MADTEST INSTRUMENTS

INSTRUCTION MANUAL FOR DMR5i1 and DSM4i1 MULTIFUNCTION ADAPTERS

DMR5i1
DSM4i1

MADE IN USA

The MadTest Instruments DMR5i1 Adapter is a 5 in 1 multiple function adapter that replaces the need for individual OEM adapters including; The Westinghouse / Cutler Hammer / Eaton 8779CO2GO4 Magnum Adapter and the 8779CO2GO3 DS/DSII adapter. The DMR5i1 offers a 7-pin umbilical whip to easily test the Westinghouse / Cuter Hammer / Eaton Digitrip RMS Retrofit series. The DRM5i1 also offers an auxiliary source 32Volt and a single 120VAC 10-amp fused power outlet. The unit is designed as an all-in-one adapter to test both Magnum, Digitrip, and RMS Digitrip retrofit trip units. The DMR5i1 used with a 140D481G03 tests the following; 220,520,1150 Magnum DS, Westinghouse RMS 500,600, 700, 800, Cutler Hammer RMS 510, RMS 610, OPTIM 750, RPM 810, RPM 910, and OPTIM 1050, Westinghouse Digitrip RMS 500, 600, 700, 800 and 810, Cutler Hammer Eaton RMS 510/R, 610/R, 810/R and 910/R.

MADTEST
INSTRUMENTS
DMR5i1 AND
DSM4i1
TEST KIT
ADAPTERS

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MADTEST INSTRUMENTS

COMPONENT CHECK LIST

AND PROCEDURES FOR

MADTEST INSTRUMENTS DMR5i1 AND DSM4i1 TEST KIT ADAPTERS

Components and accessory check list;

The Cutler Hammer **DMR5i1** and **DMS4i1** reorder part numbers listed below;

- 1-DMR5i1 BASE UNIT PART **# DMR-0026**
- 1-DMS4i1 BASE UNIT PART # **DMR-0025**
- 1-MAGNUM CABLE HARNESS PART **# DMR-0024**
- 1-DS/DSII CABLE HARNESS PART # **DMR-0023**
- 1-DIGTRIP RETROFIT HARNESS PART **# DMR-0027**
- 1-DIGITRIP 2 PIN CABLE HARNESS PART **# DMR-0022**
- 1-120V CABLE PART **# DMR-0021**
- 1-PELICAN CASE 1520 PART **# DMR-0020** (DMS4i1**)**
- 1-NANUK 930 CASE PART # **DMR-0029** (DMR5i1)
- 1-ZONE INTERLOCK PLUG PART # **DMR-0030** (DMR5i1)
- 1-DMR5i1 HARD COPY MANUAL PART **# DMR-0019**
- 1-DSM4i1 HARD COPY MANUAL PART **# DMR-0018**
- 7-DMR5i1 BANANA PLUG TO FORK EXTENTIONS PART # **DMR-0028** (DMR5i1)

MadTest instruments carefully takes the time to ensure our products are not only built with the same specifications of the original OEM's equipment. We then go the extra step and build these adapters to last a lifetime. Our goal is to offer a solution and ideas that were not there before, and present to our customers a product that is reliable, and to ultimately allow testing of these trip units easier. The instructions are pictorial, and allows the end user or a test technician clear instruction when used with the original OEMs testing leaflets, and with that a stream lined way of performing testing. Please be assured, we take the time to get it right. When you use one of our products, know that when we assemble them, we meet or exceed the quality of the original components supplied by the OEM.

CAUTION

DO NOT WORK ON LIVE EQUIPMENT. DEATH OR SERIOUS INJURY CAN OCCUR. IF POSSIBLE, REMOVE THE TRIP UNITS FROM THE CIRCUIT BREAKER AND TEST TRIP UNIT ON A BENCH IF POSSIBLE. IF TESTED IN PLACE MAKE SURE THERE ARE NO VOLTAGES PRESENT. DO NOT CONNECT THE ADAPTER WHILE THE CIRCUIT BREAKER IS ENGAGED AND IN THE ON POSITION. PLEASE EXERCISE CAUTION, MADTEST INSTRUMENTS IS NOT LIABLE FOR MISAPPLICATION OF THIS PRODUCT. EXERCISE ALL SAFETY PROCEDURES.

BASE UNIT WARNING

THE ORGINAL WESTINGHOUSE AND CUTLER HAMMER MODELS 140D481G01 AND 140D481G02 BASE UNIT TEST KITS CANNOT BE USED WITH THIS ADAPTER WITHOUT A FACTORY MODIFICATION. ALL OLDER MODELS SHOULD BE VERIFIED OF THEIR CAPIBILITIES. OLDER GENERATION TEST SETS CAN BE MODIFIED TO BE USED WITH THE DSM4I1 and DMR5i1 ADAPTERS.

IF you own an earlier model base test set, modification of the 140D481G01 and 140D481G02 can be performed by **SOLID STATE EXCHANGE, DENTON TEXAS 877-874-7349**.

It is also important to keep in mind that the original OEM AMPTECTOR base unit test set was designed as a current source to verify trip units in the field. The accuracy of the output can vary up to ± 20% in certain conditions. Field personal should be aware during testing with an actual trip unit that results may differ.

The DMR5i1 has 4 umbilical cords, the DS/DSII, MAGNUM, DIGITRIP RETROFIT, including the 32VDC harness and one 120V AC input power cord. The unit was designed to offer an alternative to keeping multiple adapters on hand. It replaces the following;

- MAGNUM harness **DMR-0024** replaces OEM adapter 8779C02G04, page 6.
- DS harness **DMR-0023** replaces OEM adapter 8779C02G03, page 6.
- Digitrip Retrofit **DMR-0027** Whip, replaces harness 6503C55G01, page 6.
- Digitrip 2 pin harness **DMR-0022** replaces the PRTAAPM adapter, page 6.
- 120VAC input power cable 10-foot **DMR-0021**.

DESCRIPTION OF MADTEST INSTURMENTS DMR5i1 BREAKER TEST KIT ADAPTER.

The MadTest instruments DMR5i1 Test Kit Adapter pictured below is composed of a base unit and 4 cable harnesses. The adapter was designed to accommodate both the Magnum 220, 520, and 1150, as well as Digitrip trip OPTIM 550,750, 1150 units. Retrofitted RMS trip units including Westinghouse Digitrip RMS Retrofit kits 500,600,700 ,800, 810, Cutler Hammer, Eaton 510/R, 610/R, 810/R, and 910/R. The 11-pin connection point on the left side is the DS/DSII converts to a 9 pin Molex connector or the 7-pin whip harness for retrofitted connections. The right side 11 pins are for the Magnum trip units are converted to a 14-pin connector. The 7-pin breakout umbilical harness quickly connects to the Eaton Aux CT (see page 27). The DMR5i1 adapter also supplies both 120VAC and a 32VDC auxiliary power which is a 2-pin connection. The adapter can be used as a 32V power supply that replaces the need for the OEM PRTAAPM 32VDC power supply.

