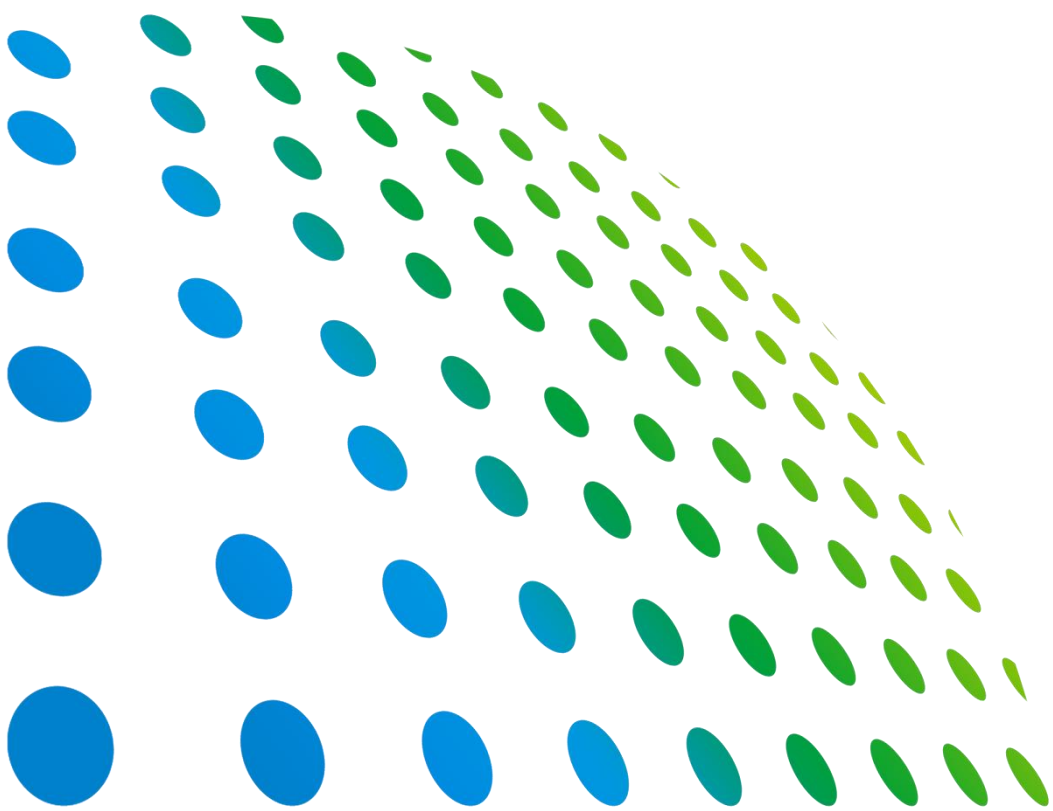




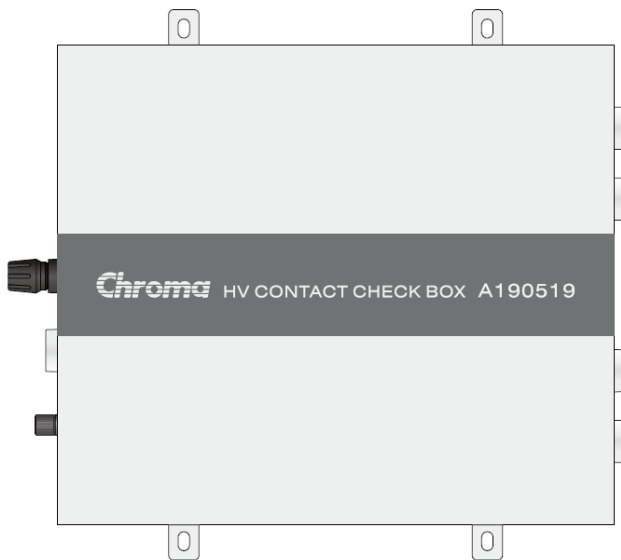
HV Contact Check Box
A190519
Quick Start Guide



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HV Contact Check Box A190519 Quick Start Guide



Version 1.1
October 2021
P/N ITM-0257488

Legal Notices

The information in this document is subject to change without notice.

Chroma ATE INC. makes no warranty of any kind with regard to this manual, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Chroma ATE INC. shall not be held liable for errors contained herein or direct, indirect, special, incidental or consequential damages in connection with the furnishing, performance, or use of this material.

