

ProCASE II™

Installation Manual

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Table Of Contents

Introduction.....	4
The ProCASE II System.....	4
Installing the System	5
Setting The Module Address	5
Mounting the ProScale Encoder	6
Connecting the Encoders	7
Power Connection.....	7
Making Network Cables.....	8
Connecting the Network.....	8
Connecting the Pendant	9
Connecting the Input/Output Module	9
Powering Up The System	11
If the System Fails To Powerup	11
If the Pendant Fails To Display Any Messages	11
If the Satellite Is Not Responding.....	11

Introduction

ProCASE II is a modular system that is based on the network approach. This approach simplifies the installation of the measuring system and allows the installer to place each module close to several axes, then network the modules together using a single six conductor cable. This eliminates the need to run multiple wires back to a control panel, thus allowing the encoder wires to be much shorter. Elimination of the multiple wires makes troubleshooting the system easier and less time consuming.

The ProCASE II System

The ProCASE II system consists of three types of modules. The number of modules that your installation will require depends on the size and configuration of the machine that the system is being installed on. The three types of modules are listed below:

- Master module
- Satellite module
- Input/Output module

Master module - The Master module contains the power supply for the system, the main processing core and a Satellite module.

The internal power supply is a 3.5A, 12VDC linear supply. This power supply provides power to the main processing core, the onboard Satellite module and all other modules attached to the network.

The main processing core communicates with all the network modules and the Pendant. The main processing core collects all the information from the modules and the pendant. It processes this information using the programmable configuration information stored in the main processing core. The main processing core sends the output to the Pendant for the user to see.

Satellite module - The Satellite module communicates with the main processing core via the network connection. Each Satellite module's function is to collect information from up to eight encoders and pass it to the main processing core for processing. The Satellite module also sends and collects information to and from the Input/Output module.

Input/Output module - The Input/Output module has two optically isolated inputs and two dry contact relay outputs. The optical inputs are read by the satellite module and passed to the main processing core for processing. The two relay outputs are triggered by the main processing core via the Satellite module.

Installing the System

Because the ProCASE II system is modular, a bit of planning is necessary to begin installation. Determine the number of axes the installation will include and the location of any groups of axes. This will determine where the Satellite modules will be needed. Then determine what input or output devices will be required and a location for the outputs (examples include disabling switches, out of position lights, part count inputs).

To install the system, plan where the Master module should be mounted. Remember that it requires 110 Volt AC, and therefore should be mounted close to an outlet. Also remember that the Master module contains a satellite module and should be mounted close to a group of axes.

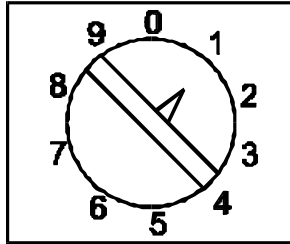
The Satellite modules can be located in a convenient place close to a group of axes. Remember that the Input/Output module can be connected to a Master module or a Satellite module.

Setting the Module Address

To set a module's address, remove the four screws and end plate from the end of the module with the four-position connector. Beside the four-position connector is a ten-position dip switch. The default address for the Master module is one and this usually does not change. The default address for a Satellite module is two, and this address will change as more than one Satellite module is added to the

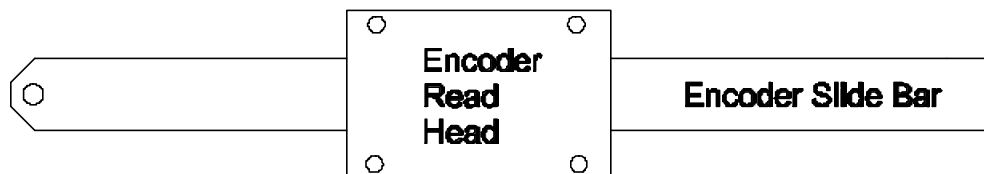
system. Using a small screwdriver rotate the switch so the arrow points to the number of the address of the module. Typically this address will be the same as the order the module was added to the system. Record this address as it will be needed when programming the system. Replace the end plate and screws.

Warning: Never set the address of two modules the same. This will cause a conflict on the network.



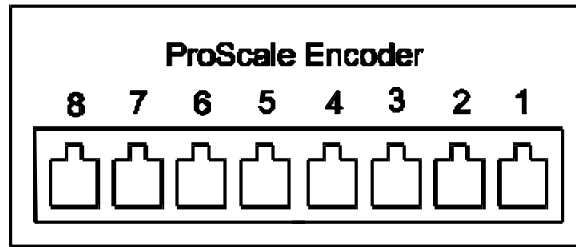
Mounting the ProScale Encoder

Mount the ProScale encoders so the readhead of the encoder is mounted in a fixed position parallel to the axis. Mount the scale (aluminum extrusion) to the moveable part of the axis. This allows the ProScale encoder to read the axis movement as the scale moves through the readhead.