DMR5i1 BASE UNIT

Above the MAGNUM harness DM-0024

Above the DS/DSII harness DM-0023

Above Digitrip Retrofit DMR-0027

Above the 2 pin 32VDC harness DM-0022.

Adjustable gear hook clip for hanging

Above the 10-amp fused switch

Above a Digitrip RMS 600 trip unit is connected to the DSM4i1 with an input power of 120VAC and on the left a 32V connection point for programming. The 120VAC input must be connected. This eliminates the need for an OEM PRTAAPM module. The DSM4i1 and DMR5i1 are designed to use on a bench top or hang it off switchgear with the gear hook. See picture, bottom left page 6.

Markings on Terminals of the DS & DS II adapter and Amptector (Reference Only)

A-Sensor Phase A →

B-Sensor Phase B →

C-Sensor Phase C →

N-Sensor Neutral →

G-Ground →

OP-Output Positive →

ON-Output Negative →

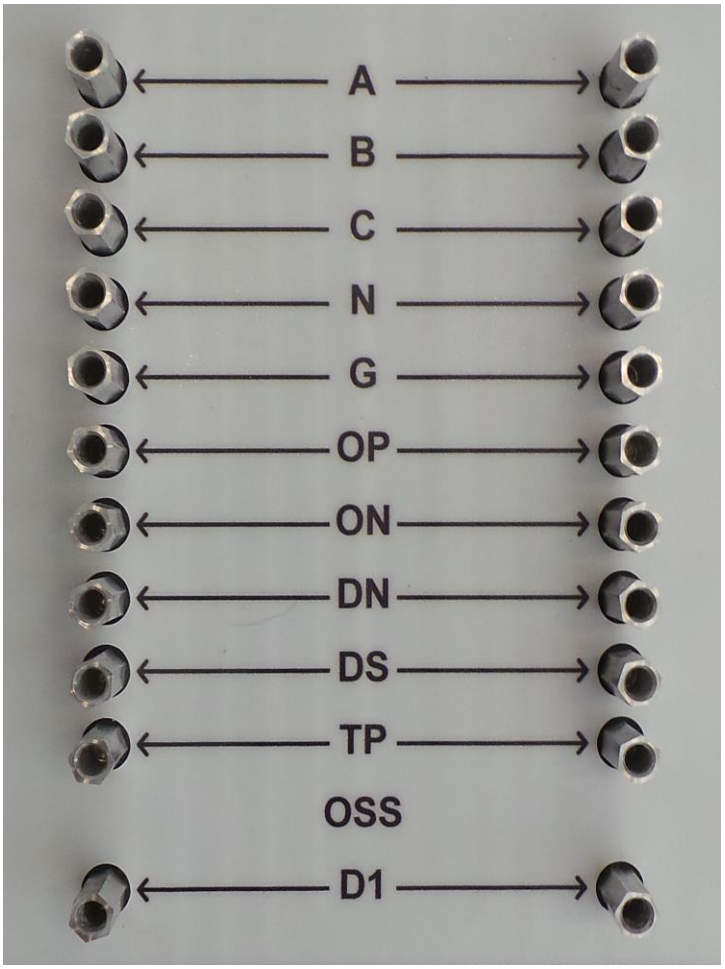
DN-Test Point (internal neutral) →

DS-Test Point →

TP-Test Point →

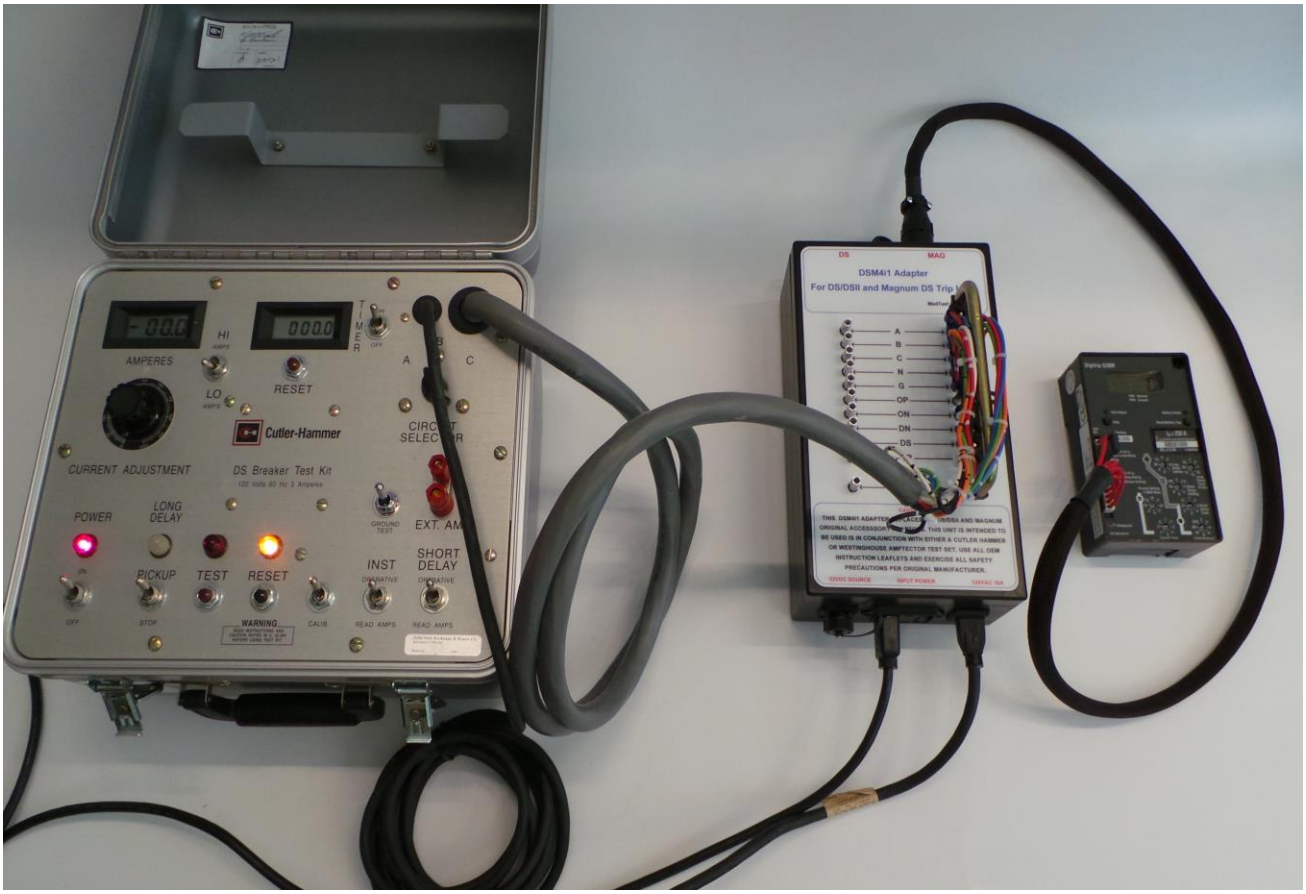
OSS not used

D1-Test Point →



In the above photo above, there are 22 terminals that mate up to the 140D481GO3 base unit. Both the DMS4i1 and DMR5i1 have the same layout. A brief description is provided for reference only.

In the photo below shows a typical set up with the MAG connection Checking of DS Test Set connected to a 520M Digitrip Programmer.



When you begin testing to avoid over heating the base unit and programmer, only hold the calibration in the momentary position for no more than 15 seconds. If running a test and the current does not shut down then use the STOP switch to stop test.

Above, a Zone interlock plug is required if the circuit breaker is removed from its cubical. The original Zone interlock Plug is a Cutler Hammer part # 8779C02G06, now included with DMR5i1, MadTest Part # DMR-0030.

Test Kit check list below shown for step-by-step test on an OEM Base Test Kit. You can refer to Cutler Hammer I.L. 32-693A and Amptector I.L 33-791 for OEM directions. The DSM4i1 and DMR5i1 are designed to operate the same way as a standard DS/DSII or Magnum Adapter.

1. Connect the polarized plug from the test kit to DSM4i1 or DMR5i1 Adaptor.
2. Timer Switch to OFF / HI-LO Switch to LO AMPS / CURRENT ADJUST TO ZERO.
3. Plug tester into 120 volts 60 hertz outlet on DSM4i1 / Turn Power Switch ON.
4. Power Pilot Lamp (red) should light / RESET Pilot lamp (amber) should light.
5. IF RESET pilot lamp is not lit / push RESET button the Reset Pilot Lamp should then light.
6. Turn TIMER switch ON / Timer should not run / Push TEST button.
7. Test Pilot lamp (red) should light / RESET pilot lamp (amber) should go out.
8. Timer should operate counting seconds / Operate STOP toggle switch to stop Timer.
