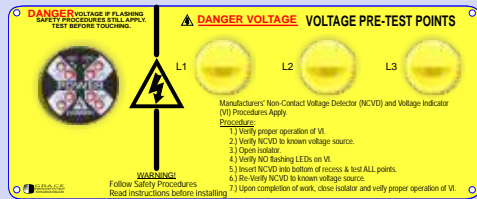




Meter



VoltageVision® (R-3W) ChekVolt®/NCVD (R-1A)

	Multi-function	Voltage Only	Voltage Only
Purpose:	Multi-function	Voltage Only	Voltage Only
Powered by:	Batteries	Line Voltage	Passive/Batteries
# Phases:	Single	3-Phase	3-Phase/Single
Hardwired to (3) Phase:	NO	YES	YES
Hardwired to Ground:	NO	YES	NO
Thru-Door:	NO	YES	YES
Indication:	Digital	Visual	Visual/Audible
Physical Action:	YES	NO	YES
"Live-Dead-Live" Verified:	YES	NO	YES

The NFPA 70e Annex G describes the LIVE-DEAD-LIVE procedure used to verify a voltage testing device as 1) verify voltage tester to a known 'LIVE' source, 2) test for voltage source to insure that it is DEAD, and 3) re-verify voltage tester to another 'LIVE' source.

The NFPA 70E states that the following principles are foundational to insuring a zero energy state:

- **Locate all sources of electrical energy.**^[1] The R-3W or R-1A installed will locate each source.
- **Physically contact voltage detector to the electrical energy.**^[2] The R-3W is hardwired to the source.
- **Test between each phase and phase to ground.**^[3] The R-3W checks voltage between phase-phase-ground.
- **Verify voltage detector before and after use.**^[4] A NCVD can be verified before and after each use.

Employers are responsible to train employees in selecting and properly using a voltage detector.^[2] It is also the responsibility of employers to provide a written lock-out/tag-out procedure and train employees on that procedures.^[5] Follow manufacturer's instructions when using a non-contact voltage detector. All other safety procedures apply.

NFPA 70E 2009 Edition references

[1] Annex G 6.1, [2] 110.6 (D)(4)(e), [3] 120.1(5), [4] 120.2(F)(2)(f)(1), Annex G 3.4, [5] 120.2(C)(2)

Mechanical Lock-out/Tag-out (LOTO)

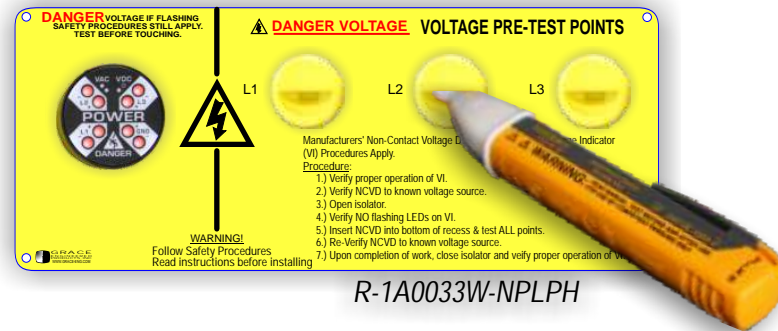
Raw electrical energy can instantaneously cause shock or burn injuries to people. Not to mention that arc flash explosions can seriously damage equipment and cause downtime. A simple task like an electrician checking voltage is a leading cause of arc flash. Electricity is a lot safer when it is confined within a mechanical system just due to system design.

A mechanical LOTO procedure isolates all energy sources before work begins on the piece of equipment. Some LOTO procedures put electricians at risk in order to verify zero voltage of the system.

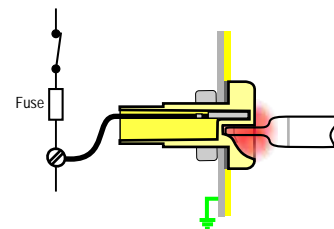
While 100% electrical isolation is beneficial for mechanical LOTO, it is not required to make a system mechanically safe. For example, a three phase motor rotates only when it receives enough current and the correct voltage on all three phases. The control systems also determines when a motor starts and stops. Either the R-3W or R-1A(s) used in conjunction with proper procedures offers a means to verify the electrical energy state for mechanical maintenance. Therefore, no longer is an electrician put at risk to physically verify a zero electrical energy state prior to maintenance.

VoltageVision®

CHEK VOLT®



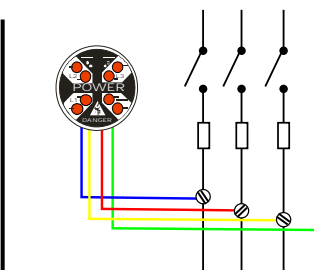
R-1A0033W-NPLPH



R-1A Features:

- ? 600Volt Rating
- ? Integral 6' Lead Wire
- ? UL 4 Listed for Type 4/4X
- ? ½" Mounting Hole

The ChekVolt® R-1A is a UL-listed passive device used to present a voltage source to the outside of an electrical enclosure so that a Non-Contact Voltage Detector (NCVD) can be used to check for AC voltage.



