MERLIN Interrupter

Quick Start Guide

&

Safety Information

www.abriox.com

ABOUT THIS DOCUMENT

This document has been issued as a guide only; in all instances please refer to the full MERLIN Interrupter Installation Instructions for further information.

HOW TO OBTAIN FULL INSTALLATION INSTRUCTIONS

1) Go to www.abriox.com and click the Support link located at the top of the page.
2) Enter the Username and Password as shown on your Licence Certificate.
3) Click the link for the MERLIN Interrupter and download the required files for viewing online or for printing at your own convenience.

Note

To download the full installation documentation you will need your Abriox-issued Username and Password; these can be found on the licence certificate issued.

If you do not have a copy of the licence certificate, please contact our technical support team on +44 (0) 2921 250 094 or by emailing support@abriox.com.

DISCLAIMER

If this equipment is used in a manner not specified by Abriox, the protection provided by the equipment may be impaired. Please ensure you follow all guidance for safe and correct use of your equipment.

SAFETY INFORMATION

Please ensure you are familiar with the safety regulations of your company and observe them at all times.

General Safety Summary

This document contains information and warnings that must be observed to keep the unit in a safe condition and ensure safe operation.

To use the unit correctly and safely, read and follow all precautions given.

Please ensure you fully understand all instructions throughout this document that relate to specific measurement functions.

In addition, please follow all generally accepted safety practices and procedures required when working with and around electricity.

Safety Symbols

The table below lists safety symbols that appear on the MERLIN Interrupter and within this document.

Symbol	Description
⚠	Risk of danger. Important information. See Installation Instructions.
⚠	Hazardous voltage may be present. Danger of electric shock.

Maximum Switching Voltage and Current ⚠

The MERLIN Interrupter can switch up to 100V DC or 75V AC.

As most transformer rectifier outputs are not true DC it is generally more prudent to work to the AC limits.

The maximum load current that can be switched depends upon the ambient temperature:

Maximum Switching Current	Ambient Temperature
40A	-40°C to 25°C
20A	25°C to 85°C

Shunt Output

The shunt housed within the MERLIN Interrupter is on the positive side of the switch. This makes the shunt output terminals sit at the same polarity as the MERLIN Interrupter positive input.

Danger of Electric Shock ⚠

When using the MERLIN Interrupter on transformer rectifiers with an output greater than 30V AC or 60V DC, care should be taken as there is danger of electric shock on the shunt output connection.

Installation in Confined Spaces ⚠

Care should be taken when installing the MERLIN Interrupter in a confined space due to overheating.

If the unit is to be installed inside a confined space, there must be adequate venting to prevent the unit exceeding it's maximum operating temperature.

ENVIRONMENT

Abriox believe that we should all tread as lightly on the planet as possible and are committed to continuous environmental improvement.

Consideration of the environment begins with the design of our products, and continues through their life cycle from manufacture to end of life.

We have made small, but highly considered decisions about the design, manufacture and distribution of our products in order to lessen their environmental impact and will continue to work with manufacturers and suppliers to achieve improvement wherever we can.

WEEE Directive

This symbol indicates that this product is not to be disposed of with your household waste, according to the WEEE Directive (2002/96/EC) and your national law. This product should be handed over to a designated collection point, e.g., on an authorised one-for-one basis when you buy a new similar product or to an authorised collection site for recycling waste electrical and electronic equipment (EEE).

Improper handling of this type of waste could have a possible negative impact on the environment and human health due to potentially hazardous substances that are generally associated with EEE. At the same time, your cooperation in the correct disposal of this product will contribute to the effective usage of natural resources.

For more information about where you can drop off your waste equipment for recycling, please contact your local city office, waste authority, approved WEEE scheme or your household waste disposal service. Abriox, as producer of this Electrical/Electronic Equipment, passes all obligations to the End User for subsequent disposal as Waste EEE.

In accordance with our Terms and Conditions of Sale, the End User must finance collection, treatment, recycling, recovery and environmentally sound disposal when discarded in the UK.

COMPLIANCE

Declaration of Conformity CE

This product is CE marked which means that Abriox declares that the product or equipment complies with all applicable European Directives.