9. Timer should stop / RESET pilot lamp (amber) should light / TEST pilot lamp (red) should go out.
10. Push manual RESET button on timer / TIMER should reset to zero.
11. Hold CALIB toggle switch (momentary) in CALIB position and turn CURRENT ADJUSTMENT knob from zero to max.
12. NOTE: if current remains at zero check shorting bar across EXT AM check for tightness / if shorting bar is missing a substitute can be made using # 10 gage wire and spade terminals as a jumper between the two red terminals.
13. Return CURRENT ADJUSTMENT knob to ZERO.
14. Put HI-LO switch in HI AMPS position and repeat previous step turn CURRENT ADJUSTEMT knob from zero to max.
15. If any checks do not work, operate the STOP switch and RESET button and repeat checks.

For simplicity and illustration purposes we used a standard 140D481G03 base unit and LISG Amptector programmer for demonstration. The DSM4i1 and or DMR5i1 would be used in the same way as this test and connected in between the trip unit and base test set.

LONG DELAY PICKUP TEST

Test Procedure

Preset Test Kit **See photos 2A-7A** for Reference on page 12

HI-LO switch is LO/Timer is OFF/ Circuit Selector Switched to A/ Current Adjustment to ZERO

1. Set Programmer LONG DELAY setting on the programmer:

   If your trip unit is an LSIG turn Short Delay or Instantaneous pickup off or up to maximum

   Set the Long Delay to desired setting,

2. Position Test Set Controls:

   Push RESET and then TEST,

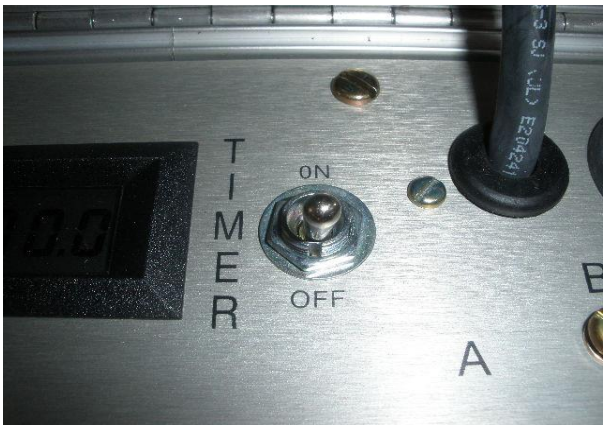
3. Slowly Increase Current until the LONG DELAY lamp Glows steadily indicating Amptector Pickup, NOTE when the current is below the pickup the lamp will not light.

   Use STOP switch to cut off current repeat on remaining B and C phases,

NOTE 1: To minimize thermal stress on the DS BREAKER TEST KIT and trip unit, start testing from the highest current settings and work down to the lowest current settings.

NOTE 2: For “CALIB” (MOMENTARY) toggle switch presets, do not hold the toggle switch for more than 15-20 seconds at a time.

2. A



3. A

4. A

5. A

6. A

7. A

LONG DELAY TIME TEST

Test Procedure

1. Set Programmer Settings:

   Set Long Delay

   Position Test Set Controls:

   Set HI-LO Switch to HI AMPS,

   Preset current to 30 amps with CALIB switch and I adjust, **See Picture 3.B page 14.**

   Push RESET then Turn TIMER ON **See Picture 4.B and 5.B page 14.**

2. Push TEST, **See Picture 4.A and 5.B page 12 and page 14**.

   The timer will stop when the trip unit trips. The timer should read less than the preset setting however not under 2/3 of the setting. If set at 24 it should not be more than 16 seconds and under 24 seconds.