R-3W Features:

- ? Redundancy (2) LED's/phase
- ? 40-750VAC / 30-1000VDC
- ? Phase Insensitive
- ? UL Listed for Type 4X
- ? 30mm Pushbutton or Pilot Hole
- ? Potted Construction with 6' Leads

The VoltageVision® R-3W is a UL-listed permanently mounted 'voltmeter' that monitors both AC and DC voltage between each phase and phase-to-ground. When a phase is lost the LED's corresponding to that phase will go dim giving a visual indication outside the panel of a problem.



Now, you can purchase ChekVolt® and VoltAlert™ together!

VoltAlert™ by Fluke is a quick and inexpensive way to check for the presence of live voltage through the panel door when used in conjunction with ChekVolt® by Grace Engineered Products. Also known as voltage wands, sticks, "power sniffers" or pens, they clip into a shirt pocket and "chirp" or glow when they detect voltage on exposed conducting parts or through insulation.

VoltAlert™ is designed for non-contact, live-not-live voltage detection on electrical circuits ranging from 90VAC to 1000VAC. VoltAlert™ is powered by 2 AAA batteries (included) with a typical life of greater than one year, which gives 24/7, 365 days of added user protection.

Please check out our application videos online by visiting www.graceport.com!

VoltageVision®

CHEK VOLT®

GRACE ENGINEERED PRODUCTS, INC

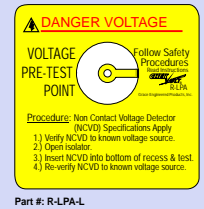
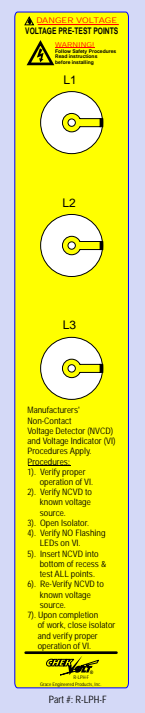
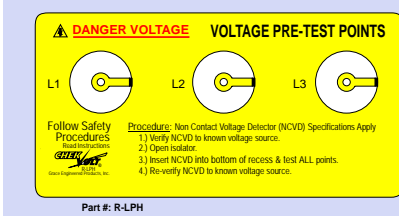
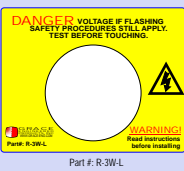
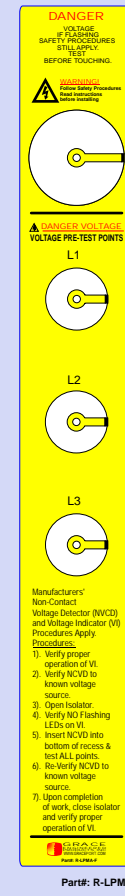
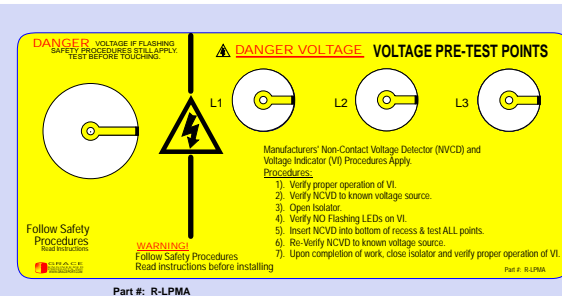
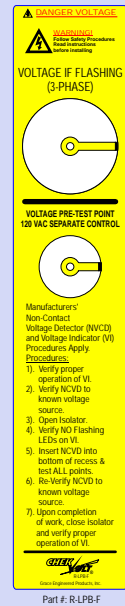
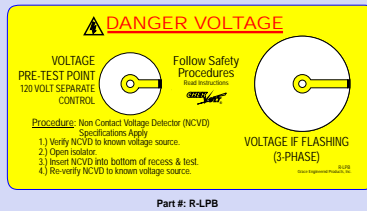
RoHS (pending)

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Complete R-3W/R-1A Combination Kits

Without Fluke 1AC NCVD Pen	With Fluke 1AC NCVD Pen, and a FREE Single-point ChekVolt® and Label	Nameplate Only	Size in inches [mm]		Mounting D-Door/Side F-Flange	Includes Qty	
			W	H		R-3W's	R-1A's
R-1A0033W-NPLPH	R-1A0033W-NPLPH-J	R-LPMA	9.0[228.6]	4.0[101.6]	D	1	3
R-1A0033W-NPLPF	R-1A0033W-NPLPF-J	R-LPMA-F	1.9[47.0]	14.0[355.6]	F	1	3
R-1A003-LPH	R-1A003-LPH-J	R-LPH-L	6.0[152.4]	3.0[76.2]	D		3
R-1A003-LPF	R-1A003-LPF-J	R-LPH-F	1.9[47.0]	11.0[278.4]	F		3
R-1A3W-LPB	R-1A3W-LPB-J	R-LPB	6.0[152.4]	3.0[76.2]	D	1	1
R-1A3W-LPBF	R-1A3W-LPBF-J	R-LPB-F	1.9[47.0]	9.5[241.3]	F	1	1
R-1A-LPA	R-1A-LPA-J	R-LPA-L	3.0[76.2]	3.0[76.2]	D		1
R-3W-L-KIT		R-3W-L	3.0[76.2]	2.4[59.7]	D	1	
R-3W-F-KIT		R-3W-NP-F	1.9[47.0]	3.5[88.9]	F	1	



A New and Interesting Application...