A copy of the Certificate of Conformity can be obtained from Abriox.

INSTALLATION INSTRUCTIONS

This document has been issued as a guide only; in all instances please refer to the full MERLIN Interrupter Installation Instructions for further information.

PLEASE ENSURE YOU ARE FAMILIAR WITH THE SAFETY REGULATIONS OF YOUR COMPANY AND OF THIS EQUIPMENT AND OBSERVE THEM AT ALL TIMES.

Step 1 - Software Check

For standalone **CPSM** users, the CPSM software must be installed and running in order to receive interruption messages for testing and post installation.

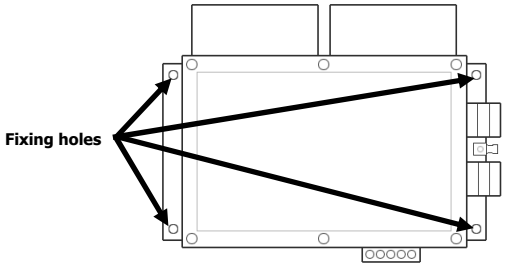
iCPSM users, please ensure you have received your Licence Certificate which details your username and password.

Step 2 - Gather Equipment for Installation

To install the MERLIN Interrupter at the rectifier you will need:

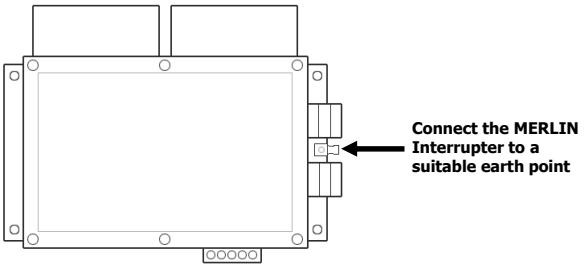
- MERLIN Interrupter
- Tool kit - for installation on site
- Mounting Kit - for fixing the MERLIN Interrupter to a panel or wall
- Consumables - for making the connections between the MERLIN Interrupter and MERLIN Transformer Rectifier Monitor (1.5mm wire of suitable length)
- Consumables - for making the CP connection from the rectifier's output through the MERLIN Interrupter ($16mm^2$ crimps and $16mm^2$ cable of suitable length)
- Multimeter - for confirming the voltage and current readings
- Installation Instructions, Quick Start Guide (this document)
- Cell/Mobile Phone - for testing interruption post installation

Step 3 - Housing the MERLIN Interrupter



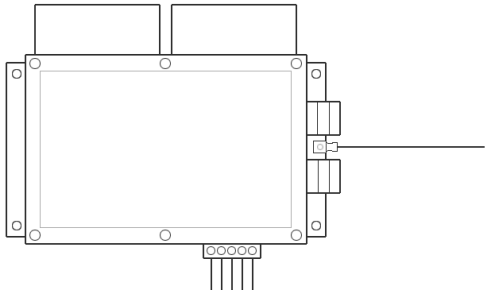
The MERLIN Interrupter has four 5mm fixing holes that allow it to be screwed to a panel or wall. Care should be taken when installing the MERLIN Interrupter in a confined space due to overheating. If the unit is to be installed inside a confined space there must be adequate venting.

Step 4 - Connect to Earth



Connect the MERLIN Interrupter to a suitable earth point within the transformer rectifier housing or within the enclosure.

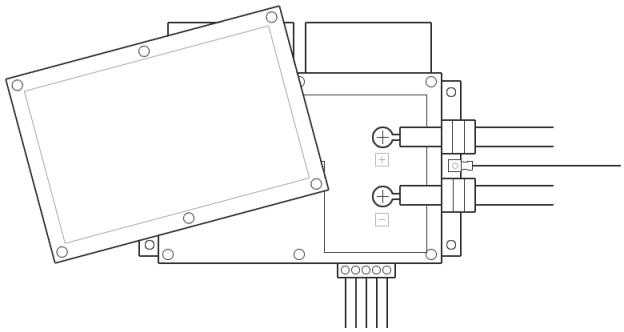
Step 5 - Connect to the MERLIN Transformer Rectifier Monitor



Connect the MERLIN Interrupter to the MERLIN Transformer Rectifier monitor using 1.5mm wire and the supplied connection blocks (unplugging the connector block can make this part of the install much easier).