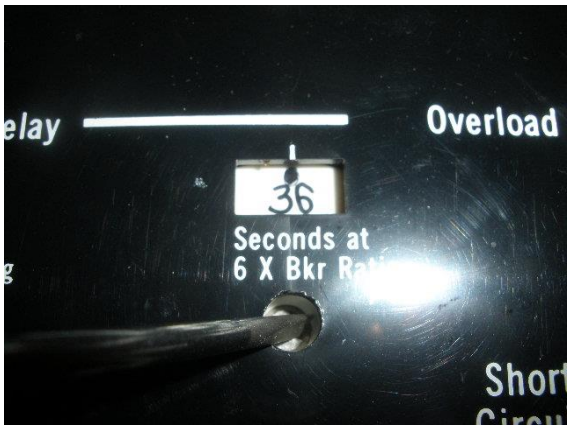
   Note the I^2t = CONSTANT, so the trip time at other than 6 (Iñ) is calculated $(6/Z)^2$ X (Long Delay Time) = Trip Time a Z current. Where Z = multiples of LDPU when the test current is applied.

   Example Long Time Delay Setting =24 seconds. Then 3 X Long Delay Pick Up current seeing would be applied.

   The Long Delay Trip Time would be;

   $(6/3)^2$ X (24 Seconds) = 96 second Long Delay Time at Long Delay Pick Up. Use 5 amps LDPU setting to set the Amptector test current.

1. B



2. B

3. B

4. B

5. B

6. B

INSTANTANEOUS TEST

Test Procedure

1. Set Programmer Settings:

   Set Long Delay to the highest range with an adjustment screwdriver, **See Picture 1.B page 14**.

   Set INSTANTANEOUS to 2X, **See Picture 1.C page 16.**

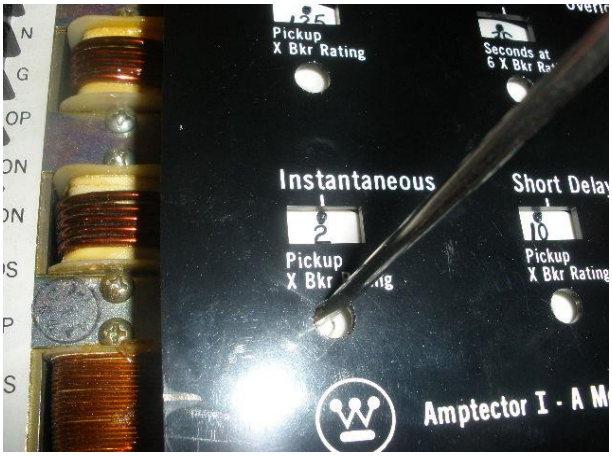
2. Position Test Set Controls:

   Set HI-LO Switch on HI

   Set the SHORT DELAY switch to READ AMPS to disable the SHORT DELAY FUNCTION, **See Picture 2.C page 16**.

3. Push RESET then TEST and Increase CURRENT ADJUSMENT steadily but quickly until red and white lamps go out leave ADJUSTMENT at trip point where lamps went out, **See Pictures 3.C, 4.C and 5.C page 16.**

   Push RESET then HOLD INST Switch to READ AMPS and push TEST button and read current, **See Picture 6.C page 16.**



1. C

2. C

3 .C

4. C

5. C

6. C

SHORT DELAY PICKUP TEST

Test Procedure

1. Set Programmer Settings:

   Set INSTANTANEOUS to MAX Setting.

   Set SHORT Delay to 4X and time to MIN or RED DOT, **See Picture 1.D page 18**.

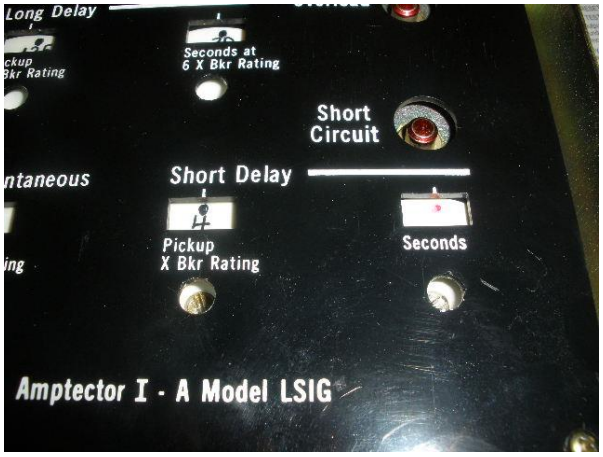
2. Position Test Set Controls:

   Set HI-LO Switch on HI,

   Set the SHORT DELAY switch to OPERATIVE position, **See Picture 2.D page 18**.

3. Push RESET then TEST and Increase CURRENT ADJUSMENT steadily but quickly until red and white lamps go out leave ADJUSTMENT at point where lamps went out, **See Pictures 3.D, 4.D and 5.D page 18.**

   Set SHORT DELAY to READ AMPS, Push RESET then push TEST button and read current, Switch Stop after you take your reading, record your results. **See Picture 6.C page 16.**



1. D

2. D

3 .D

4. D

5. D

6. D

SHORT DELAY TIME TEST

Test Procedure

1. Set Programmer Settings:

   Set SHORT Delay to 4X, set your Seconds to 0.18 Seconds, **See Picture 1.E page 20.**

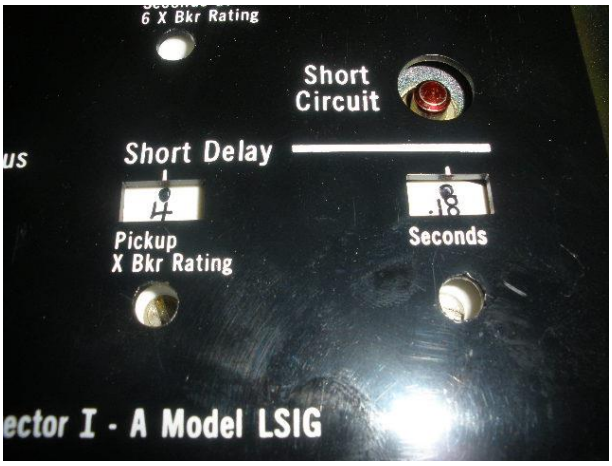
2. Position Test Set Controls:

   Set HI-LO Switch to HI AMPS,

   Preset current to **25 amps** with CALIB switch and adjust I, **See Picture 2.E page 20.**

   Turn TIMER ON and SHORT DELAY TO OPERATIVE**, See Picture 4.E and 5.E page 20.**

3. Push RESET, then TIMER RESET button then TEST and TIMER will give an approximate reading of the delay. This is a very quick test pay attention to results.



