Manuals+ — User Manuals Simplified.

BCTINT iVAC Pro Tool Plus Interface User Guide

Contents

BCTINT

BCTINT iVAC Pro Tool Plus Interface

This User Guide covers the programming, setup and use of the 'iVAC Pro Tool Plus' ('Tool Plus').
It also covers the General Description and Features of the 'IVAC Pro System
WWW.BCTINT.com
WWW.iVACswitch.com

Warnings

- Please read the operating instructions before use.
- The 'Tool Plus' is intended for indoor use, in dry locations only.
- The 'Tool Plus' is powered from an AC to DC 5V USB adapter
- The USB Adapter should only be connected to AC mains circuits at the rated voltage.

General Description of 'iVAC Pro System'

- The 'iVAC Pro System' consists of two groups of product.
- The first group consists of units that transmit information and a second group of units that receive the transmitted information. At the present time the first group that transmit information are the 'iVAC Pro Remote' and three versions of the 'iVAC Pro Tool' units. The 'Tool Plus', the 'iVAC Pro Tool', and the 'iVAC Pro Tool HP'. The 'Tool' units.
- The units that receive the information are the 'iVAC Pro Switch' which controls the Dust Collector and the 'iVAC Pro Blast Gate'.
- The 'Tool' units monitor the status of its associated power tool. When the power tool turns on it sends a digital wireless signal instructing the 'iVAC Pro Switch' to turn on the Dust Collector and the 'iVAC Pro Blast Gate' to open. .The following discussions relate to communications with an 'iVAC Pro Switch' although the same actions/response apply to the 'iVAC Pro Blast Gate'.
- This User Guide will focus on the 'Tool Plus'.

Tool Plus

- The 'Tool Plus' unit is used to identify the powered on state of its associated power tool.
- The 'Tool Plus' is physically clamped to the power cord of the power tool.
- The method of detecting the status of the power tool is by means of sensing the magnetic field around the power cord when the power tool is turned on or off.
- The 'Tool Plus' is powered by +5VDC. This power is obtained from either a UL FCC approved AC to DC 5volt USB adaptor, or an associated 'iVAC Pro System' unit.
- If a 'Tool Plus' unit is in the Auto Mode when the associated power tool is powered on, the 'Tool Plus' unit will transmit an instruction, by means of a digital wireless signal, to the 'iVAC Pro Switch' instructing it to turn on and apply power to the Dust Collector.
- When the power tool has been turned off, the 'Tool Plus' units will transmit an instruction to the 'iVAC Pro Switch' telling it to turn off.
- The range for radio communications between the 'Tool Plus' and the 'iVAC Pro Switch' is forty feet.
- When mounting the 'iVAC Pro units' they should not be mounted on large metal objects, since this can affect the communication range.

Physical Features

Modes of Operation

- The 'Tool Plus' has three modes of operation;
- AUTO – OFF – ON, as set by the Mode Switch.
- In the AUTO mode the 'Tool Plus' transmits information to an 'iVAC Pro Switch' each time the connected power tool is turned on or off.
- When in AUTO Mode the 'Tool Plus' senses the current in the power cable of the power tool it is attached to.
- If the power tool is on, the LED will be on, and the LED will be off if the power tool is off
- When the power tool turns on or off the LED will flash for about 3 seconds indicating it is transmitting the appropriate ON or OFF command
- As the Mode Switch is transferred from AUTO to OFF, a transmission is sent to the 'iVAC
- Pro Switch', instructing it to turn off. The LED will flash during the RF transmission

- As the Mode Switch is moved from OFF to ON, a transmission is sent to the 'iVAC Pro Switch', instructing it to turn on. The LED will flash during the RF transmission.
- As the Mode Switch is transferred from ON to OFF, a transmission is sent to the 'iVAC Pro Switch', instructing it to turn off. The LED will flash during the RF transmission.
- As the Mode Switch is moved from OFF to AUTO, a transmission is sent to the 'iVAC Pro Switch'. The command sent will be an ON command if the power tool is on or an OFF command if the power tool is off The LED will flash during the RF transmission

CAUTION:

It is important to NOT change the Mode Switch while the 'Tool Plus' is transmitting. You must wait until the LED stops flashing before moving the Mode Switch from Auto to OFF, OFF to ON, ON to OFF or OFF to AUTO.

