USERGUIDE
IMD021/1297

SPI Communications Option

⚠ **WARNING - Reliance on this Manual Could Result in Severe Bodily Injury or Death!**

This manual is out-of-date and is provided only for its technical information, data and capacities. Portions of this manual detailing procedures or precautions in the operation, inspection, maintenance and repair of the product forming the subject matter of this manual may be inadequate, inaccurate, and/or incomplete and cannot be used, followed, or relied upon. Contact Conair at info@conairgroup.com or 1-800-654-6661 for more current information, warnings, and materials about more recent product manuals containing warnings, information, precautions, and procedures that may be more adequate than those contained in this out-of-date manual.

The SC Carousel Dryer provides SPI compatible support for RS-485 serial communications with a host machine. You can use SPI communication to change or monitor these functions:

● Process temperature setpoint
● High and low temperature deviation alarms
● Starting and stopping the dryer
● Dryer operation and alarm status
● Actual process temperature
● Actual return air temperature

ACTIVATING SPI COMMUNICATION

To use the SPI communication option, you must connect the dryer to the host machine and set the node address.

1 **Connect the host machine to the dryer.**
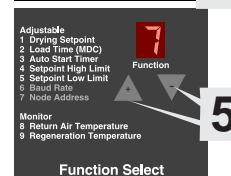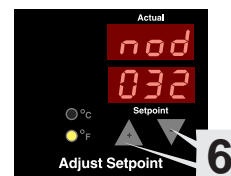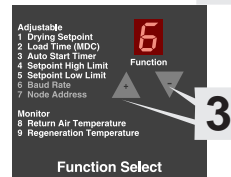Plug the male DB9 connector into the SPI communications port on the side of the dryer electrical enclosure.
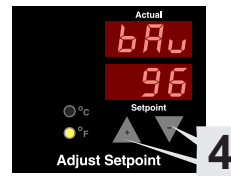
2 **Push the power switch to the ON position.**

3 **Select Function 6.**
Press Function Select ▲ or ▼ arrow until 6 appears in the Function display.

4 **Set the baud rate at 12, 24, 48 or 96.**
Press Setpoint Adjust ▲ or ▼ arrow until the baud rate you want appears in the setpoint display window.
12 = 1200 baud   48 = 4800 baud
24 = 2400 baud   96 = 9600 baud

5 **Select Function 7.**
Press Function Select ▲ or ▼ arrow until 5 appears in the Function display..

6 **Enter the node address.**
Press Setpoint Adjust ▲ or ▼ arrow until the address you want appears in the setpoint display. The address may be set to any number from 32 to 64, as long as that number has not been assigned to another machine connected to the same communications network.

SUPPORTED SPI COMMANDS

The SPI commands supported by the SC Carousel Dryer are listed in the following table, along with the Select and Poll command pairs in hexadecimal format.

Select commands are used to set or change dryer functions. Poll commands are used to retrieve information from the dryer.

SPI Command Pairs

Commands	Select	Poll
Echo - Select stores 4 bytes of information at the dryer; Poll retrieves it.	0x20 0x21	0x20 0x20
Setpoint Process Temperature - Sets and retrieves the drying temperature setpoint.	0x20 0x31	0x20 0x30
Alarm, High Temperature Deviation* - Sets the alarm band temperature; retrieves setpoint + alarm band value.	0x20 0x33	0x20 0x32
Alarm, Low Temperature Deviation* - Sets the alarm band temperature; retrieves setpoint + alarm band value.	0x20 0x35	0x20 0x34
Mode, Machine - Starts/stops dryer, acknowledges alarms; retrieves run status.	0x20 0x49	0x20 0x48
Version - Retrieves 4 bytes of SPI version information.		0x20 0x22
Process Status - Retrieves run status and alarm conditions.		0x20 0x40
Temperature, to Process - Retrieves the actual process (drying) temperature.		0x20 0x70
Temperature, from Process - Retrieves the actual temperature of air returning from the hopper.		0x20 0x72

* NOTE: Both High and Low Temperature Deviation commands set the same variable. Use only one of these commands to avoid problems.

Conair can provide an SPI-DDE driver, if you wish to connect this dryer to a network using Windows® 95 or Windows® NT and a DDE compliant software package, such as Wonderware® or Microsoft® Excel.

For more information on the SPI protocol, you can obtain the SPI Communication Protocol Manual by contacting:

The Society of the Plastics Industry, Inc.
Machinery Division
1275 K Street, NW, Suite 400
Washington, D.C. 20005
(202) 371-5200   Fax: (202) 371-1022

Conair has made the largest investment in customer support in the plastics industry. Our service experts are available to help with any problem you might have installing and operating your equipment. Your Conair sales representative also can help analyze the nature of your problem, assuring that it did not result from misapplication or improper use.

To contact Customer Service personnel, call:

PARTS & SERVICE 800 458 1960
InstantAccess CONAIR

From outside the United States, call: 814-437-6861

You can commission Conair service personnel to provide on-site service by contacting the Customer Service Department. Standard rates include an on-site hourly rate, with a one-day minimum plus expenses.

If you do have a problem, please complete the following checklist before calling Conair:

❏ Make sure you have all model, serial and parts list numbers for your particular equipment. Service personnel will need this information to assist you.

❏ Make sure power is supplied to the equipment.

❏ Make sure that all connectors and wires within and between loading control and related components have been installed correctly.

❏ Check the troubleshooting guide of this manual for a solution.

❏ Thoroughly examine the instruction manual(s) for associated equipment, especially controls. Each manual may have its own troubleshooting guide to help you.

❏ Check that the equipment has been operated as described in this manual.

❏ Check accompanying schematic drawings for information on special considerations.

Additional manuals and prints for your Conair equipment may be ordered through the Customer Service or Parts Departments for a nominal fee.

EQUIPMENT GUARANTEE

Conair guarantees the machinery and equipment on this order, for a period as defined in the quotation from date of shipment, against defects in material and workmanship under the normal use and service for which it was recommended (except for parts that are typically replaced after normal usage, such as filters, liner plates, etc.). Conair's guarantee is limited to replacing, at our option, the part or parts determined by us to be defective after examination. The customer assumes the cost of transportation of the part or parts to and from the factory.

PERFORMANCE WARRANTY

Conair warrants that this equipment will perform at or above the ratings stated in specific quotations covering the equipment or as detailed in engineering specifications, provided the equipment is applied, installed, operated and maintained in the recommended manner as outlined in our quotation or specifications.

Should performance not meet warranted levels, Conair at its discretion will exercise one of the following options:

● Inspect the equipment and perform alterations or adjustments to satisfy performance claims. (Charges for such inspections and corrections will be waived unless failure to meet warranty is due to misapplication, improper installation, poor maintenance practices or improper operation.)

● Replace the original equipment with other Conair equipment that will meet original performance claims at no extra cost to the customer.

● Refund the invoiced cost to the customer. Credit is subject to prior notice by the customer at which time a Return Goods Authorization Number (RGA) will be issued by Conair's Service Department. Returned equipment must be well crated and in proper operating condition, including all parts. Returns must be prepaid.

Purchaser must notify Conair in writing of any claim and provide a customer receipt and other evidence that a claim is being made.

WARRANTY LIMITATIONS

Except for the Equipment Guarantee and Performance Warranty stated above, Conair disclaims all other warranties with respect to the equipment, express or implied, arising by operation of law, course of dealing, usage of trade or otherwise, including but not limited to the implied warranties of merchantability and fitness for a particular purpose.