1. E

2. E

3. E

4. E

5. E

6. E

GROUND PICKUP TEST (IF APPLICABLE)

Test Procedure

1. Set Programmer Settings:

   Set GROUND PICKUP to A and Seconds to .22, **See Picture 1.F page 22.**

2. Position Test Set Controls:

   Set HI-LO Switch to LO AMPS**,** Turn CURRENT ADJUSTMENT knob to Zero, **See Picture 2.F page 22.**

3. While holding down the GROUND TEST momentary switch, press RESET and then Press TEST, **See Pictures 3.F, 4.F and 6.F page 22.**

   Turn CURRENT ADJUSTMENT knob slowly until unit trips, **See Picture 5.F page 22.**

   See Table A for ground pickup values, the values are in secondary ampere values. To convert these readings to primary values, multiply ammeter readings by In/5. FOR PICKUP VAULES PLEASE USE TABLE A ON PAGE 27.

   Example;

   Assume Iť= 1.2 amps, I ñ = 200, pickup setting = .25

   Then Iġ = 1.2 x 200/5 = 48 primary amperes.

1. F

2. F

3. F

4. F

5. F

6. F

GROUND FAULT TIME TEST

Test Procedure

1. Set Programmer Settings:

   Set Ground Pickup to A and Seconds to .22, **See Picture 1.G page 24.**

2. Position Test Set Controls:

   While holding down the GROUND TEST momentary and CALIB switch turn CURRENT ADJUST to 6.0 AMPS, **See Picture 2.G and 3.G page 24.**

   Turn Timer ON and push Timer Reset Button, **See Picture 5.G page 24.**

3. Holding GROUND TEST switch down, PUSH RESET, TIMER RESET button and then TEST until trip Timer trips the unit will give an approximate reading of delay.

1. G

2. G

3. G

4. G

5. G

6. G

LONG DELAY RESET TEST

Test Procedure

1. Set Programmer Settings:

   Set Inst, Short Delay, and Ground, Seconds to highest range with an adjustment screwdriver.

   Set Long Delay to 1.00 and Seconds to 36,

2. Position Test Set Controls:

   Set HI-LO Switch to HI AMPS,

   Switch SHORT DELAY to READ AMPS,

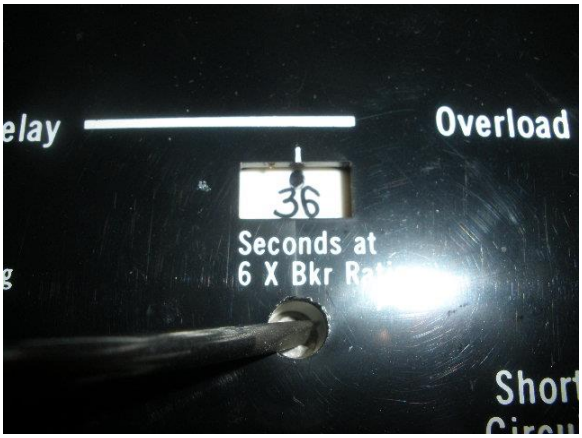
   Preset current to 30 amps with CALIB switch and I adjust, **See Picture 3.B page 14.**

   Turn TIMER ON **See Picture 5.H page 26.**

3. Push RESET and then TEST, See **Picture 4.H and 6.H page 26**.

4. Push reset the Timer and then TEST and run the test again.

1. H



2. H

3. H

4. H

5. H

6. H

Below is the Ground Fault Current Pickup Settings (These are on the test kit display)

TABLE A

Installed Rating Plug Amperes (I_n)	Pickup Setting (I_g)[1] and Corresponding Pickup Levels (Secondary Amperes)[2]							
	.25	.30	.35	.40	.50	.60	.75	1.0
100	1.25	1.50	1.75	2.00	2.50	3.00	3.75	5.00
200	1.25	1.50	1.75	2.00	2.50	3.00	3.75	5.00
250	1.25	1.50	1.75	2.00	2.50	3.00	3.75	5.00
300	1.25	1.50	1.75	2.00	2.50	3.00	3.75	5.00
400	1.25	1.50	1.75	2.00	2.50	3.00	3.75	5.00
600	1.25	1.50	1.75	2.00	2.50	3.00	3.75	5.00
800	1.25	1.50	1.75	2.00	2.50	3.00	3.75	5.00
1000	1.25	1.50	1.75	2.00	2.50	3.00	3.75	5.00
1200	1.25	1.50	1.75	2.00	2.50	3.00	3.75	5.00
1600	1.25	1.50	1.75	2.00	2.50	3.00	3.75	3.75
2000	1.25	1.50	1.75	2.00	2.50	3.00	3.00	3.00
2400	1.25	1.50	1.75	2.00	2.50	2.50	2.50	2.50
3200	1.25	1.50	1.75	2.00	2.00	2.00	2.00	2.00
4000	1.25	1.50	1.50	1.50	1.50	1.50	1.50	1.50
5000	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20

Below is the Ground Fault Pickup Settings (These are the primary amperes on test kit)

TABLE B

Installed Rating Plug Amperes (I_n)	Pickup Setting (I_g)[1] and Corresponding Pickup Levels (Secondary Amperes)[2]							
	.25	.30	.35	.40	.50	.60	.75	1.0
100	25	30	35	40	50	60	75	100
200	50	60	70	80	100	120	150	200
250	63	75	88	100	125	150	188	250
300	75	90	105	120	150	180	225	300
400	100	120	140	160	200	240	300	400
600	150	180	210	240	300	360	450	600
800	200	240	280	320	400	480	600	800
1000	250	300	350	400	500	600	750	1000
1200	300	360	420	480	600	720	900	1200
1600	400	480	560	640	800	960	1200	1200
2000	500	600	700	800	1000	1200	1200	1200
2400	600	720	840	960	1200	1200	1200	1200
3200	800	960	1120	1200	1200	1200	1200	1200
4000	1000	1200	1200	1200	1200	1200	1200	1200
5000	1200	1200	1200	1200	1200	1200	1200	1200

For the Digitrip 1150 settings they are non-discrete and can fall between the numbers listed above. The values must then be calculated (Ig X In max 1200A)

Except as noted, the tolerances on pickup levels are ±10% of values in the tables above.