NOTE
When in OFF or ON Mode the LED indicates how much current is flowing to the power tool. This indication is dependent on the setting of the Sensitivity control.
Once the Sensitivity of the 'Tool Plus' has been properly set up, see section 11 below,

- **LED =** Off Power tool is off
- **LED** Flashing The LED has two flash rates, both rates are faster than the flash rate when the 'Tool Plus' is transmitting RF commands.
- **LED =** ON Power tool is on

Program Switch

- The Program Switch is accessed through the Program Switch Cover located in the top surface of the unit.
- It enables the programming of the System Address and the Tool Address.
- Changes to the Program Switch must be performed with the Mode Switch in the OFF position.
- Changes to the Program switch with the Mode switch in AUTO mode will be ignored

Sensitivity Control

System Address S1, S2

Tool Adress S4, S5, S6

iVAC Pro
Tool Plus

System Address

- A System consists of up to eight 'Tool Plus' units that can control one 'iVAC Pro Switch'
- By means of the Program Switch, the 'Tool Plus' can be assigned to work on one of four System Addresses, A, B, C or D.
- The System Address is to enable up to four systems to operate independently while within communication

range of each other.

- All units required to operate as a System must be set to the same System Address

System Address	S1	S2
A *	off	off
B	on	off
C	off	on
D	on	on

Multi Tool Operation

- The 'iVAC Pro' System has been designed so that up to eight 'Tool Plus' units can communicate with one 'iVAC Pro Switch' on the same System Address.
- Several 'Tool Plus' units can be in operation at the same time.
- The first 'Tool Plus' unit to turn on, will turn on the 'iVAC Pro Switch'. The last 'Tool
- Plus' unit to turn off, will turn off the 'iVAC Pro Switch

Tool Address

- Each 'Tool Plus' unit should be assigned an independent one of eight tool address.
- This is important in a workshop where more than one power tool is being used at the same time.
- This information is used by the 'iVAC Pro Switch' to enable it to know the status of each individual power tool in a system.
- The Tool Address is set by means of the Program Switches 4, 5 and 6.

Tool Address	S4	S5	S6
1	on	off	off
2	off	on	off
3	on	on	off
4	off	off	on
5	on	off	on
6	off	on	on
7	on	on	on
8 *	off	off	off

Active Current sense level

- This is the current level to the power tool where the 'Tool Plus' identifies that the power tool is turned on.
- This current level may vary between power tools and therefore the Current Sense

- Level is set by means of the Sensitivity Control and the Activity LED.

CAUTION

- The Tool Plus senses the magnetic field resulting from current flow in the power cable to which it is attached.
- The Tool Plus can be affected if it is mounted too close to motors, transformers or other devices which produce magnetic fields.
- Normally a 12" to 18" distance is sufficient to avoid problems.
- It is easy to see if there is magnetic interference. With the 'Tool Plus' in OFF mode and the power tool OFF the LED will flash if there is interference.

Sensitivity Adjustment

- The 'Tool Plus' detects current flowing to a power tool by detecting the magnetic field around the power cord to the power tool. The power cord should not have a metal shield.
- For power tools with shielded cables the iVAC Pro Tool HP can be used.
- The power cord is loosely clamped to the back of the Tool Plus as shown in the following two pictures.