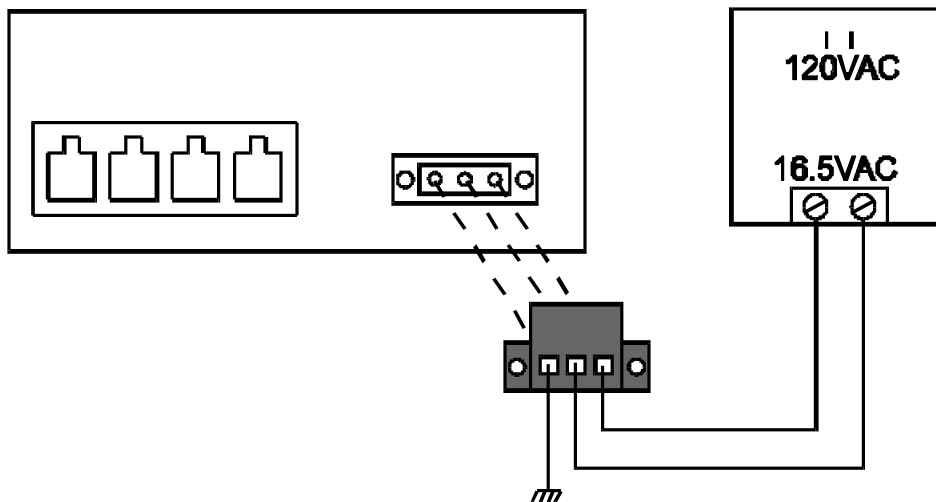
Connecting the Encoders

To connect the ProScale encoders, simply plug the encoders into the RJ11X encoder connectors. Make a note of the port number as each axis is connected. This information is necessary when programming the system. Refer to the figure below for the location of the encoder ports.



Power Connection

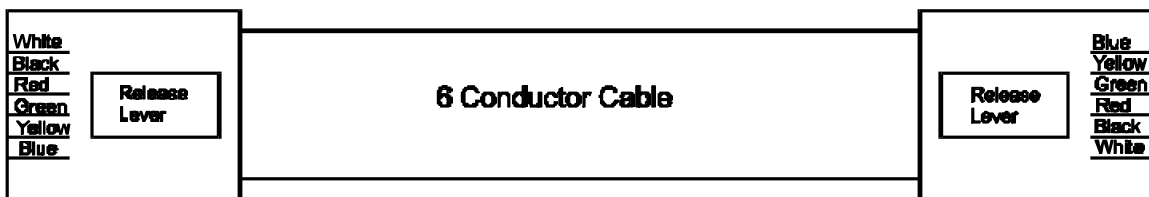
Connect power wires from the transformer to the Master module connector as shown below. Plug the power connector in to the Master module and secure the connector by tightening the screws. The third position of the connector should be tied to chassis ground. With the power turned off, plug the supplied transformer into a 120 volt AC line and secure with the provided screw. **Warning: shorting the 16.5 VAC side of the transformer while power is applied will damage the transformer.**



Making Network Cables

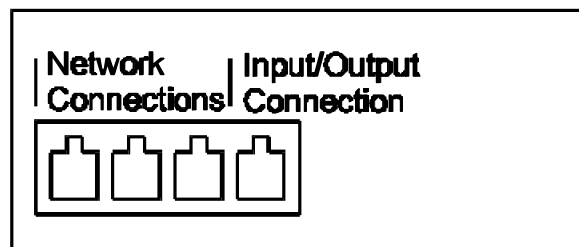
Note the following applies only to cables between an Input/Output module and a Satellite module or Master module **AND** cables between your backup computer and the Master module. Any replacement cable for Master module to Satellite modules must be supplied by Accurate Technology. Any replacement cable for Pendant to Master/Satellite must also be supplied by Accurate Technology.

Use a six connector cable suitable for RJ11X six position connectors. Install the RJ11X connector on both ends of the cable, making sure the color sequence of the wires are the same on each end, as shown below:



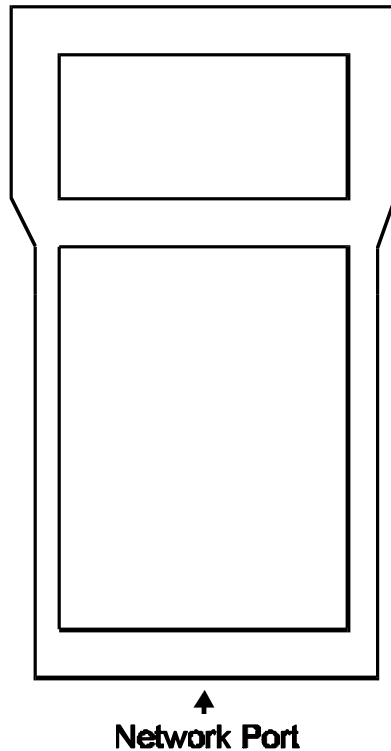
Connecting the Network

Plug each Satellite network cable into any of the network connections on the Master Module. Then plug the other end of the cable into the one of the network connections on the Satellite module. If more than one Satellite module is used, repeat the procedure by plugging a second cable into the first Satellite module and then into the network connector of the module you are adding. Repeat this procedure for each Satellite module being used.