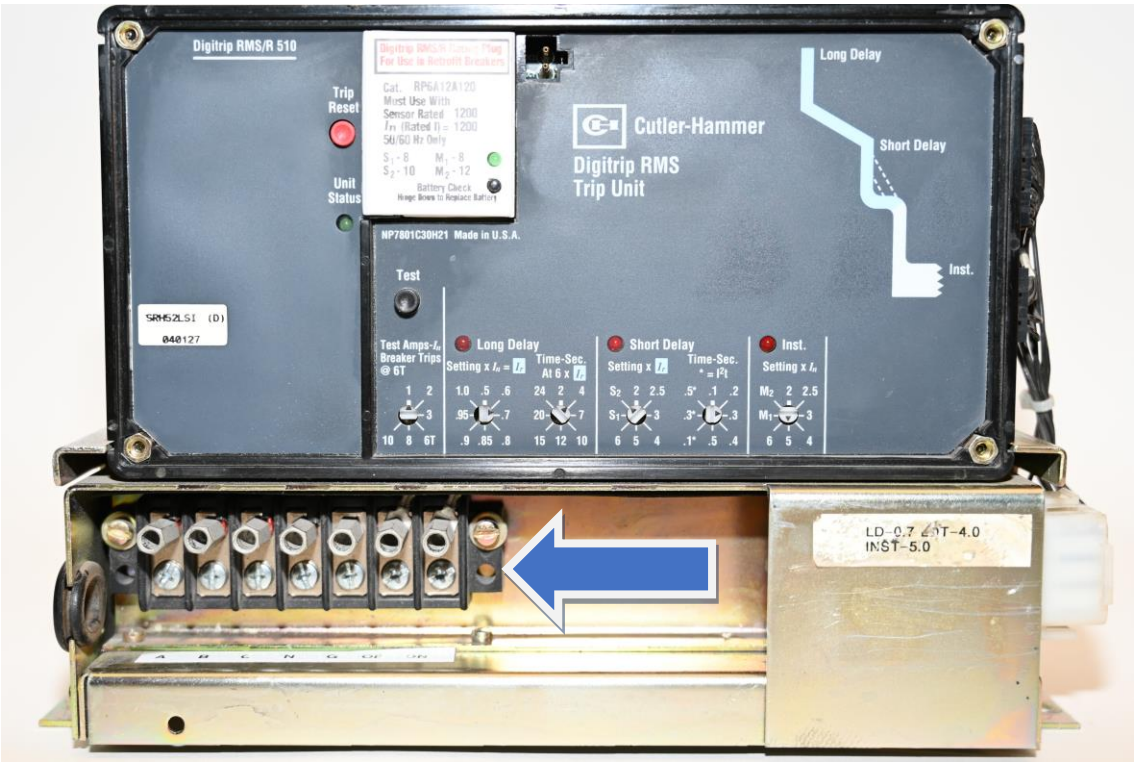
Testing RMS Digitrip Retro Fit Kits from 1985 to Present.

The first retrofit trip units were launched by Westinghouse in 1985 as RK trip units and retrofitted to other manufactures circuit breakers. Soon after, in 1987 the True RMS sensing trip units were introduced. Westinghouse, later became Cutler Hammer, then Cutler Hammer-Eaton, now Eaton Corporation. These retrofitted trip units were designed to fit on several manufactures circuit breakers and are still manufactured today, including the following;

- **Westinghouse, Eaton, Cutler Hammer**
- **General Electric**
- **ITE**
- **Allis Chambers**
- **Siemens-Allis**
- **Federal Pacific**
- **Roller Smith**
- **And other manufactures.**

Westinghouse Digitrip RMS Retrofit models were offered as sizes with various LSIG options with RMS Kits, 500, 600, 700, 800, 810, and replaced by RMS/R 510, RMS/R 610, RMS/R 810, and RMS/R 910.

Below a typical Digitrip RMS/R510 with horizontal layout. The trip units are also designed in a vertical version as well. A quick note, the trip rating plugs only work on retro-fitted trip units and will not work with a non-retrofitted trip unit.



The MadTest Instruments **DMR5i1** connected with DIGITRIP RETROFIT WHIP HARNESS PART **# DMR-0027** now allows end users and test connection an alternate way of easily testing these trip units. Use the original OEM application data **AD 33-855-5** to test.

In the photo above shows a typical set up with the DS/R connection. From left, the DS base unit test set connected to the DMR5i1 and to the Digitrip RMS/510R trip unit with 32VDC and harness.

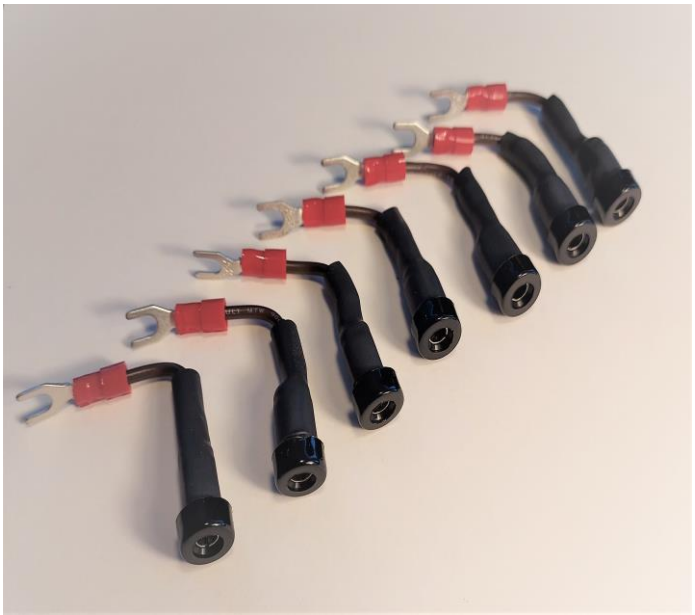
The Aux CT connection point is either a banana plug style or a screw style connection. See picture at bottom of page 27. (Blue arrow), the Banana plug receptacle and the screw terminal. The labeling is on a white label under the screw or banana jacks. Lists as follows from left to right clearly marked with black lettering.

A B C N G OP ON

A-Red	**C-Blue**	**G-Green**	**OP-Yellow**
B-White	**N-Grey**	**ON-Black**	

The DIGTRIP RETROFIT HARNESS PART # **DMR-0027** umbilical cord will hook to the Aux CT of any retrofitted trip unit. The DMR5i1 offers the 7-pin color identified banana male connections. The kit also includes 7 fork terminals.

Below banana to fork terminal's part # **DMR-0028**. MadTest supplies 7- alternate fork terminals to banana connect to the trip unit with each test kit.

