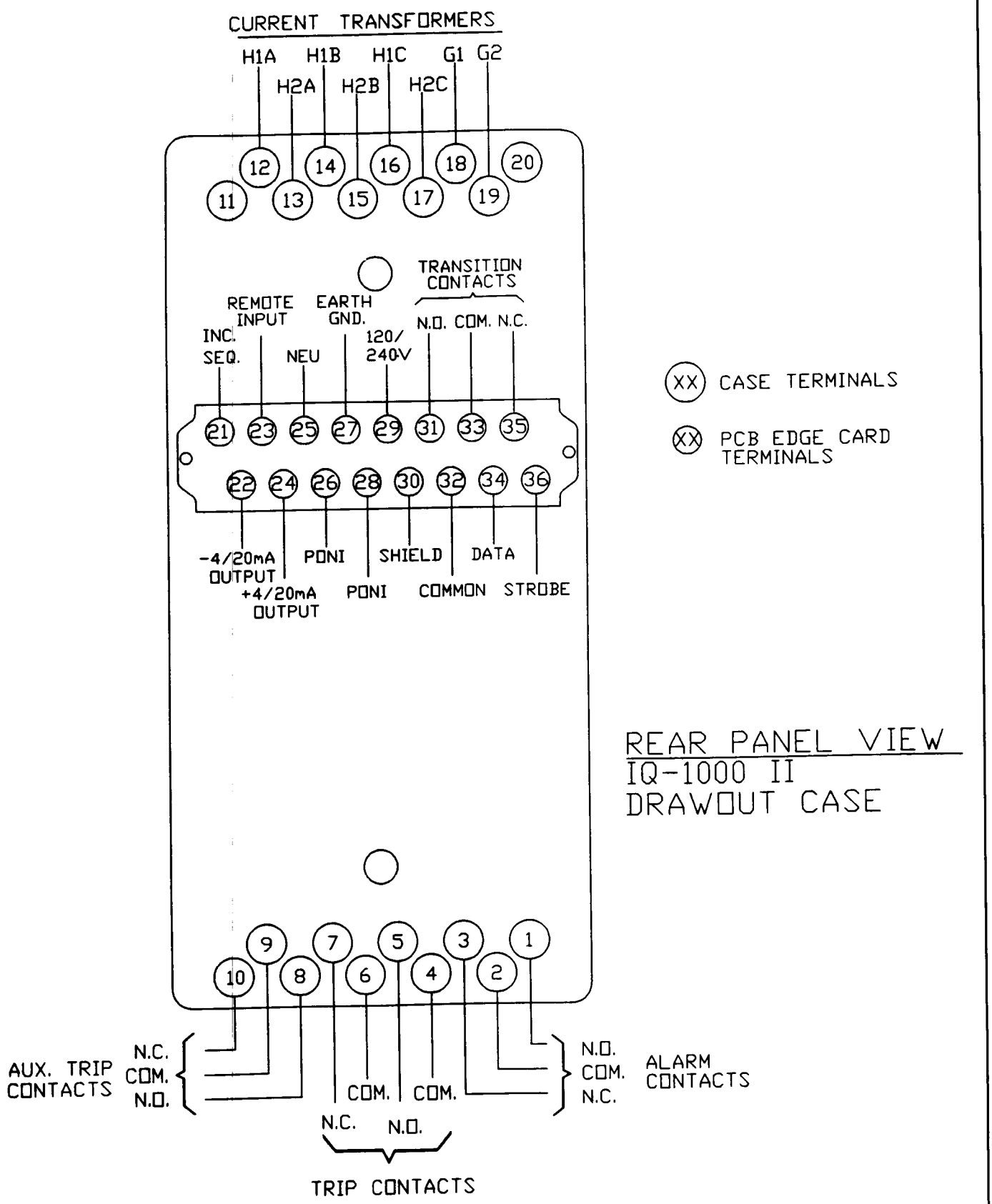


Fig. 3 IQ-1000 II Drawout Case Terminal Numbering

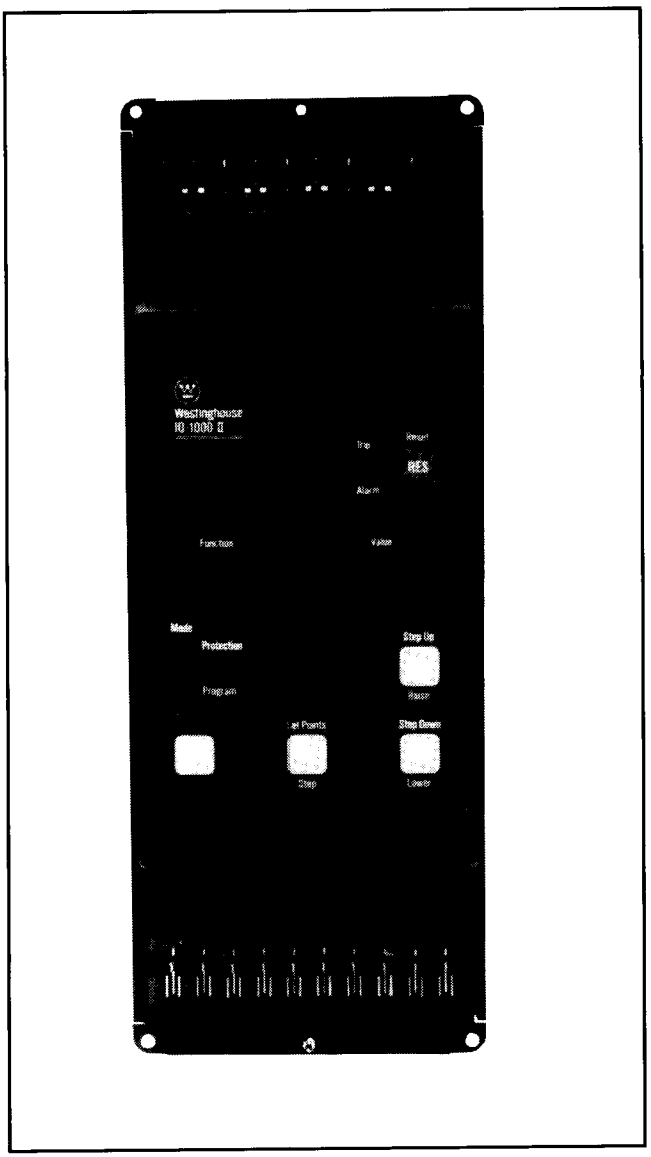


Fig. 4 Drawout Case with Front Cover Removed

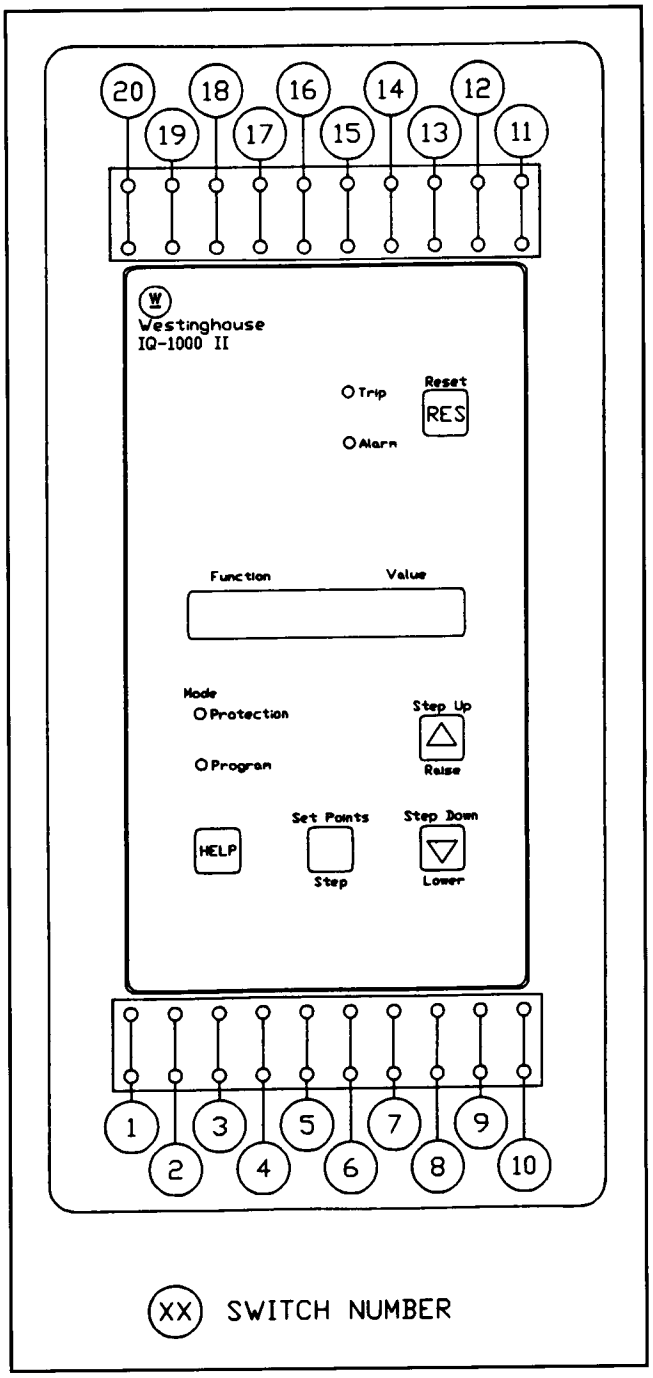


Fig. 5 Drawout Case Knife Switch Numbering

3.1.1 IQ-1000 II Replacement Procedure.

Replacement of the IQ-1000 II is essentially the reverse of the removal procedure.

WARNING: Potentially lethal voltages may be present and exposed on the knife switches when the drawout case front cover is removed. Personnel must exercise extreme caution when working around energized equipment.

Step 1 – Assuming that the drawout case front cover is off and all knife switches are open, firmly grasp the IQ-1000 II chassis assembly by the sides of the faceplate and insert it into the drawout case.

Step 2 – To prevent a trip from occurring, close knife switches #1 through 3 and #11 through 20 first. After closing these switches, close switches #4 through 10. Refer to Figure 5 for knife switch numbering.

Step 3 – Reinstall the drawout case front cover. Hook the top of the cover to the top of the drawout case, swing the cover down to the closed position, and tighten the knurled screw at the bottom of the cover finger tight.