- The rear Clamp Cover has three positions for mounting, to accommodate various sizes of power cord diameter.
- The Mode Switch is set to OFF. The Sensitivity Control is set to mid point.
- The power to the power tool is turned on.
- If the 'Tool Plus' is detecting the current flow then the Activity LED will turn on.
- If the Activity LED does not turn on, then the Sensitivity Control should be adjusted counter clockwise until the Activity LED turns on.
- If the Activity LED does not come on, then the 'Tool Plus' should be rotated slowly around the cable or moved along the cable until the Activity LED comes on.
- At this point tighten the clamp to the cable.
- The Sensitivity Control should now be set to a fully clockwise position. It should then be rotated slowly counter-clockwise.
- Initially the Activity LED will start to flash at a slow rate and then increase until the Activity LED is on permanently. As soon as the Activity LED is on permanently this is the correct setting for this power tool.
- Ensure the rear clamp is screwed firmly to the Tool Plus.
  NOTE: For medium and higher Power Tools (Power Tools of more than 200 watts) the Sensitivity Control set to mid point should be fine. For lower Power Tools the Sensitivity
- Control should be adjusted fully counter clockwise and then move or rotate the Tool Plus until the Activity LED

comes on.

System Test

- Turn off the power tool.
- Set the Mode Switch to AUTO.
- Turn the power tool on.
- The Activity LED should flash for approximately three seconds and then go to an on state.
- Turn the power tool off.
- The Activity LED should flash for approximately three seconds and then go to an off state.
- At this point the 'Tool Plus' should be communicating with the 'iVAC Pro Switch' that in turn controls the dust collector.

Tool Plus Features

- Plastic housing is 3.75" x 2.5" x 1.75" (95 x 63.5 x 44.5 mm) ABS 94V0 plastics.
- Input power cord is 10 ft (3 m) long with a USB power plug.
- Three Modes of operation. AUTO – OFF – ON
- Programmable System Address.
- Programmable Tool Address.
- Preset able Sensitivity.
- Activity LED.

Specification

- Active current sense level is adjustable from approximately 0.3Amps or greater.
- **Range,** forty feet.
- **Ambient operating temperature range,** 0 – 30C
- Powered from a UL FCC approved AC to 5VDC Adaptor.

Regulatory Compliance:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a
Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

- **Model:** 10773-1000
- **FCC ID**: Refer to product label
- **IC**: Refer to product label
- 5 Volt 1Amp AC to DC Adaptor. UL and FCC approved

Warranty

- The 'iVAC Pro Tool Plus' is warranted to the original consumer purchaser for a period of one year from the date of purchase, against defects in materials or workmanship. Proof of purchase is required.
- The Company, BCTINT Limited, obligation under this warranty shall consist of repair, replacement or credit, at its option; provided that the product has not been misused, abused, altered or damaged, as determined by the company. This warranty does not cover, and is intended to exclude, any liability on the part of BCTINT Limited for incidental damages, consequential damages, labor charges or any other costs incurred in connection with the purchase or use of the 'iVAC Pro Tool Plus'.
- This warranty only applies to 'iVAC Pro Tool Plus' units purchased in Canada or the United States of America.

FCC regulatory conformance

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

NOTE: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment..

RF Exposure

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

BCTINT Limited

120 Iber Road, Unit 108, Stittsville, ON K2S 1E9 Canada

IC regulatory conformance

This device complies with CAN ICES-003 (B)/NMB-003(B).
This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

- This device may not cause interference.
- This device must accept any interference, including interference that may cause undesired operation of the device.

RF Exposure

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

WWW.iVACswitch.com
email: **info@ivacswitch.com**
Toll Free :1-800-775-5579
Tel: 1-613-599-8988

Contact

TP User Guide p/n: 14974-005 BCTINT Ltd Unit 108, 120 Iber Road. Stittsville, ON K2S 1E9 Canada
WWW.iVACswitch.com
email: **info@ivacswitch.com**
Tel 1-613-599-8988
Customer Service Toll Free : 1-800-775-5579

Documents / Resources

BCTINT iVAC Pro Tool Plus Interface [pdf] User Guide
iVAC Pro Tool Plus Interface, iVAC Pro, Tool Plus Interface, Interface

References

- **BCT International - Subcontract manufacturing, tooling, parts sourcing**
- **iVac - The world's finest automated dust control systems**