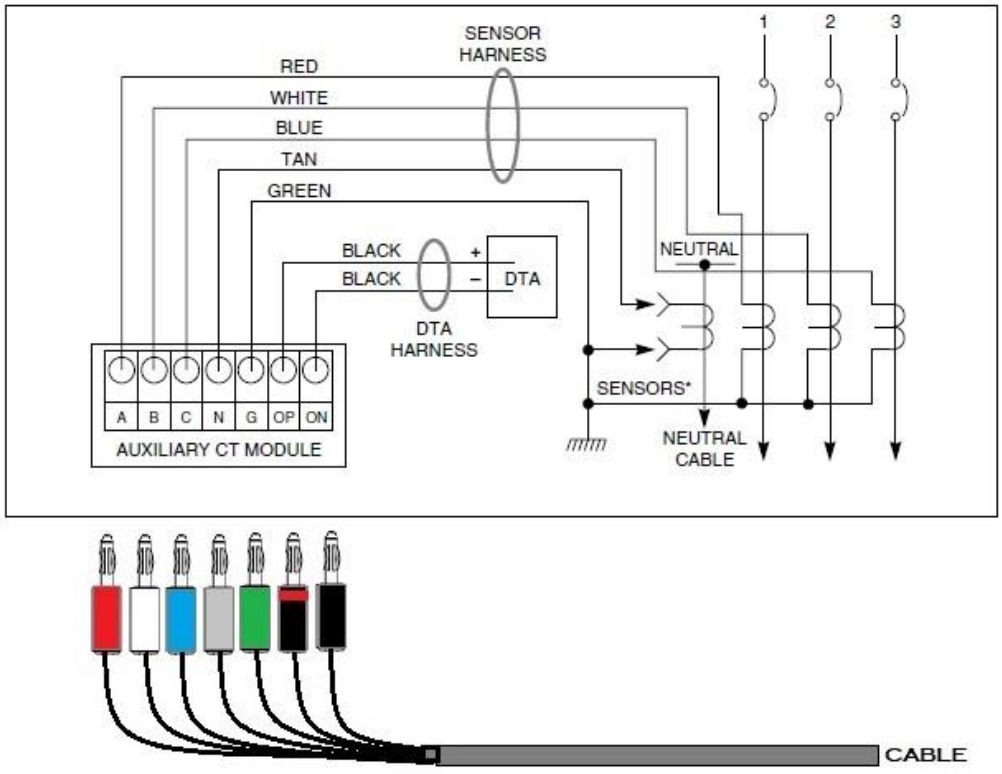


Connecting to Retrofitted RMS Digitrip Aux CTs for Testing.

As different combinations of LSIG's were offered in the RMS Retrofitted Digitrip Series, they all connect the same and they all connect directly to the terminal strip connection point is on the AUX CT terminals. Testing of these trip units connects directly to that point. In the following layouts are typical configurations with or without Ground, Neutral, or LS, LSI, and LSIG. The DMR5i1 allows you to easily connect and with the Digitrip Retrofit Harness part # DMR-0027. Follow the original OEM testing procedures and connect the appropriate configurations.

Below a connection for a trip unit configuration with Ground, with Neutral 3Ø 4 wires with LIG, LSG, and LSIG. This would be all 7 connection points as shown.

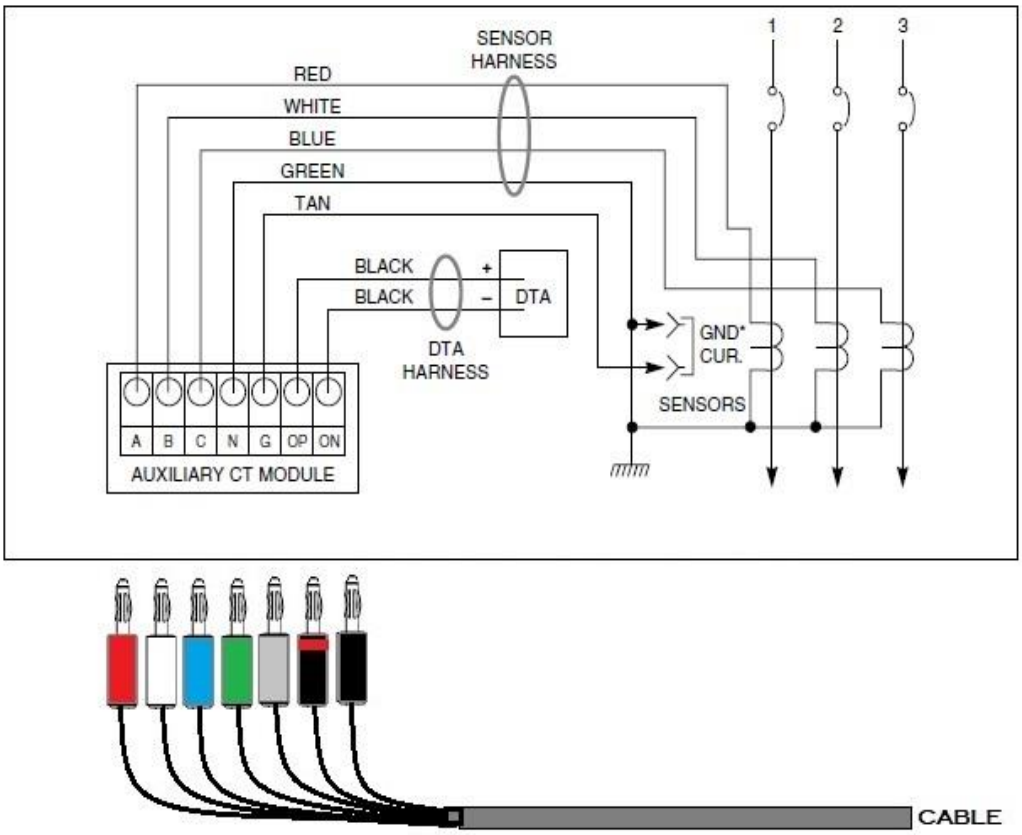
With Ground and With Neutral Sensor 3Ø 4-Wire (LIG, LSG, LSIG)



Typical Diagram A.

Below a connection for a trip unit configuration of with Ground, Without Neutral 3Ø 3-wires with LIG, LSG, and LSIG. Although this trip unit has no neutral because of its connection point to ground, it would still be all 7 connection points as shown.