Step 4 – Reapply power to the IQ-1000 II and its associated equipment and components if necessary. Reprogram the replacement IQ-1000 II if this has not been done prior to reinstallation. Use the application-specific Set Point Record Sheet and see the IQ-1000 II user's manual for detailed instructions. An abbreviated drawout-case-specific programming procedure follows.

a. Remove the front cover from the unit.

WARNING: Potentially lethal voltages may be present and exposed on the knife switches when the drawout case front cover is removed. Personnel must exercise extreme caution when working around energized equipment.

b. Open the top and bottom knife switches (see Para. 3.1, step 3).

WARNING: Potentially lethal voltages may be present on the side terminals of the IQ-1000 II if control power to the unit and power to associated equipment, switches and relays has not been turned off. Personnel must exercise extreme caution when working around energized equipment.

c. Remove the chassis assembly from the drawout case.

d. Turn the keyswitch to the PROGRAM position.

WARNING: Two identical keys are supplied with the IQ-1000 II and are used to switch the unit between the Program mode and the Protection mode. DO NOT ATTACH THE TWO KEYS TO A KEY RING. Due to the configuration of the IQ-1000 II and the drawout case, an electrical shorting hazard will exist if both keys are attached to a key ring and the keys are left in the keyswitch when the unit is inserted into the drawout case. Only individual keys may be left in the keyswitch.

e. Reinstall the unit into the drawout case and close the top row of knife switches.

f. Apply control power to the unit if not already present. The unit will power-up and indicate Program mode.

g. Program the unit as described in the IQ-1000 II user's manual. After all setpoints have been entered and verified, open the top row of knife switches and remove the unit from the drawout case.

h. Turn the keyswitch to the PROTECTION position. The key may be left in place or removed for security purposes. Reinsert the unit into the drawout case, and close the knife switches (see Para. 3.1.1, step 2). Reinstall the drawout case front cover. The unit is now ready for operation.

Table 1. Specifications

Operating Temperature: 0 to 70 degrees C (32 to 158 degrees F)
Storage Temperature: –20 to 85 degrees C (–4 to 185 degrees F)
Humidity: 0 to 95% (noncondensing)
Drawout Case Dimensions: Height: 16.5 in. (41.91 cm) Width: 6.4 in. (16.19 cm) Length: 7.7 in. (19.45 cm)
Shipping Weight: IQ-1000 II w/case = 17 lbs.

Table 2. Drawout Case Configuration Options

Style No.	Description
2D78558G03	Drawout case with IQ-1000 II included
2D78558G04	IQ-1000 II electronics and chassis only (drawout case not included)