CHROMA ATE INC.

88 Wenmao Rd., Guishan Dist., Taoyuan City 333001, Taiwan

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Warranty

All of Chroma's instruments are warranted against defects in material and workmanship for a period of one year from date of shipment. Chroma agrees to repair or replace any assembly or component found to be defective, under normal use during this period. Chroma's obligation under this warranty is limited solely to repairing any such instrument, which in Chroma's sole opinion proves to be defective within the scope of the warranty when returned to the factory or to an authorized service center. Purchaser is responsible for the shipping and cost of the service item to Chroma factory or service center. Shipment should not be made without prior authorization by Chroma.

This warranty does not apply to any products repaired or altered by persons not authorized by Chroma, or not in accordance with instructions furnished by Chroma. If the instrument is defective as a result of misuse, improper repair, or abnormal conditions or operations, repairs will be billed at cost.

Chroma assumes no responsibility for its product being used in a hazardous or dangerous manner either alone or in conjunction with other equipment. High voltage used in some instruments may be dangerous if misused. Special disclaimers apply to these instruments. Chroma assumes no liability for secondary charges or consequential damages and in any event, Chroma's liability for breach of warranty under any contract or otherwise, shall not exceed the purchase price of the specific instrument shipped and against which a claim is made.

Any recommendations made by Chroma regarding the use of its products are based upon tests believed to be reliable; Chroma makes no warranty of the results to be obtained. This warranty is in lieu of all other warranties, expressed or implied, and no representative or person is authorized to represent or assume for Chroma any liability in connection with the sale of our products other than set forth herein.

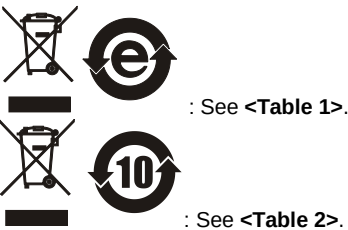
CHROMA ATE INC.

88 Wenmao Rd., Guishan Dist.,
Taoyuan City 333001, Taiwan
Tel: 886-3-327-9999
Fax: 886-3-327-8898
e-mail: info@chromaate.com

www.chromaate.com

Material Contents Declaration

The recycling label shown on the product indicates the Hazardous Substances contained in the product as the table listed below.



<Table 1>

Part Name	Hazardous Substances					
	Lead	Mercury	Cadmium	Hexavalent Chromium	Polybrominated Biphenyls/ Polybromodiphenyl Ethers	Selected Phthalates Group
	Pb	Hg	Cd	Cr ⁶⁺	PBB/PBDE	DEHP/BBP/DBP/DIBP
PCBA	O	O	O	O	O	O
CHASSIS	O	O	O	O	O	O
ACCESSORY	O	O	O	O	O	O
PACKAGE	O	O	O	O	O	O

“O” indicates that the level of the specified chemical substance is less than the threshold level specified in the standards of SJ/T-11363-2006, EU Directive 2011/65/EU, and 2015/863/EU.

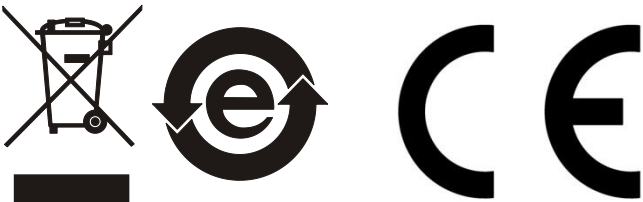
“X” indicates that the level of the specified chemical substance exceeds the threshold level specified in the standards of SJ/T-11363-2006, EU Directive 2011/65/EU, and 2015/863/EU.

Remarks:

1. The CE marking on product is a declaration of product compliance with EU Directive 2011/65/EU, and 2015/863/EU.
2. This product is complied with EU REACH regulation and no SVHC in use.

Disposal

Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities. Contact your local government for information regarding the collection systems available. If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being. When replacing old appliances with new one, the retailer is legally obligated to take back your old appliances for disposal at least for free of charge.



<Table 2>

Part Name	Hazardous Substances					
	Lead	Mercury	Cadmium	Hexavalent Chromium	Polybrominated Biphenyls/ Polybromodiphenyl Ethers	Selected Phthalates Group
	Pb	Hg	Cd	Cr ⁶⁺	PBB/PBDE	DEHP/BBP/DBP/DIBP
PCBA	×	○	○	○	○	○
CHASSIS	×	○	○	○	○	○
ACCESSORY	×	○	○	○	○	○
PACKAGE	○	○	○	○	○	○

“○” indicates that the level of the specified chemical substance is less than the threshold level specified in the standards of SJ/T-11363-2006, EU Directive 2011/65/EU, and 2015/863/EU.