The new vertical Combination Unit featuring VoltageVision® and ChekVolt® affords the end user two very important advantages. First, mounted either in the flange or on the side wall of a non-flange enclosure (see Images 1 and 2), this installation keeps the line voltage detectors off the door and eliminates long wire running around the door hinges. Second, vertical mounting of these assemblies also limits the wiring distance to the panel disconnect or circuit breaker and is a simple and safer installation.



Image 1



Image 2

Reminder...Don't forget the 'dash J'!

We now offer with all the ChekVolt® packages the option to get VoltAlert™ by Fluke! You can order them by adding '-J' to your part number (see top of page for part number listing). These NCVD pens "chirp" or glow when they detect voltage on exposed conducting parts or through insulation!



R-1A0033W-NPLPH-J

The ChekVolt®, a non-contact voltage portal, reduces arc flash risk while increasing electrical safety and productivity by providing maintenance personnel a no-touch voltage portal on the outside of grounded metallic electrical enclosures. The



ChekVolt® interface, installed on an electrical panel, allows maintenance people to use any non-contact voltage detector pen to check line voltage before and after they open the main disconnect. The ability to pre-verify electrical isolation before opening a panel puts an

additional safety measure between electricians and hazardous voltage. The standard yellow name labels (as seen on back) help remind personnel to pre-verify every voltage point before accessing the panel interior.

FEATURES:

- ? Integral 6' lead wire
- ? Installs in a 1/2" hole for easy installation
- ? Rugged polycarbonate construction for safety
- ? UV outdoor rated so you can mount it anywhere

APPLICATIONS:

- ? Circuit Breaker Disconnects - No Visible Blades
- ? High Energy Panels (NFPA 70e Category III and IV)
- ? Frequently Accessed Panels

The VoltageVision® (R-3W) is a reliable tool that helps answer the question, 'Is there voltage?'. Typically hardwired to the load side of the disconnect or circuit breaker, the VoltageVision® (R-3W) flashes whenever hazardous voltage is present in any individual phase.

After disconnecting power to an enclosure, electricians can pre-verify voltage isolation while the enclosure door is safely closed. The risk of arc flash is reduced because electricians know if there is power inside the enclosure before re-verifying isolation with a meter.

The VoltageVision® (R-3W) is unmatched in its reliability due to its dual redundant circuitry and no separate power supply. VoltageVision® (R-3W) gets its power from the same voltage that it indicates! Ask this question: Can you live without it?

FEATURES:

- ? Redundant Circuitry / Long Life LED's
- ? 40-750VAC / 30-1000VDC
- ? Potted Construction with 6' Leads
- ? Phase Insensitive
- ? 30mm Pushbutton or Pilot Hole
- ? High Surge Immunity
- ? UL Type 4X Listed



APPLICATIONS:

- ? Circuit Breaker Disconnects - No Visible Blades
- ? High Energy Panels (NFPA 70e Category III and IV)
- ? Frequently Accessed Panels
- ? Mechanical LOTO: Indicating Zero Energy
- ? Panels with Multiple Power Sources

Application Story

Modine Manufacturing Company of Racine, Wisconsin takes a proactive approach to safety. That's why they have equipped more than 50 of their external disconnects with a combination of ChekVolt® and VoltageVision®, known by part number R-1A0033W-NPLPH.

John Hauke, Senior Principle Controls Engineer explains, "the disconnect system is mounted externally to the main panel ensuring that no power exists within the cabinet after the disconnect has been locked out. The presence (or absence) of voltage is visually verified through the use of the VoltageVision® R-3W product and then we verify proper operation of the R-3W by checking all three phases with a non-contact voltage detection pen at each ChekVolt® port. The Grace faceplates are an added visual aid to explain the proper use of the devices. This system allows our maintenance staff to quickly and confidently verify zero

voltage inside the main cabinet without the need to dawn additional PPE for the procedure. This saves us the time it takes to retrieve, put on, and return the appropriate level of PPE required to verify and work inside a main cabinet that has live voltage on the line side of an internal disconnect."



R-1A0033W-NPLPH



Part #: R-1A3W-LPB

Use VoltageVision® (R-3W) with our ChekVolt™ (R-1A). ChekVolt™ utilizes a non-contact voltage detector pen to locate voltage isolation. Both ChekVolt™ and VoltageVision® can be ordered separately or in this kit! (Faceplate is 3"W x 6"H). Kit includes: one ChekVolt™, one VoltageVision®, and a faceplate!