METTLER TOLEDO®

Installation Instructions

0977-0073

Model: 355
Kit Number: 0977-0073
Description: Serial and Ethernet Interface Kit

Kit Description

This kit will convert the Model 355 (see Note1) to allow connection to an Ethernet Network using 10-Base-T wiring in a star or tree topology and connect to a remote scale base with the Serial Interface. The kit contents are shown in Figure 1.

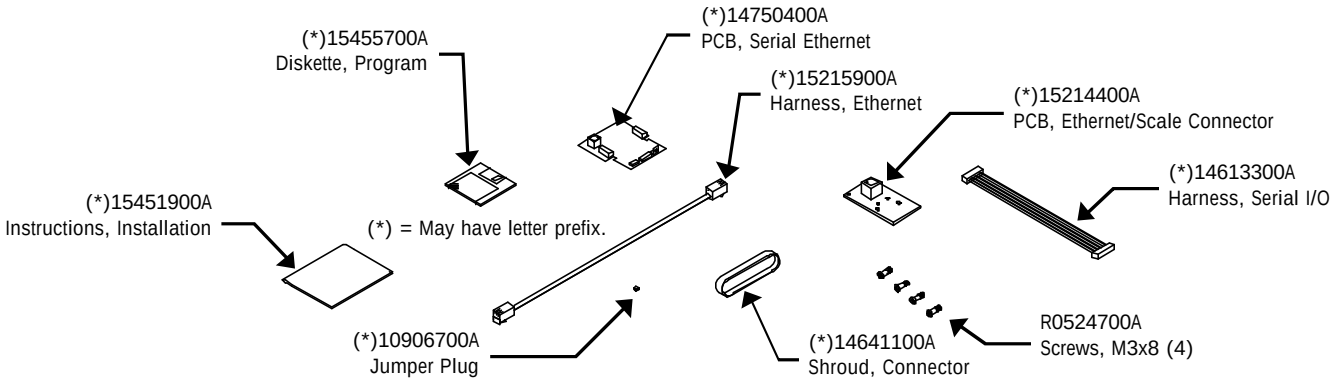


Figure 1: 0977-0071 Kit Contents

Kit Installation

Disconnect the AC power cord from the outlet before proceeding!

Remove the left side cover.

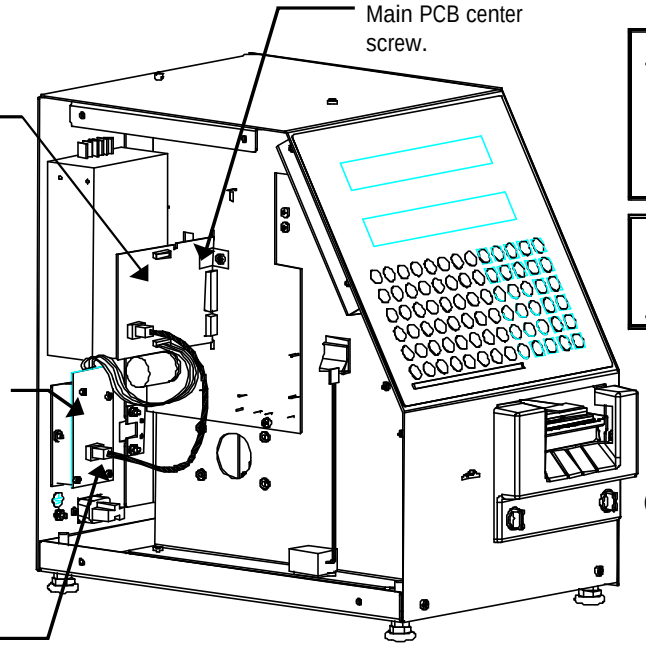
Note 1: The Model 355 Main PCB must be P/N (*)15138700A or later. If the Main PCB P/N is (*)14475900A, order Upgrade Kit 0977-0054.

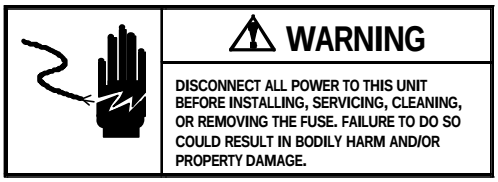
Secure the Serial Ethernet PCB with the Main PCB center screw.

Remove the center Main PCB screw, then plug the (*)14750400A Serial Ethernet PCB into the Main PCB at connectors J12/J20.

Remove the I/O cover plate. Plug the (*)14613300A Serial I/O Harness into the (*)15214400A Connector PCB. Mount the Connector PCB and the (*)14641100A Shroud using the 4 R0524700A Screws. Plug the Serial I/O Harness into the Serial Ethernet PCB at J1.

Plug the (*)15215900A Ethernet Harness into the Connector Jack and the other end to the Serial Ethernet PCB at J3.





(*) = May have letter prefix.