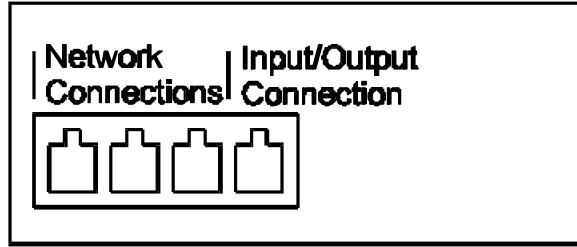
Connecting the Pendant

To install the pendant, plug the supplied pendant cable into the bottom of the pendant. Plug the other end of the cable into one of the three network connections on the Master module or the closest Satellite module. Refer to the previous figure for the location of the network connections.

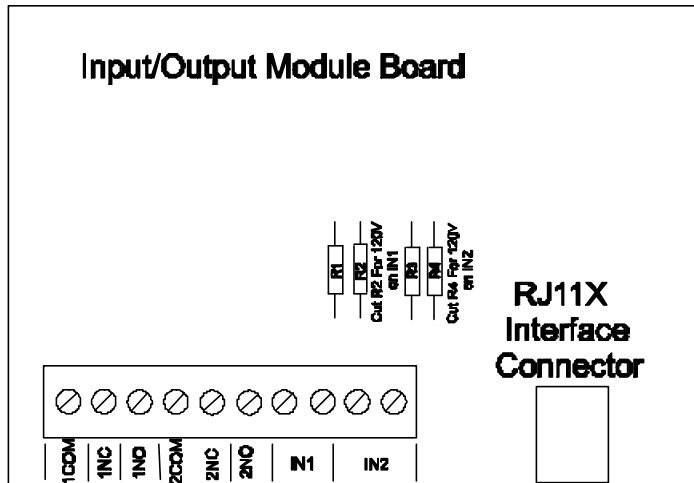


Connecting the Input/Output Module

To connect the Input/Output module, plug the six conductor cable of the appropriate length into the RJ11X Interface connector on the Input/Output Module Board (refer to Making Network Cables). Plug the other end of the cable into the Input/Output connection on the Master or closest Satellite module. Refer to the next figure for the location of the Input/Output connection.



The inputs and outputs are shown in the figure below. IN1 and IN2 are optically isolated non-polarized inputs. These inputs will handle up to 24 VDC or 120 VAC. (To allow IN1 or IN2 to handle 120 VAC, a modification is required. The modification involves the cutting resistors R2 or R4 respectively for the inputs.)



The Outputs are Dry Contact Relays. In the normal mode, the common and the normally closed contact are connected. When the relay is activated or energized, the normally open and common contacts are connected. To connect a light to a relay output, connect the common contact to the common side of the AC circuit. Connect the normally open contact to one lead of the light. Connect the other lead of the light to the hot lead of the AC circuit. When the relay is activated the light turns on. When the relay is deactivated the light goes off.

Powering Up The System

Now that all the modules have been installed, it is time to power the system. Turn on the power to the transformer and view the pendant for the power up message that is displayed. It takes about four seconds from the time the power is applied to display the message. Once the time out for the power up screen expires, the system will display the LOG-IN screen. If the system is installed properly, the system will not report any errors. The system is now powered up and ready to be programmed. Refer to the Programming Manual for the programming procedure.

If The System Fails To Power up

If the pendant fails to display the power up message, turn off the power and disconnect the transformer from the 120 volts wall socket. Turn the power back on and check the power circuit for 120 volts. Check the connection from the transformer to the master power connector. If the circuit has 120 volts and the connection from the transformer to the Master module power connector is made properly, re-power the system. If the system still does not display the power up message, check the transformer secondary power output. Using a voltmeter set on the AC scale, check the 16.5 volts AC output of the transformer. (Refer to page 6 the power connection.) The voltmeter should read between 18 and 20 volts since there is no load on the transformer.

The Pendant Fails To Display Any Messages

If the pendant does not display any messages, check that it is plugged into the network connector on the Master module. Look for the LCD back light. If the back light is on, the pendant is getting power but not receiving information from the Master module. This is a symptom that the cable is not made properly or not making proper contact at one end. Contact Accurate Technology for more troubleshooting tips and possible receiving a new cable.

If The System Displays "Satellite Not Responding"

If a Satellite module is not responding, check that it is connected to the proper network port. The address of the module could be improperly set or the entire system has not been programmed properly. Refer to the User and Programming Manuals. If necessary, contact Accurate Technology for more troubleshooting tips and possible receiving a new cable.