



PME-500-TR

Driving AC-based coils

An EuroSMC[®] training paper

INTRODUCTION

The PME-500-TR can operate the circuit breaker by controlling the supply of auxiliary power to the circuit breaker's operating coils. Although this feature is generally not essential for the successful analysis of a circuit breaker, it makes the process much easier to complete. However, the coil control electronics in the PME-500-TR are designed for DC power exclusively, so you will need a rectifier to be able to operate AC-based coils.

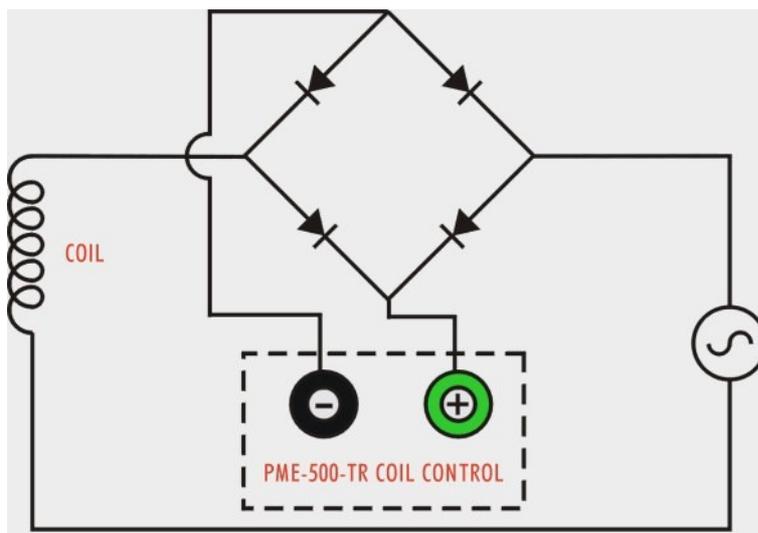
If you can operate the circuit breaker under test from its own operation switch or from an external device like, for example, a relay, you don't need to apply the technique described here. Synchronize the PME-500-TR's trigger to a start signal as described in the user's manual and run the test.

NOTICE

Overvoltage suppressor diodes are not required when testing AC coils.

METHOD DESCRIPTION

The PME-500-TR can drive the AC coils in the circuit breaker if you rectify the current before it enters the instrument's electronics that are in charge of the coil control. The diagram below shows how to connect a rectifier bridge to the PME-500-TR's duplicated coil control connectors, to the AC supply and to the circuit breaker's *trip* or *close* coils.



If you are analysing a simple *trip* or *close* operation or if only one of the actuation coils is AC-powered, you will only need to connect one rectifier bridge to the appropriate coil control connections in the PME-500-TR.

If both the *trip* and the *close* coils are AC-operated and you are issuing a two- or three-command sequence (e.g. O-C, C-O-C, etc.), you will need two rectifying circuits, one for each coil. In any case, observe the polarity of the bridge with regards to the connectors' polarity (green = positive, black = negative)

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