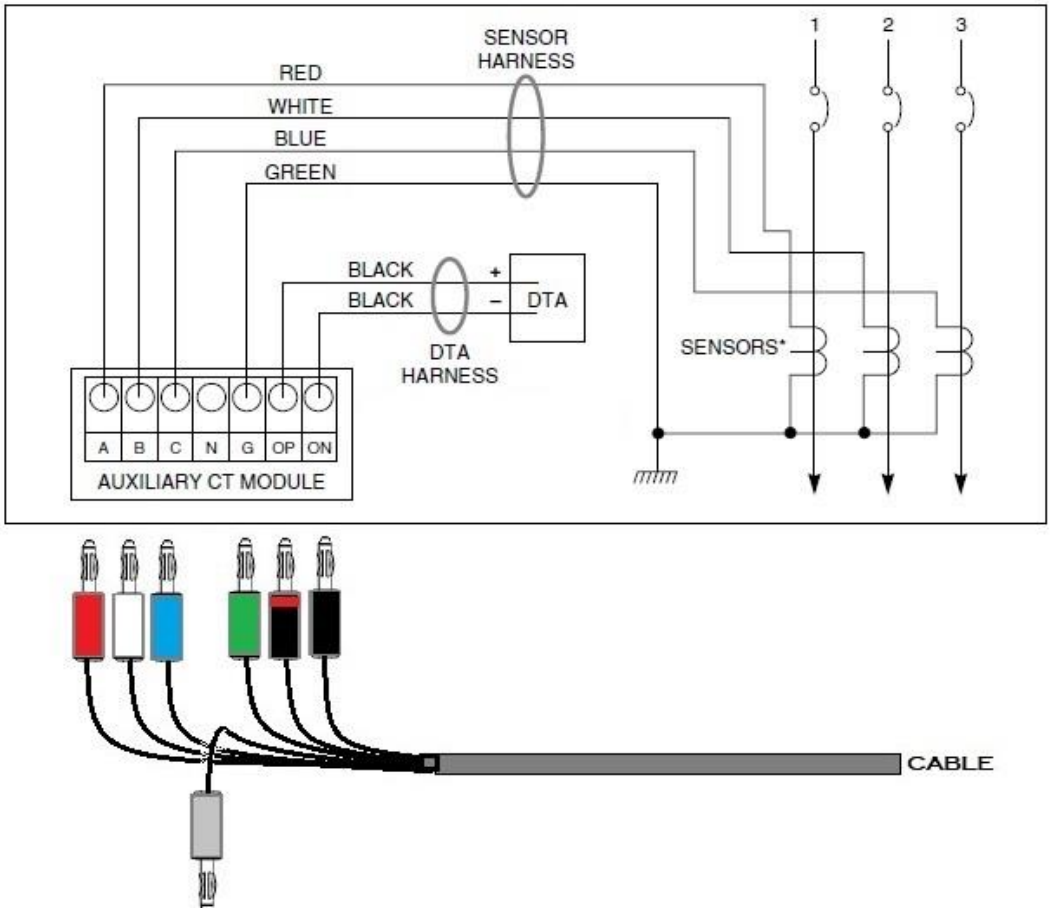
With Ground, Without Neutral Connection 3Ø 3-Wire (LIG, LSG, LSIG)



Typical Diagram B.

Below a connection for a trip unit configuration without a neutral, 3Ø 3- wires, with LIG, LSG, and LSIG. This would be 6 connection points as shown, no neutral connection is needed.

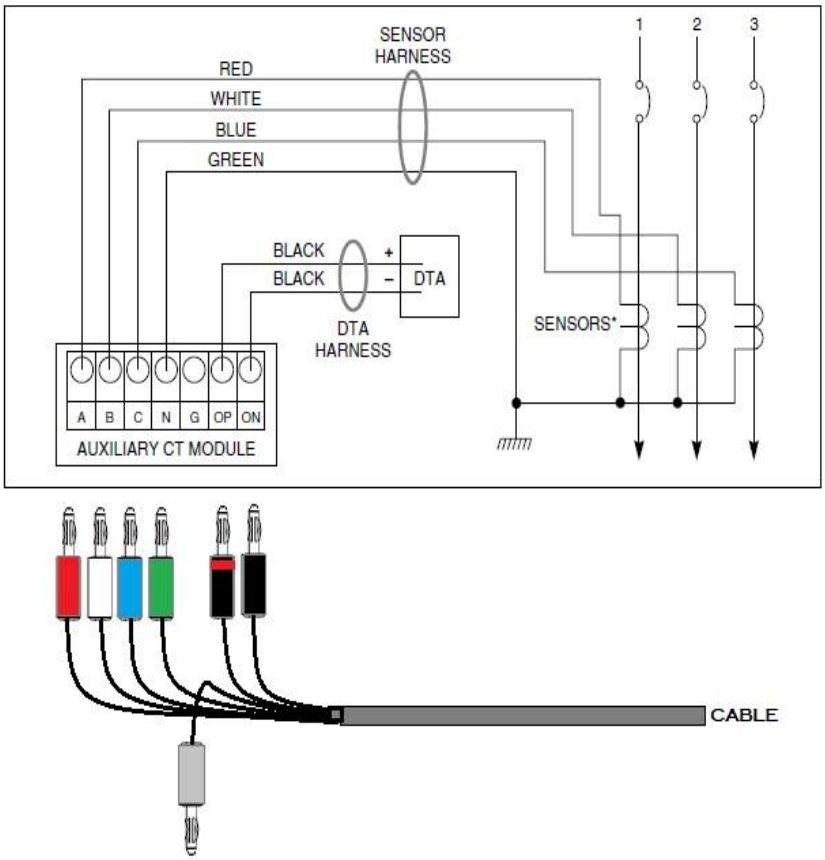
With Ground, Without Neutral Connection 3Ø 3-Wire (LIG, LSG, LSIG)



Typical Diagram C.

Below a connection for a trip unit configuration of without ground, 3Ø 3- wires with LI, LS, and LSI. This would be 6 connection points as shown, no ground connection is needed.

Without Ground 3Ø 3-Wire (LI, LS, LSI)



Testing of the retrofitted units will be simplified using the adapters. The customer or end user should easily navigate connecting points, using banana plug or fork terminals. Diagrams are a guide only. Please use common sense and understand your trip unit you're testing.

Typical Diagram D.

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THE DSM4I1 AND DRM5i1 ARE BOTH ALL-INCLUSIVE ADAPTERS. FIRST, WE BUILT THIS PRODUCT IN THE USA. AND WE BROUGHT THE DSM4I1 TO LIFE FOR OUR CUSTOMERS WHO COULD NOT GET THE ORIGINAL OEM ADAPTERS AND STILL WISHED TO USE THEIR BASE AMPTECTOR TEST KIT. THE DSM4I1 AND DRM5i1 ARE DESIGNED TO ENSURE THE CUSTOMER HAS A LONG-LASTING DURABLE ADAPTER FOR LONGEVITY. DEVELOPED FROM OUR EXPERIENCE IN THE FIELD WE ARE CONFIDENT THIS WILL BE AN ADAPTER WILL BE THE LAST ADAPTER YOU NEED FOR THIS SERIES OF TRIP UNITS.

We proudly stand behind this product for a 2-year manufactures warranty on repair or replacement of the adapter. The warranty will start from day of delivery and in the customer's possession. Any concerns questions or technical support please call our office.

Thank you for purchasing the DMR5i1.

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