“×” indicates that the level of the specified chemical substance exceeds the threshold level specified in the standards of SJ/T-11363-2006, EU Directive 2011/65/EU, and 2015/863/EU.

1. Chroma is not fully transitioned to lead-free solder assembly at this moment; however, most of the components used are RoHS compliant.
2. The environment-friendly usage period of the product is assumed under the operating environment specified in each product's specification.
3. This product is complied with EU REACH regulation and no SVHC in use.

Disposal

Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities. Contact your local government for information regarding the collection systems available. If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being. When replacing old appliances with new one, the retailer is legally obligated to take back your old appliances for disposal at least for free of charge.



Safety Summary

The following general safety precautions must be observed during all phases of operation, service, and repair of this instrument. Failure to comply with these precautions or specific WARNINGS given elsewhere in this manual will violate safety standards of design, manufacture, and intended use of the instrument. *Chroma* assumes no liability for the customer's failure to comply with these requirements.



BEFORE APPLYING POWER

Verify that the power is set to match the rated input of this power supply.



PROTECTIVE GROUNDING

Make sure to connect the protective grounding to prevent an electric shock before turning on the power.



NECESSITY OF PROTECTIVE GROUNDING

Never cut off the internal or external protective grounding wire, or disconnect the wiring of protective grounding terminal. Doing so will cause a potential shock hazard that may bring injury to a person.



FUSES

Only fuses with the required rated current, voltage, and specified type (normal blow, time delay, etc.) should be used. Do not use repaired fuses or short-circuited fuse holders. To do so could cause a shock or fire hazard.



DO NOT OPERATE IN AN EXPLOSIVE ATMOSPHERE

Do not operate the instrument in the presence of flammable gases or fumes.



DO NOT REMOVE THE COVER OF THE INSTRUMENT

Operating personnel must not remove the cover of the instrument. Component replacement and internal adjustment can be done only by qualified service personnel.

WARNING

1. Dangerous voltage, the output can up to 20kV.
2. Touching the output terminal on the front/rear panel or connecting the circuit to the output when the Electrical Safety/Hipot Analyzer power is connected or under testing status may result in death.

Safety Symbols

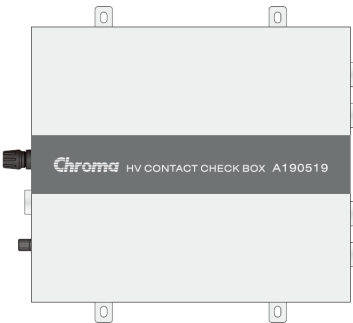
	DANGER – High voltage.
	Explanation: To avoid injury, death of personnel, or damage to the instrument, the operator must refer to the explanation in the instruction manual.
	High temperature: This symbol indicates the temperature is hazardous to human beings. Do not touch it to avoid any personal injury.
	Protective grounding terminal: This symbol indicates that the terminal must be connected to ground before operation of the equipment to protect against electrical shock in case of a fault.
	Earth (ground) terminal
	Frame or chassis: To identify a frame or chassis terminal.
	Alternating Current (AC)
	Direct Current (DC) / Alternating Current (AC)
	Direct Current (DC)
	Push-on/Push-off power switch
	The WARNING sign highlights an essential operating or maintenance procedure, practice, condition, statement, etc., which if not strictly observed, could result in injury to, or death of, personnel or long term health hazards.
	The CAUTION sign highlights an essential operating or maintenance procedure, practice, condition, statement, etc., which if not strictly observed, could result in damage to, or destruction of, equipment.
	The Notice sign highlights an essential operating or maintenance procedure, condition, or statement.

Inspection and Examination

Before the instrument exit the factory, we have a series of inspection and measurement on mechanical and electrical characteristics. Make sure its function of operating for the quality warranty of the product. As soon as the instrument is unpacked, inspect for any damage that may have occurred in transit. Save all packing materials in case that the instrument has to be returned. If damage is found, please file claim with carrier immediately. Do not return the instrument to Chroma without prior approval.