Figure 2: Model 355 Serial Ethernet Kit

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Reinstall the side cover when the kit installation is completed. The kit is shipped with a program diskette containing the Model 355/2450/8450 Ethernet software. The new software must be flashed into the unit before it can be used on the Ethernet network. Copy the contents of the diskette to a separate sub-directory on your hard disk drive of your PC. The program files are compressed and must be uncompressed before they can be downloaded to the scale. The files are self-extracting, requiring you to just type in the file name to uncompress them (example: 12345R). The new files created are the software program files (Example: 12345R.HEX) that are used with FLASHPRO (the downloader program also on the diskette) to download the program into the unit.

Before downloading the software, turn the power switch OFF. Connect the cable end marked PC to the PC's serial port and the other end to the Model 355 AUX Port, located on the rear of the unit (Figure 3). The FLASHPRO command line is as follows:

FLASHPRO -Tfilename.hex

(Replace filename.xxx with the actual file name on the distribution diskette. Example: FLASHPRO -t123456R.hex) If you get a DOS Bad command or file name error, check to make sure you have not mis-typed the file name (ex: FLASHPRO), and the file FLASHPRO.EXE is in your PC's path or current directory or on the distribution diskette.

Press and hold the CAL Switch (see Figure 3), then turn the power switch to ON. Release the switch when the display shows Download Program on the Model 355. Next, type in the command line on the PC and press ENTER. (If a UART Error is displayed, check that the cable is connected to COM1, and the correct cable is used.) FLASHPRO will display A's during the download process, (Acknowledgment). When the download is complete, FLASHPRO will display the message "File Transfer Successful".

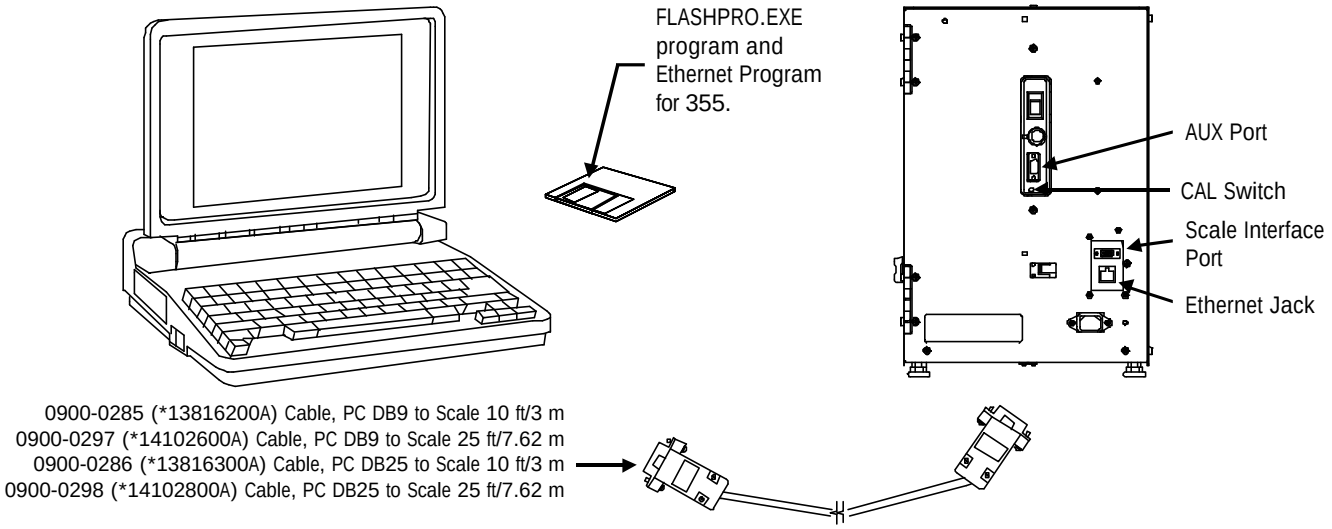

Figure 3: Flashpro Hardware

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Configure the Model 355

Refer to the Service Manual for setup details. The Ethernet configuration is accessed by the UNIT ID key in setup mode. The following must be set up for the Ethernet network. To find the Windows NT Server IP address, click START, PROGRAMS, then COMMAND PROMPT on the NT Server. Type IPCONFIG at the DOS prompt to display the IP address of the server. Write this number down. It will be used to enter into the client configuration.

At the Model 355, press the SETUP MODE key, then the UNIT ID key and enter the following items at the prompts.

SCL? - The IP Address identifies the client on the network. The IP Address is a unique number consisting of four parts separated by periods. (Ex: 146.207.40.1)

GW? – Gateway IP address is used if the server is on a different network.

Use the following key sequence to set the client IP address and Gateway address. The example shows setting the IP address to 146.208.104.015.

