Chromatography Research Supplies

**Electronic Crimping Tool HPS
With External Activation**

Model 5AHPR0

*Crimping tools with interchangeable jaws and
dedicated power supply*

Operation Guide

Notices

Recycling

For recycling contact CRS or your local CRS distributor.

Safety Notices

CAUTION

A **CAUTION** notice warns of a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a **CAUTION** notice until the indicated conditions are fully understood and met.

WARNING

A WARNING notice warns of a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood and met.

Sound Pressure

Sound pressure L_{pA} = 79 dB(A)

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Electronic Crimping Tool HPS with RS485 Serial Interface

Operations Guide

Contents

This operation manual applies to the following products:

	Model Number
Electronic Crimping Tool HPS with RS485 Serial Interface	5AHPR0

Related Items	Item Number
Accessory Base for Electronic Crimpers	5ABAS0
11 mm Crimper Jaw Set	311955
20 mm Crimper Jaw Set	320955
20 mm Flip-Off Crimper Jaw Set	320956
8 mm Crimper Jaw Set	308955
13 mm Crimper Jaw Set	313955
13 mm Flip-Off Crimper Jaw Set	313956
11 mm Decapper Jaw Set	311965
20 mm Decapper Jaw Set	320965
13 mm Decapper Jaw Set	313965

Warnings

Remember to wear safety glasses when crimping or decapping.

The crimper or decapper jaws can pinch severely.

Only change jaws after the power supply has been disconnected or the tool has been locked.

Never insert fingers into the crimping tool jaws.

Use only the 12 volt DC Power Supply supplied with the crimping tool.

Intended Use

Electronic Crimping Tools are intended for use in a laboratory environment.

Prohibited Use

All other uses are prohibited.

Limits

Temperature 15ºC to 35ºC
Humidity not more than 75%
Pressure 0.75 to 1 bar

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Background

The CRS 5AHPR0 High Power Crimping Tool can be adapted for use as a crimping head in automatic equipment. This guide serves to outline the mechanical and electrical connections necessary to do so.

The designer of the device incorporating this tool will need to issue a new Declaration of Conformity after doing a risk analysis and studying the DoC Supplied.

While the interface is straightforward, the designer must to enough testing to verify that the tool is suitable for the application intended.

Warnings

All of the warnings stated in the Instruction Manual apply to the tool when in remote operation, but additional considerations apply.
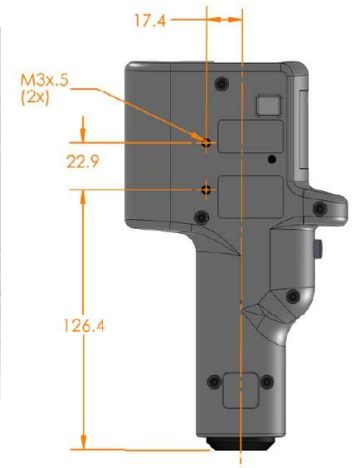
When the crimper is activated remotely the pinch danger from the crimper jaws is increased considerably. The purpose of remote activation is to allow the crimper to be built into an automatic machine or used with special guarding, for example in a glove box, in which case an additional risk assessment needs to be carried out.

A user with 2-hand access to the crimping head when remote operation is employed is exposed to the action of the jaws during crimping and additional guarding should be provided.

Description of 5AHPR0

1. The tool includes a 12 volt universal external power supply with an IEC-320 connection for a power cord in the country of use. The supply carries appropriate markings for the US and Canada, the European Union, - Japan, China and Taiwan.

2. Interchangeable crimping heads are available for most standard crimp caps and seals.

3. The crimping action may be adjusted by a keypad on top of the unit.
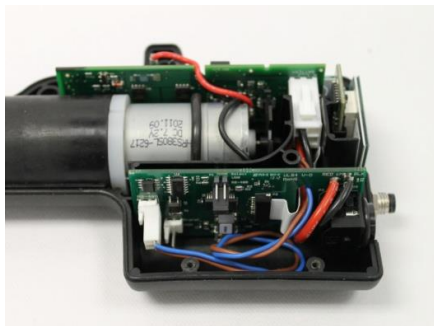
Mechanical Connection

There are two M3x.5 threaded inserts in the side of the crimping case. These inserts should be used to attach the crimping tool to a mounting bracket or support.

Electrical Connection (Active Crimp or Serial Control)

For remote activation (to activate the crimp cycle with a simple contactor) a connection can be made through the case wall of the crimping tool to the power supply adapter circuit board.