Standard Accessory

Standard Requirement

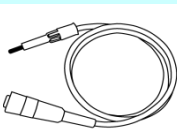


Main Unit



Quick Start Guide

Standard Requirement (Cable)



HV Test Cable
4 pcs



HV Test Cable
1 pcs



RTN/LOW
Test Cable
1pcs



24V/0.75A
Power Adaptor

Note ■ ■ ■ When additional item is required, just inform Chroma the item name.

Danger of Operating

1. When the instrument is under output voltage, please don't touch test area or you may shock hazard and result in death.

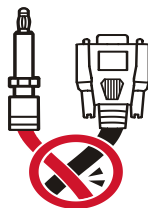
Please obey the following items.

- Make sure the grounding cable is connected correctly and using the standard power cord.
 - Don't touch the output terminal.
 - Don't touch test cable of connecting test termination.
 - Don't touch test termination object.
 - Don't touch any charge component of connecting output terminal.
 - As the instrument end the test or turn off output, please don't touch test unit immediately.
2. The shock accidents are usually occurred on the following conditions.
 - The grounding terminal of the instrument doesn't connect correctly.
 - Do not use insulation glove for testing.
 - After test is completed to touch test unit immediately.

WARNING

Don't tie HV cable, RS232, Handler, GPIB control cable and other low voltage cable together. Or it may cause product damaged or PC crashed.

DANGER



Storage, Freight, Maintenance & Cleaning

Storage

When don't use the device, please pack it properly and store under a good environment.

(The packing is no needed when the device under appropriate environment.)

Freight

Please use the original packing material when move the device. If the packing material is missing, please use the equivalent buffer material to pack and mark it fragile and waterproof etc to avoid the device damage during movement. The device belongs to precise equipment, please uses qualified transportation as possible. And avoid heavy hitting etc to damage the device.

Maintenance

There is no maintenance operation for the general user. (Except for the note in the manual.) Please contact our company or agent when the device occurred the user judgment abnormal. Don't maintain by yourself to avoid occurred unnecessary danger and serious damage to the device.

Cleaning

Remove all connected wires and cables on the instrument before cleaning. Use a brush gently to clean the dust on it. For internal cleaning, use a low-pressure air gun to vacuum the dust inside or send it back to the distributors or agents of Chroma for cleaning.

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1. Preface

1.1 Product Overview

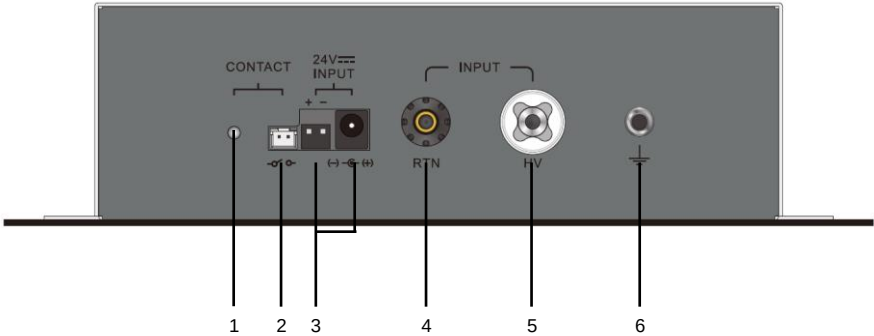
HV Contact Check Box is used with Chroma Electrical Safety Analyzer and Hipot Analyzer for judging if test cable connecting to DUT is correct and performing contact check function.



WARNING : The HV Contact Check Box isn't applicable for 19032-P floating output mode.

2. Panel Operation

2.1 Description for Input and CONTACT Signal



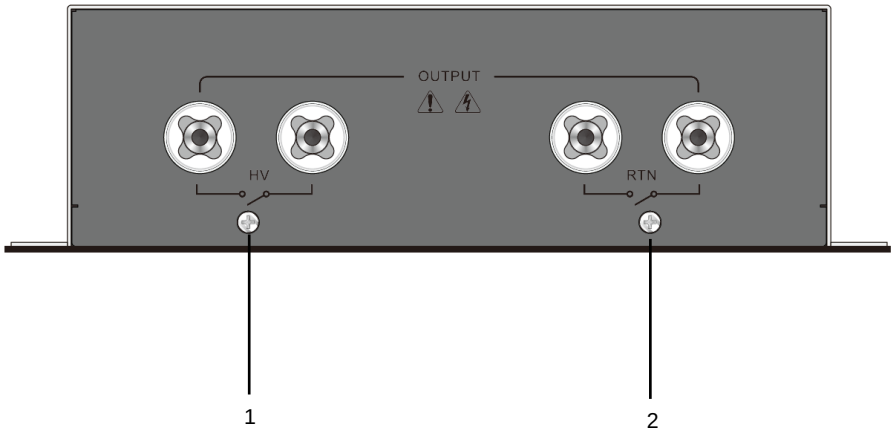
1. **CONTACT Indicator LED:** The indicator LED is lighted while test cables of OUTPUT HV and RTN terminals are connected to DUT exactly.
2. **CONTACT Short-circuit Signal:** These two contacts will be short-circuited while test cables of OUTPUT HV and RTN terminals are connected to DUT exactly. The maximum short-circuited current flows through these two contacts which should be less than 0.5A.
3. **DC POWER INPUT:** 24V_{DC} power input terminal, only can select one of connectors to supply the power.