The MERLIN Interrupter connector block order is reversed in comparison to the MERLIN Transformer Rectifier monitor. This allows a 5 way ribbon cable to be used between both units and yet be folded flat.

Step 6 - Connect to the Transformer Rectifier



The MERLIN Interrupter can be used to switch either the positive or negative side of the transformer rectifier.

With the power isolated, using a PZ2 screw driver, remove the lid screws (x6) of the MERLIN Interrupter and place to one side for safe keeping.

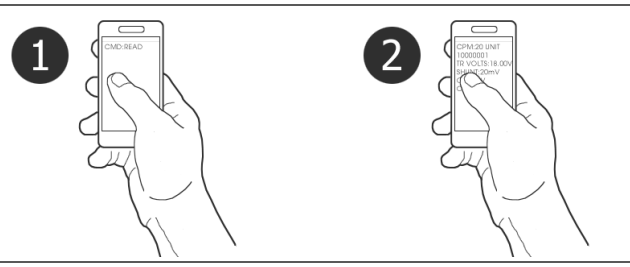
The polarities of the CP connections are displayed externally on the MERLIN Interrupter label and internally next to the ring terminal contacts for the CP connection cables. Using 16mm2 (AWG6) cable and the supplied ring terminals (removed prior to crimping), connect the MERLIN Interrupter to the transformer rectifier's negative output and the pipeline (tighten the ring terminals to 6Nm max).

Once the CP connections have been made, tighten the glands to hold the cable in place. Replace the lid, ensuring the internal earth wire is fully mated.

Step 7 - Apply Power

With all connections made, re-apply power to the rectifier. With power returned, the voltage and current output dials on the transformer rectifier should show the expected readings. This shows that the CP is passing through the MERLIN Interrupter.

Step 8 - Take a Reading

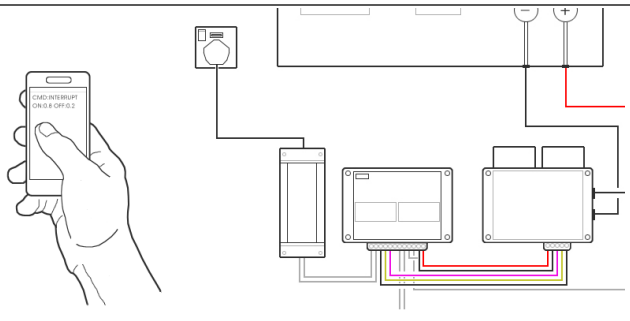


Send the text command **`CMD:READ`** from your cell/mobile phone to the number on the MERLIN Transformer Rectifier monitor.

The unit will take a reading on all channels and sent the results back to your phone. A reply will look similar to: **`CPM:20 UNIT 10000001 TR VOLTS:18.00V SHUNT:20mV ON:0mV OFF:0mV`**

Using the shunt rating of the MERLIN Interrupter that is given on the bottom left hand side of the units label (below the serial number), the milli-volt read given for the shunt channel can be converted to amps. The result this gives should match the current given by the transformer rectifier itself.

Step 9 - Check Interruption



Send the following text command to the number on the front label of the MERLIN Transformer Rectifier monitor: **`CMD:INTERRUPT ON:0.8 OFF:0.2`**

Once the MERLIN Transformer Rectifier monitor has received a valid interruption command it will drive the MERLIN Interrupter using the requested timing pattern. The blue LED on the MERLIN Transformer Rectifier monitor will flash; this shows the off period of the interruption pattern. The pattern should also be seen on the dials of the transformer rectifier, the current dropping each time the CP is interrupted.

To stop interruption send an interrupt end command to the MERLIN Transformer Rectifier monitor: **`CMD:INTERRUPT END`**

Step 10 - Post Site Configuration

Once installed you will need to configure the shunt value in the CPSM/iCPSM software. Further configuration and operational features can be carried out directly via the software. Please refer to the full MERLIN Interrupter Installation Instructions for further information.