There is a two-pin connector (P6, the lower white connector in the photo below) on this board that is wired in parallel to the activation button on the crimping tool itself. If these pins are shorted together the crimper will cycle.

Caution:
The motor/gearbox assembly must remain in its seat when the top case is removed and replaced in order to avoid damage to the main circuit board.

Full Serial Control

The power supply adapter board also has provision for a serial interface that can allow a greater degree of external control, for example to change the crimper setting, to reset the tool, to receive error messages for logging, to acquire cycle data, etc. An RS485 connection (19.2 BAUD, 8 bits, no stop bit) is available through a DIN connector, which can be added to the top of the unit next to the power connection.

The serial connection can be tested with a sample C# Windows program. The actual machine control would be effected by the machine designer, directly from a PLC or through an OPC driver (for example).

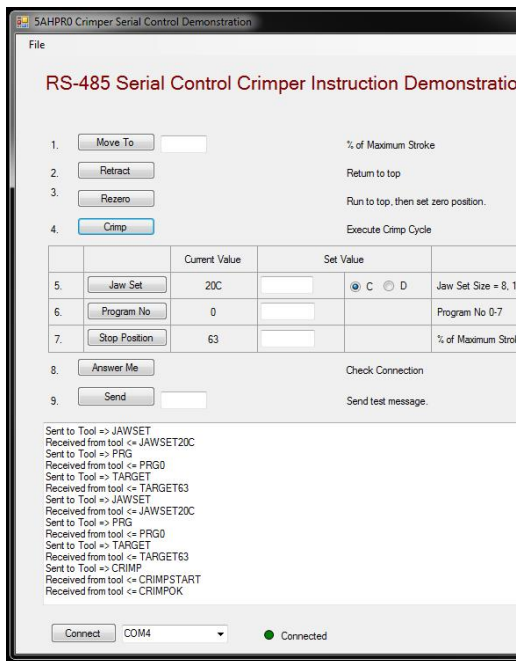The following instructions are implemented in the serial interface:

Instruction	Notes	Purpose
ANSWERME		Verify connectivity
MOVETOxx	"xx" is percent of the maximum stroke for the selected jaw set.	Move the plunger to a selected position.
RETRACT		Moves the plunger back to the top position.
REZERO		Moves the plunger up to the hard stop past the top position to establish a zero point.
JAWSETxxa	Sets the selected jawset. "xx" = 8, 11, 13 or 20. "a" = C or D. JAWSET with no size parameter will cause the crimping tool to answer with the information as to the currently selected jaw set, in the format "JAWSETxxa".	Select a jawset, or request the jawset information from the tool.

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PROGRAMNOx	Sets the program to one of the preset programs, 0-9.	
TARGETxx	Sets the Stop Position as a % of maximum, or if xx is omitted requests the stop position.	
CRIMP	Executes the crimping (or decapping) cycle	

Demonstration Interface

A simple C# program is available to test the crimper interface and to aid in development. This program can be downloaded from:
https://www.ChromRes.com/media/catalog/product/5/A/HPR%20Demonstration.zip

Instructions:
1. Connect the RS485 port on the crimper to a serial port of the crimper. (It might be helpful to use a USB <=> RS485 converter, such as the B&B Electronics USPTL4).

2. Start the demonstration program, select the correct COM port and click the "Connect" button.

3. The log window should start to show the communications between the crimper and the computer.

4. The various commands and the available can be tested using the buttons.

5. The log window shows the communication between the tool and the test program. Note that the program queries the tool setting continuously to keep up with any manual changes to the tool settings, with a lag time of several seconds.

Power Supply Information

MEAN WELL

160W AC-DC Single Output Desktop

GS160 series

■ Features :
* Universal AC input / Full range
* 3 pole AC inlet IEC320-C14
* Built-in active PFC function, PF>0.95
* Protections: Short circuit / Overload / Over voltage / Over temperature
* Fully enclosed plastic case
* Approvals: UL / CUL / TUV / BSMI / CCC / CB / FCC / CE
* Class I power (with earth pin)
* LED indicator for power on
* No load power consumption<0.5W
* Meet EISA 2007(Energy Independence and Security Act)
* 2 years warranty

SPECIFICATION

Support and Repair

If the crimping tool is still in the warranty period, contact your dealer for support. If the warranty period has expired, please visit www.ChromRes.com for information about the crimper repair service.

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Appendix A
Accessory Base for Electronic Crimpers