	Input power 24V _{DC} , 0.75A, please notice the polarity is + or -.
	It applies 24V _{DC} , 0.75A Power supply adaptor, PLUG: 2.1Φ*5.5Φ, center positive.

4. **RTN Input Terminal:** Connect the RTN terminal of Safety Analyzer or Hipot Analyzer to this RTN input terminal.
5. **HV Input Terminal:** Connect the HV output terminal of Safety Analyzer or Hipot Analyzer to this HV input terminal.
6. **GND Terminal:** It is the safety grounding terminal. Please use an appropriate tool to connect it to earth properly. If it is not properly grounded, the EST Analyzer chassis may contain high voltage when

the power circuit or any device's cable is shorted with the grounding terminal, and it is very dangerous as anyone who touches it may cause electric shock incident. Therefore, the safety ground terminal must connect to earth properly. Connect the HV output terminal of Safety Analyzer or Hipot Analyzer to this HV input terminal.

2.2 Description for Output Function

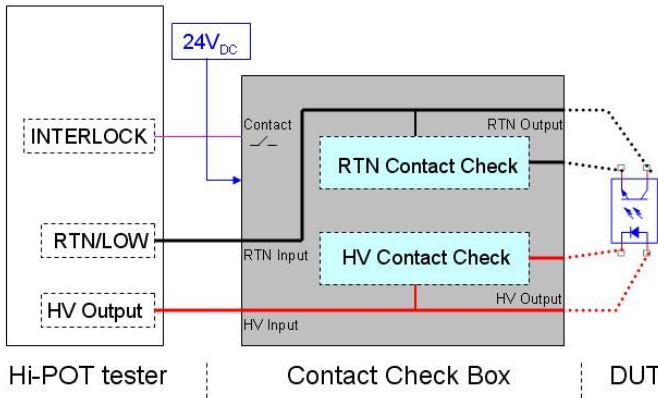


1. **HV Output Terminal:** High electric potential terminal of HV output. Connect these two HV output terminals to DUT simultaneously for proceeding HV contact check function.
2. **RTN Terminal:** Common test terminal is a reference terminal as high voltage testing, *i.e.* low electric potential terminal. Connect these two RTN terminals to DUT simultaneously for proceeding RTN contact check function.

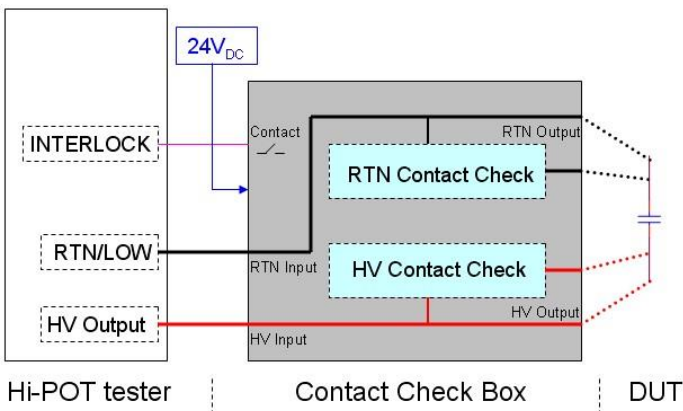
2.3 Wiring Example

When the output terminal of HV contact check box connects DUT exactly and INTERLOCK of the Safety or Hipot Analyzer is short circuit status, thus the test can be started normally.

1. When the DUT is Photo Coupler, the connection diagram as the following shows:



2. When the DUT is capacitor, the connection diagram as the following shows:





CHROMA ATE INC.
info@chromaate.com
www.chromaate.com