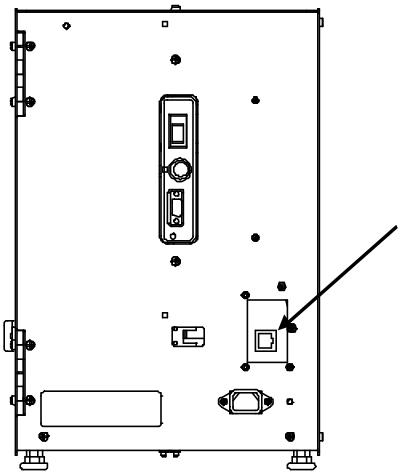
Press:	SETUP	
Press:	ENTER	
Press:	UNIT ID	
Display:	SCL 255.255.255.255	
Press:	ENTER	
Display:	SCL? 255.255.255.255	(SCL is this scale's IP.)
Key In:	146 208 104 015	(no spaces or .'s needed)
Press:	ENTER	
Display:	Port 0	
Press	ENTER	
Display:	Port ? 0	
Key In:	2305	(always set to this number)
Press:	ENTER	
Display:	GW 255.255.255.255	(GW is the Gateway's IP.)
Press:	ENTER	
Display:	GW? 255.255.255.255	
Key In:	146 208 104 100	(no spaces or .'s needed)
Press:	ENTER	
Display:	SCL 146.208.104.015	(where xxx shows the new number entered)
Press:	CLEAR to exit setup mode.	

Turn power off and back on to reset the scale with the new data.

Cable Connections

The 10Base-T Ethernet Jack is located on the rear of the Model 355, as shown in Figure 3. 10 Base-T uses unshielded twisted pair (UTP) cabling of Category 3 (or higher) in a star topology. Each node on the network has its own cable that connects to a common hub (repeater). The cable from the node to the hub can be up to 100 meters (328 feet) in length. 10 Base-T requires the use of a hub. The hub serves as a central switching station that controls the incoming and outgoing signals. When using star topology if a station goes down it does not affect the rest of the network. Typically an RJ45 connector is connected to UTP cabling and is run straight from the hub to the device on the network. Pins 1 and 3 transmit data, and pins 3 and 6 receive data (the other pins are not used).

Rear View



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Connecting to the Model 8270 Remote Scale Base

Disconnect power to the Model 355. Using Cable 0900-0305, connect the DB-9 connector from the Model 8270 scale base to the Scale Interface Port DB-9 connector installed on the Model 355 I/O Connector PCB (Figure 3). The Model 8270 scale base must be installed on a stable level surface. The stability and level is adjusted using the scale feet with the bubble indicator on the scale spider as a reference (Figure 6).

Remove cover plate from Model 8270 scale base and install Jumper P/N (*)10906700A on both pins of W4. The W1 jumper should already be installed from the factory and jumpers W2 and W3 should be open. (See Figure 7.)

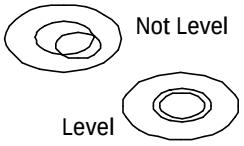

Figure 6: Bubble Indicator

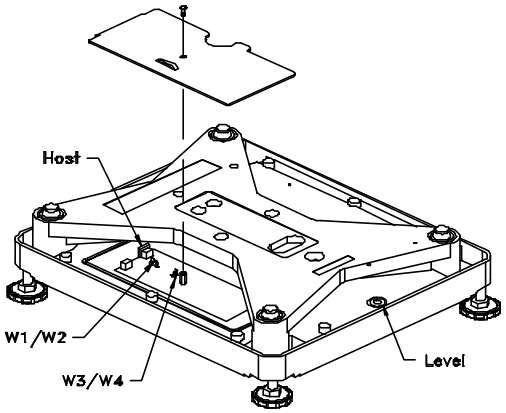

Figure 7: Model 8270 Scale Base

Calibration with the Model 355

Reconnect AC power and place power switch to the ON position. Insert the Setup Mode Keyboard Overlay. (Refer to the Model 355 Service Manual for details and illustrations.) First press the SETUP MODE key. If asked for a password, press the CAL Switch (located on the unit's left side near the AUX DB9 connector, Figure 3).

Press the CAL key. Press UP or DOWN to display LOAD CELL, then press ENTER. Press UP/DOWN to display EXT-8270, then press ENTER to accept. Next, press the UP or DOWN keys until CALIBRATE displays, then press ENTER. The display will show
EMPTY SCALE, ENTER, indicating to make sure the Model 8270 platter is empty, then press the ENTER key. The lower display will shown CAPTURING ZERO, while the upper display counts down from 15 to 0 while setting zero. Do not disturb the scale during this procedure. If any errors are reported, refer to the Model 355 Service Manual.

When LOAD: 20.00 displays, place a minimum of 20 lb or 10 kg on the Model 8270 platter, enter the value of the weight on the platter, then press ENTER. The lower display will show CAPTURING SPAN... while the upper display counts down from 15 to zero while setting span. When calibration is complete, the display will show CALIBRATED!!!. Press CLEAR until the display returns to READY.

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